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MEMORANDUM

DATE: December 8, 2023

TO: Evan Langan, AICP, Principal Planner, Riverside County Planning Department

FROM: Dean Arizabal, Principal, LSA

SUBJECT: Focused Traffic Analysis for the Cherry Valley Storage Project
(LSA Project No. 20231398)

LSA has prepared this focused traffic analysis for the proposed self-storage and recreational vehicle (RV) storage facility (project) at 38718 Brookside Avenue in Cherry Valley, Riverside County, California. The project site is bordered by undeveloped (agricultural) property to the north; Brookside Avenue to the south; the Beaumont High School baseball field, the Beaumont Unified School District Office, Mission Vista Academy, and two single-family residences to the east; and undeveloped (commercial/agricultural) property to the west. Access to the proposed project would be provided via a driveway on Brookside Avenue.

The proposed project would develop 107,495 square feet (sf) of self-storage use (859 units) and 81,334 sf of RV storage use (150 RV spaces) for 188,829 sf of combined self-storage/RV storage use (1,009 total units/spaces) at the northeast corner of the intersection of Oak View Drive/Brookside Avenue.

The purpose of this focused traffic analysis is to identify the trip generation of the proposed project; conclude whether the proposed project requires a vehicle miles traveled (VMT) analysis per the *County of Riverside Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled* (December 2020) (County Guidelines); and determine the peak-hour levels of service (LOS) and queuing for two study area intersections (Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue).

TRIP GENERATION

The daily and peak-hour trips of the proposed project were calculated using trip rates from the Institute of Transportation Engineers' (ITE) *Trip Generation* Manual, 11th Edition (2021) for self-storage use (Land Use 151: Mini-Warehouse). Although ITE does not have trip rates for RV storage use, the trip-generating characteristics of an RV storage use closely resemble those of a self-storage (mini-warehouse) use.

Table A (all tables provided in Attachment A) presents the ITE trip generation summary for the proposed project of 859 self-storage units and 150 RV spaces (1,009 total units/spaces). As shown in

Table A, the proposed project would generate 181 daily trips, including 12 trips (6 inbound and 6 outbound) in the a.m. peak hour and 17 trips (8 inbound and 9 outbound) in the p.m. peak hour.

VEHICLE MILES TRAVELED ANALYSIS

According to the County Guidelines, small projects, such as warehouse buildings with area less than or equal to 208,000 sf, are screened out from a VMT analysis and are presumed to have a less than significant transportation impact. As previously described, the proposed project includes 188,829 sf of combined self-storage/RV storage use. As such, the proposed project meets the City's VMT screening criteria for a small project. Therefore, based on its size and type, the proposed project is presumed to have a less than significant transportation impact.

LEVEL OF SERVICE AND QUEUING ANALYSIS

According to Appendix B (Traffic Analysis Exemptions) of the County Guidelines, certain types of projects, such as mini storage yards, are generally exempt from an LOS analysis because of their size, nature, or location. As such, the proposed project of mini storage (self-storage and RV storage) use would meet the project-type exemption. In addition, the County Guidelines require an LOS analysis for intersections where a project would generate 50 or more trips during the a.m. and/or p.m. peak hour. As previously described, the proposed project would generate 12 a.m. and 17 p.m. peak-hour trips.

Although the proposed project would not exceed the City's 50 peak-hour trip threshold, an LOS and queuing analysis was prepared for the unsignalized intersections of Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue using the Highway Capacity Manual (HCM) methodology and Synchro/SimTraffic software. The LOS and queuing analysis was based on existing conditions (intersection traffic counts conducted by Counts Unlimited on October 18, 2023, provided in Attachment B) and existing plus project conditions (the addition of project trips) during a.m. and school p.m. peak hours.

Figures 1, 2, and 3 (provided in Attachment C) illustrate the existing volumes, project trip distribution and assignment, and existing plus project volumes at Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue. Tables B and C summarize the intersection LOS and queuing results. The HCM worksheets are provided in Attachment D.

As shown in Table B, Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue operate at satisfactory LOS D or better under existing conditions during both peak hours. These intersections are forecast to continue operating at satisfactory LOS D or better under existing plus project conditions during both peak hours.

An HCM queuing analysis was conducted using SimTraffic software to determine the vehicle queues for all movements at the unsignalized intersections of Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue under existing and existing plus project conditions. LSA analyzed the study area intersections' 95th percentile queuing to assess the available storage lengths and identify the potential for vehicle spillback.

As shown in Table C, the existing vehicle queues exceed the storage lengths at the following locations during the a.m. peak hour:

- Oak View Drive/Brookside Avenue 90-foot eastbound right-turn lane: 103-foot queue
- Oak View Drive/Brookside Avenue 105-foot northbound left-turn lane: 156-foot queue
- Oak View Drive/Brookside Avenue 105-foot northbound right-turn lane: 116-foot queue
- Brookside Elementary School Driveway/Brookside Avenue 60-foot shared northbound left-turn/right-turn lane: 62-foot queue

The existing plus project queues are forecast to exceed the storage lengths at the following locations during the a.m. peak hour:

- Oak View Drive/Brookside Avenue 90-foot eastbound right-turn lane: 101-foot queue
- Oak View Drive/Brookside Avenue 105-foot northbound left-turn lane: 164-foot queue
- Oak View Drive/Brookside Avenue 105-foot northbound right-turn lane: 115-foot queue
- Brookside Elementary School Driveway/Brookside Avenue 60-foot shared northbound left-turn/right-turn lane: 67-foot queue

The HCM queuing analysis indicates that the proposed project neither creates nor exacerbates any deficient queues at Oak View Drive/Brookside Avenue or Brookside Elementary School Driveway/ Brookside Avenue. Although the vehicle queues currently exceed the storage lengths at four locations, the proposed project would contribute less than one vehicle length (25 feet) to all turn movements at the study area intersections. As such, the proposed project would not adversely affect peak-hour intersection queues.

In addition to the HCM queuing analysis, vehicle queuing surveys (provided in Attachment E) were conducted by Counts Unlimited on October 18, 2023 at Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue during the a.m. and school p.m. peak hours. According to the survey data, the only vehicle queues of note are the northbound left turn at Oak View Drive/Brookside Avenue (up to 20 vehicles in the a.m. peak hour) and the northbound left turn at Brookside Elementary School Driveway/Brookside Avenue (up to 6 vehicles in the a.m. peak hour). As previously described, the proposed project would generate minimal a.m. peak-hour trips (6 inbound and 6 outbound). As such, the proposed project is not anticipated to negatively impact the a.m. or p.m. peak-hour queues for the study area intersection turn movements.

CONCLUSIONS

The proposed project of 188,829 sf of combined self-storage/RV storage use (1,009 total units/spaces) is anticipated to generate 181 daily trips, including 12 a.m. and 17 p.m. peak-hour trips.

Because the proposed project includes less than 208,000 sf of warehouse use, it is screened out from a VMT analysis and is presumed to have a less than significant transportation impact.

Based on a peak-hour LOS and queuing analysis of Oak View Drive/Brookside Avenue and Brookside Elementary School Driveway–Project Driveway/Brookside Avenue, the proposed project would not create any LOS or queuing deficiencies or impacts. As such, no improvements are required or recommended.

If you have any questions, please contact me at (949) 553-0666.

Attachments: A: Tables
B: Figures
C: Existing Counts
D: HCM Worksheets
E: Existing Queuing Surveys

ATTACHMENT A

TABLES

Table A: Project Trip Generation
Table B: Intersection LOS Summary
Table C: Intersection Queuing Summary

LSA

Table A: Project Trip Generation

Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Mini-Warehouse		100 units or spaces	17.96	0.62	0.59	1.21	0.84	0.84	1.68
Project Trip Generation									
Self-Storage	8.59	100 units	154	5	5	10	7	7	14
RV Storage	1.50	100 spaces	27	1	1	2	1	2	3
Total	**10.09**	**units and spaces**	**181**	**6**	**6**	**12**	**8**	**9**	**17**

[1] Trip rates referenced from the Institute of Transportation Engineers (ITE)*Trip Generation* Manual, 11th Edition (2021).

Land Use 151 (Mini-Warehouse)

RV = recreational vehicle

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Table B: Intersection LOS Summary

	Intersection	Control	Existing			
			AM Peak Hour		School PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Oak View Dr/Brookside Ave	Unsignalized	27.9	D	10.0	A
2	Brookside Elementary School Dwy/ Brookside Ave	Unsignalized	19.3	C	14.1	B
	Intersection	**Control**	**Existing Plus Project**			
			AM Peak Hour		**School PM Peak Hour**	
			Delay (sec)	**LOS**	**Delay (sec)**	**LOS**
1	Oak View Dr/Brookside Ave	Unsignalized	28.1	D	10.1	A
2	Brookside Elementary School Dwy-Project Dwy/Brookside Ave	Unsignalized	19.5	C	14.3	B

Source: Compiled by LSA (2023).

Ave = Avenue

Dr = Drive

Dwy = Driveway

LOS = level of service

LSA

Table C: Intersection Queuing Summary

Intersection		Turn Lane	Storage Length (feet per lane)	Existing			
				AM Peak Hour		School PM Peak Hour	
				Volume	Queue[1]	Volume	Queue[1]
1	Oak View Dr/ Brookside Ave	EBT	670	259	130	163	73
		EBR[2]	90	245	103	107	65
		NBL	105	420	156	85	55
		NBR	105	186	116	117	65
		WBT	230	200	76	169	89
		WBL	150	166	85	159	76
2	Brookside Elementary School Dwy/ Brookside Ave	EBL[3]	60	0	0	2	0
		NBLR	60	107	62	11	28
		SBLR	75	2	18	0	0
		EBTR	225	472	7	286	0
		WBL[3]	190	96	49	12	20

Intersection		Turn Lane	Storage Length (feet per lane)	Existing Plus Project			
				AM Peak Hour		School PM Peak Hour	
				Volume	Queue[1]	Volume	Queue[1]
1	Oak View Dr/ Brookside Ave	EBT	670	261	112	166	64
		EBR[2]	90	245	101	107	54
		NBL	105	420	164	85	47
		NBR	105	187	115	118	50
		WBT	230	200	80	169	69
		WBL	150	169	84	163	67
2	Brookside Elementary School Dwy-Project Dwy/ Brookside Ave	EBL[3]	60	3	10	6	10
		NBLR	60	107	67	11	38
		SBLR	75	8	23	9	30
		EBTR	225	472	10	286	0
		WBL[3]	190	96	52	12	15

Source: Compiled by LSA (2023).

= exceeds the storage length

[1] Queue is reported in feet. One vehicle is approximately 25 feet.
The queue length is reported for the highest queue in the lane group.

[2] Defacto right-turn lane

[3] Turn movement occurs in two-way left-turn lane median

Ave = Avenue, Dr = Drive, Dwy = Driveway

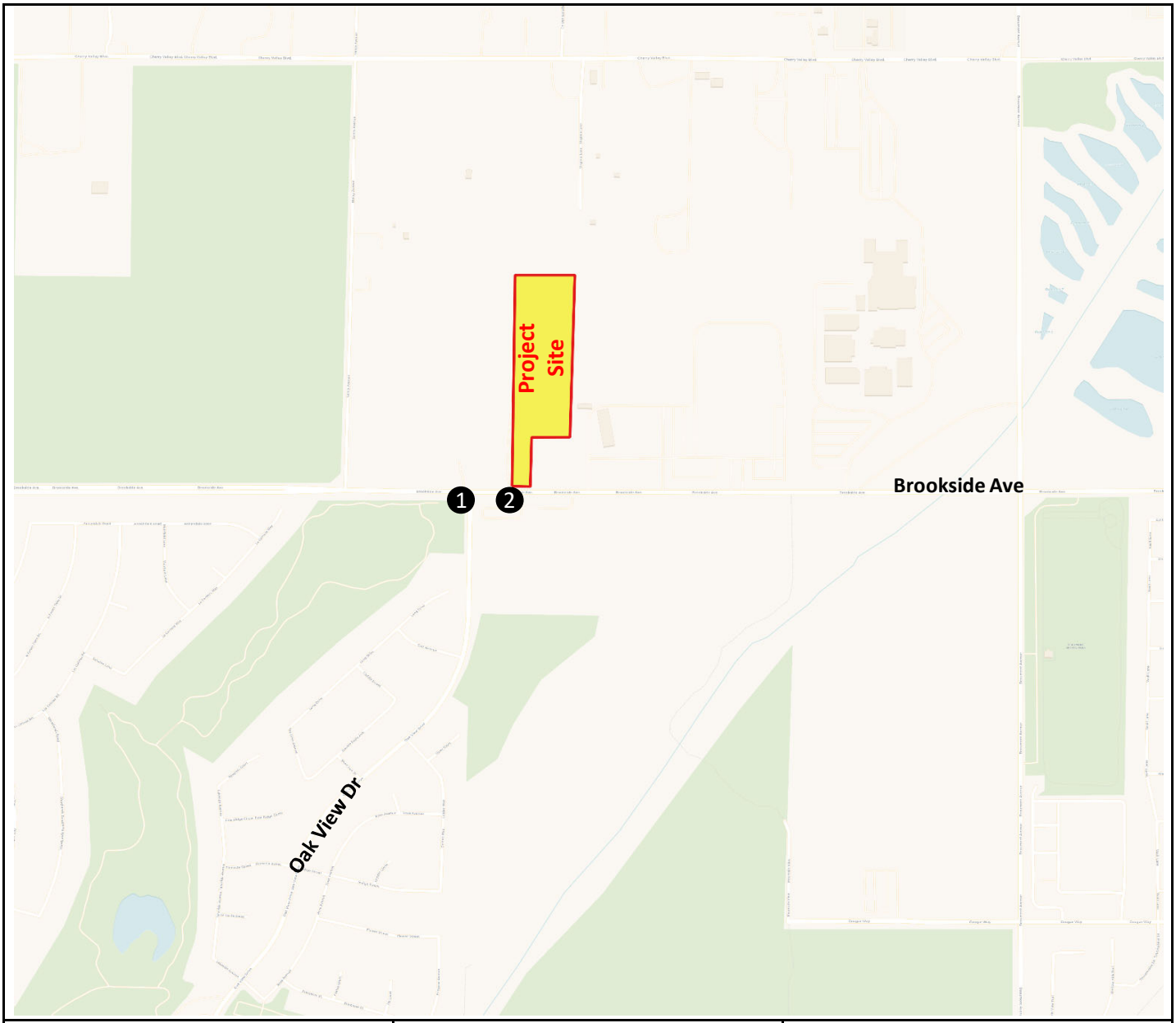
EBL = eastbound left, EBR = eastbound right, EBT = eastbound through, EBTR = shared eastbound through/right

NBL = northbound left, NBLR = shared northbound left/right, NBT = northbound right, SBLR = southbound left/right

WBL = westbound left, WBT = westbound through

ATTACHMENT B

FIGURES



	← 200 / (169) ↰ 166 / (159)	
259 / (163) → 245 / (107) ↴	↰ ↱ 420 / (85) 186 / (117)	

1 Oak View Dr/Brookside Ave

1 / (0) 1 / (0)	↰ 1 / (2) ← 283 / (320) ↰ ↳ 96 / (12)	
0 / (2) ↰ 363 / (278) → 109 / (8) ↴	↰ ↱ 43 / (9) 64 / (2)	

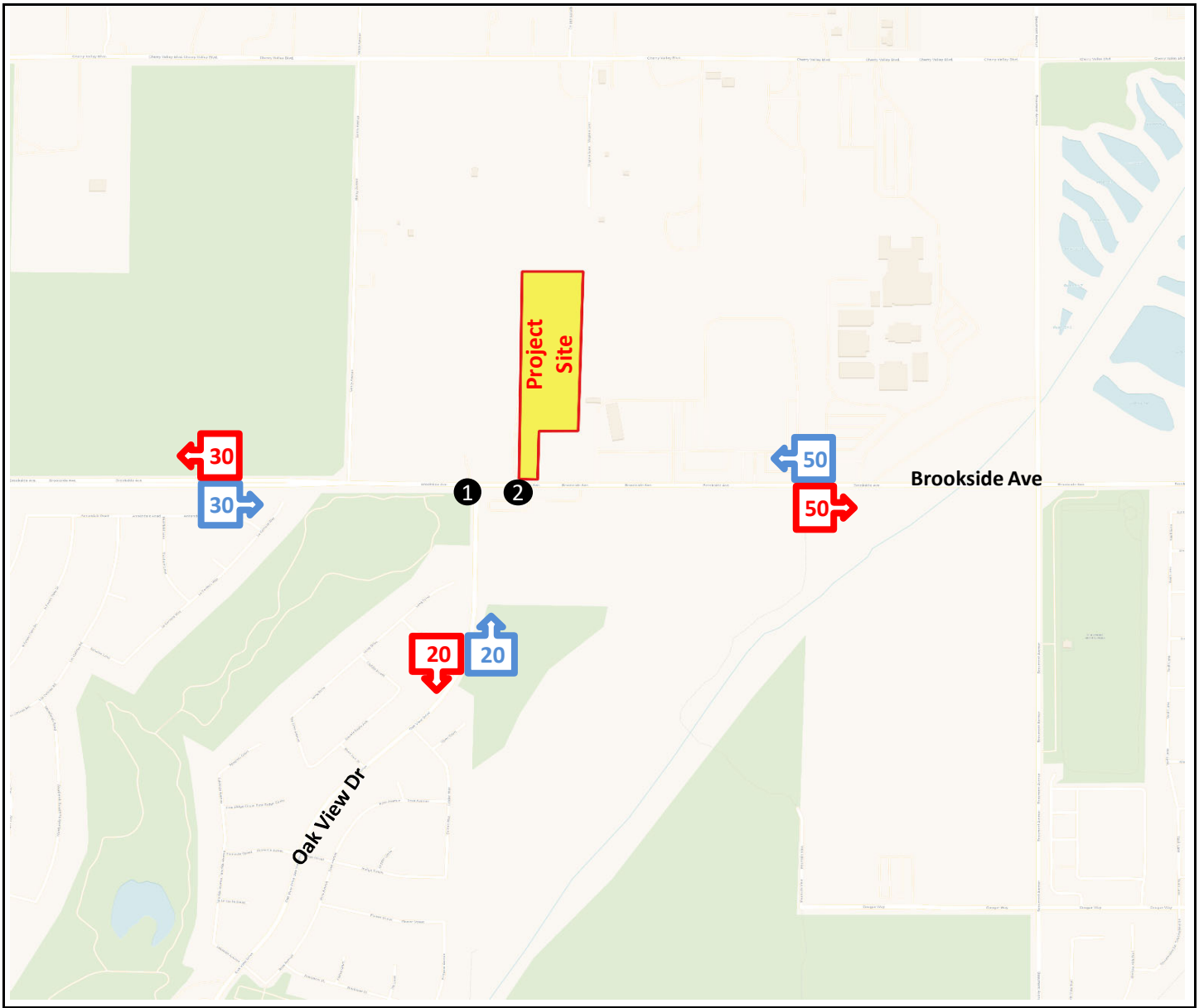
2 Project Dwy-ES Dwy/Brookside Ave

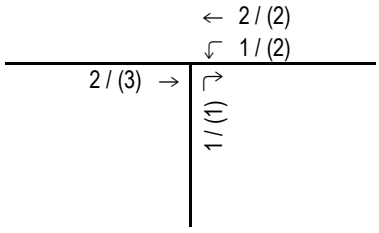
LSA

FIGURE 1

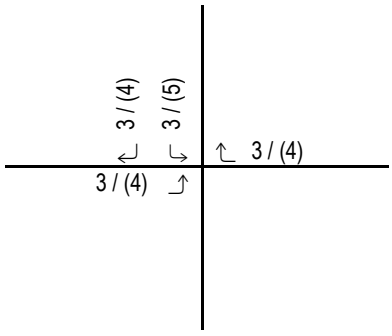
XXX / (YYY) AM / (School PM) Volume

Cherry Valley Storage
Existing Peak-Hour Volumes





1 Oak View Dr/Brookside Ave



2 Project Dwy-ES Dwy/Brookside Ave

LSA

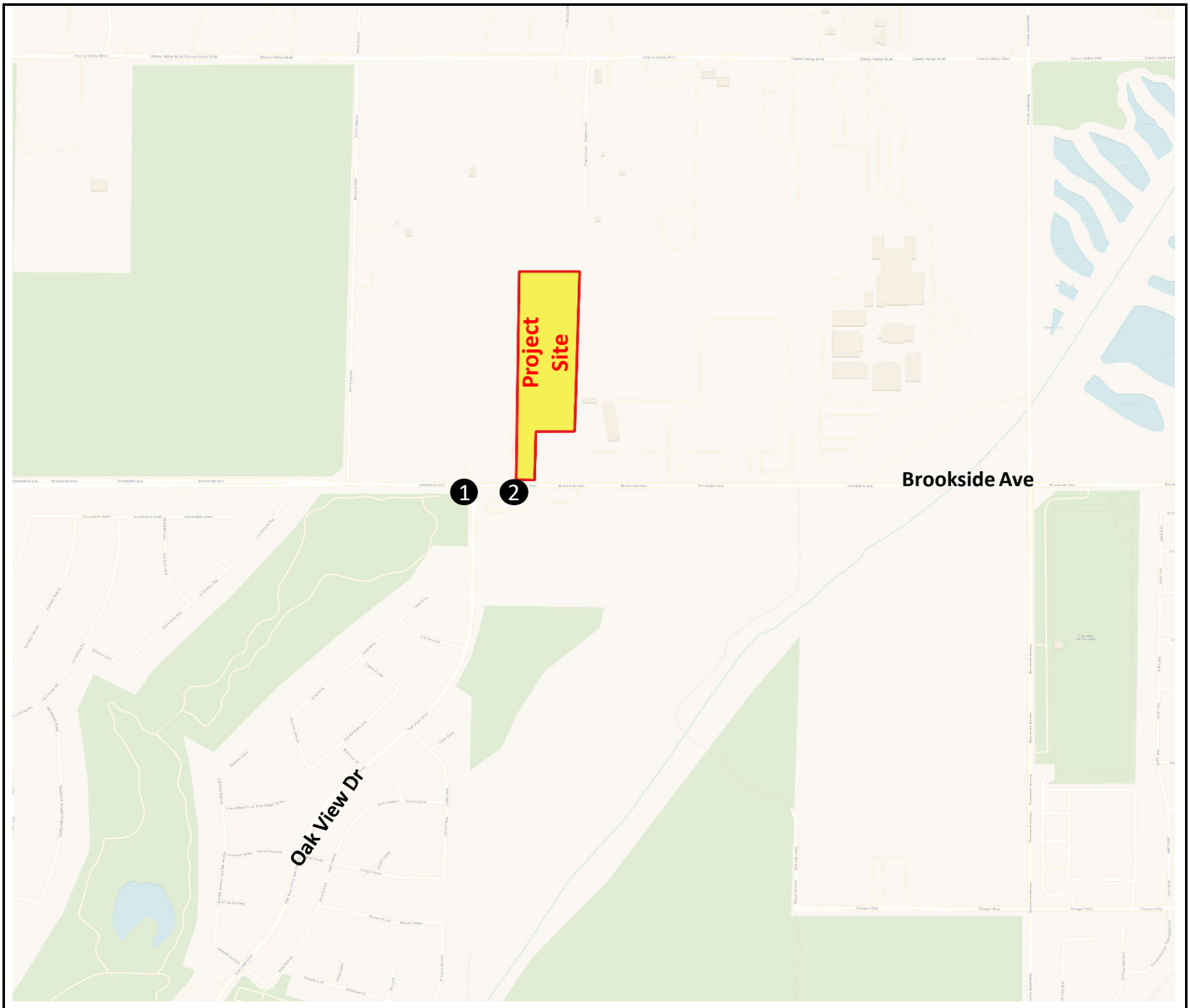
FIGURE 2

X / (Y) AM / (School PM) Volume

Trip Distribution Percentages

Cherry Valley Storage

Project Trip Distribution and Assignment



261 / (166) →	← 202 / (171)	
245 / (107) ↴	↶ 167 / (161)	
	420 / (85)	187 / (118)

1 Oak View Dr/Brookside Ave

3 / (6) ↴	4 / (4) ↵ 4 / (5) ↳	↰ 4 / (6)
363 / (278) →		← 283 / (320)
109 / (8) ↴		↶ 96 / (12)
	43 / (9)	64 / (2)

2 Project Dwy-ES Dwy/Brookside Ave

LSA

FIGURE 3

XXX / (YYY) AM / (School PM) Volume

Cherry Valley Storage
Existing Plus Project Peak-Hour Volumes

ATTACHMENT C

EXISTING COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of Riverside
N/S: Oak View Drive
E/W: Brookside Avenue
Weather: Clear

File Name : 01_CRV_OV_Bro AM
Site Code : 00323979
Start Date : 10/18/2023
Page No : 1

Groups Printed- Total Volume

	Private Driveway Southbound				Brookside Avenue Westbound				Oak View Drive Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	2	15	0	17	45	0	3	48	0	12	16	28	93
06:15 AM	0	0	0	0	1	24	0	25	80	0	1	81	0	17	25	42	148
06:30 AM	0	0	0	0	2	48	0	50	101	0	15	116	0	19	25	44	210
06:45 AM	0	0	0	0	4	29	0	33	82	0	20	102	0	61	29	90	225
Total	0	0	0	0	9	116	0	125	308	0	39	347	0	109	95	204	676
07:00 AM	0	0	0	0	17	58	0	75	96	0	33	129	0	80	47	127	331
07:15 AM	0	0	0	0	35	89	0	124	140	0	62	202	0	71	60	131	457
07:30 AM	0	0	0	0	34	41	0	75	86	0	35	121	1	50	43	94	290
07:45 AM	0	0	0	0	25	34	0	59	89	0	33	122	0	82	67	149	330
Total	0	0	0	0	111	222	0	333	411	0	163	574	1	283	217	501	1408
08:00 AM	0	0	0	0	37	62	0	99	109	0	47	156	0	70	52	122	377
08:15 AM	0	0	0	0	55	58	0	113	107	0	64	171	0	57	61	118	402
08:30 AM	0	0	0	0	49	46	0	95	115	0	42	157	0	50	65	115	367
08:45 AM	0	0	0	0	15	46	0	61	92	0	28	120	0	42	56	98	279
Total	0	0	0	0	156	212	0	368	423	0	181	604	0	219	234	453	1425
Grand Total	0	0	0	0	276	550	0	826	1142	0	383	1525	1	611	546	1158	3509
Apprch %	0	0	0		33.4	66.6	0		74.9	0	25.1		0.1	52.8	47.2		
Total %	0	0	0	0	7.9	15.7	0	23.5	32.5	0	10.9	43.5	0	17.4	15.6	33	

	Private Driveway Southbound				Brookside Avenue Westbound				Oak View Drive Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	25	34	0	59	89	0	33	122	0	**82**	**67**	**149**	330
08:00 AM	0	0	0	0	37	**62**	0	99	109	0	47	156	0	70	52	122	377
08:15 AM	0	0	0	0	**55**	58	0	**113**	107	0	**64**	**171**	0	57	61	118	**402**
08:30 AM	0	0	0	0	49	46	0	95	**115**	0	42	157	0	50	65	115	367
Total Volume	0	0	0	0	166	200	0	366	420	0	186	606	0	259	245	504	1476
% App. Total	0	0	0		45.4	54.6	0		69.3	0	30.7		0	51.4	48.6		
PHF	.000	.000	.000	.000	.755	.806	.000	.810	.913	.000	.727	.886	.000	.790	.914	.846	.918

Counts Unlimited, Inc.
PO Box 1178
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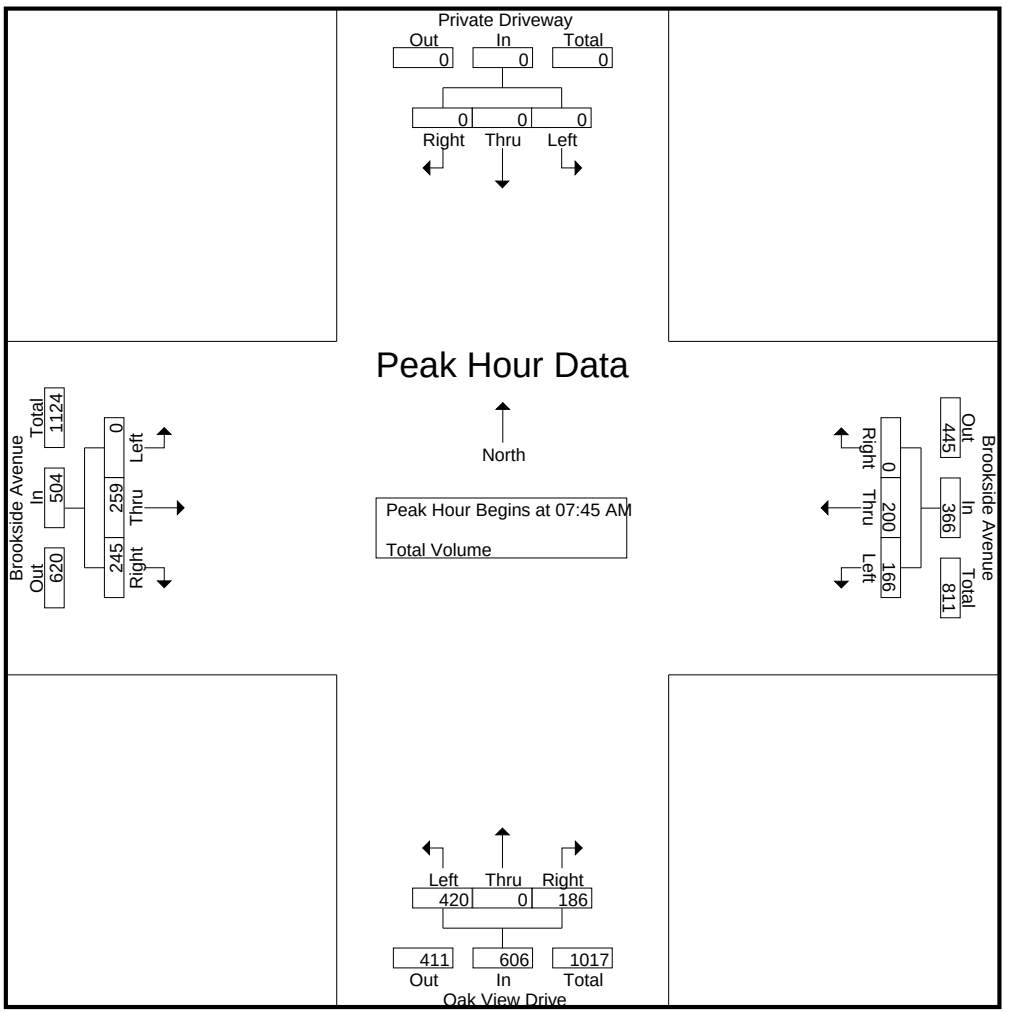
(951) 268-6268

County of Riverside
N/S: Oak View Drive
E/W: Brookside Avenue
Weather: Clear

File Name : 01_CRV_OV_Bro AM
Site Code : 00323979
Start Date : 10/18/2023
Page No : 2



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 AM				08:00 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	0	0	37	**62**	0	99	89	0	33	122	0	**82**	**67**	**149**
+15 mins.	0	0	0	0	**55**	58	0	**113**	109	0	47	156	0	70	52	122
+30 mins.	0	0	0	0	49	46	0	95	107	0	**64**	**171**	0	57	61	118
+45 mins.	0	0	0	0	15	46	0	61	**115**	0	42	157	0	50	65	115
Total Volume	0	0	0	0	156	212	0	368	420	0	186	606	0	259	245	504
% App. Total	0	0	0		42.4	57.6	0		69.3	0	30.7		0	51.4	48.6	
PHF	.000	.000	.000	.000	.709	.855	.000	.814	.913	.000	.727	.886	.000	.790	.914	.846

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Groups Printed- Total Volume

	Private Driveway Southbound				Brookside Avenue Westbound				Oak View Drive Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	0	0	0	0	10	19	0	29	12	0	5	17	0	21	6	27	73
02:15 PM	0	0	0	0	8	11	0	19	14	0	13	27	0	23	16	39	85
02:30 PM	0	0	0	0	21	32	0	53	14	0	10	24	0	16	21	37	114
02:45 PM	0	0	0	0	9	21	0	30	11	0	5	16	0	23	11	34	80
Total	0	0	0	0	48	83	0	131	51	0	33	84	0	83	54	137	352
03:00 PM	0	0	0	0	11	20	0	31	13	0	22	35	0	33	18	51	117
03:15 PM	0	0	0	0	15	26	0	41	20	0	26	46	0	43	18	61	148
03:30 PM	0	0	0	0	80	76	0	156	26	0	42	68	0	49	29	78	302
03:45 PM	0	0	0	0	53	47	0	100	26	0	27	53	0	38	42	80	233
Total	0	0	0	0	159	169	0	328	85	0	117	202	0	163	107	270	800
Grand Total	0	0	0	0	207	252	0	459	136	0	150	286	0	246	161	407	1152
Apprch %	0	0	0		45.1	54.9	0		47.6	0	52.4		0	60.4	39.6		
Total %	0	0	0	0	18	21.9	0	39.8	11.8	0	13	24.8	0	21.4	14	35.3	

	Private Driveway Southbound				Brookside Avenue Westbound				Oak View Drive Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	11	20	0	31	13	0	22	35	0	33	18	51	117
03:15 PM	0	0	0	0	15	26	0	41	20	0	26	46	0	43	18	61	148
03:30 PM	0	0	0	0	**80**	**76**	0	**156**	**26**	0	**42**	**68**	0	**49**	29	78	**302**
03:45 PM	0	0	0	0	53	47	0	100	26	0	27	53	0	38	**42**	**80**	233
Total Volume	0	0	0	0	159	169	0	328	85	0	117	202	0	163	107	270	800
% App. Total	0	0	0		48.5	51.5	0		42.1	0	57.9		0	60.4	39.6		
PHF	.000	.000	.000	.000	.497	.556	.000	.526	.817	.000	.696	.743	.000	.832	.637	.844	.662

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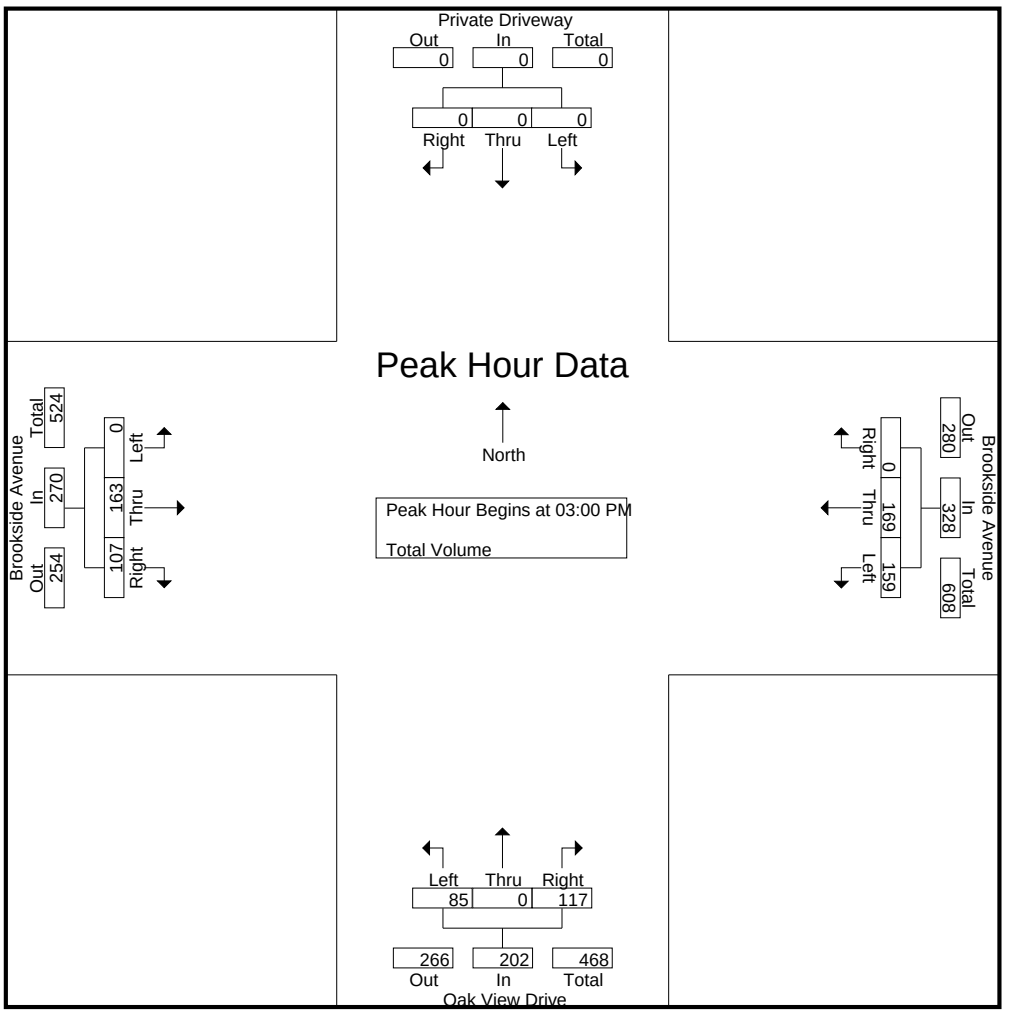

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM				03:00 PM				03:00 PM				03:00 PM			
+0 mins.	0	0	0	0	11	20	0	31	13	0	22	35	0	33	18	51
+15 mins.	0	0	0	0	15	26	0	41	20	0	26	46	0	43	18	61
+30 mins.	0	0	0	0	**80**	**76**	0	**156**	**26**	0	**42**	**68**	0	**49**	29	78
+45 mins.	0	0	0	0	53	47	0	100	26	0	27	53	0	38	**42**	**80**
Total Volume	0	0	0	0	159	169	0	328	85	0	117	202	0	163	107	270
% App. Total	0	0	0		48.5	51.5	0		42.1	0	57.9		0	60.4	39.6	
PHF	.000	.000	.000	.000	.497	.556	.000	.526	.817	.000	.696	.743	.000	.832	.637	.844

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County of Riverside
N/S: Brookside Elementary School DW
E/W: Brookside Avenue
Weather: Clear

File Name : 02_CRV_BE DW_Bro AM
Site Code : 00323979
Start Date : 10/18/2023
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Groups Printed- Total Volume

	Private Driveway Southbound				Brookside Avenue Westbound				Brookside Elementary School Driveway Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	0	0	0	2	15	0	17	0	0	0	0	0	14	0	14	31
06:15 AM	0	0	0	0	2	26	0	28	0	0	0	0	0	17	1	18	46
06:30 AM	0	0	0	0	4	49	0	53	0	0	1	1	0	33	3	36	90
06:45 AM	0	0	0	0	2	33	2	37	0	0	0	0	0	54	15	69	106
Total	0	0	0	0	10	123	2	135	0	0	1	1	0	118	19	137	273
07:00 AM	0	0	0	0	32	66	0	98	18	0	21	39	0	98	37	135	272
07:15 AM	0	0	0	0	40	93	1	134	24	0	43	67	0	91	44	135	336
07:30 AM	0	0	1	1	17	65	0	82	1	0	0	1	0	73	18	91	175
07:45 AM	1	0	0	1	7	59	0	66	0	0	0	0	0	101	10	111	178
Total	1	0	1	2	96	283	1	380	43	0	64	107	0	363	109	472	961
08:00 AM	0	0	0	0	6	107	0	113	1	0	2	3	0	119	9	128	244
08:15 AM	0	0	0	0	1	105	0	106	0	0	0	0	0	122	3	125	231
08:30 AM	0	0	0	0	1	92	0	93	1	0	0	1	0	96	3	99	193
08:45 AM	0	0	0	0	0	61	0	61	0	0	0	0	0	74	0	74	135
Total	0	0	0	0	8	365	0	373	2	0	2	4	0	411	15	426	803
Grand Total	1	0	1	2	114	771	3	888	45	0	67	112	0	892	143	1035	2037
Apprch %	50	0	50		12.8	86.8	0.3		40.2	0	59.8		0	86.2	13.8		
Total %	0	0	0	0.1	5.6	37.8	0.1	43.6	2.2	0	3.3	5.5	0	43.8	7	50.8	

	Private Driveway Southbound				Brookside Avenue Westbound				Brookside Elementary School Driveway Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	32	66	0	98	18	0	21	39	0	98	37	**135**	272
07:15 AM	0	0	0	0	**40**	**93**	**1**	**134**	**24**	0	**43**	**67**	0	91	**44**	135	**336**
07:30 AM	0	0	**1**	**1**	17	65	0	82	1	0	0	1	0	73	18	91	175
07:45 AM	**1**	0	0	1	7	59	0	66	0	0	0	0	0	**101**	10	111	178
Total Volume	1	0	1	2	96	283	1	380	43	0	64	107	0	363	109	472	961
% App. Total	50	0	50		25.3	74.5	0.3		40.2	0	59.8		0	76.9	23.1		
PHF	.250	.000	.250	.500	.600	.761	.250	.709	.448	.000	.372	.399	.000	.899	.619	.874	.715

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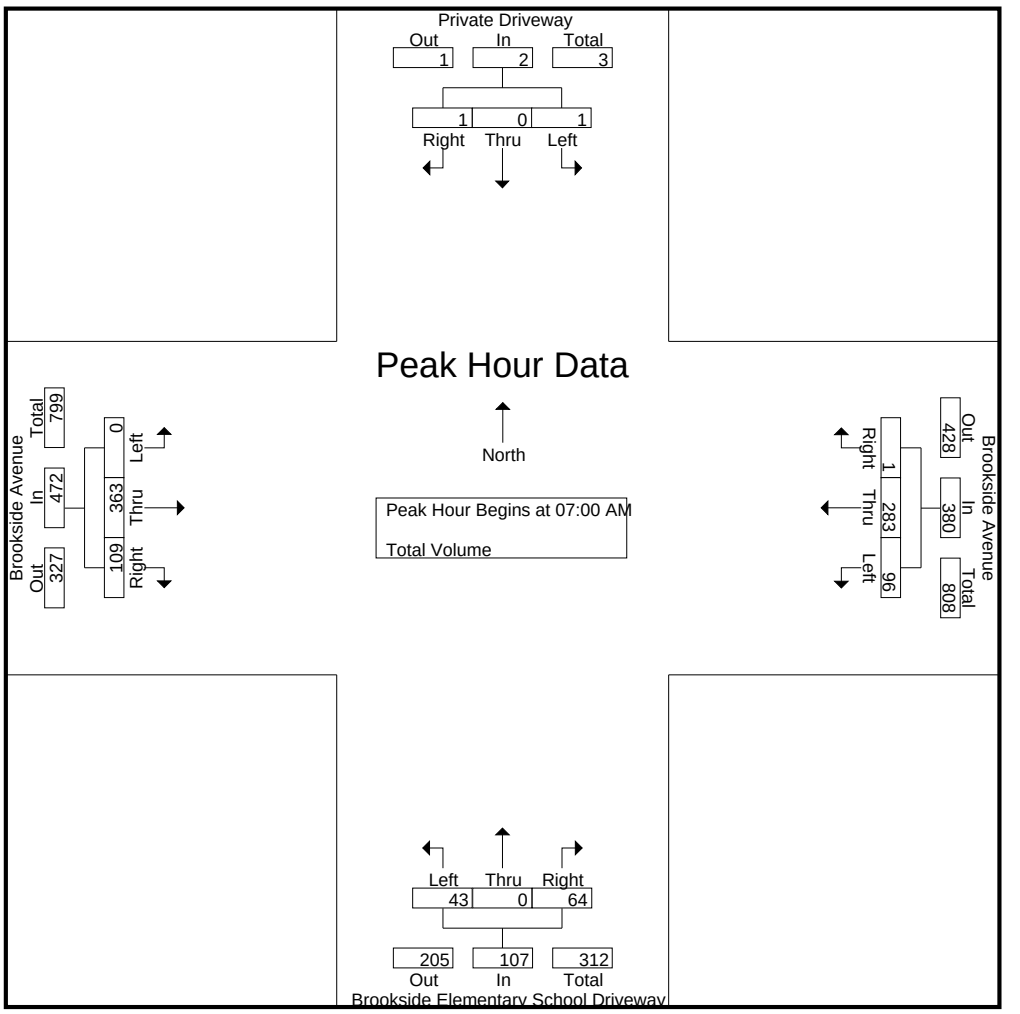

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				06:30 AM				07:00 AM			
+0 mins.	0	0	0	0	**40**	93	**1**	**134**	0	0	1	1	0	98	37	**135**
+15 mins.	0	0	0	0	17	65	0	82	0	0	0	0	0	91	**44**	135
+30 mins.	0	0	**1**	**1**	7	59	0	66	18	0	21	39	0	73	18	91
+45 mins.	**1**	0	0	1	6	**107**	0	113	**24**	0	**43**	**67**	0	**101**	10	111
Total Volume	1	0	1	2	70	324	1	395	42	0	65	107	0	363	109	472
% App. Total	50	0	50		17.7	82	0.3		39.3	0	60.7		0	76.9	23.1	
PHF	.250	.000	.250	.500	.438	.757	.250	.737	.438	.000	.378	.399	.000	.899	.619	.874

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Groups Printed- Total Volume

	Private Driveway Southbound				Brookside Avenue Westbound				Brookside Elementary School Driveway Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
02:00 PM	0	0	0	0	2	27	0	29	0	0	0	0	0	24	1	25	54
02:15 PM	0	0	0	0	5	19	0	24	0	0	2	2	0	27	4	31	57
02:30 PM	0	0	0	0	3	52	1	56	4	0	2	6	0	25	2	27	89
02:45 PM	0	0	0	0	1	24	0	25	5	0	0	5	1	26	2	29	59
Total	0	0	0	0	11	122	1	134	9	0	4	13	1	102	9	112	259
03:00 PM	0	0	0	0	1	28	1	30	2	0	1	3	1	48	0	49	82
03:15 PM	0	0	0	0	3	34	0	37	6	0	0	6	1	77	1	79	122
03:30 PM	0	0	0	0	2	164	1	167	1	0	1	2	0	94	2	96	265
03:45 PM	0	0	0	0	6	94	0	100	0	0	0	0	0	59	5	64	164
Total	0	0	0	0	12	320	2	334	9	0	2	11	2	278	8	288	633
Grand Total	0	0	0	0	23	442	3	468	18	0	6	24	3	380	17	400	892
Apprch %	0	0	0		4.9	94.4	0.6		75	0	25		0.8	95	4.2		
Total %	0	0	0	0	2.6	49.6	0.3	52.5	2	0	0.7	2.7	0.3	42.6	1.9	44.8	

	Private Driveway Southbound				Brookside Avenue Westbound				Brookside Elementary School Driveway Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	1	28	**1**	30	2	0	**1**	3	**1**	48	0	49	82
03:15 PM	0	0	0	0	3	34	0	37	**6**	0	0	**6**	1	77	1	79	122
03:30 PM	0	0	0	0	2	**164**	1	**167**	1	0	1	2	0	**94**	2	**96**	**265**
03:45 PM	0	0	0	0	**6**	94	0	100	0	0	0	0	0	59	**5**	64	164
Total Volume	0	0	0	0	12	320	2	334	9	0	2	11	2	278	8	288	633
% App. Total	0	0	0		3.6	95.8	0.6		81.8	0	18.2		0.7	96.5	2.8		
PHF	.000	.000	.000	.000	.500	.488	.500	.500	.375	.000	.500	.458	.500	.739	.400	.750	.597

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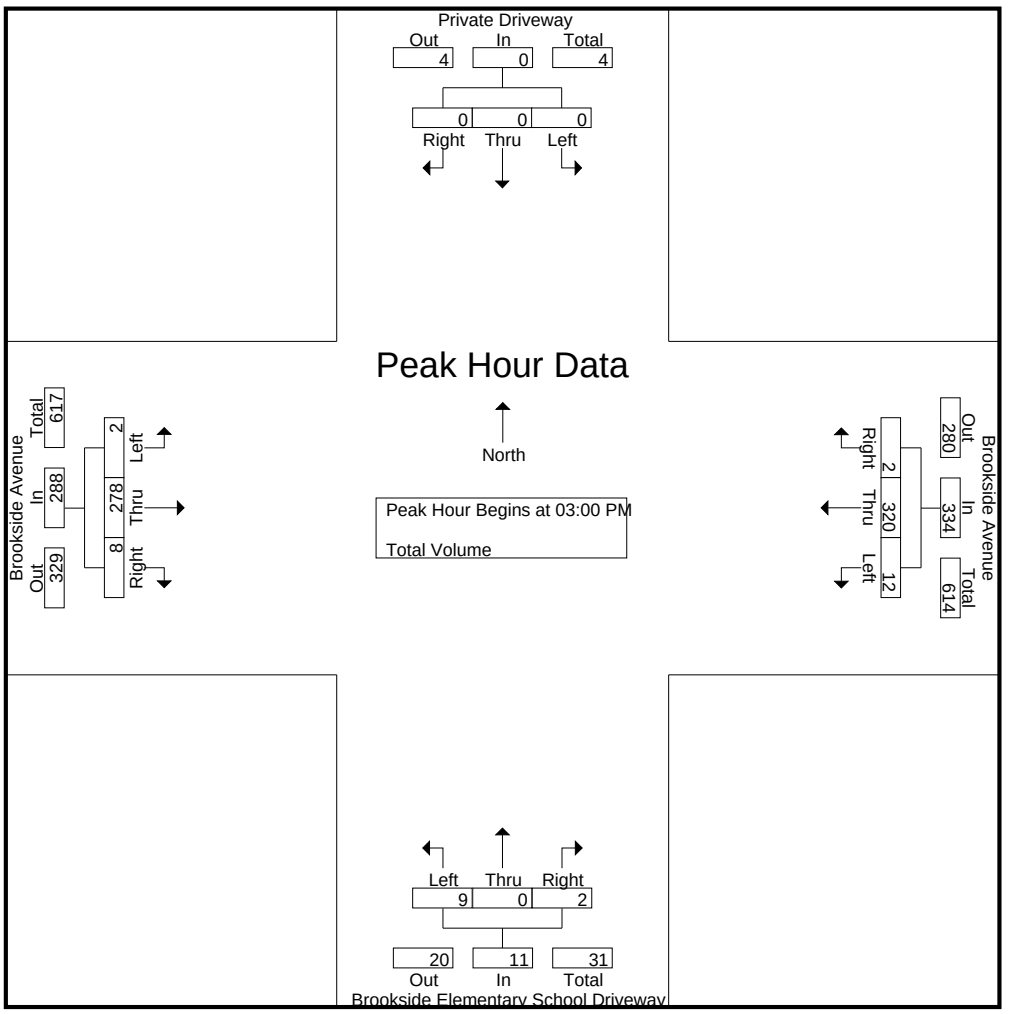

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	02:00 PM				03:00 PM				02:30 PM				03:00 PM			
+0 mins.	0	0	0	0	1	28	**1**	30	4	0	**2**	**6**	**1**	48	0	49
+15 mins.	0	0	0	0	3	34	0	37	5	0	0	5	1	77	1	79
+30 mins.	0	0	0	0	2	**164**	1	**167**	2	0	1	3	0	**94**	2	**96**
+45 mins.	0	0	0	0	**6**	94	0	100	**6**	0	0	6	0	59	**5**	64
Total Volume	0	0	0	0	12	320	2	334	17	0	3	20	2	278	8	288
% App. Total	0	0	0		3.6	95.8	0.6		85	0	15		0.7	96.5	2.8	
PHF	.000	.000	.000	.000	.500	.488	.500	.500	.708	.000	.375	.833	.500	.739	.400	.750

ATTACHMENT D

HCM WORKSHEETS

Intersection	
Intersection Delay, s/veh	27.9
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	259	245	166	200	420	186
Future Vol, veh/h	259	245	166	200	420	186
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	273	258	175	211	442	196
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	17.7	16.4	43.4
HCM LOS	C	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	420	186	259	245	166	200
LT Vol	420	0	0	0	166	0
Through Vol	0	0	259	0	0	200
RT Vol	0	186	0	245	0	0
Lane Flow Rate	442	196	273	258	175	211
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.947	0.353	0.566	0.484	0.396	0.447
Departure Headway (Hd)	7.711	6.488	7.476	6.756	8.162	7.647
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	558	483	534	442	472
Service Time	5.411	4.188	5.218	4.497	5.907	5.391
HCM Lane V/C Ratio	0.934	0.351	0.565	0.483	0.396	0.447
HCM Control Delay, s/veh	57	12.7	19.6	15.7	16.2	16.5
HCM Lane LOS	F	B	C	C	C	C
HCM 95th-tile Q	11.4	1.6	3.5	2.6	1.9	2.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	363	109	96	283	1	43	0	64	1	0	1
Future Vol, veh/h	0	363	109	96	283	1	43	0	64	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	190	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	382	115	101	298	1	45	0	67	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	299	0	0	497	0	0	941	941	440	974	998	299
Stage 1	-	-	-	-	-	-	440	440	-	501	501	-
Stage 2	-	-	-	-	-	-	501	501	-	473	497	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1262	-	-	1067	-	-	243	263	617	231	244	741
Stage 1	-	-	-	-	-	-	596	578	-	552	543	-
Stage 2	-	-	-	-	-	-	552	543	-	572	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1262	-	-	1067	-	-	225	238	617	191	221	741
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	238	-	191	221	-
Stage 1	-	-	-	-	-	-	596	578	-	552	491	-
Stage 2	-	-	-	-	-	-	499	491	-	510	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.2	19.3	16.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	363	1262	-	-	1067	-	-	304
HCM Lane V/C Ratio	0.31	-	-	-	0.095	-	-	0.007
HCM Control Delay (s/veh)	19.3	0	-	-	8.7	-	-	16.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q (veh)	1.3	0	-	-	0.3	-	-	0

Intersection	
Intersection Delay, s/veh	28.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	261	245	167	202	420	187
Future Vol, veh/h	261	245	167	202	420	187
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	258	176	213	442	197
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	17.9	16.5	43.7
HCM LOS	C	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	420	187	261	245	167	202
LT Vol	420	0	0	0	167	0
Through Vol	0	0	261	0	0	202
RT Vol	0	187	0	245	0	0
Lane Flow Rate	442	197	275	258	176	213
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.949	0.356	0.572	0.485	0.399	0.452
Departure Headway (Hd)	7.726	6.503	7.489	6.768	8.174	7.658
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	557	484	534	441	470
Service Time	5.426	4.203	5.23	4.509	5.918	5.402
HCM Lane V/C Ratio	0.934	0.354	0.568	0.483	0.399	0.453
HCM Control Delay, s/veh	57.5	12.8	19.8	15.8	16.3	16.6
HCM Lane LOS	F	B	C	C	C	C
HCM 95th-tile Q	11.5	1.6	3.5	2.6	1.9	2.3

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	363	109	96	283	4	43	0	64	4	0	4
Future Vol, veh/h	3	363	109	96	283	4	43	0	64	4	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	190	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	382	115	101	298	4	45	0	67	4	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	302	0	0	497	0	0	950	950	440	981	1005	300
Stage 1	-	-	-	-	-	-	446	446	-	502	502	-
Stage 2	-	-	-	-	-	-	504	504	-	479	503	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1259	-	-	1067	-	-	240	260	617	229	241	740
Stage 1	-	-	-	-	-	-	591	574	-	552	542	-
Stage 2	-	-	-	-	-	-	550	541	-	568	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1067	-	-	221	235	617	189	218	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	221	235	-	189	218	-
Stage 1	-	-	-	-	-	-	590	573	-	551	491	-
Stage 2	-	-	-	-	-	-	495	490	-	505	540	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.2	19.5	17.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	359	1259	-	-	1067	-	-	301
HCM Lane V/C Ratio	0.314	0.003	-	-	0.095	-	-	0.028
HCM Control Delay (s/veh)	19.5	7.9	-	-	8.7	-	-	17.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q (veh)	1.3	0	-	-	0.3	-	-	0.1

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	163	107	159	169	85	117
Future Vol, veh/h	163	107	159	169	85	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	172	113	167	178	89	123
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.5	10.6	9.8
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	117	163	107	159	169
LT Vol	85	0	0	0	159	0
Through Vol	0	0	163	0	0	169
RT Vol	0	117	0	107	0	0
Lane Flow Rate	89	123	172	113	167	178
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.162	0.182	0.263	0.15	0.275	0.267
Departure Headway (Hd)	6.516	5.306	5.512	4.805	5.916	5.412
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	669	647	738	603	658
Service Time	4.308	3.097	3.295	2.588	3.698	3.193
HCM Lane V/C Ratio	0.163	0.184	0.266	0.153	0.277	0.271
HCM Control Delay, s/veh	10.6	9.3	10.3	8.4	11	10.2
HCM Lane LOS	B	A	B	A	B	B
HCM 95th-tile Q	0.6	0.7	1.1	0.5	1.1	1.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	278	8	12	320	2	9	0	2	0	0	0
Future Vol, veh/h	2	278	8	12	320	2	9	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	190	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	293	8	13	337	2	9	0	2	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	339	0	0	301	0	0	665	666	297	666	669	338
Stage 1	-	-	-	-	-	-	301	301	-	364	364	-
Stage 2	-	-	-	-	-	-	364	365	-	302	305	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1220	-	-	1260	-	-	374	380	742	373	379	704
Stage 1	-	-	-	-	-	-	708	665	-	655	624	-
Stage 2	-	-	-	-	-	-	655	623	-	707	662	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1220	-	-	1260	-	-	371	375	742	369	374	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	371	375	-	369	374	-
Stage 1	-	-	-	-	-	-	707	664	-	654	618	-
Stage 2	-	-	-	-	-	-	648	617	-	704	661	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.1	0.3	14.1	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1220	-	-	1260	-	-	-
HCM Lane V/C Ratio	0.028	0.002	-	-	0.01	-	-	-
HCM Control Delay (s/veh)	14.1	8	-	-	7.9	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	107	161	171	85	118
Future Vol, veh/h	166	107	161	171	85	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	113	169	180	89	124
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.6	10.6	9.8
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	118	166	107	161	171
LT Vol	85	0	0	0	161	0
Through Vol	0	0	166	0	0	171
RT Vol	0	118	0	107	0	0
Lane Flow Rate	89	124	175	113	169	180
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.162	0.184	0.268	0.151	0.279	0.271
Departure Headway (Hd)	6.533	5.323	5.519	4.812	5.922	5.417
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	545	667	645	737	602	657
Service Time	4.327	3.116	3.306	2.598	3.706	3.202
HCM Lane V/C Ratio	0.163	0.186	0.271	0.153	0.281	0.274
HCM Control Delay, s/veh	10.6	9.3	10.3	8.5	11	10.2
HCM Lane LOS	B	A	B	A	B	B
HCM 95th-tile Q	0.6	0.7	1.1	0.5	1.1	1.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	278	8	12	320	6	9	0	2	5	0	4
Future Vol, veh/h	6	278	8	12	320	6	9	0	2	5	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	190	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	293	8	13	337	6	9	0	2	5	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	343	0	0	301	0	0	677	678	297	676	679	340
Stage 1	-	-	-	-	-	-	309	309	-	366	366	-
Stage 2	-	-	-	-	-	-	368	369	-	310	313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1216	-	-	1260	-	-	367	374	742	367	374	702
Stage 1	-	-	-	-	-	-	701	660	-	653	623	-
Stage 2	-	-	-	-	-	-	652	621	-	700	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1216	-	-	1260	-	-	360	368	742	362	368	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	368	-	362	368	-
Stage 1	-	-	-	-	-	-	697	657	-	650	617	-
Stage 2	-	-	-	-	-	-	641	615	-	695	654	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.2	0.3	14.3	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	397	1216	-	-	1260	-	-	461
HCM Lane V/C Ratio	0.029	0.005	-	-	0.01	-	-	0.021
HCM Control Delay (s/veh)	14.3	8	-	-	7.9	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q (veh)	0.1	0	-	-	0	-	-	0.1

Intersection: 1: Oak View Drive & Brookside Avenue

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	242	125	101	87	164	239
Average Queue (ft)	69	59	53	50	96	48
95th Queue (ft)	130	103	85	76	156	116
Link Distance (ft)	759			238		764
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		90	150		105	
Storage Blk Time (%)	2	3			13	0
Queuing Penalty (veh)	6	7			24	0

Intersection: 2: Elementary School Driveway/Project Driveway

Movement	EB	WB	NB	SB
Directions Served	TR	L	LTR	LTR
Maximum Queue (ft)	21	50	57	30
Average Queue (ft)	1	23	39	3
95th Queue (ft)	7	49	62	18
Link Distance (ft)	238		79	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		190		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 37

Intersection: 1: Oak View Drive & Brookside Avenue

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	163	130	101	91	169	221
Average Queue (ft)	70	60	53	51	97	53
95th Queue (ft)	112	101	84	80	164	115
Link Distance (ft)	759			238		764
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		90	150		105	
Storage Blk Time (%)	3	1			13	0
Queuing Penalty (veh)	7	3			26	0

Intersection: 2: Elementary School Driveway/Project Driveway

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LTR	LTR
Maximum Queue (ft)	30	22	55	76	30
Average Queue (ft)	1	1	24	38	5
95th Queue (ft)	10	10	52	67	23
Link Distance (ft)		238		79	119
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	60		190		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 36

Intersection: 1: Oak View Drive & Brookside Avenue

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	77	92	97	156	69	80
Average Queue (ft)	48	38	47	47	32	36
95th Queue (ft)	73	65	76	89	55	65
Link Distance (ft)	759			238		764
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		90	150		105	
Storage Blk Time (%)	0	0		0		
Queuing Penalty (veh)	0	0		0		

Intersection: 2: Elementary School Driveway/Project Driveway

Movement	WB	NB
Directions Served	L	LTR
Maximum Queue (ft)	30	30
Average Queue (ft)	4	7
95th Queue (ft)	20	28
Link Distance (ft)		79
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	190	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1

Intersection: 1: Oak View Drive & Brookside Avenue

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	78	76	76	81	65	72
Average Queue (ft)	42	34	39	43	29	29
95th Queue (ft)	64	54	67	69	47	50
Link Distance (ft)	759			238		764
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		90	150		105	
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				

Intersection: 2: Elementary School Driveway/Project Driveway

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	28	30	55	52
Average Queue (ft)	1	2	12	8
95th Queue (ft)	10	15	38	30
Link Distance (ft)			79	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	60	190		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

ATTACHMENT E

EXISTING QUEUING SURVEYS

Vehicle Queue Count

LOCATION: 0ak View Dr_Brookside Ave
CITY: County Of Riverside

DAY: Wed
DATE: 10/18/23

Time	SOUTHBOUND		WESTBOUND		NORTHBOUND		EASTBOUND	
700-900	-	-	Left	Thru	Left	Right	Thru	Right
7:00			1	4	11	3	4	1
7:05			2	2	13	1	5	3
7:10			1	3	18	3	10	3
7:15			2	4	19	3	6	1
7:20			2	3	18	4	3	2
7:25			2	3	19	3	5	3
7:30			3	3	18	2	3	1
7:35			2	2	19	4	3	2
7:40			2	4	10	1	4	4
7:45			1	1	5	2	6	3
7:50			2	2	4	2	3	3
7:55			1	1	12	2	5	3
8:00			2	2	16	3	4	1
8:05			2	2	18	3	4	2
8:10			1	3	19	2	4	3
8:15			2	3	19	3	3	2
8:20			4	3	20	4	4	2
8:25			3	2	18	5	3	2
8:30			1	2	19	2	3	2
8:35			3	2	19	2	2	3
8:40			3	2	18	3	3	4
8:45			1	2	19	3	3	2
8:50			1	2	13	1	4	1
8:55			1	2	3	2	2	1
9:00			1	1	3	1	2	2

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

Vehicle Queue Count

LOCATION: 0ak View Dr_Brookside Ave
CITY: County Of Riverside

DAY: Wed
DATE: 10/18/23

Time	SOUTHBOUND		WESTBOUND		NORTHBOUND		EASTBOUND	
1400-1600	-	-	Left	Thru	Left	Right	Thru	Right
14:00			1	1	1	1	1	1
14:05			1	1	1	1	1	1
14:10			1	1	1	1	1	1
14:15			1	1	2	1	2	1
14:20			1	1	1	1	1	1
14:25			1	2	1	1	1	1
14:30			1	1	1	1	1	1
14:35			1	2	1	1	1	1
14:40			1	1	1	1	1	1
14:45			1	1	1	1	1	1
14:50			1	1	1	0	2	2
14:55			1	1	2	1	1	1
15:00			1	1	1	1	1	1
15:05			1	1	1	2	1	1
15:10			2	1	1	1	2	1
15:15			1	1	1	2	2	1
15:20			1	1	1	1	1	1
15:25			1	1	1	2	2	1
15:30			2	1	1	2	3	1
15:35			4	4	2	2	2	1
15:40			7	5	4	2	2	2
15:45			7	3	2	2	1	2
15:50			2	1	3	1	2	2
15:55			1	1	2	2	1	1
16:00			1	1	2	1	1	1

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Vehicle Queue Count

LOCATION: Brookside Elementry School DW_Brookside
CITY: County Of Riverside

DAY: Wed
DATE: 10/18/23

Time	SOUTHBOUND		WESTBOUND		NORTHBOUND		EASTBOUND	
7:00-9:00	-	-	Left	-	Left/Right	-	-	Right
7:00			1		1			1
7:05			1		4			2
7:10			2		4			1
7:15			4		5			2
7:20			3		6			2
7:25			1		2			1
7:30			2		4			2
7:35			1		1			1
7:40			1		0			1
7:45			1		0			1
7:50			1		0			1
7:55			1		0			1
8:00			1		1			1
8:05			1		1			1
8:10			1		0			0
8:15			1		0			1
8:20			1		0			1
8:25			1		0			1
8:30			0		0			1
8:35			1		1			1
8:40			0		0			0
8:45			0		0			0
8:50			0		0			0
8:55			0		0			0
9:00			1		0			1

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Vehicle Queue Count

LOCATION: Brookside Elementry School DW_Brookside
CITY: County Of Riverside

DAY: Wed
DATE: 10/18/23

Time	SOUTHBOUND		WESTBOUND		NORTHBOUND		EASTBOUND	
14:00-16:00	-	-	Left	-	Left/Right	-	-	Right
14:00			1		0			0
14:05			0		0			1
14:10			0		0			0
14:15			1		0			0
14:20			1		1			1
14:25			1		0			1
14:30			1		1			1
14:35			1		1			0
14:40			1		1			1
14:45			1		1			0
14:50			0		1			0
14:55			0		1			1
15:00			0		1			0
15:05			0		0			0
15:10			0		1			0
15:15			0		1			1
15:20			1		1			0
15:25			1		0			0
15:30			0		0			0
15:35			1		2			0
15:40			0		0			1
15:45			0		0			1
15:50			1		0			1
15:55			1		0			0
16:00			0		1			0

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