TIERRA WEST

SW Corner Sage & Unser

(Albuquerque, New Mexico)

Access Evaluation Study

January 04, 2023

DRAFT

HT#M10D023
Received 1/4/2023

TERRY O. BROWN NEW MEXICO 6407 LICENSED PROFESSIONAL ENGINEER

RONALD R. BOHANNAN NEW MEXICO 7868 PROFESSIONAL ENGINEER

Presented to:
Matt Grush, P.E.
City of Albuquerque Transp. Dev.

Prepared for:
Mr. and Mrs. Mehrdad Amirhamzeh
Amirhamzeh Enterprises, LLC
9605 Sommor Place
Oakdale, CA 95361

Terry O. Brown, P.E.
5571 Midway Park Pl. NE
Albuquerque, NM 87109
(505) 883-8807

Ronald R. Bohannan, P.E.
5571 Midway Park Pl. NE
Albuquerque, NM 87109
(505) 883-8807

Sage / Unser Development (SW Corner)
Access Evaluation Study

Contents

Sage / Unser Development (Southwest Corner)
Access Evaluation Study

Introduction

The purpose of this study is to evaluate the proposed right-in, right-out only unsignalized driveway to The Village Development off of Unser Blvd. (approximately 15 acres at the southwest corner of Unser Blvd. and Sage Rd.) and demonstrate the impact, if any, to permitting and implementing the proposed driveway (Driveway "B"). The proposed access is located along the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline). It will provide needed access to the Sage / Unser Development. This report is to be considered as a companion report to the Traffic Impact Study for Sage / Unser Development at the southeast corner of Sage Rd. / Unser Blvd. This study is for review and approval by City of Albuquerque and then subsequently the Mid-Region Council of Governments' Roadway Access Committee (RAC) and Transportation Coordinating Committee (TCC).

Study Procedures

The evaluation of the alternative access scenarios for the project considers the signalized intersections of Westside Blvd. / Unser Blvd. and Wellspring Ave. / Unser Blvd., and the proposed unsignalized driveway (Driveway "B" / Unser Blvd.) which is the subject of this report. The proposed unsignalized driveway is a right-in, right-out only located on the west side of Unser Blvd. located approximately 360 feet south of the signalized intersection of Sage Rd. / Unser Blvd. (centerline to centerline).

The alternative access scenarios evaluated in this report are:

1) Case "Y" – a right-in, right-out only unsignalized driveway along the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline).
2) Case "N" – no access along the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline).

Adjacent signalized intersections were evaluated to estimate level-of-service, delay, and 95th percentile queue length for each intersection and each movement associated with the two Cases evaluated.

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections utilized in the Synchro (Version 11, Build 11.1.1.6).

Intersections targeted for analysis in this study include Sage Rd. / Unser Blvd. (signalized), Arenal Rd. / Unser Blvd. (signalized), and Driveway "B" / Unser Blvd. (unsignalized right-in, right-out only driveway – CASE "Y" or no driveway – CASE "N").

The results of the analyses of Case "Y" and Case "N" were then compared to determine the benefits or detriments, if any, of one Case over the other.

Description of Proposed Development

The proposed project is described as an approximately 15.4-acre mixed-use development located at the southwest corner of Sage Rd. / Unser Blvd. The project lies within the municipal limits of Albuquerque, NM and is zoned Planned Development (PD). The project is bound on the east by Unser Blvd. (a Regional Principal Arterial roadway) and on the north by Sage Rd. (a Community Principal Arterial roadway). Therefore, the project will be required to comply with the requirements of the City of Albuquerque regarding the overall development and with the requirements of the Mid-Region Council of Governments' Transportation Coordinating Committee (TCC) and the City of Albuquerque with regard to the requested right-in, right-out driveway on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline).

See the conceptual site development plan on Page A-3 in the Appendix of this report to acquire more detailed information about the proposed development. This site plan is conceptual at this point in time and is subject to some changes as progress takes place in the entitlement process. The plan should, however, provide a reliable basis upon which to analyze the impact of the development on the adjacent transportation system and provide guidelines for mitigating the impact and establishing access criteria. The conceptual site plan as it is shown in this report proposes access along the west side of Unser Blvd. as follows:

- Sage Rd. / Driveway "A" – a full access driveway on the south side of Sage Rd. approximately 430 feet west of Unser Blvd. (centerline to centerline).
- Driveway "B" / Unser Blvd. – a proposed right-in, right-out only driveway on the west side of Unser Blvd. approximately 370 feet south of Sage Rd. (centerline to centerline).
- Driveway "C" / Unser Blvd. – an existing approved right-in, right-out, left-in only access driveway along the west side of Unser Blvd. approximately 800 feet south of Sage Rd.

If approved by the Transportation Coordinating Committee, Driveway "B" will allow access to the project site off Unser Blvd. as a right-in, right-out only unsignalized driveway.

Trip Generation Rates

Projected trips were calculated from data in the Institute of Transportation Engineers Trip Generation report (11th Edition). Trips for the development were determined based on land uses defined on the Conceptual Site Development Plan on Page A-3 in the Appendix of this report.

The resulting number of trips generated for the proposed development are summarized in the following table:

Unser and Sage Development

Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
Summary Sheet	Units					
Multifamily Housing (Low-Rise)	75	506	7	23	33	20
Convenience Store / Gas Station - GFA 4-5.5K (945)	17	4,371	230	230	193	193
Fast Food Restaurant w/ Drive-Thru Window (934)	3.82	1,783	87	83	66	60
Automated Car Wash (948)	1	-	-	-	39	39
Subtotal		**6,660**	**324**	**336**	**331**	**312**
Retail Commercial Trips		**6,154**	**317**	**313**	**298**	**292**
Pass-By Trips	30%		*-95*	*-94*	*-89*	*-88*
Total New Primary Trips			**222**	**219**	**209**	**204**
Total New Residential Trips			**7**	**23**	**33**	**20**

See Appendix Pages A-4 thru A-8 for more information including Trip Generation Worksheets.

Pass-by trips of 30% were applied to this project to retail commercial trips.

Trip Assignment

Trip Assignments for the Access Evaluation Study are the same for Case “Y” as those utilized in the Traffic Impact Study for this project. The Trip Assignments and Pass-by Trips were adjusted for Case “N” to account for the absence of the proposed right-in, right-out access on the west side of Unser Blvd. at Driveway “B”. In this particular case, though, it is not anticipated that the trip assignments through adjacent signalized intersections (Sage Rd. / Unser Blvd. and Arenal Rd. / Unser Blvd.) will be impacted (or changed) measurably due to the implementation of the new Driveway “B”. The only change will be that right turns in and right turn out of existing Driveway “C” on Unser will be transferred to the new Driveway “B”.

Background Traffic Growth

Background traffic growth rates utilized in the Access Evaluation Study are the same as those utilized in the companion Traffic Impact Study.

Projected Peak Hour Turning Movements for 2025 and 2035 Buildout

The BUILD conditions (MITIGATED) will be considered to evaluate the proposed southbound right-in, right-out access at Driveway "B" on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. in this Report. The access was evaluated in the Mitigated condition which consists of geometric and signal timing modifications to existing signalized intersection of Sage Rd. / Unser Blvd. Normally, the access evaluation would compare the operation of adjacent signalized intersections (in this case, Sage Rd. / Unser Blvd. to the north and Arenal Rd. / Unser Blvd. to the south) to determine the impact of the new access on those intersections. New access can and often does change the volumes slightly at adjacent signalized intersections, and those changes can impact the adjacent signalized intersection for better or worse. In this particular request, a new right turn in, right turn out with the addition of Driveway "B" will have no measurable impact on the adjacent signalized intersections. **In fact, this analysis finds that a new right-in, right-out driveway (Driveway "B") on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline) will have no impact on the adjacent signalized intersections.** The signalized intersection analysis for the adjacent signalized intersections will be reported in this Study, but the operation of both of them will be identical for both Case "Y" and Case "N". Therefore, only one analysis for each signalized intersection will be reported. There will not be separate signalized intersection analysis tables for Case "Y" versus Case "N".

Case "Y" and Case "N" Analyses

Classification of levels-of-service and delay for signalized and unsignalized intersections will be made based on criteria established by Synchro, Version 11 (BUILD 11.1.6) computer modeling software which approximates the Highway Capacity Manual, 7th Edition methodology. The average control delay is calculated for each intersection and for each lane group of each leg of the intersection. The control delay determines the level-of-service based on the following tables:

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Average Delay (secs)	Level-of-Service
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Average Delay (secs)	Level-of-Service
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Generally speaking, a Level-of-Service D or better is an acceptable parameter for design purposes.

Following is a summary of the results of the Synchro Analysis for each of the intersections targeted for evaluation in this report:

Intersection #1 – Arenal Rd. (Sapphire St.) / Unser Blvd. - Pages A-53 thru A-72

The following table provides a summary of the Levels-of-Service / delays associated with the 2025 AM Peak Hour and PM Peak Hour BUILD Conditions for the signalized intersection of Arenal Rd. / Unser Blvd. associated with this project:

Unser Blvd. / Arenal Rd. 2025_Conditions	EB (Arenal Rd.)			WB (Arenal Rd.)			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	2	1	1	1	1	1	2	1	1	2	1
AM Peak Hour												
95th Percentile Queue (veh)	8.8	5.5	0.0	7.1	6.2	0.0	1.9	11.5	0.0	4.9	0.2	0.0
2025_BUILD Volumes	181	230	63	163	149	297	63	801	235	261	753	50
V/C Ratio	0.66	0.37		0.49	0.28		0.16	0.49		0.59	0.36	
Level-of-Service	D	D		D	C		C	C		B	A	
Control Delay (Seconds)	50.8	44.3	0.0	36.8	34.0	0.0	20.3	23.9	0.0	15.3	0.5	0.0
Intersection LOS	**C - 21.2**											
95th Percentile Queue (veh)	9.1	5.4	0.0	7.0	6.1	0.0	2.0	12.5	0.0	5.5	0.3	0.0
PM Peak Hour												
2025_BUILD Volumes	77	81	63	190	113	409	36	674	163	336	1,002	140
V/C Ratio	0.49	0.29		0.63	0.30		0.10	0.34		0.56	0.40	
Level-of-Service	E	E		D	D		B	B		A	A	
Control Delay (Seconds)	61.0	56.9	0.0	51.8	44.4	0.0	13.6	15.6	0.0	9.3	0.5	0.0
Intersection LOS	**B - 15.5**											
95th Percentile Queue (veh)	4.6	2.3	0.0	9.8	5.6	0.0	1.0	9.0	0.0	5.4	0.3	0.0

The above table demonstrates that the operation of the signalized intersection of Arenal Rd. (Sapphire St.) / Unser Blvd. will operate acceptably for all lane groups for the 2025 AM and PM Peak Hour conditions. The eastbound approach will experience marginally long delays which could be reduced somewhat by optimizing the signal timing. The analysis above utilized existing signal timing.

The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions for the signalized intersection of Arenal Rd. (Sapphire St.) / Unser Blvd. associated with the two cases analyzed in this study:

Arenal Rd. / Unser Blvd. 2035_Conditions	EB (Arenal Rd.)			WB (Arenal Rd.)			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	2	1	1	1	1	1	2	1	1	2	1
AM Peak Hour												
2035_BUILD Volumes	246	318	87	224	206	402	87	1,092	324	353	1,024	65
V/C Ratio	0.73	0.38		0.60	0.32		0.36	0.94		0.95	0.55	
Level-of-Service	D	D		D	C		D	D		E	A	
Control Delay (Seconds)	49.8	38.9	0.0	35.9	29.4	0.0	36.4	54.2	0.0	57.9	1.2	0.0
Intersection LOS	**C - 34.6**											
95th Percentile Queue (veh)	11.9	7.0	0.0	2.4	7.8	0.0	4.0	24.3	0.0	13.5	0.5	0.0
PM Peak Hour												
2035_BUILD Volumes	103	112	87	262	156	557	50	916	224	457	1,371	190
V/C Ratio	0.56	0.30		0.81	0.37		0.20	0.53		0.86	0.57	
Level-of-Service	E	D		E	D		C	C		C	A	
Control Delay (Seconds)	59.5	54.3	0.0	63.3	42.8	0.0	21.7	24.5	0.0	26.7	1.0	0.0
Intersection LOS	**C - 21.2**											
95th Percentile Queue (veh)	6.1	3.1	0.0	6.1	7.6	0.0	1.8	14.8	0.0	10.1	0.6	0.0

The above table demonstrates that the operation of the signalized intersection of Arenal Rd. (Sapphire St.) / Unser Blvd. will operate acceptably for all lane groups for the 2035 AM and PM Peak Hour conditions. The eastbound and westbound left turns will experience marginally long delays which could be reduced somewhat by optimizing the signal timing. The analysis above utilized existing signal timing.

Generally speaking, implementing of the proposed Driveway “B” on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline) will have no adverse effect on the signalized intersection of Arenal Rd. (Sapphire St.) / Unser Blvd. The signalized operation of Arenal Rd. (Sapphire St.) / Unser Blvd. will operate marginally acceptably during the implementation year (2025) AM and PM Peak Hours, and marginally acceptable for the horizon year (2035).

Intersection #2 – Sage Rd. / Unser Blvd. - Pages A-53 thru A-72

The following table provides a summary of the Levels-of-Service / delays associated with the 2025 AM Peak Hour and PM Peak Hour BUILD Conditions for the signalized intersection of Sage Rd. / Unser Blvd. associated with this project:

Unser Blvd. / Sage Rd. 2025_Conditions	EB (Sage Rd.)			WB (Sage Rd.)			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	1	1	1	1>	0	1	2	1	1	2	1
AM Peak Hour												
Mitigage Lane Geometry	1	**2**	1	1	**2>**	0	1	2	1	1	2	1
2025_MITIGATIONS Volumes	384	362	213	50	127	86	95	1,018	100	86	772	99
V/C Ratio	0.75	0.37	0.43	0.24	0.36		0.23	0.57		0.33	0.44	
Level-of-Service	D	D	D	D	D		B	D		B	B	
Control Delay (Seconds)	46.5	45.3	42.2	46.4	50.5	0.0	14.8	39.5	0.0	18.8	12.9	0.0
Intersection LOS	**C - 33.8**											
95th Percentile Queue (veh)	16.7	9.4	10.3	1.9	2.4	0.0	2.3	21.8	0.0	2.0	7.6	0.0

PM Peak Hour												
Mitigage Lane Geometry	1	**2**	1	1	**2>**	0	1	2	1	1	2	1
2025_MITIGATIONS Volumes	211	164	250	147	230	59	200	832	64	95	1,215	183
V/C Ratio	0.62	0.28	0.69	0.46	0.51		0.63	0.41		0.23	0.62	
Level-of-Service	D	D	D	D	D		B	B		B	C	
Control Delay (Seconds)	44.0	47.8	50.2	44.7	53.0	0.0	19.3	15.8	0.0	12.8	21.6	0.0
Intersection LOS	**C - 27.8**											
95th Percentile Queue (veh)	9.9	4.2	12.3	5.6	4.9	0.0	4.4	10.9	0.0	2.1	18.1	0.0

The above table demonstrates that the operation of the signalized intersection of Sage Rd. / Unser Blvd. in the mitigated condition will operate acceptably for all lane groups for the 2025 AM and PM Peak Hour conditions.

Note that the mitigation measures recommended for the signalized intersection of Sage Rd. / Unser Blvd. are as follows:

Unser Blvd / Sage Rd. – Optimizing the signal timing splits for the Implementation Year (2025) to improve the operation of the traffic signal.
Additional eastbound and westbound through lane before and after the signalized intersection of Unser Blvd and Sage Rd. – The restriping and additional geometry currently has width for the additional eastbound and westbound through lane from Driveway "A" access point to Abeyta Rd.
Removal of "Free-Right" at SW corner of Unser and Sage – Removal of the "free-right" movement at the SW corner of Sage and Unser and provide an eastbound right at the intersection. The EB right turning movement will keep the existing turn-bay storage of 280-ft.

The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions for the signalized intersection of Sage Rd. / Unser Blvd. associated with the two cases analyzed in this study:

Sage Rd. / Unser Blvd. 2035_Conditions	EB (Sage Rd.)			WB (Sage Rd.)			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	1	1	1	1>	0	1	2	1	1	2	1
AM Peak Hour												
Mitigated Lane Geometry	1	**2**	1	1	**2>**	0	1	2	1	1	2	1
Untitled Volumes	497	494	298	66	170	120	133	1,436	139	120	1,064	131
V/C Ratio	0.90	0.47	0.54	0.32	0.48		0.48	0.88		0.69	0.66	
Level-of-Service	E	D	D	D	D		C	E		D	C	
Control Delay (Seconds)	60.6	45.8	41.6	46.5	52.0	0.0	22.2	55.3	0.0	36.6	27.8	0.0
Intersection LOS	**D - 45.2**											
95th Percentile Queue (veh)	23.1	12.1	13.4	3.2	4.4	0.0	3.7	32.3	0.0	3.8	17.4	0.0
PM Peak Hour												
Mitigated Lane Geometry	1	**2**	1	1	**2>**	0	1	2	1	1	2	1
Untitled Volumes	262	218	349	201	313	82	279	1,172	89	133	1,677	248
V/C Ratio	0.87	0.44	0.82	0.65	0.64		0.96	0.59		0.42	0.97	
Level-of-Service	E	D	E	D	E		F	B		B	D	
Control Delay (Seconds)	68.8	51.8	57.3	46.9	55.6	0.0	86.1	20.0	0.0	17.6	47.9	0.0
Intersection LOS	**D - 44.8**											
95th Percentile Queue (veh)	6.6	5.9	17.6	9.9	8.7	0.0	18.1	16.8	0.0	3.6	36.5	0.0

The above table demonstrates that the overall intersection operation will be acceptable, but some of the lane groups will be stresses with marginally long delays.

Note that the mitigation measures recommended for the signalized intersection of Sage Rd. / Unser Blvd. for the horizon year are the same as those of the implementation year listed on the previous page.

Generally speaking, implementing of the proposed Driveway “B” on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. (centerline to centerline) will have no adverse effect on the signalized intersection of Sage Rd. / Unser Blvd. The signalized operation of Sage Rd. / Unser Blvd. will operate acceptably during the implementation year (2025) AM and PM Peak Hours after the recommended mitigation measures have been implemented, and marginally acceptable for the horizon year (2035).

Intersection #8 – Driveway "B" / Unser Blvd. - Pages A-53 thru A-72

Driveway "B", if approved as a new right-in right-out driveway, will need to operate at an acceptable level-of-service. The following table summarizes the calculated operational characteristics of Driveway "B" based on the implementation year (2025) AM and PM Peak Hour:

8: Unser Blvd & Driveway "B" 2025 BUILD Conditions	EB (Driveway "B")			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1	0	2			2	1
AM Peak Hour									
2025 BUILD Conditions Volumes (CASE "Y")	0		89	0	1,213			974	85
V/C Ratio			0.17						
Level-of-Service			B						
Control Delay (Seconds)			13.2						
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.6						
PM Peak Hour									
2025 BUILD Conditions Volumes (CASE "Y")	0		91	0	1,095			1,532	110
V/C Ratio			0.26						
Level-of-Service			C						
Control Delay (Seconds)			19.1						
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			1.0						

The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions associated with Driveway "B":

8: Unser Blvd & Driveway "B" 2035 BUILD Conditions	EB (Driveway "B")			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1	0	2			2	1
AM Peak Hour									
2035 BUILD Conditions Volumes (Case "Y")	0		69	0	1,708			1,367	85
V/C Ratio			0.18						
Level-of-Service			C						
Control Delay (Seconds)			16.2						
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.6						
PM Peak Hour									
2035 BUILD Conditions Volumes (Case "Y")	0		73	0	1,539			2,147	110
V/C Ratio			0.34						
Level-of-Service			D						
Control Delay (Seconds)			29.9						
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			1.4						

Driveway "B" will operate at satisfactory levels-of-service for 2025 and 2035 AM and PM Peak Hour BUILD Conditions for Case "Y". Driveway "B" does not exist for Case "N".

Intersection #9 – Driveway "C" / Unser Blvd. - Pages A-53 thru A-72

Driveway "C" will need to operate at an acceptable level-of-service. The following table summarizes the calculated operational characteristics of Driveway "C" based on the implementation year (2025) AM and PM Peak Hour Periods (CASE "Y" and CASE "N"):

9: Unser Blvd & Driveway "C" 2025 BUILD Conditions	EB (Driveway "C")			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1	1	2			2	1
AM Peak Hour									
2025 BUILD Conditions Volumes (Case "Y")	0		13	105	1,213			1,025	13
V/C Ratio			0.03	0.16					
Level-of-Service			B	B					
Control Delay (Seconds)			12.3	11.4					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.1	0.6					
2025 BUILD Conditions Volumes (Case "N")	0		99	105	1,213			961	73
V/C Ratio			0.19	0.16					
Level-of-Service			B	B					
Control Delay (Seconds)			13.3	11.4					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.7	0.6					
PM Peak Hour									
2025 BUILD Conditions Volumes	0		12	95	1,095			1,576	15
V/C Ratio			0.04	0.23					
Level-of-Service			C	C					
Control Delay (Seconds)			16.2	16.5					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.1	0.9					
2025 BUILD Conditions Volumes	0		103	95	1,095			1,576	92
V/C Ratio			0.31	0.25					
Level-of-Service			C	C					
Control Delay (Seconds)			20.5	17.6					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			1.3	1.0					

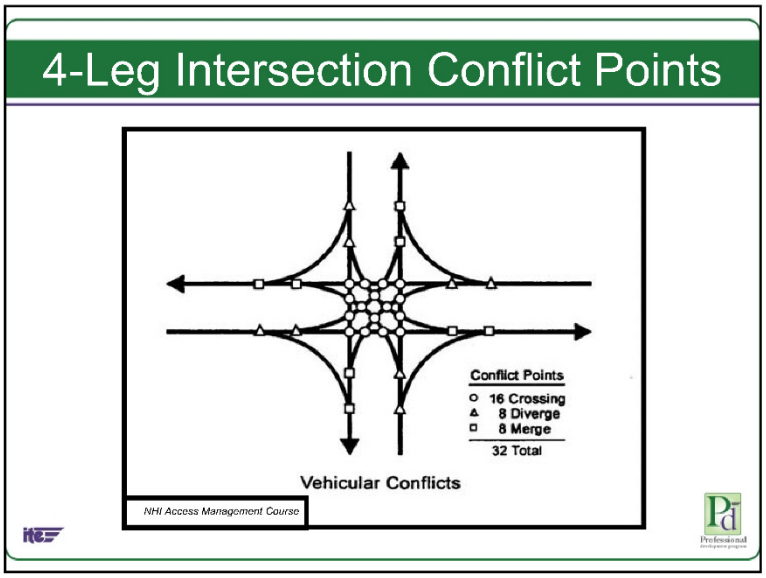
The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD (CASE 'Y' AND CASE 'N') Conditions associated with Driveway "B":

9: Unser Blvd & Driveway "C" 2035 BUILD Conditions	EB (Driveway "C")			NB (Unser Blvd.)			SB (Unser Blvd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1	1	2			2	1
AM Peak Hour									
2035 BUILD Conditions Volumes (Case "Y")	0		13	105	1,708			1,418	13
V/C Ratio			0.03	0.22					
Level-of-Service			B	B					
Control Delay (Seconds)			14.9	14.8					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.1	0.8					
2035 BUILD Conditions Volumes (Case "N")	0		99	105	1,708			1,354	73
V/C Ratio			0.25	0.22					
Level-of-Service			C	B					
Control Delay (Seconds)			17.1	14.8					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			1.0	0.8					
PM Peak Hour									
2035 BUILD Conditions Volumes (Case "Y")	0		12	95	1,539			2,191	15
V/C Ratio			0.06	0.40					
Level-of-Service			C	D					
Control Delay (Seconds)			23.4	30.3					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			0.2	1.8					
2035 BUILD Conditions Volumes (Case "N")	0		103	95	1,539			2,132	92
V/C Ratio			0.47	0.41					
Level-of-Service			E	D					
Control Delay (Seconds)			35.5	31.1					
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)			2.3	1.9					

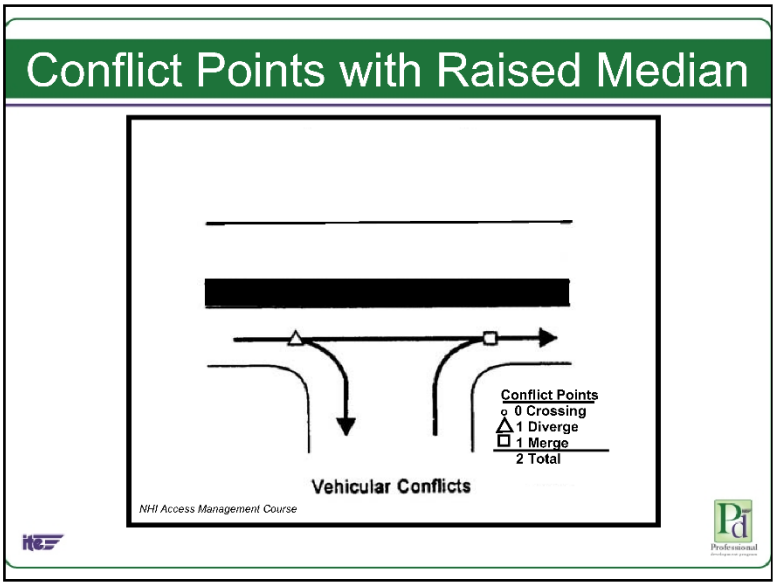
Driveway “B” will operate at a marginally satisfactory level-of-service for the 2025 and 2035 AM and PM Peak Hour BUILD Conditions associated with this project for both Case “Y” and Case “N”. However, it is apparent that the exiting right turns out from Driveway “C” will begin to experience long delays beginning in 2035. If volumes on Unser Blvd. continue to grow much past 2035, then Driveway “C” is likely to fail without the presence of Driveway “B” as a right-in, right-out driveway.

Conflict Points Analysis

One of the common approaches to determining the viability of a new driveway is the consider the conflict point analysis of the driveway. All at-grade intersections and driveways can be characterized by a conflict point diagram which can determine the number of conflict points associated with that particular driveway. For example, a full access driveway on Unser Blvd. for this project would have a conflict point diagram similar to this one:

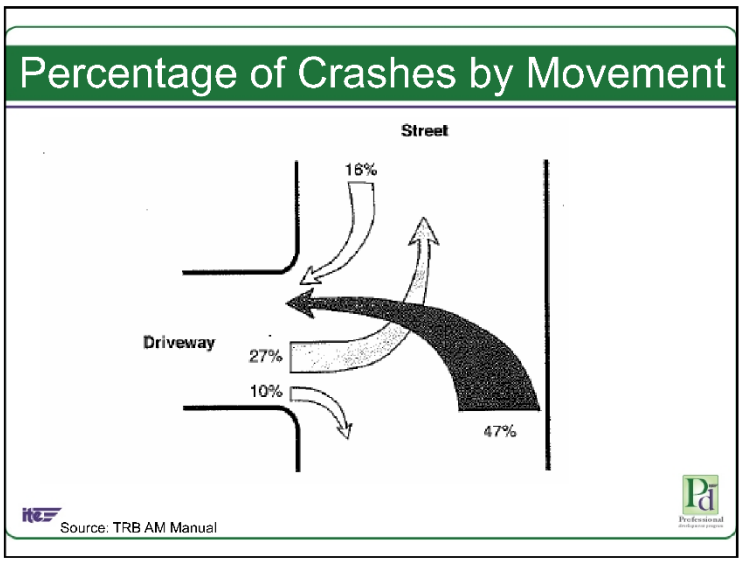


A typical full access intersection (or driveway) is considered to have 32 conflict points according to the above diagram. The number of conflict points typically associated with adding a new right-in, right-out driveway on the west side of Unser Blvd. south of Sage Rd. is two (see following diagram:



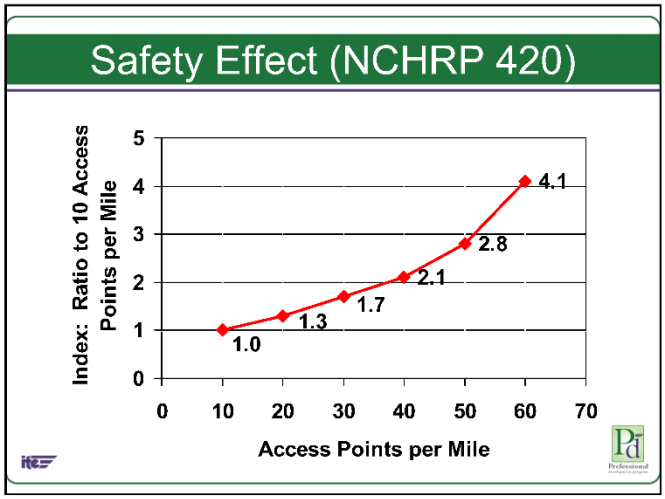
Proposing a right-in, right-out driveway will constitute approximately 6% of the conflict points created by a full access driveway. But proposed with the new Driveway "B" is a right turn deceleration lane. A right turn deceleration lane moves the right turn traffic out of the thru lane, thus virtually eliminating one of the conflict points in the preceding diagram. It could be concluded then that a new right-in right-out driveway (Driveway "B") on Unser would add only one conflict point to the transportation system.

But the failure of the “conflict points” approach is that all of the conflict points are equally weighted. When we view the following diagram that shows percentage frequency of a crash for the various turning movements, then the weighting of the various conflict points becomes obvious:



By prohibiting the left turns in and the left turns out at an intersection, approximately 74% of the crash probabilities at the intersection are eliminated. Therefore, adding a new right-in, right-out driveway on Unser Blvd. south of Sage Rd. would constitute an approximate 74% reduction when compared to a full access tee driveway just in consideration of that one concept just based on the weighting of the crash probabilities of the various turning movements. But the number of conflict points has already been reduced by 94% when compared with a full access driveway with equal weighting of all the conflict points.

Often referenced in access spacing webinars and seminars is the following graph showing crash rates vs. intersection (driveway) spacing:



The preceding graph appears to be derived from data in Figure 13 (Connections and crashes: US 41 – Lee County, Florida) of the NCHRP Report 420 (Impacts of Access Management Techniques) produced by the Transportation Research Board or the National Research Council. The graph is intended to demonstrate the effects of driveway spacing along a roadway based on number of Access Points per Mile (from approximately 500 ft. spacing to 100 ft. spacing), but does not define the extent of each access. What is missing from the graph is data relating to the types of access that produced the crash data (i.e., full access, partial access). In consideration of the preceding arguments, it would make a significant difference in the graph slope to consider whether the intersection spacing of the graph was for mostly full access driveways or not. In viewing the US 41 corridor in Lee County, Florida, it is evident that certain parts of the roadway are characterized by full access intersection spacing as low as 500 feet apart. But there are also sections of the corridor that are characterized by partial access spacing as low as 500 feet apart. It can reasonably be assumed that data in the preceding table is a blend of full access intersections (driveways) and partial access intersections (driveways). Therefore, it can be concluded that the graph shows the impact of adding varying degrees of access (full and partial) along a roadway corridor. Adding a new right-in, right-out access would have less impact than shown in the graph. This project is proposing a partial access (right-in, right-out only) driveway approximately 360 feet south of Sage Rd. on the west side of Unser Blvd. That translates to a driveway frequency of 15 driveways per mile on the roadway.

In addition to the aspects of the "conflict point" approach previously described, there is another dimension to conflict points that need consideration. To demonstrate, please consider two very simple hypothetical cases (or examples):

1) A right turn out only driveway on the west side of Unser Blvd. where the main roadway is 100 vehicles per hour (hypothetically) and the exiting right turn volume from the driveway is 10 vehicles per hour.
2) A right turn out only driveway on the west side of Unser Blvd. where the main roadway is 1,000 vehicles per hour and the exiting right turn volume from the driveway is 100 vehicle per hour.

In consideration of the two hypothetical cases above, both cases traditionally only create one conflict point. But it is obvious that when considering the significant differences in roadway volumes and driveway volumes, the number of real conflicts at the driveway are vastly increased. This is one aspect in the "conflict point" approach that is not considered in the Traffic and Transportation Engineering profession. Clearly, the crashes on a roadway corridor are a function of volumes as well as access spacing, but volumes are not considered when using the "conflict point" approach.

To extend that concept to a different level, the question needs to be posed as to whether, if there are two access points along a roadway, moving volumes from one driveway to the other changes the potential for crashes at each of the driveways. For example, if half of the entering and exiting volumes of one driveway were moved to the other driveway, it seems intuitive that it would reduce the crashes at the first driveway and increase the crashes at the second driveway. By implementing a new right-in, right-out driveway on Unser Blvd. approximately 260 feet south of Sage Rd., it effectively moves a significant portion of the right-in and right-out volumes from the Sage & Unser Development from one driveway to another and, thus accomplishes two things:

1) It reduces the crash potential at the existing driveway (Driveway "C").
2) It allows retail traffic to segregate to a large degree from the residential traffic.

Based on the points made previously, it can be argued that implementing a new right-in, right-out driveway (Driveway "B") on the west side of Unser Blvd. approximately 360 feet south of Sage Rd. will not increase crash rates along the corridor in a measurable quantity. Therefore, it can be concluded that the new partial access Driveway "B" will have no significant adverse impact on the adjacent transportation system.

The proposed Sage & Unser Development is a mixed-use development with a residential component and a retail commercial component. Implementation of Driveway "B" will allow a degree of segregation of residential traffic from retail traffic. It is not desirable to have high retail commercial traffic volumes sharing access with residential development.

Finally, there is one consideration that is suggested for this request. Demonstration of this consideration is exemplified by an historical event that occurred in Albuquerque in the 1990's:

The City of Albuquerque began requiring Air Quality Impact Analyses to be performed based on the Traffic Impact Studies in the early 1990's in an attempt to address air quality issues at the time. The City of Albuquerque was experiencing significant air quality problems and were violating national EPA air quality standards frequently. Much time, effort and money was spent preparing Air Quality Impact Analyses to evaluate the impact of new developments and make attempts to mitigate the impact of the development on air quality. Such Studies were required over at least a ten-year period, but little came of the Studies. After more than ten years of requiring Air Quality Impact Studies, the City of Albuquerque ceased requiring them since the air quality violations had ceased by the mid-2000's. But it was not the Air Quality Impact Studies that remedied the problems. The air quality problems were remedied due to three elements:

1) Bernalillo County initiated "No Burn" days wherein burning wood fireplaces was prohibited. (not vehicle related)
2) Bernalillo County initiated the requirement for gasoline sales to mandate ethanol.
3) The newer vehicles that began to populate our roadways were built to better emission standards that produced less damaging exhaust.

It was not the Air Quality Impact Analysis that remedied the air quality problems. Instead, the automobile and energy industries began producing better quality engines and better quality fuels in respect to emissions. Those technological elements contributed much more to the solution than did the Air Quality Impact Analyses.

Some similar appears to be on the horizon with regard to safety on American roadways. While striving to solve the problem by restricting an occasional driveway, the solution to our safety issues appears to be on the horizon with technological advanced in vehicle design, especially autonomous vehicles. It is already beginning, but as more and more autonomous vehicles populate the roadways, technology will do more and more of the driving and navigating to solve most safety issues on roadways. In addition, roadway capacities will increase significantly.

Whereas technologies solved the air quality problems in Albuquerque in the early 2000's, it appears that technologies will again solve our safety issues in the near future with the advent of semi and fully autonomous vehicles as more and more of them populate our roadways.

That does not mean that driveway spacing can be completely ignored. Driveway spacing standards will need to continue, but will not be as important as it has been in the past.

A former Traffic Engineer at a local reviewing agency used to complain that the Roadway Access Committee / Transportation Coordinating Committee were virtually approving every new access request on Unser Blvd. and, therefore, it was rendering access control useless. However, that was not the case. The Access Control Policies of the Mid-Region Council of Governments (MRCOG) in conjunction with the various governmental agencies constituting the MRCOG has had a very positive and very beneficial impact on the corridors that it regulates. What the former Traffic Engineer did not realize is that it was due to the MRCOG Access Control Policy that local developers and consulting engineers and architect designed new land development projects along Access Control Corridors to substantially comply with the Roadway Access Policy. For example, if a new developer or out-of-state developer approached a consulting engineer regarding a development along Unser Blvd. requesting full access, it was the case 90% of the time that the consultant informed the developer to not even try to get full access on Unser Blvd. There have been numerous occasions over the past twenty years in which a developer desired more access to an Access Controlled roadway, but was prohibited from doing so by the architect and / or consulting engineer having knowledge of the Policy.

Driveway Considerations

Proposed Driveway "B" on Unser Blvd., if approved by the City of Albuquerque and the Transportation Coordinating Committee, should be designed and constructed with one entering lane and one exiting lane, and a southbound right turn deceleration lane on Unser Blvd. at the driveway.

Historically, it has been very important to the City of Albuquerque that the local roadway distribution network minimize mixing of non-residential traffic with residential traffic. This project is a mixed-use development in which anticipated uses are both residential and retail commercial. Limiting the access on Unser Blvd. to one driveway will force both residential and non-residential traffic to the same access and initial roadway entering and exiting the entire project. A second access is need to allow separation of residential and non-residential traffic to a reasonable degree. While total separation in this case cannot be avoided, implementation of Driveway "B" will certainly improve the traffic circulation within the development by allowing a certain degree of separation of retail commercial traffic from residential traffic. Large volumes of retail commercial traffic travelling through residential neighborhood streets is undesirable and will generate complaints from the residents.

Findings and Conclusions / Recommendations

This Study recommends that Driveway "B" on the west side of Unser Blvd. approximately 360 south of Sage Rd. be approved as a right-in, right-out driveway based on the following findings and reasons:

- The Sage & Unser Development is proposed as a mixed-use development comprised of both residential uses and retail commercial uses. It is not desirable to route retail commercial traffic through residential streets. Approval and implementation of Driveway "B" would allow for segregation of residential and commercial traffic to a large degree.

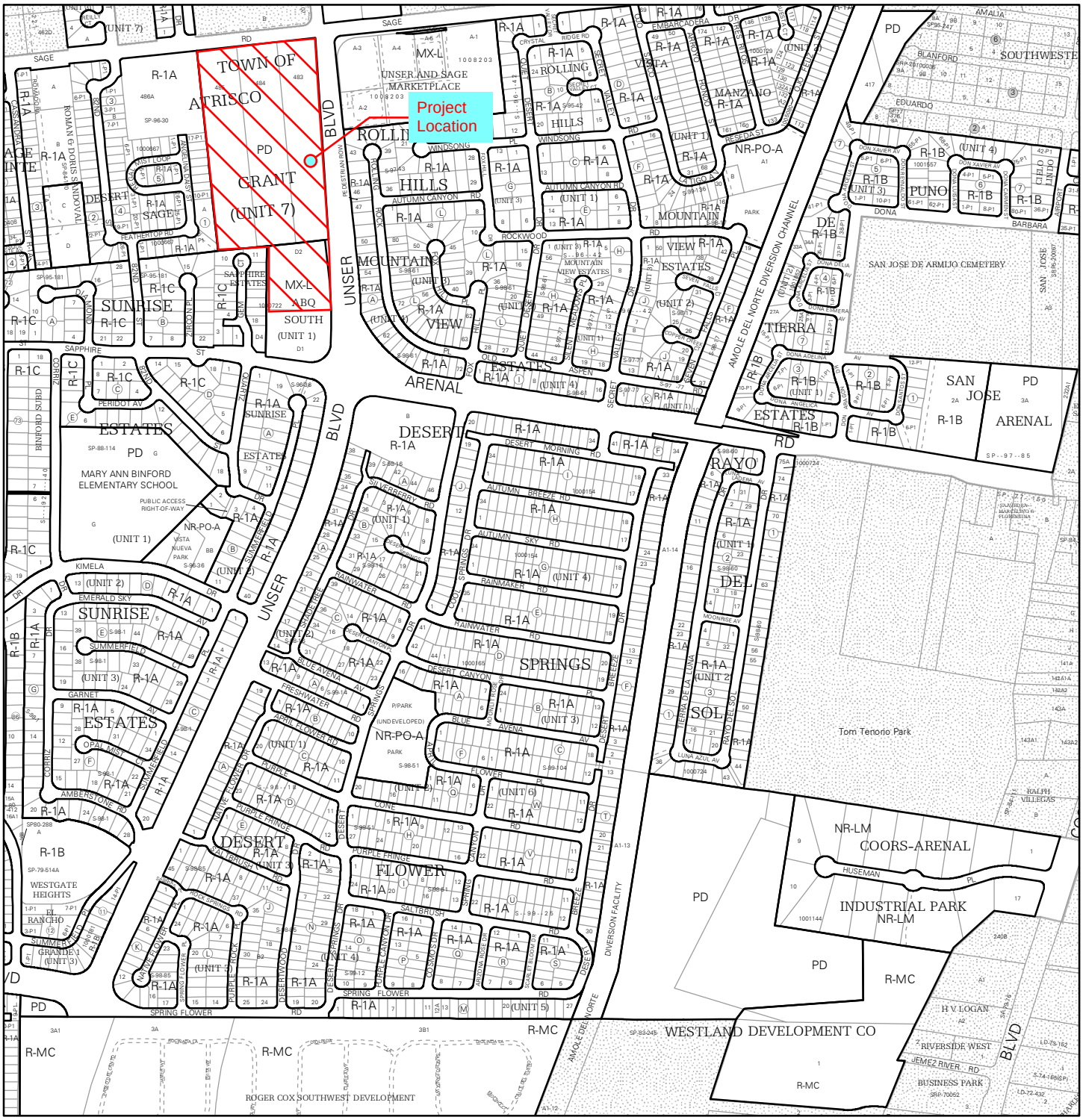
- Unless proposed Driveway “B” is approved as a right-in, right-out only driveway, the existing Driveway “C” (right-in, right-out, left-in only) is projected to have excessive calculated delays beginning when approaching the horizon year and extending beyond as traffic volumes on Unser Blvd. continue to grow. Proposed Driveway “B” will provide relief to the future congestion and long delay anticipated for Driveway “C”.
- The intersection (driveway) conflict point method is insufficient and over-simplified and does not account for differences in probability of crashes for the various turning movements and does not account for variations in volumes. When considering the probability of crashes for the various turning movements and the volumes at the driveways, it is intuitive that the effect that the new right-in right-out only driveway with the associated right turn deceleration lane will have immeasurably small to almost no impact on the immediate local roadway system, and virtually no impact on the Unser Blvd. corridor.
- With the pending advent of new automobile technologies, it is expected that the crash rates will significantly decrease over time as more and more semi and fully autonomous vehicles begin to populate the roadways in Albuquerque including Unser Blvd.

NOTE: This Study assumes that the recommendations of the companion Traffic Impact Study for The Village Development have been implemented.

It is hereby requested that the City of Albuquerque sponsor the access request for Driveway “B” before the Transportation Coordinating Committee through the Roadway Access

Appendix

UNSER AND SAGE DEVELOPMENT



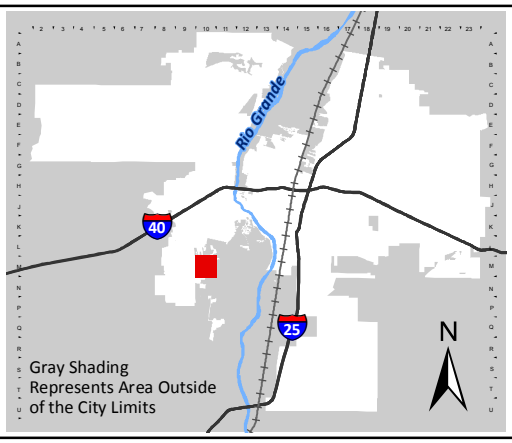
For more details about the Integrated Development Ordinance visit: http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance

IDO Zone Atlas
May 2018

Albuquerque Geographic Information System

IDO Zoning information as of May 17, 2018

The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).

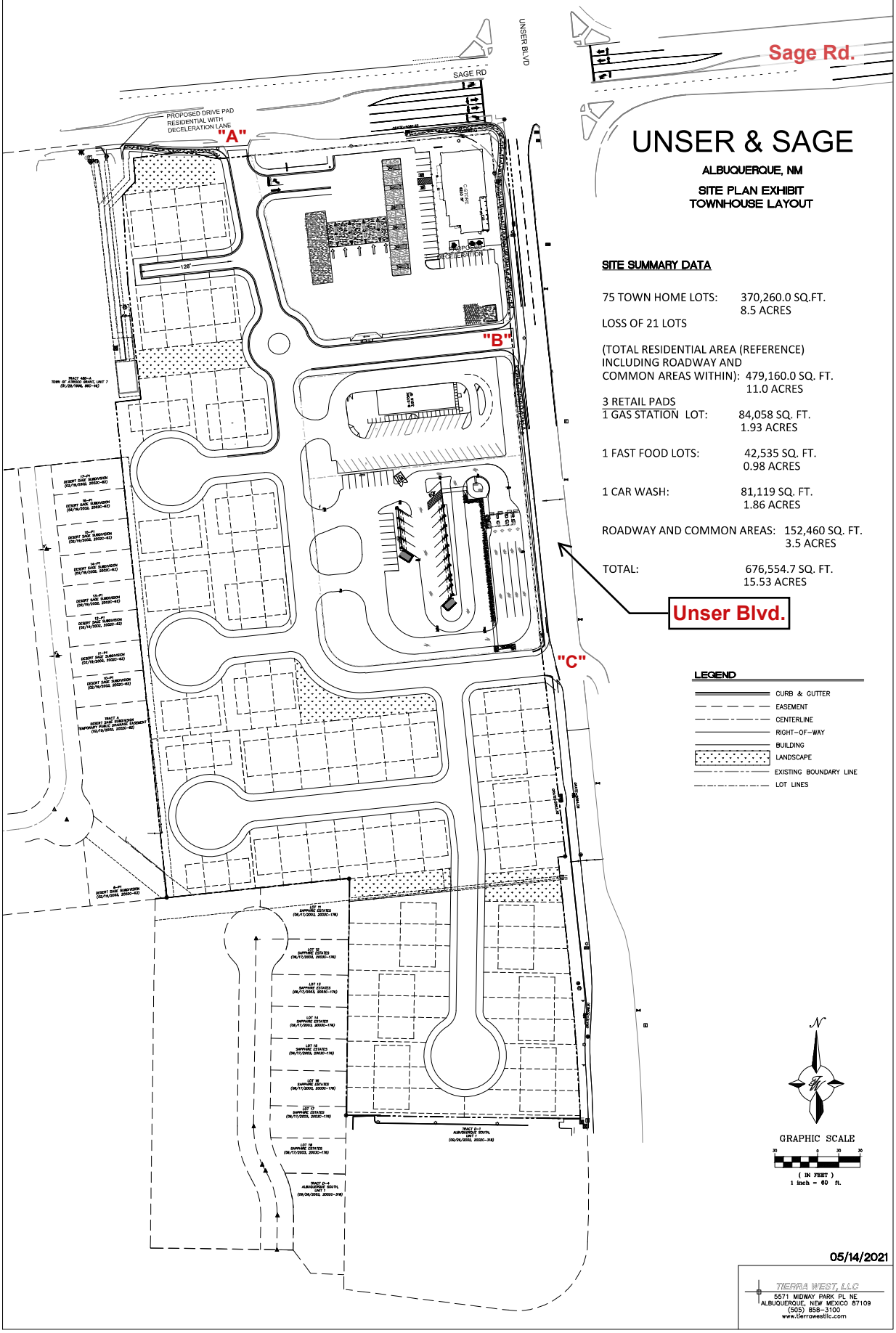


Zone Atlas Page:

M-10-Z

- Easement
- Escarpment
- Petroglyph National Monument
- Areas Outside of City Limits
- Airport Protection Overlay (APO) Zone
- Character Protection Overlay (CPO) Zone
- Historic Protection Overlay (HPO) Zone
- View Protection Overlay (VPO) Zone

Feet: 0 250 500 1,000



UNSER & SAGE

ALBUQUERQUE, NM

SITE PLAN EXHIBIT
TOWNHOUSE LAYOUT

SITE SUMMARY DATA

75 TOWN HOME LOTS:	370,260.0 SQ.FT. 8.5 ACRES
LOSS OF 21 LOTS	
(TOTAL RESIDENTIAL AREA (REFERENCE) INCLUDING ROADWAY AND COMMON AREAS WITHIN):	479,160.0 SQ. FT. 11.0 ACRES
3 RETAIL PADS	
1 GAS STATION LOT:	84,058 SQ. FT. 1.93 ACRES
1 FAST FOOD LOTS:	42,535 SQ. FT. 0.98 ACRES
1 CAR WASH:	81,119 SQ. FT. 1.86 ACRES
ROADWAY AND COMMON AREAS:	152,460 SQ. FT. 3.5 ACRES
TOTAL:	676,554.7 SQ. FT. 15.53 ACRES

LEGEND

- CURB & GUTTER
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- LANDSCAPE
- EXISTING BOUNDARY LINE
- LOT LINES

N

GRAPHIC SCALE

30 0 30 60

(IN FEET)
1 inch = 60 ft.

05/14/2021

TIERRA WEST, LLC
5571 MIDWAY PARK PL NE
ALBUQUERQUE, NEW MEXICO 87109
(505) 858-3100
www.tierrawestllc.com

Unser and Sage Development

Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
Summary Sheet	Units					
Multifamily Housing (Low-Rise)	75	506	7	23	33	20
Convenience Store / Gas Station - GFA 4-5.5K (945)	17	4,371	230	230	193	193
Fast Food Restaurant w/ Drive-Thru Window (934)	3.82	1,783	87	83	66	60
Automated Car Wash (948)	1	-	-	-	39	39
Subtotal		**6,660**	**324**	**336**	**331**	**312**
Retail Commercial Trips		**6,154**	**317**	**313**	**298**	**292**
Pass-By Trips	30%		*-95*	*-94*	*-89*	*-88*
Total New Primary Trips			**222**	**219**	**209**	**204**
Total New Residential Trips			**7**	**23**	**33**	**20**

Unser and Sage Development
Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Multifamily Housing (Low-Rise)	***75.00***	506	7	23	33	20
	Dwelling Units					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

T = ***6.74*** **(X) +** ***0***

50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

T = ***0.4*** **(X) +** ***0***

24% Enter, ***76%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

T = ***0.43*** **(X) +** ***20.55***

63% Enter, ***37%*** Exit

Comments:

Tract No.

Based on ITE Trip Generation Manual - 11th Edition

Unser and Sage Development
Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Convenience Store / Gas Station - GFA 4-5.5K (945)	*17*	4,371	230	230	193	193
	Fueling Positions					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

T = ***257.13*** **(X) +** ***0***

50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

T = ***27.04*** **(X) +** ***0***

50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

T = ***22.76*** **(X) +** ***0***

50% Enter, ***50%*** Exit

Comments:

Tract No.

Based on ITE Trip Generation Manual - 11th Edition

Unser and Sage Development
Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Fast Food Restaurant w/ Drive-Thru Window (934)	***3.82***	1,783	87	83	66	60
	1,000 S.F.					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

T = ***467.48*** **(X) +** ***0***

50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

T = ***44.61*** **(X) +** ***0***

51% Enter, ***49%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

T = ***33.03*** **(X) +** ***0***

52% Enter, ***48%*** Exit

Comments:

Tract No.

Based on ITE Trip Generation Manual - 11th Edition

Unser and Sage Development
Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Automated Car Wash (948)	*1.00*	-	-	-	39	39
	Car Wash Tunnels					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

T = ***0*** **(X) +** ***0***
50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

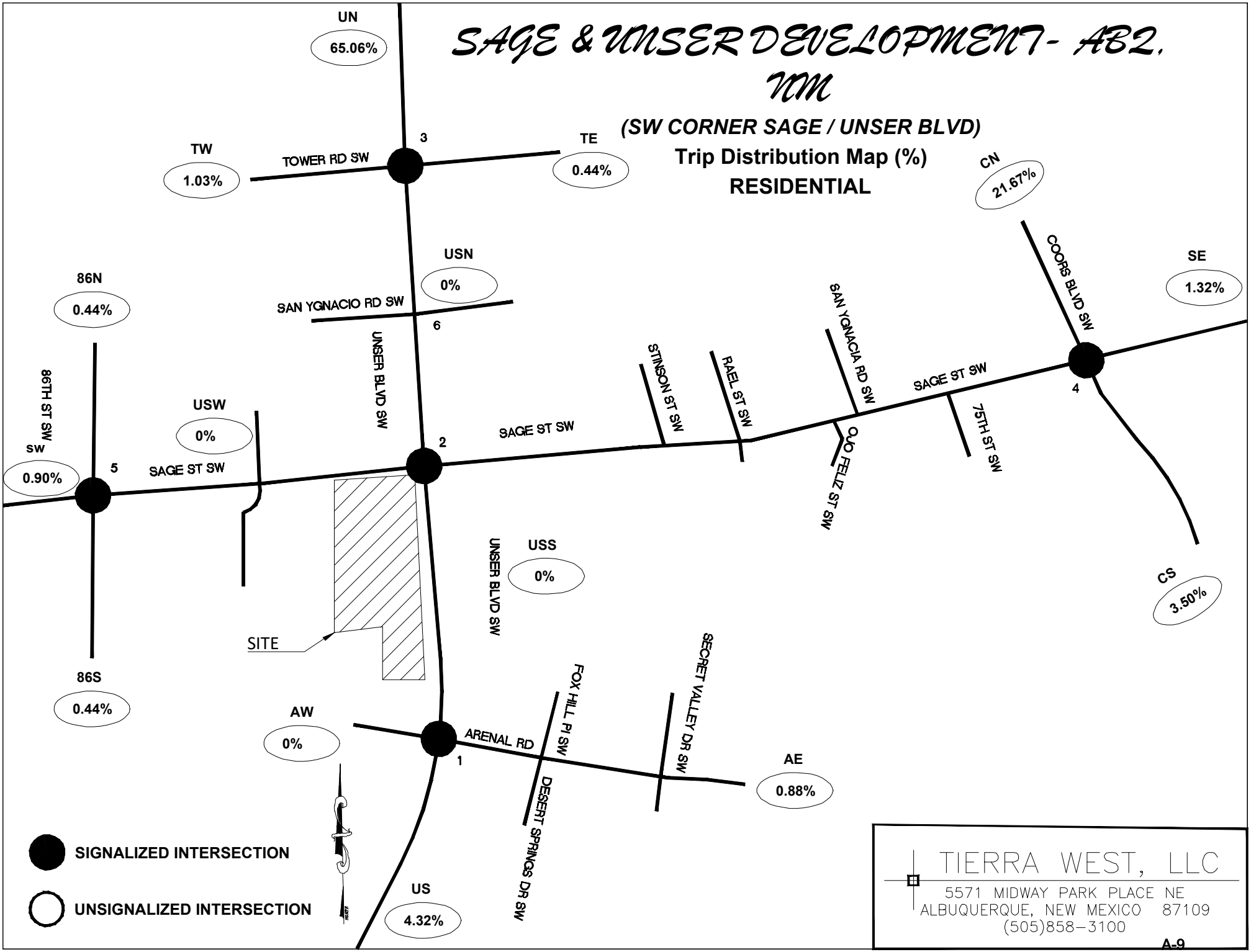
T = ***0*** **(X) +** ***0***
50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

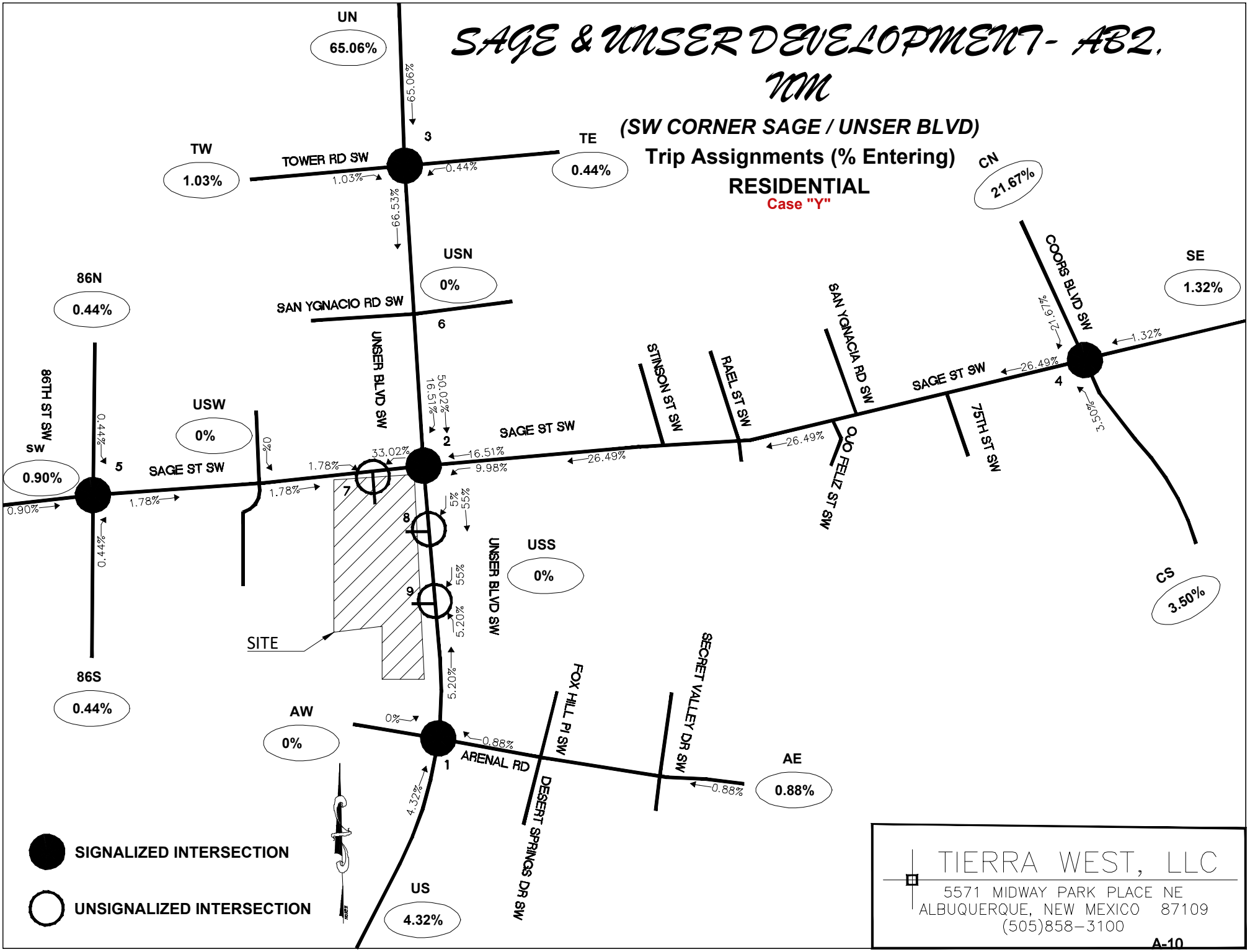
T = ***77.5*** **(X) +** ***0***
50% Enter, ***50%*** Exit

Comments:
Tract No.

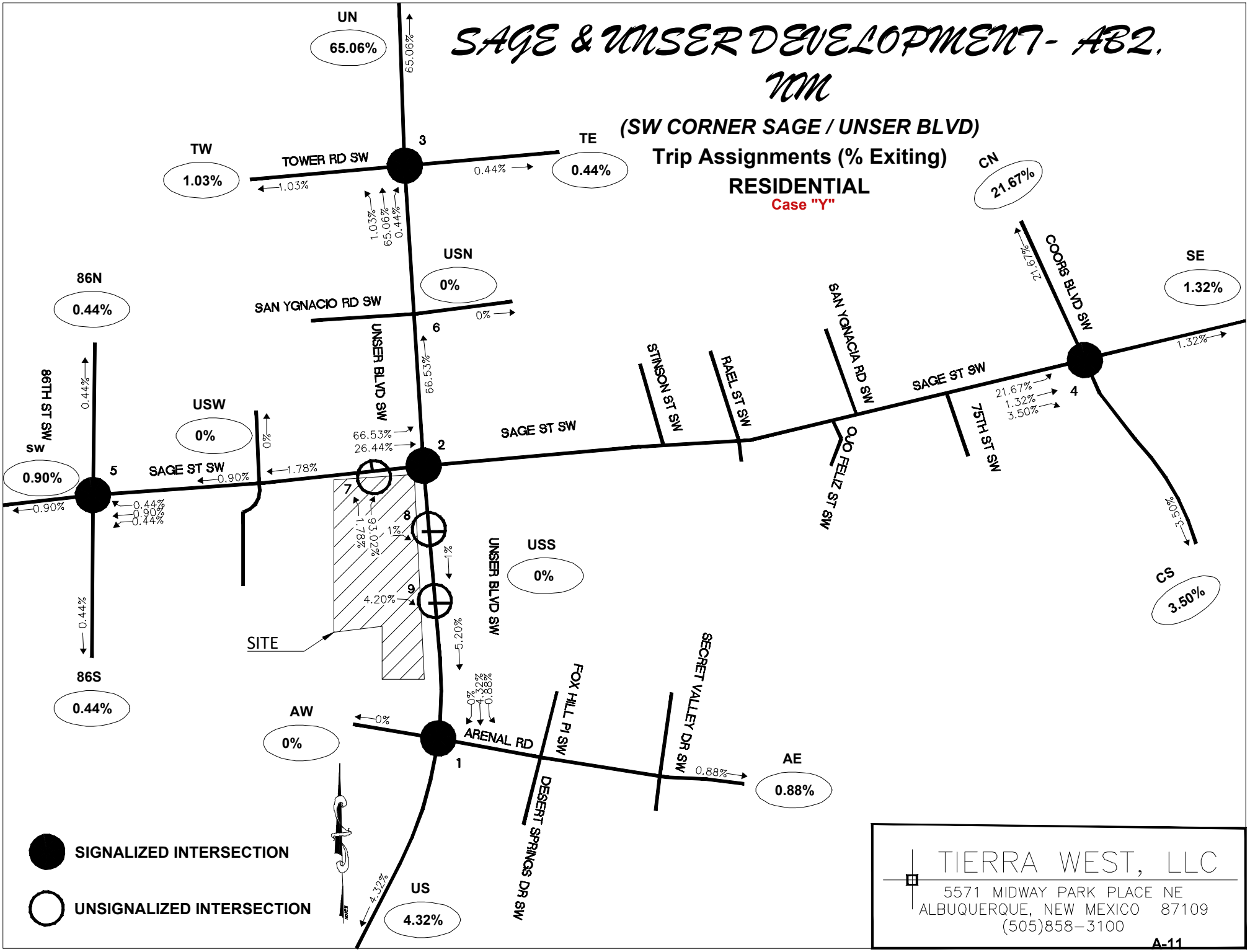
Based on ITE Trip Generation Manual - 11th Edition



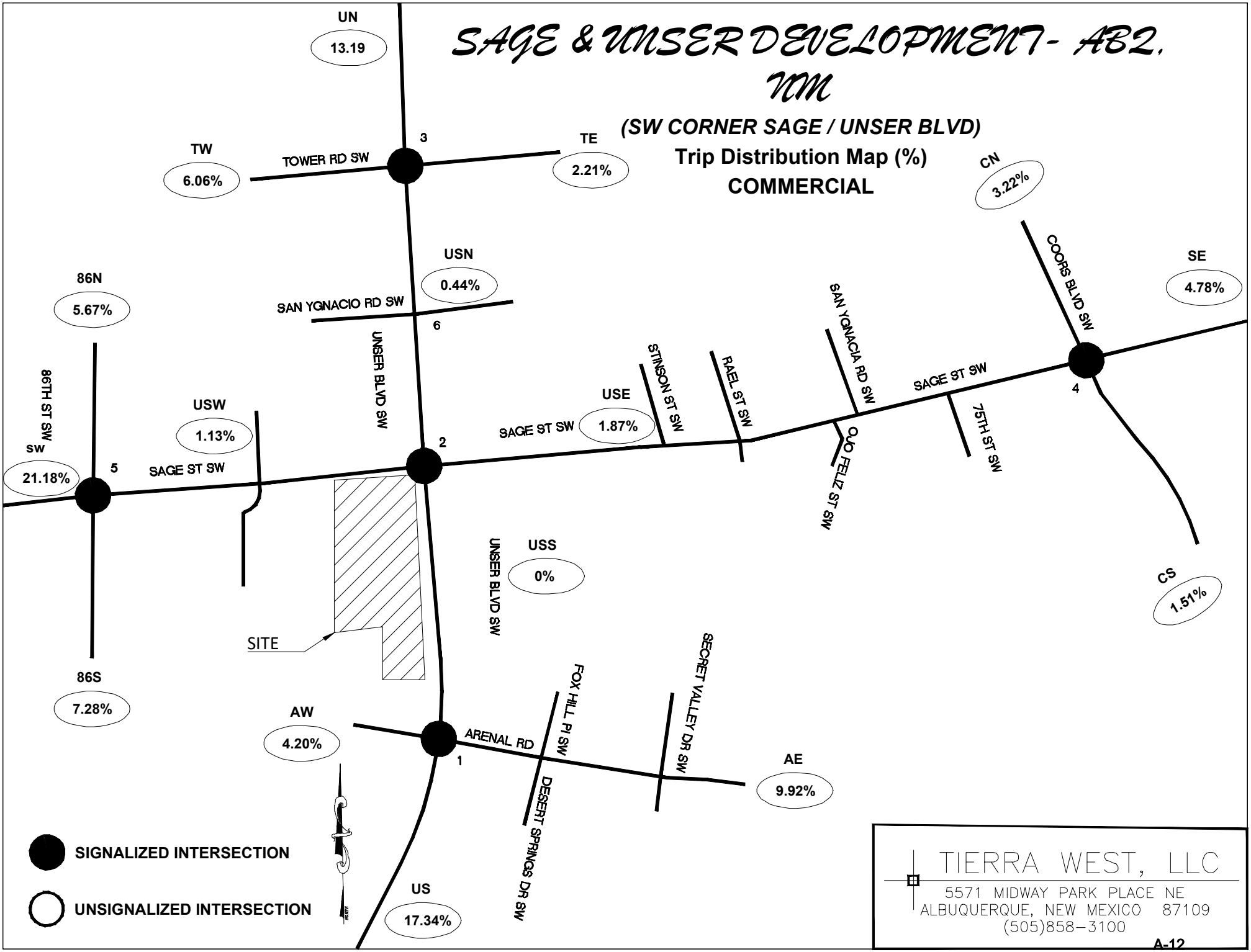
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100


SAGE & UNSER DEVELOPMENT- AB2, NM
(SW CORNER SAGE / UNSER BLVD)
Trip Distribution Map (%)
COMMERCIAL
UN
13.19
TW
6.06%
TOWER RD SW
3
TE
2.21%
CN
3.22%
COORS BLVD SW
SE
4.78%
USN
0.44%
SAN YGNACIO RD SW
6
86N
5.67%
UNSER BLVD SW
SAN YGNACIA RD SW
STINSON ST SW
RAEL ST SW
SAGE ST SW
4
86TH ST SW
USW
1.13%
USE
1.87%
SAGE ST SW
2
SW
21.18%
5
SAGE ST SW
QUO FELIZ ST SW
75TH ST SW
USS
0%
UNSER BLVD SW
CS
1.51%
SITE
86S
7.28%
AW
4.20%
ARENAL RD
1
FOX HILL PI SW
SECRET VALLEY DR SW
AE
9.92%
DESERT SPRINGS DR SW
US
17.34%
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100
A-12

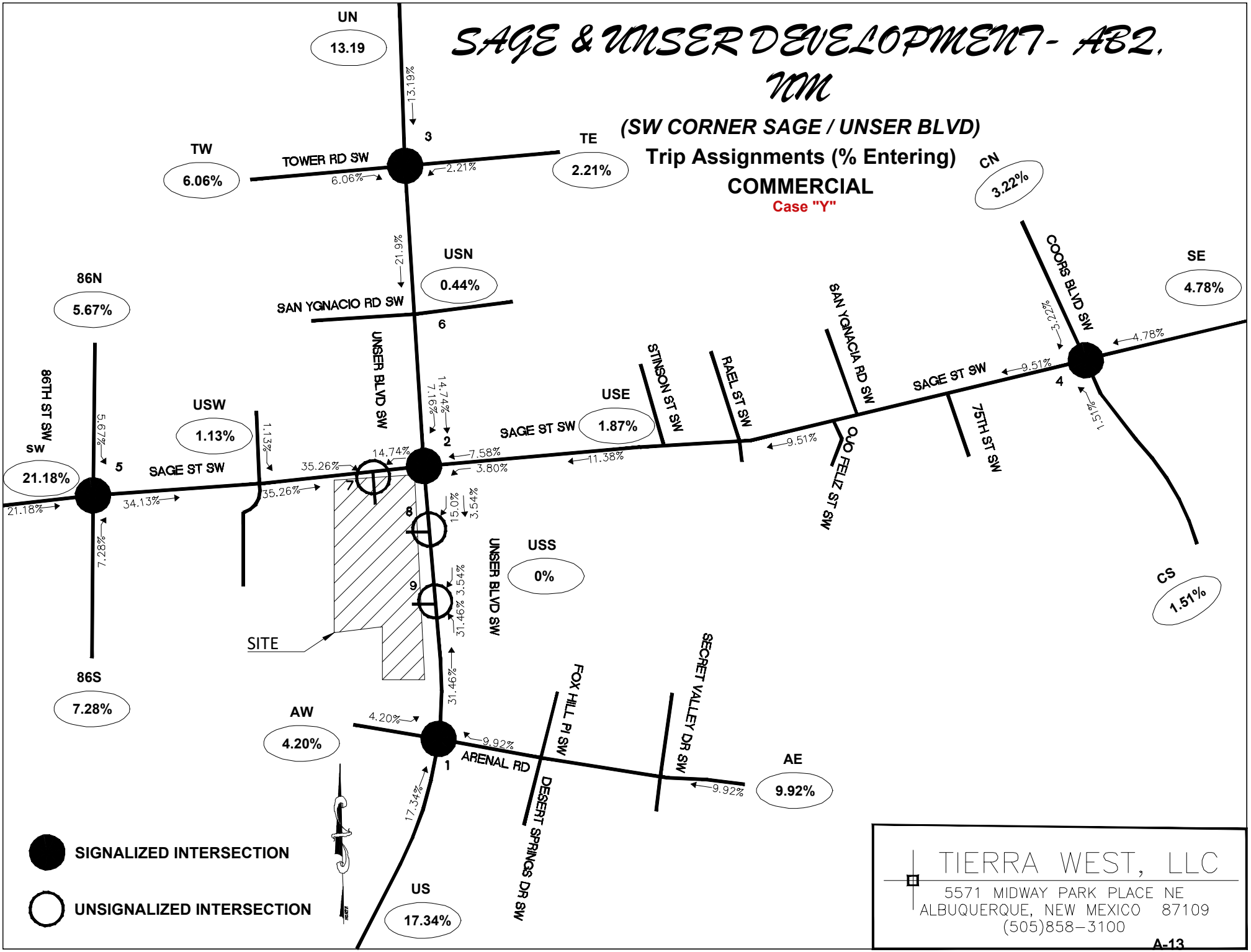
SAGE & UNSER DEVELOPMENT- AB2, NM

(SW CORNER SAGE / UNSER BLVD)

Trip Assignments (% Entering)

COMMERCIAL

Case "Y"



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100

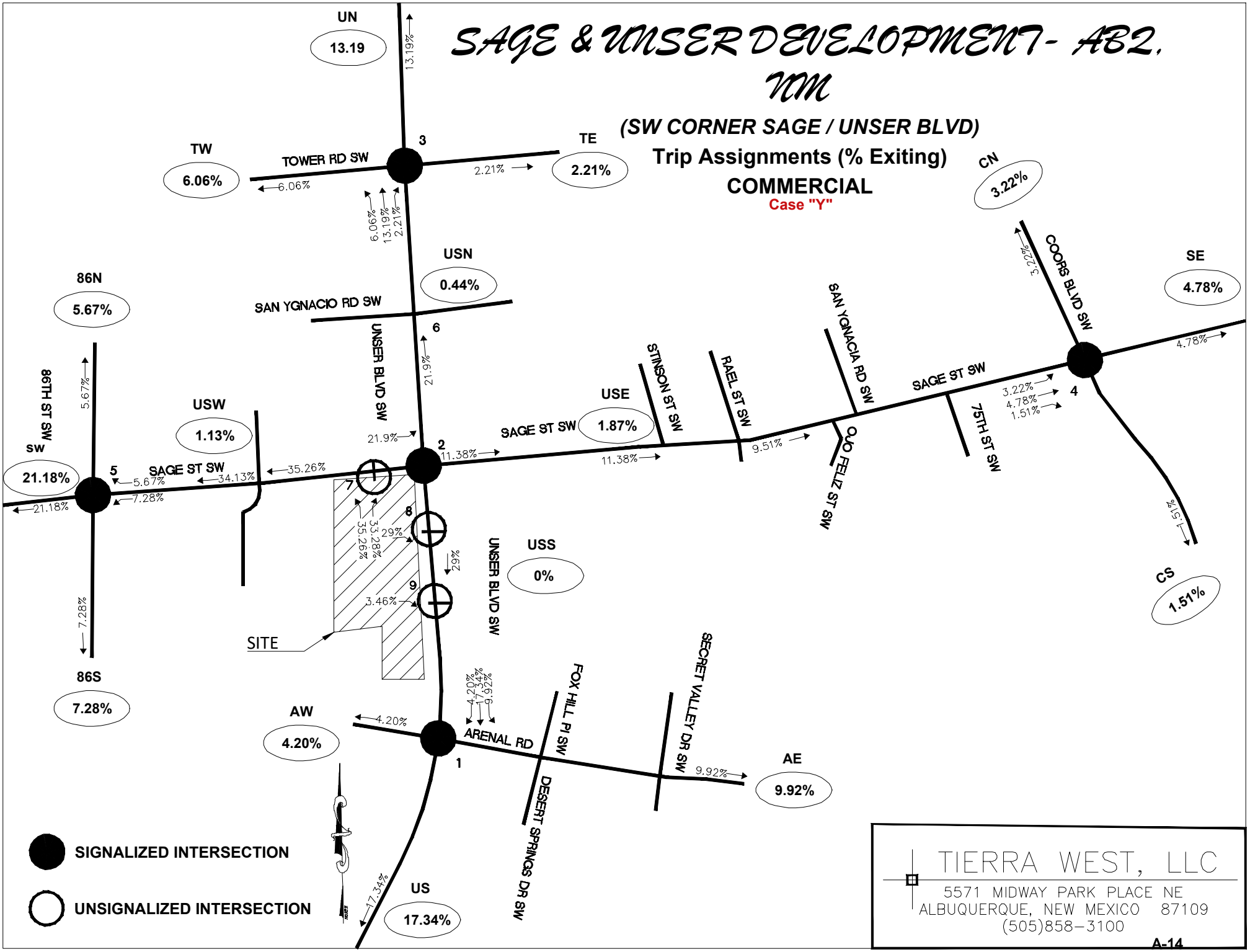
SAGE & UNSER DEVELOPMENT- AB2, NM

(SW CORNER SAGE / UNSER BLVD)

Trip Assignments (% Exiting)

COMMERCIAL

Case "Y"



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100

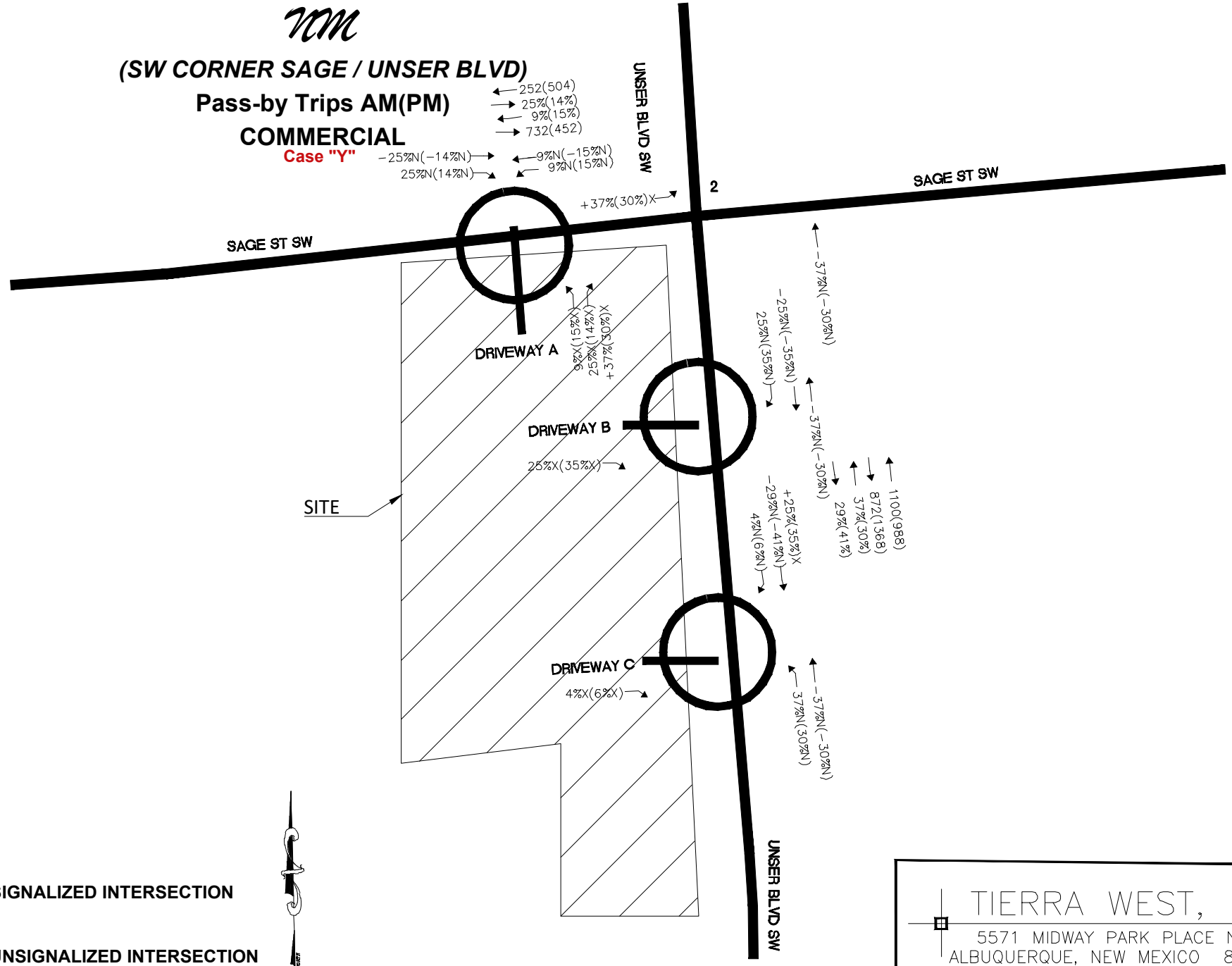
SAGE & UNSER DEVELOPMENT- AB2, NM

(SW CORNER SAGE / UNSER BLVD)

Pass-by Trips AM(PM)

COMMERCIAL

Case "Y"



SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100

Sage and Unser Development

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2025) - 100% Development

Case "Y"

INTERSECTION: **Summary**

Arenal Rd / Unser Blvd

(1)

3.0% Truck	1.00 Eastbound (Arenal Rd)			1.00 Westbound (Arenal Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	152	204	56	144	132	244	56	676	208	212	632	36	
2025 (NO BUILD - A.M.)	*172*	*230*	*63*	*163*	*149*	*275*	*63*	*763*	*235*	*239*	*714*	*41*	
2025 (BUILD - A.M.)	***181***	***230***	***63***	***163***	***149***	***297***	***63***	***801***	***235***	***261***	***753***	***50***	

	1.00 Eastbound (Arenal Rd)			1.00 Westbound (Arenal Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	60	72	56	168	100	344	32	564	144	280	856	116	
2025 (NO BUILD - P.M.)	*68*	*81*	*63*	*190*	*113*	*388*	*36*	*637*	*163*	*316*	*966*	*131*	
2025 (BUILD - P.M.)	***77***	***81***	***63***	***190***	***113***	***409***	***36***	***674***	***163***	***336***	***1,002***	***140***	

Sage Rd / Unser Blvd

(2)

3.0% Truck	1.00 Eastbound (Sage Rd)			1.00 Westbound (Sage Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	252	292	188	36	96	76	84	928	88	76	648	72	
2025 (NO BUILD - A.M.)	*286*	*331*	*213*	*41*	*109*	*86*	*95*	*1,053*	*100*	*86*	*735*	*82*	
2025 (BUILD - A.M.)	***384***	***362***	***213***	***50***	***127***	***86***	***95***	***1,018***	***100***	***86***	***772***	***99***	

	1.00 Eastbound (Sage Rd)			1.00 Westbound (Sage Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	112	120	220	120	184	52	176	756	56	84	1,028	144	
2025 (NO BUILD - P.M.)	*127*	*136*	*250*	*136*	*209*	*59*	*200*	*858*	*64*	*95*	*1,167*	*163*	
2025 (BUILD - P.M.)	***211***	***164***	***250***	***147***	***230***	***59***	***200***	***832***	***64***	***95***	***1,215***	***183***	

Unser Blvd / Driveway B

(8)

3.0% Truck	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway B)			1.00 Southbound (Driveway B)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,248*	*0*	*0*	*989*	*0*	
2025 (BUILD - A.M.)	***0***	***0***	***89***	***0***	***0***	***0***	***0***	***1,213***	***0***	***0***	***974***	***85***	

	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway B)			1.00 Southbound (Driveway B)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,122*	*0*	*0*	*1,553*	*0*	
2025 (BUILD - P.M.)	***0***	***0***	***91***	***0***	***0***	***0***	***0***	***1,095***	***0***	***0***	***1,532***	***110***	

Unser Blvd / Driveway C

(9)

3.0% Truck	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway C)			1.00 Southbound (Driveway C)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,248*	*0*	*0*	*989*	*0*	
2025 (BUILD - A.M.)	***0***	***0***	***13***	***0***	***0***	***0***	***105***	***1,213***	***0***	***0***	***1,025***	***13***	

	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway C)			1.00 Southbound (Driveway C)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,122*	*0*	*0*	*1,553*	*0*	
2025 (BUILD - P.M.)	***0***	***0***	***12***	***0***	***0***	***0***	***95***	***1,095***	***0***	***0***	***1,576***	***15***	

Sage and Unser Development

Projected Turning Movements Worksheet

Arenal Rd / Unser Blvd

INTERSECTION: E-W Street: **Arenal Rd** (1)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	**4.30%**			**4.30%**			**4.30%**			**4.30%**		
	Eastbound (Arenal Rd)			**Westbound (Arenal Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	152	204	56	144	132	244	56	676	208	212	632	36
Background Traffic Growth	20	26	7	19	17	31	7	87	27	27	82	5
Subtotal (NO BUILD - A.M.)	***172***	***230***	***63***	***163***	***149***	***275***	***63***	***763***	***235***	***239***	***714***	***41***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	22	0	38	0	22	39	9
Subtotal AM Pk Hr. BUILD Volumes	**181**	**230**	**63**	**163**	**149**	**297**	**63**	**801**	**235**	**261**	**753**	**50**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**181**	**230**	**63**	**163**	**149**	**297**	**63**	**801**	**235**	**261**	**753**	**50**

	Eastbound (Arenal Rd)			**Westbound (Arenal Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	60	72	56	168	100	344	32	564	144	280	856	116
Background Traffic Growth	8	9	7	22	13	44	4	73	19	36	110	15
Subtotal	68	81	63	190	113	388	36	637	163	316	966	131
Subtotal (NO BUILD - P.M.)	***68***	***81***	***63***	***190***	***113***	***388***	***36***	***637***	***163***	***316***	***966***	***131***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	21	0	37	0	20	36	9
Subtotal PM Pk Hr. BUILD Volumes	**77**	**81**	**63**	**190**	**113**	**409**	**36**	**674**	**163**	**336**	**1,002**	**140**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**77**	**81**	**63**	**190**	**113**	**409**	**36**	**674**	**163**	**336**	**1,002**	**140**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

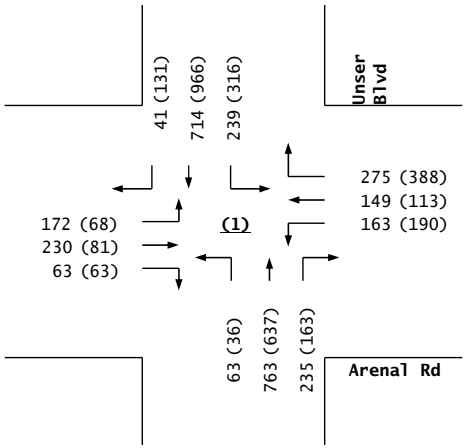
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Arenal Rd)***			***Westbound (Arenal Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

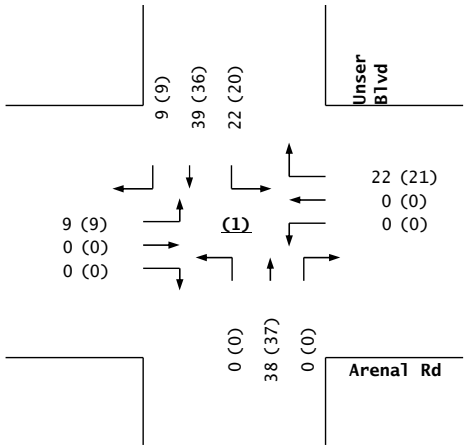
PM Pass-by Trips	***Eastbound (Arenal Rd)***			***Westbound (Arenal Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

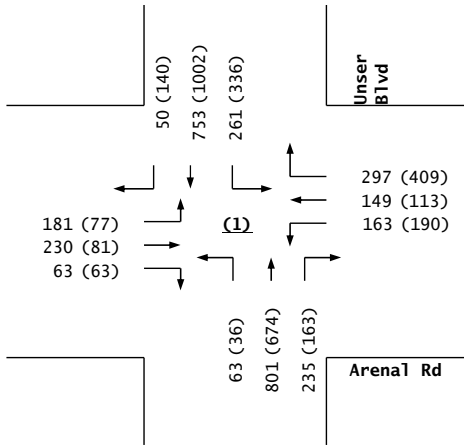
2025
NO BUILD



Trips



2025
BUILD



Arenal Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Sage Rd / Unser Blvd

INTERSECTION: E-W Street: **Sage Rd** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	4.50%			4.50%			4.50%			4.50%		
	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	252	292	188	36	96	76	84	928	88	76	648	72
Background Traffic Growth	34	39	25	5	13	10	11	125	12	10	87	10
Subtotal (NO BUILD - A.M.)	***286***	***331***	***213***	***41***	***109***	***86***	***95***	***1,053***	***100***	***86***	***735***	***82***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*		*0.00%*
Total Trips Generated	63	31	0	9	18	0	0	0	0	0	37	17
Subtotal AM Pk Hr. BUILD Volumes	**349**	**362**	**213**	**50**	**127**	**86**	**95**	**1,053**	**100**	**86**	**772**	**99**
Pass-by Trip Adjustments	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**384**	**362**	**213**	**50**	**127**	**86**	**95**	**1,018**	**100**	**86**	**772**	**99**

	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	120	220	120	184	52	176	756	56	84	1,028	144
Background Traffic Growth	15	16	30	16	25	7	24	102	8	11	139	19
Subtotal (NO BUILD - P.M.)	***127***	***136***	***250***	***136***	***209***	***59***	***200***	***858***	***64***	***95***	***1,167***	***163***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	58	28	0	11	21	0	0	0	0	0	48	20
Subtotal PM Pk Hr. BUILD Volumes	**185**	**164**	**250**	**147**	**230**	**59**	**200**	**858**	**64**	**95**	**1,215**	**183**
Pass-by Trip Adjustments	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**211**	**164**	**250**	**147**	**230**	**59**	**200**	**832**	**64**	**95**	**1,215**	**183**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

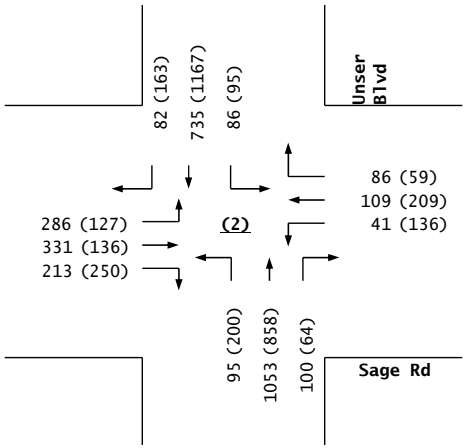
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***35***	***0***	***0***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***0***	***0***

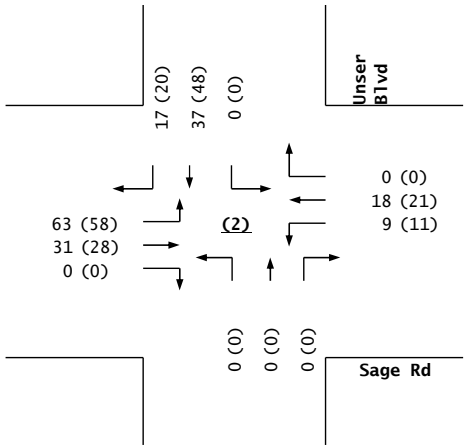
PM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***26***	***0***	***0***	***0***	***0***	***0***	***0***	***-26***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

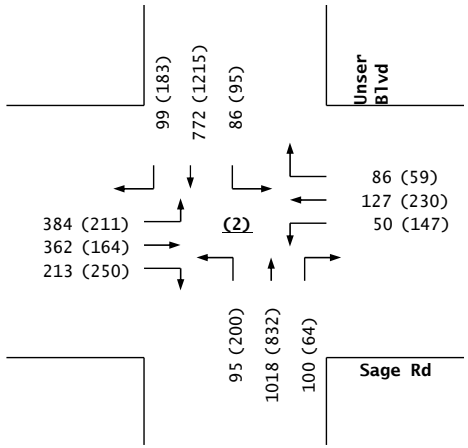
2025
NO BUILD



Trips



2025
BUILD



Sage Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway B

Case "Y"

INTERSECTION: E-W Street: **Unser Blvd** (8)

N-S Street: **Driveway B**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	**4.50%**			**4.50%**			**4.50%**			**4.50%**		
	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway B)**			**Southbound (Driveway B)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,248***	***0***	***0***	***989***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***	***15.00%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***29.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	65	0	0	0	0	0	0	0	9	37
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**65**	**0**	**0**	**0**	**0**	**1,248**	**0**	**0**	**998**	**37**
Pass-by Trip Adjustments	*0*	*0*	*24*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*-24*	*48*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**89**	**0**	**0**	**0**	**0**	**1,213**	**0**	**0**	**974**	**85**

	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway B)**			**Southbound (Driveway B)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,122***	***0***	***0***	***1,553***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***	***15.00%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***29.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	60	0	0	0	0	0	0	0	10	48
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**60**	**0**	**0**	**0**	**0**	**1,122**	**0**	**0**	**1,563**	**48**
Pass-by Trip Adjustments	*0*	*0*	*31*	*0*	*0*	*0*	*0*	*-27*	*0*	*0*	*-31*	*62*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**91**	**0**	**0**	**0**	**0**	**1,095**	**0**	**0**	**1,532**	**110**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

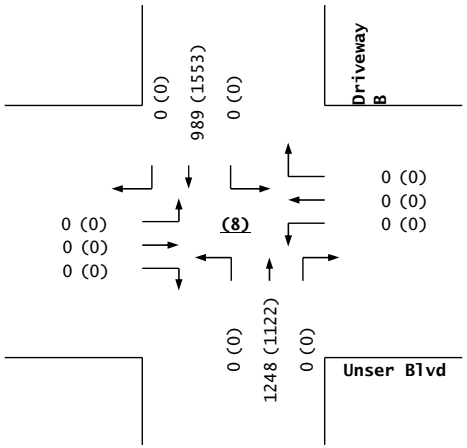
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway B)***			***Southbound (Driveway B)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	***-25.00%***	***25.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*-24*	*24*
Percent Exiting	*0.00%*	*0.00%*	***25.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***25.00%***
Volume Exiting	*0*	*0*	*24*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*24*
Net AM Passby Trips	***0***	***0***	***24***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***-24***	***48***

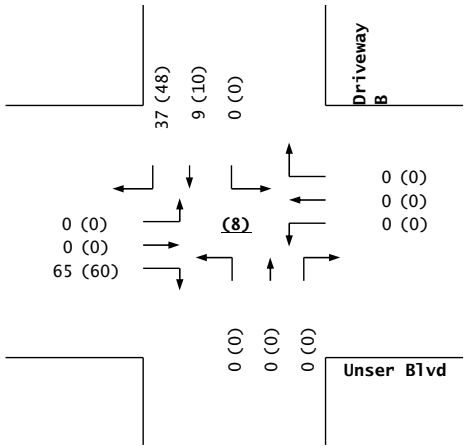
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway B)***			***Southbound (Driveway B)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	***-35.00%***	***35.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*-27*	*0*	*0*	*-31*	*31*
Percent Exiting	*0.00%*	*0.00%*	***35.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***35.00%***
Volume Exiting	*0*	*0*	*31*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*31*
Net PM Passby Trips	***0***	***0***	***31***	***0***	***0***	***0***	***0***	***-27***	***0***	***0***	***-31***	***62***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

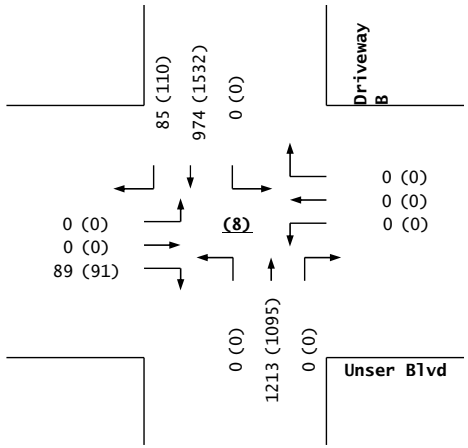
2025
NO BUILD



Trips



2025
BUILD



Unser Blvd / Driveway B

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway C

Case "Y"

INTERSECTION: E-W Street: **Unser Blvd** (9)

N-S Street: **Driveway C**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	**4.50%**			**4.50%**			**4.50%**			**4.50%**		
	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,248***	***0***	***0***	***989***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***2.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***29.00%***	*0.00%*
Total Trips Generated	0	0	9	0	0	0	70	0	0	0	64	9
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**9**	**0**	**0**	**0**	**70**	**1,248**	**0**	**0**	**1,053**	**9**
Pass-by Trip Adjustments	*0*	*0*	*4*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*4*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**13**	**0**	**0**	**0**	**105**	**1,213**	**0**	**0**	**1,025**	**13**

	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,122***	***0***	***0***	***1,553***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***2.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***29.00%***	*0.00%*
Total Trips Generated	0	0	7	0	0	0	68	0	0	0	59	10
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**7**	**0**	**0**	**0**	**68**	**1,122**	**0**	**0**	**1,612**	**10**
Pass-by Trip Adjustments	*0*	*0*	*5*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*5*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**12**	**0**	**0**	**0**	**95**	**1,095**	**0**	**0**	**1,576**	**15**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

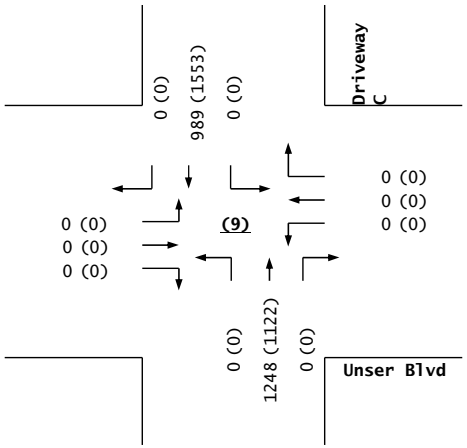
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***37.00%***	***-37.00%***	*0.00%*	*0.00%*	***-29.00%***	***4.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*4*
Percent Exiting	*0.00%*	*0.00%*	***4.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***4***	***0***	***0***	***0***	***35***	***-35***	***0***	***0***	***-28***	***4***

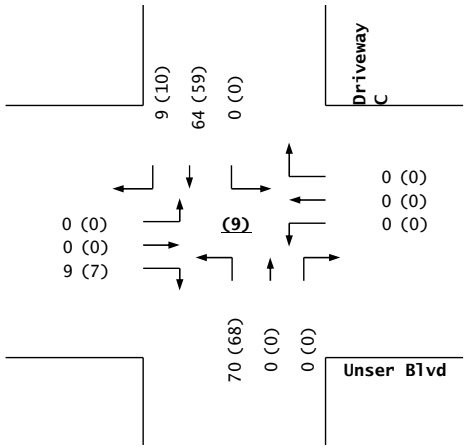
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	***-30.00%***	*0.00%*	*0.00%*	***-41.00%***	***6.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*5*
Percent Exiting	*0.00%*	*0.00%*	***6.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***5***	***0***	***0***	***0***	***27***	***-27***	***0***	***0***	***-36***	***5***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

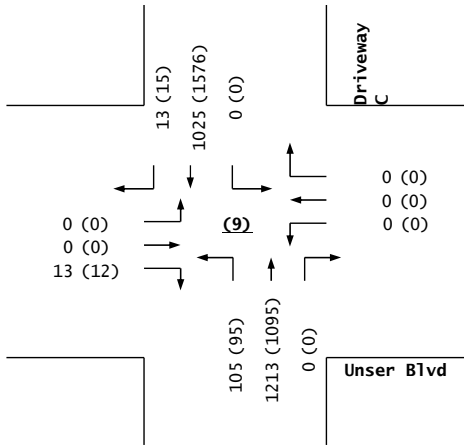
2025
NO BUILD



Trips



2025
BUILD



Unser Blvd / Driveway C

Sage and Unser Development

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2035) - 100% Development

Case "Y"

INTERSECTION: **Summary**

Arenal Rd / Unser Blvd

(1)

3.0% Truck	1.00 Eastbound (Arenal Rd)			1.00 Westbound (Arenal Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	152	204	56	144	132	244	56	676	208	212	632	36	
2035 (NO BUILD - A.M.)	*237*	*318*	*87*	*224*	*206*	*380*	*87*	*1,054*	*324*	*331*	*985*	*56*	
2035 (BUILD - A.M.)	***246***	***318***	***87***	***224***	***206***	***402***	***87***	***1,092***	***324***	***353***	***1,024***	***65***	

	1.00 Eastbound (Arenal Rd)			1.00 Westbound (Arenal Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	60	72	56	168	100	344	32	564	144	280	856	116	
2035 (NO BUILD - P.M.)	*94*	*112*	*87*	*262*	*156*	*536*	*50*	*879*	*224*	*437*	*1,335*	*181*	
2035 (BUILD - P.M.)	***103***	***112***	***87***	***262***	***156***	***557***	***50***	***916***	***224***	***457***	***1,371***	***190***	

Sage Rd / Unser Blvd

(2)

3.0% Truck	1.00 Eastbound (Sage Rd)			1.00 Westbound (Sage Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	252	292	188	36	96	76	84	928	88	76	648	72	
2035 (NO BUILD - A.M.)	*399*	*463*	*298*	*57*	*152*	*120*	*133*	*1,471*	*139*	*120*	*1,027*	*114*	
2035 (BUILD - A.M.)	***497***	***494***	***298***	***66***	***170***	***120***	***133***	***1,436***	***139***	***120***	***1,064***	***131***	

	1.00 Eastbound (Sage Rd)			1.00 Westbound (Sage Rd)			1.00 Northbound (Unser Blvd)			1.00 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	112	120	220	120	184	52	176	756	56	84	1,028	144	
2035 (NO BUILD - P.M.)	*178*	*190*	*349*	*190*	*292*	*82*	*279*	*1,198*	*89*	*133*	*1,629*	*228*	
2035 (BUILD - P.M.)	***262***	***218***	***349***	***201***	***313***	***82***	***279***	***1,172***	***89***	***133***	***1,677***	***248***	

Unser Blvd / Driveway B

(8)

3.0% Truck	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway B)			1.00 Southbound (Driveway B)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,743*	*0*	*0*	*1,382*	*0*	
2035 (BUILD - A.M.)	***0***	***0***	***69***	***0***	***0***	***0***	***0***	***1,708***	***0***	***0***	***1,367***	***85***	

	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway B)			1.00 Southbound (Driveway B)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,566*	*0*	*0*	*2,168*	*0*	
2035 (BUILD - P.M.)	***0***	***0***	***73***	***0***	***0***	***0***	***0***	***1,539***	***0***	***0***	***2,147***	***110***	

Unser Blvd / Driveway C

(9)

3.0% Truck	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway C)			1.00 Southbound (Driveway C)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,743*	*0*	*0*	*1,382*	*0*	
2035 (BUILD - A.M.)	***0***	***0***	***13***	***0***	***0***	***0***	***105***	***1,708***	***0***	***0***	***1,418***	***13***	

	1.00 Eastbound (Unser Blvd)			1.00 Westbound (Unser Blvd)			1.00 Northbound (Driveway C)			1.00 Southbound (Driveway C)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,566*	*0*	*0*	*2,168*	*0*	
2035 (BUILD - P.M.)	***0***	***0***	***12***	***0***	***0***	***0***	***95***	***1,539***	***0***	***0***	***2,191***	***15***	

Sage and Unser Development

Projected Turning Movements Worksheet

Arenal Rd / Unser Blvd

INTERSECTION: E-W Street: **Arenal Rd** (1)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates	**4.30%**			**4.30%**			**4.30%**			**4.30%**		
	Eastbound (Arenal Rd)			**Westbound (Arenal Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	152	204	56	144	132	244	56	676	208	212	632	36
Background Traffic Growth	85	114	31	80	74	136	31	378	116	119	353	20
Subtotal (NO BUILD - A.M.)	***237***	***318***	***87***	***224***	***206***	***380***	***87***	***1,054***	***324***	***331***	***985***	***56***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	22	0	38	0	22	39	9
Subtotal AM Pk Hr. BUILD Volumes	**246**	**318**	**87**	**224**	**206**	**402**	**87**	**1,092**	**324**	**353**	**1,024**	**65**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**246**	**318**	**87**	**224**	**206**	**402**	**87**	**1,092**	**324**	**353**	**1,024**	**65**

	Eastbound (Arenal Rd)			**Westbound (Arenal Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	60	72	56	168	100	344	32	564	144	280	856	116
Background Traffic Growth	34	40	31	94	56	192	18	315	80	157	479	65
Subtotal	94	112	87	262	156	536	50	879	224	437	1,335	181
Subtotal (NO BUILD - P.M.)	***94***	***112***	***87***	***262***	***156***	***536***	***50***	***879***	***224***	***437***	***1,335***	***181***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	21	0	37	0	20	36	9
Subtotal PM Pk Hr. BUILD Volumes	**103**	**112**	**87**	**262**	**156**	**557**	**50**	**916**	**224**	**457**	**1,371**	**190**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**103**	**112**	**87**	**262**	**156**	**557**	**50**	**916**	**224**	**457**	**1,371**	**190**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

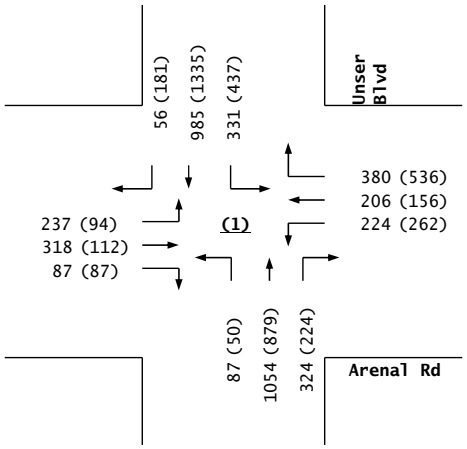
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Arenal Rd)***			***Westbound (Arenal Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

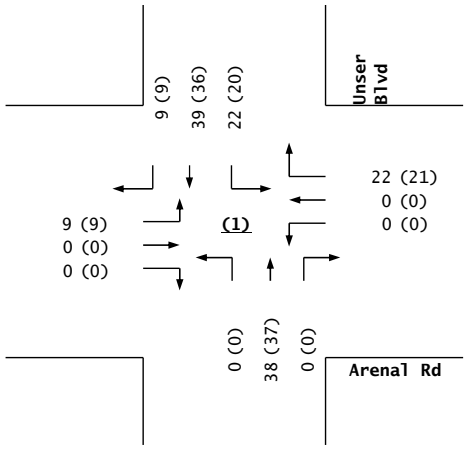
PM Pass-by Trips	***Eastbound (Arenal Rd)***			***Westbound (Arenal Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

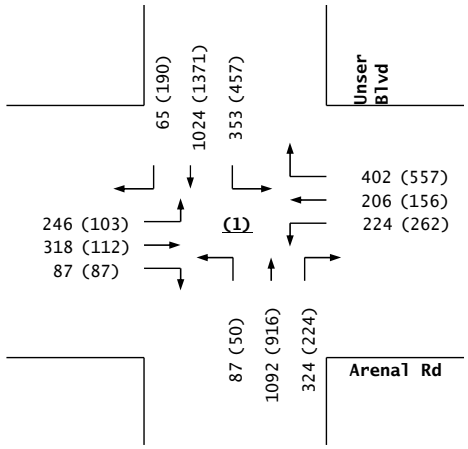
2035
NO BUILD



Trips



2035
BUILD



Arenal Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Sage Rd / Unser Blvd

INTERSECTION: E-W Street: **Sage Rd** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates	4.50%			4.50%			4.50%			4.50%		
	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	252	292	188	36	96	76	84	928	88	76	648	72
Background Traffic Growth	147	171	110	21	56	44	49	543	51	44	379	42
Subtotal (NO BUILD - A.M.)	***399***	***463***	***298***	***57***	***152***	***120***	***133***	***1,471***	***139***	***120***	***1,027***	***114***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*		*0.00%*
Total Trips Generated	63	31	0	9	18	0	0	0	0	0	37	17
Subtotal AM Pk Hr. BUILD Volumes	**462**	**494**	**298**	**66**	**170**	**120**	**133**	**1,471**	**139**	**120**	**1,064**	**131**
Pass-by Trip Adjustments	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**497**	**494**	**298**	**66**	**170**	**120**	**133**	**1,436**	**139**	**120**	**1,064**	**131**

	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	120	220	120	184	52	176	756	56	84	1,028	144
Background Traffic Growth	66	70	129	70	108	30	103	442	33	49	601	84
Subtotal (NO BUILD - P.M.)	***178***	***190***	***349***	***190***	***292***	***82***	***279***	***1,198***	***89***	***133***	***1,629***	***228***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	58	28	0	11	21	0	0	0	0	0	48	20
Subtotal PM Pk Hr. BUILD Volumes	**236**	**218**	**349**	**201**	**313**	**82**	**279**	**1,198**	**89**	**133**	**1,677**	**248**
Pass-by Trip Adjustments	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**262**	**218**	**349**	**201**	**313**	**82**	**279**	**1,172**	**89**	**133**	**1,677**	**248**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

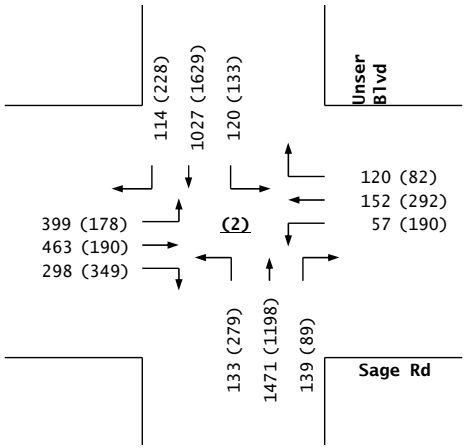
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***35***	***0***	***0***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***0***	***0***

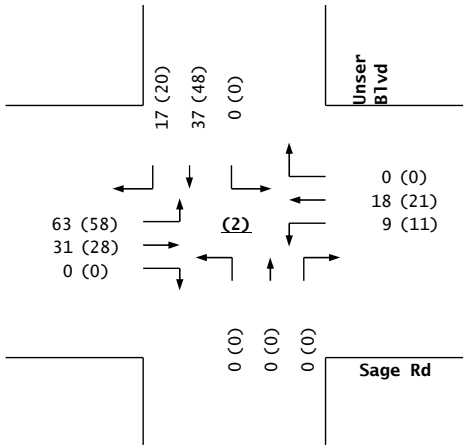
PM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***26***	***0***	***0***	***0***	***0***	***0***	***0***	***-26***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

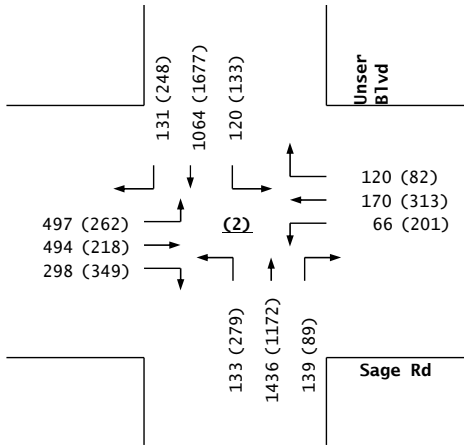
2035
NO BUILD



Trips



2035
BUILD



Sage Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway B

Case "Y"

INTERSECTION: E-W Street: **Unser Blvd** (8)

N-S Street: **Driveway B**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates 4.50% 4.50% 4.50% 4.50%

	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway B)			Southbound (Driveway B)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,743***	***0***	***0***	***1,382***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***	***15.00%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***20.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	45	0	0	0	0	0	0	0	9	37
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**45**	**0**	**0**	**0**	**0**	**1,743**	**0**	**0**	**1,391**	**37**
Pass-by Trip Adjustments	*0*	*0*	*24*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*-24*	*48*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**69**	**0**	**0**	**0**	**0**	**1,708**	**0**	**0**	**1,367**	**85**

	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway B)			Southbound (Driveway B)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,566***	***0***	***0***	***2,168***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***	***15.00%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***20.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	42	0	0	0	0	0	0	0	10	48
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**42**	**0**	**0**	**0**	**0**	**1,566**	**0**	**0**	**2,178**	**48**
Pass-by Trip Adjustments	*0*	*0*	*31*	*0*	*0*	*0*	*0*	*-27*	*0*	*0*	*-31*	*62*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**73**	**0**	**0**	**0**	**0**	**1,539**	**0**	**0**	**2,147**	**110**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

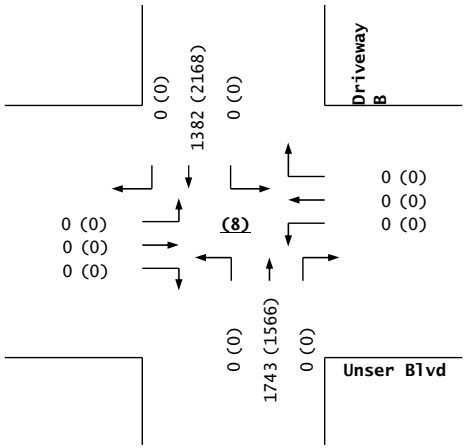
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway B)***			***Southbound (Driveway B)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	***-25.00%***	***25.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*-24*	*24*
Percent Exiting	*0.00%*	*0.00%*	***25.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***25.00%***
Volume Exiting	*0*	*0*	*24*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*24*
Net AM Passby Trips	***0***	***0***	***24***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***-24***	***48***

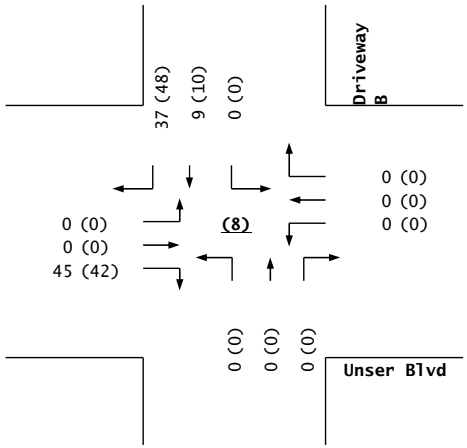
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway B)***			***Southbound (Driveway B)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	***-35.00%***	***35.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*-27*	*0*	*0*	*-31*	*31*
Percent Exiting	*0.00%*	*0.00%*	***35.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***35.00%***
Volume Exiting	*0*	*0*	*31*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*31*
Net PM Passby Trips	***0***	***0***	***31***	***0***	***0***	***0***	***0***	***-27***	***0***	***0***	***-31***	***62***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

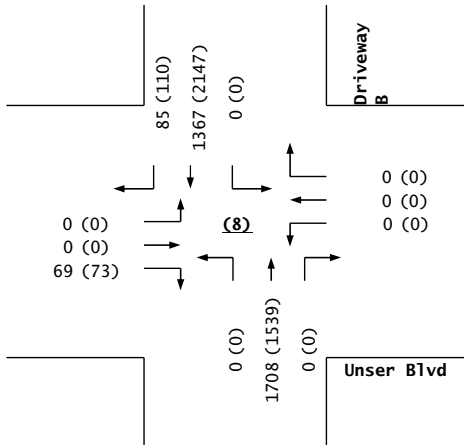
2035
NO BUILD



Trips



2035
BUILD



Unser Blvd / Driveway B

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway C

Case "Y"

INTERSECTION: E-W Street: **Unser Blvd** (9)

N-S Street: **Driveway C**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates	**4.50%**			**4.50%**			**4.50%**			**4.50%**		
	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,743***	***0***	***0***	***1,382***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***2.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***29.00%***	*0.00%*
Total Trips Generated	0	0	9	0	0	0	70	0	0	0	64	9
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**9**	**0**	**0**	**0**	**70**	**1,743**	**0**	**0**	**1,446**	**9**
Pass-by Trip Adjustments	*0*	*0*	*4*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*4*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**13**	**0**	**0**	**0**	**105**	**1,708**	**0**	**0**	**1,418**	**13**

	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,566***	***0***	***0***	***2,168***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***2.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***3.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***3.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***29.00%***	*0.00%*
Total Trips Generated	0	0	7	0	0	0	68	0	0	0	59	10
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**7**	**0**	**0**	**0**	**68**	**1,566**	**0**	**0**	**2,227**	**10**
Pass-by Trip Adjustments	*0*	*0*	*5*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*5*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**12**	**0**	**0**	**0**	**95**	**1,539**	**0**	**0**	**2,191**	**15**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

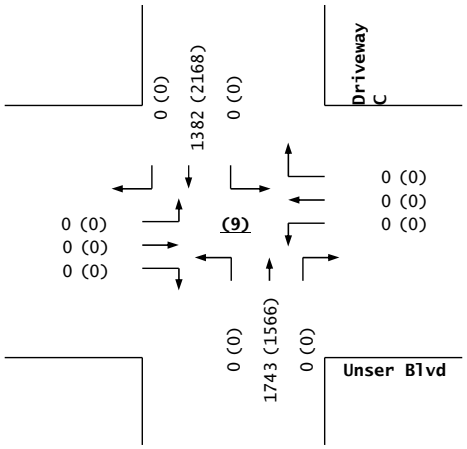
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***37.00%***	***-37.00%***	*0.00%*	*0.00%*	***-29.00%***	***4.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*4*
Percent Exiting	*0.00%*	*0.00%*	***4.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***4***	***0***	***0***	***0***	***35***	***-35***	***0***	***0***	***-28***	***4***

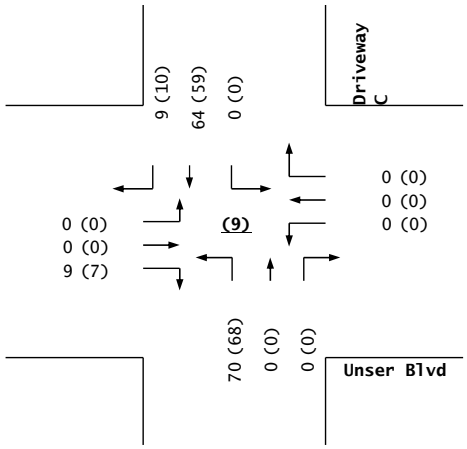
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	***-30.00%***	*0.00%*	*0.00%*	***-41.00%***	***6.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*5*
Percent Exiting	*0.00%*	*0.00%*	***6.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***5***	***0***	***0***	***0***	***27***	***-27***	***0***	***0***	***-36***	***5***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

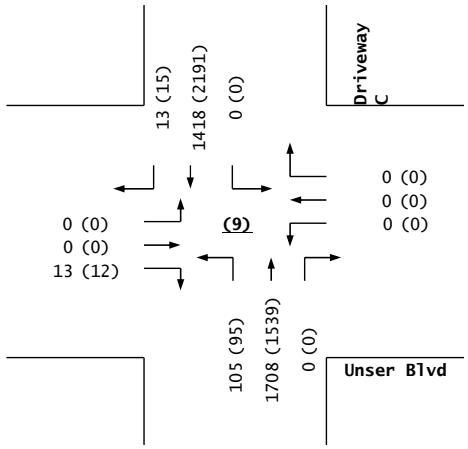
2035
NO BUILD



Trips



2035
BUILD



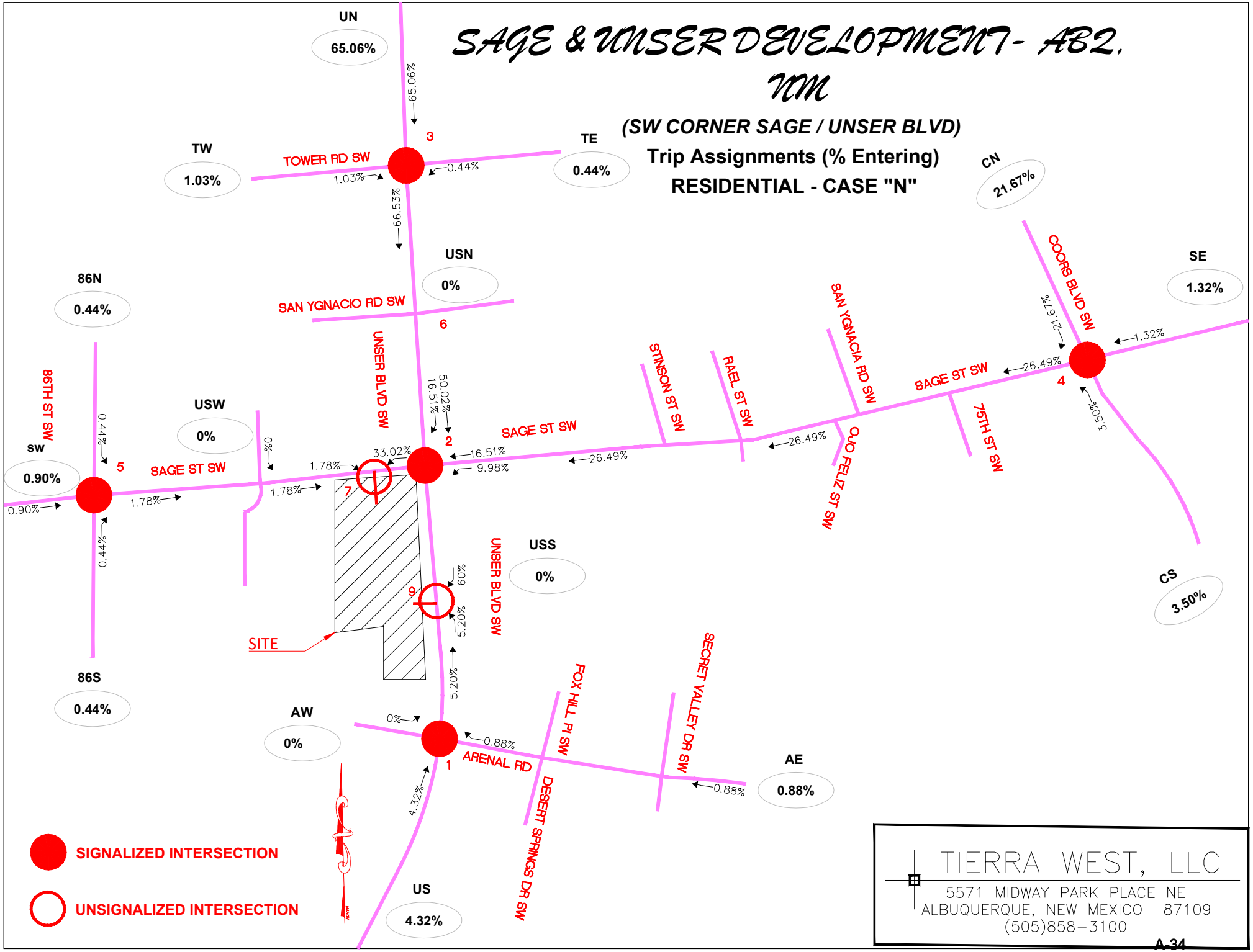
Unser Blvd / Driveway C

SAGE & UNSER DEVELOPMENT - AB2, NM

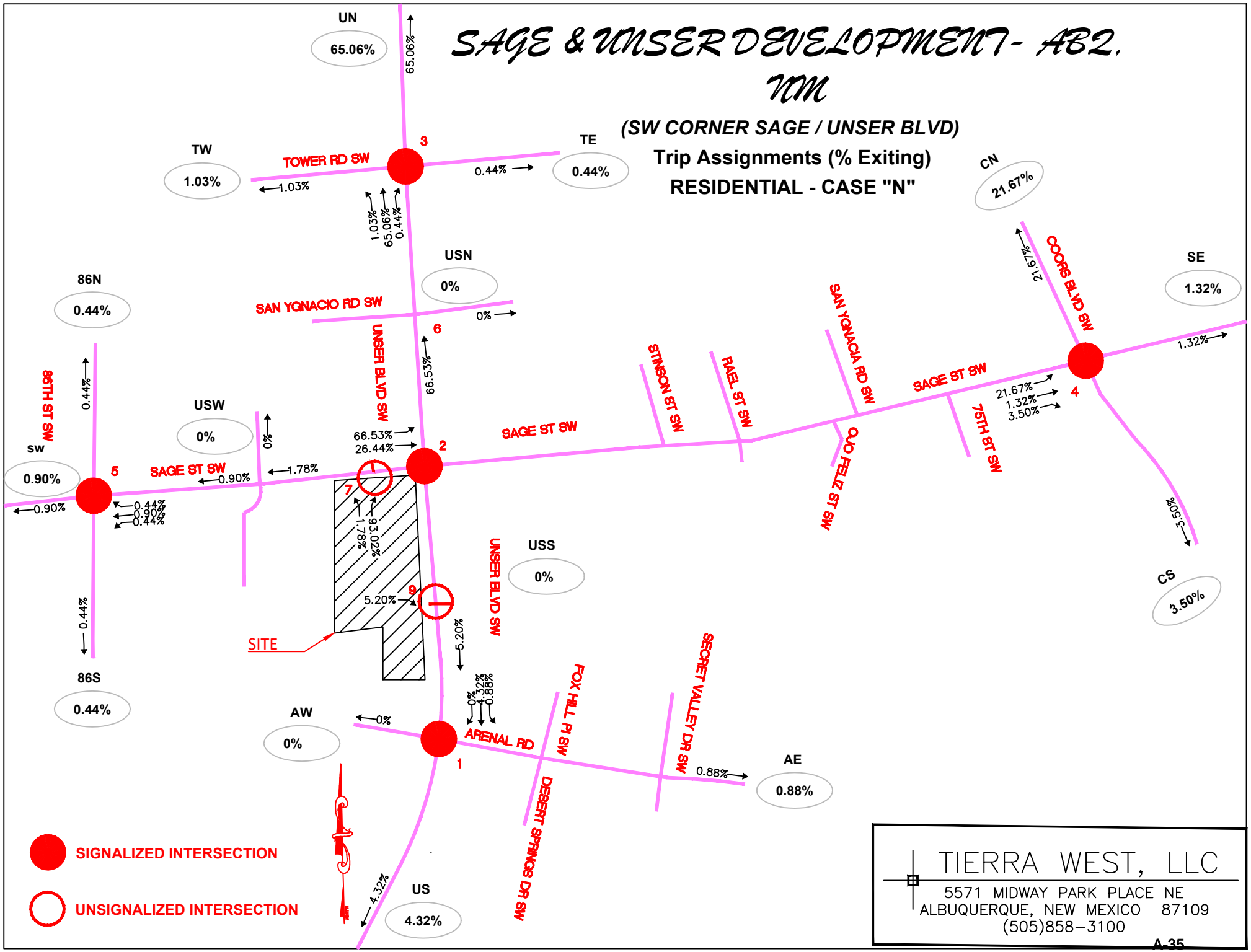
(SW CORNER SAGE / UNSER BLVD)

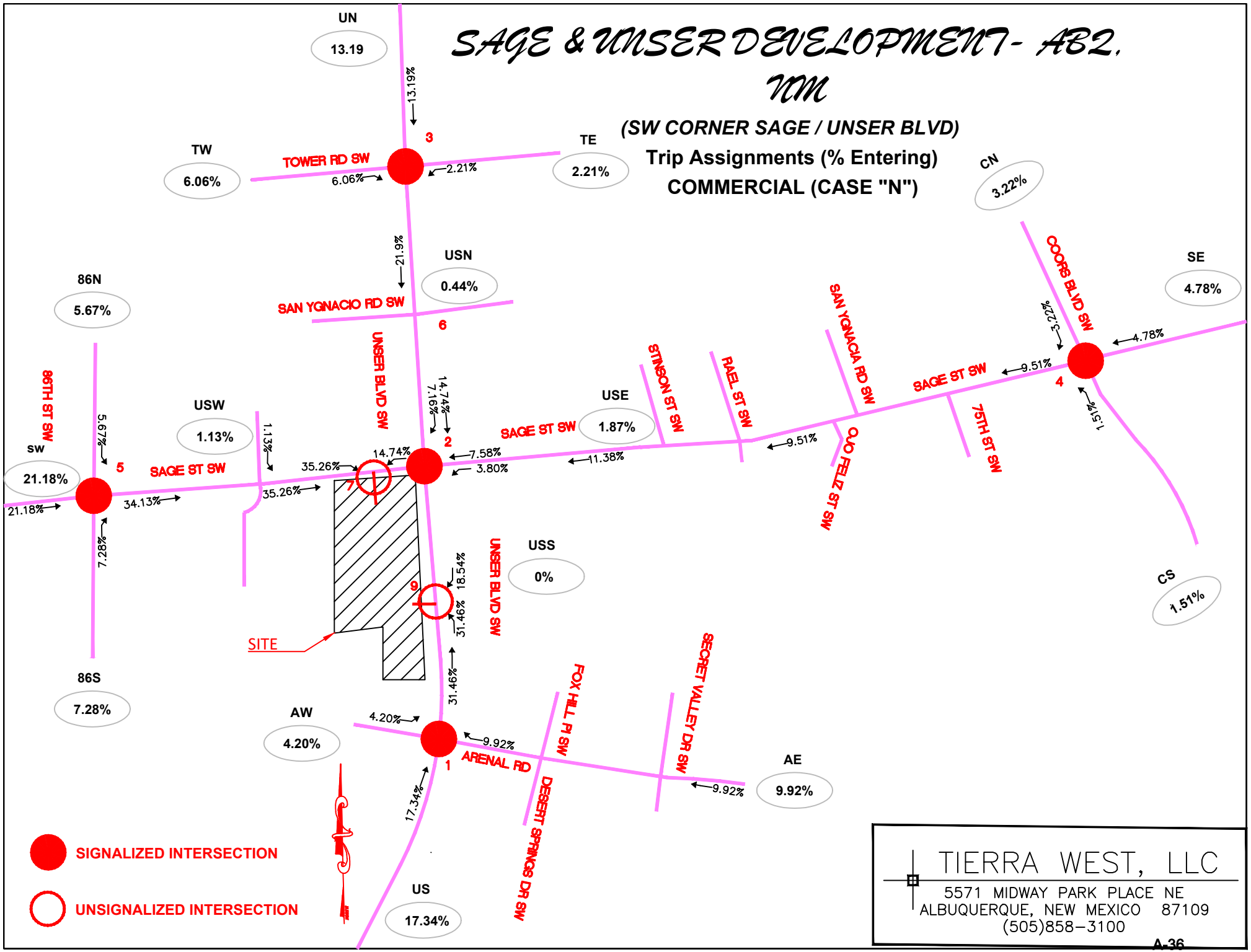
Trip Assignments (% Entering)

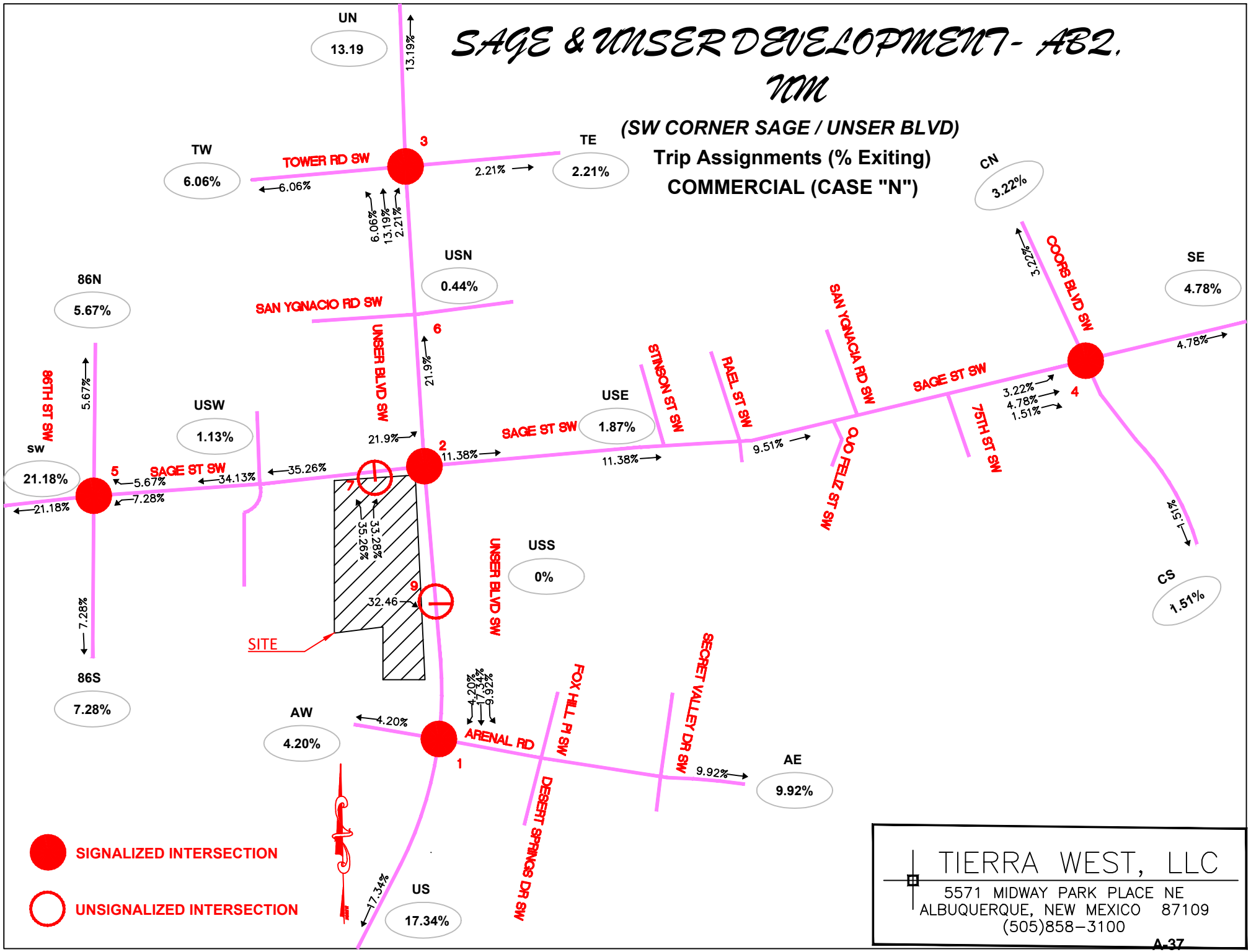
RESIDENTIAL - CASE "N"



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100


SAGE & UNSER DEVELOPMENT - AB2, NM
(SW CORNER SAGE / UNSER BLVD)
Trip Assignments (% Exiting)
RESIDENTIAL - CASE "N"
UN
65.06%
TW
1.03%
TOWER RD SW
TE
0.44%
CN
21.67%
USN
0%
SAN YGNACIO RD SW
SE
1.32%
COORS BLVD SW
86N
0.44%
86TH ST SW
SW
0.90%
86S
0.44%
USW
0%
UNSER BLVD SW
SAGE ST SW
STINSON ST SW
RAEL ST SW
SAN YGNACIA RD SW
OLIVEIRA ST SW
75TH ST SW
CS
3.50%
USS
0%
AW
0%
ARENAL RD
FOX HILL PL SW
SECRET VALLEY DR SW
DESERT SPRINGS DR SW
AE
0.88%
US
4.32%
SITE
1
2
3
4
5
6
7
9
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100
A-35


SAGE & UNSER DEVELOPMENT - AB2, NM
(SW CORNER SAGE / UNSER BLVD)
Trip Assignments (% Entering)
COMMERCIAL (CASE "N")
UN
13.19
13.19%
3
TW
6.06%
TOWER RD SW
6.06%
2.21%
TE
2.21%
CN
3.22%
21.9%
USN
0.44%
SAN YGNACIO RD SW
6
86N
5.67%
UNSER BLVD SW
COORS BLVD SW
SE
4.78%
3.22%
4.78%
86TH ST SW
SAN YGNACIA RD SW
STINSON ST SW
RAEL ST SW
SAGE ST SW
9.51%
4
1.51%
14.74%
7.16%
USE
1.87%
USW
1.13%
1.13%
SW
21.18%
5.67%
5
SAGE ST SW
35.26%
14.74%
7.58%
3.80%
11.38%
9.51%
OLD FELT ST SW
75TH ST SW
2
21.18%
34.13%
35.26%
7.28%
USS
0%
18.54%
9
31.46%
UNSER BLVD SW
CS
1.51%
SITE
86S
7.28%
AW
4.20%
4.20%
9.92%
1
ARENAL RD
FOX HILL PL SW
SECRET VALLEY DR SW
AE
9.92%
9.92%
17.34%
DESERT SPRINGS DR SW
US
17.34%
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100
A-36



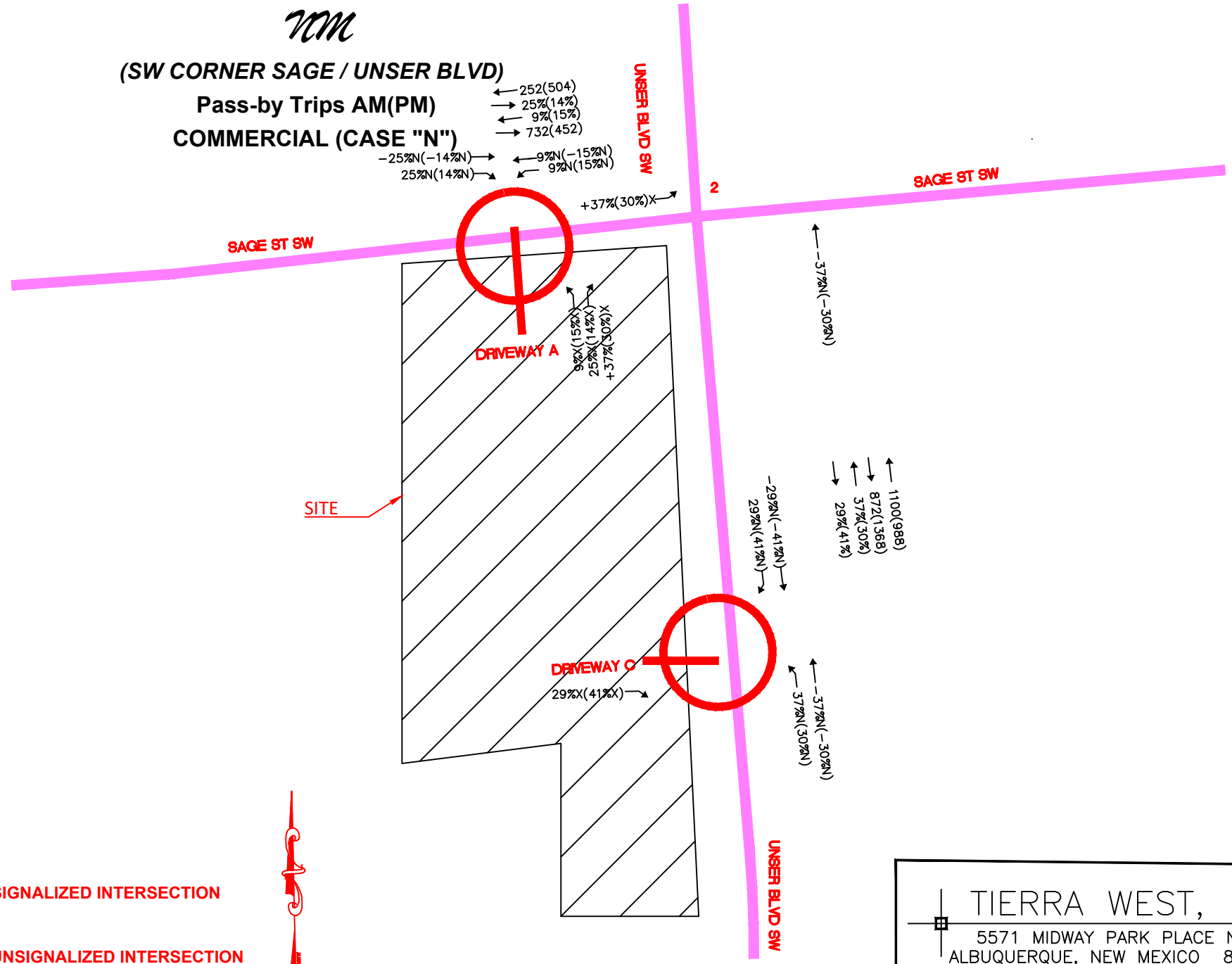
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100

SAGE & UNSER DEVELOPMENT- AB2, NM

(SW CORNER SAGE / UNSER BLVD)

Pass-by Trips AM(PM)

COMMERCIAL (CASE "N")



TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
(505)858-3100

Sage and Unser Development

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2025) - 100% Development

Case "N"

INTERSECTION: **Summary**

Arenal Rd / Unser Blvd

(1)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	152	204	56	144	132	244	56	676	208	212	632	36	
2025 (NO BUILD - A.M.)	*172*	*230*	*63*	*163*	*149*	*275*	*63*	*763*	*235*	*239*	*714*	*41*	
2025 (BUILD - A.M.)	***181***	***230***	***63***	***163***	***149***	***297***	***63***	***801***	***235***	***261***	***753***	***50***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	60	72	56	168	100	344	32	564	144	280	856	116	
2025 (NO BUILD - P.M.)	*68*	*81*	*63*	*190*	*113*	*388*	*36*	*637*	*163*	*316*	*966*	*131*	
2025 (BUILD - P.M.)	***77***	***81***	***63***	***190***	***113***	***409***	***36***	***674***	***163***	***336***	***1,002***	***140***	

Sage Rd / Unser Blvd

(2)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Sage Rd)			Westbound (Sage Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	252	292	188	36	96	76	84	928	88	76	648	72	
2025 (NO BUILD - A.M.)	*286*	*331*	*213*	*41*	*109*	*86*	*95*	*1,053*	*100*	*86*	*735*	*82*	
2025 (BUILD - A.M.)	***384***	***362***	***213***	***50***	***127***	***86***	***95***	***1,018***	***100***	***86***	***772***	***99***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Sage Rd)			Westbound (Sage Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	112	120	220	120	184	52	176	756	56	84	1,028	144	
2025 (NO BUILD - P.M.)	*127*	*136*	*250*	*136*	*209*	*59*	*200*	*858*	*64*	*95*	*1,167*	*163*	
2025 (BUILD - P.M.)	***211***	***164***	***250***	***147***	***230***	***59***	***200***	***832***	***64***	***95***	***1,215***	***183***	

Unser Blvd / Driveway C

(9)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway C)			Southbound (Driveway C)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,248*	*0*	*0*	*989*	*0*	
2025 (BUILD - A.M.)	***0***	***0***	***99***	***0***	***0***	***0***	***105***	***1,213***	***0***	***0***	***961***	***73***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway C)			Southbound (Driveway C)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2025 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,122*	*0*	*0*	*1,553*	*0*	
2025 (BUILD - P.M.)	***0***	***0***	***103***	***0***	***0***	***0***	***95***	***1,095***	***0***	***0***	***1,517***	***92***	

Sage and Unser Development

Projected Turning Movements Worksheet

Arenal Rd / Unser Blvd

INTERSECTION: E-W Street: **Arenal Rd** (1)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates **4.30%** **4.30%** **4.30%** **4.30%**

	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	152	204	56	144	132	244	56	676	208	212	632	36
Background Traffic Growth	20	26	7	19	17	31	7	87	27	27	82	5
Subtotal (NO BUILD - A.M.)	***172***	***230***	***63***	***163***	***149***	***275***	***63***	***763***	***235***	***239***	***714***	***41***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	22	0	38	0	22	39	9
Subtotal AM Pk Hr. BUILD Volumes	**181**	**230**	**63**	**163**	**149**	**297**	**63**	**801**	**235**	**261**	**753**	**50**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**181**	**230**	**63**	**163**	**149**	**297**	**63**	**801**	**235**	**261**	**753**	**50**

	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	60	72	56	168	100	344	32	564	144	280	856	116
Background Traffic Growth	8	9	7	22	13	44	4	73	19	36	110	15
Subtotal	68	81	63	190	113	388	36	637	163	316	966	131
Subtotal (NO BUILD - P.M.)	***68***	***81***	***63***	***190***	***113***	***388***	***36***	***637***	***163***	***316***	***966***	***131***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	21	0	37	0	20	36	9
Subtotal PM Pk Hr. BUILD Volumes	**77**	**81**	**63**	**190**	**113**	**409**	**36**	**674**	**163**	**336**	**1,002**	**140**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**77**	**81**	**63**	**190**	**113**	**409**	**36**	**674**	**163**	**336**	**1,002**	**140**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

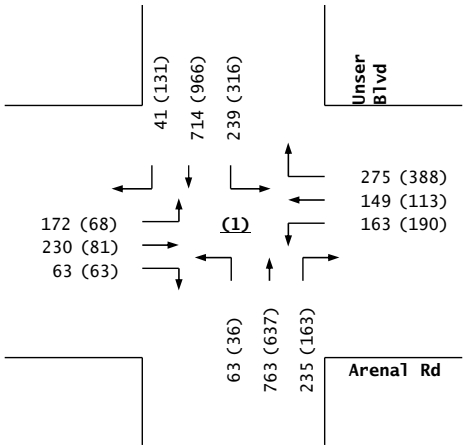
Pass-by Trip Calculations:

AM Pass-by Trips	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

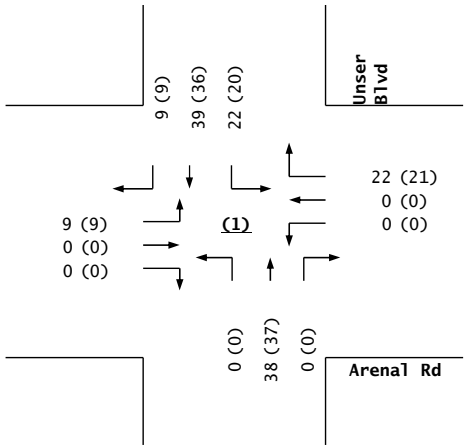
PM Pass-by Trips	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

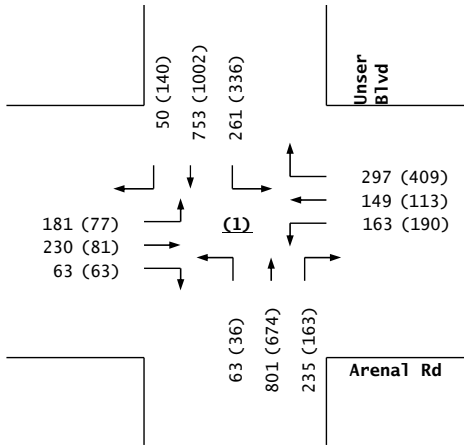
2025
NO BUILD



Trips



2025
BUILD



Arenal Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Sage Rd / Unser Blvd

INTERSECTION: E-W Street: **Sage Rd** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	4.50%			4.50%			4.50%			4.50%		
	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	252	292	188	36	96	76	84	928	88	76	648	72
Background Traffic Growth	34	39	25	5	13	10	11	125	12	10	87	10
Subtotal (NO BUILD - A.M.)	***286***	***331***	***213***	***41***	***109***	***86***	***95***	***1,053***	***100***	***86***	***735***	***82***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*		*0.00%*
Total Trips Generated	63	31	0	9	18	0	0	0	0	0	37	17
Subtotal AM Pk Hr. BUILD Volumes	**349**	**362**	**213**	**50**	**127**	**86**	**95**	**1,053**	**100**	**86**	**772**	**99**
Pass-by Trip Adjustments	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**384**	**362**	**213**	**50**	**127**	**86**	**95**	**1,018**	**100**	**86**	**772**	**99**

	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	120	220	120	184	52	176	756	56	84	1,028	144
Background Traffic Growth	15	16	30	16	25	7	24	102	8	11	139	19
Subtotal (NO BUILD - P.M.)	***127***	***136***	***250***	***136***	***209***	***59***	***200***	***858***	***64***	***95***	***1,167***	***163***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	58	28	0	11	21	0	0	0	0	0	48	20
Subtotal PM Pk Hr. BUILD Volumes	**185**	**164**	**250**	**147**	**230**	**59**	**200**	**858**	**64**	**95**	**1,215**	**183**
Pass-by Trip Adjustments	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**211**	**164**	**250**	**147**	**230**	**59**	**200**	**832**	**64**	**95**	**1,215**	**183**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

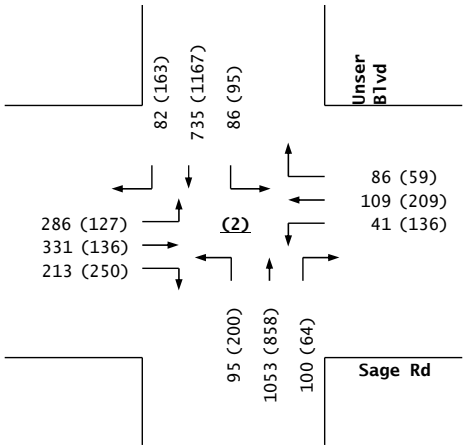
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***35***	***0***	***0***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***0***	***0***

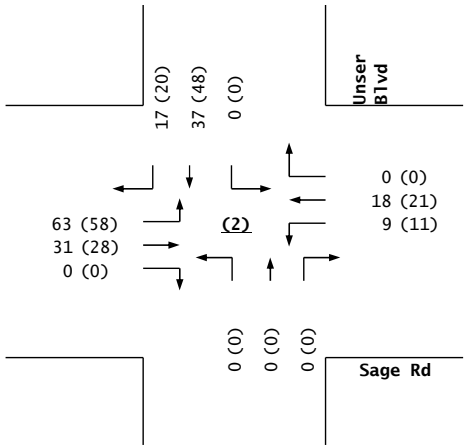
PM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***26***	***0***	***0***	***0***	***0***	***0***	***0***	***-26***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

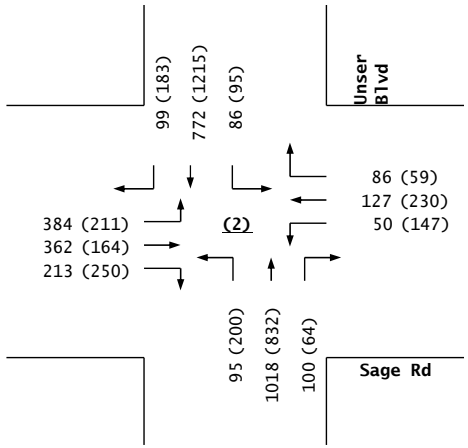
2025
NO BUILD



Trips



2025
BUILD



Sage Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway C

CASE "N"

INTERSECTION: E-W Street: **Unser Blvd** (9)

N-S Street: **Driveway C**

Year of Existing Counts 2022

Horizon Year **2025**

Growth Rates	**4.50%**			**4.50%**			**4.50%**			**4.50%**		
	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,248***	***0***	***0***	***989***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***18.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***32.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	72	0	0	0	70	0	0	0	0	45
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**72**	**0**	**0**	**0**	**70**	**1,248**	**0**	**0**	**989**	**45**
Pass-by Trip Adjustments	*0*	*0*	*27*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*28*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**99**	**0**	**0**	**0**	**105**	**1,213**	**0**	**0**	**961**	**73**

	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,122***	***0***	***0***	***1,553***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***18.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***32.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	67	0	0	0	68	0	0	0	0	56
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**67**	**0**	**0**	**0**	**68**	**1,122**	**0**	**0**	**1,553**	**56**
Pass-by Trip Adjustments	*0*	*0*	*36*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*36*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**103**	**0**	**0**	**0**	**95**	**1,095**	**0**	**0**	**1,517**	**92**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

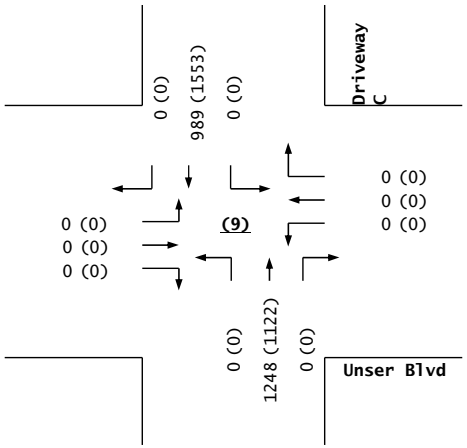
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***37.00%***	***-37.00%***	*0.00%*	*0.00%*	***-29.00%***	***29.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*28*
Percent Exiting	*0.00%*	*0.00%*	***29.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*27*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***27***	***0***	***0***	***0***	***35***	***-35***	***0***	***0***	***-28***	***28***

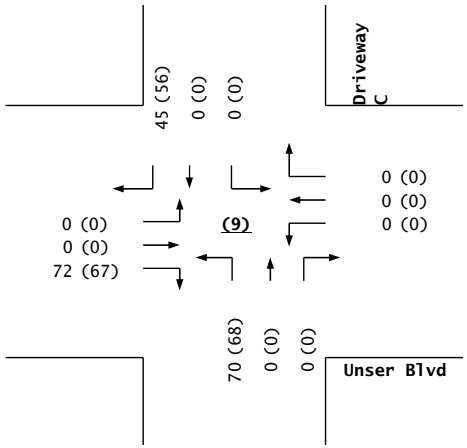
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	***-30.00%***	*0.00%*	*0.00%*	***-41.00%***	***41.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*36*
Percent Exiting	*0.00%*	*0.00%*	***41.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*36*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***36***	***0***	***0***	***0***	***27***	***-27***	***0***	***0***	***-36***	***36***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

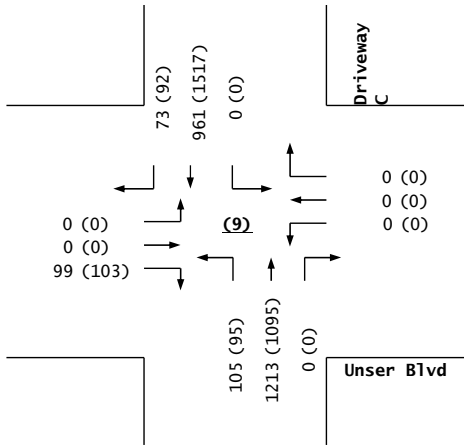
2025
NO BUILD



Trips



2025
BUILD



Unser Blvd / Driveway C

Sage and Unser Development

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2035) - 100% Development

Case "N"

INTERSECTION: **Summary**

Arenal Rd / Unser Blvd

(1)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	152	204	56	144	132	244	56	676	208	212	632	36	
2035 (NO BUILD - A.M.)	*237*	*318*	*87*	*224*	*206*	*380*	*87*	*1,054*	*324*	*331*	*985*	*56*	
2035 (BUILD - A.M.)	***246***	***318***	***87***	***224***	***206***	***402***	***87***	***1,092***	***324***	***353***	***1,024***	***65***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	60	72	56	168	100	344	32	564	144	280	856	116	
2035 (NO BUILD - P.M.)	*94*	*112*	*87*	*262*	*156*	*536*	*50*	*879*	*224*	*437*	*1,335*	*181*	
2035 (BUILD - P.M.)	***103***	***112***	***87***	***262***	***156***	***557***	***50***	***916***	***224***	***457***	***1,371***	***190***	

Sage Rd / Unser Blvd

(2)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Sage Rd)			Westbound (Sage Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	252	292	188	36	96	76	84	928	88	76	648	72	
2035 (NO BUILD - A.M.)	*399*	*463*	*298*	*57*	*152*	*120*	*133*	*1,471*	*139*	*120*	*1,027*	*114*	
2035 (BUILD - A.M.)	***497***	***494***	***298***	***66***	***170***	***120***	***133***	***1,436***	***139***	***120***	***1,064***	***131***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Sage Rd)			Westbound (Sage Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	112	120	220	120	184	52	176	756	56	84	1,028	144	
2035 (NO BUILD - P.M.)	*178*	*190*	*349*	*190*	*292*	*82*	*279*	*1,198*	*89*	*133*	*1,629*	*228*	
2035 (BUILD - P.M.)	***262***	***218***	***349***	***201***	***313***	***82***	***279***	***1,172***	***89***	***133***	***1,677***	***248***	

Unser Blvd / Driveway C

(9)

3.0% Truck

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway C)			Southbound (Driveway C)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,743*	*0*	*0*	*1,382*	*0*	
2035 (BUILD - A.M.)	***0***	***0***	***99***	***0***	***0***	***0***	***105***	***1,708***	***0***	***0***	***1,354***	***73***	

	1.00			1.00			1.00			1.00			PHF
	Eastbound (Unser Blvd)			Westbound (Unser Blvd)			Northbound (Driveway C)			Southbound (Driveway C)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2022)	0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,566*	*0*	*0*	*2,168*	*0*	
2035 (BUILD - P.M.)	***0***	***0***	***103***	***0***	***0***	***0***	***95***	***1,539***	***0***	***0***	***2,132***	***92***	

Sage and Unser Development

Projected Turning Movements Worksheet

Arenal Rd / Unser Blvd

INTERSECTION: E-W Street: **Arenal Rd** (1)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates **4.30%** **4.30%** **4.30%** **4.30%**

	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	152	204	56	144	132	244	56	676	208	212	632	36
Background Traffic Growth	85	114	31	80	74	136	31	378	116	119	353	20
Subtotal (NO BUILD - A.M.)	***237***	***318***	***87***	***224***	***206***	***380***	***87***	***1,054***	***324***	***331***	***985***	***56***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	22	0	38	0	22	39	9
Subtotal AM Pk Hr. BUILD Volumes	**246**	**318**	**87**	**224**	**206**	**402**	**87**	**1,092**	**324**	**353**	**1,024**	**65**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**246**	**318**	**87**	**224**	**206**	**402**	**87**	**1,092**	**324**	**353**	**1,024**	**65**

	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	60	72	56	168	100	344	32	564	144	280	856	116
Background Traffic Growth	34	40	31	94	56	192	18	315	80	157	479	65
Subtotal	94	112	87	262	156	536	50	879	224	437	1,335	181
Subtotal (NO BUILD - P.M.)	***94***	***112***	***87***	***262***	***156***	***536***	***50***	***879***	***224***	***437***	***1,335***	***181***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	*0.00%*	***4.32%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.88%***	***4.32%***	*0.00%*
Percent Commercial Trips Generated(Entering)	***4.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	*0.00%*	***17.34%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.92%***	***17.34%***	***4.20%***
Total Trips Generated	9	0	0	0	0	21	0	37	0	20	36	9
Subtotal PM Pk Hr. BUILD Volumes	**103**	**112**	**87**	**262**	**156**	**557**	**50**	**916**	**224**	**457**	**1,371**	**190**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**103**	**112**	**87**	**262**	**156**	**557**	**50**	**916**	**224**	**457**	**1,371**	**190**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

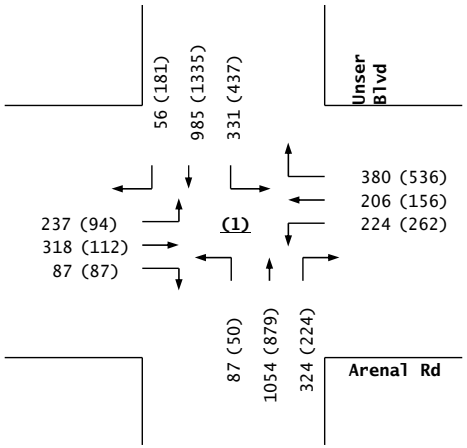
Pass-by Trip Calculations:

AM Pass-by Trips	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

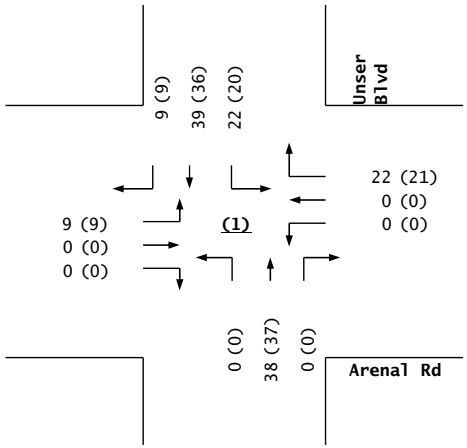
PM Pass-by Trips	Eastbound (Arenal Rd)			Westbound (Arenal Rd)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

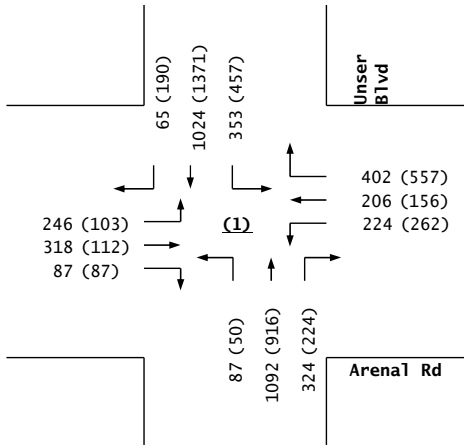
2035
NO BUILD



Trips



2035
BUILD



Arenal Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Sage Rd / Unser Blvd

INTERSECTION: E-W Street: **Sage Rd** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates	4.50%			4.50%			4.50%			4.50%		
	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	252	292	188	36	96	76	84	928	88	76	648	72
Background Traffic Growth	147	171	110	21	56	44	49	543	51	44	379	42
Subtotal (NO BUILD - A.M.)	***399***	***463***	***298***	***57***	***152***	***120***	***133***	***1,471***	***139***	***120***	***1,027***	***114***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*		*0.00%*
Total Trips Generated	63	31	0	9	18	0	0	0	0	0	37	17
Subtotal AM Pk Hr. BUILD Volumes	**462**	**494**	**298**	**66**	**170**	**120**	**133**	**1,471**	**139**	**120**	**1,064**	**131**
Pass-by Trip Adjustments	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**497**	**494**	**298**	**66**	**170**	**120**	**133**	**1,436**	**139**	**120**	**1,064**	**131**

	Eastbound (Sage Rd)			**Westbound (Sage Rd)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	120	220	120	184	52	176	756	56	84	1,028	144
Background Traffic Growth	66	70	129	70	108	30	103	442	33	49	601	84
Subtotal (NO BUILD - P.M.)	***178***	***190***	***349***	***190***	***292***	***82***	***279***	***1,198***	***89***	***133***	***1,629***	***228***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***9.98%***	***16.51%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.02%***	***16.51%***
Percent Residential Trips Generated(Exiting)	***66.53%***	***26.49%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	***3.80%***	***7.58%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***14.74%***	***7.16%***
Percent Commercial Trips Generated(Exiting)	***21.90%***	***11.38%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	58	28	0	11	21	0	0	0	0	0	48	20
Subtotal PM Pk Hr. BUILD Volumes	**236**	**218**	**349**	**201**	**313**	**82**	**279**	**1,198**	**89**	**133**	**1,677**	**248**
Pass-by Trip Adjustments	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**262**	**218**	**349**	**201**	**313**	**82**	**279**	**1,172**	**89**	**133**	**1,677**	**248**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	100% Residential Development
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

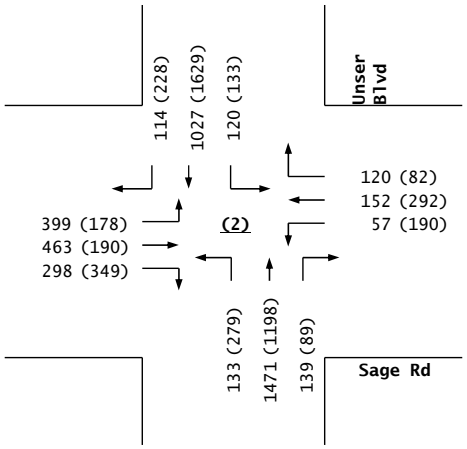
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-37.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*35*	*0*	*0*	*0*	*0*	*0*	*0*	*-35*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***35***	***0***	***0***	***0***	***0***	***0***	***0***	***-35***	***0***	***0***	***0***	***0***

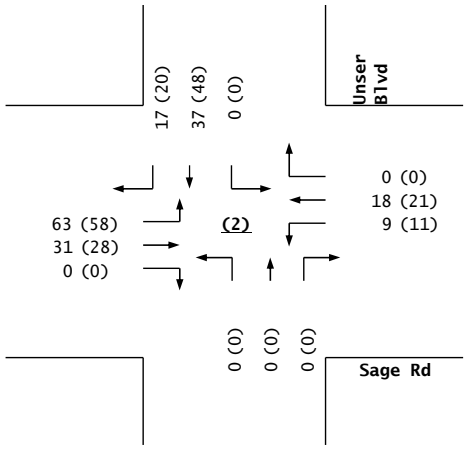
PM Pass-by Trips	***Eastbound (Sage Rd)***			***Westbound (Sage Rd)***			***Northbound (Unser Blvd)***			***Southbound (Unser Blvd)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Percent Exiting	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***-30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*26*	*0*	*0*	*0*	*0*	*0*	*0*	*-26*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***26***	***0***	***0***	***0***	***0***	***0***	***0***	***-26***	***0***	***0***	***0***	***0***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

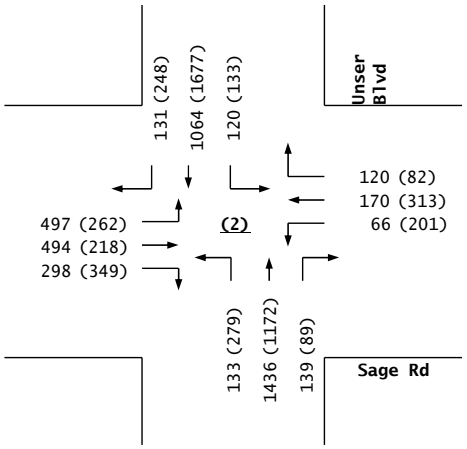
2035
NO BUILD



Trips



2035
BUILD



Sage Rd / Unser Blvd

Sage and Unser Development

Projected Turning Movements Worksheet

Unser Blvd / Driveway C

CASE "N"

INTERSECTION: E-W Street: **Unser Blvd** (9)

N-S Street: **Driveway C**

Year of Existing Counts 2022

Horizon Year **2035**

Growth Rates	**4.50%**			**4.50%**			**4.50%**			**4.50%**		
	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,743***	***0***	***0***	***1,382***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***18.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***32.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	72	0	0	0	70	0	0	0	0	45
Subtotal AM Pk Hr. BUILD Volumes	**0**	**0**	**72**	**0**	**0**	**0**	**70**	**1,743**	**0**	**0**	**1,382**	**45**
Pass-by Trip Adjustments	*0*	*0*	*27*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*28*
Total AM Peak Hour BUILD Volumes	**0**	**0**	**99**	**0**	**0**	**0**	**105**	**1,708**	**0**	**0**	**1,354**	**73**

	Eastbound (Unser Blvd)			**Westbound (Unser Blvd)**			**Northbound (Driveway C)**			**Southbound (Driveway C)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,566***	***0***	***0***	***2,168***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***5.20%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***31.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***18.54%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***32.46%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	67	0	0	0	68	0	0	0	0	56
Subtotal PM Pk Hr. BUILD Volumes	**0**	**0**	**67**	**0**	**0**	**0**	**68**	**1,566**	**0**	**0**	**2,168**	**56**
Pass-by Trip Adjustments	*0*	*0*	*36*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*36*
Total PM Peak Hour BUILD Volumes	**0**	**0**	**103**	**0**	**0**	**0**	**95**	**1,539**	**0**	**0**	**2,132**	**92**

	Entering	Exiting		
Number of Residential Trips Generated	**7**	**23**	A.M.	
	33	**20**	P.M.	
Number of Commercial Trips Generated	**222**	**219**	A.M.	100% Commercial Development
	209	**204**	P.M.	

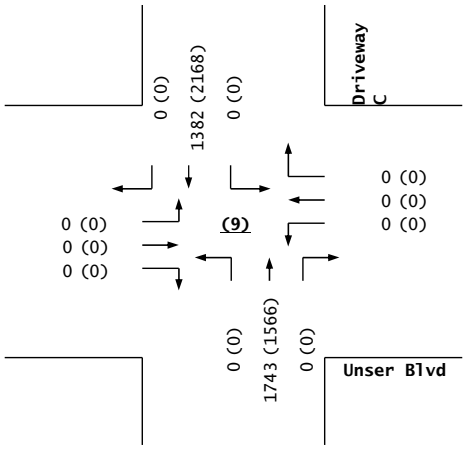
Pass-by Trip Calculations:

AM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***37.00%***	***-37.00%***	*0.00%*	*0.00%*	***-29.00%***	***29.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*35*	*-35*	*0*	*0*	*-28*	*28*
Percent Exiting	*0.00%*	*0.00%*	***29.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*27*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net AM Passby Trips	***0***	***0***	***27***	***0***	***0***	***0***	***35***	***-35***	***0***	***0***	***-28***	***28***

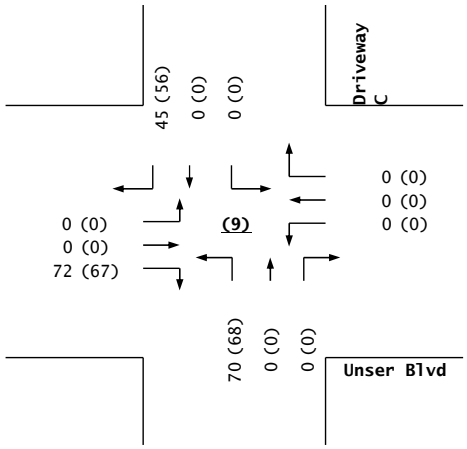
PM Pass-by Trips	***Eastbound (Unser Blvd)***			***Westbound (Unser Blvd)***			***Northbound (Driveway C)***			***Southbound (Driveway C)***		
Percent Entering	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	***-30.00%***	*0.00%*	*0.00%*	***-41.00%***	***41.00%***
Volume Entering	*0*	*0*	*0*	*0*	*0*	*0*	*27*	*-27*	*0*	*0*	*-36*	*36*
Percent Exiting	*0.00%*	*0.00%*	***41.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Volume Exiting	*0*	*0*	*36*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net PM Passby Trips	***0***	***0***	***36***	***0***	***0***	***0***	***27***	***-27***	***0***	***0***	***-36***	***36***

	Entering	*Exiting*	
Pass-by Trips	***95***	***94***	*AM*
	89	***88***	*PM*

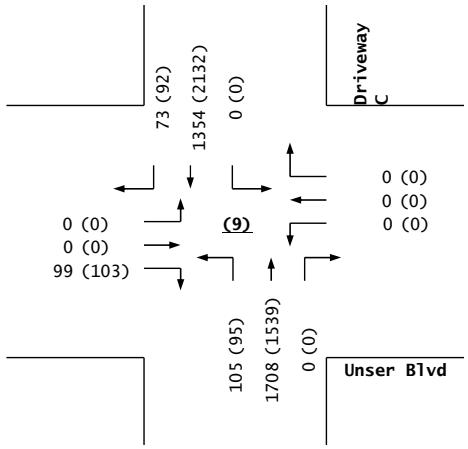
2035
NO BUILD



Trips



2035
BUILD



Unser Blvd / Driveway C

Case "Y" & "N"

Timings
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
11/22/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	230	63	163	149	297	63	801	235	261	753	50
Future Volume (vph)	181	230	63	163	149	297	63	801	235	261	753	50
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Free
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	3.0	8.0	8.0	16.0	16.0	16.0	3.0	16.0	
Minimum Split (s)	25.0	25.0	25.0	11.0	26.0	26.0	26.0	26.0	26.0	9.5	24.0	
Total Split (s)	42.0	42.0	42.0	13.0	55.0	55.0	41.0	41.0	41.0	24.0	65.0	
Total Split (%)	35.0%	35.0%	35.0%	10.8%	45.8%	45.8%	34.2%	34.2%	34.2%	20.0%	54.2%	
Yellow Time (s)	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	
All-Red Time (s)	3.5	3.5	3.5	0.5	4.0	4.0	4.0	4.0	4.0	0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	3.5	8.0	8.0	8.0	8.0	8.0	3.5	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	23.4	23.4	23.4	39.8	35.3	35.3	50.5	50.5	50.5	73.2	70.7	120.0
Actuated g/C Ratio	0.20	0.20	0.20	0.33	0.29	0.29	0.42	0.42	0.42	0.61	0.59	1.00
v/c Ratio	0.75	0.33	0.16	0.42	0.27	0.44	0.22	0.54	0.29	0.60	0.36	0.03
Control Delay	64.0	41.5	1.9	31.5	32.1	5.1	30.4	30.2	5.0	14.2	8.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	41.5	1.9	31.5	32.1	5.1	30.4	30.2	5.0	14.2	8.0	0.0
LOS	E	D	A	C	C	A	C	C	A	B	A	A
Approach Delay		44.8			18.8			24.9			9.2	
Approach LOS		D			B			C			A	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 117.6 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 75		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.75		
Intersection Signal Delay: 21.5	Intersection LOS: C	
Intersection Capacity Utilization 77.0%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 1: Unser Blvd & Sapphire St/Arenal Rd

HCM 6th Signalized Intersection Summary
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
11/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	230	63	163	149	297	63	801	235	261	753	50
Future Volume (veh/h)	181	230	63	163	149	297	63	801	235	261	753	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	230	0	163	149	0	63	801	0	261	753	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	614		334	526		385	1624		440	2081	
Arrive On Green	0.17	0.17	0.00	0.08	0.28	0.00	0.46	0.46	0.00	0.20	1.00	0.00
Sat Flow, veh/h	1239	3554	1585	1781	1870	1585	710	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	181	230	0	163	149	0	63	801	0	261	753	0
Grp Sat Flow(s),veh/h/ln	1239	1777	1585	1781	1870	1585	710	1777	1585	1781	1777	1585
Q Serve(g_s), s	17.0	6.9	0.0	8.8	7.5	0.0	6.3	19.0	0.0	9.4	0.0	0.0
Cycle Q Clear(g_c), s	17.0	6.9	0.0	8.8	7.5	0.0	6.3	19.0	0.0	9.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	614		334	526		385	1624		440	2081	
V/C Ratio(X)	0.66	0.37		0.49	0.28		0.16	0.49		0.59	0.36	
Avail Cap(c_a), veh/h	421	1036		334	733		385	1624		567	2081	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.1	43.9	0.0	35.7	33.7	0.0	19.4	22.8	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.4	0.0	1.1	0.3	0.0	0.9	1.1	0.0	1.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	5.4	0.0	7.0	6.1	0.0	2.0	12.5	0.0	5.5	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	44.3	0.0	36.8	34.0	0.0	20.3	23.9	0.0	15.3	0.5	0.0
LnGrp LOS	D	D		D	C		C	C		B	A	
Approach Vol, veh/h		411			312			864			1014	
Approach Delay, s/veh		47.2			35.5			23.7			4.3	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	15.4	62.8	13.0	28.7		78.3		41.7				
Change Period (Y+Rc), s	3.5	8.0	3.5	* 8		* 8		8.0				
Max Green Setting (Gmax), s	20.5	33.0	9.5	* 35		* 59		47.0				
Max Q Clear Time (g_c+I1), s	11.4	21.0	10.8	19.0		2.0		9.5				
Green Ext Time (p_c), s	0.5	4.5	0.0	1.7		5.7		0.8				

Intersection Summary		
HCM 6th Ctrl Delay	21.2	
HCM 6th LOS	C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Case "Y" & "N"

Timings
2: Unser Blvd & Sage Rd

Tierra West LLC
11/22/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	384	362	213	50	127	95	1018	100	86	772	99
Future Volume (vph)	384	362	213	50	127	95	1018	100	86	772	99
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4	5	3	8	5	2		1	6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	7	4	5	3	8	5	2		1	6	
Switch Phase											
Minimum Initial (s)	5.0	12.0	3.0	3.0	12.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	23.5		9.5	23.5	
Total Split (s)	32.0	46.4	12.3	9.6	24.0	12.3	53.4		10.6	51.7	
Total Split (%)	26.7%	38.7%	10.3%	8.0%	20.0%	10.3%	44.5%		8.8%	43.1%	
Yellow Time (s)	3.0	4.0	3.0	3.0	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	0.5	2.0	0.5	0.5	2.5	0.5	1.5		0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	5.5		3.5	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	45.3	35.1	49.7	20.8	12.4	65.2	55.9	120.0	63.9	53.7	120.0
Actuated g/C Ratio	0.38	0.29	0.41	0.17	0.10	0.54	0.47	1.00	0.53	0.45	1.00
v/c Ratio	0.73	0.35	0.29	0.24	0.51	0.27	0.62	0.06	0.32	0.49	0.06
Control Delay	38.7	33.4	15.7	28.7	34.5	16.9	34.1	0.1	15.7	23.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	33.4	15.7	28.7	34.5	16.9	34.1	0.1	15.7	23.7	0.1
LOS	D	C	B	C	C	B	C	A	B	C	A
Approach Delay		31.6			33.4		30.0			20.5	
Approach LOS		C			C		C			C	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 69.6 (58%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Unser Blvd & Sage Rd

HCM 6th Signalized Intersection Summary
2: Unser Blvd & Sage Rd

Tierra West LLC
11/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	362	213	50	127	86	95	1018	100	86	772	99
Future Volume (veh/h)	384	362	213	50	127	86	95	1018	100	86	772	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	362	213	50	127	0	95	1018	0	86	772	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	966	496	204	355		410	1784		260	1774	
Arrive On Green	0.07	0.09	0.09	0.03	0.10	0.00	0.01	0.17	0.00	0.05	0.66	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	384	362	213	50	127	0	95	1018	0	86	772	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	22.1	11.5	14.5	3.0	4.0	0.0	3.1	31.7	0.0	2.8	12.3	0.0
Cycle Q Clear(g_c), s	22.1	11.5	14.5	3.0	4.0	0.0	3.1	31.7	0.0	2.8	12.3	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	510	966	496	204	355		410	1784		260	1774	
V/C Ratio(X)	0.75	0.37	0.43	0.24	0.36		0.23	0.57		0.33	0.44	
Avail Cap(c_a), veh/h	567	1196	599	234	533		467	1784		297	1774	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	45.0	41.7	46.3	50.4	0.0	14.5	38.1	0.0	18.1	12.2	0.0
Incr Delay (d2), s/veh	5.1	0.2	0.6	0.1	0.1	0.0	0.3	1.3	0.0	0.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.7	9.4	10.3	1.9	2.4	0.0	2.3	21.8	0.0	2.0	7.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	45.3	42.2	46.4	50.5	0.0	14.8	39.5	0.0	18.8	12.9	0.0
LnGrp LOS	D	D	D	D	D		B	D		B	B	
Approach Vol, veh/h		959			177			1113			858	
Approach Delay, s/veh		45.1			49.3			37.4			13.5	
Approach LOS		D			D			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	65.8	7.6	38.6	8.4	65.4	28.2	18.0
Change Period (Y+Rc), s	3.5	5.5	3.5	6.0	3.5	5.5	3.5	6.0
Max Green Setting (Gmax), s	7.1	47.9	6.1	40.4	8.8	46.2	28.5	18.0
Max Q Clear Time (g_c+I1), s	4.8	33.7	5.0	16.5	5.1	14.3	24.1	6.0
Green Ext Time (p_c), s	0.0	5.8	0.0	3.0	0.1	5.6	0.5	0.5

Intersection Summary		
HCM 6th Ctrl Delay	33.8	
HCM 6th LOS	C	

Notes

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	89	0	1213	974	85
Future Vol, veh/h	0	89	0	1213	974	85
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	89	0	1213	974	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	487	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	526	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	526	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	526	-	-
HCM Lane V/C Ratio	-	0.169	-	-
HCM Control Delay (s)	-	13.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	105	1213	1025	13
Future Vol, veh/h	0	13	105	1213	1025	13
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	105	1213	1025	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	513	1038	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	506	665	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	506	665	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	665	-	506	-	-
HCM Lane V/C Ratio	0.158	-	0.026	-	-
HCM Control Delay (s)	11.4	-	12.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	-	-

Case "Y" & "N"

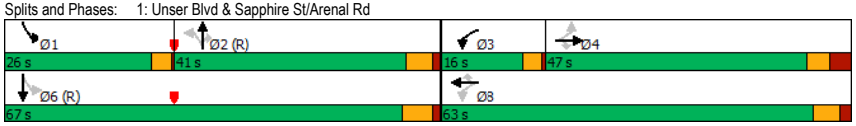
Timings
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
11/22/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	81	63	190	113	409	36	674	163	336	1002	140
Future Volume (vph)	77	81	63	190	113	409	36	674	163	336	1002	140
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Free
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	3.0	8.0	8.0	16.0	16.0	16.0	3.0	16.0	
Minimum Split (s)	44.2	44.2	44.2	15.6	59.8	59.8	44.2	44.2	44.2	26.0	70.2	
Total Split (s)	47.0	47.0	47.0	16.0	63.0	63.0	41.0	41.0	41.0	26.0	67.0	
Total Split (%)	36.2%	36.2%	36.2%	12.3%	48.5%	48.5%	31.5%	31.5%	31.5%	20.0%	51.5%	
Yellow Time (s)	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	
All-Red Time (s)	3.5	3.5	3.5	0.5	2.0	2.0	1.5	1.5	1.5	0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	3.5	6.0	6.0	5.5	5.5	5.5	3.5	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	13.4	13.4	13.4	32.7	30.2	30.2	65.9	65.9	65.9	90.3	87.8	130.0
Actuated g/C Ratio	0.10	0.10	0.10	0.25	0.23	0.23	0.51	0.51	0.51	0.69	0.68	1.00
v/c Ratio	0.59	0.22	0.26	0.57	0.26	0.60	0.13	0.38	0.18	0.58	0.42	0.09
Control Delay	72.6	53.4	7.9	47.3	41.2	7.5	23.2	22.1	4.0	19.8	16.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	53.4	7.9	47.3	41.2	7.5	23.2	22.1	4.0	19.8	16.7	0.1
LOS	E	D	A	D	D	A	C	C	A	B	B	A
Approach Delay		47.1			23.5			18.8			15.8	
Approach LOS		D			C			B			B	

Intersection Summary		
Cycle Length: 130		
Actuated Cycle Length: 130		
Offset: 63.7 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 130		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.60		
Intersection Signal Delay: 20.4	Intersection LOS: C	
Intersection Capacity Utilization 72.8%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 1: Unser Blvd & Sapphire St/Arenal Rd



HCM 6th Signalized Intersection Summary
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
11/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	63	190	113	409	36	674	163	336	1002	140
Future Volume (veh/h)	77	81	63	190	113	409	36	674	163	336	1002	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	81	0	190	113	0	36	674	0	336	1002	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	282		303	379		373	2010		597	2478	
Arrive On Green	0.08	0.08	0.00	0.10	0.20	0.00	0.57	0.57	0.00	0.21	1.00	0.00
Sat Flow, veh/h	1280	3554	1585	1781	1870	1585	562	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	77	81	0	190	113	0	36	674	0	336	1002	0
Grp Sat Flow(s),veh/h/ln	1280	1777	1585	1781	1870	1585	562	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.7	2.8	0.0	12.5	6.7	0.0	3.9	13.2	0.0	10.9	0.0	0.0
Cycle Q Clear(g_c), s	7.7	2.8	0.0	12.5	6.7	0.0	3.9	13.2	0.0	10.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	282		303	379		373	2010		597	2478	
V/C Ratio(X)	0.49	0.29		0.63	0.30		0.10	0.34		0.56	0.40	
Avail Cap(c_a), veh/h	449	1093		303	820		373	2010		718	2478	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.6	56.4	0.0	47.7	44.0	0.0	13.1	15.1	0.0	8.5	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.6	0.0	4.0	0.4	0.0	0.5	0.5	0.0	0.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	2.3	0.0	9.8	5.6	0.0	1.0	9.0	0.0	5.4	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	56.9	0.0	51.8	44.4	0.0	13.6	15.6	0.0	9.3	0.5	0.0
LnGrp LOS	E	E		D	D		B	B		A	A	
Approach Vol, veh/h		158			303			710			1338	
Approach Delay, s/veh		58.9			49.0			15.5			2.7	
Approach LOS		E			D			B			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	17.1	79.5	16.0	17.3	96.7	33.3
Change Period (Y+Rc), s	3.5	* 6	3.5	7.0	6.0	* 7
Max Green Setting (Gmax), s	22.5	* 36	12.5	40.0	61.0	* 57
Max Q Clear Time (g_c+I1), s	12.9	15.2	14.5	9.7	2.0	8.7
Green Ext Time (p_c), s	0.7	4.7	0.0	0.7	8.6	0.6

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Case "Y" & "N"

Timings
2: Unser Blvd & Sage Rd

Tierra West LLC
11/22/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	211	164	250	147	230	200	832	64	95	1215	183
Future Volume (vph)	211	164	250	147	230	200	832	64	95	1215	183
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4	5	3	8	5	2		1	6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	7	4	5	3	8	5	2		1	6	
Switch Phase											
Minimum Initial (s)	3.0	12.0	3.0	3.0	12.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	23.5		9.5	23.5	
Total Split (s)	20.0	30.2	23.0	13.8	24.0	23.0	76.2		9.8	63.0	
Total Split (%)	15.4%	23.2%	17.7%	10.6%	18.5%	17.7%	58.6%		7.5%	48.5%	
Yellow Time (s)	3.0	4.0	3.0	3.0	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	0.5	2.0	0.5	0.5	2.5	0.5	1.5		0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	5.5		3.5	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	36.9	20.8	40.2	27.9	15.3	85.6	73.6	130.0	76.2	67.2	130.0
Actuated g/C Ratio	0.28	0.16	0.31	0.21	0.12	0.66	0.57	1.00	0.59	0.52	1.00
v/c Ratio	0.68	0.29	0.46	0.49	0.69	0.64	0.42	0.04	0.24	0.66	0.12
Control Delay	53.4	52.7	37.3	42.3	59.8	36.4	11.6	0.0	10.8	26.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	52.7	37.3	42.3	59.8	36.4	11.6	0.0	10.8	26.8	0.1
LOS	D	D	D	D	E	D	B	A	B	C	A
Approach Delay		46.8			53.9		15.4			22.5	
Approach LOS		D			D		B			C	

Intersection Summary			
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 58.5 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 82.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Unser Blvd & Sage Rd

HCM 6th Signalized Intersection Summary
2: Unser Blvd & Sage Rd

Tierra West LLC
11/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	164	250	147	230	59	200	832	64	95	1215	183
Future Volume (veh/h)	211	164	250	147	230	59	200	832	64	95	1215	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	164	250	147	230	0	200	832	0	95	1215	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	584	364	317	455		316	2048		417	1950	
Arrive On Green	0.12	0.16	0.16	0.08	0.13	0.00	0.07	0.58	0.00	0.04	0.55	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	211	164	250	147	230	0	200	832	0	95	1215	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.9	5.3	18.8	9.3	7.8	0.0	6.1	16.8	0.0	3.0	30.5	0.0
Cycle Q Clear(g_c), s	12.9	5.3	18.8	9.3	7.8	0.0	6.1	16.8	0.0	3.0	30.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	339	584	364	317	455		316	2048		417	1950	
V/C Ratio(X)	0.62	0.28	0.69	0.46	0.51		0.63	0.41		0.23	0.62	
Avail Cap(c_a), veh/h	359	662	398	317	492		467	2048		437	1950	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.21	0.21	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.9	47.6	45.8	44.5	52.8	0.0	17.2	15.2	0.0	12.5	20.1	0.0
Incr Delay (d2), s/veh	3.0	0.3	4.4	0.2	0.2	0.0	2.1	0.6	0.0	0.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.9	4.2	12.3	5.6	4.9	0.0	4.4	10.9	0.0	2.1	18.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	47.8	50.2	44.7	53.0	0.0	19.3	15.8	0.0	12.8	21.6	0.0
LnGrp LOS	D	D	D	D	D		B	B		B	C	
Approach Vol, veh/h		625			377			1032			1310	
Approach Delay, s/veh		47.5			49.8			16.5			21.0	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	80.4	13.8	27.4	12.0	76.8	18.5	22.7
Change Period (Y+Rc), s	3.5	5.5	3.5	6.0	3.5	5.5	3.5	6.0
Max Green Setting (Gmax), s	6.3	70.7	10.3	24.2	19.5	57.5	16.5	18.0
Max Q Clear Time (g_c+I1), s	5.0	18.8	11.3	20.8	8.1	32.5	14.9	9.8
Green Ext Time (p_c), s	0.0	6.5	0.0	0.6	0.4	9.5	0.1	0.8

Intersection Summary		
HCM 6th Ctrl Delay	27.8	
HCM 6th LOS	C	

Notes
User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	91	0	1095	1532	110
Future Vol, veh/h	0	91	0	1095	1532	110
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	91	0	1095	1532	110

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	766	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	345	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	345	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	345	-	-
HCM Lane V/C Ratio	-	0.264	-	-
HCM Control Delay (s)	-	19.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	95	1095	1576	15
Future Vol, veh/h	0	12	95	1095	1576	15
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	95	1095	1576	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	788	1591	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	334	408	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	334	408	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	408	-	334	-	-
HCM Lane V/C Ratio	0.233	-	0.036	-	-
HCM Control Delay (s)	16.5	-	16.2	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.9	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	105	1213	961	73
Future Vol, veh/h	0	99	105	1213	961	73
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	99	105	1213	961	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	481	1034	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	531	668	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	531	668	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	668	-	531	-	-
HCM Lane V/C Ratio	0.157	-	0.186	-	-
HCM Control Delay (s)	11.4	-	13.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.7	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	103	95	1095	1576	92
Future Vol, veh/h	0	103	95	1095	1576	92
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	103	95	1095	1576	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	788	1668	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	334	381	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	334	381	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	381	-	334	-	-
HCM Lane V/C Ratio	0.249	-	0.308	-	-
HCM Control Delay (s)	17.6	-	20.5	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	1	-	1.3	-	-

Case "Y" & "N"

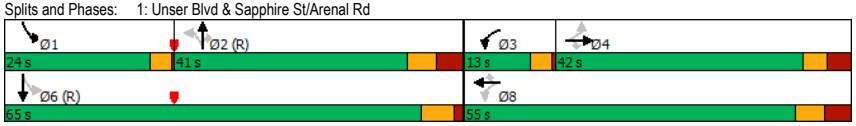
Timings
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
12/26/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	318	87	224	206	402	87	1092	324	353	1024	65
Future Volume (vph)	246	318	87	224	206	402	87	1092	324	353	1024	65
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Free
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	3.0	8.0	8.0	16.0	16.0	16.0	3.0	16.0	
Minimum Split (s)	25.0	25.0	25.0	11.0	26.0	26.0	26.0	26.0	26.0	9.5	24.0	
Total Split (s)	42.0	42.0	42.0	13.0	55.0	55.0	41.0	41.0	41.0	24.0	65.0	
Total Split (%)	35.0%	35.0%	35.0%	10.8%	45.8%	45.8%	34.2%	34.2%	34.2%	20.0%	54.2%	
Yellow Time (s)	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	
All-Red Time (s)	3.5	3.5	3.5	0.5	4.0	4.0	4.0	4.0	4.0	0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	3.5	8.0	8.0	8.0	8.0	8.0	3.5	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	29.5	29.5	29.5	46.0	41.5	41.5	37.4	37.4	37.4	67.0	64.5	120.0
Actuated g/C Ratio	0.25	0.25	0.25	0.38	0.35	0.35	0.31	0.31	0.31	0.56	0.54	1.00
v/c Ratio	0.86	0.37	0.18	0.56	0.32	0.50	0.54	0.99	0.45	0.92	0.54	0.04
Control Delay	69.1	37.8	4.3	31.3	29.2	4.6	51.3	67.0	5.8	64.4	10.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	37.8	4.3	31.3	29.2	4.6	51.3	67.0	5.8	64.4	10.7	0.0
LOS	E	D	A	C	C	A	D	E	A	E	B	A
Approach Delay		45.1			17.9			52.9			23.3	
Approach LOS		D			B			D			C	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117.6 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 96.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Unser Blvd & Sapphire St/Arenal Rd



HCM 6th Signalized Intersection Summary
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
12/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	318	87	224	206	402	87	1092	324	353	1024	65
Future Volume (veh/h)	246	318	87	224	206	402	87	1092	324	353	1024	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	246	318	0	224	206	0	87	1092	0	353	1024	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	835		371	642		241	1165		372	1860	
Arrive On Green	0.23	0.23	0.00	0.08	0.34	0.00	0.33	0.33	0.00	0.33	1.00	0.00
Sat Flow, veh/h	1176	3554	1585	1781	1870	1585	551	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	246	318	0	224	206	0	87	1092	0	353	1024	0
Grp Sat Flow(s),veh/h/ln	1176	1777	1585	1781	1870	1585	551	1777	1585	1781	1777	1585
Q Serve(g_s), s	24.3	9.0	0.0	9.5	9.8	0.0	15.1	35.8	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	24.3	9.0	0.0	9.5	9.8	0.0	15.1	35.8	0.0	17.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	835		371	642		241	1165		372	1860	
V/C Ratio(X)	0.73	0.38		0.60	0.32		0.36	0.94		0.95	0.55	
Avail Cap(c_a), veh/h	403	1036		371	733		241	1165		380	1860	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.4	38.6	0.0	33.1	29.1	0.0	32.2	39.1	0.0	24.8	0.0	0.0
Incr Delay (d2), s/veh	5.4	0.3	0.0	2.8	0.3	0.0	4.2	15.1	0.0	33.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	7.0	0.0	2.4	7.8	0.0	4.0	24.3	0.0	13.5	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	38.9	0.0	35.9	29.4	0.0	36.4	54.2	0.0	57.9	1.2	0.0
LnGrp LOS	D	D		D	C		D	D		E	A	
Approach Vol, veh/h		564			430			1179			1377	
Approach Delay, s/veh		43.6			32.8			52.9			15.7	
Approach LOS		D			C			D			B	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	23.5	47.3	13.0	36.2		70.8		49.2				
Change Period (Y+Rc), s	3.5	8.0	3.5	* 8		* 8		8.0				
Max Green Setting (Gmax), s	20.5	33.0	9.5	* 35		* 59		47.0				
Max Q Clear Time (g_c+I1), s	19.9	37.8	11.5	26.3		2.0		11.8				
Green Ext Time (p_c), s	0.1	0.0	0.0	1.9		8.8		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		34.6	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Case "Y" & "N"

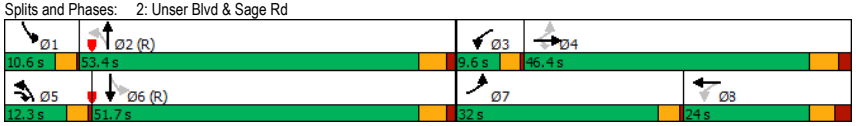
Timings
2: Unser Blvd & Sage Rd

Tierra West LLC
12/26/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	497	494	298	66	170	133	1436	139	120	1064	131
Future Volume (vph)	497	494	298	66	170	133	1436	139	120	1064	131
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4	5	3	8	5	2		1	6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	7	4	5	3	8	5	2		1	6	
Switch Phase											
Minimum Initial (s)	5.0	12.0	3.0	3.0	12.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	23.5		9.5	23.5	
Total Split (s)	32.0	46.4	12.3	9.6	24.0	12.3	53.4		10.6	51.7	
Total Split (%)	26.7%	38.7%	10.3%	8.0%	20.0%	10.3%	44.5%		8.8%	43.1%	
Yellow Time (s)	3.0	4.0	3.0	3.0	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	0.5	2.0	0.5	0.5	2.5	0.5	1.5		0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	5.5		3.5	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	47.6	37.4	53.0	21.7	13.1	62.1	50.6	120.0	61.6	50.3	120.0
Actuated g/C Ratio	0.40	0.31	0.44	0.18	0.11	0.52	0.42	1.00	0.51	0.42	1.00
v/c Ratio	0.96	0.45	0.40	0.33	0.62	0.55	0.96	0.09	0.59	0.72	0.08
Control Delay	62.9	33.7	21.4	29.8	35.5	16.9	48.2	0.1	33.6	32.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	33.7	21.4	29.8	35.5	16.9	48.2	0.1	33.6	32.1	0.1
LOS	E	C	C	C	D	B	D	A	C	C	A
Approach Delay		42.1			34.4		41.9			29.1	
Approach LOS		D			C		D			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 69.6 (58%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 100		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.96		
Intersection Signal Delay: 37.8	Intersection LOS: D	
Intersection Capacity Utilization 100.1%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 2: Unser Blvd & Sage Rd



HCM 6th Signalized Intersection Summary
2: Unser Blvd & Sage Rd

Tierra West LLC
12/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	497	494	298	66	170	120	133	1436	139	120	1064	131
Future Volume (veh/h)	497	494	298	66	170	120	133	1436	139	120	1064	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	497	494	298	66	170	0	133	1436	0	120	1064	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	1043	554	207	355		276	1623		185	1607	
Arrive On Green	0.24	0.29	0.29	0.04	0.10	0.00	0.06	0.46	0.00	0.05	0.45	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	497	494	298	66	170	0	133	1436	0	120	1064	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	28.5	13.7	18.1	4.0	5.4	0.0	4.8	44.2	0.0	4.3	28.1	0.0
Cycle Q Clear(g_c), s	28.5	13.7	18.1	4.0	5.4	0.0	4.8	44.2	0.0	4.3	28.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	550	1043	554	207	355		276	1623		185	1607	
V/C Ratio(X)	0.90	0.47	0.54	0.32	0.48		0.48	0.88		0.65	0.66	
Avail Cap(c_a), veh/h	550	1196	623	219	533		306	1623		198	1607	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.5	34.8	31.3	45.6	51.0	0.0	20.1	29.7	0.0	26.7	25.7	0.0
Incr Delay (d2), s/veh	18.4	0.3	0.8	0.9	1.0	0.0	1.3	7.5	0.0	6.6	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.9	9.9	11.3	3.2	4.4	0.0	3.5	26.8	0.0	3.7	17.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	35.1	32.1	46.5	52.0	0.0	21.4	37.2	0.0	33.2	27.9	0.0
LnGrp LOS	D	D	C	D	D		C	D		C	C	
Approach Vol, veh/h		1289			236			1569			1184	
Approach Delay, s/veh		41.7			50.5			35.8			28.4	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.3	8.8	41.2	10.2	59.8	32.0	18.0
Change Period (Y+Rc), s	3.5	5.5	3.5	6.0	3.5	5.5	3.5	6.0
Max Green Setting (Gmax), s	7.1	47.9	6.1	40.4	8.8	46.2	28.5	18.0
Max Q Clear Time (g_c+I1), s	6.3	46.2	6.0	20.1	6.8	30.1	30.5	7.4
Green Ext Time (p_c), s	0.0	1.3	0.0	4.2	0.1	6.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	69	0	1401	1404	85
Future Vol, veh/h	0	69	0	1401	1404	85
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	69	0	1401	1404	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	702	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	381	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	381	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	381	-	-
HCM Lane V/C Ratio	-	0.181	-	-
HCM Control Delay (s)	-	16.5	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	105	1708	1418	13
Future Vol, veh/h	0	13	105	1708	1418	13
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	105	1708	1418	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	709	1431	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	377	471	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	377	471	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	471	-	377	-	-
HCM Lane V/C Ratio	0.223	-	0.034	-	-
HCM Control Delay (s)	14.8	-	14.9	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.1	-	-

Case "Y" & "N"

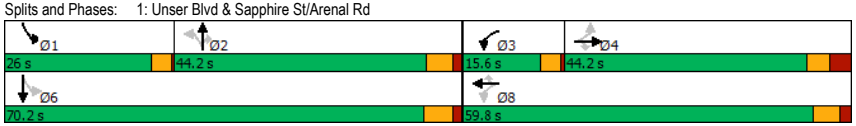
Timings
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
12/26/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	112	87	262	156	557	50	916	224	457	1371	190
Future Volume (vph)	103	112	87	262	156	557	50	916	224	457	1371	190
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Free
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	3.0	8.0	8.0	16.0	16.0	16.0	3.0	16.0	
Minimum Split (s)	44.2	44.2	44.2	15.6	59.8	59.8	44.2	44.2	44.2	26.0	70.2	
Total Split (s)	44.2	44.2	44.2	15.6	59.8	59.8	44.2	44.2	44.2	26.0	70.2	
Total Split (%)	34.0%	34.0%	34.0%	12.0%	46.0%	46.0%	34.0%	34.0%	34.0%	20.0%	54.0%	
Yellow Time (s)	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	
All-Red Time (s)	3.5	3.5	3.5	0.5	2.0	2.0	1.5	1.5	1.5	0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	3.5	6.0	6.0	5.5	5.5	5.5	3.5	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	None	Max	Max	Max	None	Max	
Act Effct Green (s)	14.2	14.2	14.2	33.4	30.9	30.9	38.8	38.8	38.8	66.8	64.3	107.2
Actuated g/C Ratio	0.13	0.13	0.13	0.31	0.29	0.29	0.36	0.36	0.36	0.62	0.60	1.00
v/c Ratio	0.64	0.24	0.31	0.65	0.29	0.74	0.38	0.72	0.31	0.95	0.65	0.12
Control Delay	61.4	42.2	12.4	38.1	30.9	15.2	37.3	33.9	4.7	56.9	16.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	42.2	12.4	38.1	30.9	15.2	37.3	33.9	4.7	56.9	16.4	0.2
LOS	E	D	B	D	C	B	D	C	A	E	B	A
Approach Delay		40.2			23.9			28.6			24.0	
Approach LOS		D			C			C			C	

Intersection Summary			
Cycle Length: 130			
Actuated Cycle Length: 107.2			
Natural Cycle: 130			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Unser Blvd & Sapphire St/Arenal Rd



HCM 6th Signalized Intersection Summary
1: Unser Blvd & Sapphire St/Arenal Rd

Tierra West LLC
12/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	112	87	262	156	557	50	916	224	457	1371	190
Future Volume (veh/h)	103	112	87	262	156	557	50	916	224	457	1371	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	112	0	262	156	0	50	916	0	457	1371	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	390		379	485		217	1485		494	2189	
Arrive On Green	0.11	0.11	0.00	0.12	0.26	0.00	0.42	0.42	0.00	0.16	0.62	0.00
Sat Flow, veh/h	1231	3554	1585	1781	1870	1585	396	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	103	112	0	262	156	0	50	916	0	457	1371	0
Grp Sat Flow(s),veh/h/ln	1231	1777	1585	1781	1870	1585	396	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.5	3.0	0.0	12.1	7.0	0.0	9.4	21.1	0.0	14.3	25.1	0.0
Cycle Q Clear(g_c), s	8.5	3.0	0.0	12.1	7.0	0.0	13.9	21.1	0.0	14.3	25.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	390		379	485		217	1485		494	2189	
V/C Ratio(X)	0.50	0.29		0.69	0.32		0.23	0.62		0.93	0.63	
Avail Cap(c_a), veh/h	508	1268		379	965		217	1485		585	2189	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.1	42.7	0.0	35.5	31.2	0.0	23.3	23.8	0.0	17.8	12.5	0.0
Incr Delay (d2), s/veh	1.9	0.4	0.0	5.3	0.4	0.0	2.5	1.9	0.0	19.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	2.4	0.0	10.3	5.6	0.0	1.8	13.6	0.0	12.2	14.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	43.1	0.0	40.8	31.6	0.0	25.8	25.7	0.0	36.9	13.9	0.0
LnGrp LOS	D	D		D	C		C	C		D	B	
Approach Vol, veh/h		215			418			966			1828	
Approach Delay, s/veh		45.0			37.4			25.7			19.6	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	20.7	49.5	15.6	18.4		70.2		34.0				
Change Period (Y+Rc), s	3.5	* 6	3.5	7.0		6.0		* 7				
Max Green Setting (Gmax), s	22.5	* 39	12.1	37.2		64.2		* 54				
Max Q Clear Time (g_c+I1), s	16.3	23.1	14.1	10.5		27.1		9.0				
Green Ext Time (p_c), s	0.8	6.2	0.0	1.0		12.9		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		25.1	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Case "Y" & "N"

Timings
2: Unser Blvd & Sage Rd

Tierra West LLC
12/26/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	262	218	349	201	313	279	1172	89	133	1677	248
Future Volume (vph)	262	218	349	201	313	279	1172	89	133	1677	248
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4	5	3	8	5	2		1	6	
Permitted Phases	4		4	8		2		Free	6		Free
Detector Phase	7	4	5	3	8	5	2		1	6	
Switch Phase											
Minimum Initial (s)	3.0	12.0	3.0	3.0	12.0	3.0	12.0		3.0	12.0	
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	23.5		9.5	23.5	
Total Split (s)	17.2	24.2	20.0	17.0	24.0	20.0	75.2		13.6	68.8	
Total Split (%)	13.2%	18.6%	15.4%	13.1%	18.5%	15.4%	57.8%		10.5%	52.9%	
Yellow Time (s)	3.0	4.0	3.0	3.0	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	0.5	2.0	0.5	0.5	2.5	0.5	1.5		0.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	5.5		3.5	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	34.1	17.9	41.1	32.9	17.3	86.0	71.7	130.0	74.1	63.3	130.0
Actuated g/C Ratio	0.26	0.14	0.32	0.25	0.13	0.66	0.55	1.00	0.57	0.49	1.00
v/c Ratio	1.01	0.45	0.65	0.59	0.83	0.95	0.60	0.06	0.47	0.97	0.16
Control Delay	89.6	41.4	28.3	45.6	67.8	79.6	21.5	0.1	14.5	49.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.6	41.4	28.3	45.6	67.8	79.6	21.5	0.1	14.5	49.0	0.2
LOS	F	D	C	D	E	E	C	A	B	D	A
Approach Delay		51.1			60.3		30.8			40.9	
Approach LOS		D			E		C			D	

Intersection Summary		
Cycle Length: 130		
Actuated Cycle Length: 130		
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 120		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.01		
Intersection Signal Delay: 41.8	Intersection LOS: D	
Intersection Capacity Utilization 103.8%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 2: Unser Blvd & Sage Rd

HCM 6th Signalized Intersection Summary
2: Unser Blvd & Sage Rd

Tierra West LLC
12/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	218	349	201	313	82	279	1172	89	133	1677	248
Future Volume (veh/h)	262	218	349	201	313	82	279	1172	89	133	1677	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	218	349	201	313	0	279	1172	0	133	1677	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	498	423	311	492		290	1994		315	1730	
Arrive On Green	0.11	0.14	0.14	0.10	0.14	0.00	0.13	0.56	0.00	0.05	0.49	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3647	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	262	218	349	201	313	0	279	1172	0	133	1677	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.7	7.3	18.2	12.5	10.8	0.0	15.6	28.1	0.0	4.8	59.6	0.0
Cycle Q Clear(g_c), s	13.7	7.3	18.2	12.5	10.8	0.0	15.6	28.1	0.0	4.8	59.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	302	498	423	311	492		290	1994		315	1730	
V/C Ratio(X)	0.87	0.44	0.82	0.65	0.64		0.96	0.59		0.42	0.97	
Avail Cap(c_a), veh/h	302	498	423	311	492		290	1994		359	1730	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.4	51.2	44.8	42.3	52.9	0.0	43.5	18.7	0.0	16.7	32.4	0.0
Incr Delay (d2), s/veh	22.5	0.6	12.5	4.6	2.7	0.0	42.6	1.3	0.0	0.9	15.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	5.9	17.6	9.9	8.7	0.0	18.1	16.8	0.0	3.6	36.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.8	51.8	57.3	46.9	55.6	0.0	86.1	20.0	0.0	17.6	47.9	0.0
LnGrp LOS	E	D	E	D	E		F	B		B	D	
Approach Vol, veh/h		829			514			1451			1810	
Approach Delay, s/veh		59.5			52.2			32.7			45.6	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	78.4	17.0	24.2	20.0	68.8	17.2	24.0
Change Period (Y+Rc), s	3.5	5.5	3.5	6.0	3.5	5.5	3.5	6.0
Max Green Setting (Gmax), s	10.1	69.7	13.5	18.2	16.5	63.3	13.7	18.0
Max Q Clear Time (g_c+I1), s	6.8	30.1	14.5	20.2	17.6	61.6	15.7	12.8
Green Ext Time (p_c), s	0.1	10.3	0.0	0.0	0.0	1.5	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	73	0	1539	2147	110
Future Vol, veh/h	0	73	0	1539	2147	110
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	73	0	1539	2147	110

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1074	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	216	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	216	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	216	-	-
HCM Lane V/C Ratio	-	0.338	-	-
HCM Control Delay (s)	-	29.9	-	-
HCM Lane LOS	-	D	-	-
HCM 95th %tile Q(veh)	-	1.4	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	95	1539	2191	15
Future Vol, veh/h	0	12	95	1539	2191	15
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	95	1539	2191	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1096	2206	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	208	235	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	208	235	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.4	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	235	-	208	-	-
HCM Lane V/C Ratio	0.404	-	0.058	-	-
HCM Control Delay (s)	30.3	-	23.4	-	-
HCM Lane LOS	D	-	C	-	-
HCM 95th %tile Q(veh)	1.8	-	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	105	1708	1354	73
Future Vol, veh/h	0	99	105	1708	1354	73
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	99	105	1708	1354	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	677	1427	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	395	473	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	395	473	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	473	-	395	-	-
HCM Lane V/C Ratio	0.222	-	0.251	-	-
HCM Control Delay (s)	14.8	-	17.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.8	-	1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	103	95	1539	2132	92
Future Vol, veh/h	0	103	95	1539	2132	92
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	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	103	95	1539	2132	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1066	2224	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	218	231	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	218	231	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.5	1.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	231	-	218	-	-
HCM Lane V/C Ratio	0.411	-	0.472	-	-
HCM Control Delay (s)	31.1	-	35.5	-	-
HCM Lane LOS	D	-	E	-	-
HCM 95th %tile Q(veh)	1.9	-	2.3	-	-