Traffic Impact Study
Proposed Apartment Building on Petremont Lane
Shelton, Connecticut
June 2020

This study examines the traffic impact of a proposed 56-unit apartment building in Shelton, Connecticut. Numbers of peak-hour site trips generated by the development, traffic capacity at nearby intersections and at future site driveways, sight line conditions, and accident records were reviewed. For the purpose of this study, 2022 was assumed to be the year during which construction is completed and the apartments are occupied.

I am a registered Professional Engineer (PE) in seven states including Connecticut and a Professional Traffic Operations Engineer (PTOE) certified by the Transportation Professional Certification Board. I have 23 years of experience in traffic engineering.

I. Summary

- The proposed 56-unit apartment building is estimated to generate 20 trips during the weekday morning peak hour and 25 trips during the weekday afternoon peak hour. The development will produce limited traffic impact.

- Recent-year accident records for the adjacent Petremont Lane were reviewed. No abnormal accident patterns were identified.

- It is recommended that Petremont Lane be converted to a one-way eastbound operation to reduce traffic conflict at the intersection of Coram Road and Petremont Lane, which is an existing condition and is independent of the proposed development.

II. Project Description

The development will consist of the construction of a 56-unit apartment building on an undeveloped parcel on Petremont Lane in Shelton, Connecticut. Two site driveways are proposed on Petremont Lane.

There is a commercial development to the east of the site and a single-family residential property west of the site on Petremont Lane. South of Petremont Lane are two industrial parcels, including Sorge Industries that has a driveway on Petremont Lane.

III. Area Roadway

Petremont Lane has no posted speed limit sign and has varying roadway widths. The roadway slopes away from the frontage of the development site to the east and west.

After on-site trees and brushes along Petremont Lane are removed, drivers exiting the two site driveways will be able to see both ends of Petremont Lane—the intersection of Petremont Lane and Coram Road and the intersection of Petremont Lane and River Road—because the frontage of the site is at higher elevations than both intersections; the sight distances at the two future driveways will be adequate.

Recent-year traffic volumes for area roadways compiled by ConnDOT were examined for this study. Data for a count station on Constitution Boulevard South shown in Table 1 indicates that there had been little changes in traffic volumes between 2007 and 2013.

To conservatively account for potential area-wide traffic growth, a 0.5 percent annual traffic growth rate was used for this report to convert 2011 intersection volumes at the intersection of Constitution Boulevard South and River Road provided by ConnDOT to 2022 background volumes without the apartment development. The assumed traffic growth between 2011 and 2022 is 5.6 percent.

Table 1 Average Daily Traffic (ADT)

Year	2001	2004	2007	2010	2013
Constitution Boulevard South, north of River Road	3,900	4,000	4,800	4,600	4,600

Source: ConnDOT

Because of the abnormally low traffic volumes during the ongoing pandemic, typical peak-hour traffic counts were not collected at area intersections for this study. The intersection traffic volumes used for capacity analysis were based on volumes from ConnDOT, 0.5 percent annual growth, and short-duration traffic observations at area intersections.

IV. Future Traffic Conditions

Land Use (LU) 221, Multifamily Housing (Mid-Rise) from *Trip Generation, 10th Edition* published by the Institute of Transportation Engineers (ITE) was used to estimate the number of trips generated by the development.

Table 2 summarizes the trip generation results: 20 trips for the weekday morning peak and 25 trips for the weekday afternoon peak hour. These hourly site trips will produce limited traffic impact on area roadways.

Table 2 Trip Generation (vph)

ITE LU 221, Multifamily Housing (Mid-Rise) (56 Units)			
	Entry	Exit	Entry & Exit
Weekday AM Peak Hour of Adjacent Street	5	15	20
Weekday PM Peak Hour of Adjacent Street	15	10	25

vph Vehicles per hour

Table 3 describes the distribution of the site-generated trips along area routes. The distribution takes into account the relative traffic volumes of area roadways and the development patterns in this part of Shelton.

Table 3 Trip Distribution

To / From Route	Entry/Exit
North: Constitution Blvd. South	40%
North: River Rd. (Rt. 110)	20%
South: River Rd. (Rt. 110)	40%
Total	100%

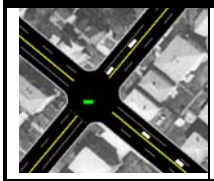
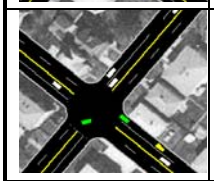
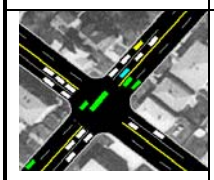
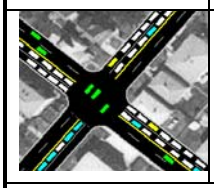
Capacity Analysis

To assess the quality of traffic flow, intersection capacity analysis was conducted for the existing, future no-build and future build traffic conditions. Capacity analysis provides an indication of how well roadway facilities serve the traffic demands placed upon them. *Synchro 10*, a software package that includes the evaluation criteria of the *2000 Highway Capacity Manual (HCM 2000)*, was used to analyze the intersections.

Level of service (LOS) is the term used to describe the different operating conditions that occur on a given roadway segment or intersection under various traffic conditions. It is a qualitative measure of the effects of a number of factors including roadway geometry, speed, travel delay, freedom to maneuver, and safety. Six levels of service can be defined for each type of facility. Each level of service (LOS) is given a letter designation from A to F, with LOS A representing the best operating conditions and LOS F representing the worst.

LOS at intersection is measured in terms of average control delay. For signalized intersections and all-way stop-controlled intersections, the analysis considers the operation of all traffic entering the intersection, and an overall condition is reported in addition to individual movements. For two-way stop-controlled (TWSC) intersections where side street traffic has to stop for main street traffic, the analysis assumes that through traffic on the main street is not affected by traffic on side streets. Thus, LOS is calculated for the main street left-turn and side street approaches, and no overall intersection LOS is defined for TWSC intersections. Table 3 presents the LOS criteria for signalized and unsignalized intersections as defined in the HCM 2000.

Table 4 LOS Criteria for Signalized and Unsignalized Intersections

	Level-of-Service (LOS)	Signalized Delay Range (Average Control Delay, in sec/veh)	Unsignalized Delay Range (Average Control Delay in sec/veh)
	**A**	≤ 10	≤ 10
	**B**	> 10 and ≤ 20	> 10 and ≤ 15
	**C**	> 20 and ≤ 35	> 15 and ≤ 25
	**D**	> 35 and ≤ 55	> 25 and ≤ 35
	**E**	> 55 and ≤ 80	> 35 and ≤ 50
	**F**	> 80	> 50

Source: 2000 Highway Capacity Manual (Exhibits 16-2 and 17-2)

Tables 5 and 6 show the capacity analysis results for the analyzed intersections under the 2022 no-build and build traffic conditions. Under the no-build conditions, most traffic approaches will operate at favorable or acceptable LOS A, B, C, or D during the two peak hours. Relatively long delays will be experienced by drivers on the Coram Road approach at the Constitution Boulevard South intersection and on the Petremont Lane approach at the River Road intersection during the weekday afternoon peak hour. These delays are attributable to the existing roadway traffic volumes and are not the result of the proposed development.

Under the build conditions, there will be limited changes in approach delays at area intersections. Traffic approaches at both site driveways will operate at LOS A during peak hours. The relatively long delays on the Coram Road approach at the Constitution Boulevard South intersection and on the Petremont Lane approach at the River Road

intersection during the weekday afternoon peak hour will be similar to those under the no-build conditions. The traffic impact of the 56 apartment units will be limited.

Table 5 Capacity Analyses for No-Build Conditions

Intersection	2022 No-Build Conditions			
	Weekday Morning Peak Hour of Adjacent Streets		Weekday Afternoon Peak Hour of Adjacent Streets	
	Delay (sec)	LOS	Delay (sec)	LOS
River Rd. (Rt. 110) and Constitution Blvd. South (Signalized)				
EB River Rd. Left Turn	B	12.6	A	8.6
EB River Rd. Through	A	3.4	B	12.5
WB River Rd. Through	B	16.1	B	14.7
WB River Rd. Right Turn	A	9.2	B	12.5
SB Constitution Blvd. South Left Turn	C	24.0	C	30.1
SB Constitution Blvd. South Right Turn	B	13.5	B	12.0
Intersection	B	13.0	B	15.0
Constitution Blvd. South and Coram Rd. (Unsignalized)				
EB Existing Office Park Driveway	A	0.0	E	45.1
WB Coram Rd.	C	16.3	F	209.5
SB Constitution Blvd. South	A	0.9	A	5.5
Coram Rd. and Petremont Ln. (Unsignalized)				
WB Petremont Ln.	B	10.0	B	14.1
SB Coram Rd.	A	2.7	A	0.2
River Rd. (Rt. 110) and Petremont Ln. (Unsignalized)				
EB Petremont Ln.	D	25.7	E	47.6
NB River Rd.	A	0.8	A	0.4

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

Table 6 Capacity Analyses for Build Conditions

Intersection	2022 Build Conditions			
	Weekday Morning Peak Hour of Adjacent Streets		Weekday Afternoon Peak Hour of Adjacent Streets	
	Delay (sec)	LOS	Delay (sec)	LOS
River Rd. (Rt. 110) and Constitution Blvd. South (Signalized)				
EB River Rd. Left Turn	B	12.9	A	8.6
EB River Rd. Through	A	3.4	B	12.6
WB River Rd. Through	B	16.1	B	14.7
WB River Rd. Right Turn	A	9.2	B	12.5
SB Constitution Blvd. South Left Turn	C	24.2	C	30.6
SB Constitution Blvd. South Right Turn	B	13.6	B	12.2
Intersection	B	13.1	B	15.1
Constitution Blvd. South and Coram Rd. (Unsignalized)				
EB Existing Office Park Driveway	A	0.0	E	47.0
WB Coram Rd.	C	16.5	F	224.1
SB Constitution Blvd. South	A	0.9	A	5.6
Coram Rd. and Petremont Ln. (Unsignalized)				
WB Petremont Ln.	B	10.2	B	14.3
SB Coram Rd.	A	2.7	A	0.2
River Rd. (Rt. 110) and Petremont Ln. (Unsignalized)				
EB Petremont Ln.	D	26.9	E	49.5
NB River Rd.	A	0.9	A	0.6
Petremont Ln. and Driveway # 2 (Unsignalized)				
EB Petremont Ln.	A	0.1	A	0.6
SB Driveway # 2	A	9.5	A	8.8
Petremont Ln. and Driveway # 1 (Unsignalized)				
EB Petremont Ln.	A	0.1	A	0.6
SB Driveway # 1	A	9.5	A	8.8

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

Table 7 Capacity Analyses for Build Conditions with One-Way Eastbound Petremont Lane

Intersection	2022 Build Conditions with One-Way Eastbound Petremont Lane			
	Weekday Morning Peak Hour of Adjacent Streets		Weekday Afternoon Peak Hour of Adjacent Streets	
	Delay (sec)	LOS	Delay (sec)	LOS
River Rd. (Rt. 110) and Constitution Blvd. South (Signalized)				
EB River Rd. Left Turn	B	13.8	A	8.8
EB River Rd. Through	A	3.3	B	12.1
WB River Rd. Through	B	15.7	B	14.7
WB River Rd. Right Turn	A	9.5	B	12.6
SB Constitution Blvd. South Left Turn	C	25.0	C	30.1
SB Constitution Blvd. South Right Turn	B	14.2	B	12.0
Intersection	B	13.1	B	14.8
Constitution Blvd. South and Coram Rd. (Unsignalized)				
EB Existing Office Park Driveway	A	0.0	E	45.6
WB Coram Rd.	C	18.1	F	250.4
SB Constitution Blvd. South	A	1.0	A	5.8
Coram Rd. and Petremont Ln. (Unsignalized)				
SB Coram Rd.	A	2.8	A	0.2
River Rd. (Rt. 110) and Petremont Ln. (Unsignalized)				
EB Petremont Ln. Left Turn	D	26.2	F	63.6
EB Petremont Ln. Right Turn	C	18.2	B	10.2
Petremont Ln. and Driveway # 2 (Unsignalized)				
EB Petremont Ln.	A	0.2	A	1.4
SB Driveway # 2	A	9.3	A	8.8
Petremont Ln. and Driveway # 1 (Unsignalized)				
EB Petremont Ln.	A	0.1	A	1.2
SB Driveway # 1	A	9.2	A	8.8

EB Eastbound
WB Westbound
NB Northbound
SB Southbound
LOS Level of Service

Table 7 shows the analysis scenario in which Petremont Lane is changed to a one-way eastbound operation between the intersections of Coram Road and River Road. There will be no major changes in delays and LOS at area intersections as a result of the one-way conversion. The one-way operation provides a number of improvements to address existing issues that are independent of the proposed development:

- It will eliminate the westbound traffic on Petremont Lane at the Coram Road intersection, which will simplify the traffic operation and reduce potential traffic conflicts at this intersection that is located immediately east of the intersection of Constitution Boulevard South and Coram Road.

- The western end of Petremont Lane is relatively narrow, and a one-way eastbound traffic flow is a better fit for this part of the roadway.

A number of improvements will need to be made for the one-way conversion:

- Remove the existing stop bar on Petremont Lane at the Coram Road intersection. Stripe a stop bar across the full width of Petremont Lane and add pavement markings for two short turn lanes with turn arrows for left turns and right turns on Petremont Lane at the River Road intersection.

- Install two “do not enter” signs facing east on Petremont Lane at the Coram Road intersection. Install two “do not enter” signs facing east on Petremont Lane at the River Road intersection. Install two stop signs and a lane assignment sign (a left-turn lane and a right-turn lane) on Petremont Lane facing west at the River Road intersection.

- Install one-way signs on Petremont Lane facing the following driveways: the Sorge Industries driveway, the commercial plaza driveway, and the two proposed site driveways.

V. Accident Records

Traffic accident records for Petremont Lane during a five-year period were searched using Connecticut Crash Data Repository website maintained by UConn. The data is summarized in Table 8.

A total of two accidents were recorded: one angle accident on River Road at the Petremont Lane intersection between a northbound left-turn vehicle and a northbound passing vehicle, and one accident on Petremont Lane involving one eastbound vehicle and one westbound vehicle colliding with embankment when there was snow on the ground.

Based on the numbers of accidents over a five-year period and the accident categories in the table, no abnormal accident patterns were identified from these records. Because of the limited traffic impact to be generated by the development, it is not expected to adversely affect the safety conditions of the adjacent roadways.

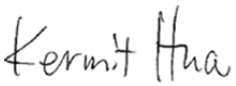
Table 8 Accident Record Summary

Roadway	Petremont Lane
Year	
2015	1
2016	1
2017	0
2018	0
2019	0
Total	**2**
Accident Severity	
Fatality	0
Injury (No Fatality)	0
Property Damage Only	2
Total	**2**
Type of Collision	
Angle	1
Fixed Object	1
Total	**2**
Weather Condition	
Clear	1
Snow	1
Total	**2**
Road Surface Condition	
Dry	1
Snow	1
Total	**2**
Light Condition	
Daylight	2
Total	**2**
Location	
River Road (Rt. 110) Intersection	1
On Petremont Lane, between intersections	1
Total	**2**

Source: UConn

VI. Conclusions

The traffic impact of a 56-unit apartment building on Petremont Lane was reviewed. The development is expected to produce limited traffic impact on area roadways. To reduce potential traffic conflicts resulted from two closely-spaced intersections at the western end of Petremont Lane, an existing condition independent of the proposed development, it is recommended that Petremont Lane be converted to a one-way eastbound operation.



Kermit Hua, PE, PTOE
Principal
KWH Enterprise, LLC
(203) 606-3525
kermit.hua@kwhenterprise.com

Technical Appendices

Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

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The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

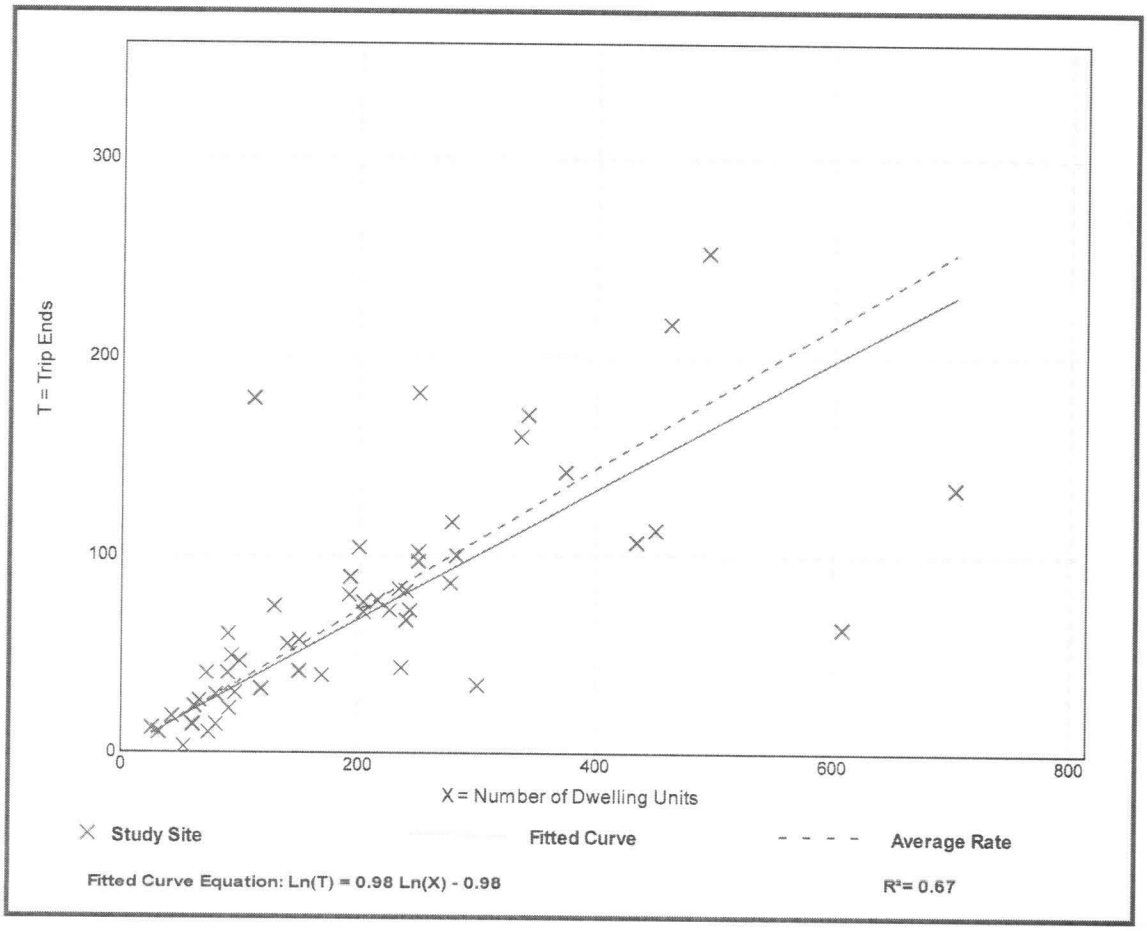
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. Num. of Dwelling Units: 207
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



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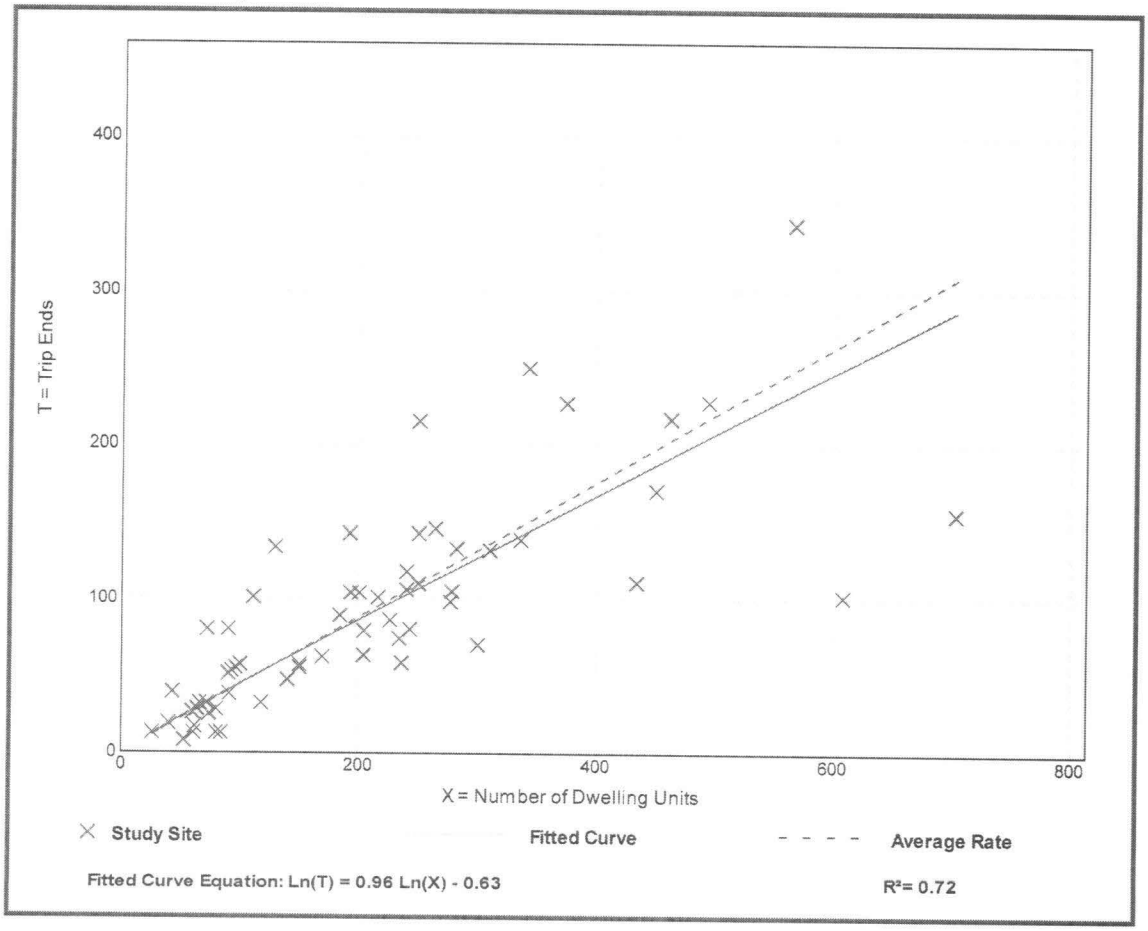
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	60
Avg. Num. of Dwelling Units:	208
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



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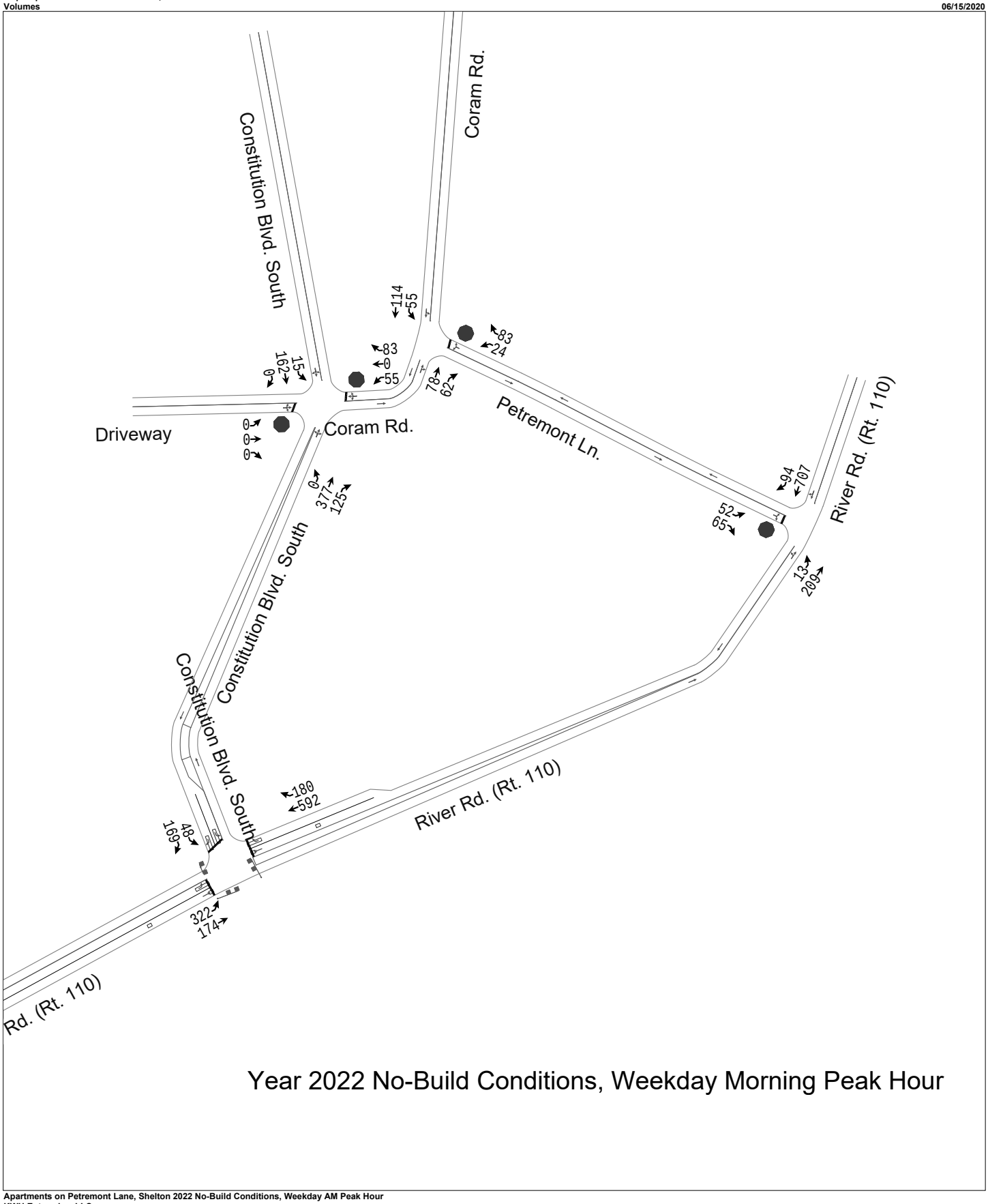
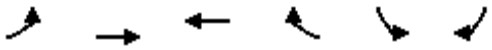


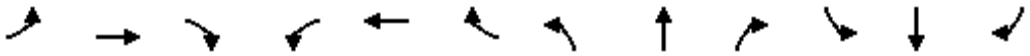
Year 2022 No-Build Conditions, Weekday Morning Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	322	174	592	180	48	169
Future Volume (vph)	322	174	592	180	48	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	464	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	189	643	196	52	184
RTOR Reduction (vph)	0	0	0	102	0	117
Lane Group Flow (vph)	350	189	643	94	52	67
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	40.0	44.0	30.4	30.4	9.5	23.1
Effective Green, g (s)	40.0	44.0	30.4	30.4	9.5	23.1
Actuated g/C Ratio	0.63	0.69	0.48	0.48	0.15	0.36
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	489	1290	891	757	264	575
v/s Ratio Prot	c0.11	0.10	c0.35	0.06	c0.03	0.04
v/s Ratio Perm	0.34					
v/c Ratio	0.72	0.15	0.72	0.12	0.20	0.12
Uniform Delay, d1	7.6	3.3	13.2	9.2	23.7	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.1	2.9	0.1	0.4	0.1
Delay (s)	12.6	3.4	16.1	9.2	24.0	13.5
Level of Service	B	A	B	A	C	B
Approach Delay (s)		9.3	14.5		15.8	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	0	0	55	0	83	0	377	125	15	162	0
Future Volume (Veh/h)	0	0	0	55	0	83	0	377	125	15	162	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	0	0	60	0	90	0	410	136	16	176	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	776	754	176	686	686	478	176			546		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	776	754	176	686	686	478	176			546		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	100	85	100			98		
cM capacity (veh/h)	263	333	867	357	364	587	1400			1023		

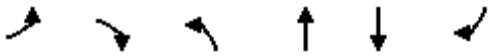
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	150	546	192
Volume Left	0	60	0	16
Volume Right	0	90	136	0
cSH	1700	467	1400	1023
Volume to Capacity	0.00	0.32	0.00	0.02
Queue Length 95th (ft)	0	34	0	1
Control Delay (s)	0.0	16.3	0.0	0.9
Lane LOS	A	C		A
Approach Delay (s)	0.0	16.3	0.0	0.9
Approach LOS	A	C		

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	83	78	62	55	114
Future Volume (Veh/h)	24	83	78	62	55	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	90	85	67	60	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	362	118			152	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	362	118			152	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	90			96	
cM capacity (veh/h)	610	933			1429	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	116	152	184
Volume Left	26	0	60
Volume Right	90	67	0
cSH	834	1700	1429
Volume to Capacity	0.14	0.09	0.04
Queue Length 95th (ft)	12	0	3
Control Delay (s)	10.0	0.0	2.7
Lane LOS	B		A
Approach Delay (s)	10.0	0.0	2.7
Approach LOS	B		

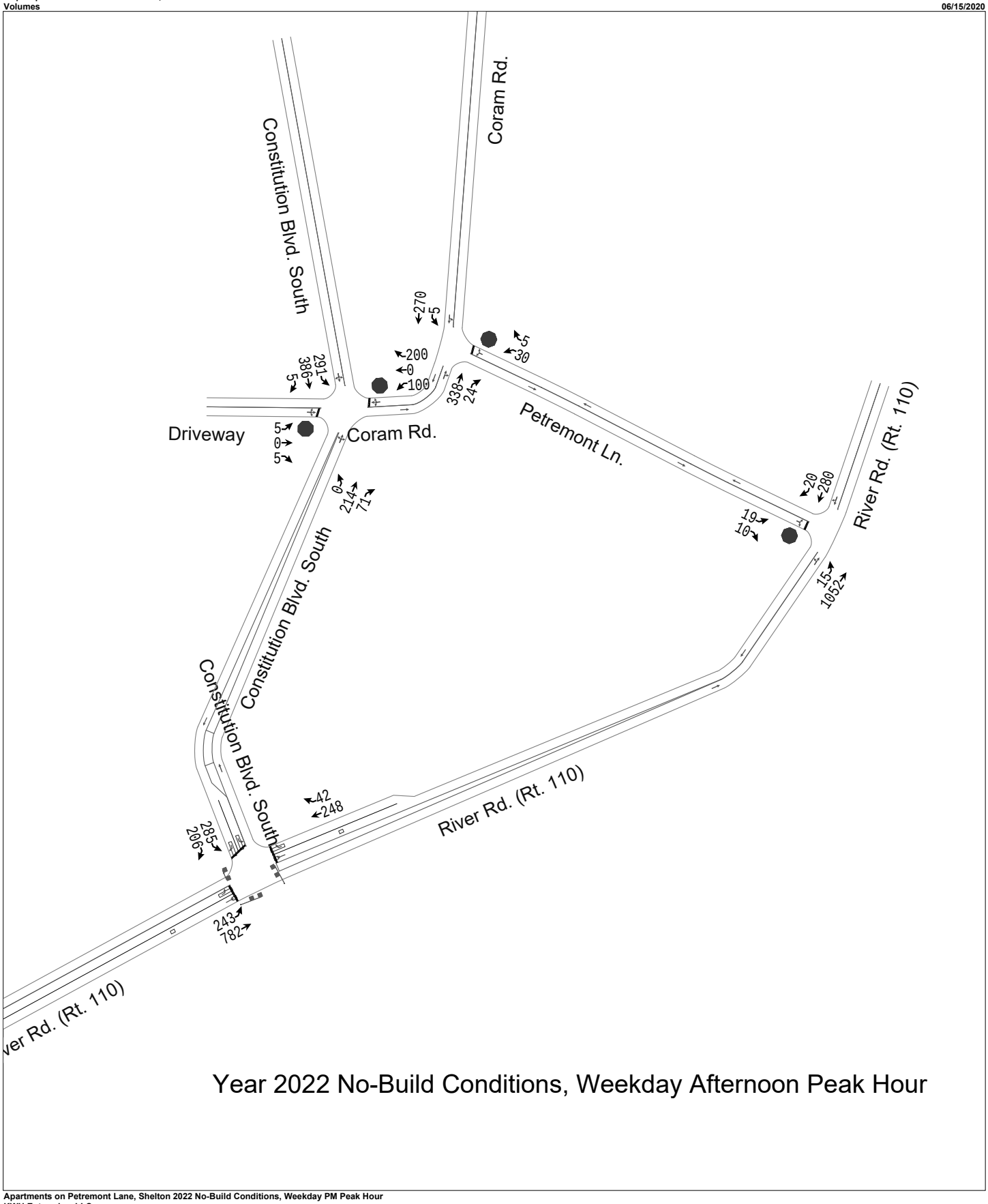
Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		33.4%	ICU Level of Service
Analysis Period (min)		15	



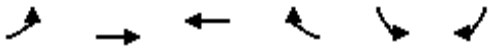
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	65	13	209	707	94
Future Volume (Veh/h)	52	65	13	209	707	94
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	71	14	227	768	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked						
vC, conflicting volume	1074	819	870			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1074	819	870			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	81	98			
cM capacity (veh/h)	239	375	775			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	128	241	870
Volume Left	57	14	0
Volume Right	71	0	102
cSH	299	775	1700
Volume to Capacity	0.43	0.02	0.51
Queue Length 95th (ft)	51	1	0
Control Delay (s)	25.7	0.8	0.0
Lane LOS	D	A	
Approach Delay (s)	25.7	0.8	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		



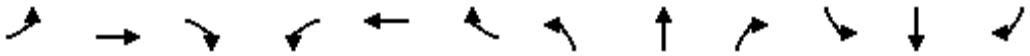
Year 2022 No-Build Conditions, Weekday Afternoon Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	243	782	248	42	285	206
Future Volume (vph)	243	782	248	42	285	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.56	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1051	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	850	270	46	310	224
RTOR Reduction (vph)	0	0	0	27	0	124
Lane Group Flow (vph)	264	850	270	19	310	100
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	40.6	44.6	30.2	30.2	17.9	32.3
Effective Green, g (s)	40.6	44.6	30.2	30.2	17.9	32.3
Actuated g/C Ratio	0.56	0.62	0.42	0.42	0.25	0.45
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	691	1146	776	659	437	705
v/s Ratio Prot	0.05	c0.46	0.14	0.01	c0.18	0.06
v/s Ratio Perm	0.16					
v/c Ratio	0.38	0.74	0.35	0.03	0.71	0.14
Uniform Delay, d1	8.3	9.9	14.4	12.5	24.9	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.6	0.3	0.0	5.2	0.1
Delay (s)	8.6	12.5	14.7	12.5	30.1	12.0
Level of Service	A	B	B	B	C	B
Approach Delay (s)		11.6	14.4		22.5	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	0	5	100	0	200	0	214	71	291	386	5
Future Volume (Veh/h)	5	0	5	100	0	200	0	214	71	291	386	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	5	0	5	109	0	217	0	233	77	316	420	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	1543	1364	422	1331	1328	272	425			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1543	1364	422	1331	1328	272	425			310		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	99	0	100	72	100			75		
cM capacity (veh/h)	54	110	631	105	116	767	1134			1250		

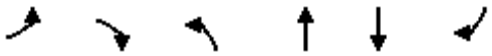
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	326	310	741
Volume Left	5	109	0	316
Volume Right	5	217	77	5
cSH	100	247	1134	1250
Volume to Capacity	0.10	1.32	0.00	0.25
Queue Length 95th (ft)	8	426	0	25
Control Delay (s)	45.1	209.5	0.0	5.5
Lane LOS	E	F		A
Approach Delay (s)	45.1	209.5	0.0	5.5
Approach LOS	E	F		

Intersection Summary				
Average Delay	52.5			
Intersection Capacity Utilization	82.2%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	5	338	24	5	270
Future Volume (Veh/h)	30	5	338	24	5	270
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	5	367	26	5	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	683	380			393	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683	380			393	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	99			100	
cM capacity (veh/h)	413	667			1166	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	393	298
Volume Left	33	0	5
Volume Right	5	26	0
cSH	435	1700	1166
Volume to Capacity	0.09	0.23	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	14.1	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	14.1	0.0	0.2
Approach LOS	B		

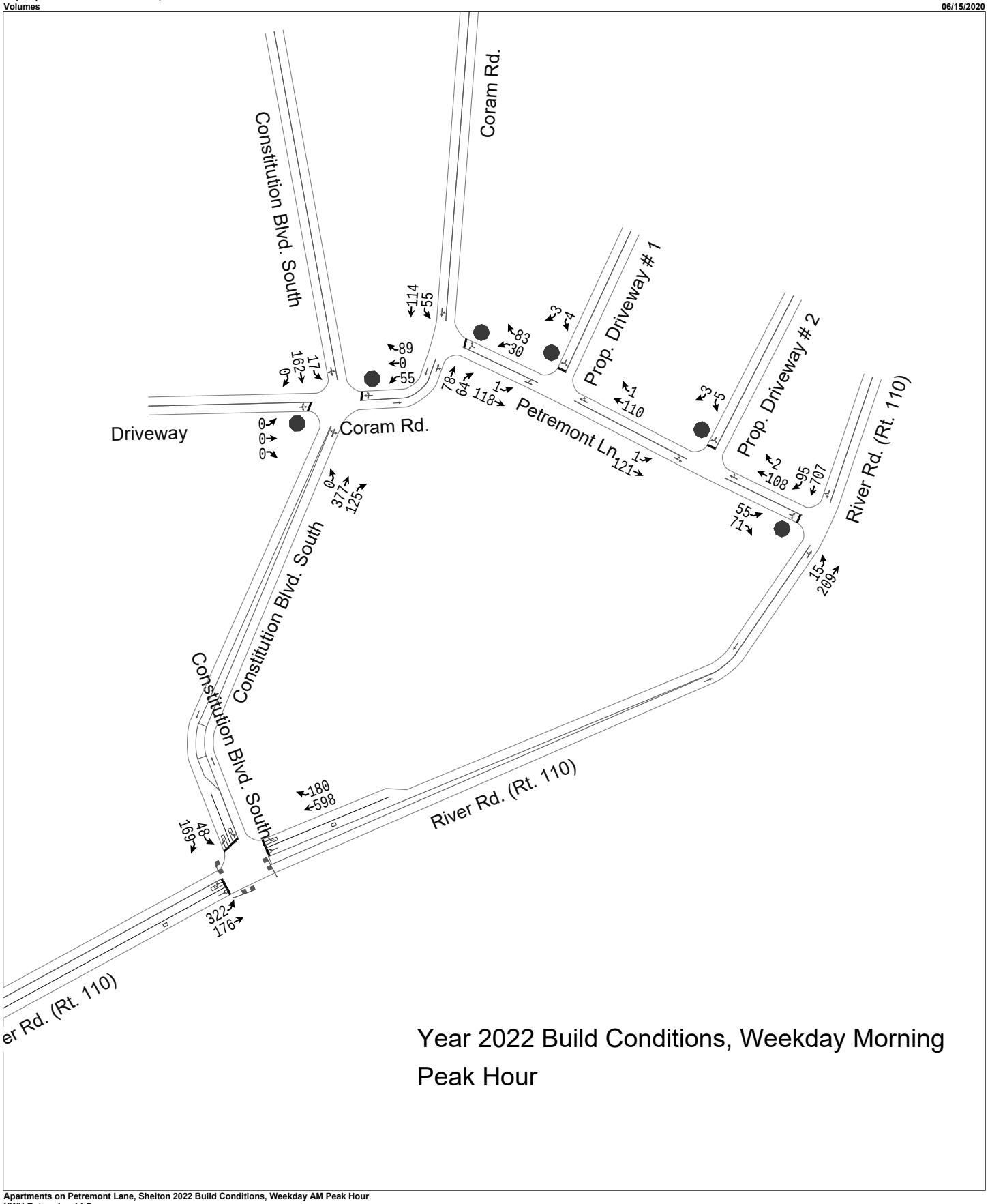
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		



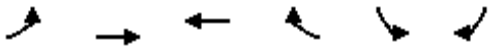
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	10	15	1052	280	20
Future Volume (Veh/h)	19	10	15	1052	280	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	11	16	1143	304	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked	0.59					
vC, conflicting volume	1490	315	326			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1483	315	326			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	98	99			
cM capacity (veh/h)	80	725	1234			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	32	1159	326
Volume Left	21	16	0
Volume Right	11	0	22
cSH	116	1234	1700
Volume to Capacity	0.28	0.01	0.19
Queue Length 95th (ft)	26	1	0
Control Delay (s)	47.6	0.4	0.0
Lane LOS	E	A	
Approach Delay (s)	47.6	0.4	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		



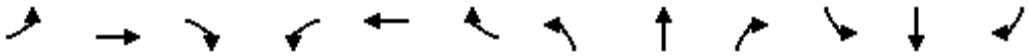
Year 2022 Build Conditions, Weekday Morning Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	322	176	598	180	48	169
Future Volume (vph)	322	176	598	180	48	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.24	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	456	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	191	650	196	52	184
RTOR Reduction (vph)	0	0	0	102	0	117
Lane Group Flow (vph)	350	191	650	94	52	67
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	40.3	44.3	30.7	30.7	9.5	23.1
Effective Green, g (s)	40.3	44.3	30.7	30.7	9.5	23.1
Actuated g/C Ratio	0.63	0.69	0.48	0.48	0.15	0.36
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	485	1293	896	761	263	573
v/s Ratio Prot	c0.11	0.10	c0.35	0.06	c0.03	0.04
v/s Ratio Perm	0.35					
v/c Ratio	0.72	0.15	0.73	0.12	0.20	0.12
Uniform Delay, d1	7.7	3.3	13.2	9.1	23.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	0.1	2.9	0.1	0.4	0.1
Delay (s)	12.9	3.4	16.1	9.2	24.2	13.6
Level of Service	B	A	B	A	C	B
Approach Delay (s)		9.6	14.5		16.0	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	0	0	55	0	89	0	377	125	17	162	0
Future Volume (Veh/h)	0	0	0	55	0	89	0	377	125	17	162	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	0	0	60	0	97	0	410	136	18	176	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	787	758	176	690	690	478	176			546		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	787	758	176	690	690	478	176			546		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	100	83	100			98		
cM capacity (veh/h)	255	331	867	355	362	587	1400			1023		

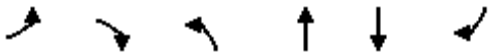
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	157	546	194
Volume Left	0	60	0	18
Volume Right	0	97	136	0
cSH	1700	470	1400	1023
Volume to Capacity	0.00	0.33	0.00	0.02
Queue Length 95th (ft)	0	36	0	1
Control Delay (s)	0.0	16.5	0.0	0.9
Lane LOS	A	C		A
Approach Delay (s)	0.0	16.5	0.0	0.9
Approach LOS	A	C		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	83	78	64	55	114
Future Volume (Veh/h)	30	83	78	64	55	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	90	85	70	60	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	364	120			155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	364	120			155	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	90			96	
cM capacity (veh/h)	609	931			1425	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	123	155	184
Volume Left	33	0	60
Volume Right	90	70	0
cSH	815	1700	1425
Volume to Capacity	0.15	0.09	0.04
Queue Length 95th (ft)	13	0	3
Control Delay (s)	10.2	0.0	2.7
Lane LOS	B		A
Approach Delay (s)	10.2	0.0	2.7
Approach LOS	B		

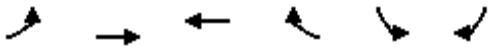
Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	71	15	209	707	95
Future Volume (Veh/h)	55	71	15	209	707	95
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	77	16	227	768	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked						
vC, conflicting volume	1078	820	871			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1078	820	871			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	75	79	98			
cM capacity (veh/h)	237	375	774			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	137	243	871
Volume Left	60	16	0
Volume Right	77	0	103
cSH	299	774	1700
Volume to Capacity	0.46	0.02	0.51
Queue Length 95th (ft)	57	2	0
Control Delay (s)	26.9	0.9	0.0
Lane LOS	D	A	
Approach Delay (s)	26.9	0.9	0.0
Approach LOS	D		

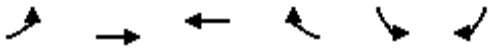
Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	121	108	2	5	3
Future Volume (Veh/h)	1	121	108	2	5	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	132	117	2	5	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	119				252	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	119				252	118
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1469				736	934

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	133	119	8
Volume Left	1	0	5
Volume Right	0	2	3
cSH	1469	1700	800
Volume to Capacity	0.00	0.07	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.5
Approach LOS			A

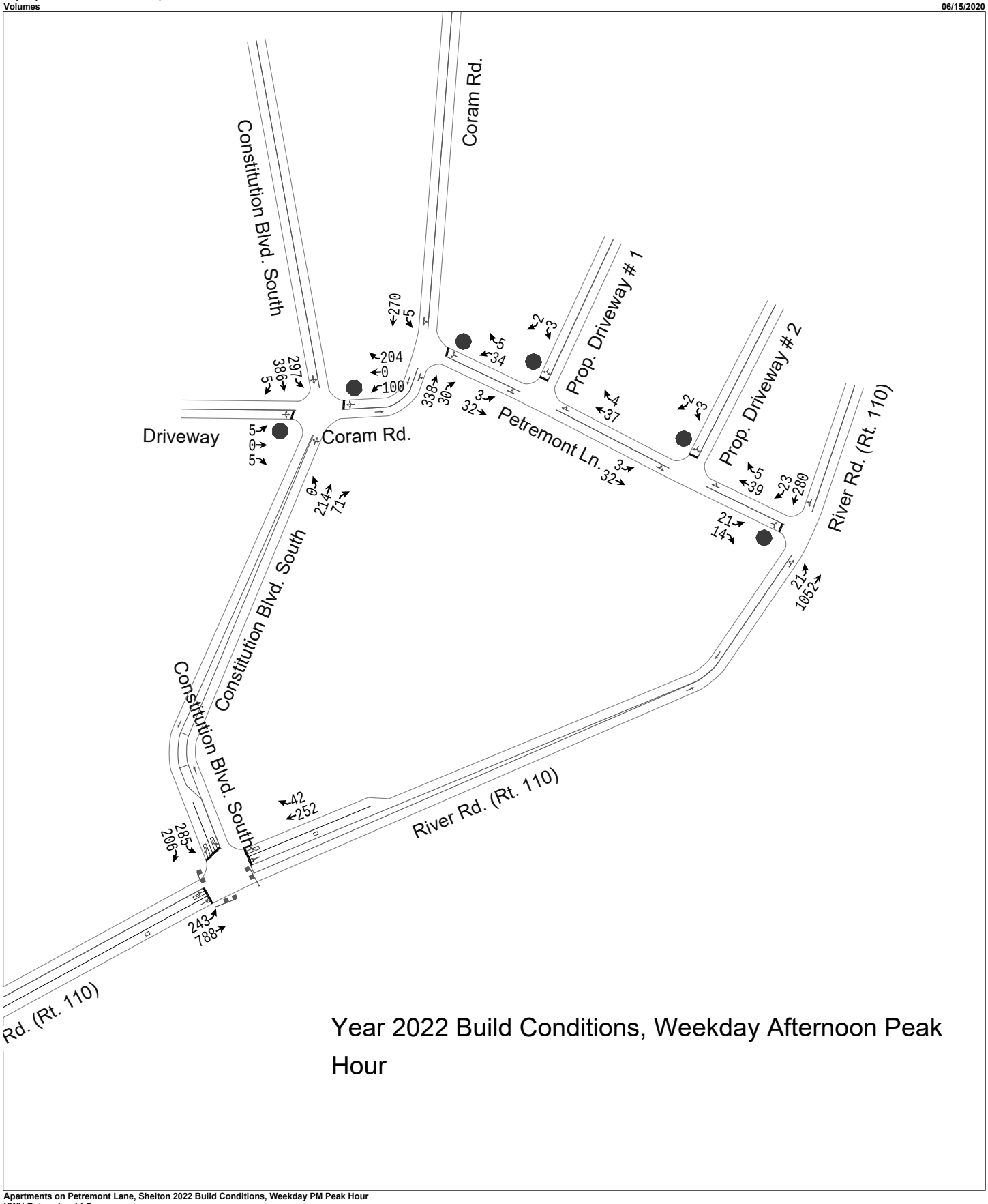
Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		17.2%	ICU Level of Service A
Analysis Period (min)		15	



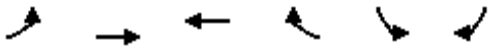
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	118	110	1	4	3
Future Volume (Veh/h)	1	118	110	1	4	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	128	120	1	4	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	121				250	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	121				250	120
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1467				738	931

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	129	121	7
Volume Left	1	0	4
Volume Right	0	1	3
cSH	1467	1700	810
Volume to Capacity	0.00	0.07	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		17.0%	ICU Level of Service A
Analysis Period (min)		15	



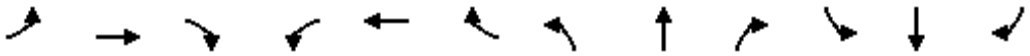
Year 2022 Build Conditions, Weekday Afternoon Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	243	788	252	42	285	206
Future Volume (vph)	243	788	252	42	285	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.56	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1043	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	857	274	46	310	224
RTOR Reduction (vph)	0	0	0	27	0	125
Lane Group Flow (vph)	264	857	274	19	310	99
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	41.1	45.1	30.7	30.7	18.0	32.4
Effective Green, g (s)	41.1	45.1	30.7	30.7	18.0	32.4
Actuated g/C Ratio	0.56	0.62	0.42	0.42	0.25	0.44
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	689	1149	782	664	435	701
v/s Ratio Prot	0.05	c0.46	0.15	0.01	c0.18	0.06
v/s Ratio Perm	0.16					
v/c Ratio	0.38	0.75	0.35	0.03	0.71	0.14
Uniform Delay, d1	8.3	9.9	14.4	12.4	25.2	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.7	0.3	0.0	5.5	0.1
Delay (s)	8.6	12.6	14.7	12.5	30.6	12.2
Level of Service	A	B	B	B	C	B
Approach Delay (s)		11.7	14.4		22.9	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	14.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	0	5	100	0	204	0	214	71	297	386	5
Future Volume (Veh/h)	5	0	5	100	0	204	0	214	71	297	386	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	5	0	5	109	0	222	0	233	77	323	420	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	1562	1378	422	1345	1342	272	425			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1562	1378	422	1345	1342	272	425			310		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	99	0	100	71	100			74		
cM capacity (veh/h)	52	107	631	102	113	767	1134			1250		

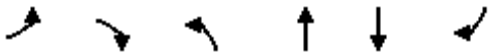
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	331	310	748
Volume Left	5	109	0	323
Volume Right	5	222	77	5
cSH	96	244	1134	1250
Volume to Capacity	0.10	1.36	0.00	0.26
Queue Length 95th (ft)	8	446	0	26
Control Delay (s)	47.0	224.1	0.0	5.6
Lane LOS	E	F		A
Approach Delay (s)	47.0	224.1	0.0	5.6
Approach LOS	E	F		

Intersection Summary				
Average Delay	56.3			
Intersection Capacity Utilization	82.8%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	34	5	338	30	5	270
Future Volume (Veh/h)	34	5	338	30	5	270
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	5	367	33	5	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	686	384			400	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	686	384			400	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	99			100	
cM capacity (veh/h)	411	664			1159	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	42	400	298
Volume Left	37	0	5
Volume Right	5	33	0
cSH	431	1700	1159
Volume to Capacity	0.10	0.24	0.00
Queue Length 95th (ft)	8	0	0
Control Delay (s)	14.3	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	14.3	0.0	0.2
Approach LOS	B		

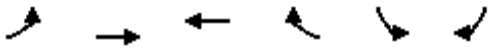
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	14	21	1052	280	23
Future Volume (Veh/h)	21	14	21	1052	280	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	15	23	1143	304	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked	0.59					
vC, conflicting volume	1506	316	329			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1509	316	329			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	98	98			
cM capacity (veh/h)	76	724	1231			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	1166	329
Volume Left	23	23	0
Volume Right	15	0	25
cSH	118	1231	1700
Volume to Capacity	0.32	0.02	0.19
Queue Length 95th (ft)	32	1	0
Control Delay (s)	49.5	0.6	0.0
Lane LOS	E	A	
Approach Delay (s)	49.5	0.6	0.0
Approach LOS	E		

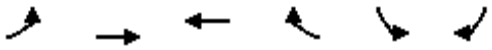
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	32	39	5	3	2
Future Volume (Veh/h)	3	32	39	5	3	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	35	42	5	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	47				86	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	47				86	44
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1560				914	1025

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	38	47	5
Volume Left	3	0	3
Volume Right	0	5	2
cSH	1560	1700	956
Volume to Capacity	0.00	0.03	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.6	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	0.6	0.0	8.8
Approach LOS			A

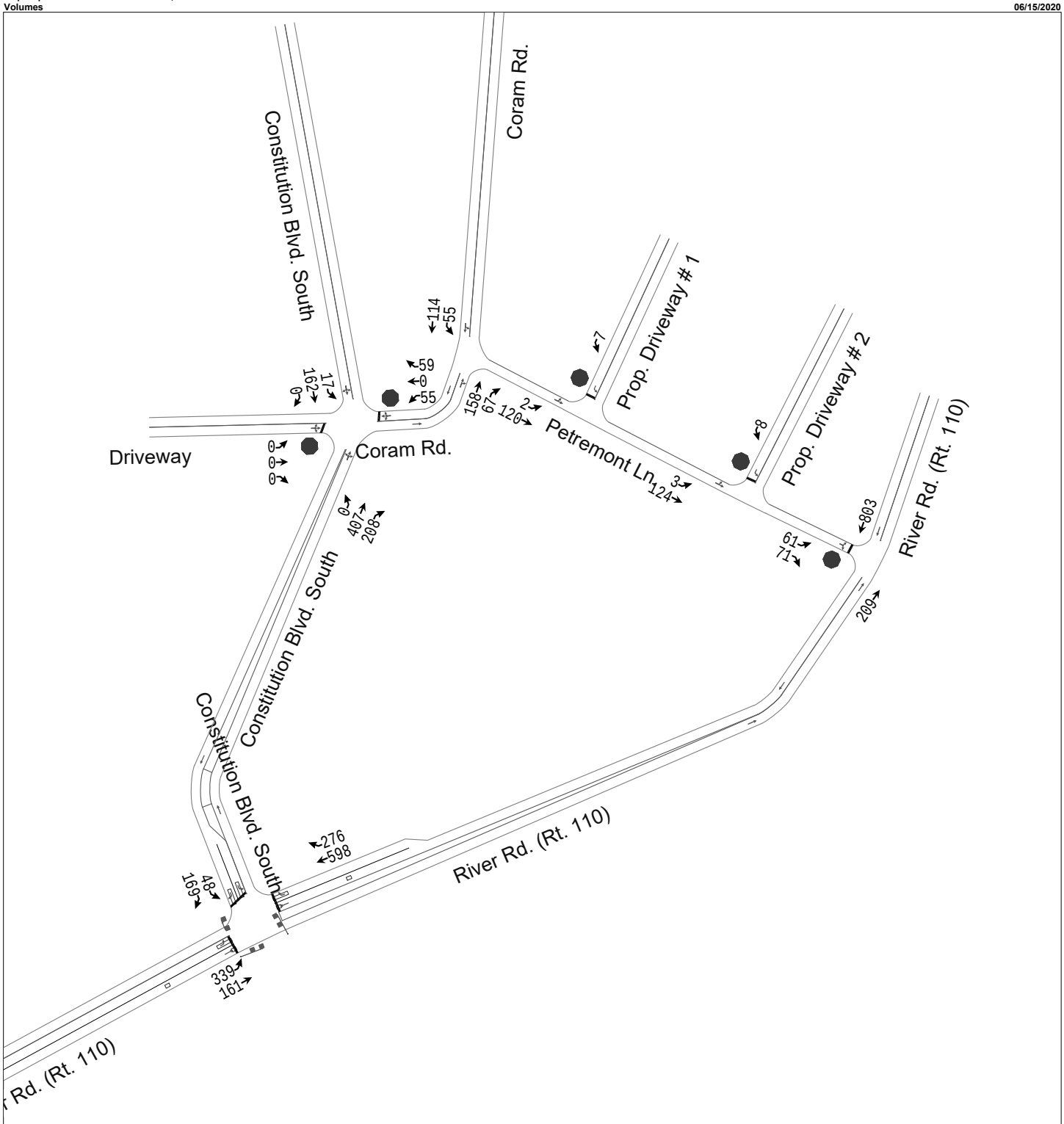
Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		14.2%	ICU Level of Service A
Analysis Period (min)		15	



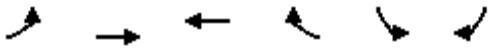
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	32	37	4	3	2
Future Volume (Veh/h)	3	32	37	4	3	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	35	40	4	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	44				83	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				83	42
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1564				917	1029

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	38	44	5
Volume Left	3	0	3
Volume Right	0	4	2
cSH	1564	1700	959
Volume to Capacity	0.00	0.03	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.6	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	0.6	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		



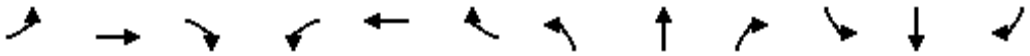
Year 2022 Build Conditions with One-Way Eastbound Petremont Lane, Weekday Morning Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	339	161	598	276	48	169
Future Volume (vph)	339	161	598	276	48	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	467	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	368	175	650	300	52	184
RTOR Reduction (vph)	0	0	0	153	0	118
Lane Group Flow (vph)	368	175	650	147	52	66
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	41.8	45.8	32.0	32.0	9.5	23.3
Effective Green, g (s)	41.8	45.8	32.0	32.0	9.5	23.3
Actuated g/C Ratio	0.64	0.70	0.49	0.49	0.15	0.36
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	494	1306	912	775	257	564
v/s Ratio Prot	c0.11	0.09	0.35	0.09	c0.03	0.04
v/s Ratio Perm	c0.37					
v/c Ratio	0.74	0.13	0.71	0.19	0.20	0.12
Uniform Delay, d1	7.7	3.2	13.0	9.4	24.6	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.0	2.7	0.1	0.4	0.1
Delay (s)	13.8	3.3	15.7	9.5	25.0	14.2
Level of Service	B	A	B	A	C	B
Approach Delay (s)		10.4	13.7		16.6	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	0	0	55	0	59	0	407	208	17	162	0
Future Volume (Veh/h)	0	0	0	55	0	59	0	407	208	17	162	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	0	0	60	0	64	0	442	226	18	176	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	831	880	176	767	767	555	176			668		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	831	880	176	767	767	555	176			668		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	81	100	88	100			98		
cM capacity (veh/h)	250	280	867	314	326	531	1400			922		

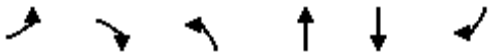
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	124	668	194
Volume Left	0	60	0	18
Volume Right	0	64	226	0
cSH	1700	398	1400	922
Volume to Capacity	0.00	0.31	0.00	0.02
Queue Length 95th (ft)	0	33	0	1
Control Delay (s)	0.0	18.1	0.0	1.0
Lane LOS	A	C		A
Approach Delay (s)	0.0	18.1	0.0	1.0
Approach LOS	A	C		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	158	67	55	114
Future Volume (Veh/h)	0	0	158	67	55	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	172	73	60	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	452	208			245	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	452	208			245	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			95	
cM capacity (veh/h)	539	832			1321	

Direction, Lane #	NB 1	SB 1
Volume Total	245	184
Volume Left	0	60
Volume Right	73	0
cSH	1700	1321
Volume to Capacity	0.14	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	2.8
Lane LOS		A
Approach Delay (s)	0.0	2.8
Approach LOS		

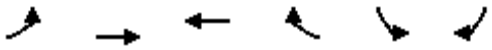
Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	28.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	71	0	209	803	0
Future Volume (Veh/h)	61	71	0	209	803	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	77	0	227	873	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked						
vC, conflicting volume	1100	873	873			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1100	873	873			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	72	78	100			
cM capacity (veh/h)	235	349	773			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	66	77	227	873
Volume Left	66	0	0	0
Volume Right	0	77	0	0
cSH	235	349	1700	1700
Volume to Capacity	0.28	0.22	0.13	0.51
Queue Length 95th (ft)	28	21	0	0
Control Delay (s)	26.2	18.2	0.0	0.0
Lane LOS	D	C		
Approach Delay (s)	21.9		0.0	0.0
Approach LOS	C			

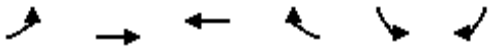
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	124	0	0	8	0
Future Volume (Veh/h)	3	124	0	0	8	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	135	0	0	9	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				141	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				141	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1623				850	1085

Direction, Lane #	EB 1	SB 1
Volume Total	138	9
Volume Left	3	9
Volume Right	0	0
cSH	1623	850
Volume to Capacity	0.00	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.2	9.3
Lane LOS	A	A
Approach Delay (s)	0.2	9.3
Approach LOS		A

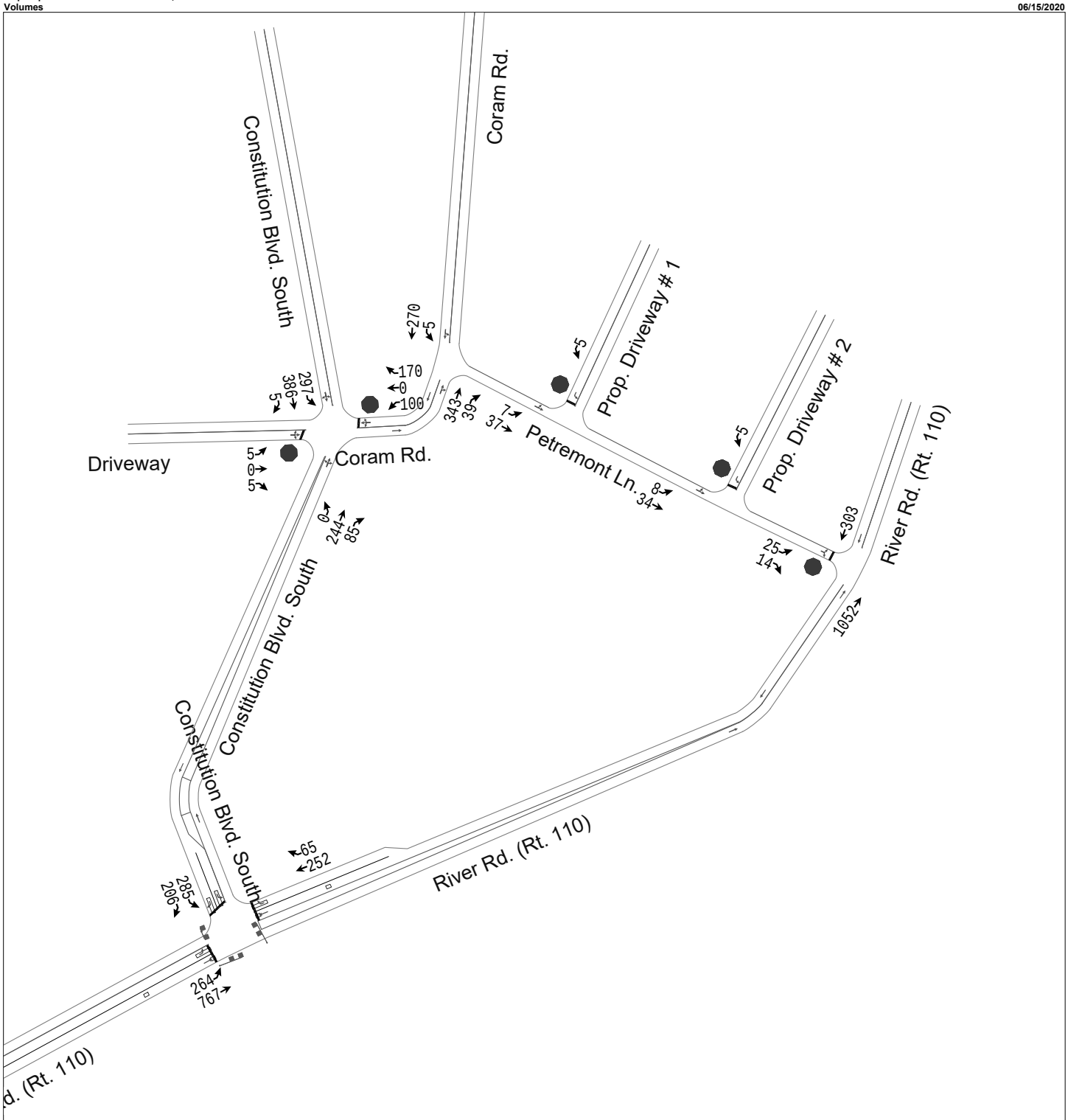
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		



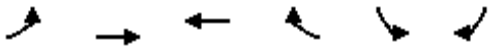
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	120	0	0	7	0
Future Volume (Veh/h)	2	120	0	0	7	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	130	0	0	8	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				134	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				134	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1623				859	1085

Direction, Lane #	EB 1	SB 1
Volume Total	132	8
Volume Left	2	8
Volume Right	0	0
cSH	1623	859
Volume to Capacity	0.00	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.1	9.2
Lane LOS	A	A
Approach Delay (s)	0.1	9.2
Approach LOS		A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		



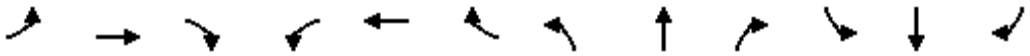
Year 2022 Build Conditions with One-Way Eastbound Petremont Lane, Weekday Afternoon Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	264	767	252	65	285	206
Future Volume (vph)	264	767	252	65	285	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.56	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1043	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	834	274	71	310	224
RTOR Reduction (vph)	0	0	0	41	0	124
Lane Group Flow (vph)	287	834	274	30	310	100
Turn Type	D.P+P	NA	NA	Prot	Prot	pt+ov
Protected Phases	1	1 2	2	2	4	1 4
Permitted Phases	2					
Actuated Green, G (s)	40.6	44.6	30.2	30.2	17.9	32.3
Effective Green, g (s)	40.6	44.6	30.2	30.2	17.9	32.3
Actuated g/C Ratio	0.56	0.62	0.42	0.42	0.25	0.45
Clearance Time (s)	4.0		6.0	6.0	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	688	1146	776	659	437	705
v/s Ratio Prot	0.06	c0.45	0.15	0.02	c0.18	0.06
v/s Ratio Perm	0.17					
v/c Ratio	0.42	0.73	0.35	0.04	0.71	0.14
Uniform Delay, d1	8.4	9.7	14.5	12.6	24.9	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.3	0.3	0.0	5.2	0.1
Delay (s)	8.8	12.1	14.7	12.6	30.1	12.0
Level of Service	A	B	B	B	C	B
Approach Delay (s)		11.2	14.3		22.5	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	0	5	100	0	170	0	244	85	297	386	5
Future Volume (Veh/h)	5	0	5	100	0	170	0	244	85	297	386	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	5	0	5	109	0	185	0	265	92	323	420	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								680				
pX, platoon unblocked												
vC, conflicting volume	1564	1426	422	1384	1382	311	425			357		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1564	1426	422	1384	1382	311	425			357		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	99	0	100	75	100			73		
cM capacity (veh/h)	54	99	631	95	105	729	1134			1202		

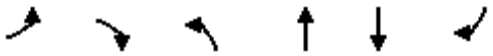
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	10	294	357	748
Volume Left	5	109	0	323
Volume Right	5	185	92	5
cSH	99	210	1134	1202
Volume to Capacity	0.10	1.40	0.00	0.27
Queue Length 95th (ft)	8	425	0	27
Control Delay (s)	45.6	250.4	0.0	5.8
Lane LOS	E	F		A
Approach Delay (s)	45.6	250.4	0.0	5.8
Approach LOS	E	F		

Intersection Summary				
Average Delay	55.6			
Intersection Capacity Utilization	83.3%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	343	39	5	270
Future Volume (Veh/h)	0	0	343	39	5	270
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	373	42	5	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	697	394			415	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	697	394			415	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	405	655			1144	

Direction, Lane #	NB 1	SB 1
Volume Total	415	298
Volume Left	0	5
Volume Right	42	0
cSH	1700	1144
Volume to Capacity	0.24	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.2
Lane LOS		A
Approach Delay (s)	0.0	0.2
Approach LOS		

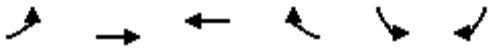
Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		23.8%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	14	0	1052	303	0
Future Volume (Veh/h)	25	14	0	1052	303	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	15	0	1143	329	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				921		
pX, platoon unblocked	0.61					
vC, conflicting volume	1472	329	329			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1454	329	329			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	69	98	100			
cM capacity (veh/h)	87	712	1231			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	27	15	1143	329
Volume Left	27	0	0	0
Volume Right	0	15	0	0
cSH	87	712	1700	1700
Volume to Capacity	0.31	0.02	0.67	0.19
Queue Length 95th (ft)	29	2	0	0
Control Delay (s)	63.6	10.2	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	44.5		0.0	0.0
Approach LOS	E			

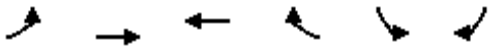
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	34	0	0	5	0
Future Volume (Veh/h)	8	34	0	0	5	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	37	0	0	5	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				55	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				55	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	100
cM capacity (veh/h)	1623				948	1085

Direction, Lane #	EB 1	SB 1
Volume Total	46	5
Volume Left	9	5
Volume Right	0	0
cSH	1623	948
Volume to Capacity	0.01	0.01
Queue Length 95th (ft)	0	0
Control Delay (s)	1.4	8.8
Lane LOS	A	A
Approach Delay (s)	1.4	8.8
Approach LOS		A

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	37	0	0	5	0
Future Volume (Veh/h)	7	37	0	0	5	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	40	0	0	5	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				56	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				56	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1623				947	1085

Direction, Lane #	EB 1	SB 1
Volume Total	48	5
Volume Left	8	5
Volume Right	0	0
cSH	1623	947
Volume to Capacity	0.00	0.01
Queue Length 95th (ft)	0	0
Control Delay (s)	1.2	8.8
Lane LOS	A	A
Approach Delay (s)	1.2	8.8
Approach LOS		A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		