

The Fruita Mews Subdivision

LEVEL 2 TRAFFIC IMPACT STUDY

Project Location: 1138 18 ½ Rd
Fruita, CO

Project Access: K 4/10 Rd

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The Fruita Mews Subdivision, Fruita CO
Level 2 Traffic Impact Study

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1. Introduction

APEX Consulting Engineers, LLC prepared this Level 2 Traffic Impact Study (Study) for the proposed Mews Subdivision (Project), located at 1138 18 1/2 Road, Fruita, CO, accessing K 4/10 Road on the north and south side of the roadway. The Project will construct 50 low-rise multifamily homes. The following sections describe the Project, traffic volumes, auxiliary turn lane assessments, access spacing, and sight distance evaluation for this intersection.

2. Project Location and Description

As shown in Figure 1, the proposed Project will be located on the north side of K 4/10 Road in the northeastern area of Fruita, CO. The Project is expected to be completed no later than 2023.

Figure 1 - Site Location Map

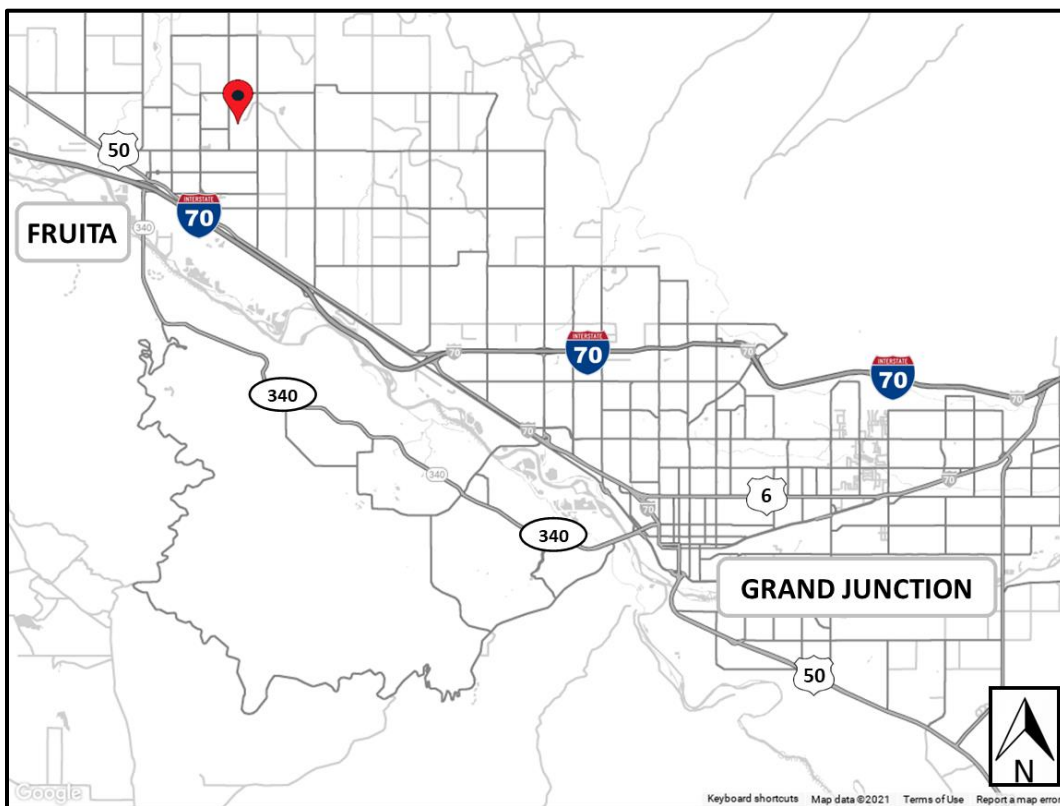
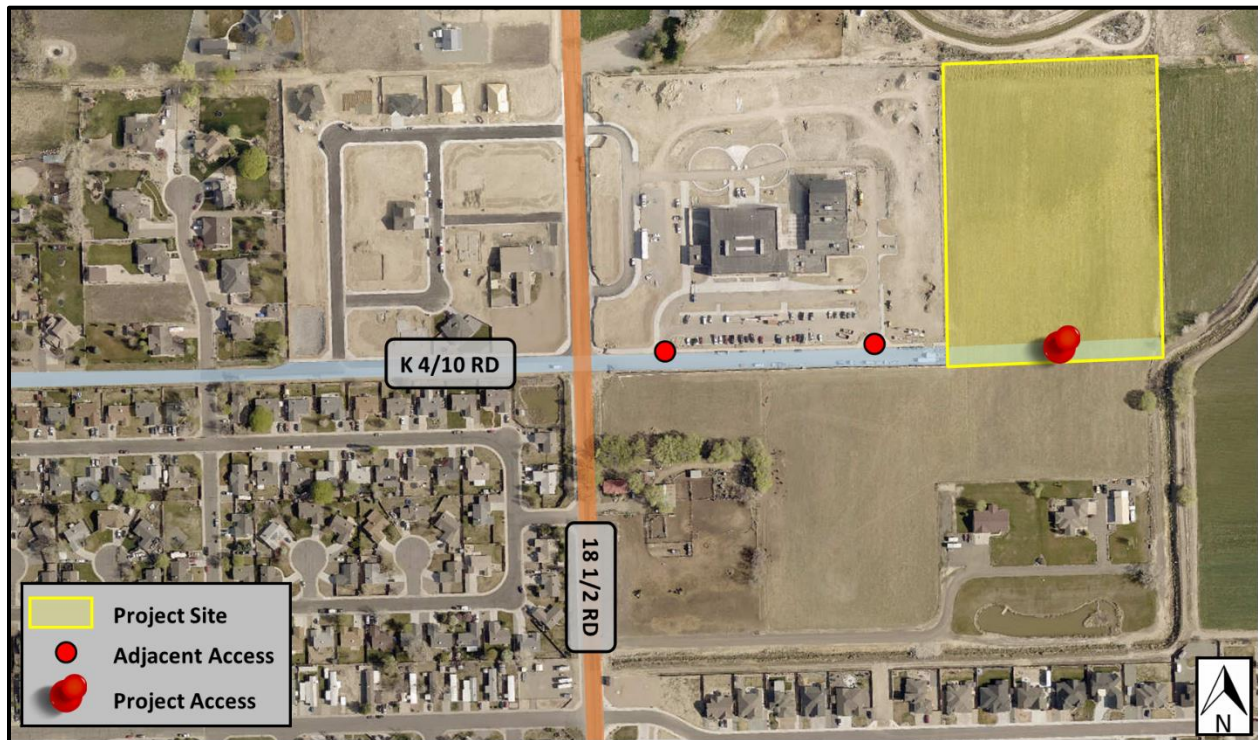


Figure 2 shows the adjacent access points in relation to the project access.

Figure 2 – Project Site Access Locations and Adjacent Access Points



3. Trip Generation & Distribution

3.1 Trip Generation

Land Use Code 220, Residential (Low-Rise Multifamily Housing), from the ITE Trip Generation Manual 10th Edition, was used in trip generation calculations. In all peak hour cases, the higher of “either peak hour of roadway” or “peak hour of generator” is used, providing a conservative assessment. In this case, peak hour of generator is used. Trip generation traffic calculations from the ITETripGen Web-based App are attached in Appendix A. Table 1 provides the Project peak hour traffic in vehicles per hour (VPH).

Table 1 – Project Peak Hour Traffic Volumes (VPH)

Period	AM	PM
Entry	8	20
Exit	22	14
TOTAL	30	34

Trips generated from the Fruita Elementary School Traffic Impact Study prepared by Kimley Horn will be added to the study intersections as counts were performed outside of the regular school session. The original study’s trip generation for the elementary school is attached in Appendix B.



4. Trip Distribution & Assignment

4.1 Determination of Trip Distribution

Traffic counts at K Road and 18 1/2 Road (Intersection 2) are used to determine general Project trip distribution at K 4/10 Road and 18 1/2 Road (Intersection 1). All Project traffic is assumed to travel south or west at Intersection 1 as services are not located north of the subdivision.

The existing trip distribution to/from the east at Intersection 2 are used for the to/from the south distribution at Intersection 1.

The existing trip distribution to/from the west at Intersection 2 are used for the to/from the west distribution at Intersection 1.

The distribution at intersection 1 is listed below.

- 0% to/from the north in the AM.
- 57% to/from the west in the AM
- 43% to/from the south in the AM

and

- 0% to/from the north in the PM.
- 38% to/from the west in the PM
- 62% to/from the south in the PM

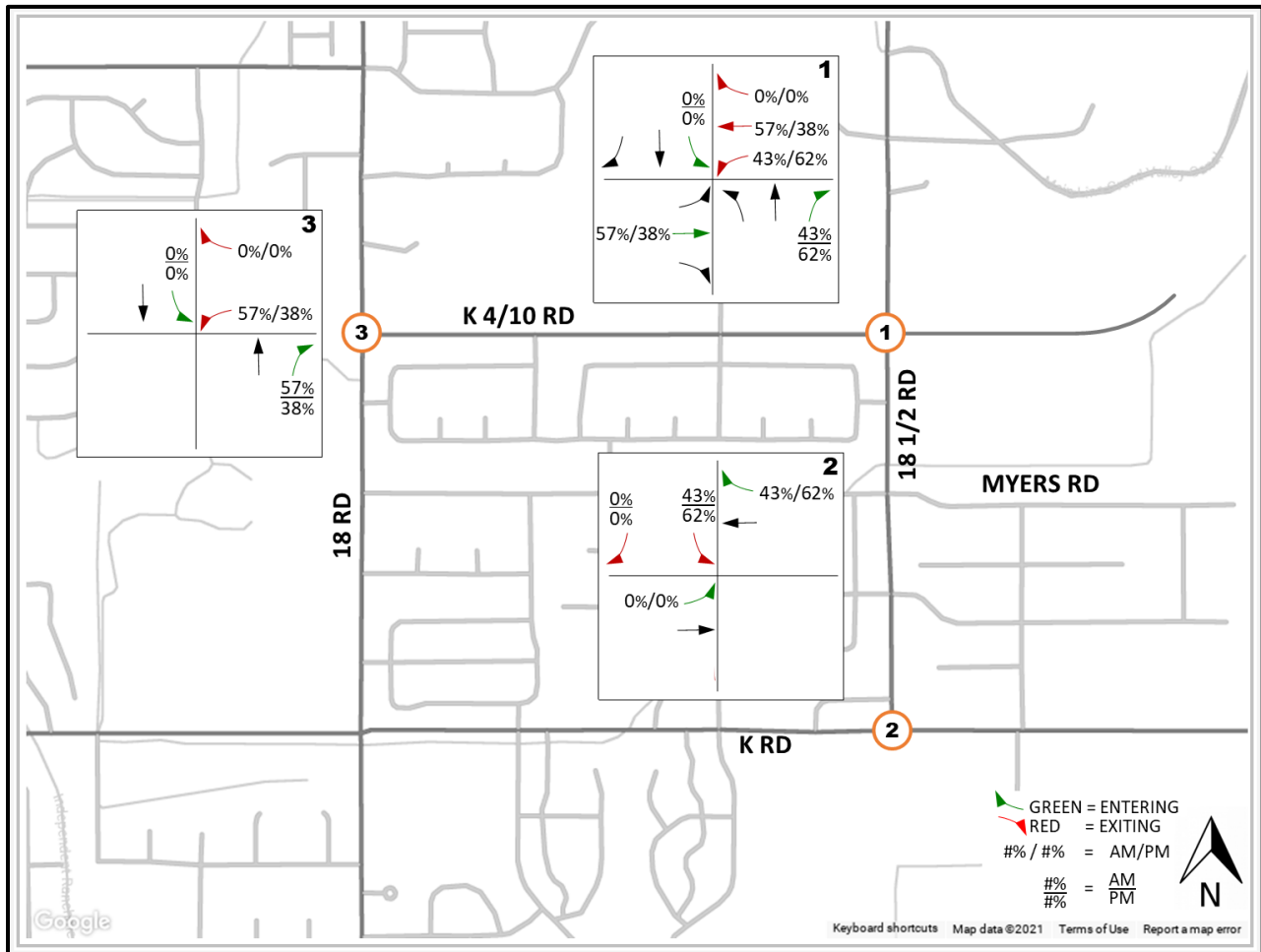
All Project traffic routed through Intersection 2 is assumed to travel to/from the east.

All Project traffic routed through Intersection 3 (18 Rd & K 4/10 Rd) is assumed to travel to/from the south.

The detailed Project trip distribution is shown in Figure 3.



Figure 3 – Project Trip Distribution

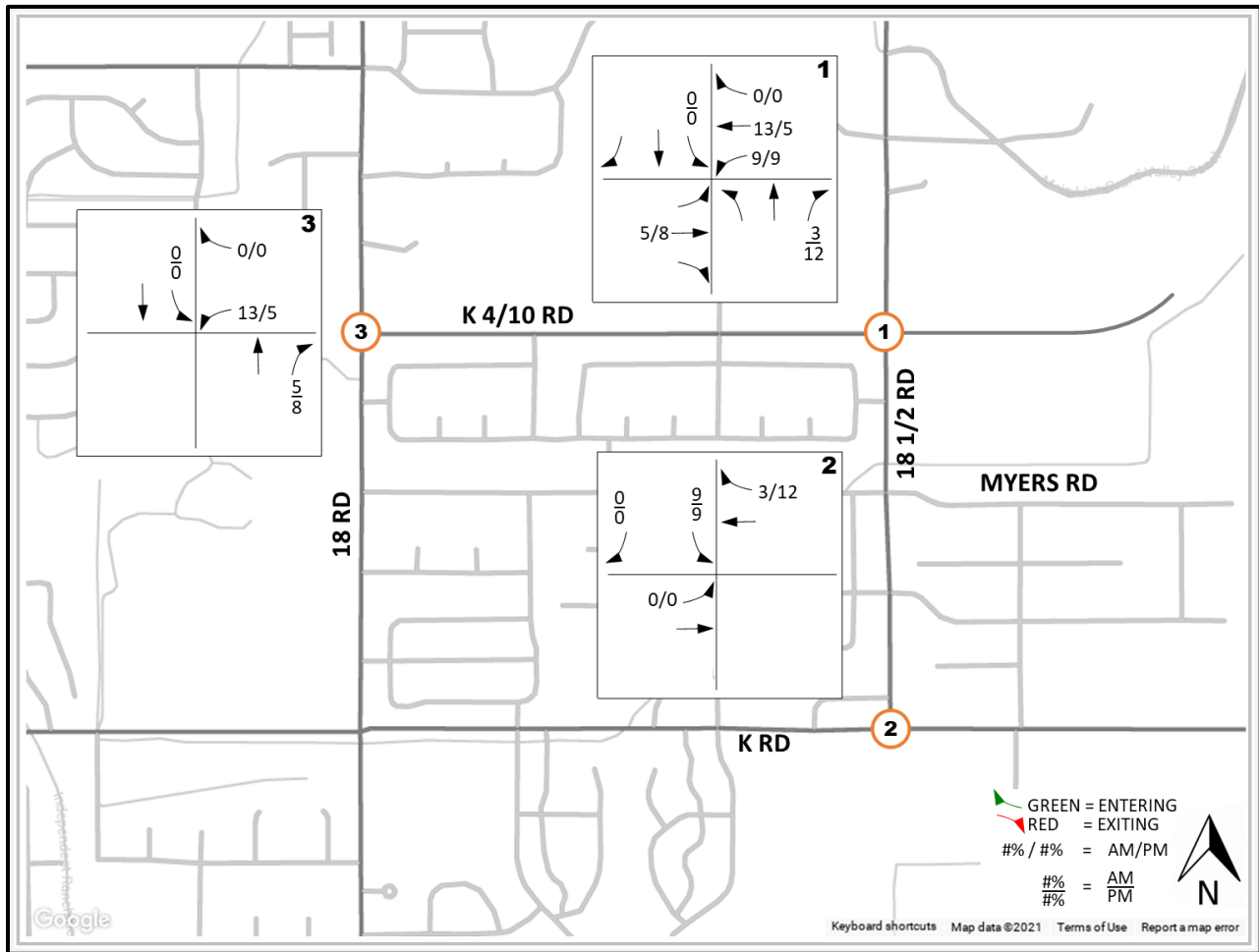


4.2 Assignment of Project Traffic

Project traffic determined from the trip generation calculation is assigned to the existing traffic network using the distributions from Figure 3. The resulting Project trip assignment is shown in Figure 4.



Figure 4 – Project Trip Assignment



5. Existing & Future Traffic Volumes

Peak hour intersection turning movement counts were conducted at the following intersections.

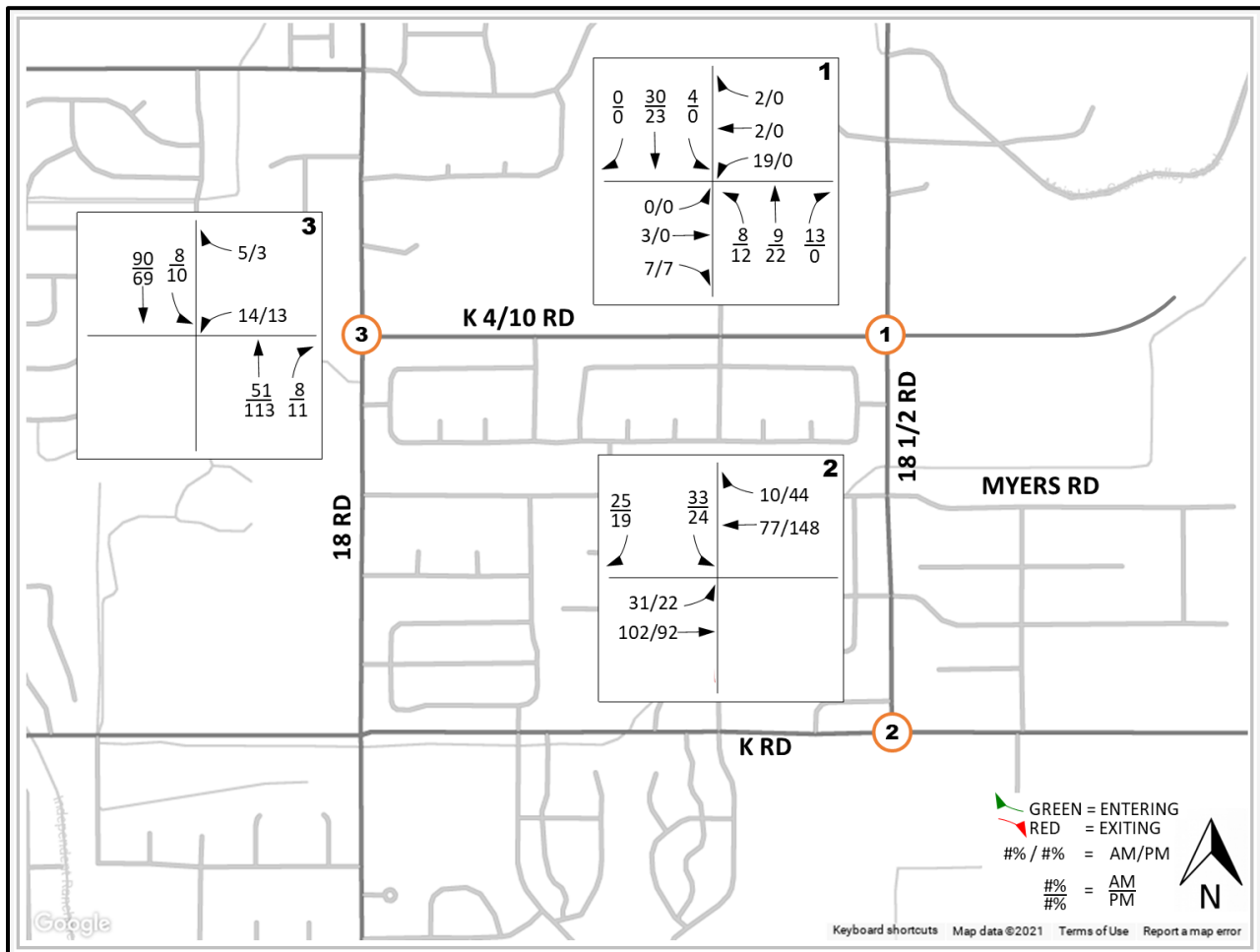
- K 4/10 Road & 18 1/2 Road (**Intersection 1** / June 15, 2021)
- K Road & 18 1/2 Road (**Intersection 2** / June 15, 2021)
- K 4/10 Road & 18 Road (**Intersection 3** / June 15, 2021)

Peak seasonal adjustment was not included since the roadways are in a mixed rural and residential area, lacking direct access to areas with seasonal activities.

The existing peak hour traffic is represented in Figure 5. Count summaries are included in Appendix C.



Figure 5 – Existing Peak Hour Traffic
(From counts 6/15/2021)



6. Study Years Traffic Volumes

Future background traffic is determined in this section.

The study years are 2023 and 2043. The Grand Valley Metropolitan Planning Organization (GVMPO) provided traffic volumes from the Regional Travel Demand Model (RTDM), base 2018 + future 2045, and are the basis for the following growth factors. Note that the study model period uses 2019 instead of 2018 as directed by the GVMPO.



Table 2 – Road Segment Growth

Road	Segment	ADT		Period Growth Factor	Avg. Annual Growth Rate	2 - year growth factor (2021-2023)	22 - year growth factor (2021-2043)
		2019	2045				
18 Road	Both Sides	1,553	3,158	2.033	2.77	1.056	1.824
18 1/2 Road	N of K.4 Rd	122	1,318	10.803	9.59	1.201	7.498
	S of K.4 Rd	287	2,003	6.979	7.76	1.161	5.177
K Road	E of 18 1/2 Rd	2,539	1,896	0.747	-1.12	0.978	0.781
	W of 18 1/2 Rd	2,826	4,381	1.550	1.70	1.034	1.449

These growth factors were used to determine future peak hour background traffic volumes, as shown in the peak hour traffic calculations provided in Appendix D. Note, K Road has a negative annual growth rate due to the future construction of 18 1/2 Road south of K Road.

7. Study Period Volumes

Future background traffic includes the current land use traffic at the site and the through volumes with the growth factors applied to the current traffic volumes.

Total traffic volumes consist of future background traffic volumes plus Project trips to demonstrate the proposed use of the site. The following figures present background and total peak hour traffic for the peak hour study periods. Calculations are included in Appendix D.



Figure 6 – Background Peak Hour Future Traffic (Year 2023)

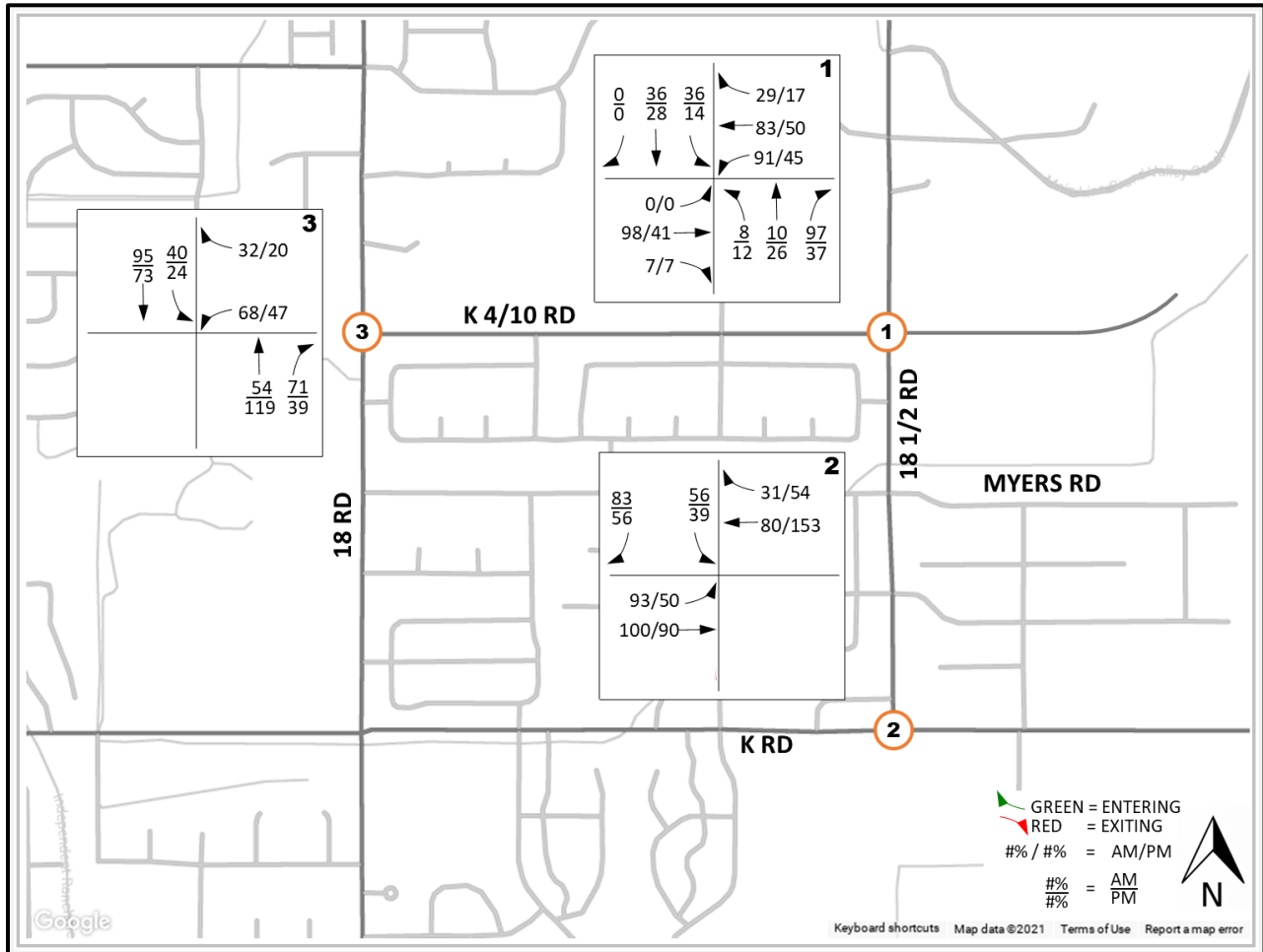


Figure 7 –Total Peak Hour Future Traffic (Year 2023)

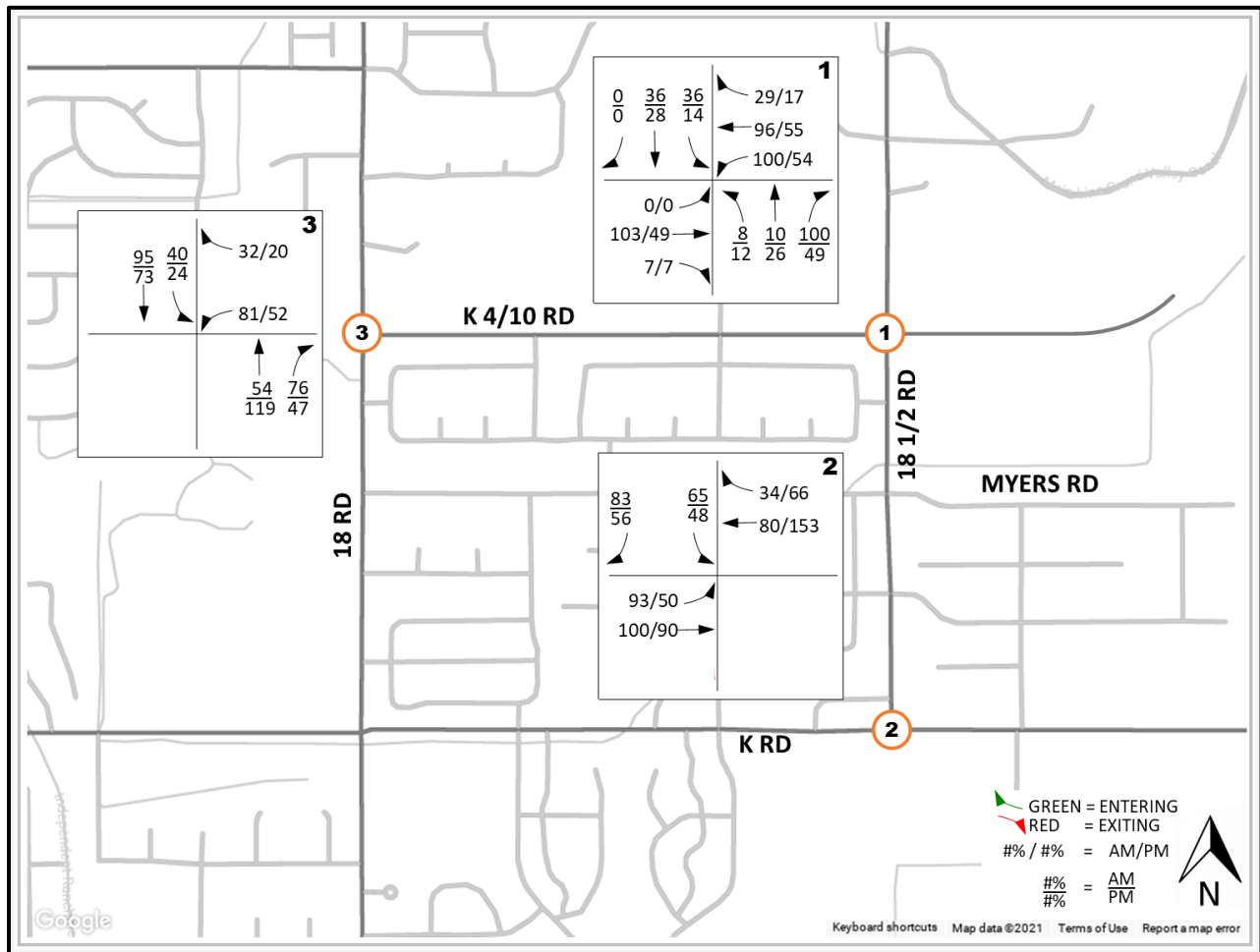


Figure 8 – Background Peak Hour Future Traffic (Year 2043)

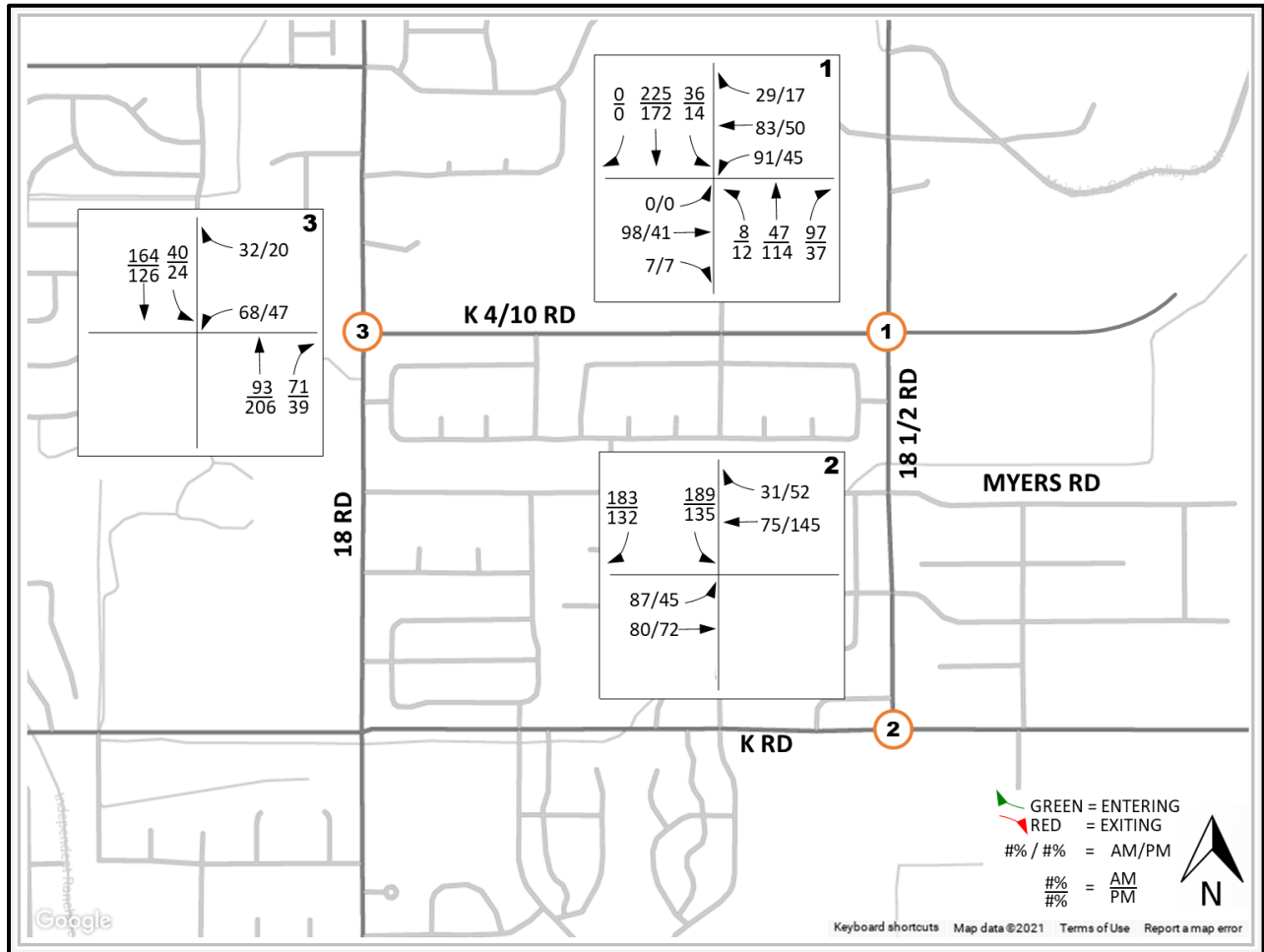
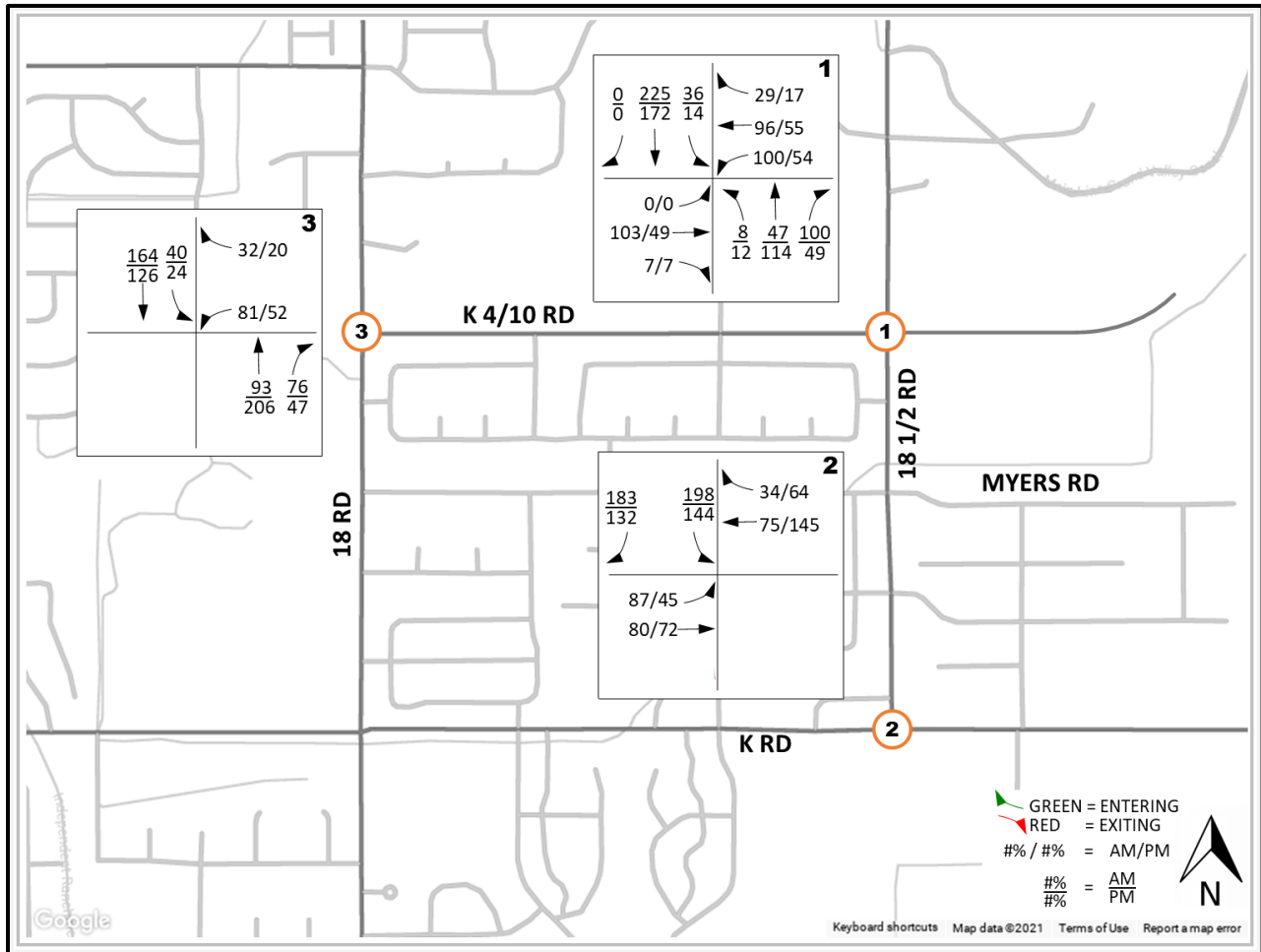


Figure 9 – Total Peak Hour Future Traffic (Year 2043)



8. Auxiliary Turn Lane Evaluation

The need for auxiliary lanes was based on the turn lane warrants listed in the Mesa County Transportation Engineering Design Standards (TEDS) based on total traffic volumes at the 20th year following Project completion (year 2043). The following table shows the data and criteria necessary to identify the need for exclusive right-turn and left-turn deceleration lanes at the intersections in the Study area based on speed limits of 35 mph.

Table 3 – Comparison of Turning Volumes to Turn Lane Requirements

Intersection		Year	Deceleration Movement	Speed Limit	Highest Period	Turning (vph)	Through Volumes (vph)		Threshold Turning Volumes	Required Threshold Conflicting	Auxiliary Lane Req'd
							Direction	Conflicting			
1	K 4/10 Rd & 18 1/2 Rd	2023 Total	EB Right	35	No project traffic added to this movement						N/A
			EB Left		No project traffic added to this movement						N/A
			WB Right	35	No project traffic added to this movement					26	N/A
			WB Left		AM	100	WB	125	125		YES
			NB Right	35	AM	100	NB	18	200 ¹	400 ¹	NO
			NB Left		No project traffic added to this movement						N/A
			SB Right	35	No project traffic added to this movement						N/A
			SB Left		No project traffic added to this movement						N/A
		2043 Total	EB Right	35	No project traffic added to this movement						N/A
			EB Left		No project traffic added to this movement						N/A
			WB Right	35	No project traffic added to this movement					26	N/A
			WB Left		AM	100	WB	125	125		YES
			NB Right	35	AM	100	NB	55	200 ¹	400 ¹	NO
			NB Left		No project traffic added to this movement						N/A
			SB Right	35	No project traffic added to this movement						N/A
			SB Left		No project traffic added to this movement						N/A
2	K Rd & 18 1/2 Rd	2023 Total	EB Left	45	No project traffic added to this movement					400 ¹	NO
			WB Right	45	PM	66	WB	153	200 ¹		NO
			SB Left	45	AM	65	SB	83	33	83	YES
			SB Right		No project traffic added to this movement						NO
		2043 Total	EB Left	45	No project traffic added to this movement					400 ¹	NO
			WB Right	45	PM	64	WB	145	200 ¹		NO
			SB Left	45	AM	198	SB	183	18	183	YES
			SB Right		No project traffic added to this movement						NO
3	K 4/10 Rd & 18 Rd	2023 Total	WB Right	45	No project traffic added to this movement					32	NO
			WB Left		PM	81	WB	32	40		32
			NB Right	45	AM	76	NB	54	200 ¹	400 ¹	NO
			SB Left		No project traffic added to this movement						NO
		2043 Total	WB Right	45	No project traffic added to this movement					32	NO
			WB Left		PM	81	WB	32	40		32
			NB Right	45	AM	76	NB	93	200 ¹	400 ¹	NO
			SB Left		No project traffic added to this movement						NO

Notes:

1. Right turn lanes generally not required with through volumes less than 400 vph and right turns less than 200 vph.



Note the traffic data presented in the Kimley Horn study prepared for the school warranted turn lanes, though those results were not reported. Additional project traffic adds to the existing warranted condition.

9. Level of Service

Due to the high turning movement volume at Intersection 1, the Study includes level of service analysis to evaluate the quality of each intersection without the addition of auxiliary lanes. The traffic analysis was conducted using the methodologies outlined in the Transportation Research Board's Highway Capacity Manual, 2016 Edition. Synchro® 10 Planning & Analysis Software was used to determine traffic operation.

The results of the intersection operational analysis were used to assess the LOS experienced by drivers as the duration of delay a driver experiences at a given intersection. LOS A represents the most desirable conditions with free-flow movement of traffic and minimal delay to motorists. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in congestion.

The duration of delay is measured differently for signalized intersections as compared to unsignalized intersections. The LOS delay range for an unsignalized intersection is typically shorter than at a signalized intersection primarily because at a stop sign, the traveling public has an expectation to experience less delay than at a signal. In addition, studies have shown that at unsignalized intersections drivers tend to become impatient with long delays and may use inadequate and unsafe gaps in the traffic stream to make left turns or enter the major street. The following table provides the delay thresholds for signalized and unsignalized intersections.

Table 4 – Intersection Delay & LOS Thresholds

Level of Service (LOS)	Signalized Intersections (seconds/vehicle)	Unsignalized Intersection (seconds/vehicle)
A	0.0 – 10.0	0.0 – 10.0
B	10.1 – 20.0	10.1 – 15.0
C	20.1 – 35.0	15.1 – 25.0
D	35.1 – 55.0	25.1 – 35.0
E	55.1 – 80.0	35.1 – 50.0
F	Greater than 80.0	Greater than 50.0

Source: Transportation Research Board, Highway Capacity Manual, 2016 Edition

Traffic Operations Analysis Results

Peak hour LOS was computed within the Study area using Synchro's Highway Capacity Manual 2016 Methodology Module. Results are reported in Table 5 and calculations are included in Appendix E.



Table 5 – Intersection Operations Summary

Intersection		Period	Traffic Control	New Lane Geometry	2023		2043			
E-W	N-S				Background	Total	Background	Total		
1	K 4/10 Rd	18 1/2 Rd	AM	Unsignalized	Intersection LOS	A (8.2)	A (8.6)	A (7.4)	A (8.1)	
	Eastbound			Stop	1 left-thru-right	B	B	B	B	
	Westbound			Stop	1 left-thru-right	B	B	C	C	
	Northbound			Free	1 left-thru-right	A	A	A	A	
	Southbound			Free	1 left-thru-right	A	A	A	A	
	Control Delay LOS & Delay (sec/veh)					B (12.5)	B (12.9)	C (17.3)	C (18.6)	
	K 4/10 Rd	18 1/2 Rd	PM	Unsignalized	Intersection LOS	A (6.6)	A (6.7)	A (4.3)	A (4.7)	
	Eastbound			Stop	1 left-thru-right	B	B	B	B	
	Westbound			Stop	1 left-thru-right	B	B	B	B	
	Northbound			Free	1 left-thru-right	A	A	A	A	
	Southbound			Free	1 left-thru-right	A	A	A	A	
	Control Delay LOS & Delay (sec/veh)					B (10.3)	B (10.5)	B (12.7)	B (13.2)	
2	K Rd	18 1/2 Rd	AM	Unsignalized	Intersection LOS	A (4.9)	A (5)	A (9)	A (9.2)	
	Eastbound			Free	1 left, 1 thru	A	A	A	A	
	Westbound			Free	1 thru-right	-	-	-	-	
	Southbound			Stop	1 left-right	B	B	B	B	
	Control Delay LOS & Delay (sec/veh)					B (10.5)	B (10.7)	B (13.8)	B(14.1)	
	K Rd	18 1/2 Rd	PM	Unsignalized	Intersection LOS	A (3.1)	A (3.2)	A (6.2)	A (6.3)	
	Eastbound			Free	1 left, 1 thru	A	A	A	A	
	Westbound			Free	1 thru-right	-	-	-	-	
	Southbound			Stop	1 left-right	B	B	B	B	
	Control Delay LOS & Delay (sec/veh)					B (10.4)	B (10.6)	B (12.2)	B (12.5)	
	3	K 4/10 Rd	18 Rd	AM	Unsignalized	Intersection LOS	A (3.7)	A (4)	A (3)	A (3.3)
		Westbound			Stop	1 left-right	B	B	B	B
Northbound				Free	1 thru-right	-	-	-	-	
Southbound				Free	1 left-thru	A	A	A	A	
Control Delay LOS & Delay (sec/veh)					B (10.4)	B (10.6)	B (11.2)	B (11.4)		
K 4/10 Rd		18 Rd	PM	Unsignalized	Intersection LOS	A (2.7)	A (2.8)	A (2)	A (2.1)	
Westbound				Stop	1 left-right	B	B	B	B	
Northbound				Free	1 thru-right	-	-	-	-	
Southbound				Free	1 left-thru	A	A	A	A	
Control Delay LOS & Delay (sec/veh)					B (10.2)	B (10.3)	B (11.2)	B (11.3)		

As seen in Table 5, Intersection 2 and 3 remain at a LOS B or better for all conditions. Intersection 1 has a 2023 LOS B or better and in the 2043 condition it drops to a LOS C. Note that the LOS will be a C even without the construction of the Project as seen in the Background 2043 column. This shows that the Project does not significantly impact the LOS of any Intersection within the Study.

Though turn lanes are warranted at all three intersections, Table 5 demonstrates the intersections function within acceptable levels without the addition of auxiliary lanes.

10. Intersection Sight Distance

The Project access will be located on a proposed extension of K 4/10 Road. Sight distance triangles will need to be dedicated through the right of way or tracts located on the site. Required sight distance for vehicles entering the roadway was obtained from Table 4.2 in the Mesa County Road Access Policy.



K 4/10 Road is a 2-lane roadway with a posted speed limit of 35 mph. The grades are less than 3%. The required sight distance is 390 feet and will be exceeded while looking west at the Project access. K 4/10 Road will have a dead end to the east of the Project access with no additional traffic entering K 4/10 Road. Sight distance requirements will be met when future development of the nearby area occurs.

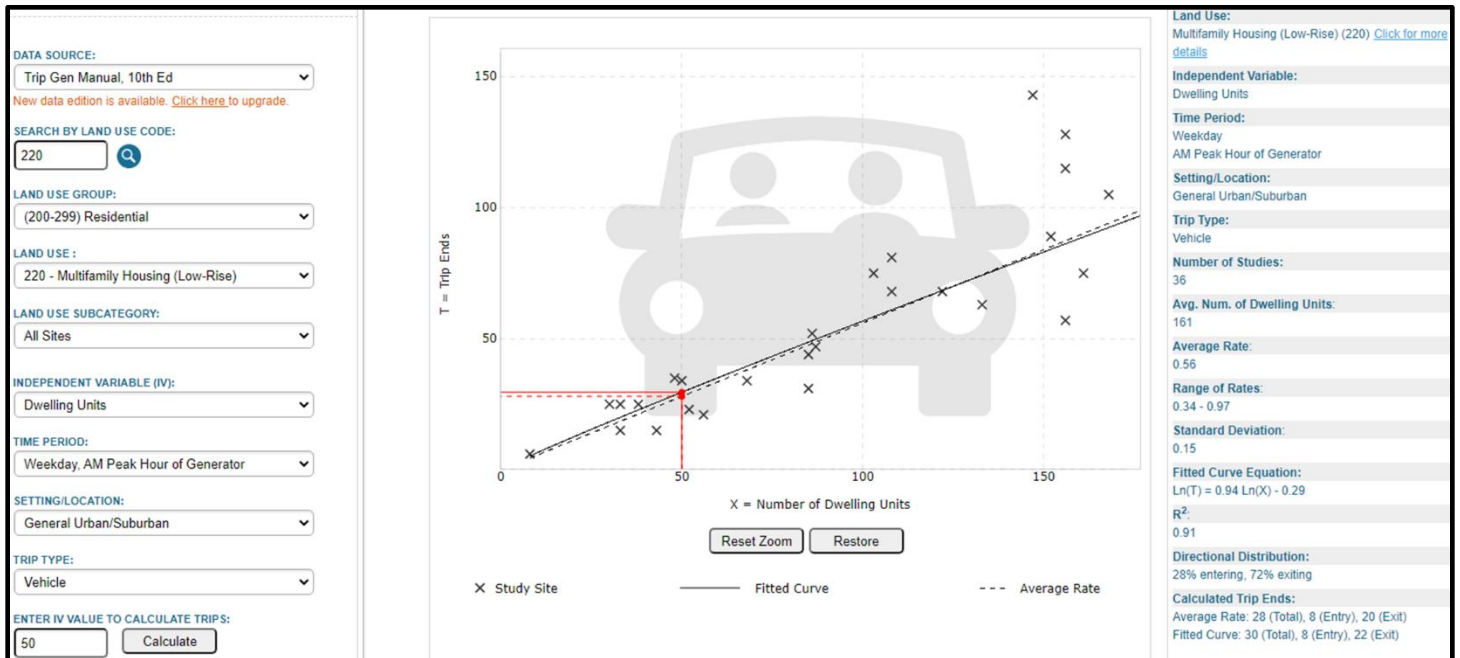
11. Summary and Recommendations

- The project results in an increase in traffic at the Project site from 0 vph peak hour to 30 vph AM peak hour and 34 vph PM peak hour.
- Auxiliary lanes are currently warranted (i.e., prior to the addition of Project traffic). However, the addition of auxiliary lanes is not necessary and will not significantly reduce the level of service of the intersections.

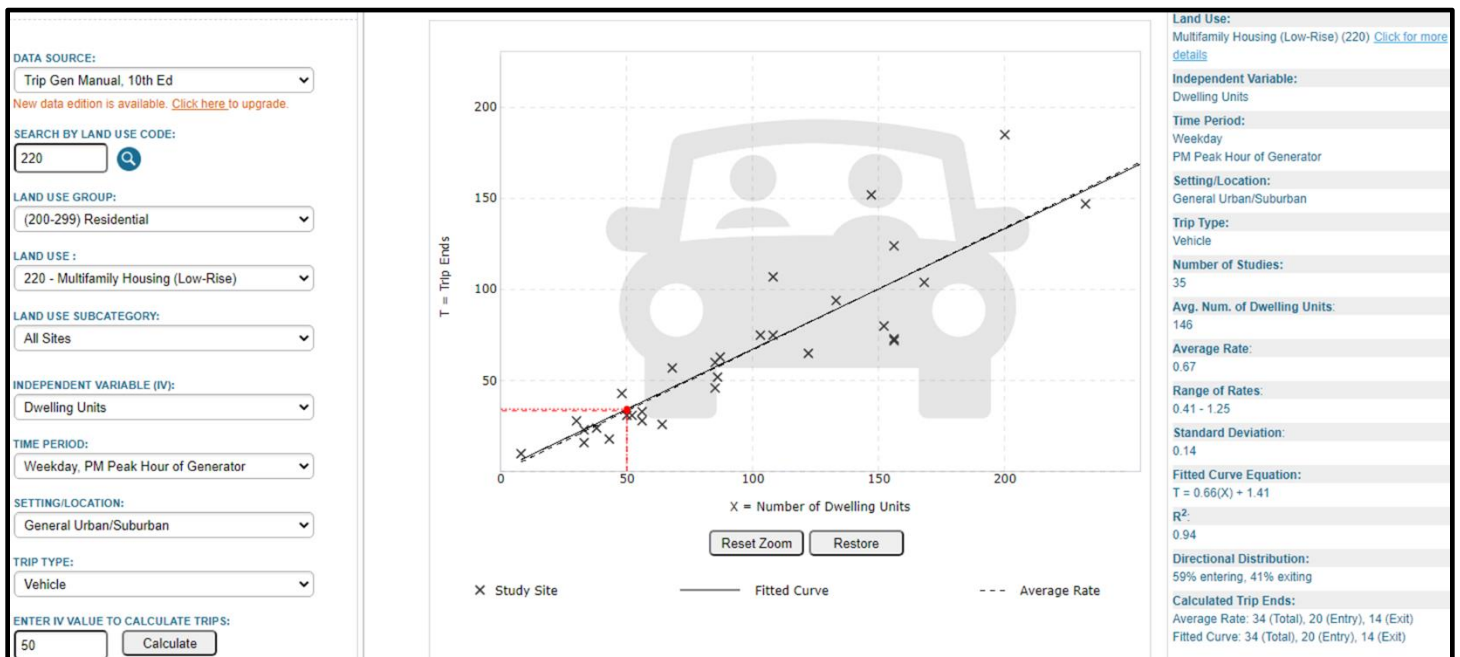


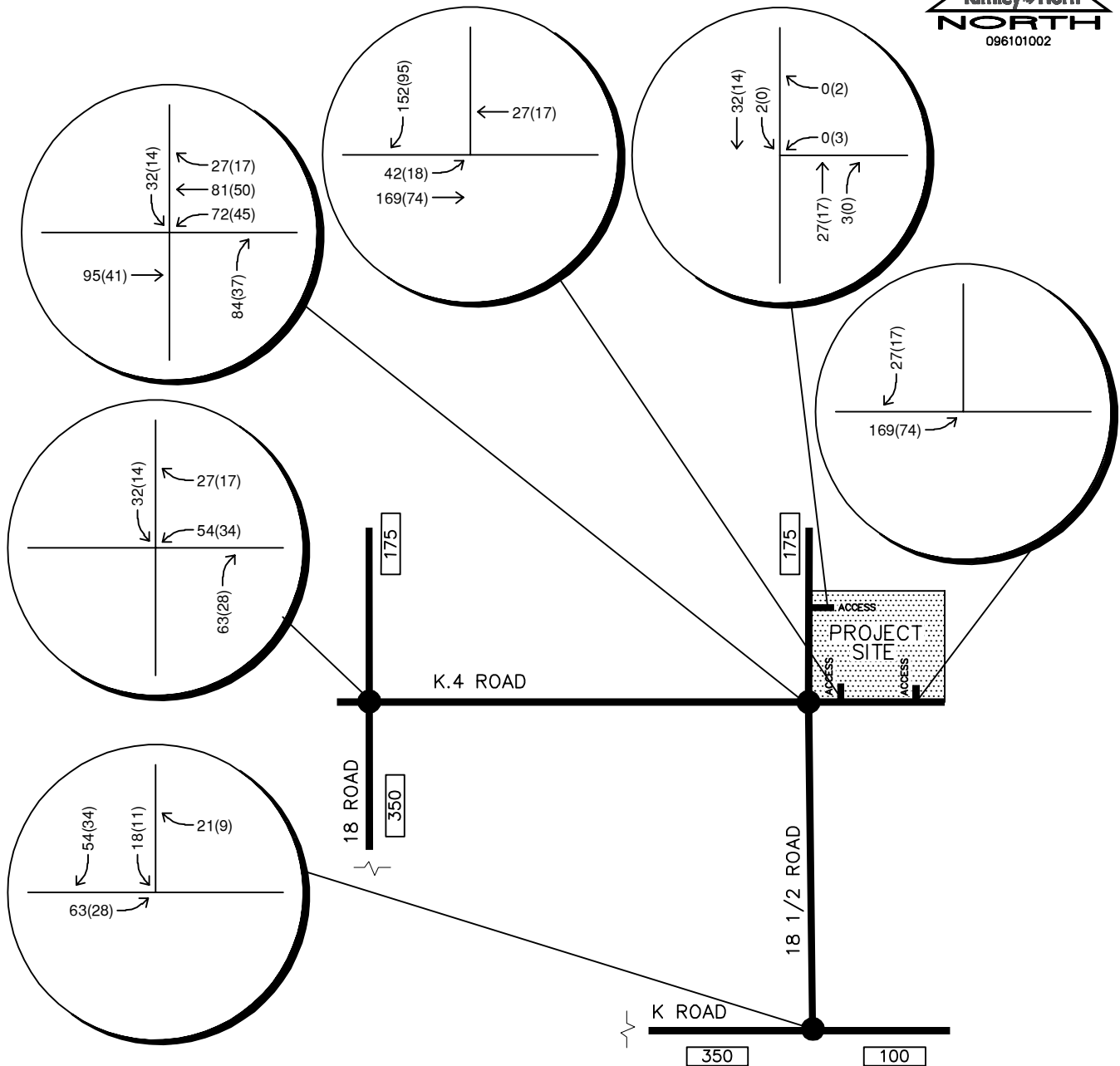
Appendix A – Project Trip Generation

Project AM Peak Hour Trips



Project PM Peak Hour Trips





FRUITA ELEMENTARY SCHOOL
PROJECT ASSIGNMENT

FIGURE 8

Appendix C – Intersection Turning Movement Count Traffic Summaries

Intersection Turning Movement Count Summary

Project: IndiBuild
 Location: Fruita, CO
 EB/WB Road K 4/10 Road
 NB/SB Road: 18 1/2 Road

Intersection 1



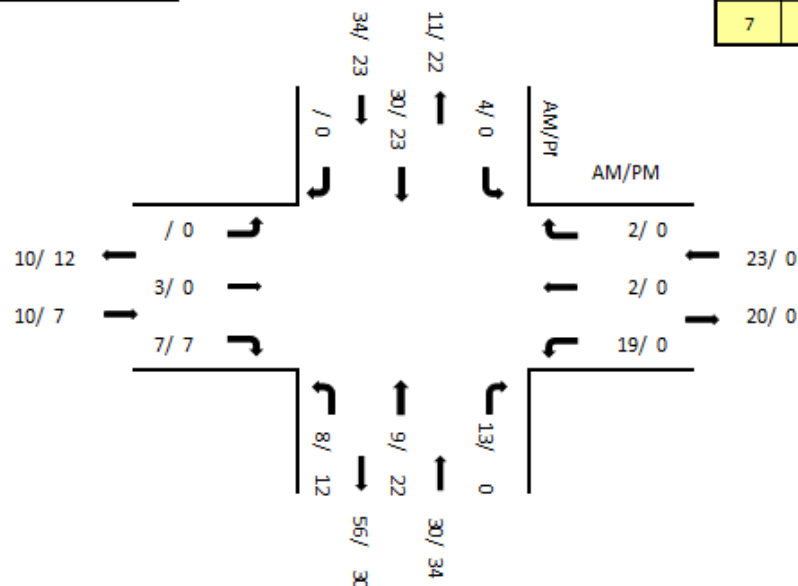
Counted by: APX
 Count Date: 6/15/2021
 Peak Season Adjust: 1

Time AM	K 4/10 Road - (EB)				K 4/10 Road - (WB)				18 1/2 Road - (NB)				18 1/2 Road - (SB)				Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Volume
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
7:15	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	4
7:30	0	0	1	0	0	0	0	0	2	2	0	0	1	9	0	0	15
7:45	0	0	3	0	0	0	0	0	2	2	0	0	0	7	1	0	15
8:00	0	0	3	0	0	0	0	0	5	4	1	0	0	8	0	0	21
8:15	0	2	2	0	8	1	0	0	1	0	5	0	1	3	0	0	23
8:30	0	1	2	0	11	1	2	0	0	3	5	0	3	5	0	0	33
8:45	0	0	0	0	0	0	0	0	2	2	2	0	0	14	0	0	20
Totals	0	3	11	0	19	2	2	0	13	14	13	0	5	52	1	0	135

Peak Hr	0	3	7	0	19	2	2	0	8	9	13	0	4	30	0	0	97
Intersection Peak Hour: 8:00-9:00 AM													EB	WB	NB	SB	Total
													10	23	30	34	97

Time PM	K 4/10 Road - (EB)				K 4/10 Road - (WB)				18 1/2 Road - (NB)				18 1/2 Road - (SB)				Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Volume
4:00	0	0	1	0	0	0	0	0	3	1	0	0	0	6	0	0	11
4:15	2	0	1	0	0	0	0	0	0	9	0	0	0	5	1	0	18
4:30	0	0	0	0	0	0	0	0	1	4	0	0	0	2	0	0	7
4:45	0	0	1	0	0	0	0	0	2	5	0	0	0	5	0	0	13
5:00	0	0	2	0	0	0	0	0	3	4	0	0	0	8	0	0	17
5:15	0	0	1	0	0	0	0	0	5	7	0	0	0	6	0	0	19
5:30	0	0	3	0	0	0	0	0	2	6	0	0	0	4	0	0	15
5:45	0	0	3	0	0	0	0	0	1	2	0	0	0	1	1	0	8
Totals	2	0	12	0	0	0	0	0	17	38	0	0	0	37	2	0	108

Peak Hr	0	0	7	0	0	0	0	0	12	22	0	0	0	23	0	0	64
Intersection Peak Hour: 4:45-5:45 PM													EB	WB	NB	SB	Total
													7	0	34	23	64



Appendix C – Intersection Turning Movement Count Traffic Summaries

Intersection Turning Movement Count Summary

Project: IndiBuild
Location: Fruita, CO
EB/WB Road K Road
NB/SB Road: 18 1/2 Road

Intersection 2

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Counted by: APX
Count Date: 6/15/2021

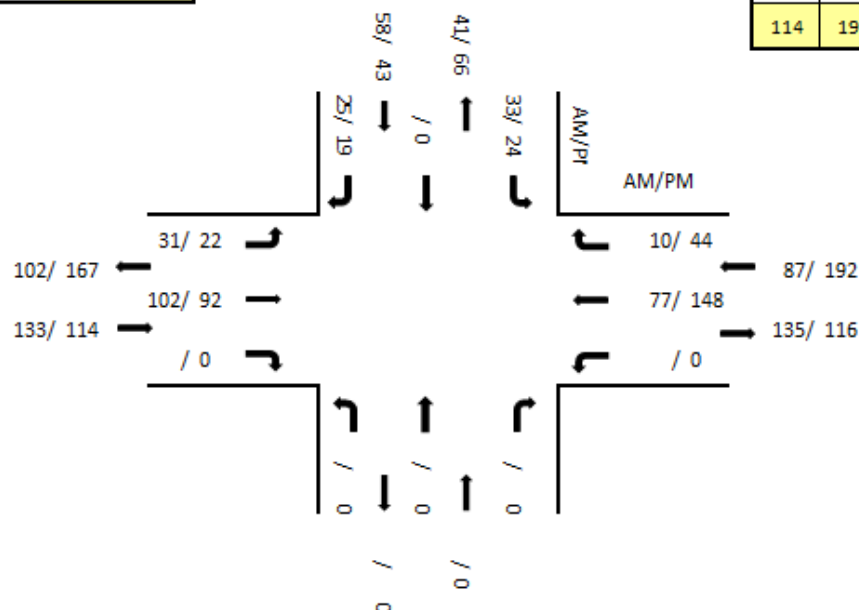
Peak Season Adjust: 1

Time	K Road - (EB)				K Road - (WB)				18 1/2 Road - (NB)				18 1/2 Road - (SB)				Total Volume
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	
7:00 AM	1	16	0	0	0	13	0	0	0	0	0	0	11	0	5	0	46
7:15	3	15	0	0	0	12	4	0	0	0	0	0	6	0	1	0	41
7:30	6	30	0	0	0	21	2	0	0	0	0	0	14	0	3	0	76
7:45	8	23	0	0	0	28	2	0	0	0	0	0	6	0	11	0	78
8:00	8	31	0	0	0	9	4	0	0	0	0	0	6	0	3	0	61
8:15	9	18	0	0	0	19	2	0	0	0	0	0	7	0	8	0	63
8:30	2	22	0	0	0	17	2	0	0	0	0	0	9	0	7	0	59
8:45	8	25	0	0	0	15	2	0	0	0	0	0	6	0	8	0	64
Totals	45	180	0	0	0	134	18	0	0	0	0	0	65	0	46	0	488

Peak Hr	31	102	0	0	0	77	10	0	0	0	0	0	33	0	25	0	278
Intersection Peak Hour: 7:30-8:30 AM													EB	WB	NB	SB	Total
													133	87	0	58	278

Time	K Road - (EB)				K Road - (WB)				18 1/2 Road - (NB)				18 1/2 Road - (SB)				Total Volume
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	
4:00 PM	2	16	0	0	0	23	6	0	0	0	0	0	3	0	7	0	57
4:15	9	27	0	0	0	20	6	0	0	0	0	0	5	0	7	0	74
4:30	4	24	0	0	0	34	4	0	0	0	0	0	2	0	3	0	71
4:45	7	15	0	0	0	23	5	0	0	0	0	0	2	0	8	0	60
5:00	3	20	0	0	0	38	10	0	0	0	0	0	8	0	6	0	85
5:15	4	25	0	0	0	48	17	0	0	0	0	0	7	0	5	0	106
5:30	10	21	0	0	0	31	10	0	0	0	0	0	4	0	5	0	81
5:45	5	26	0	0	0	31	7	0	0	0	0	0	5	0	3	0	77
Totals	44	174	0	0	0	248	65	0	0	0	0	0	36	0	44	0	611

Peak Hr	22	92	0	0	0	148	44	0	0	0	0	0	24	0	19	0	349
Intersection Peak Hour: 5:00-6:00 PM													EB	WB	NB	SB	Total
													114	192	0	43	349



Appendix C – Intersection Turning Movement Count Traffic Summaries

Intersection Turning Movement Count Summary

Project: IndiBuild
Location: Fruita, CO
EB/WB Road K 4/10 Road
NB/SB Road: 18 Road

APEX
CONSULTING ENGINEERS
CIVIL ENGINEERS • MANAGEMENT • DEVELOPMENT

Counted by: APX
Count Date: 6/15/2021

Intersection 3

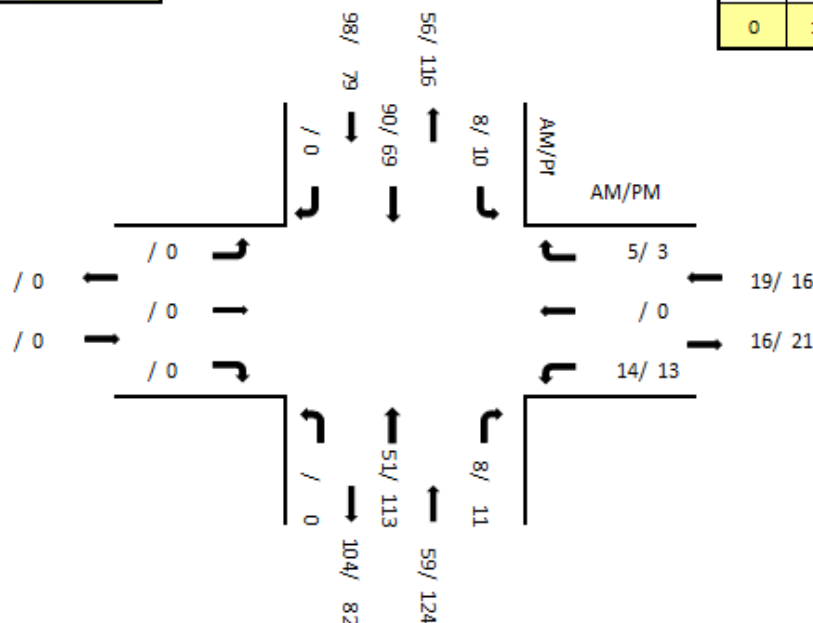
Peak Season Adjust: 1

Time	K 4/10 Road - (EB)				K 4/10 Road - (WB)				18 Road - (NB)				18 Road - (SB)				Total Volume
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	
7:00	0	0	0	0	0	0	1	0	0	10	2	0	0	19	0	0	32
7:15	0	0	0	0	3	0	0	0	0	8	0	0	1	16	0	0	28
7:30	0	0	0	0	3	0	0	0	0	6	1	0	0	38	0	0	48
7:45	0	0	0	0	4	0	0	0	0	12	2	0	1	22	0	0	41
8:00	0	0	0	0	0	0	2	0	0	14	0	0	1	22	0	0	39
8:15	0	0	0	0	6	0	0	0	0	13	3	0	3	18	0	0	43
8:30	0	0	0	0	4	0	3	0	0	12	3	0	3	28	0	0	53
8:45	0	0	0	0	2	0	1	0	0	13	1	0	2	21	0	0	40
Totals	0	0	0	0	22	0	7	0	0	88	12	0	11	184	0	0	324

Peak Hr	0	0	0	0	14	0	5	0	0	51	8	0	8	90	0	0	176
Intersection Peak Hour: 7:45-8:45 AM													EB	WB	NB	SB	Total
													0	19	59	98	176

Time	K 4/10 Road - (EB)				K 4/10 Road - (WB)				18 Road - (NB)				18 Road - (SB)				Total Volume
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	
4:00	0	0	0	0	3	0	3	0	0	28	4	0	1	21	0	0	60
4:15	0	0	0	0	5	0	0	0	0	33	1	0	5	19	0	0	63
4:30	0	0	0	0	1	0	0	0	0	30	3	0	0	15	0	0	49
4:45	0	0	0	0	4	0	0	0	0	22	3	0	4	14	0	0	47
5:00	0	0	0	0	0	0	1	0	0	30	3	0	1	15	0	0	50
5:15	0	0	0	0	3	0	2	0	0	32	3	0	0	15	0	0	55
5:30	0	0	0	0	5	0	1	0	0	31	1	0	1	17	0	0	56
5:45	0	0	0	0	0	0	1	0	0	25	3	0	3	19	0	0	51
Totals	0	0	0	0	21	0	8	0	0	231	21	0	15	135	0	0	431

Peak Hr	0	0	0	0	13	0	3	0	0	113	11	0	10	69	0	0	219
Intersection Peak Hour: 4:00-5:00 PM													EB	WB	NB	SB	Total
													0	16	124	79	219



Appendix D – Peak Hour Traffic Calculations

INT 1 - K 4/10 Rd & 18 1/2 Rd

6/28/2021

IndiBuild Fruita

AM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes	0	3	7	19	2	2	8	9	13	4	30	0
Seasonally Adjusted base volumes	0	3	7	19	2	2	8	9	13	4	30	0
Trip Distribution % Inbound Phase 1	0%	57%	0%	0%	0%	0%	0%	0%	43%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	43%	57%	0%	0%	0%	0%	0%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 1	1	1	1	1	1	1	1	1	1	1	1	1
Trip Distribution % Inbound Phase 2	0%	57%	0%	0%	0%	0%	0%	0%	43%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	43%	57%	0%	0%	0%	0%	0%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 2	1	1	1	1	1	1	1	1	1	1	1	1
Project Trip Volume Inbound - Phase 1	0	5	0	0	0	0	0	0	3	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	9	13	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 1	0	5	0	9	13	0	0	0	3	0	0	0
Project Trip Volume Inbound - Phase 2	0	5	0	0	0	0	0	0	3	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	9	13	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 2	0	5	0	9	13	0	0	0	3	0	0	0
Growth Factor Period 1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.161	1.000	1.000	1.201	1.000
Growth Factor Period 2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	5.177	1.000	1.000	7.498	1.000
Other Background Trips AM		95		72	81	27			84	32		
Future Background Volume - Period 1	0	98	7	91	83	29	8	10	97	36	36	0
Future Background Volume - Period 2	0	98	7	91	83	29	8	47	97	36	225	0
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1	0	103	7	100	96	29	8	10	100	36	36	0
Total Future Volume - Period 2	0	103	7	100	96	29	8	47	100	36	225	0

PM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes	0	0	7	0	0	0	12	22	0	0	23	0
Seasonally Adjusted base volumes	0	0	7	0	0	0	12	22	0	0	23	0
Trip Distribution % Inbound Phase 1	0%	38%	0%	0%	0%	0%	0%	0%	62%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	62%	38%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Phase 2	0%	38%	0%	0%	0%	0%	0%	0%	62%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	62%	38%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Phase 1	0	8	0	0	0	0	0	0	12	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	9	5	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 1	0	8	0	9	5	0	0	0	12	0	0	0
Project Trip Volume Inbound - Phase 2	0	8	0	0	0	0	0	0	12	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	9	5	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 2	0	8	0	9	5	0	0	0	12	0	0	0
Growth Factor Period 1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.161	1.000	1.000	1.201	1.000
Growth Factor Period 2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	5.177	1.000	1.000	7.498	1.000
Other Background Trips PM		41		45	50	17			37	14		
Future Background Volume - Period 1	0	41	7	45	50	17	12	26	37	14	28	0
Future Background Volume - Period 2	0	41	7	45	50	17	12	114	37	14	172	0
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1	0	49	7	54	55	17	12	26	49	14	28	0
Total Future Volume - Period 2	0	49	7	54	55	17	12	114	49	14	172	0

Appendix D – Peak Hour Traffic Calculations

INT 2 - K Rd & 18 1/2 Rd

6/28/2021

IndiBuild Fruita

AM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes	31	102			77	10				33		25
Seasonally Adjusted base volumes	31	102	0	0	77	10	0	0	0	33	0	25
Trip Distribution % Inbound Phase 1	0%	0%	0%	0%	0%	43%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 1	1	1	1	1	1	1	1	1	1	1	1	1
Trip Distribution % Inbound Phase 2	0%	0%	0%	0%	0%	43%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 2	1	1	1	1	1	1	1	1	1	1	1	1
Project Trip Volume Inbound - Phase 1	0	0	0	0	0	3	0	0	0	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	0	0	0	0	0	0	9	0	0
Project Trip Volume Total - Phase 1	0	0	0	0	0	3	0	0	0	9	0	0
Project Trip Volume Inbound - Phase 2	0	0	0	0	0	3	0	0	0	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	0	0	0	0	0	0	9	0	0
Project Trip Volume Total - Phase 2	0	0	0	0	0	3	0	0	0	9	0	0
Growth Factor Period 1	0.978	0.978	0.000	0.000	1.034	1.034	0.000	0.000	0.000	1.161	0.000	1.161
Growth Factor Period 2	0.781	0.781	0.000	0.000	0.978	0.978	0.000	0.000	0.000	5.177	0.000	5.177
Other Background Trips AM	63					21				18		54
Future Background Volume - Period 1	93	100			80	31				56		83
Future Background Volume - Period 2	87	80			75	31				189		183
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1	93	100			80	34				65		83
Total Future Volume - Period 2	87	80			75	34				198		183

PM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes	22	92			148	44				24		19
Seasonally Adjusted base volumes	22	92	0	0	148	44	0	0	0	24	0	19
Trip Distribution % Inbound Phase 1	0%	0%	0%	0%	0%	62%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	62%	0%	0%
Trip Distribution % Inbound Phase 2	0%	0%	0%	0%	0%	62%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	62%	0%	0%
Project Trip Volume Inbound - Phase 1	0	0	0	0	0	12	0	0	0	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	0	0	0	0	0	0	9	0	0
Project Trip Volume Total - Phase 1	0	0	0	0	0	12	0	0	0	9	0	0
Project Trip Volume Inbound - Phase 2	0	0	0	0	0	12	0	0	0	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	0	0	0	0	0	0	9	0	0
Project Trip Volume Total - Phase 2	0	0	0	0	0	12	0	0	0	9	0	0
Growth Factor Period 1	0.978	0.978			1.034	1.034				1.161		1.161
Growth Factor Period 2	0.781	0.781			0.978	0.978				5.177		5.177
Other Background Trips PM	28					9				11		34
Future Background Volume - Period 1	50	90			153	54				39		56
Future Background Volume - Period 2	45	72			145	52				135		132
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1	50	90			153	66				48		56
Total Future Volume - Period 2	45	72			145	64				144		132

Appendix D – Peak Hour Traffic Calculations

INT 3 - K 4/10 Rd & 18 Rd

6/28/2021

IndiBuild Fruita

AM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes				14		5		51	8	8	90	
Seasonally Adjusted base volumes	0	0	0	14	0	5	0	51	8	8	90	0
Trip Distribution % Inbound Phase 1	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	57%	0%	0%	0%	0%	0%	0%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 1	1	1	1	1	1	1	1	1	1	1	1	1
Trip Distribution % Inbound Phase 2	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	57%	0%	0%	0%	0%	0%	0%	0%	0%
Driveway Enter "1" Yes, or "0" No Phase 2	1	1	1	1	1	1	1	1	1	1	1	1
Project Trip Volume Inbound - Phase 1	0	0	0	0	0	0	0	0	5	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	13	0	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 1	0	0	0	13	0	0	0	0	5	0	0	0
Project Trip Volume Inbound - Phase 2	0	0	0	0	0	0	0	0	5	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	13	0	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 2	0	0	0	13	0	0	0	0	5	0	0	0
Growth Factor Period 1	0.000	0.000	0.000	1.000	0.000	1.000	0.000	1.056	1.000	1.000	1.056	0.000
Growth Factor Period 2	0.000	0.000	0.000	1.000	0.000	1.000	0.000	1.824	1.000	1.000	1.824	0.000
Other Background Trips AM				54		27			63	32		
Future Background Volume - Period 1				68		32		54	71	40	95	
Future Background Volume - Period 2				68		32		93	71	40	164	
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1				81		32		54	76	40	95	
Total Future Volume - Period 2				81		32		93	76	40	164	

PM Condition												
Description	Eastbound			Westbound			Northbound			Southbound		
	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Existing Volumes				13		3		113	11	10	69	
Seasonally Adjusted base volumes	0	0	0	13	0	3	0	113	11	10	69	0
Trip Distribution % Inbound Phase 1	0%	0%	0%	0%	0%	0%	0%	0%	38%	0%	0%	0%
Trip Distribution % Outbound Phase 1	0%	0%	0%	38%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Phase 2	0%	0%	0%	0%	0%	0%	0%	0%	38%	0%	0%	0%
Trip Distribution % Outbound Phase 2	0%	0%	0%	38%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Phase 1	0	0	0	0	0	0	0	0	8	0	0	0
Project Trip Volume Outbound - Phase 1	0	0	0	5	0	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 1	0	0	0	5	0	0	0	0	8	0	0	0
Project Trip Volume Inbound - Phase 2	0	0	0	0	0	0	0	0	8	0	0	0
Project Trip Volume Outbound - Phase 2	0	0	0	5	0	0	0	0	0	0	0	0
Project Trip Volume Total - Phase 2	0	0	0	5	0	0	0	0	8	0	0	0
Growth Factor Period 1				1.000		1.000		1.056	1.000	1.000	1.056	
Growth Factor Period 2				1.000		1.000		1.824	1.000	1.000	1.824	
Other Background Trips PM				34		17			28	14		
Future Background Volume - Period 1				47		20		119	39	24	73	
Future Background Volume - Period 2				47		20		206	39	24	126	
Other Trip Assignment AM Period 1												
Other Trip Assignment AM Period 2												
Total Future Volume - Period 1				52		20		119	47	24	73	
Total Future Volume - Period 2				52		20		206	47	24	126	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 AM Background
07/07/2021

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	98	7	91	83	29	8	10	97	36	36	0
Future Vol, veh/h	0	98	7	91	83	29	8	10	97	36	36	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	7	91	83	29	8	10	97	36	36	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	239	231	36	236	183	59	36	0	0	107	0	0
Stage 1	108	108	-	75	75	-	-	-	-	-	-	-
Stage 2	131	123	-	161	108	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	715	669	1037	718	711	1007	1575	-	-	1484	-	-
Stage 1	897	806	-	934	833	-	-	-	-	-	-	-
Stage 2	873	794	-	841	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	616	649	1037	617	690	1007	1575	-	-	1484	-	-
Mov Cap-2 Maneuver	616	649	-	617	690	-	-	-	-	-	-	-
Stage 1	893	786	-	929	829	-	-	-	-	-	-	-
Stage 2	759	790	-	713	786	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.4		12.5		0.5		3.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1575	-	-	666	684	1484	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.158	0.297	0.024	-	-				
HCM Control Delay (s)	7.3	0	-	11.4	12.5	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	1.2	0.1	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2023 AM Background
07/07/2021

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	93	100	80	31	56	83
Future Vol, veh/h	93	100	80	31	56	83
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	100	80	31	56	83
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	111	0	-	0	382	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1479	-	-	-	620	960
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1479	-	-	-	581	960
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	763	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.7	0		10.5		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1479	-	-	-	794	
HCM Lane V/C Ratio	0.063	-	-	-	0.175	
HCM Control Delay (s)	7.6	-	-	-	10.5	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 AM Background
07/07/2021

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	32	54	71	40	95
Future Vol, veh/h	68	32	54	71	40	95
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	32	54	71	40	95
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	265	90	0	0	125	0
Stage 1	90	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	724	968	-	-	1462	-
Stage 1	934	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	703	968	-	-	1462	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.4	0		2.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	770	1462	-	
HCM Lane V/C Ratio	-	-	0.13	0.027	-	
HCM Control Delay (s)	-	-	10.4	7.5	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 AM Total
07/07/2021

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	103	7	100	96	29	8	10	100	36	36	0
Future Vol, veh/h	0	103	7	100	96	29	8	10	100	36	36	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	103	7	100	96	29	8	10	100	36	36	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	247	234	36	239	184	60	36	0	0	110	0	0
Stage 1	108	108	-	76	76	-	-	-	-	-	-	-
Stage 2	139	126	-	163	108	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	707	666	1037	715	710	1005	1575	-	-	1480	-	-
Stage 1	897	806	-	933	832	-	-	-	-	-	-	-
Stage 2	864	792	-	839	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	600	646	1037	609	689	1005	1575	-	-	1480	-	-
Mov Cap-2 Maneuver	600	646	-	609	689	-	-	-	-	-	-	-
Stage 1	893	786	-	928	828	-	-	-	-	-	-	-
Stage 2	738	788	-	706	786	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.5		12.9		0.5		3.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1575	-	-	662	677	1480	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.166	0.332	0.024	-	-				
HCM Control Delay (s)	7.3	0	-	11.5	12.9	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	1.5	0.1	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2023 AM Total
07/07/2021

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	93	100	80	34	65	83
Future Vol, veh/h	93	100	80	34	65	83
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	100	80	34	65	83

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	114	0	-	0	383 97
Stage 1	-	-	-	-	97 -
Stage 2	-	-	-	-	286 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1475	-	-	-	620 959
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	763 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1475	-	-	-	581 959
Mov Cap-2 Maneuver	-	-	-	-	632 -
Stage 1	-	-	-	-	869 -
Stage 2	-	-	-	-	763 -

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1475	-	-	-	781
HCM Lane V/C Ratio	0.063	-	-	-	0.19
HCM Control Delay (s)	7.6	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 AM Total
07/07/2021

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	32	54	76	40	95
Future Vol, veh/h	81	32	54	76	40	95
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	32	54	76	40	95
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	267	92	0	0	130	0
Stage 1	92	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	722	965	-	-	1455	-
Stage 1	932	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	701	965	-	-	1455	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.6	0		2.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	760	1455	-	
HCM Lane V/C Ratio	-	-	0.149	0.027	-	
HCM Control Delay (s)	-	-	10.6	7.5	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-	

Appendix E - Level of Service Reports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 PM Background
07/08/2021

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	41	7	45	50	17	12	26	37	14	28	0
Future Vol, veh/h	0	41	7	45	50	17	12	26	37	14	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	41	7	45	50	17	12	26	37	14	28	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	158	143	28	149	125	45	28	0	0	63	0	0
Stage 1	56	56	-	69	69	-	-	-	-	-	-	-
Stage 2	102	87	-	80	56	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	808	748	1047	819	765	1025	1585	-	-	1540	-	-
Stage 1	956	848	-	941	837	-	-	-	-	-	-	-
Stage 2	904	823	-	929	848	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	745	735	1047	769	752	1025	1585	-	-	1540	-	-
Mov Cap-2 Maneuver	745	735	-	769	752	-	-	-	-	-	-	-
Stage 1	948	840	-	933	830	-	-	-	-	-	-	-
Stage 2	829	816	-	870	840	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10		10.3		1.2		2.5					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1585		-	-	768	791	1540	-	-			
HCM Lane V/C Ratio	0.008		-	-	0.063	0.142	0.009	-	-			
HCM Control Delay (s)	7.3		0	-	10	10.3	7.4	0	-			
HCM Lane LOS	A		A	-	B	B	A	A	-			
HCM 95th %tile Q(veh)	0		-	-	0.2	0.5	0	-	-			

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2023 PM Background
07/08/2021

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	90	153	54	39	56
Future Vol, veh/h	50	90	153	54	39	56
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	90	153	54	39	56
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	207	0	-	0	370	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	190	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1364	-	-	-	630	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	607	863
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	842	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.8	0		10.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1364	-	-	-	764	
HCM Lane V/C Ratio	0.037	-	-	-	0.124	
HCM Control Delay (s)	7.7	-	-	-	10.4	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 PM Background
07/08/2021

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	20	119	39	24	73
Future Vol, veh/h	47	20	119	39	24	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	20	119	39	24	73
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	260	139	0	0	158	0
Stage 1	139	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	729	909	-	-	1422	-
Stage 1	888	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	909	-	-	1422	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.2	0		1.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	764	1422	-	
HCM Lane V/C Ratio	-	-	0.088	0.017	-	
HCM Control Delay (s)	-	-	10.2	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 PM Total
07/08/2021

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	49	7	54	55	17	12	26	49	14	28	0
Future Vol, veh/h	0	49	7	54	55	17	12	26	49	14	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	49	7	54	55	17	12	26	49	14	28	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	167	155	28	159	131	51	28	0	0	75	0	0
Stage 1	56	56	-	75	75	-	-	-	-	-	-	-
Stage 2	111	99	-	84	56	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	797	737	1047	807	760	1017	1585	-	-	1524	-	-
Stage 1	956	848	-	934	833	-	-	-	-	-	-	-
Stage 2	894	813	-	924	848	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	730	724	1047	751	747	1017	1585	-	-	1524	-	-
Mov Cap-2 Maneuver	730	724	-	751	747	-	-	-	-	-	-	-
Stage 1	948	840	-	927	826	-	-	-	-	-	-	-
Stage 2	814	806	-	857	840	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		10.5		1		2.5					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1585	-	-	753	777	1524	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.074	0.162	0.009	-	-				
HCM Control Delay (s)	7.3	0	-	10.2	10.5	7.4	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2023 PM Total
07/08/2021

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	90	153	66	48	56
Future Vol, veh/h	50	90	153	66	48	56
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	90	153	66	48	56

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	219	0	-	0	376 186
Stage 1	-	-	-	-	186 -
Stage 2	-	-	-	-	190 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1350	-	-	-	625 856
Stage 1	-	-	-	-	846 -
Stage 2	-	-	-	-	842 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1350	-	-	-	602 856
Mov Cap-2 Maneuver	-	-	-	-	653 -
Stage 1	-	-	-	-	815 -
Stage 2	-	-	-	-	842 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1350	-	-	-	749
HCM Lane V/C Ratio	0.037	-	-	-	0.139
HCM Control Delay (s)	7.8	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2023 PM Total
07/08/2021

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	98	7	91	83	29	8	10	97	36	36	0
Future Vol, veh/h	0	98	7	91	83	29	8	10	97	36	36	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	7	91	83	29	8	10	97	36	36	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	239	231	36	236	183	59	36	0	0	107	0	0
Stage 1	108	108	-	75	75	-	-	-	-	-	-	-
Stage 2	131	123	-	161	108	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	715	669	1037	718	711	1007	1575	-	-	1484	-	-
Stage 1	897	806	-	934	833	-	-	-	-	-	-	-
Stage 2	873	794	-	841	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	616	649	1037	617	690	1007	1575	-	-	1484	-	-
Mov Cap-2 Maneuver	616	649	-	617	690	-	-	-	-	-	-	-
Stage 1	893	786	-	929	829	-	-	-	-	-	-	-
Stage 2	759	790	-	713	786	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.4		12.5		0.5		3.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1575	-	-	666	684	1484	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.158	0.297	0.024	-	-				
HCM Control Delay (s)	7.3	0	-	11.4	12.5	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	1.2	0.1	-	-				

Appendix E - Level of Service Reports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 AM Background
07/07/2021

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	98	7	91	83	29	8	47	97	36	225	0
Future Vol, veh/h	0	98	7	91	83	29	8	47	97	36	225	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	7	91	83	29	8	47	97	36	225	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	465	457	225	462	409	96	225	0	0	144	0	0
Stage 1	297	297	-	112	112	-	-	-	-	-	-	-
Stage 2	168	160	-	350	297	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	508	500	814	510	532	960	1344	-	-	1438	-	-
Stage 1	712	668	-	893	803	-	-	-	-	-	-	-
Stage 2	834	766	-	666	668	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	420	482	814	415	513	960	1344	-	-	1438	-	-
Mov Cap-2 Maneuver	420	482	-	415	513	-	-	-	-	-	-	-
Stage 1	707	649	-	887	797	-	-	-	-	-	-	-
Stage 2	720	761	-	544	649	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.2		17.3		0.4		1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1344	-	-	495	494	1438	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.212	0.411	0.025	-	-				
HCM Control Delay (s)	7.7	0	-	14.2	17.3	7.6	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.8	2	0.1	-	-				

Appendix E - Level of Service Reports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2043 AM Background
07/07/2021

Intersection						
Int Delay, s/veh	9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	87	80	75	31	189	183
Future Vol, veh/h	87	80	75	31	189	183
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	80	75	31	189	183

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	345 91
Stage 1	-	-	-	-	91 -
Stage 2	-	-	-	-	254 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver 1485	-	-	-	-	652 967
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	788 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver1485	-	-	-	-	614 967
Mov Cap-2 Maneuver	-	-	-	-	656 -
Stage 1	-	-	-	-	878 -
Stage 2	-	-	-	-	788 -

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	779
HCM Lane V/C Ratio	0.059	-	-	-	0.478
HCM Control Delay (s)	7.6	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 AM Background
07/07/2021

Intersection						
Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	32	93	71	40	164
Future Vol, veh/h	68	32	93	71	40	164
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	32	93	71	40	164
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	373	129	0	0	164	0
Stage 1	129	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	628	921	-	-	1414	-
Stage 1	897	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	609	921	-	-	1414	-
Mov Cap-2 Maneuver	609	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.2	0	1.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	683	1414	-	
HCM Lane V/C Ratio	-	-	0.146	0.028	-	
HCM Control Delay (s)	-	-	11.2	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 AM Total
07/07/2021

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	103	7	100	96	29	8	47	100	36	225	0
Future Vol, veh/h	0	103	7	100	96	29	8	47	100	36	225	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	103	7	100	96	29	8	47	100	36	225	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	473	460	225	465	410	97	225	0	0	147	0	0
Stage 1	297	297	-	113	113	-	-	-	-	-	-	-
Stage 2	176	163	-	352	297	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	501	498	814	508	531	959	1344	-	-	1435	-	-
Stage 1	712	668	-	892	802	-	-	-	-	-	-	-
Stage 2	826	763	-	665	668	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	405	480	814	409	512	959	1344	-	-	1435	-	-
Mov Cap-2 Maneuver	405	480	-	409	512	-	-	-	-	-	-	-
Stage 1	707	649	-	886	796	-	-	-	-	-	-	-
Stage 2	699	758	-	539	649	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.4		18.6		0.4		1					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1344	-	-	493	487	1435	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.223	0.462	0.025	-	-				
HCM Control Delay (s)	7.7	0	-	14.4	18.6	7.6	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.8	2.4	0.1	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2043 AM Total
07/07/2021

Intersection						
Int Delay, s/veh	9.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	87	80	75	34	198	183
Future Vol, veh/h	87	80	75	34	198	183
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	80	75	34	198	183

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	109	0	-	0	346 92
Stage 1	-	-	-	-	92 -
Stage 2	-	-	-	-	254 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver 1481	-	-	-	-	651 965
Stage 1	-	-	-	-	932 -
Stage 2	-	-	-	-	788 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver1481	-	-	-	-	613 965
Mov Cap-2 Maneuver	-	-	-	-	656 -
Stage 1	-	-	-	-	877 -
Stage 2	-	-	-	-	788 -

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1481	-	-	-	775
HCM Lane V/C Ratio	0.059	-	-	-	0.492
HCM Control Delay (s)	7.6	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.7

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 AM Total
07/07/2021

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	32	93	76	40	164
Future Vol, veh/h	81	32	93	76	40	164
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	32	93	76	40	164
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	375	131	0	0	169	0
Stage 1	131	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	626	919	-	-	1409	-
Stage 1	895	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	607	919	-	-	1409	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.4	0	1.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	672	1409	-	
HCM Lane V/C Ratio	-	-	0.168	0.028	-	
HCM Control Delay (s)	-	-	11.4	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 PM Background
07/08/2021

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	41	7	45	50	17	12	114	37	14	172	0
Future Vol, veh/h	0	41	7	45	50	17	12	114	37	14	172	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	41	7	45	50	17	12	114	37	14	172	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	390	375	172	381	357	133	172	0	0	151	0	0
Stage 1	200	200	-	157	157	-	-	-	-	-	-	-
Stage 2	190	175	-	224	200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	569	556	872	577	569	916	1405	-	-	1430	-	-
Stage 1	802	736	-	845	768	-	-	-	-	-	-	-
Stage 2	812	754	-	779	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	512	545	872	531	558	916	1405	-	-	1430	-	-
Mov Cap-2 Maneuver	512	545	-	531	558	-	-	-	-	-	-	-
Stage 1	795	728	-	837	761	-	-	-	-	-	-	-
Stage 2	738	747	-	721	728	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.8		12.7		0.6		0.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1405	-	-	577	581	1430	-	-				
HCM Lane V/C Ratio	0.009	-	-	0.083	0.193	0.01	-	-				
HCM Control Delay (s)	7.6	0	-	11.8	12.7	7.5	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.7	0	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2043 PM Background
07/08/2021

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	72	145	52	135	132
Future Vol, veh/h	45	72	145	52	135	132
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	72	145	52	135	132
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	197	0	-	0	333	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1376	-	-	-	662	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1376	-	-	-	640	873
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	867	-
Approach	EB	WB		SB		
HCM Control Delay, s	3	0		12.2		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1376	-	-	-	763	
HCM Lane V/C Ratio	0.033	-	-	-	0.35	
HCM Control Delay (s)	7.7	-	-	-	12.2	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 PM Background
07/08/2021

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	20	206	39	24	126
Future Vol, veh/h	47	20	206	39	24	126
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	20	206	39	24	126
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	400	226	0	0	245	0
Stage 1	226	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	606	813	-	-	1321	-
Stage 1	812	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	594	813	-	-	1321	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.2	0	1.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	646	1321	-	
HCM Lane V/C Ratio	-	-	0.104	0.018	-	
HCM Control Delay (s)	-	-	11.2	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-	

Appendix E - Level of Service Reoports

1: 18 1/2 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 PM Total
07/08/2021

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	49	7	54	55	17	12	114	49	14	172	0
Future Vol, veh/h	0	49	7	54	55	17	12	114	49	14	172	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	49	7	54	55	17	12	114	49	14	172	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	399	387	172	391	363	139	172	0	0	163	0	0
Stage 1	200	200	-	163	163	-	-	-	-	-	-	-
Stage 2	199	187	-	228	200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	561	547	872	568	565	909	1405	-	-	1416	-	-
Stage 1	802	736	-	839	763	-	-	-	-	-	-	-
Stage 2	803	745	-	775	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	501	536	872	516	554	909	1405	-	-	1416	-	-
Mov Cap-2 Maneuver	501	536	-	516	554	-	-	-	-	-	-	-
Stage 1	795	728	-	831	756	-	-	-	-	-	-	-
Stage 2	724	738	-	709	728	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.1		13.2		0.5		0.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1405	-	-	563	566	1416	-	-				
HCM Lane V/C Ratio	0.009	-	-	0.099	0.223	0.01	-	-				
HCM Control Delay (s)	7.6	0	-	12.1	13.2	7.6	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.8	0	-	-				

Appendix E - Level of Service Reoports

2: K Rd & 18 1/2 Rd
HCM 6th TWSC

Year 2043 PM Total
07/08/2021

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	72	145	64	144	132
Future Vol, veh/h	45	72	145	64	144	132
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	72	145	64	144	132

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	209	0	-	0	339 177
Stage 1	-	-	-	-	177 -
Stage 2	-	-	-	-	162 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1362	-	-	-	657 866
Stage 1	-	-	-	-	854 -
Stage 2	-	-	-	-	867 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1362	-	-	-	635 866
Mov Cap-2 Maneuver	-	-	-	-	675 -
Stage 1	-	-	-	-	826 -
Stage 2	-	-	-	-	867 -

Approach	EB	WB	SB
HCM Control Delay, s	3	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	755
HCM Lane V/C Ratio	0.033	-	-	-	0.366
HCM Control Delay (s)	7.7	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

Appendix E - Level of Service Reoports

3: 18 Rd & K 4/10 Rd
HCM 6th TWSC

Year 2043 PM Total
07/08/2021

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	52	20	206	47	24	126
Future Vol, veh/h	52	20	206	47	24	126
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	20	206	47	24	126
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	404	230	0	0	253	0
Stage 1	230	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	603	809	-	-	1312	-
Stage 1	808	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	591	809	-	-	1312	-
Mov Cap-2 Maneuver	591	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.3	0	1.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBLn1	SBL	SBT		
Capacity (veh/h)	-	-	639	1312	-	
HCM Lane V/C Ratio	-	-	0.113	0.018	-	
HCM Control Delay (s)	-	-	11.3	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-	