TECHNICAL MEMORANDUM

DATE: April 23, 2026
TO: Nicole Morse, T&B Planning, Inc.
FROM: Charlene So, Urban Crossroads, Inc.
JOB NO: 16408-07 2050 Memo

SUBJECT: APPLE VALLEY 84 SUPPLEMENTAL TRAFFIC ASSESSMENT

Urban Crossroads, Inc. is pleased to provide the following Supplemental Traffic Assessment for the Apple Valley 84 development (Project), which is located north of Stoddard Wells Road and south of Johnson Road in the Town of Apple Valley. This work effort will follow the guidelines outlined in the County *Transportation Impact Study Guidelines* (dated July 9, 2019) consistent with the *Apple Valley 84 Traffic Analysis* (dated December 11, 2025, referred to as 2025 Traffic Study).

PROJECT BACKGROUND

Consistent with the 2025 Traffic Study, the Project is proposed to consist of the development of one industrial warehouse and distribution building totaling 1,381,412 square feet. The same Project mix of 10% General Light Industrial use, 15% High-Cube Cold Storage Warehouse use, and 75% High-Cube Fulfillment (Non-Sort) Center Warehouse use has been assumed for this assessment. Similarly, access to the building will be accommodated via two new driveways along Wrangler Road which is a new north/south roadway connecting the future extension of Johnson Road to Stoddard Wells Road. There is one additional driveway proposed along the southern Project boundary on Stoddard Wells Road. All driveways are assumed to allow for full access (no turn restrictions) with the exception of the access point directly on Stoddard Wells Road which will assume right-in/right-out access only. These access assumptions are also consistent with the 2025 Traffic Study. As such, there are no changes to the Project trip generation or distribution patterns identified in the 2025 Traffic Study for the purposes of this traffic assessment. The Project is anticipated to have an Opening Year of 2028.

The purpose of this Supplemental Traffic Assessment is to evaluate the Horizon Year (2050) traffic conditions to address a comment from Caltrans District 8 Local Development Review (LDR) department. Specifically, the following analysis scenarios have been evaluated:

- Horizon Year (2050) Without Project
- Horizon Year (2050) With Project

HORIZON YEAR (2050) FORECASTING

POST PROCESSING

Traffic projections for Horizon Year (2050) Without Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of San Bernardino. The traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year (2050) peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in 2025. The SBTAM has a base (validation) year of 2019 and a horizon (future forecast) year of 2050. The difference in model volumes (2050-2019) defines the growth in traffic over the 31-year period.

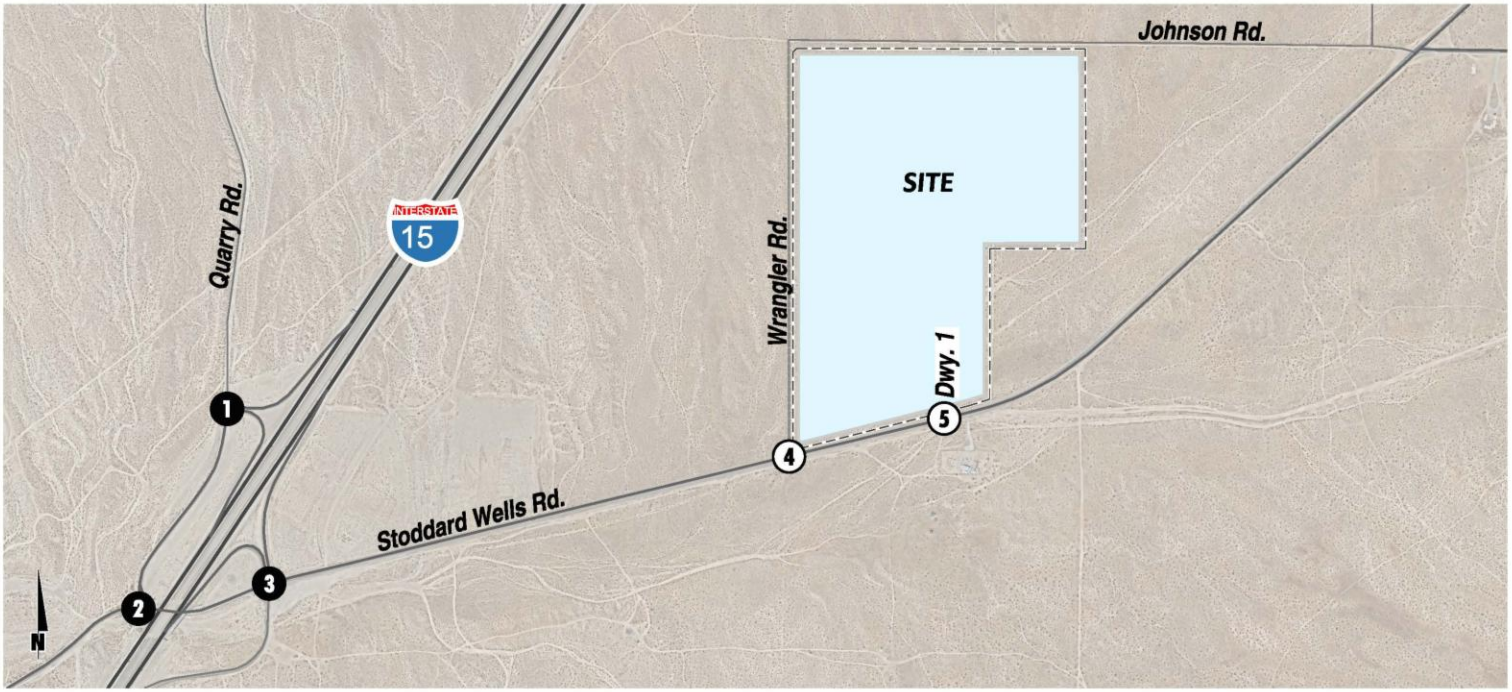
The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP) Report 765, along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg. The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.27. These factors represent the relationship of the highest single AM peak hour to the modeled 3-hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4-hour PM peak period (an even distribution would result in a factor of 0.25).

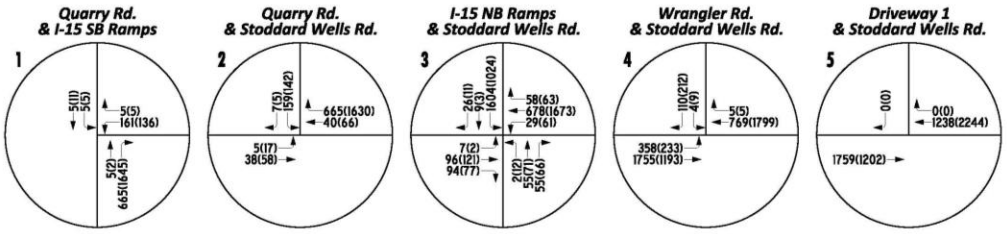
The future Horizon Year Without Project peak hour turning movements were then reviewed by Urban Crossroads for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two freeway ramp locations, is verified in order to make sure certain vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis. Post-processing worksheets are provided in Appendix 1.

TRAFFIC VOLUMES

The Horizon Year (2050) Without Project scenario includes the refined post-process volumes obtained from the SBTAM as described above. The weekday AM and PM peak hour volumes which can be expected for Horizon Year (2050) Without Project traffic conditions are shown in Exhibit 1. The Horizon Year (2050) With Project scenario includes the refined post-process volumes obtained from the SBTAM plus the manual addition of Project traffic (as previously evaluated in the 2025 Traffic Study). The weekday AM and PM peak hour volumes which can be expected for Horizon Year (2050) With Project traffic conditions are shown in Exhibit 2.

EXHIBIT 1: HORIZON YEAR (2050) WITHOUT PROJECT VOLUMES (PCE)

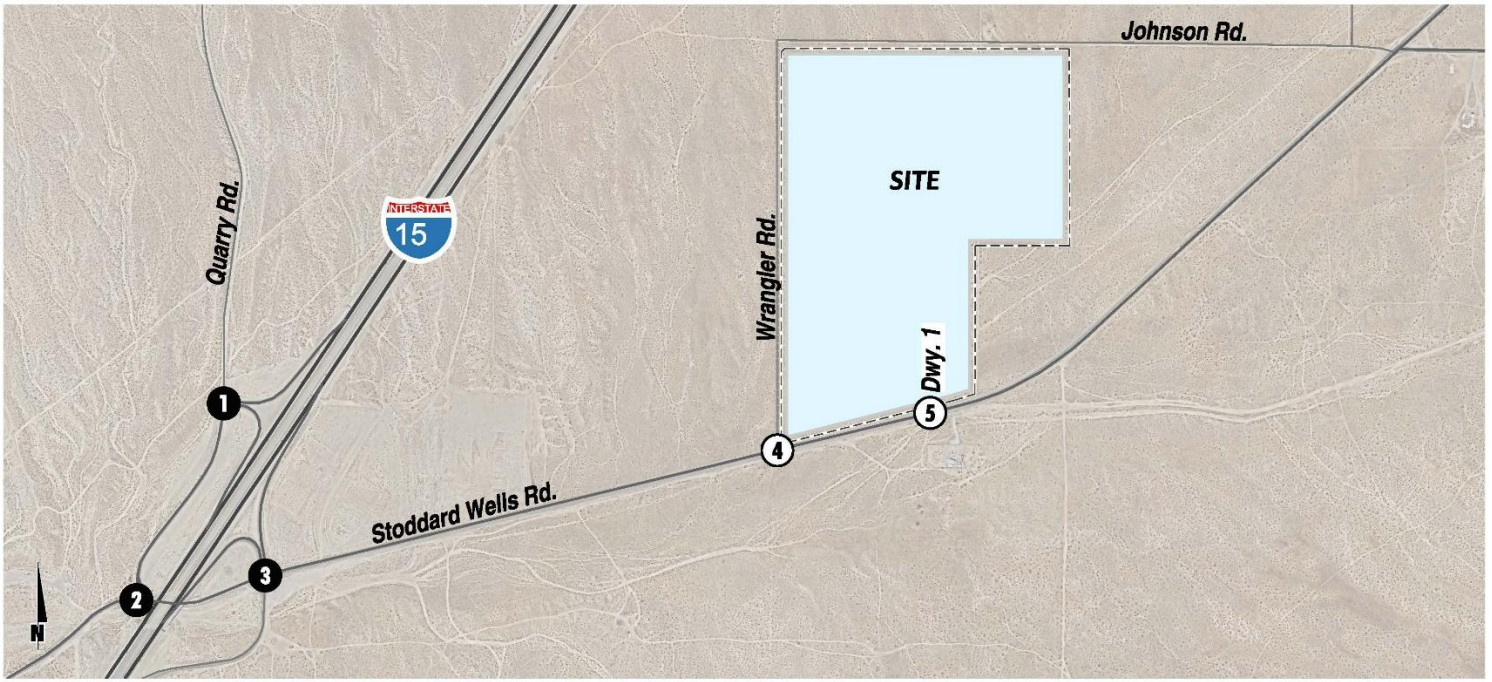


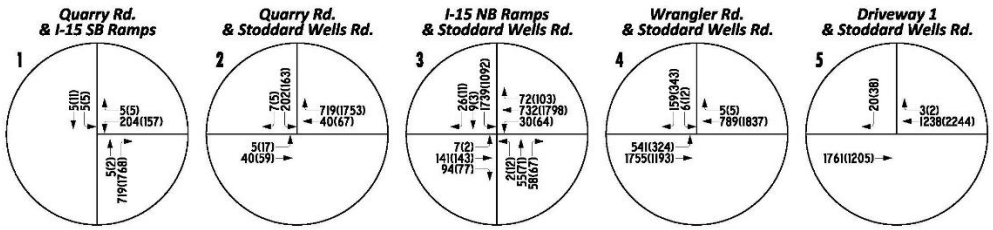


LEGEND:

- ● = Existing Intersection Analysis Location
- ⓪ = Future Intersection Analysis Location
- 00(00) = Peak Hour Volume AM(PM)

EXHIBIT 2: HORIZON YEAR (2050) WITH PROJECT VOLUMES (PCE)





LEGEND:

- (0) = Existing Intersection Analysis Location
- (0) = Future Intersection Analysis Location
- 00(00) = Peak Hour Volume AM(PM)

The Horizon Year roadway network includes future roadway connections, however, it does not include the latest Town's General Plan Buildout network which assumes a new future interchange at Falchion Road and the I-15 Freeway (although the High Desert Corridor is no longer included in the SBTAM model). Per the project website, the Brightline West is a $10+ billion, 218-mile, all-electric high-speed rail project linking Las Vegas and Southern California (Rancho Cucamonga) in approximately two hours. The project, featuring over 200 mile per hour trains running largely within the I-15 median, has started preliminary construction with a projected opening by late 2029. This project is also not accounted for within the regional traffic model. However, the inclusion of the future interchange at Falchion Road and the Brightline West projects will likely result in reduced traffic volumes through the Stoddard Wells Road interchange. As such, the analysis within this assessment can be considered conservative as it overestimates potential traffic forecasts through the study intersections.

HORIZON YEAR (2050) ANALYSIS

INTERSECTIONS

Level of Service (LOS) calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2050) Without Project conditions. As shown in Table 1, the following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2050) Without Project traffic conditions:

- Quarry Rd. & I-15 Southbound Ramps (#1) – LOS F in the PM peak hour only
- Quarry Rd. & Stoddard Wells Rd. (#2) – LOS F PM peak hour only
- I-15 Northbound Ramps & Stoddard Wells (#3) – LOS F in the AM and PM peak hours

The intersection operations analysis worksheets for Horizon Year (2050) Without Project traffic conditions are included in Appendix 2.

As shown in Table 1, the following additional deficiency is anticipated to occur with the addition of Project traffic under Horizon Year (2050) With Project traffic conditions in addition to the deficiencies identified above for Without Project traffic conditions:

- Quarry Rd. & Stoddard Wells Rd. (#2) – LOS E AM peak hour; LOS F PM peak hour

The intersection operations analysis worksheets for Horizon Year (2050) With Project traffic conditions are included in Appendix 3.

OFF-RAMP QUEUING

Queuing analysis findings for Horizon Year (2050) Without and With Project are presented in Table 2. As shown in Table 2, the following movement is anticipated to experience off-ramp queuing issues during the weekday AM or weekday PM 95th percentile traffic flows under Horizon Year (2050) Without Project traffic conditions (consistent with the Opening Year Cumulative findings in the 2025 Traffic Study):

- I-15 NB Ramps & Stoddard Wells Road (#3) Southbound shared left-through-right – AM and PM peak hours

TABLE 1: HORIZON YEAR (2050) INTERSECTION ANALYSIS

#	Intersection	Traffic Control	NP AM Delay	NP PM Delay	NP AM LOS	NP PM LOS	WP AM Delay	WP PM Delay	WP AM LOS	WP PM LOS	Notes
1	Quarry & I-15 SB	CSS	16.6	94.7	C	F	20.9	>100	C	F	Deficient PM.
2	Quarry & Stoddard Wells	CSS	26.0	>100	D	F	45.9	>100	E	F	Deficient AM and PM.
3	I-15 NB & Stoddard Wells	CSS	>100	>100	F	F	>100	>100	F	F	Deficient AM and PM.
4	Wrangler & Stoddard Wells	TS	N/A	N/A	N/A	N/A	54.9	51.2	D	D	N/A
5	Driveway 1 & Stoddard Wells	CSS	N/A	N/A	N/A	N/A	14.5	30.7	B	D	N/A

Notes:
TS = Traffic Signal; CSS = Cross-street Stop
Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

TABLE 2: HORIZON YEAR (2050) OFF-RAMP QUEUING ANALYSIS

#	Intersection	Movement	Available Stacking (Ft)	NP AM Queue	NP PM Queue	NP AM Acceptable?	NP PM Acceptable?	WP AM Queue	WP PM Queue	WP AM Acceptable?	WP PM Acceptable?
1	Quarry & I-15 SB	WBL/R	1,000	53	238	Yes	Yes	88	358	Yes	Yes
3	I-15 NB & Stoddard Wells	SBL/T/R	1,000	6,360	N/A	No	No	6,998	N/A	No	No

Notes:
Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

With the addition of Project traffic, no additional movements are anticipated to experience off-ramp queuing issues under Horizon Year (2050) With Project traffic conditions. Worksheets for Horizon Year (2050) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 2 and 3, respectively.

Traffic Signal Warrants

Since all the unsignalized study area intersections were found to meet traffic signal warrants under Opening Year Cumulative (2028) traffic conditions as evaluated in the 2025 Traffic Study, they were not re-evaluated for Horizon Year (2050) traffic conditions. With the increase in future traffic forecasts, it is anticipated the intersections would continue to meet the same peak hour or daily volume-based traffic signal warrants.

Deficiencies and Improvement Recommendations

The effectiveness of the recommended improvement strategies to address Horizon Year (2050) traffic deficiencies are presented in Table 3 to achieve LOS D or better. Worksheets for Horizon Year (2050) With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 4. The following summarizes the improvements evaluated for each location in Table 3.

- Quarry Rd. & I-15 Southbound Ramps (#1):
  - Add a northbound right turn lane (consistent with 2025 Traffic Study)
- Quarry Rd. & Stoddard Wells Rd. (#2):
  - Add a westbound right turn lane (consistent with the 2025 Traffic Study)
- I-15 Northbound Ramps & Stoddard Wells Rd. (#3):
  - Install a traffic signal (consistent with the 2025 Traffic Study)
  - Add a northbound left turn lane, dual southbound left turn lanes, an eastbound left turn lane, and a westbound left turn lane (consistent with the 2025 Traffic Study)
  - Add a second westbound through lane (consistent with the 2025 Traffic Study)

It should be noted that ultimate improvements at the Interstate 15 / Stoddard Wells Road Interchange will be determined through a future Project Study Report (PSR) process, as required by Caltrans. The improvements identified in this assessment are intended solely to represent the minimum measures necessary to maintain acceptable LOS under the analyzed conditions. It is our understanding that the Town has incorporated future interchange improvements at this location into its Development Impact Fee (DIF) program, and corresponding fair share percentages are provided in Table 4 based on the Horizon Year 2050 traffic forecasts. Near-term fair share percentages are provided in the 2025 Traffic Study. The fair share calculation methodology is consistent with the 2025 Traffic Study with the exception that the Horizon Year (2050) forecasts are utilized in lieu of the Opening Year Cumulative (2028) forecasts.

TABLE 3: INTERSECTION ANALYSIS WITH IMPROVEMENTS

#	Intersection	Traffic Control	AM Delay	PM Delay	AM LOS	PM LOS
1	Quarry Rd. & I-15 SB Ramps	CSS	10.2	26.5	A	D
2	Quarry Rd. & Stoddard Wells Rd.	CSS	12.0	32.3	B	D
3	I-15 NB Ramps & Stoddard Wells Rd.	TS	48.6	54.5	D	D

Notes:
Per the Highway Capacity Manual 7th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
TS = Traffic Signal; CSS = Cross-street Stop

TABLE 4: 2050 PROJECT FAIR SHARE CALCULATIONS

#	Intersection	Existing (2025)	Project	2050 With Project	Total New Traffic	Project % of New Traffic
1	Quarry Rd. & I-15 SB Ramps - AM	107	74	943	836	**8.9%**
1	Quarry Rd. & I-15 SB Ramps - PM	193	130	1,947	1,754	7.4%
2	Quarry Rd. & Stoddard Wells Rd. - AM	129	76	1,013	884	**8.6%**
2	Quarry Rd. & Stoddard Wells Rd. - PM	237	132	2,064	1,827	7.2%
3	I-15 NB Ramps & Stoddard Wells Rd. - AM	258	209	2,964	2,706	**7.7%**
3	I-15 NB Ramps & Stoddard Wells Rd. - PM	461	230	3,443	2,982	7.7%

Note:
BOLD = Denotes highest fair share percentage.

The effectiveness of the recommended improvement strategies to address Horizon Year (2050) off-ramp deficiencies are presented in Table 5. The intersection improvements are consistent with the intersection improvements evaluated in Table 4. Worksheets for Horizon Year (2050) With Project conditions, with improvements, off-ramp queuing analysis worksheets are provided in Appendix 5.

TABLE 5: OFF-RAMP QUEUING ANALYSIS WITH IMPROVEMENTS

#	Intersection	Movement	Available Stacking (Ft)	WP AM Queue	WP PM Queue	WP AM Acceptable?	WP PM Acceptable?
1	Quarry & I-15 SB	WBL/R	1,000	30	25	Yes	Yes
3	I-15 NB & Stoddard Wells	SBL	1,000	914	617	Yes	Yes
3	I-15 NB & Stoddard Wells	SBL/T/R	1,000	19	17	Yes	Yes

Notes:
Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

If you have any questions, please contact me directly at cso@urbanxroads.com.

APPENDIX 1: POST PROCESSING WORKSHEETS

Project:	Apple Valley 84	Job #:	16408
Scenario:	Horizon Year (2050) Without Project	Analyst:	IA
		Date:	4/22/26

LOCATION: Quarry Rd. & I-15 SB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	77	130	53	69%	142	277	135	95%
	NB Total	79	130	51	65%	144	277	133	92%
SOUTH BOUND	Left	1	0	-1	-100%	2	3	1	50%
	Through	2	0	-2	-100%	3	7	4	133%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	3	0	-3	-100%	5	10	5	100%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	25	120	95	380%	42	63	21	50%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	2	0	-2	-100%
	WB Total	25	120	95	380%	44	63	19	43%
TOTAL ENTERING VOLUME		107	250	143	134%	193	350	157	81%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	10			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**10**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	130	277			
South Leg	Outbound	120	70			
South Leg	**TOTAL**	**250**	**347**	**8%**	**11%**	**3,111**
East Leg	Inbound	120	63			
East Leg	Outbound	130	280			
East Leg	**TOTAL**	**250**	**343**	**8%**	**11%**	**3,111**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***500***	***700***	***8%***	***11%***	***6,223***

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Project:	Apple Valley 84	Job #:	16408
Scenario:	Horizon Year (2050) Without Project	Analyst:	IA
		Date:	4/22/26

LOCATION: Quarry Rd. & Stoddard Wells
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	24	112	88	367%	44	69	25	57%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	3	7	4	133%	1	1	0	0%
	SB Total	27	119	92	341%	45	70	25	56%
EAST BOUND	Left	2	2	0	0%	9	9	0	0%
	Through	7	8	1	14%	24	21	-3	-13%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	9	10	1	11%	33	30	-3	-9%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	16	13	-3	-19%	24	29	5	21%
	Right	77	128	51	66%	135	271	136	101%
	WB Total	93	141	48	52%	159	300	141	89%
TOTAL ENTERING VOLUME		129	270	141	109%	237	400	163	69%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	119	70			
North Leg	Outbound	130	280			
North Leg	**TOTAL**	**249**	**350**	**8%**	**11%**	**3,159**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	141	300			
East Leg	Outbound	120	90			
East Leg	**TOTAL**	**261**	**390**	**8%**	**12%**	**3,259**
West Leg	Inbound	10	30			
West Leg	Outbound	20	30			
West Leg	**TOTAL**	**30**	**60**	**30%**	**60%**	**100**
OVERALL TOTAL		***540***	***800***	***8%***	***12%***	***6,518***

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Project:	Apple Valley 84	Job #:	16408
Scenario:	Horizon Year (2050) Without Project	Analyst:	IA
		Date:	4/22/26

LOCATION: I-15 NB Ramps & Stoddard Wells Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	2	1	100%	3	12	9	300%
	Through	31	45	14	45%	14	71	57	407%
	Right	4	14	10	250%	19	66	47	247%
	NB Total	36	61	25	69%	36	149	113	314%
SOUTH BOUND	Left	92	230	138	150%	191	254	63	33%
	Through	2	9	7	350%	1	3	2	200%
	Right	16	21	5	31%	7	11	4	57%
	SB Total	110	260	150	136%	199	268	69	35%
EAST BOUND	Left	4	5	1	25%	2	2	0	0%
	Through	9	26	17	189%	19	13	-6	-32%
	Right	18	94	76	422%	47	76	29	62%
	EB Total	31	125	94	303%	68	91	23	34%
WEST BOUND	Left	5	27	22	440%	9	35	26	289%
	Through	76	117	41	54%	149	288	139	93%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	81	144	63	78%	158	323	165	104%
TOTAL ENTERING VOLUME		258	590	332	129%	461	831	370	80%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	260	268			
North Leg	Outbound	50	73			
North Leg	**TOTAL**	**310**	**341**	**6%**	**6%**	**5,564**
South Leg	Inbound	61	149			
South Leg	Outbound	130	114			
South Leg	**TOTAL**	**191**	**263**	**4%**	**6%**	**4,463**
East Leg	Inbound	144	323			
East Leg	Outbound	270	333			
East Leg	**TOTAL**	**414**	**656**	**4%**	**6%**	**11,229**
West Leg	Inbound	125	91			
West Leg	Outbound	140	311			
West Leg	**TOTAL**	**265**	**402**	**4%**	**6%**	**6,997**
OVERALL TOTAL		***1,180***	***1,662***	**4%**	***6%***	***28,253***

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APPENDIX 2: HORIZON YEAR (2050) WITHOUT PROJECT INTERSECTION OPERATIONS AND QUEUING WORKSHEETS

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	161	5	5	665	5	5
Future Vol, veh/h	161	5	5	665	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	7	7	924	7	7

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	490	469	0	0	931	0
Stage 1	469	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	541	599	-	-	743	-
Stage 1	634	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	536	599	-	-	743	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.62	0	4.94
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	538	741	-
HCM Lane V/C Ratio	-	-	0.429	0.009	-
HCM Ctrl Dly (s/v)	-	-	16.6	9.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	38	40	665	159	7
Future Vol, veh/h	5	38	40	665	159	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	60	63	1056	252	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	63	0	-	0	667	591
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1552	-	-	-	427	510
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1552	-	-	-	425	510
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.85	0	26.02
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	209	-	-	-	428
HCM Lane V/C Ratio	0.005	-	-	-	0.616
HCM Ctrl Dly (s/v)	7.3	0	-	-	26
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	4

Intersection	
Int Delay, s/veh	6085.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	96	94	29	678	58	2	55	55	1604	9	26
Future Vol, veh/h	7	96	94	29	678	58	2	55	55	1604	9	26
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	123	121	37	869	74	3	71	71	2056	12	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	944	0	0	244	0	0	1151	1219	183	1157	1242	906
Stage 1	-	-	-	-	-	-	201	201	-	981	981	-
Stage 2	-	-	-	-	-	-	949	1018	-	176	262	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	735	-	-	1335	-	-	177	182	864	~ 175	176	337
Stage 1	-	-	-	-	-	-	805	738	-	~ 303	330	-
Stage 2	-	-	-	-	-	-	315	317	-	~ 830	695	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	735	-	-	1335	-	-	138	169	864	~ 89	163	337
Mov Cap-2 Maneuver	-	-	-	-	-	-	138	169	-	~ 89	163	-
Stage 1	-	-	-	-	-	-	794	728	-	~ 285	311	-
Stage 2	-	-	-	-	-	-	257	298	-	~ 679	686	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.35	0.29	31.2	$ 10071.45
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	58	-	-	67	-	-	91
HCM Lane V/C Ratio	0.519	0.012	-	-	0.028	-	-	23.19
HCM Ctrl Dly (s/v)	31.2	10	0	-	7.8	0	-	$ 10071.4
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	2.8	0	-	-	0.1	-	-	254.4

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	136	5	2	1645	5	11
Future Vol, veh/h	136	5	2	1645	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	197	7	3	2384	7	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1225	1195	0	0	2387	0
Stage 1	1195	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	199	229	-	-	205	-
Stage 1	290	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 192	229	-	-	205	-
Mov Cap-2 Maneuver	~ 192	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	131.5	0	7.25
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	193	203	-
HCM Lane V/C Ratio	-	-	1.057	0.035	-
HCM Ctrl Dly (s/v)	-	-	131.5	23.2	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	9.5	0.1	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰↑	
Traffic Vol, veh/h	17	58	66	1630	142	5
Future Vol, veh/h	17	58	66	1630	142	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	62	62	62	62	62	62
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	94	106	2629	229	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	106	0	-	0	1569	1421
Stage 1	-	-	-	-	1421	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1497	-	-	-	~ 123	169
Stage 1	-	-	-	-	~ 225	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1497	-	-	-	~ 121	169
Mov Cap-2 Maneuver	-	-	-	-	~ 121	-
Stage 1	-	-	-	-	~ 221	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.69	0	$ 513.11
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	408	-	-	-	122
HCM Lane V/C Ratio	0.018	-	-	-	1.944
HCM Ctrl Dly (s/v)	7.4	0	-	-	$ 513.1
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	19.1

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	110.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	121	77	61	1673	63	12	71	66	1024	3	11
Future Vol, veh/h	2	121	77	61	1673	63	12	71	66	1024	3	11
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	159	101	80	2201	83	16	93	87	1347	4	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2284	0	0	261	0	0	2579	2660	210	2614	2669	2243
Stage 1	-	-	-	-	-	-	215	215	-	2403	2403	-
Stage 2	-	-	-	-	-	-	2364	2445	-	211	266	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	225	-	-	1316	-	-	17	~ 23	835	~ 16	23	54
Stage 1	-	-	-	-	-	-	792	728	-	~ 45	66	-
Stage 2	-	-	-	-	-	-	48	~ 62	-	~ 796	693	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	225	-	-	1316	-	-	~ 10	~ 23	835	-	22	54
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 10	~ 23	-	-	22	-
Stage 1	-	-	-	-	-	-	781	718	-	~ 45	66	-
Stage 2	-	-	-	-	-	-	33	~ 62	-	~ 612	683	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.21	0.27	$ 2365.4	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	17	-	-	~ 61	-	-	-
HCM Lane V/C Ratio	5.742	0.012	-	-	0.061	-	-	-
HCM Ctrl Dly (s/v)	$ 2365.4	21.2	0	-	7.9	0	-	-
HCM Lane LOS	F	C	A	-	A	A	-	-
HCM 95th %tile Q(veh)	23.4	0	-	-	0.2	-	-	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

APPENDIX 3: HORIZON YEAR (2050) WITH PROJECT INTERSECTION OPERATIONS AND QUEUING WORKSHEETS

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	204	5	5	719	5	5
Future Vol, veh/h	204	5	5	719	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	283	7	7	999	7	7

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	527	506	0	0	1006	0
Stage 1	506	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	515	570	-	-	697	-
Stage 1	609	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	510	570	-	-	697	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	20.9	0	5.11
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	511	694	-
HCM Lane V/C Ratio	-	-	0.568	0.01	-
HCM Ctrl Dly (s/v)	-	-	20.9	10.2	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	3.5	0	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	40	40	719	202	7
Future Vol, veh/h	5	40	40	719	202	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	63	63	1141	321	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1205	0	-	0	713	634
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	586	-	-	-	401	483
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	586	-	-	-	396	483
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.25	0	45.86
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	200	-	-	-	398
HCM Lane V/C Ratio	0.014	-	-	-	0.834
HCM Ctrl Dly (s/v)	11.2	0	-	-	45.9
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	7.8

Intersection	
Int Delay, s/veh	10136.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	141	94	30	732	72	2	55	58	1739	9	26
Future Vol, veh/h	7	141	94	30	732	72	2	55	58	1739	9	26
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	181	121	38	938	92	3	71	74	2229	12	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1031	0	0	301	0	0	1280	1367	241	1296	1381	985
Stage 1	-	-	-	-	-	-	259	259	-	1062	1062	-
Stage 2	-	-	-	-	-	-	1021	1108	-	234	319	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	682	-	-	1271	-	-	144	148	803	~ 141	146	304
Stage 1	-	-	-	-	-	-	750	697	-	~ 273	303	-
Stage 2	-	-	-	-	-	-	288	288	-	~ 774	656	-
Platoon blocked, %	1	2	1	2	2	2	1	2	2	2	1	1
Mov Cap-1 Maneuver	682	-	-	1271	-	-	108	135	803	~ 58	133	304
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	135	-	~ 58	133	-
Stage 1	-	-	-	-	-	-	738	686	-	~ 253	281	-
Stage 2	-	-	-	-	-	-	228	267	-	~ 620	646	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.3	0.28	44.4	$ 16937.99
HCM LOS			E	F

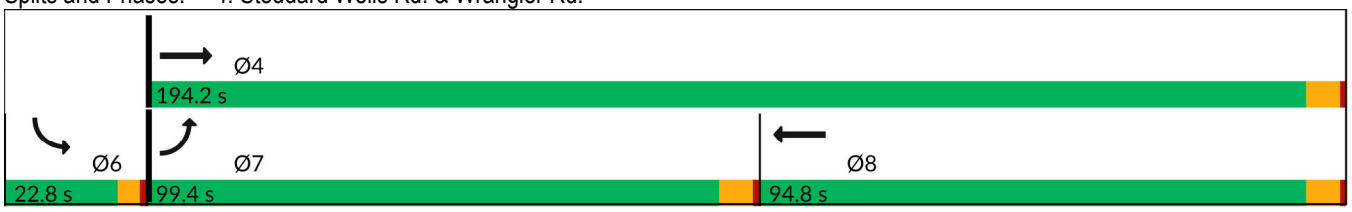
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	231	48	-	-	64	-	-	59
HCM Lane V/C Ratio	0.637	0.013	-	-	0.03	-	-	38.356
HCM Ctrl Dly (s/v)	44.4	10.4	0	-	7.9	0	-	$ 16938
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	3.9	0	-	-	0.1	-	-	279.9

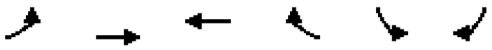
Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	541	1755	789	6
Future Volume (vph)	541	1755	789	6
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	24.5	24.5	24.5	22.5
Total Split (s)	99.4	194.2	94.8	22.8
Total Split (%)	45.8%	89.5%	43.7%	10.5%
Yellow Time (s)	5.5	5.5	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	4.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	None
Act Effct Green (s)	76.8	187.8	104.5	8.0
Actuated g/C Ratio	0.37	0.91	0.51	0.04
v/c Ratio	0.93	1.11	0.45	0.78
Control Delay (s/veh)	83.3	69.8	35.7	36.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	83.3	69.8	35.7	36.0
LOS	F	E	D	D
Approach Delay (s/veh)		73.0	35.7	36.0
Approach LOS		E	D	D

Intersection Summary	
Cycle Length: 217	
Actuated Cycle Length: 206.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay (s/veh): 62.0	Intersection LOS: E
Intersection Capacity Utilization 111.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Stoddard Wells Rd. & Wrangler Rd.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	541	1755	789	5	6	159
Future Volume (veh/h)	541	1755	789	5	6	159
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	588	1908	858	5	7	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	602	1694	1922	11	8	82
Arrive On Green	0.53	1.00	0.76	0.51	0.06	0.08
Sat Flow, veh/h	1714	1900	3774	22	146	1462
Grp Volume(v), veh/h	588	1908	432	431	78	0
Grp Sat Flow(s),veh/h/ln	1714	1900	1900	1896	1629	0
Q Serve(g_s), s	70.2	0.0	17.1	17.3	9.9	0.0
Cycle Q Clear(g_c), s	70.2	0.0	17.1	17.3	9.9	0.0
Prop In Lane	1.00			0.01	0.09	0.90
Lane Grp Cap(c), veh/h	602	1694	968	966	91	0
V/C Ratio(X)	0.98	1.13	0.45	0.45	0.85	0.00
Avail Cap(c_a), veh/h	757	1696	968	966	142	0
HCM Platoon Ratio	1.50	1.50	1.50	1.00	1.00	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.8	0.0	14.2	14.4	95.7	0.0
Incr Delay (d2), s/veh	24.3	65.1	0.3	0.3	15.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.0	30.6	5.9	6.0	4.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	73.1	65.1	14.5	14.7	111.7	0.0
LnGrp LOS	E	F	B	B	F	
Approach Vol, veh/h		2496	863		78	
Approach Delay, s/veh		67.0	14.6		111.7	
Approach LOS		E	B		F	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			182.5		16.3	80.5	102.1
Change Period (Y+Rc), s			6.5		4.5	6.5	6.5
Max Green Setting (Gmax), s			187.7		18.3	92.9	88.3
Max Q Clear Time (g_c+I1), s			2.0		11.9	72.2	19.3
Green Ext Time (p_c), s			162.6		0.0	1.8	5.7

Intersection Summary	
HCM 7th Control Delay, s/veh	54.9
HCM 7th LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑↱			↱
Traffic Vol, veh/h	0	1761	1238	3	0	20
Future Vol, veh/h	0	1761	1238	3	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1914	1346	3	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	674
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	402
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	402
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	14.48
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	402
HCM Lane V/C Ratio	-	-	-	0.054
HCM Ctrl Dly (s/v)	-	-	-	14.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	21.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	157	5	2	1768	5	11
Future Vol, veh/h	157	5	2	1768	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	228	7	3	2562	7	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1314	1284	0	0	2565	0
Stage 1	1284	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 176	203	-	-	175	-
Stage 1	262	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 169	203	-	-	175	-
Mov Cap-2 Maneuver	~ 169	-	-	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	256.62	0	8.29
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	170	173	-
HCM Lane V/C Ratio	-	-	1.384	0.042	-
HCM Ctrl Dly (s/v)	-	-	256.6	26.5	0
HCM Lane LOS	-	-	F	D	A
HCM 95th %tile Q(veh)	-	-	14.3	0.1	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	92.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	59	67	1753	163	5
Future Vol, veh/h	17	59	67	1753	163	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	62	62	62	62	62	62
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	95	108	2827	263	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2935	0	-	0	1672	1522
Stage 1	-	-	-	-	1522	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	124	-	-	-	~ 107	147
Stage 1	-	-	-	-	~ 201	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	124	-	-	-	~ 82	147
Mov Cap-2 Maneuver	-	-	-	-	~ 82	-
Stage 1	-	-	-	-	~ 154	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	9.38	0	$ 1129.16
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	118	-	-	-	83
HCM Lane V/C Ratio	0.22	-	-	-	3.27
HCM Ctrl Dly (s/v)	41.9	0	-	-	$ 1129.2
HCM Lane LOS	E	A	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	27.2

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	167.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	143	77	64	1798	103	12	71	67	1092	3	11
Future Vol, veh/h	2	143	77	64	1798	103	12	71	67	1092	3	11
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	188	101	84	2366	136	16	93	88	1437	4	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2501	0	0	289	0	0	2780	2914	239	2842	2897	2434
Stage 1	-	-	-	-	-	-	244	244	-	2602	2602	-
Stage 2	-	-	-	-	-	-	2536	2670	-	240	295	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	185	-	-	1284	-	-	~ 12	~ 16	805	~ 11	16	41
Stage 1	-	-	-	-	-	-	764	708	-	~ 34	52	-
Stage 2	-	-	-	-	-	-	38	~ 48	-	~ 768	673	-
Platoon blocked, %		2	-	2	2	2	2	2		2		
Mov Cap-1 Maneuver	185	-	-	1284	-	-	~ 6	~ 15	805	-	16	41
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 6	~ 15	-	-	16	-
Stage 1	-	-	-	-	-	-	751	696	-	~ 34	52	-
Stage 2	-	-	-	-	-	-	23	~ 48	-	~ 582	661	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.22	0.26	$ 3846.77	
HCM LOS			F	-

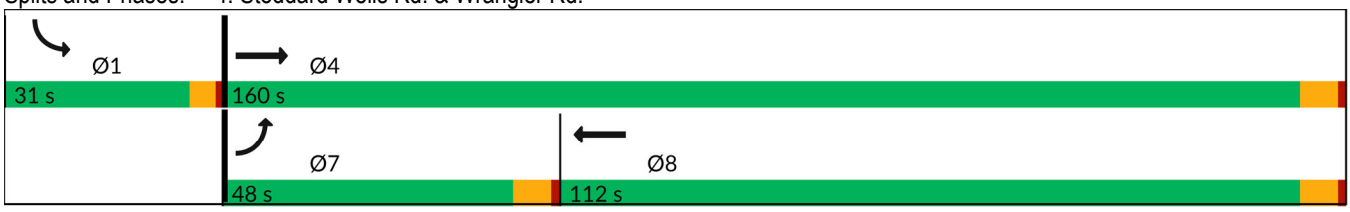
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	22	15	-	-	~ 58	-	-	-
HCM Lane V/C Ratio	8.797	0.014	-	-	0.066	-	-	-
HCM Ctrl Dly (s/v)	$ 3846.8	24.7	0	-	8	0	-	-
HCM Lane LOS	F	C	A	-	A	A	-	-
HCM 95th %tile Q(veh)	24.8	0	-	-	0.2	-	-	-

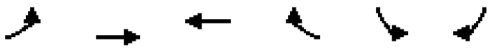
Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	324	1193	1837	12
Future Volume (vph)	324	1193	1837	12
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	1
Permitted Phases				
Detector Phase	7	4	8	1
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	24.5	24.5	24.5	9.5
Total Split (s)	48.0	160.0	112.0	31.0
Total Split (%)	25.1%	83.8%	58.6%	16.2%
Yellow Time (s)	5.5	5.5	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	4.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	None
Act Effct Green (s)	39.8	152.1	105.8	14.4
Actuated g/C Ratio	0.22	0.86	0.60	0.08
v/c Ratio	0.92	0.80	0.93	0.92
Control Delay (s/veh)	96.7	12.2	42.4	44.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	96.7	12.2	42.4	44.0
LOS	F	B	D	D
Approach Delay (s/veh)		30.3	42.4	44.0
Approach LOS		C	D	D

Intersection Summary	
Cycle Length: 191	
Actuated Cycle Length: 177.6	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay (s/veh): 37.6	Intersection LOS: D
Intersection Capacity Utilization 106.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: Stoddard Wells Rd. & Wrangler Rd.





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	324	1193	1837	5	12	343
Future Volume (veh/h)	324	1193	1837	5	12	343
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	352	1297	1997	5	13	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	368	1540	2071	5	14	197
Arrive On Green	0.21	0.81	0.56	0.56	0.13	0.13
Sat Flow, veh/h	1714	1900	3789	9	108	1507
Grp Volume(v), veh/h	352	1297	975	1027	196	0
Grp Sat Flow(s),veh/h/ln	1714	1900	1805	1898	1623	0
Q Serve(g_s), s	37.8	75.9	96.1	96.3	22.2	0.0
Cycle Q Clear(g_c), s	37.8	75.9	96.1	96.3	22.2	0.0
Prop In Lane	1.00			0.00	0.07	0.93
Lane Grp Cap(c), veh/h	368	1540	1012	1064	212	0
V/C Ratio(X)	0.96	0.84	0.96	0.96	0.92	0.00
Avail Cap(c_a), veh/h	382	1567	1023	1076	231	0
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	72.2	10.5	39.1	39.1	80.0	0.0
Incr Delay (d2), s/veh	34.2	4.3	19.8	19.3	36.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	27.5	46.2	48.5	11.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	106.4	14.8	58.9	58.5	116.3	0.0
LnGrp LOS	F	B	E	E	F	
Approach Vol, veh/h		1649	2002		196	
Approach Delay, s/veh		34.4	58.7		116.3	
Approach LOS		C	E		F	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	157.3	28.8	46.5	110.9
Change Period (Y+Rc), s	6.5	4.5	6.5	6.5
Max Green Setting (Gmax), s	153.5	26.5	41.5	105.5
Max Q Clear Time (g_c+I1), s	77.9	24.2	39.8	98.3
Green Ext Time (p_c), s	20.0	0.1	0.2	6.0

Intersection Summary	
HCM 7th Control Delay, s/veh	51.2
HCM 7th LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑↱			↱
Traffic Vol, veh/h	0	1205	2244	2	0	38
Future Vol, veh/h	0	1205	2244	2	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1310	2439	2	0	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1221
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	181
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	181
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	30.73
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	181
HCM Lane V/C Ratio	-	-	-	0.229
HCM Ctrl Dly (s/v)	-	-	-	30.7
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	0.8

APPENDIX 4: HORIZON YEAR (2050) WITH PROJECT INTERSECTION OPERATIONS WORKSHEETS WITH IMPROVEMENTS

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	204	5	5	719	5	5
Future Vol, veh/h	204	5	5	719	5	5
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	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	283	7	7	999	7	7

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	7	0	0	1006	0
Stage 1	7	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	992	1081	-	-	697	-
Stage 1	1021	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	982	1081	-	-	697	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.18	0	5.11
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	985	694	-
HCM Lane V/C Ratio	-	-	0.295	0.01	-
HCM Ctrl Dly (s/v)	-	-	10.2	10.2	0
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	40	40	719	202	7
Future Vol, veh/h	5	40	40	719	202	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	63	63	1141	321	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1205	0	-	0	143	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	586	-	-	-	855	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	586	-	-	-	843	1007
Mov Cap-2 Maneuver	-	-	-	-	843	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	949	-

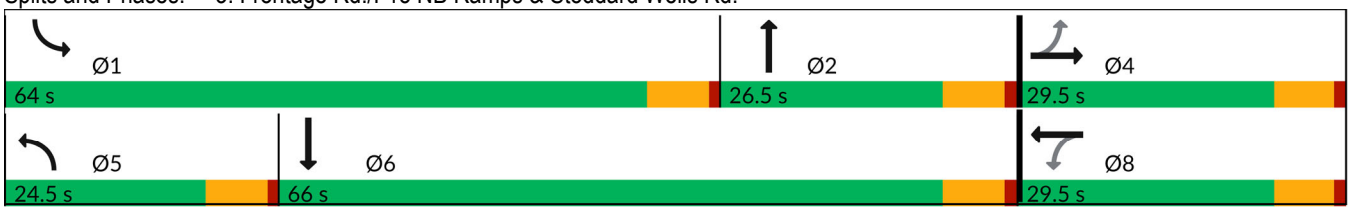
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.25	0	11.96
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	200	-	-	-	847
HCM Lane V/C Ratio	0.014	-	-	-	0.392
HCM Ctrl Dly (s/v)	11.2	0	-	-	12
HCM Lane LOS	B	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.9

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	7	141	30	732	2	55	1739	9
Future Volume (vph)	7	141	30	732	2	55	1739	9
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	29.5	29.5	29.5	29.5	24.5	26.5	64.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	20.4%	22.1%	53.3%	55.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	23.0	23.0	23.0	23.0	10.0	11.6	57.5	33.3
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.09	0.10	0.51	0.30
v/c Ratio	0.13	0.62	0.23	1.05	0.01	0.54	1.04	0.07
Control Delay (s/veh)	42.9	44.0	42.6	88.8	48.0	41.5	59.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.9	44.0	42.6	88.8	48.0	41.5	59.4	10.7
LOS	D	D	D	F	D	D	E	B
Approach Delay (s/veh)		44.0		87.2		41.7		58.5
Approach LOS		D		F		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay (s/veh): 64.7	Intersection LOS: E
Intersection Capacity Utilization 96.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Frontage Rd./I-15 NB Ramps & Stoddard Wells Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	141	94	30	732	72	2	55	58	1739	9	26
Future Volume (veh/h)	7	141	94	30	732	72	2	55	58	1739	9	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.04	1.04	1.04	1.04	1.04
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	1800	1976	1976	1800	1976	1976	1900	1976	1976	1872	1976	1976
Adj Flow Rate, veh/h	8	153	64	33	796	40	2	60	33	1890	10	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	278	116	194	784	39	10	103	57	1874	432	649
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.01	0.13	0.13	0.79	0.91	0.61
Sat Flow, veh/h	632	1323	553	1120	3731	187	1810	1198	659	3566	713	1070
Grp Volume(v), veh/h	8	0	217	33	422	414	2	0	93	1890	0	25
Grp Sat Flow(s),veh/h/ln	632	0	1876	1120	1976	1942	1810	0	1857	1783	0	1783
Q Serve(g_s), s	0.0	0.0	10.5	2.8	23.0	23.0	0.1	0.0	5.2	57.5	0.0	0.4
Cycle Q Clear(g_c), s	23.0	0.0	10.5	13.3	23.0	23.0	0.1	0.0	5.2	57.5	0.0	0.4
Prop In Lane	1.00		0.29	1.00		0.10	1.00		0.35	1.00		0.60
Lane Grp Cap(c), veh/h	66	0	394	194	415	408	10	0	160	1874	0	1081
V/C Ratio(X)	0.12	0.00	0.55	0.17	1.01	1.02	0.21	0.00	0.58	1.01	0.00	0.02
Avail Cap(c_a), veh/h	66	0	394	194	415	408	298	0	340	1874	0	1081
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	33.2	38.7	37.5	37.5	54.0	0.0	45.8	11.6	0.0	5.9
Incr Delay (d2), s/veh	0.8	0.0	1.6	0.4	47.9	48.4	10.0	0.0	3.3	22.9	0.0	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(50%),veh/ln	0.2	0.0	4.5	0.7	14.9	14.7	0.1	0.0	2.5	15.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	0.0	34.8	39.1	85.4	85.9	64.0	0.0	49.1	34.5	0.0	5.9
LnGrp LOS	D		C	D	F	F	E		D	F		A
Approach Vol, veh/h		225			869			95			1915	
Approach Delay, s/veh		35.3			83.8			49.4			34.1	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	64.0	15.9		29.5	7.1	72.8		29.5				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	57.5	20.0		23.0	18.0	59.5		23.0				
Max Q Clear Time (g_c+I1), s	59.5	7.2		25.0	2.1	2.4		25.0				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	0.1		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		48.6	
HCM 7th LOS		D	

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	157	5	2	1768	5	11
Future Vol, veh/h	157	5	2	1768	5	11
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	228	7	3	2562	7	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	33	3	0	0	2565	0
Stage 1	3	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	985	1087	-	-	175	-
Stage 1	1026	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	944	1087	-	-	175	-
Mov Cap-2 Maneuver	944	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.04	0	8.29
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	948	173	-
HCM Lane V/C Ratio	-	-	0.248	0.042	-
HCM Ctrl Dly (s/v)	-	-	10	26.5	0
HCM Lane LOS	-	-	B	D	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	59	67	1753	163	5
Future Vol, veh/h	17	59	67	1753	163	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	62	62	62	62	62	62
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	95	108	2827	263	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2935	0	-	0	258	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	3.8	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	159	-	-	-	735	951
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	159	-	-	-	601	951
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	883	-

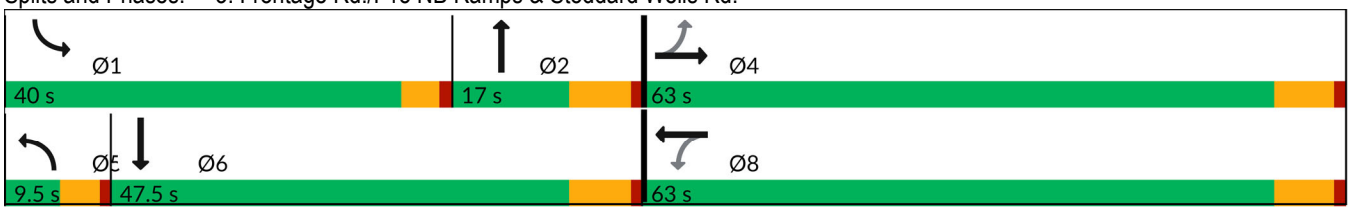
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	7.23	0	15.6
HCM LOS			C

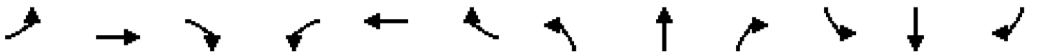
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	150	-	-	-	608
HCM Lane V/C Ratio	0.173	-	-	-	0.446
HCM Ctrl Dly (s/v)	32.3	0	-	-	15.6
HCM Lane LOS	D	A	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	2.3

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	2	143	64	1798	12	71	1092	3
Future Volume (vph)	2	143	64	1798	12	71	1092	3
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	24.5	24.5	24.5	24.5	9.5	16.5	9.5	16.5
Total Split (s)	63.0	63.0	63.0	63.0	9.5	17.0	40.0	47.5
Total Split (%)	52.5%	52.5%	52.5%	52.5%	7.9%	14.2%	33.3%	39.6%
Yellow Time (s)	5.5	5.5	5.5	5.5	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	4.5	6.5	4.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	56.5	56.5	56.5	56.5	5.0	10.4	35.5	24.3
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.04	0.09	0.30	0.20
v/c Ratio	0.03	0.25	0.14	1.08	0.16	0.74	1.02	0.04
Control Delay (s/veh)	19.0	17.2	18.9	77.3	60.3	63.8	73.8	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.0	17.2	18.9	77.3	60.3	63.8	73.8	14.2
LOS	B	B	B	E	E	E	E	B
Approach Delay (s/veh)		17.2		75.4		63.5		73.1
Approach LOS		B		E		E		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay (s/veh): 70.4	Intersection LOS: E
Intersection Capacity Utilization 107.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Frontage Rd./I-15 NB Ramps & Stoddard Wells Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	143	77	64	1798	103	12	71	67	1092	3	11
Future Volume (veh/h)	2	143	77	64	1798	103	12	71	67	1092	3	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.04	1.00	1.04	1.04	1.04
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	1900	1976	1976	1900	1976	1976	1900	1976	1900	1976	1976	1976
Adj Flow Rate, veh/h	2	155	84	70	1954	36	13	77	40	1187	3	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	571	309	649	1832	34	27	101	52	1120	280	374
Arrive On Green	0.71	0.71	0.71	0.71	0.95	0.71	0.02	0.12	0.12	0.60	0.55	0.55
Sat Flow, veh/h	262	1205	653	1377	3868	71	1810	1225	636	3764	768	1024
Grp Volume(v), veh/h	2	0	239	70	995	995	13	0	117	1187	0	7
Grp Sat Flow(s),veh/h/ln	262	0	1858	1377	1976	1963	1810	0	1861	1882	0	1792
Q Serve(g_s), s	0.0	0.0	5.5	2.4	56.5	56.5	0.8	0.0	7.3	35.5	0.0	0.2
Cycle Q Clear(g_c), s	56.5	0.0	5.5	7.9	56.5	56.5	0.8	0.0	7.3	35.5	0.0	0.2
Prop In Lane	1.00		0.35	1.00		0.04	1.00		0.34	1.00		0.57
Lane Grp Cap(c), veh/h	60	0	880	649	936	930	27	0	153	1120	0	654
V/C Ratio(X)	0.03	0.00	0.27	0.11	1.06	1.07	0.49	0.00	0.77	1.06	0.00	0.01
Avail Cap(c_a), veh/h	60	0	880	649	936	930	76	0	164	1120	0	654
HCM Platoon Ratio	1.50	1.50	1.50	1.50	2.00	1.50	1.50	1.50	1.50	2.00	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	0.0	9.9	11.3	3.1	3.7	57.9	0.0	51.2	24.1	0.0	17.2
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.1	47.7	50.1	13.3	0.0	18.1	44.2	0.0	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(50%),veh/ln	0.1	0.0	2.0	0.6	13.8	14.5	0.5	0.0	4.0	17.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	0.0	10.1	11.4	50.9	53.8	71.2	0.0	69.3	68.4	0.0	17.2
LnGrp LOS	D		B	B	F	F	E		E	F		B
Approach Vol, veh/h		241			2060			130			1194	
Approach Delay, s/veh		10.3			50.9			69.5			68.1	
Approach LOS		B			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.0	16.3		63.0	6.2	50.0		63.0				
Change Period (Y+Rc), s	4.5	6.5		6.5	4.5	6.5		6.5				
Max Green Setting (Gmax), s	35.5	10.5		56.5	5.0	41.0		56.5				
Max Q Clear Time (g_c+I1), s	37.5	9.3		58.5	2.8	2.2		58.5				
Green Ext Time (p_c), s	0.0	0.1		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			54.5									
HCM 7th LOS			D									

APPENDIX 5: HORIZON YEAR (2050) WITH PROJECT QUEUING WORKSHEETS WITH IMPROVEMENTS

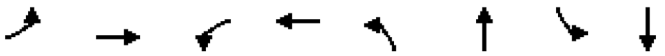
Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	204	5	5	719	5	5
Future Vol, veh/h	204	5	5	719	5	5
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	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	283	7	7	999	7	7

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	7	0	0	1006	0
Stage 1	7	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	992	1081	-	-	697	-
Stage 1	1021	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	982	1081	-	-	697	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.18	0	5.11
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	985	694	-
HCM Lane V/C Ratio	-	-	0.295	0.01	-
HCM Ctrl Dly (s/v)	-	-	10.2	10.2	0
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	255	33	874	2	123	1890	38
v/c Ratio	0.13	0.62	0.23	1.05	0.01	0.54	1.04	0.07
Control Delay (s/veh)	42.9	44.0	42.6	88.8	48.0	41.5	59.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.9	44.0	42.6	88.8	48.0	41.5	59.4	10.7
Queue Length 50th (ft)	5	149	20	~333	1	58	~717	2
Queue Length 95th (ft)	21	249	52	#488	10	119	#914	19
Internal Link Dist (ft)		809		1992		899		1124
Turn Bay Length (ft)	100		150					
Base Capacity (vph)	64	412	144	830	291	366	1820	1032
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.62	0.23	1.05	0.01	0.34	1.04	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

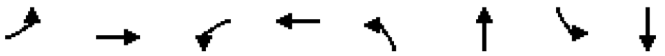
Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	157	5	2	1768	5	11
Future Vol, veh/h	157	5	2	1768	5	11
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	228	7	3	2562	7	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	33	3	0	0	2565	0
Stage 1	3	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	985	1087	-	-	175	-
Stage 1	1026	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	944	1087	-	-	175	-
Mov Cap-2 Maneuver	944	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.04	0	8.29
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	948	173	-
HCM Lane V/C Ratio	-	-	0.248	0.042	-
HCM Ctrl Dly (s/v)	-	-	10	26.5	0
HCM Lane LOS	-	-	B	D	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	239	70	2066	13	150	1187	15
v/c Ratio	0.03	0.25	0.14	1.08	0.16	0.74	1.02	0.04
Control Delay (s/veh)	19.0	17.2	18.9	77.3	60.3	63.8	73.8	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.0	17.2	18.9	77.3	60.3	63.8	73.8	14.2
Queue Length 50th (ft)	1	93	30	~895	10	91	~488	2
Queue Length 95th (ft)	6	147	59	#1028	32	#189	#617	17
Internal Link Dist (ft)		809		1997		899		1124
Turn Bay Length (ft)	100		150					
Base Capacity (vph)	63	971	514	1913	79	205	1162	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.25	0.14	1.08	0.16	0.73	1.02	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.