Traffic Impact Study

Yucatan C-Store

El Paso County, Colorado

Prepared for:

BBKern Designs, LLC

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

Jeffrey R. Planck

Jeffrey R. Planck, P.E., PE #53006

October 11, 2021
Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Mr. Bernie Kern
BBKern Designs, LLC
P.O. Box 10081
Colorado Springs, Colorado 80932

Date

Yucatan C-Store

El Paso County, Colorado

Prepared for
BBKern Designs, LLC
P.O. Box 10081
Colorado Springs, Colorado 80932

Prepared by
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Denver, Colorado 80237
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October 2021

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1.0 EXECUTIVE SUMMARY

This report has been prepared to document the results of a Traffic Impact Study for the Yucatan C-Store project currently located on the southeast corner of the Yucatan Drive and Hancock Expressway intersection in El Paso County, Colorado. For the purposes of this analysis, the Yucatan C-Store project is anticipated to add eight fueling positions to an existing convenience store. It is expected that Yucatan C-Store will be completed in the next two years; therefore, analysis was conducted for the 2023 and 2045 planning year horizons.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system, and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County requirements:

- Yucatan Drive and Hancock Expressway
- Yucatan Drive Access

Regional access to the development is provided by Interstate 25, US Highway 85 (US-85), Powers Boulevard (SH-21) and US Highway 24 (US-24). Primary access is provided by Yucatan Drive and Hancock Expressway. Direct access is provided by an existing full movement access along Yucatan Drive located approximately 210 feet east of Hancock Expressway (measured edge to center).

The Yucatan C-Store project is expected to generate a total of approximately 2,580 daily weekday external driveway trips. Of these, a total of 166 weekday trips are expected during the morning peak hour and 184 weekday trips are expected during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes Yucatan C-Store will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- It is recommended that R1-1 STOP signs be installed on the northbound and southbound approaches at the existing Yucatan Drive Access (#2) as soon as possible to designate these approaches as stop-controlled.

- Based on El Paso County standards, an eastbound right turn lane is warranted at the existing Yucatan Drive Access With a 30-mile per hour speed limit, the eastbound right turn lane at this access intersection should provide a length of 215 feet (100 feet of storage plus 115 feet of deceleration lane length) plus a 120-foot taper. However, it is recommended that the eastbound right turn lane at this intersection be constructed as a continuous right turn lane due to the existing spacing constraint with the intersection of Yucatan Drive with Hancock Expressway.

- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for the Yucatan C-Store project currently located on the southeast corner of the Yucatan Drive and Hancock Expressway intersection in El Paso County, Colorado. A vicinity map illustrating the Yucatan C-Store development location is shown in **Figure 1**. For the purposes of this analysis, the Yucatan C-Store project is anticipated to add eight fueling positions to an existing convenience store. A conceptual site plan is attached in **Appendix F**. It is expected that Yucatan C-Store will be completed in the next couple of years; therefore, analysis was conducted for the 2023 and 2045 planning year horizons.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system, and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County requirements:

- Yucatan Drive and Hancock Expressway
- Yucatan Drive Access

Regional access to the development is provided by I-25, US-85, Powers Boulevard (SH-21), and US-24. Primary access is provided by Yucatan Drive and Hancock Expressway. Direct access is provided by an existing full movement access along Yucatan Drive located approximately 210 feet east of Hancock Expressway (measured edge to center).

NORTH
NTS 196192000

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
VICINITY MAP

FIGURE 1

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area/Site Visit

The project site is comprised of an existing convenience store. Single family residences are located to the north, south, and east of the project. Specialty retail shops are located to the west of the site while an infill site is located in the extended area to the west. Cleaview Apartments is located south of the project while the Allegion-Schlage Lock industrial development is located directly to the north.

3.2 Existing Roadway Network

Yucatan Drive/Clearview Drive extends eastbound and westbound with two through lanes in each direction at the intersection with Hancock Expressway. Yucatan Drive has a posted speed limit of 30 miles per hour. At the intersection with Hancock Expression, the east leg is named Yucatan Drive while the west leg is Clearview Drive. Clearview Drive transitions from two through lanes in each direction to one through lane in each direction approximately 100 feet west of Hancock Expressway. Hancock Expressway extends in the north-south direction with two through lanes in each direction and has a posted speed limit of 30 miles per hour.

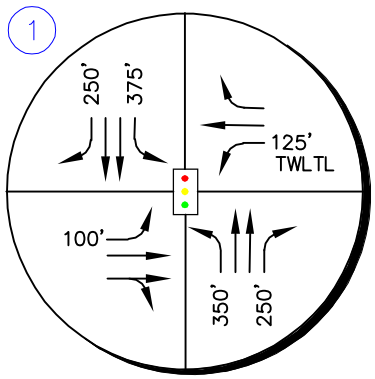
The signalized intersection of Yucatan Drive/Clearview Drive and Hancock Expressway (#1) operates with protected/permitted left turn phasing on all approaches. The eastbound approach of this intersection consists of a left turn lane and two through lanes with the outside lane being a shared through/right turn lane. The westbound approach consists of a left turn lane, one through lane, and a right turn lane. The northbound and southbound approaches both consist of one left turn lane, two through lanes, and a right turn lane. An aerial photo of the existing intersection configuration is below (north is up - typical).

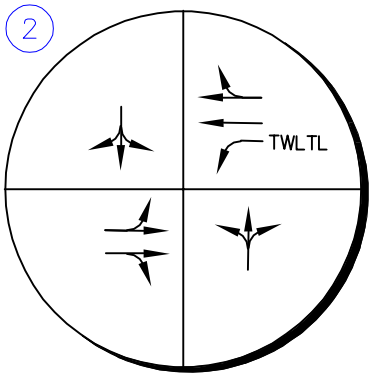
Yucatan Drive/Clearview Drive and Hancock Expressway (#1)

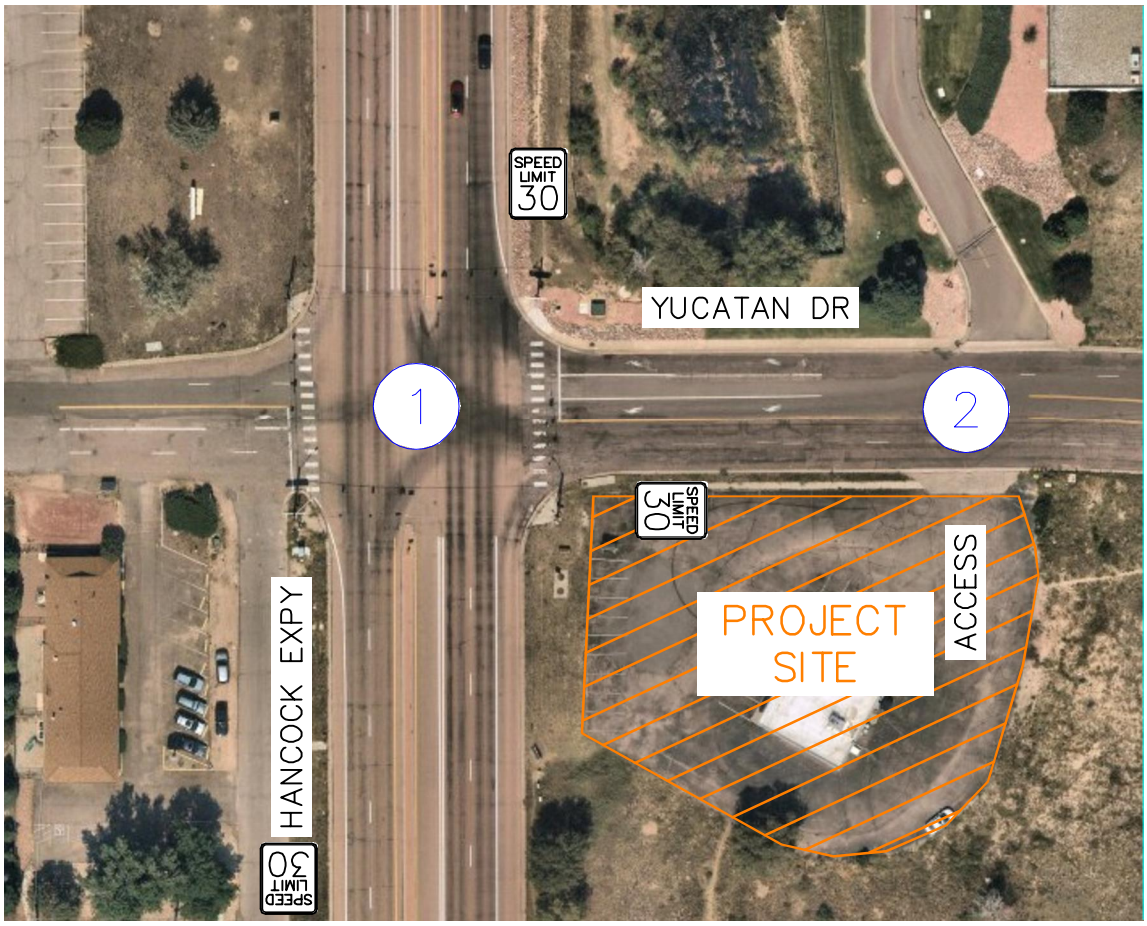
The unsignalized Yucatan Drive Access (#2) currently has no R1-1 STOP signs on any of the approaches. However, for the purposes of this study stop-control was assumed on the northbound and southbound approaches. The eastbound approach of this intersection consists of a shared left turn/through lane and a shared through/right turn lane. The westbound approach consists of a two-way left turn lane and two through lanes with the outside lane being a shared through/right turn lane. The northbound and southbound approaches consist of one lane for all movements. An aerial photo of the existing intersection configuration is below.

Yucatan Drive Access (#2)

The intersection lane configuration and control for the study area key intersections are shown in **Figure 2**.







LEGEND

X	Study Area Key Intersection
	Signalized Intersection
STOP	Stop Controlled Approach
TWLTL	Two–Way Left Turn Lane
SPD LMT XX	Roadway Speed Limit
100'	Turn Lane Length (feet)

YUCATAN C–STORE
EL PASO COUNTY, COLORADO
EXISTING GEOMETRY AND CONTROL

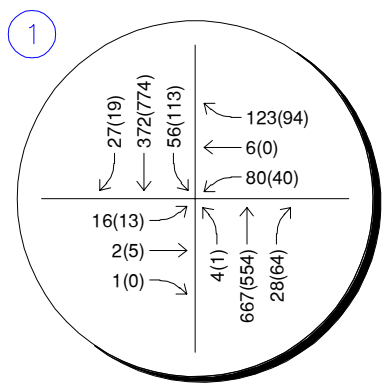
FIGURE 2

3.3 Existing Traffic Volumes

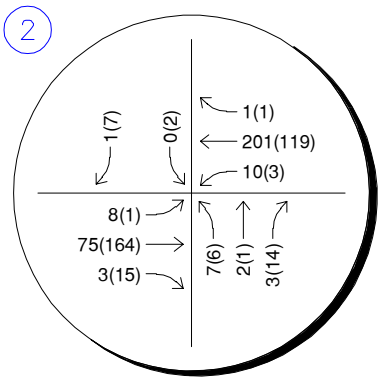
Existing turning movement counts were conducted at the study area key intersections on Tuesday, September 21, 2021 during the morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix A**.

3.4 Unspecified Development Traffic Growth

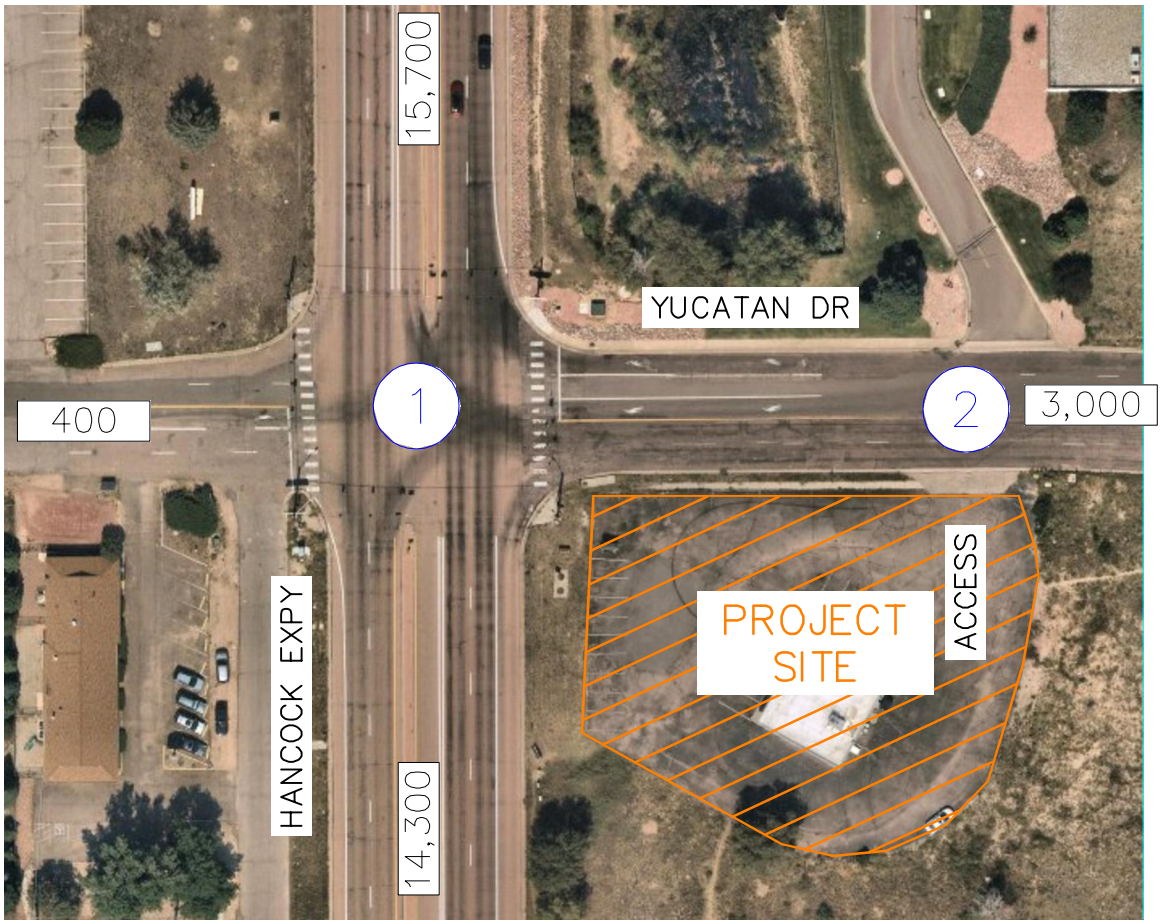
According to information provided on the website for the Colorado Department of Transportation (CDOT), the 20-year average growth factor along segments of both Powers Boulevard (SH-21) and State Highway 85 in the vicinity of the site is 1.14. The 20-year average growth factor equates to annual average growth rate of 0.67 percent. Traffic information from the CDOT Online Transportation Information System (OTIS) website is included in **Appendix B**. This annual growth rate was used to estimate near term 2023 and long term 2045 traffic volume projections at the key intersections. Background traffic volumes for 2023 and 2045 are shown in **Figures 4** and **5**, respectively.



Tuesday, September 21, 2021
7:00–8:00AM (4:30–5:30PM)



Tuesday, September 21, 2021
7:00–8:00AM (4:30 to 5:30PM)

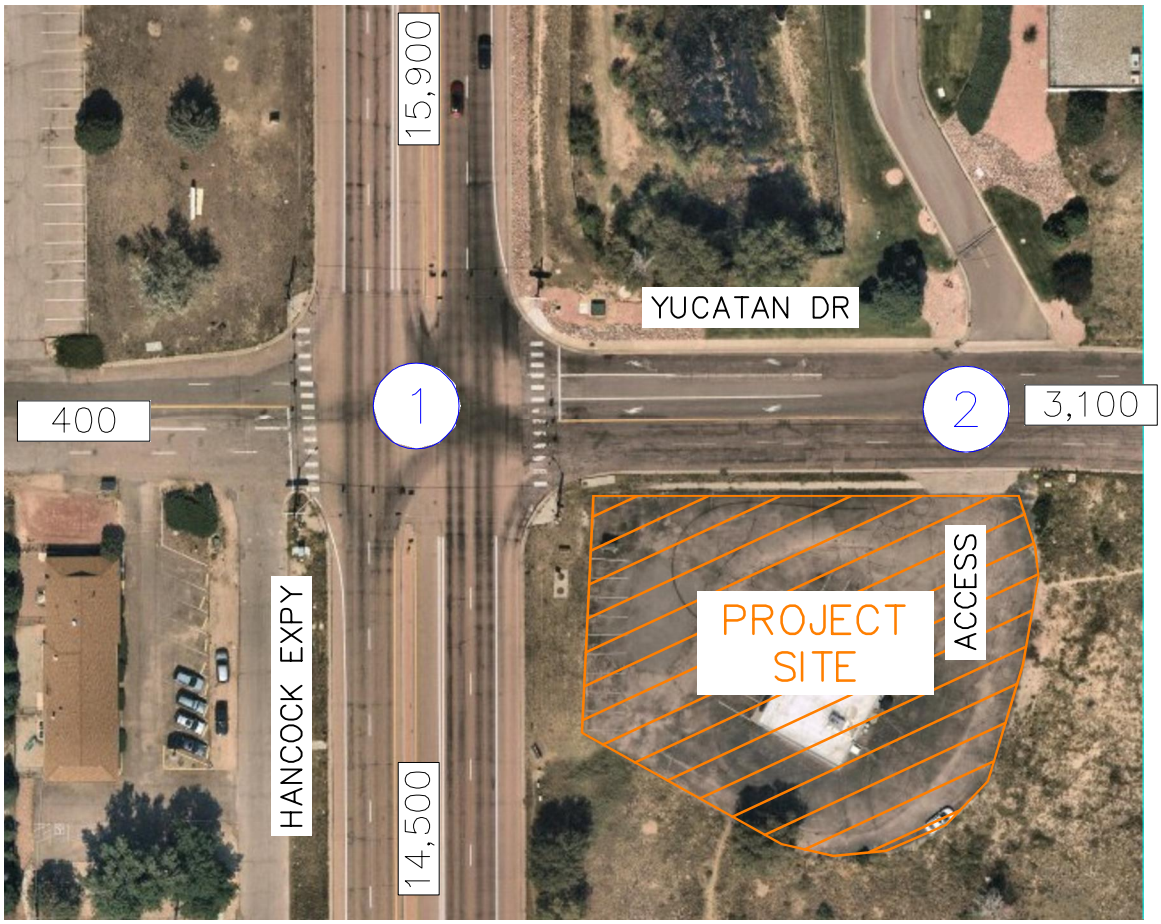


LEGEND

X	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C–STORE
EL PASO COUNTY, COLORADO
2021 EXISTING TRAFFIC VOLUMES

FIGURE 3



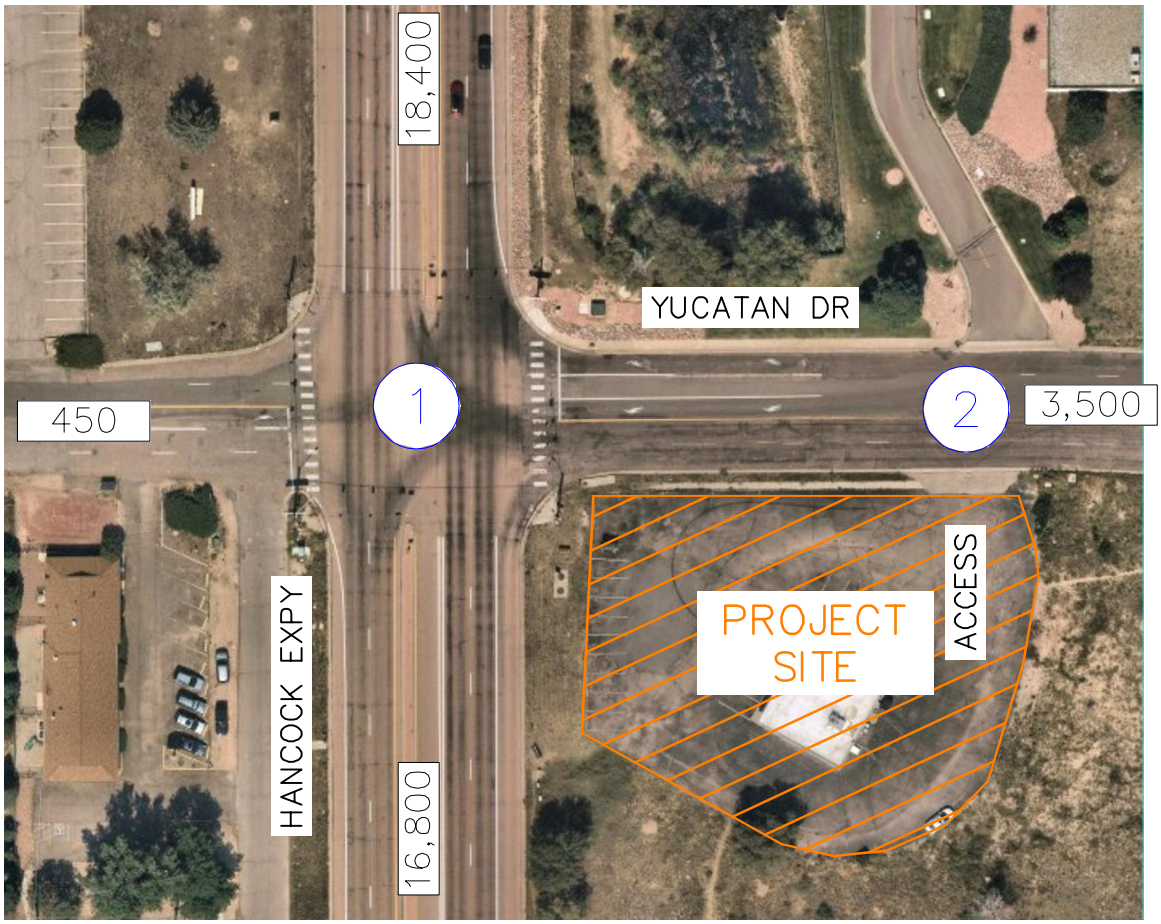
LEGEND

X	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
2023 BACKGROUND TRAFFIC VOLUMES

FIGURE 4

Kimley»Horn



LEGEND

X	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
2045 BACKGROUND TRAFFIC VOLUMES

FIGURE 5

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4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Convenience Market with Gasoline Pumps (ITE Land Use Code 853) for traffic associated with the development.

The Yucatan C-Store project is expected to generate a total of approximately 2,580 daily weekday external driveway trips. Of these, a total of 166 weekday trips are expected during the morning peak hour and 184 weekday trips are expected during the afternoon peak hour. Since the project is a commercial development, pass-by trips are expected. These pass-by trips are vehicles already on the street network that will be attracted to the development. With pass-by, expected net new trips to the surrounding street network results in an anticipated 878 weekday daily trips, of which 62 trips are anticipated to be new (non pass-by) during both the morning and afternoon peak hour.

Existing peak hour traffic volumes were collected at the site driveway of the existing convenience store. Based on the data from these counts, it is determined that the existing site generates 25 morning peak hour trips (13 in and 12 out) and 39 afternoon peak hour trips (18 in and 21 out). Therefore, the proposed fueling stations are expected to generate a net additional 141 morning peak hour trips and 145 afternoon peak hour trips than the existing adjusted site traffic volume level.

Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 10th Edition – Volume 1: User's Guide and Handbook*, 2017. The pass-by percentages were obtained from the ITE "Trip Generation Manual, Tenth Edition, Trip Generation Handbook,

[1] Institute of Transportation Engineers, *Trip Generation Manual*, Tenth Edition, Washington DC, 2017.

3rd Edition" 2017. The trip generation calculations are included in **Appendix C**. These calculations illustrate the equations used and directional distribution of trips based on ITE studies. **Table 1** provides the estimated trip generation for the Yucatan C-Store project.

Table 1 – Yucatan C-Store Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Total Site Generated Trips							
Convenience Market with Gas Pumps (ITE 853) – 8 Fueling Positions	2,580	83	83	166	92	92	184
Total Non Pass-By Trips	878	31	31	62	31	31	62
Total Pass-By Trips	1,702	52	52	104	61	61	122
Net Site Generated Trips							
Existing Convenience Driveway Trips	520 *	13	12	25	18	21	39
Net Site Generated Total Trips	2,060	70	71	141	74	71	145
Net Non Pass-By Trips	**700**	**26**	**26**	**52**	**25**	**24**	**49**
Net Pass-By Trips	**1,360**	**44**	**45**	**89**	**49**	**47**	**96**

* = Assuming PM peak hour is 7.5% of the Daily Trips

4.2 Trip Distribution

Distribution of project traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, demographic information, and the access system for the project. The non-pass by directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to original source. It should be noted that existing driveway counts for the convenience store were used as a basis for determining the non pass-by trip distribution for the project. **Figure 6** illustrates the expected non pass-by trip distribution for the site.

Since this project contains commercial uses, traffic passing by the site is anticipated to be attracted, whether on a random trip or captured from a typical commute trip. Pass-by distribution of traffic is a means to quantify the percentage of project generated traffic that approaches the site from a given direction that then departs the site continuing in that same original direction. The expected weekday morning and afternoon peak hour pass-by trip distributions were calculated based on actual traffic volumes. Directional differences in the morning and afternoon

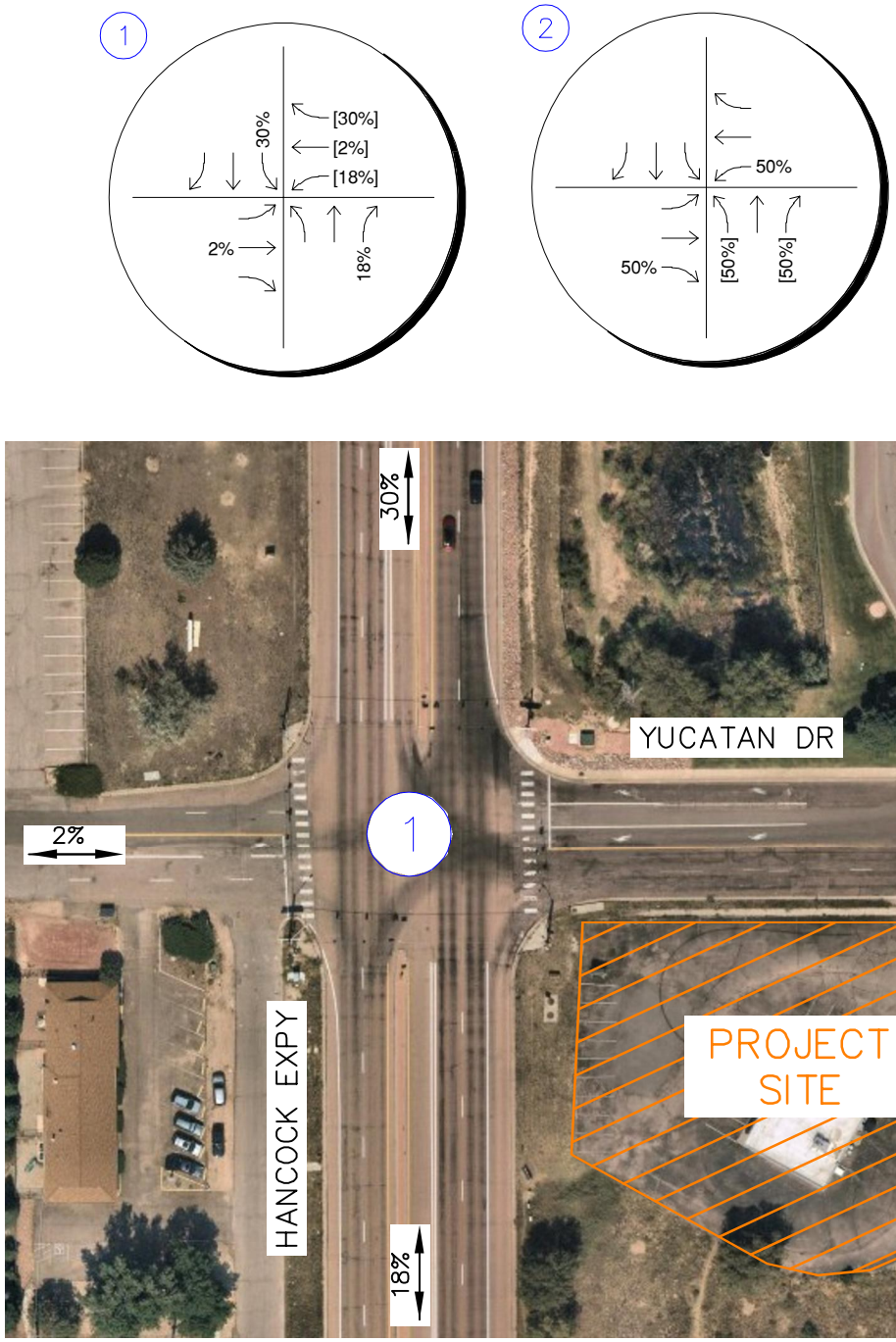
peak hour traffic were accounted for as shown in **Figures 7** and **8**, respectively**,** to illustrate the anticipated pass-by trip distribution.

4.3 Traffic Assignment

Net traffic assignment was obtained by applying the project trip distribution to the estimated net traffic generation of the development shown in **Table 1**. Net project traffic assignment for the project for the non pass-by and pass-by conditions during the afternoon peak hour studied is shown in **Figures 9** and **10**, respectively. It should be noted that net project traffic assignment was utilized in the analysis as existing driveway volumes are accounted for in the existing and background traffic conditions.

4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2023 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2023 and 2045 horizon years in **Figures 11** and **12**, respectively.



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NORTH
NTS 196192000

LEGEND

(X) Study Area Key Intersection

XX% External Trip Distribution Percentage

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
NON-PASS BY PROJECT
TRIP DISTRIBUTION

FIGURE 6

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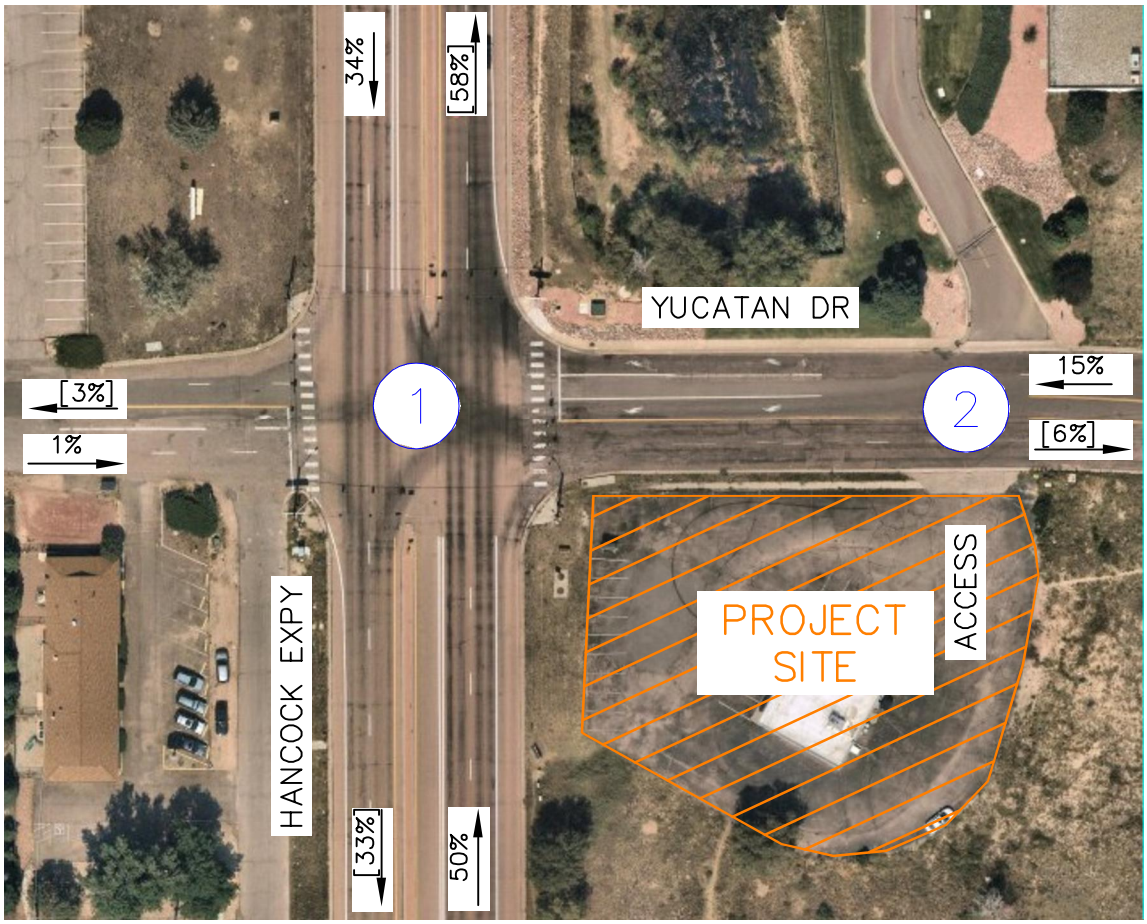


NORTH
NTS 196192000

LEGEND

(X) Study Area Key Intersection

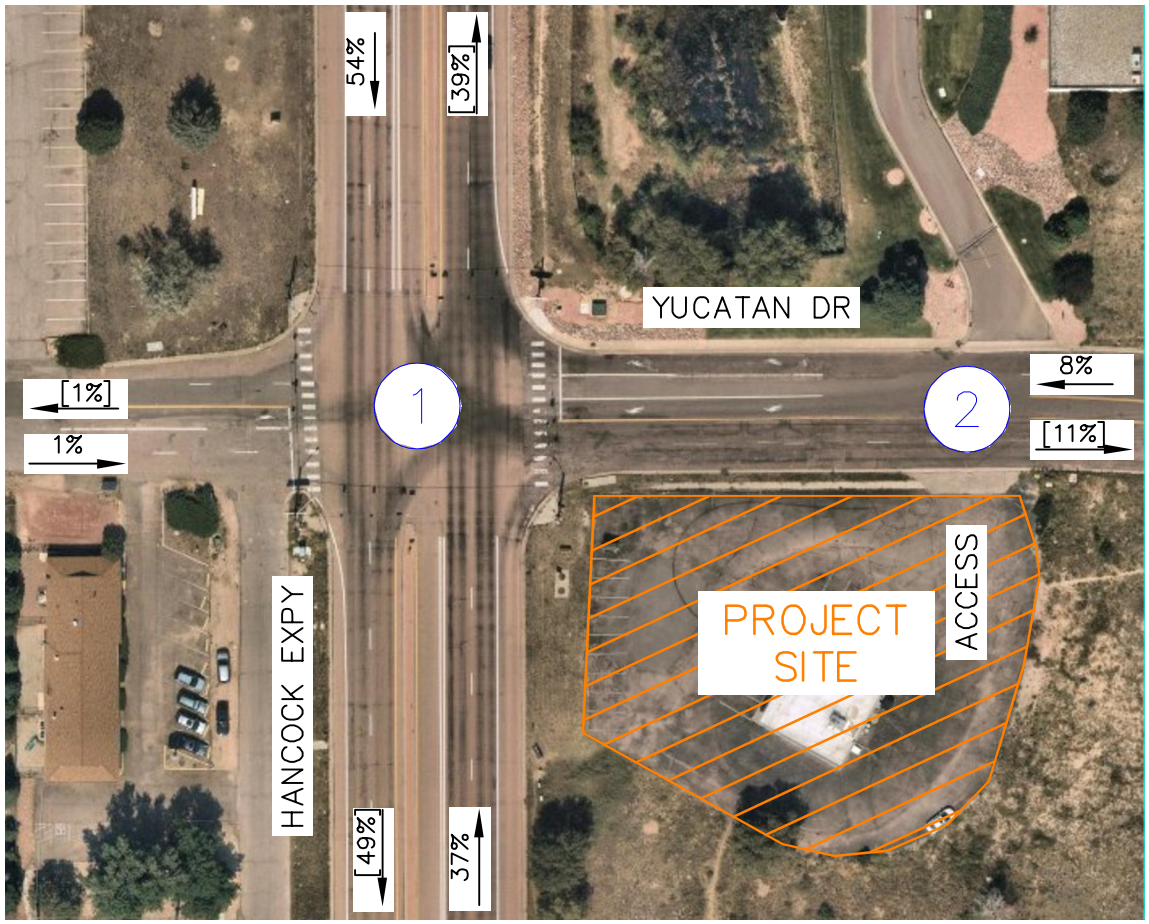
XX% External Trip Distribution Percentage

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
AM PASS BY PROJECT
TRIP DISTRIBUTION

FIGURE 7

Kimley»Horn



NORTH
NTS 196192000

LEGEND

X — Study Area Key Intersection

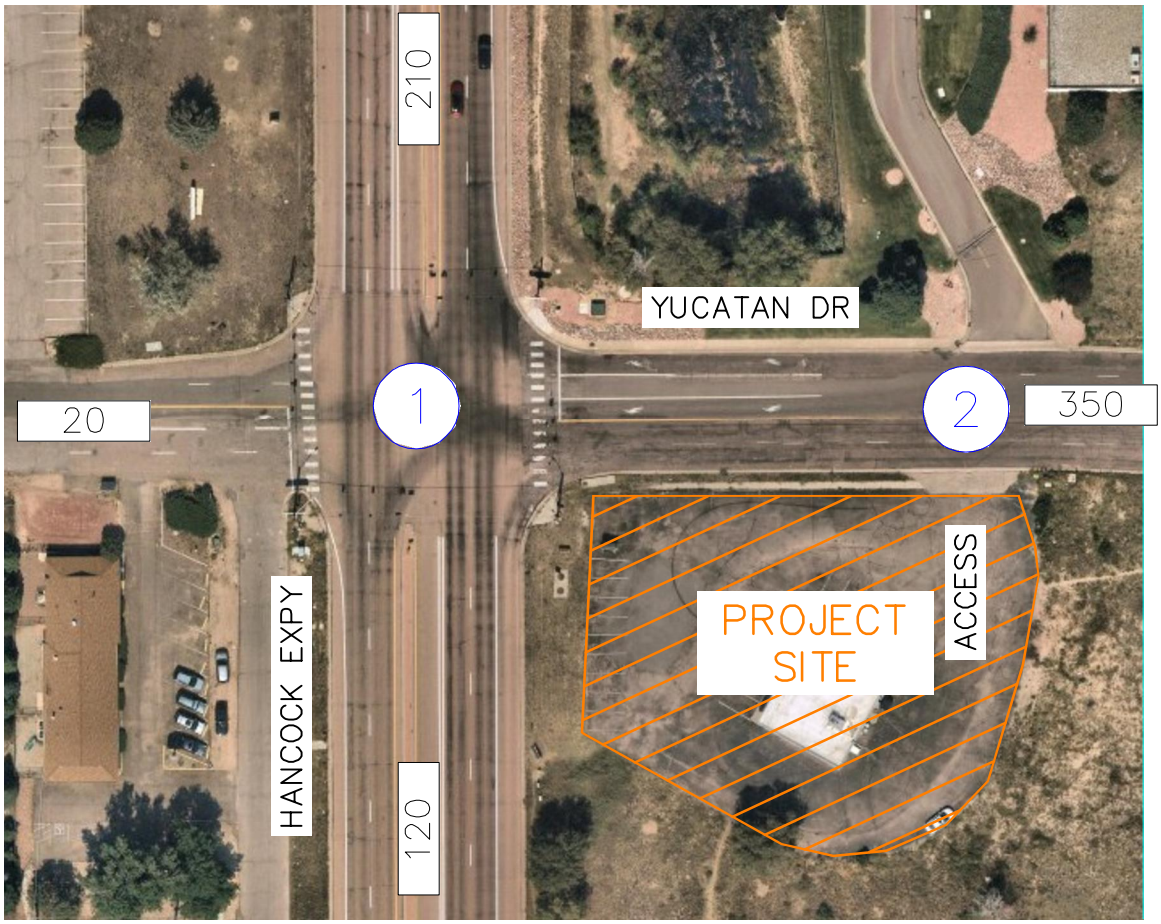
XX% — External Trip Distribution Percentage

XX%[XX%] — Entering[Exiting] Trip Distribution Percentage

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
PM PASS BY PROJECT
TRIP DISTRIBUTION

FIGURE 8

Kimley»Horn



NORTH
NTS 196192000

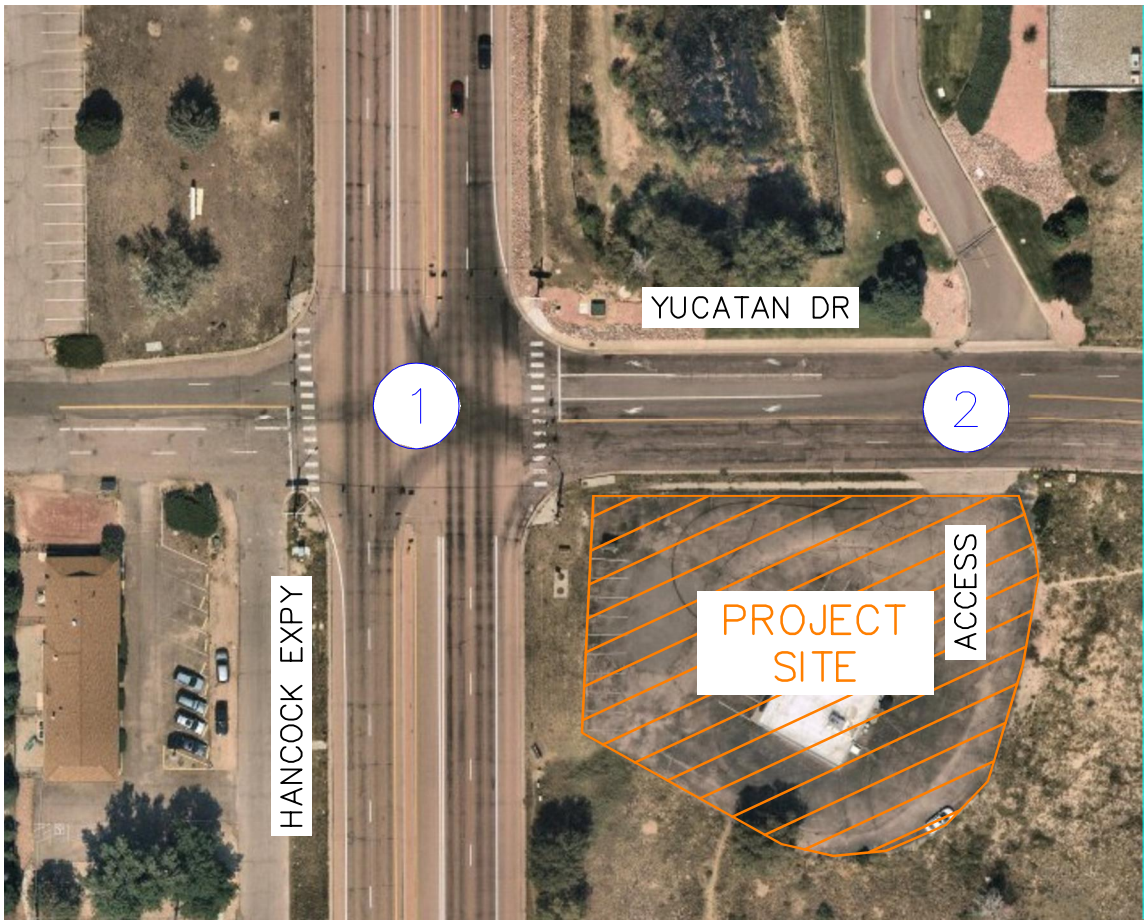
LEGEND

(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
NET NON-PASS BY PROJECT
TRAFFIC ASSIGNMENT VOLUMES

FIGURE 9

Kimley»Horn



NORTH
NTS 196192000

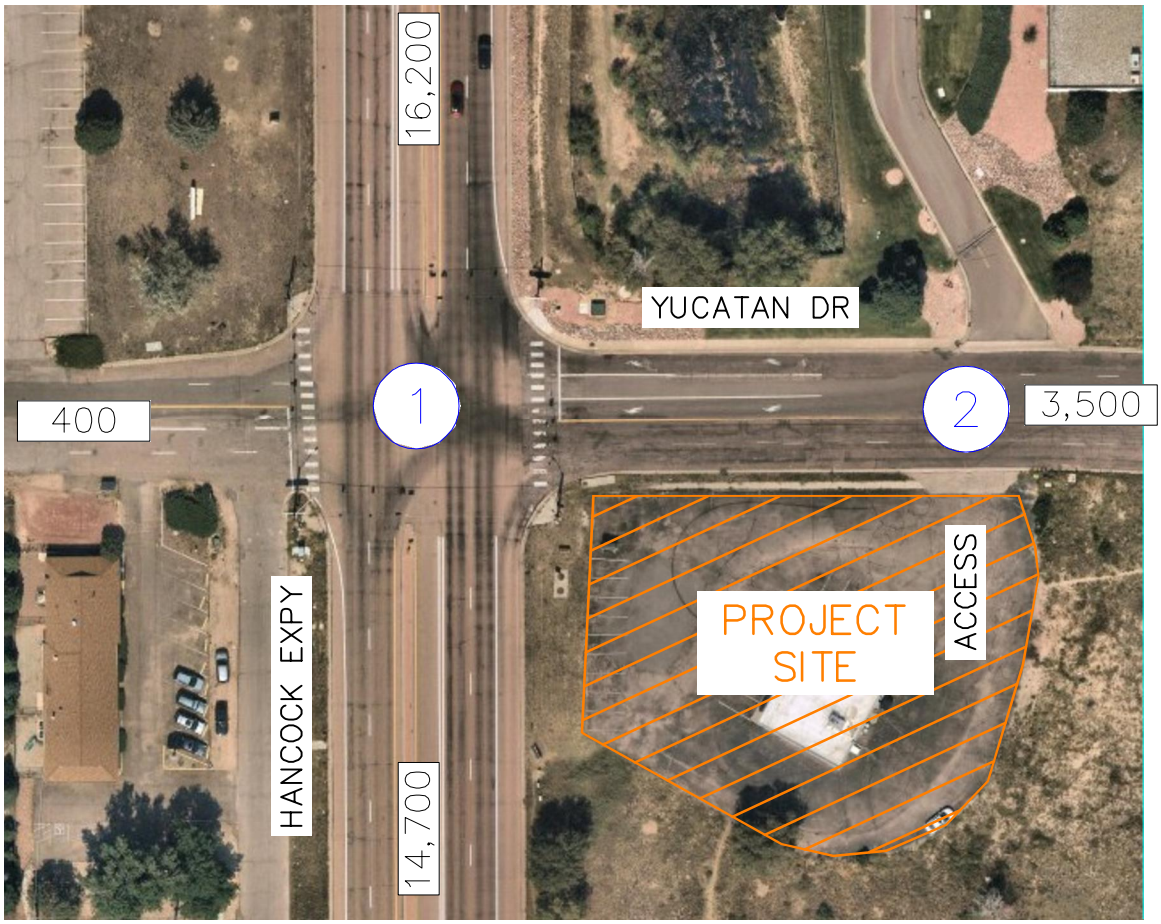
LEGEND

X	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
NET PASS BY PROJECT
TRAFFIC ASSIGNMENT VOLUMES

FIGURE 10

Kimley»Horn



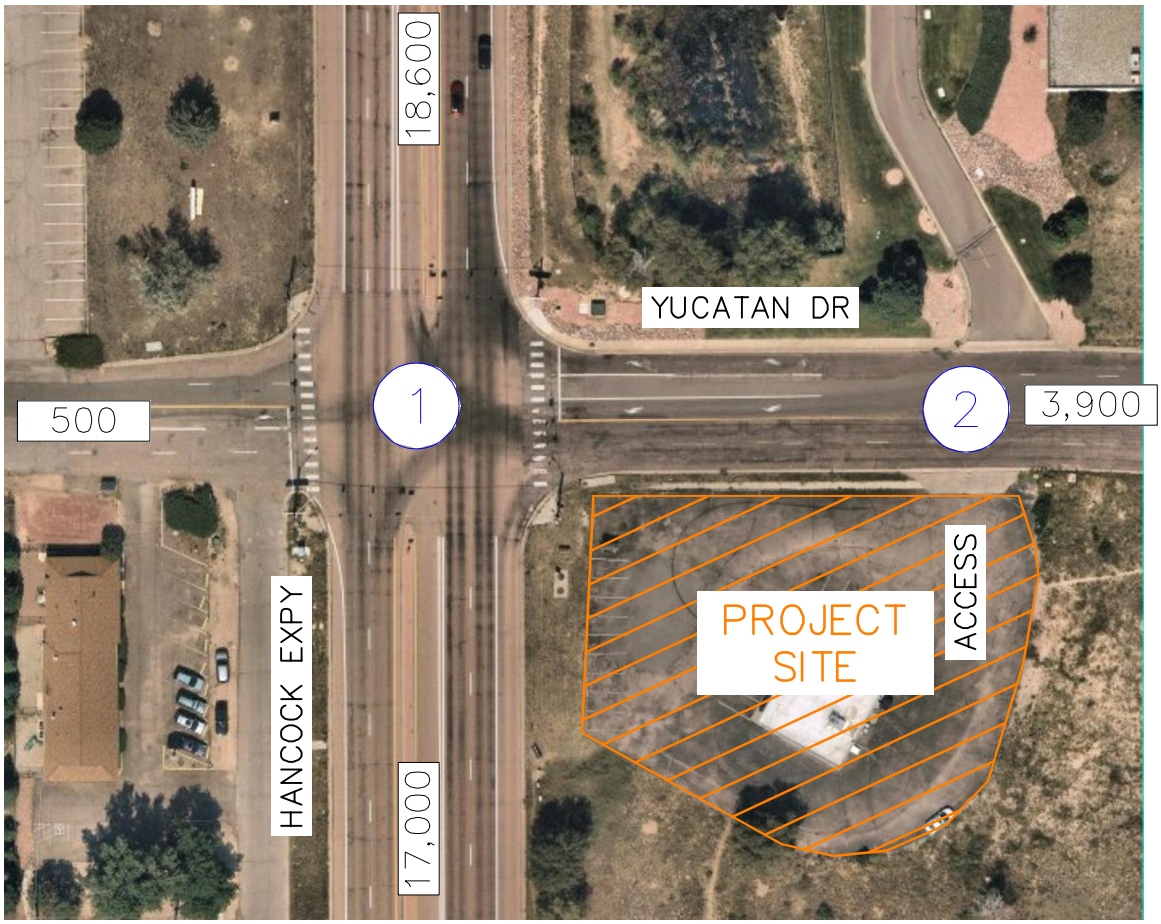
Kimley»Horn
NORTH
NTS 196192000

LEGEND	
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
2023 TOTAL TRAFFIC VOLUMES

FIGURE 11

Kimley»Horn



Kimley»Horn
NORTH
NTS 196192000

LEGEND	
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
2045 TOTAL TRAFFIC VOLUMES

FIGURE 12

Kimley»Horn

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2023 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). Based on El Paso County standards, the threshold for acceptable LOS is not less than LOS D during peak hours. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (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

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and four-way stop controlled intersections are defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2.** Existing peak hour factors were utilized in the existing and 2023 horizon analysis years while the HCM urban standard of 0.92 was used for the long-term 2045 horizon analysis. The signalized intersection analysis utilizes the observed cycle lengths with optimized phasing and timing. Based on increased national attention given to establishing appropriate yellow and all-red clearance intervals to improve intersection safety, these have been calculated and are applied for approaches at the signalized intersections. The increase in yellow and all red time sacrifices intersection capacity for improved safety. Synchro traffic analysis software was used to analyze the signalized, and unsignalized key intersections for HCM level of service.

Yucatan Drive & Hancock Expressway (#1)

The signalized intersection of Yucatan Drive and Hancock Expressway (#1) operates with protected/permitted left turn phasing on all approaches. The intersection of Yucatan Drive and Hancock Expressway operates acceptably at LOS C during both peak hours under existing conditions. With project traffic, this intersection is expected to operate at LOS C during the morning and afternoon peak hours throughout 2045 with the addition of project traffic. Therefore, no improvements are believed to be necessary at this intersection. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – Yucatan Drive & Hancock Expressway (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing	23.0	C	23.7	C
2023 Background	23.1	C	23.8	C
2023 Background Plus Project	22.7	C	24.3	C
2045 Background	24.7	C	24.8	C
2045 Background Plus Project	25.2	C	25.4	C

Yucatan Drive Access (#2)

The unsignalized Yucatan Drive Access (#2) currently does not have any R1-1 STOP signs on any of the approaches. However, for the purposes of this study stop-control was assumed on the northbound and southbound approaches of this intersection. It is recommended that R1-1 STOP signs be installed on the northbound and southbound approaches as soon as possible to designate these approaches as stop-controlled. The movements at this intersection currently operate acceptably at LOS B or better during both peak hours under existing conditions. To meet El Paso County Standards, an eastbound right turn lane should be constructed at this access intersection with project construction. With this improvement, the movements at this intersection will continue operate at LOS B or better during both peak hours throughout 2045 with project traffic. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – Yucatan Drive Access (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing				
Northbound Approach	10.2	B	9.0	A
Eastbound Left/Through	7.8	A	7.5	A
Westbound Left	7.4	A	7.5	A
Southbound Approach	9.1	A	8.9	A
2023 Background				
Northbound Approach	10.2	B	9.0	A
Eastbound Left/Through	7.8	A	7.5	A
Westbound Left	7.4	A	7.5	A
Southbound Approach	9.1	A	9.0	A
2023 Background Plus Project #				
Northbound Approach	11.4	B	10.1	B
Eastbound Left/Through	7.8	A	7.5	A
Westbound Left	7.6	A	7.7	A
Southbound Approach	9.1	A	9.0	A
2045 Background				
Northbound Approach	10.2	B	9.1	A
Eastbound Left/Through	7.9	A	7.5	A
Westbound Left	7.4	A	7.5	A
Southbound Approach	9.1	A	9.0	A
2045 Background Plus Project #				
Northbound Approach	11.5	B	10.1	B
Eastbound Left/Through	7.9	A	7.5	A
Westbound Left	7.6	A	7.6	A
Southbound Approach	9.2	A	9.1	A

= Eastbound Right Turn Lane

5.3 Turn Lane Evaluation and Vehicle Queuing Analysis

The El Paso County Engineering Criteria Manual (ECM) was used to determine if turn lanes are warranted at the project intersections of Yucatan Drive and Hancock Expressway (#1) and the Yucatan Drive Access (#2). El Paso County classifies Yucatan Drive as a collector roadway and Hancock Expressway as a minor arterial roadway. According to El Paso County ECM guidelines for minor arterials and lower classifications, a right turn lane is required for any access with a projected peak hour right turning volume of 50 vehicles per hour or greater. For minor arterials and lower classifications, a left turn lane is required for any access with a projected peak hour ingress turning volume of 25 vehicles per hour or greater.

An eastbound right turn lane **is** warranted at the Yucatan Drive Access (#2) based on projected 2023 total traffic volumes being 73 eastbound right turns during the peak hour and the threshold being 50 vehicles per hour. Based on the 30-mile per hour speed limit, the eastbound right turn lane at this access intersection should provide a length of 215 feet (100 feet of storage plus 115 feet of deceleration lane length) plus a 120-foot taper. However, it is recommended that the eastbound right turn lane at this intersection be constructed as a continuous right turn lane due to the existing spacing constraint with the intersection of Yucatan Drive with Hancock Expressway.

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Auxiliary turn lanes and turn lane lengths are based on the guidelines outlined in the El Paso County Engineering Criteria Manual. Results are shown in the following **Table 5** with calculations provided within the level of service operational sheets of **Appendix D** for unsignalized intersections and **Appendix E** for signalized intersections.

Table 5 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2023 Calculated Queue (feet)	2023 Recommended Length (feet)	2045 Calculated Queue (feet)	2045 Recommended Length (feet)
Yucatan Dr & Hancock Expy (#1)					
Eastbound Left	100’	25’	100’	25’	100’
Westbound Left	125’/TWLTL	66’	125’/TWLTL	71’	125’/TWLTL
Northbound Left	350’	25’	350’	25’	350’
Northbound Right	250’	25’	250’	25’	250’
Southbound Left	375’	84’	375’	95’	375’
Southbound Right	250’	25’	250’	25’	250’
Yucatan Dr Access (#2)					
Eastbound Right	DNE	25’	**C (EC)**	25’	C (EC)

EC = El Paso County Requirement; C = Continuous; TWLTL = Two-Way Left Turn Lane; DNE = Does Not Exist; **Blue** Text = Recommendation

As shown in the previous table, all vehicle queues are expected to be accommodated within the available and recommended turn lane lengths throughout the 2045 horizon.

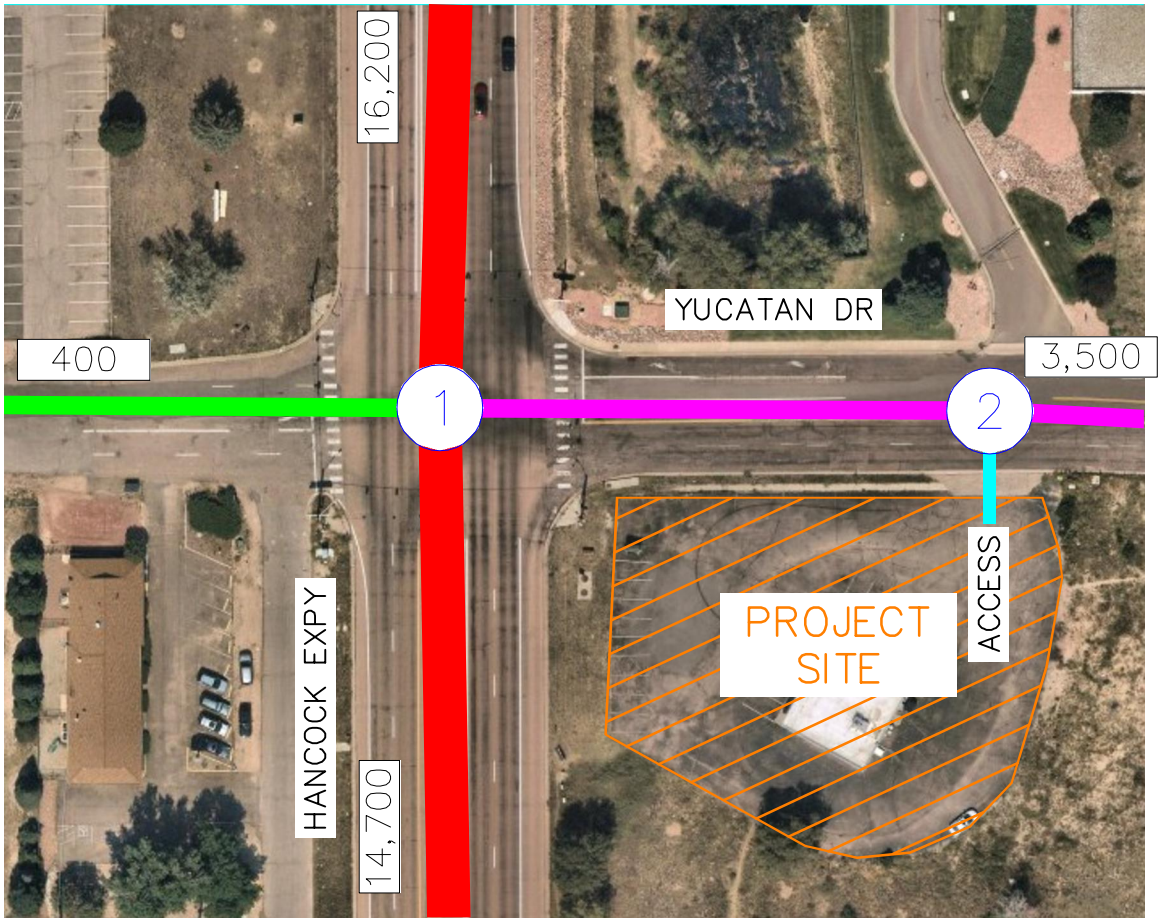
5.4 Access Spacing Requirements and Internal Roadway Classifications

According to El Paso County 2016 Major Transportation Corridors Plan Update, Hancock Expressway is classified as a minor arterial while Yucatan Drive is classified as a collector roadway. The existing access along Yucatan Drive is located approximately 210 feet east of Hancock Expressway (measured edge to center).

According to the ECM, on a minor collector roadway, the closest local roadway intersection to an arterial roadway shall be 330 feet (right-of-way line of arterial to centerline of local roadway). However, as stated in the ECM, one parcel access shall be granted to each existing lot if it does not create safety or operational problems. As such, this is an existing access and is the only access to the parcel with sight distances that are expected to be met (identified in Section 5.6), acceptable intersection operations are expected, and vehicle queues are expected to be managed in turn lanes; therefore, it is believed that the access along Yucatan Road should be allowed to remain. A deviation will be provided requesting access to remain along Yucatan Road.

Yucatan Road meets El Paso County average daily traffic (ADT) threshold standard of 10,000 vehicles per day for an Urban Residential Collector east of Hancock Expressway and the ADT threshold of 3,000 for an Urban Local roadway west of Hancock Expressway. Likewise, Hancock Expressway is expected to meet the 20,000 ADT threshold for an Urban Minor Arterial. **Figure 13** illustrates the circulation plan and street classification map for the studied roadways.

NORTH
NTS 196192000



LEGEND

- URBAN MINOR ARTERIAL
- URBAN RESIDENTIAL COLLECTOR
- URBAN LOCAL
- PRIVATE ACCESS
- XX,X00 ESTIMATED 2023 DAILY TRAFFIC VOLUME

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
CIRCULATION PLAN

FIGURE 13

Kimley»Horn

5.5 Sight Distance Evaluation

It is recommended that sight triangles be provided at the Yucatan Drive Access (#2) to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. ECM design intersection sight distances for left turn from stop were evaluated at the access along Yucatan Drive. ECM does not provide sight distances for right-turning vehicles from stop; therefore, AASHTO standards were used for right-turn from stop distances at the project accesses.

According to Table 2-21 from ECM and a roadway design speed of 30 miles per hour along Yucatan Drive, the intersection sight distance for a vehicle turning left from stop is 335 feet. With AASHTO standards, the sight distance for a vehicle turning right from stop is 290 feet. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 13 feet from the edge of the major road traveled way (typical position of the minor road driver's eye when stopped) and a line-of-sight distance of 335 feet located in the middle of the westbound through lane along Yucatan Drive. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 13 feet from the edge of the major road traveled way and a line-of-sight distance of 290 feet located in the middle of the eastbound through lane along Yucatan Drive. It is believed that the existing access along Yucatan Drive is appropriately located to provide the necessary sight distance needed for eastbound through and southbound left turning vehicles. As this access is located approximately 210 feet from Hancock Expressway, sight distances of 290 feet will not be provided for vehicles turning right from Hancock Expressway to eastbound Yucatan Drive; however, these vehicles will be traveling at speeds much slower than 30 miles per hour. Therefore, it is believed that the existing access along Yucatan Drive is appropriately located to provide necessary sight distances.

5.6 Bicycle and Pedestrian Access

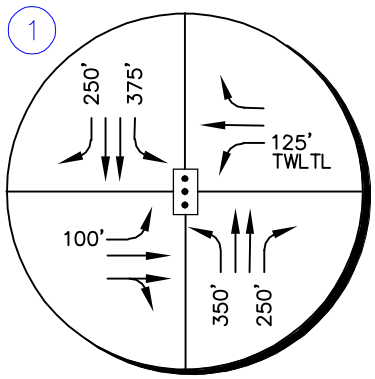
Sidewalks are provided along the north and south side of Yucatan Drive between Hancock Expressway and the project access. Adjacent to the site, there are no bicycle lanes along any project roadways.

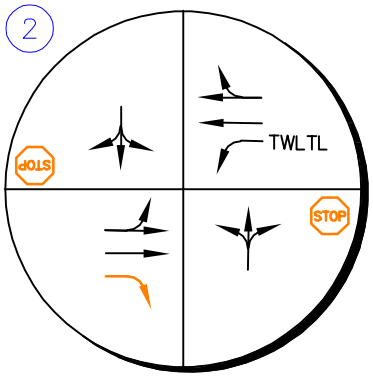
5.7 Road Impact Fees

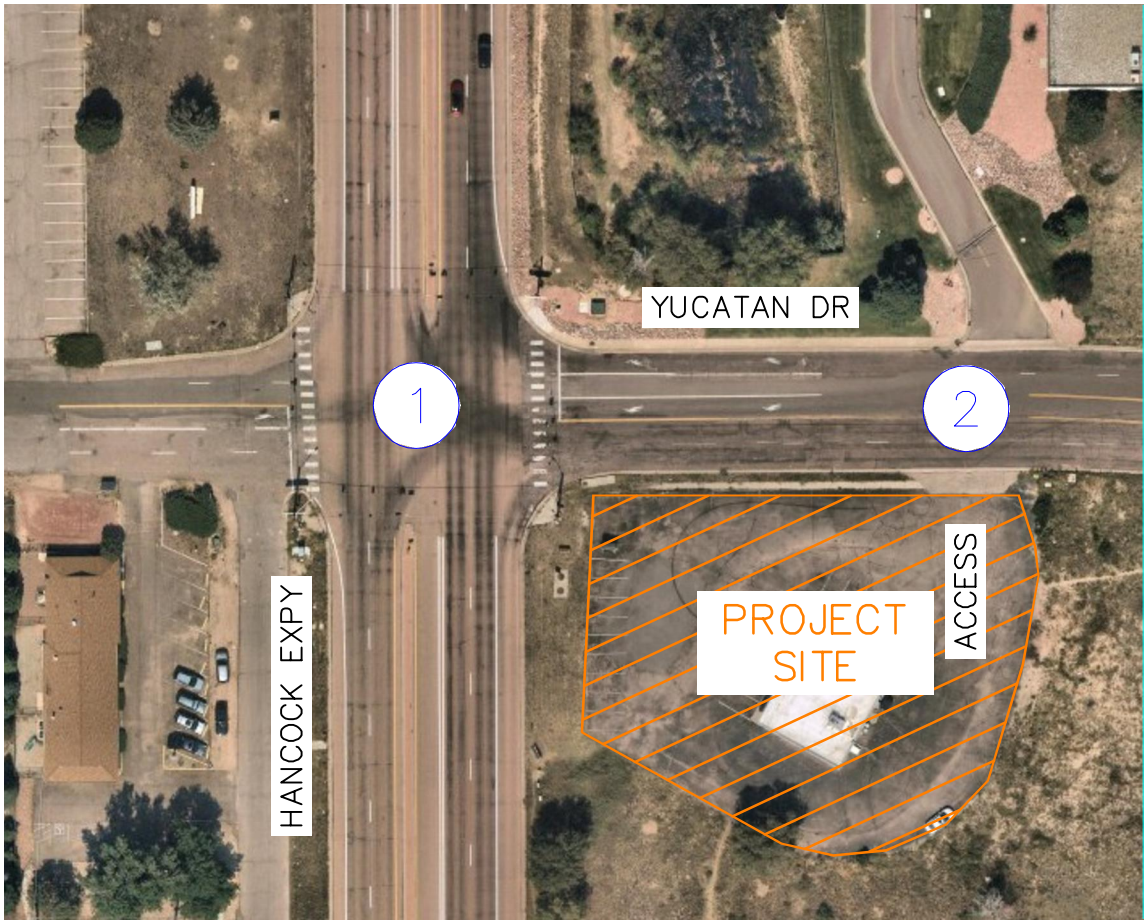
Road impact fees are based on building areas and the site has an existing building without any plans for modifications; therefore, it is believed that appropriate road impact fees were provided with the initial construction of the site.

5.8 Improvement Summary

Based on the results of the intersection operational, turn lane evaluations, and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 14.**







LEGEND

X	Study Area Key Intersection
	Signalized Intersection
STOP	Stop Controlled Approach
TWLTL	Two-Way Left Turn Lane
	Improvement
100'	Turn Lane Length (feet)

YUCATAN C-STORE
EL PASO COUNTY, COLORADO
RECOMMENDATIONS

FIGURE 14

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes Yucatan C-Store will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following recommendations:

- It is recommended that R1-1 STOP signs be installed on the northbound and southbound approaches at the existing Yucatan Drive Access (#2) as soon as possible to designate these approaches as stop-controlled.

- Based on El Paso County standards, an eastbound right turn lane is warranted at the existing Yucatan Drive Access With a 30-mile per hour speed limit, the eastbound right turn lane at this access intersection should provide a length of 215 feet (100 feet of storage plus 115 feet of deceleration lane length) plus a 120-foot taper. However, it is recommended that the eastbound right turn lane at this intersection be constructed as a continuous right turn lane due to the existing spacing constraint with the intersection of Yucatan Drive with Hancock Expressway.

- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

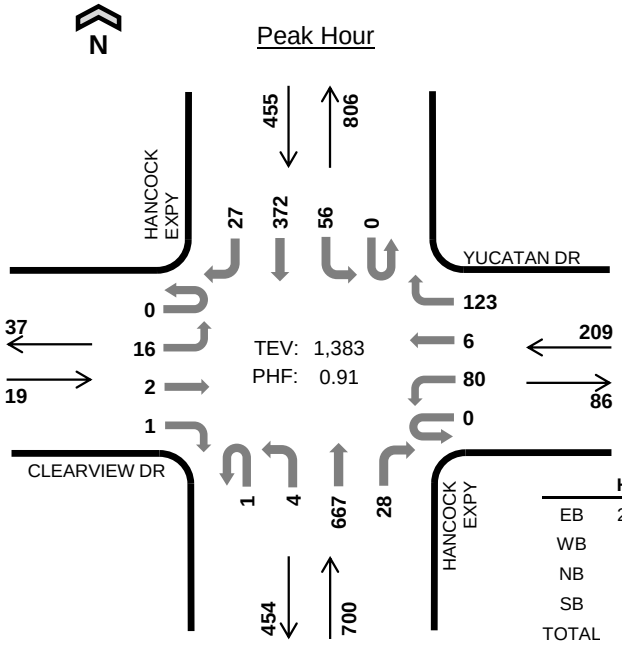
APPENDICES

APPENDIX A

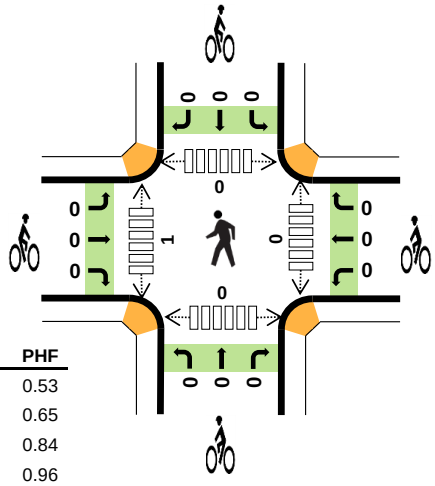
Intersection Count Sheets

HANCOCK EXPY
YUCATAN DR

Date: Tue, Sep 21, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	26.3%	0.53
WB	1.4%	0.65
NB	1.6%	0.84
SB	2.2%	0.96
TOTAL	2.1%	0.91



Two-Hour Count Summaries

Interval Start	CLEARVIEW DR Eastbound UT	LT	TH	RT	YUCATAN DR Westbound UT	LT	TH	RT	HANCOCK EXPY Northbound UT	LT	TH	RT	HANCOCK EXPY Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**0**	**0**	**0**	**38**	**1**	**41**	**1**	**0**	**171**	**10**	**0**	**11**	**103**	**4**	**380**	0
7:15 AM	**0**	**5**	**0**	**0**	**0**	**19**	**0**	**29**	**0**	**1**	**196**	**12**	**0**	**18**	**83**	**6**	**369**	0
7:30 AM	**0**	**3**	**2**	**0**	**0**	**14**	**1**	**30**	**0**	**0**	**161**	**4**	**0**	**15**	**89**	**9**	**328**	0
7:45 AM	**0**	**8**	**0**	**1**	**0**	**9**	**4**	**23**	**0**	**3**	**139**	**2**	**0**	**12**	**97**	**8**	**306**	**1,383**
8:00 AM	0	15	0	3	0	14	0	26	0	2	139	9	1	21	83	17	330	1,333
8:15 AM	0	5	1	0	0	6	3	22	0	1	122	7	1	13	114	5	300	1,264
8:30 AM	0	3	1	1	0	8	0	32	0	2	102	5	0	14	85	2	255	1,191
8:45 AM	0	3	1	0	0	7	1	24	0	0	113	7	0	17	68	4	245	1,130
Count Total	0	42	5	5	0	115	10	227	1	9	1,143	56	2	121	722	55	2,513	0
Peak Hour All	**0**	**16**	**2**	**1**	**0**	**80**	**6**	**123**	**1**	**4**	**667**	**28**	**0**	**56**	**372**	**27**	**1,383**	**0**
Peak Hour HV	**0**	**5**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**11**	**0**	**0**	**2**	**8**	**0**	**29**	**0**
Peak Hour HV%	**-**	**31%**	**0%**	**0%**	**-**	**1%**	**0%**	**2%**	**0%**	**0%**	**2%**	**0%**	**-**	**4%**	**2%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	**0**	**1**	**3**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**4**	**2**	**3**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:30 AM	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**0**	**2**	**6**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	5	6	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	1	*1*
8:30 AM	1	2	0	4	*7*	0	0	0	0	*0*	0	0	0	1	*1*
8:45 AM	1	2	4	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	7	7	21	27	*62*	0	0	0	0	*0*	0	1	0	2	*3*
Peak Hour	**5**	**3**	**11**	**10**	***29***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	CLEARVIEW DR				YUCATAN DR				HANCOCK EXPY				HANCOCK EXPY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**5**	0
7:15 AM	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**1**	**2**	**0**	**12**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**5**	**0**	**9**	**29**
8:00 AM	0	0	0	0	0	0	0	0	0	0	4	1	0	3	3	0	11	35
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	4	27
8:30 AM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	4	0	7	31
8:45 AM	0	1	0	0	0	1	0	1	0	0	4	0	0	0	4	0	11	33
Count Total	0	7	0	0	0	3	0	4	0	0	20	1	0	5	20	2	62	0
Peak Hour	**0**	**5**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**11**	**0**	**0**	**2**	**8**	**0**	**29**	**0**

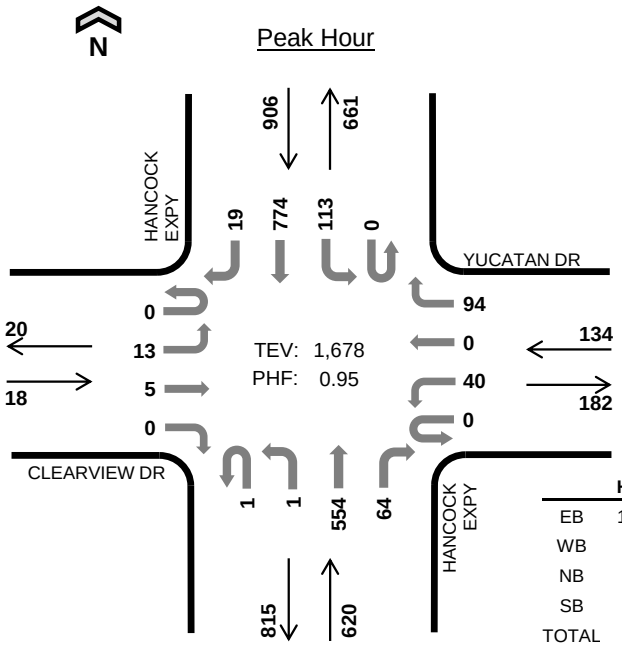
Two-Hour Count Summaries - Bikes

Interval Start	CLEARVIEW DR			YUCATAN DR			HANCOCK EXPY			HANCOCK EXPY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

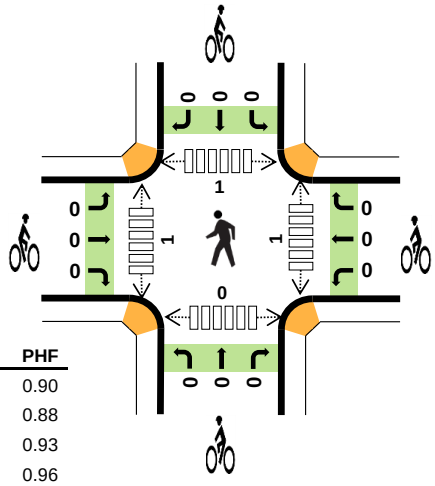
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

HANCOCK EXPY
YUCATAN DR

Date: Tue, Sep 21, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	11.1%	0.90
WB	1.5%	0.88
NB	1.5%	0.93
SB	1.0%	0.96
TOTAL	1.3%	0.95



Two-Hour Count Summaries

Interval Start		CLEARVIEW DR Eastbound				YUCATAN DR Westbound				HANCOCK EXPY Northbound				HANCOCK EXPY Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	9	1	0	0	7	0	23	0	0	112	9	0	26	178	4	369	0
4:15 PM		0	5	1	1	0	12	1	22	0	0	108	8	0	30	191	5	384	0
4:30 PM		**0**	**4**	**1**	**0**	**0**	**17**	**0**	**21**	**0**	**0**	**132**	**17**	**0**	**32**	**188**	**5**	**417**	0
4:45 PM		**0**	**5**	**0**	**0**	**0**	**3**	**0**	**22**	**0**	**0**	**137**	**13**	**0**	**20**	**194**	**6**	**400**	1,570
5:00 PM		**0**	**2**	**2**	**0**	**0**	**10**	**0**	**26**	**1**	**0**	**134**	**20**	**0**	**29**	**190**	**5**	**419**	1,620
5:15 PM		**0**	**2**	**2**	**0**	**0**	**10**	**0**	**25**	**0**	**1**	**151**	**14**	**0**	**32**	**202**	**3**	**442**	**1,678**
5:30 PM		0	5	2	2	0	10	0	17	0	2	153	14	0	27	167	3	402	1,663
5:45 PM		0	2	0	0	0	8	1	17	0	0	137	14	0	29	152	6	366	1,629
Count Total		0	34	9	3	0	77	2	173	1	3	1,064	109	0	225	1,462	37	3,199	0
Peak Hour	**All**	**0**	**13**	**5**	**0**	**0**	**40**	**0**	**94**	**1**	**1**	**554**	**64**	**0**	**113**	**774**	**19**	**1,678**	**0**
	HV	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**9**	**0**	**0**	**2**	**7**	**0**	**22**	**0**
	HV%	**-**	**15%**	**0%**	**-**	**-**	**0%**	**-**	**2%**	**0%**	**0%**	**2%**	**0%**	**-**	**2%**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	2	4	1	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**5**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**1**	**1**	**0**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**1**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
5:15 PM	**1**	**0**	**3**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	1	5	*7*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	3	5	17	16	*41*	0	0	0	0	*0*	2	1	1	0	*4*
Peak Hour	**2**	**2**	**9**	**9**	***22***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	CLEARVIEW DR				YUCATAN DR				HANCOCK EXPY				HANCOCK EXPY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	1	0	0	0	0	0	2	0	0	3	1	0	1	0	0	8	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**8**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**6**	25
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	25
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**5**	**22**
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	15
5:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	4	0	7	16
Count Total	0	3	0	0	0	1	0	4	0	0	16	1	0	4	12	0	41	0
Peak Hour	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**9**	**0**	**0**	**2**	**7**	**0**	**22**	**0**

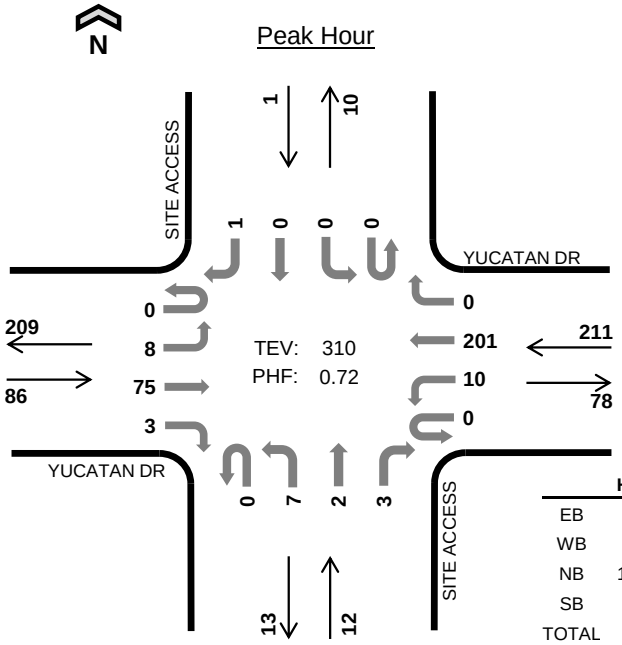
Two-Hour Count Summaries - Bikes

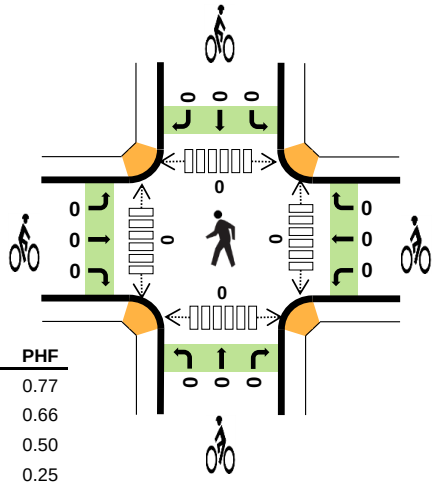
Interval Start	CLEARVIEW DR			YUCATAN DR			HANCOCK EXPY			HANCOCK EXPY			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SITE ACCESS
YUCATAN DR

Date: Tue, Sep 21, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	2.3%	0.77
WB	0.5%	0.66
NB	16.7%	0.50
SB	0.0%	0.25
TOTAL	1.6%	0.72

Two-Hour Count Summaries

Interval Start	YUCATAN DR Eastbound				YUCATAN DR Westbound				SITE ACCESS Northbound				SITE ACCESS Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**4**	**16**	**1**	**0**	**4**	**76**	**0**	**0**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**107**	0
7:15 AM	**0**	**1**	**25**	**2**	**0**	**1**	**46**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**79**	0
7:30 AM	**0**	**2**	**20**	**0**	**0**	**1**	**43**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**68**	0
7:45 AM	**0**	**1**	**14**	**0**	**0**	**4**	**36**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**56**	**310**
8:00 AM	0	3	25	1	0	7	35	0	0	3	0	7	0	1	0	1	83	286
8:15 AM	0	0	21	1	0	0	32	0	0	0	0	2	0	0	0	0	56	263
8:30 AM	0	0	20	1	0	1	37	0	0	1	0	0	0	0	0	0	60	255
8:45 AM	0	1	22	1	0	2	33	0	0	1	0	2	0	0	0	0	62	261
Count Total	0	12	163	7	0	20	338	0	0	12	2	14	0	1	0	2	571	0
Peak Hour All	**0**	**8**	**75**	**3**	**0**	**10**	**201**	**0**	**0**	**7**	**2**	**3**	**0**	**0**	**0**	**1**	**310**	**0**
Peak Hour HV	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**
Peak Hour HV%	**-**	**0%**	**1%**	**33%**	**-**	**0%**	**0%**	**-**	**-**	**29%**	**0%**	**0%**	**-**	**-**	**-**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	4	0	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	2	0	0	*2*	0	0	0	0	*0*	0	1	0	0	*1*
Count Total	6	5	2	0	*13*	0	0	0	0	*0*	0	1	0	0	*1*
Peak Hour	**2**	**1**	**2**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	YUCATAN DR Eastbound				YUCATAN DR Westbound				SITE ACCESS Northbound				SITE ACCESS Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
8:00 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	7
8:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	8
Count Total	0	0	5	1	0	0	5	0	0	2	0	0	0	0	0	0	13	0
Peak Hour	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	YUCATAN DR Eastbound			YUCATAN DR Westbound			SITE ACCESS Northbound			SITE ACCESS Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

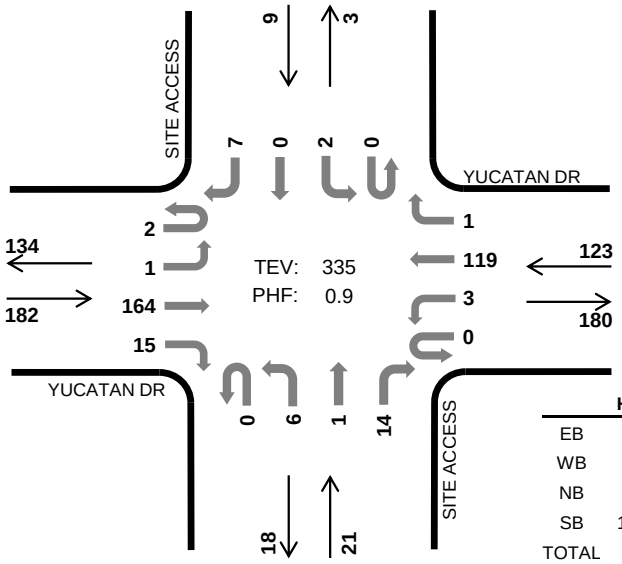
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SITE ACCESS
YUCATAN DR

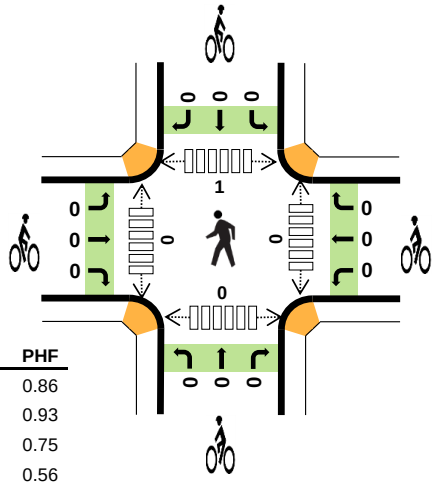
Date: Tue, Sep 21, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	1.1%	0.86
WB	2.4%	0.93
NB	0.0%	0.75
SB	11.1%	0.56
TOTAL	1.8%	0.90



Two-Hour Count Summaries

Interval Start		YUCATAN DR Eastbound UT	LT	TH	RT	YUCATAN DR Westbound UT	LT	TH	RT	SITE ACCESS Northbound UT	LT	TH	RT	SITE ACCESS Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	0	33	2	0	3	25	0	0	3	0	4	0	0	0	1	71	0
4:15 PM		0	0	38	2	0	1	33	0	0	1	0	1	0	0	1	2	79	0
4:30 PM		**1**	**0**	**42**	**5**	**0**	**1**	**29**	**0**	**0**	**3**	**1**	**3**	**0**	**0**	**0**	**4**	**89**	0
4:45 PM		**0**	**0**	**32**	**2**	**0**	**2**	**26**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**66**	305
5:00 PM		**0**	**1**	**49**	**3**	**0**	**0**	**32**	**1**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**3**	**93**	327
5:15 PM		**1**	**0**	**41**	**5**	**0**	**0**	**32**	**0**	**0**	**3**	**0**	**4**	**0**	**1**	**0**	**0**	**87**	**335**
5:30 PM		0	0	38	3	0	2	25	0	0	3	0	2	0	0	0	0	73	319
5:45 PM		0	0	44	1	0	0	25	0	0	0	0	1	0	0	0	0	71	324
Count Total		2	1	317	23	0	9	227	1	0	13	1	22	0	2	1	10	629	0
Peak Hour	**All**	**2**	**1**	**164**	**15**	**0**	**3**	**119**	**1**	**0**	**6**	**1**	**14**	**0**	**2**	**0**	**7**	**335**	**0**
	HV	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**6**	**0**
	HV%	**0%**	**0%**	**1%**	**0%**	**-**	**0%**	**2%**	**100%**	**-**	**0%**	**0%**	**0%**	**-**	**50%**	**-**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	5	6	0	1	*12*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	**2**	**3**	**0**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	YUCATAN DR Eastbound				YUCATAN DR Westbound				SITE ACCESS Northbound				SITE ACCESS Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	8
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**6**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	6
Count Total	0	0	5	0	0	0	5	1	0	0	0	0	0	1	0	0	12	0
Peak Hour	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**6**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	YUCATAN DR Eastbound			YUCATAN DR Westbound			SITE ACCESS Northbound			SITE ACCESS Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

APPENDIX B

Future Traffic Projections

CDOT OTIS: Yucatan C-Store

ROUTE	REFPT	ENDREFPT	LENGTH	AADT	AADTYR	YR20FACTOR	Annual Growth Rate	DHV	DD	LOCATION
021A	136.607	138	1.377	23000	2020	1.15	0.70%	9.5	61	ON POWERS BLVD N/O DRENNAN RD COLO SPGS
021A	138	139.582	1.559	31000	2020	1.15	0.70%	9.5	53	ON POWERS BLVD N/O ZEPPELEN RD COLO SPGS
085A	133.96	135.457	1.469	19000	2020	1.11	0.52%	11	62	ON SH 85 SE/O SH 83 ACADEMY BLVD COLORADO SPRINGS
085A	135.457	136.264	0.801	12000	2020	1.16	0.74%	10	61	ON SH 85 NW/O SH 83 ACADEMY BLVD COLORADO SPRINGS
					Average	1.14	0.67%	10		

APPENDIX C

Trip Generation Worksheets

Kimley»Horn

Project	Yucatan C-Store				
Subject	Trip Generation for Convenience Market with Gasoline Pumps				
Designed by	TES	*Date*	September 29, 2021	*Job No.*	196192000
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Convenience Market with Gasoline Pumps (853)

Independent Variable - Fueling Positions (X)

Fueling Positions = 8
X = 8.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 348)

Directional Distribution: 50% ent. 50% exit.
T = 20.76 (X)
T = 20.76 * 8.000
T = 166 Average Vehicle Trip Ends
83 entering 83 exiting

83 + 83 = 166

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 349)

Directional Distribution: 50% ent. 50% exit.
T = 23.04 (X)
T = 23.04 * 8.000
T = 184 Average Vehicle Trip Ends
92 entering 92 exiting

92 + 92 = 184

Weekday (800 Series page 347)

Average Weekday
Directional Distribution: 50% entering, 50% exiting
T = 322.50 (X)
T = 322.50 * 8.000
T = 2580 Average Vehicle Trip Ends
1290 entering 1290 exiting

1290 + 1290 = 2580

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

Weekday AM Pass-By Trip Percentage: 63% Non Pass-By: 37%
Weekday PM Pass-By Trip Percentage: 66% Non Pass-By: 34%

	IN	Out	Total
AM Peak	31	31	62
PM Peak	31	31	62
Daily	439	439	878

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

	IN	Out	Total
AM Peak	52	52	104
PM Peak	61	61	122
Daily	851	851	1702

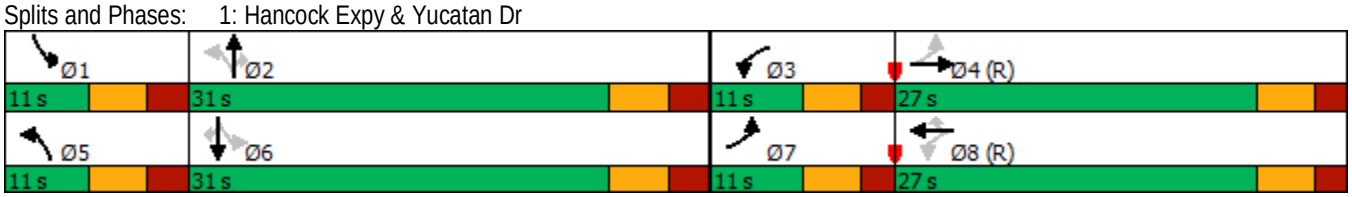
APPENDIX D

Intersection Analysis Worksheets

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	16	2	80	6	123	4	667	28	56	372	27
Future Volume (vph)	16	2	80	6	123	4	667	28	56	372	27
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	27.0	11.0	27.0	27.0	11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	13.8%	33.8%	13.8%	33.8%	33.8%	13.8%	38.8%	38.8%	13.8%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	28.1	23.7	31.4	30.3	30.3	31.2	27.2	27.2	34.8	33.8	33.8
Actuated g/C Ratio	0.35	0.30	0.39	0.38	0.38	0.39	0.34	0.34	0.44	0.42	0.42
v/c Ratio	0.03	0.00	0.17	0.01	0.19	0.01	0.61	0.05	0.21	0.27	0.04
Control Delay	14.8	19.3	16.0	18.5	1.8	12.5	25.4	0.1	14.6	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	19.3	16.0	18.5	1.8	12.5	25.4	0.1	14.6	16.6	0.1
LOS	B	B	B	B	A	B	C	A	B	B	A
Approach Delay		15.4		7.7			24.3			15.4	
Approach LOS		B		A			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 41.4 (52%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 18.7	Intersection LOS: B
Intersection Capacity Utilization 48.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	1	80	6	123	4	667	28	56	372	27
Future Volume (veh/h)	16	2	1	80	6	123	4	667	28	56	372	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2	1	88	7	135	4	733	31	62	409	30
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	708	326	608	622	527	356	1111	495	267	1258	561
Arrive On Green	0.02	0.30	0.30	0.05	0.33	0.33	0.01	0.31	0.31	0.05	0.35	0.35
Sat Flow, veh/h	1781	2362	1089	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	18	1	2	88	7	135	4	733	31	62	409	30
Grp Sat Flow(s),veh/h/ln	1781	1777	1674	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.0	0.1	2.7	0.2	5.0	0.1	14.3	1.1	1.8	6.7	1.0
Cycle Q Clear(g_c), s	0.6	0.0	0.1	2.7	0.2	5.0	0.1	14.3	1.1	1.8	6.7	1.0
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	500	532	502	608	622	527	356	1111	495	267	1258	561
V/C Ratio(X)	0.04	0.00	0.00	0.14	0.01	0.26	0.01	0.66	0.06	0.23	0.33	0.05
Avail Cap(c_a), veh/h	586	532	502	635	622	527	458	1111	495	295	1258	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	19.6	19.6	17.6	17.9	19.5	18.7	23.8	19.3	18.4	18.9	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.2	0.0	3.1	0.2	0.4	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.1	0.1	1.9	0.1	6.2	0.4	0.8	2.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	19.6	19.7	17.7	17.9	20.6	18.7	26.9	19.5	18.9	19.6	17.2
LnGrp LOS	B	B	B	B	B	C	B	C	B	B	B	B
Approach Vol, veh/h		21			230			768			501	
Approach Delay, s/veh		18.8			19.4			26.6			19.3	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	31.0	9.8	29.5	6.4	34.3	7.1	32.1
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	5.0	25.0	5.5	21.5	5.0	25.0	5.5	21.5
Max Q Clear Time (g_c+I1), s	3.8	16.3	4.7	2.1	2.1	8.7	2.6	7.0
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.0	2.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	13	5	40	94	1	554	64	113	774	19
Future Volume (vph)	13	5	40	94	1	554	64	113	774	19
Turn Type	pm+pt	NA	pm+pt	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3		5	2		1	6	
Permitted Phases	4		8	8	2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	12.0	28.0	12.0	28.0	13.0	42.0	42.0	18.0	47.0	47.0
Total Split (%)	12.0%	28.0%	12.0%	28.0%	13.0%	42.0%	42.0%	18.0%	47.0%	47.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	31.1	27.3	33.4	32.1	44.7	39.2	39.2	53.9	51.7	51.7
Actuated g/C Ratio	0.31	0.27	0.33	0.32	0.45	0.39	0.39	0.54	0.52	0.52
v/c Ratio	0.03	0.01	0.09	0.13	0.00	0.42	0.09	0.27	0.45	0.02
Control Delay	22.2	30.2	22.8	0.4	11.0	23.7	0.3	13.1	16.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	30.2	22.8	0.4	11.0	23.7	0.3	13.1	16.9	0.1
LOS	C	C	C	A	B	C	A	B	B	A
Approach Delay		24.3				21.2			16.1	
Approach LOS		C				C			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 49.5 (50%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 49.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	5	0	40	0	94	1	554	64	113	774	19
Future Volume (veh/h)	13	5	0	40	0	94	1	554	64	113	774	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	5	0	42	0	99	1	583	67	119	815	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	511	1124	0	578	626	530	235	1279	571	361	1485	662
Arrive On Green	0.02	0.32	0.00	0.03	0.00	0.33	0.00	0.36	0.36	0.06	0.42	0.42
Sat Flow, veh/h	1781	3647	0	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	14	5	0	42	0	99	1	583	67	119	815	20
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.5	0.1	0.0	1.6	0.0	4.4	0.0	12.6	2.8	4.0	17.3	0.7
Cycle Q Clear(g_c), s	0.5	0.1	0.0	1.6	0.0	4.4	0.0	12.6	2.8	4.0	17.3	0.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	511	1124	0	578	626	530	235	1279	571	361	1485	662
V/C Ratio(X)	0.03	0.00	0.00	0.07	0.00	0.19	0.00	0.46	0.12	0.33	0.55	0.03
Avail Cap(c_a), veh/h	598	1124	0	633	626	530	358	1279	571	469	1485	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	23.4	0.0	21.6	0.0	23.6	21.1	24.5	21.4	18.2	22.0	17.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	1.2	0.4	0.5	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.7	0.0	1.8	0.0	5.4	1.1	1.7	7.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	23.4	0.0	21.6	0.0	24.4	21.1	25.7	21.8	18.7	23.4	17.2
LnGrp LOS	C	C	A	C	A	C	C	C	C	B	C	B
Approach Vol, veh/h		19			141			651			954	
Approach Delay, s/veh		22.7			23.6			25.3			22.7	
Approach LOS		C			C			C			C	

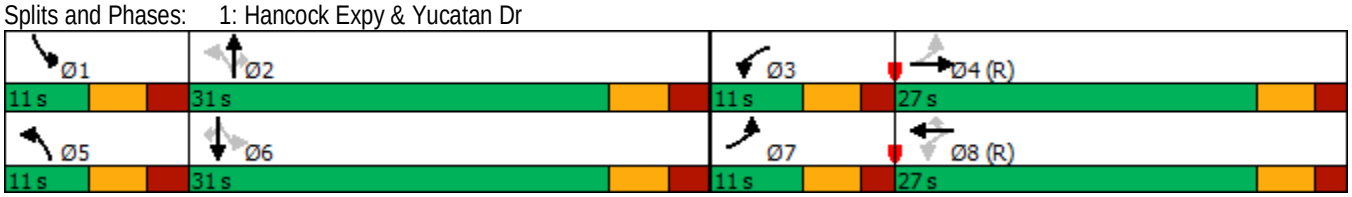
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	42.0	8.9	37.1	6.1	47.8	7.1	39.0
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	12.0	36.0	6.5	22.5	7.0	41.0	6.5	22.5
Max Q Clear Time (g_c+I1), s	6.0	14.6	3.6	2.1	2.0	19.3	2.5	6.4
Green Ext Time (p_c), s	0.1	4.2	0.0	0.0	0.0	6.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	16	2	81	6	125	4	676	28	57	377	27
Future Volume (vph)	16	2	81	6	125	4	676	28	57	377	27
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	27.0	11.0	27.0	27.0	11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	13.8%	33.8%	13.8%	33.8%	33.8%	13.8%	38.8%	38.8%	13.8%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	28.1	23.7	31.4	30.3	30.3	31.2	27.2	27.2	34.8	33.8	33.8
Actuated g/C Ratio	0.35	0.30	0.39	0.38	0.38	0.39	0.34	0.34	0.44	0.42	0.42
v/c Ratio	0.03	0.00	0.18	0.01	0.19	0.01	0.62	0.05	0.22	0.28	0.04
Control Delay	14.8	19.3	16.0	18.5	1.9	12.5	25.6	0.1	14.7	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	19.3	16.0	18.5	1.9	12.5	25.6	0.1	14.7	16.6	0.1
LOS	B	B	B	B	A	B	C	A	B	B	A
Approach Delay		15.4		7.8			24.5			15.4	
Approach LOS		B		A			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 41.4 (52%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	1	81	6	125	4	676	28	57	377	27
Future Volume (veh/h)	16	2	1	81	6	125	4	676	28	57	377	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	2	1	89	7	137	4	743	31	63	414	30
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	706	326	608	622	527	354	1111	495	265	1259	562
Arrive On Green	0.02	0.30	0.30	0.05	0.33	0.33	0.01	0.31	0.31	0.05	0.35	0.35
Sat Flow, veh/h	1781	2362	1089	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	18	1	2	89	7	137	4	743	31	63	414	30
Grp Sat Flow(s),veh/h/ln	1781	1777	1674	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.0	0.1	2.7	0.2	5.1	0.1	14.5	1.1	1.9	6.8	1.0
Cycle Q Clear(g_c), s	0.6	0.0	0.1	2.7	0.2	5.1	0.1	14.5	1.1	1.9	6.8	1.0
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	499	531	501	608	622	527	354	1111	495	265	1259	562
V/C Ratio(X)	0.04	0.00	0.00	0.15	0.01	0.26	0.01	0.67	0.06	0.24	0.33	0.05
Avail Cap(c_a), veh/h	585	531	501	634	622	527	456	1111	495	292	1259	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	19.7	19.7	17.6	17.9	19.5	18.7	23.9	19.3	18.5	18.9	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.2	0.0	3.2	0.2	0.5	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.1	0.1	2.0	0.1	6.3	0.4	0.8	2.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	19.7	19.7	17.7	17.9	20.7	18.7	27.1	19.5	18.9	19.6	17.2
LnGrp LOS	B	B	B	B	B	C	B	C	B	B	B	B
Approach Vol, veh/h		21			233			778			507	
Approach Delay, s/veh		18.9			19.5			26.8			19.4	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	31.0	9.8	29.4	6.4	34.3	7.1	32.1
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	5.0	25.0	5.5	21.5	5.0	25.0	5.5	21.5
Max Q Clear Time (g_c+I1), s	3.9	16.5	4.7	2.1	2.1	8.8	2.6	7.1
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.0	2.5	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	13	5	41	95	1	561	65	115	784	19
Future Volume (vph)	13	5	41	95	1	561	65	115	784	19
Turn Type	pm+pt	NA	pm+pt	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3		5	2		1	6	
Permitted Phases	4		8	8	2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	12.0	28.0	12.0	28.0	13.0	42.0	42.0	18.0	47.0	47.0
Total Split (%)	12.0%	28.0%	12.0%	28.0%	13.0%	42.0%	42.0%	18.0%	47.0%	47.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	31.1	27.3	33.4	32.1	44.7	39.1	39.1	54.0	51.7	51.7
Actuated g/C Ratio	0.31	0.27	0.33	0.32	0.45	0.39	0.39	0.54	0.52	0.52
v/c Ratio	0.03	0.01	0.10	0.13	0.00	0.43	0.10	0.28	0.45	0.02
Control Delay	22.2	30.2	22.8	0.4	11.0	23.8	0.3	13.2	17.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	30.2	22.8	0.4	11.0	23.8	0.3	13.2	17.0	0.1
LOS	C	C	C	A	B	C	A	B	B	A
Approach Delay		24.3				21.4			16.1	
Approach LOS		C				C			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 49.5 (50%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 49.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	5	0	41	0	95	1	561	65	115	784	19
Future Volume (veh/h)	13	5	0	41	0	95	1	561	65	115	784	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	5	0	43	0	100	1	591	68	121	825	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	509	1120	0	577	624	529	233	1279	571	359	1488	664
Arrive On Green	0.02	0.32	0.00	0.03	0.00	0.33	0.00	0.36	0.36	0.06	0.42	0.42
Sat Flow, veh/h	1781	3647	0	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	14	5	0	43	0	100	1	591	68	121	825	20
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.5	0.1	0.0	1.6	0.0	4.5	0.0	12.8	2.9	4.1	17.6	0.7
Cycle Q Clear(g_c), s	0.5	0.1	0.0	1.6	0.0	4.5	0.0	12.8	2.9	4.1	17.6	0.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	509	1120	0	577	624	529	233	1279	571	359	1488	664
V/C Ratio(X)	0.03	0.00	0.00	0.07	0.00	0.19	0.00	0.46	0.12	0.34	0.55	0.03
Avail Cap(c_a), veh/h	596	1120	0	631	624	529	355	1279	571	466	1488	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	23.5	0.0	21.7	0.0	23.7	21.1	24.6	21.4	18.2	22.0	17.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	1.2	0.4	0.5	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.7	0.0	1.8	0.0	5.5	1.1	1.7	7.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	23.5	0.0	21.7	0.0	24.5	21.1	25.8	21.8	18.7	23.5	17.2
LnGrp LOS	C	C	A	C	A	C	C	C	C	B	C	B
Approach Vol, veh/h		19			143			660			966	
Approach Delay, s/veh		22.8			23.6			25.4			22.8	
Approach LOS		C			C			C			C	

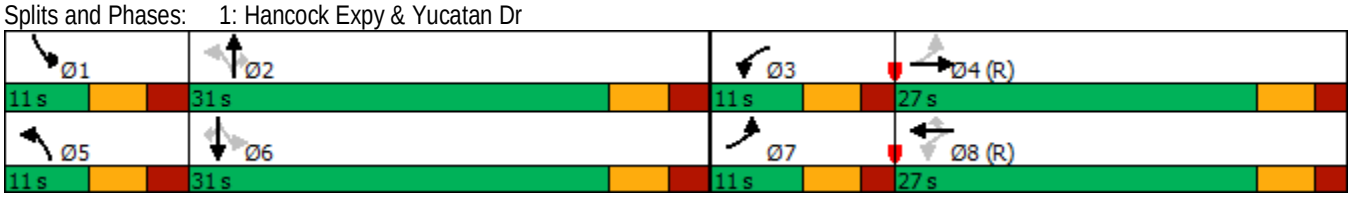
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	42.0	9.0	37.0	6.1	47.9	7.1	38.9
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	12.0	36.0	6.5	22.5	7.0	41.0	6.5	22.5
Max Q Clear Time (g_c+I1), s	6.1	14.8	3.6	2.1	2.0	19.6	2.5	6.5
Green Ext Time (p_c), s	0.1	4.3	0.0	0.0	0.0	6.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	16	3	99	8	155	4	654	55	80	363	26
Future Volume (vph)	16	3	99	8	155	4	654	55	80	363	26
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	27.0	11.0	27.0	27.0	11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	13.8%	33.8%	13.8%	33.8%	33.8%	13.8%	38.8%	38.8%	13.8%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	28.1	23.7	31.4	30.3	30.3	31.2	27.2	27.2	34.8	33.8	33.8
Actuated g/C Ratio	0.35	0.30	0.39	0.38	0.38	0.39	0.34	0.34	0.44	0.42	0.42
v/c Ratio	0.03	0.00	0.22	0.01	0.24	0.01	0.60	0.09	0.30	0.27	0.04
Control Delay	14.8	19.8	16.5	18.4	3.3	12.5	25.2	0.3	15.7	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	19.8	16.5	18.4	3.3	12.5	25.2	0.3	15.7	16.6	0.1
LOS	B	B	B	B	A	B	C	A	B	B	A
Approach Delay		15.7		8.8			23.2			15.5	
Approach LOS		B		A			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 41.4 (52%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	3	1	99	8	155	4	654	55	80	363	26
Future Volume (veh/h)	16	3	1	99	8	155	4	654	55	80	363	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	3	1	109	9	170	4	719	60	88	399	29
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	470	757	239	601	609	516	368	1111	495	281	1282	572
Arrive On Green	0.02	0.28	0.28	0.06	0.33	0.33	0.01	0.31	0.31	0.05	0.36	0.36
Sat Flow, veh/h	1781	2658	839	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	18	2	2	109	9	170	4	719	60	88	399	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1719	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.1	0.1	3.4	0.3	6.5	0.1	14.0	2.2	2.6	6.5	1.0
Cycle Q Clear(g_c), s	0.6	0.1	0.1	3.4	0.3	6.5	0.1	14.0	2.2	2.6	6.5	1.0
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	506	490	601	609	516	368	1111	495	281	1282	572
V/C Ratio(X)	0.04	0.00	0.00	0.18	0.01	0.33	0.01	0.65	0.12	0.31	0.31	0.05
Avail Cap(c_a), veh/h	556	506	490	613	609	516	470	1111	495	297	1282	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	20.5	20.5	18.2	18.3	20.4	18.7	23.7	19.7	18.3	18.4	16.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.7	0.0	2.9	0.5	0.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.4	0.1	0.2	0.1	6.0	0.8	1.1	2.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	20.5	20.5	18.3	18.3	22.1	18.7	26.6	20.2	18.9	19.0	16.8
LnGrp LOS	B	C	C	B	B	C	B	C	C	B	B	B
Approach Vol, veh/h		22			288			783			516	
Approach Delay, s/veh		19.7			20.5			26.1			18.9	
Approach LOS		B			C			C			B	

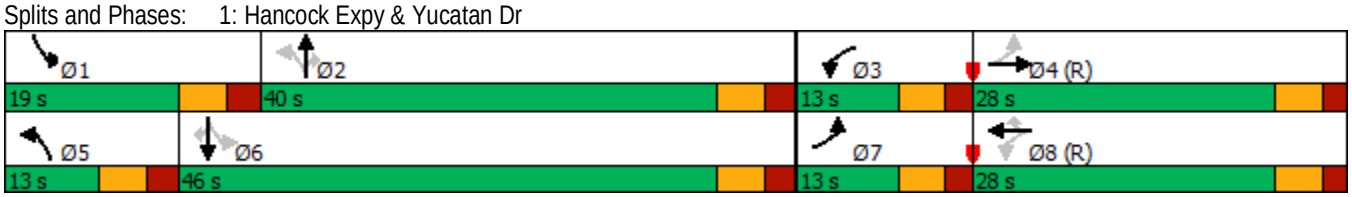
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	31.0	10.4	28.3	6.4	34.9	7.1	31.6
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	5.0	25.0	5.5	21.5	5.0	25.0	5.5	21.5
Max Q Clear Time (g_c+I1), s	4.6	16.0	5.4	2.1	2.1	8.5	2.6	8.5
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	2.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	13	6	66	2	118	1	543	88	149	758	18
Future Volume (vph)	13	6	66	2	118	1	543	88	149	758	18
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	13.0	28.0	13.0	28.0	28.0	13.0	40.0	40.0	19.0	46.0	46.0
Total Split (%)	13.0%	28.0%	13.0%	28.0%	28.0%	13.0%	40.0%	40.0%	19.0%	46.0%	46.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	30.2	25.2	34.5	33.0	33.0	42.5	37.0	37.0	53.0	50.7	50.7
Actuated g/C Ratio	0.30	0.25	0.34	0.33	0.33	0.42	0.37	0.37	0.53	0.51	0.51
v/c Ratio	0.03	0.01	0.16	0.00	0.20	0.00	0.44	0.14	0.36	0.45	0.02
Control Delay	21.5	30.2	22.8	26.5	3.3	12.0	25.4	1.1	14.6	17.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	30.2	22.8	26.5	3.3	12.0	25.4	1.1	14.6	17.4	0.1
LOS	C	C	C	C	A	B	C	A	B	B	A
Approach Delay		24.1		10.5			22.0			16.6	
Approach LOS		C		B			C			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 49.5 (50%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 50.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	6	0	66	2	118	1	543	88	149	758	18
Future Volume (veh/h)	13	6	0	66	2	118	1	543	88	149	758	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	6	0	69	2	124	1	572	93	157	798	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	495	1109	0	586	633	537	238	1208	539	371	1471	656
Arrive On Green	0.02	0.31	0.00	0.04	0.34	0.34	0.00	0.34	0.34	0.08	0.41	0.41
Sat Flow, veh/h	1781	3647	0	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	14	6	0	69	2	124	1	572	93	157	798	19
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.5	0.1	0.0	2.6	0.1	5.6	0.0	12.7	4.1	5.5	17.0	0.7
Cycle Q Clear(g_c), s	0.5	0.1	0.0	2.6	0.1	5.6	0.0	12.7	4.1	5.5	17.0	0.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	495	1109	0	586	633	537	238	1208	539	371	1471	656
V/C Ratio(X)	0.03	0.01	0.00	0.12	0.00	0.23	0.00	0.47	0.17	0.42	0.54	0.03
Avail Cap(c_a), veh/h	600	1109	0	644	633	537	360	1208	539	468	1471	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	23.7	0.0	21.7	21.9	23.7	22.2	26.0	23.1	18.8	22.1	17.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.0	0.0	1.3	0.7	0.8	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	1.1	0.0	2.2	0.0	5.5	1.6	2.3	7.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	23.7	0.0	21.8	21.9	24.7	22.2	27.3	23.8	19.6	23.6	17.5
LnGrp LOS	C	C	A	C	C	C	C	C	C	B	C	B
Approach Vol, veh/h		20			195			666			974	
Approach Delay, s/veh		23.1			23.7			26.8			22.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	40.0	9.8	36.7	6.1	47.4	7.1	39.3
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	13.0	34.0	7.5	22.5	7.0	40.0	7.5	22.5
Max Q Clear Time (g_c+I1), s	7.5	14.7	4.6	2.1	2.0	19.0	2.5	7.6
Green Ext Time (p_c), s	0.2	4.1	0.0	0.0	0.0	5.8	0.0	0.3

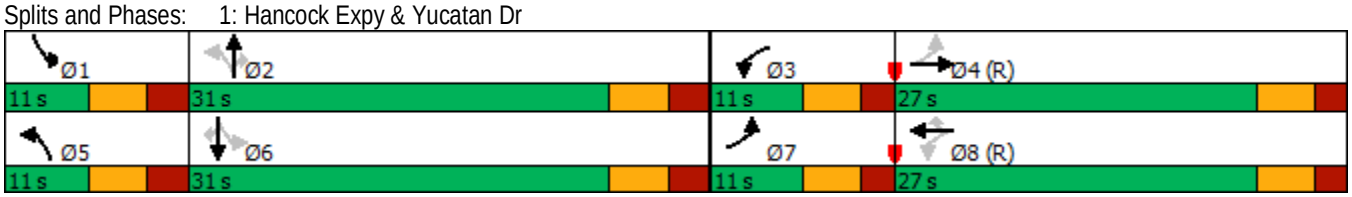
Intersection Summary	
HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	19	2	94	7	144	5	783	33	66	437	32
Future Volume (vph)	19	2	94	7	144	5	783	33	66	437	32
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	27.0	11.0	27.0	27.0	11.0	31.0	31.0	11.0	31.0	31.0
Total Split (%)	13.8%	33.8%	13.8%	33.8%	33.8%	13.8%	38.8%	38.8%	13.8%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	28.1	23.7	30.3	28.1	28.1	31.2	27.2	27.2	34.8	33.8	33.8
Actuated g/C Ratio	0.35	0.30	0.38	0.35	0.35	0.39	0.34	0.34	0.44	0.42	0.42
v/c Ratio	0.04	0.00	0.20	0.01	0.23	0.01	0.71	0.05	0.29	0.32	0.04
Control Delay	14.8	19.3	16.4	20.7	2.8	12.6	27.7	0.2	15.9	17.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	19.3	16.4	20.7	2.8	12.6	27.7	0.2	15.9	17.0	0.1
LOS	B	B	B	C	A	B	C	A	B	B	A
Approach Delay		15.4		8.5			26.5			15.9	
Approach LOS		B		A			C			B	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 41.4 (52%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 20.1 — Intersection LOS: C
Intersection Capacity Utilization 52.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	1	94	7	144	5	783	33	66	437	32
Future Volume (veh/h)	19	2	1	94	7	144	5	783	33	66	437	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	2	1	102	8	157	5	851	36	72	475	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	488	690	318	605	611	518	330	1111	495	239	1264	564
Arrive On Green	0.02	0.29	0.29	0.06	0.33	0.33	0.01	0.31	0.31	0.05	0.36	0.36
Sat Flow, veh/h	1781	2362	1089	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	1	2	102	8	157	5	851	36	72	475	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1674	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.7	0.0	0.1	3.2	0.2	5.9	0.2	17.3	1.3	2.1	8.0	1.2
Cycle Q Clear(g_c), s	0.7	0.0	0.1	3.2	0.2	5.9	0.2	17.3	1.3	2.1	8.0	1.2
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	488	519	489	605	611	518	330	1111	495	239	1264	564
V/C Ratio(X)	0.04	0.00	0.00	0.17	0.01	0.30	0.02	0.77	0.07	0.30	0.38	0.06
Avail Cap(c_a), veh/h	569	519	489	625	611	518	430	1111	495	261	1264	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	20.1	20.1	17.9	18.2	20.1	18.7	24.9	19.3	19.1	19.2	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.5	0.0	5.1	0.3	0.7	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.3	0.1	2.3	0.1	7.7	0.5	0.9	3.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	20.1	20.1	18.1	18.2	21.6	18.7	29.9	19.6	19.8	20.0	17.2
LnGrp LOS	B	C	C	B	B	C	B	C	B	B	C	B
Approach Vol, veh/h		24			267			892			582	
Approach Delay, s/veh		19.1			20.2			29.5			19.8	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	31.0	10.1	28.9	6.5	34.5	7.4	31.6
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	5.0	25.0	5.5	21.5	5.0	25.0	5.5	21.5
Max Q Clear Time (g_c+I1), s	4.1	19.3	5.2	2.1	2.2	10.0	2.7	7.9
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	2.9	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	15	6	47	110	1	650	75	133	909	22
Future Volume (vph)	15	6	47	110	1	650	75	133	909	22
Turn Type	pm+pt	NA	pm+pt	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3		5	2		1	6	
Permitted Phases	4		8	8	2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	12.0	28.0	12.0	28.0	13.0	42.0	42.0	18.0	47.0	47.0
Total Split (%)	12.0%	28.0%	12.0%	28.0%	13.0%	42.0%	42.0%	18.0%	47.0%	47.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	29.8	24.9	32.3	29.7	44.1	38.6	38.6	54.0	51.7	51.7
Actuated g/C Ratio	0.30	0.25	0.32	0.30	0.44	0.39	0.39	0.54	0.52	0.52
v/c Ratio	0.04	0.01	0.11	0.16	0.00	0.50	0.11	0.35	0.52	0.03
Control Delay	22.2	30.2	23.0	0.5	11.0	25.3	0.3	14.1	18.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	30.2	23.0	0.5	11.0	25.3	0.3	14.1	18.1	0.0
LOS	C	C	C	A	B	C	A	B	B	A
Approach Delay		24.4				22.7			17.2	
Approach LOS		C				C			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 49.5 (50%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 53.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	6	0	47	0	110	1	650	75	133	909	22
Future Volume (veh/h)	15	6	0	47	0	110	1	650	75	133	909	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	6	0	49	0	116	1	684	79	140	957	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	494	1086	0	567	608	515	197	1279	571	338	1513	675
Arrive On Green	0.02	0.31	0.00	0.04	0.00	0.32	0.00	0.36	0.36	0.07	0.43	0.43
Sat Flow, veh/h	1781	3647	0	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	6	0	49	0	116	1	684	79	140	957	23
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.1	0.0	1.9	0.0	5.3	0.0	15.3	3.4	4.7	21.2	0.8
Cycle Q Clear(g_c), s	0.6	0.1	0.0	1.9	0.0	5.3	0.0	15.3	3.4	4.7	21.2	0.8
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	494	1086	0	567	608	515	197	1279	571	338	1513	675
V/C Ratio(X)	0.03	0.01	0.00	0.09	0.00	0.23	0.01	0.53	0.14	0.41	0.63	0.03
Avail Cap(c_a), veh/h	578	1086	0	617	608	515	320	1279	571	432	1513	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	24.2	0.0	22.2	0.0	24.6	21.5	25.4	21.6	18.4	22.6	16.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.0	0.0	1.6	0.5	0.8	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.0	0.8	0.0	2.1	0.0	6.6	1.3	2.0	9.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	24.2	0.0	22.3	0.0	25.6	21.5	27.0	22.1	19.3	24.6	16.8
LnGrp LOS	C	C	A	C	A	C	C	C	C	B	C	B
Approach Vol, veh/h		22			165			764			1120	
Approach Delay, s/veh		23.4			24.6			26.5			23.8	
Approach LOS		C			C			C			C	

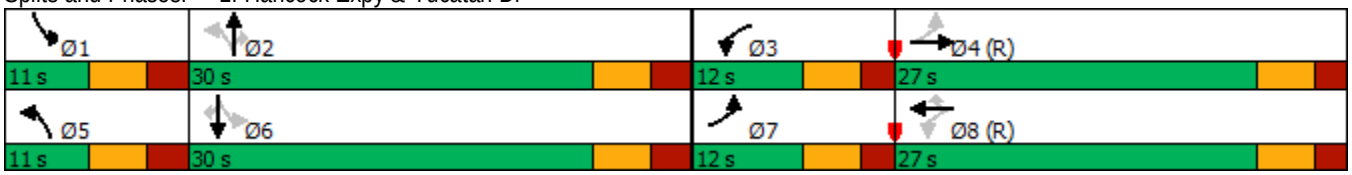
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	42.0	9.2	36.1	6.1	48.6	7.3	38.0
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	12.0	36.0	6.5	22.5	7.0	41.0	6.5	22.5
Max Q Clear Time (g_c+I1), s	6.7	17.3	3.9	2.1	2.0	23.2	2.6	7.3
Green Ext Time (p_c), s	0.1	4.8	0.0	0.0	0.0	6.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	19	3	112	9	174	5	761	60	89	423	31
Future Volume (vph)	19	3	112	9	174	5	761	60	89	423	31
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	12.0	27.0	12.0	27.0	27.0	11.0	30.0	30.0	11.0	30.0	30.0
Total Split (%)	15.0%	33.8%	15.0%	33.8%	33.8%	13.8%	37.5%	37.5%	13.8%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	28.8	23.9	31.3	28.7	28.7	30.2	26.2	26.2	33.8	32.8	32.8
Actuated g/C Ratio	0.36	0.30	0.39	0.36	0.36	0.38	0.33	0.33	0.42	0.41	0.41
v/c Ratio	0.04	0.00	0.23	0.01	0.27	0.01	0.71	0.10	0.39	0.32	0.04
Control Delay	14.2	19.8	16.0	20.6	4.5	13.0	28.7	0.3	18.5	17.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	19.8	16.0	20.6	4.5	13.0	28.7	0.3	18.5	17.7	0.1
LOS	B	B	B	C	A	B	C	A	B	B	A
Approach Delay		15.1		9.4			26.5			16.8	
Approach LOS		B		A			C			B	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 41.4 (52%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	3	1	112	9	174	5	761	60	89	423	31
Future Volume (veh/h)	19	3	1	112	9	174	5	761	60	89	423	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	3	1	122	10	189	5	827	65	97	460	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	474	770	243	618	625	529	329	1066	476	243	1239	553
Arrive On Green	0.02	0.29	0.29	0.07	0.33	0.33	0.01	0.30	0.30	0.06	0.35	0.35
Sat Flow, veh/h	1781	2658	839	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	2	2	122	10	189	5	827	65	97	460	34
Grp Sat Flow(s),veh/h/ln	1781	1777	1719	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.7	0.1	0.1	3.8	0.3	7.2	0.2	17.0	2.4	3.0	7.7	1.1
Cycle Q Clear(g_c), s	0.7	0.1	0.1	3.8	0.3	7.2	0.2	17.0	2.4	3.0	7.7	1.1
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	474	515	498	618	625	529	329	1066	476	243	1239	553
V/C Ratio(X)	0.04	0.00	0.00	0.20	0.02	0.36	0.02	0.78	0.14	0.40	0.37	0.06
Avail Cap(c_a), veh/h	577	515	498	643	625	529	429	1066	476	256	1239	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	20.2	20.2	17.7	17.8	20.1	19.4	25.5	20.4	19.7	19.5	17.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	1.9	0.0	5.5	0.6	1.1	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.5	0.1	2.8	0.1	7.6	0.9	1.2	3.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	20.2	20.2	17.9	17.9	22.0	19.4	31.1	21.0	20.8	20.3	17.6
LnGrp LOS	B	C	C	B	B	C	B	C	C	C	C	B
Approach Vol, veh/h		25			321			897			591	
Approach Delay, s/veh		19.3			20.3			30.3			20.3	
Approach LOS		B			C			C			C	

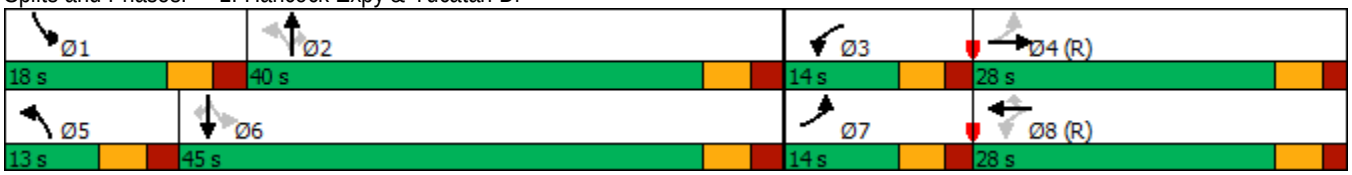
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	30.0	10.9	28.7	6.5	33.9	7.4	32.2
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	5.0	24.0	6.5	21.5	5.0	24.0	6.5	21.5
Max Q Clear Time (g_c+I1), s	5.0	19.0	5.8	2.1	2.2	9.7	2.7	9.2
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	2.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	15	7	72	2	133	1	632	98	167	883	21
Future Volume (vph)	15	7	72	2	133	1	632	98	167	883	21
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		2	6		6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	23.5	10.5	23.5	23.5	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	14.0	28.0	14.0	28.0	28.0	13.0	40.0	40.0	18.0	45.0	45.0
Total Split (%)	14.0%	28.0%	14.0%	28.0%	28.0%	13.0%	40.0%	40.0%	18.0%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	30.6	25.6	35.0	31.6	31.6	41.2	35.7	35.7	52.0	49.7	49.7
Actuated g/C Ratio	0.31	0.26	0.35	0.32	0.32	0.41	0.36	0.36	0.52	0.50	0.50
v/c Ratio	0.04	0.01	0.17	0.00	0.23	0.00	0.53	0.16	0.44	0.53	0.03
Control Delay	20.9	30.1	22.2	28.0	4.9	12.0	27.7	1.7	16.6	19.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	30.1	22.2	28.0	4.9	12.0	27.7	1.7	16.6	19.3	0.0
LOS	C	C	C	C	A	B	C	A	B	B	A
Approach Delay		23.7		11.1			24.2			18.5	
Approach LOS		C		B			C			B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 49.5 (50%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 19.9	Intersection LOS: B
Intersection Capacity Utilization 53.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Hancock Expy & Yucatan Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	7	0	72	2	133	1	632	98	167	883	21
Future Volume (veh/h)	15	7	0	72	2	133	1	632	98	167	883	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	7	0	76	2	140	1	665	103	176	929	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	483	1080	0	576	617	523	202	1208	539	350	1495	667
Arrive On Green	0.02	0.30	0.00	0.04	0.33	0.33	0.00	0.34	0.34	0.08	0.42	0.42
Sat Flow, veh/h	1781	3647	0	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	7	0	76	2	140	1	665	103	176	929	22
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.1	0.0	2.9	0.1	6.5	0.0	15.2	4.6	6.1	20.5	0.8
Cycle Q Clear(g_c), s	0.6	0.1	0.0	2.9	0.1	6.5	0.0	15.2	4.6	6.1	20.5	0.8
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	483	1080	0	576	617	523	202	1208	539	350	1495	667
V/C Ratio(X)	0.03	0.01	0.00	0.13	0.00	0.27	0.00	0.55	0.19	0.50	0.62	0.03
Avail Cap(c_a), veh/h	602	1080	0	650	617	523	324	1208	539	417	1495	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	24.3	0.0	22.2	22.5	24.6	22.5	26.8	23.3	19.2	22.7	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.3	0.0	1.8	0.8	1.1	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.0	1.2	0.0	2.6	0.0	6.6	1.8	2.6	8.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	24.3	0.0	22.3	22.5	25.9	22.5	28.6	24.1	20.4	24.7	17.1
LnGrp LOS	C	C	A	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		23			218			769			1127	
Approach Delay, s/veh		23.6			24.6			28.0			23.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	40.0	9.9	35.9	6.1	48.1	7.3	38.5
Change Period (Y+Rc), s	6.0	6.0	5.5	5.5	6.0	6.0	5.5	5.5
Max Green Setting (Gmax), s	12.0	34.0	8.5	22.5	7.0	39.0	8.5	22.5
Max Q Clear Time (g_c+I1), s	8.1	17.2	4.9	2.1	2.0	22.5	2.6	8.5
Green Ext Time (p_c), s	0.2	4.6	0.0	0.0	0.0	6.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	75	3	10	201	1	7	2	3	0	0	1
Future Vol, veh/h	8	75	3	10	201	1	7	2	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	104	4	14	279	1	10	3	4	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	108	0	0	296	436	54	384	438	140
Stage 1	-	-	-	-	-	-	128	128	-	308	308	-
Stage 2	-	-	-	-	-	-	168	308	-	76	130	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1280	-	-	1503	-	-	657	525	1037	568	523	882
Stage 1	-	-	-	-	-	-	889	805	-	677	659	-
Stage 2	-	-	-	-	-	-	817	659	-	953	804	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1280	-	-	1503	-	-	647	516	1037	556	514	882
Mov Cap-2 Maneuver	-	-	-	-	-	-	674	550	-	587	553	-
Stage 1	-	-	-	-	-	-	881	797	-	671	653	-
Stage 2	-	-	-	-	-	-	808	653	-	937	796	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	10.2	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	709	1280	-	-	1503	-	-	882
HCM Lane V/C Ratio	0.024	0.009	-	-	0.009	-	-	0.002
HCM Control Delay (s)	10.2	7.8	0	-	7.4	-	-	9.1
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	164	15	3	119	1	6	1	14	2	0	7
Future Vol, veh/h	1	164	15	3	119	1	6	1	14	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	182	17	3	132	1	7	1	16	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	199	0	0	265	332	100	233	340	67
Stage 1	-	-	-	-	-	-	193	193	-	139	139	-
Stage 2	-	-	-	-	-	-	72	139	-	94	201	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1449	-	-	1446	-	-	762	645	*1043	*804	637	983
Stage 1	-	-	-	-	-	-	880	793	-	*850	781	-
Stage 2	-	-	-	-	-	-	929	781	-	*983	787	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1449	-	-	1446	-	-	754	643	*1043	*789	635	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	753	652	-	*761	646	-
Stage 1	-	-	-	-	-	-	879	793	-	*849	779	-
Stage 2	-	-	-	-	-	-	920	779	-	*966	786	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	9	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	916	1449	-	-	1446	-	-	923
HCM Lane V/C Ratio	0.025	0.001	-	-	0.002	-	-	0.011
HCM Control Delay (s)	9	7.5	0	-	7.5	-	-	8.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	76	3	10	204	1	7	2	3	0	0	1
Future Vol, veh/h	8	76	3	10	204	1	7	2	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	106	4	14	283	1	10	3	4	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	110	0	0	300	442	55	389	444	142
Stage 1	-	-	-	-	-	-	130	130	-	312	312	-
Stage 2	-	-	-	-	-	-	170	312	-	77	132	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1275	-	-	1500	-	-	652	521	1036	563	520	880
Stage 1	-	-	-	-	-	-	886	804	-	673	656	-
Stage 2	-	-	-	-	-	-	815	656	-	952	802	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1275	-	-	1500	-	-	642	511	1036	551	510	880
Mov Cap-2 Maneuver	-	-	-	-	-	-	671	547	-	584	550	-
Stage 1	-	-	-	-	-	-	878	796	-	667	650	-
Stage 2	-	-	-	-	-	-	806	650	-	936	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	10.2	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1275	-	-	1500	-	-	880
HCM Lane V/C Ratio	0.024	0.009	-	-	0.009	-	-	0.002
HCM Control Delay (s)	10.2	7.8	0	-	7.4	-	-	9.1
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	166	15	3	121	1	6	1	14	2	0	7
Future Vol, veh/h	1	166	15	3	121	1	6	1	14	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	184	17	3	134	1	7	1	16	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	135	0	0	201	0	0	268	336	101	236	344	68
Stage 1	-	-	-	-	-	-	195	195	-	141	141	-
Stage 2	-	-	-	-	-	-	73	141	-	95	203	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1447	-	-	1444	-	-	758	641	*1043	*800	634	981
Stage 1	-	-	-	-	-	-	877	791	-	*847	779	-
Stage 2	-	-	-	-	-	-	928	779	-	*983	786	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1447	-	-	1444	-	-	750	639	*1043	*785	633	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	750	649	-	*758	645	-
Stage 1	-	-	-	-	-	-	876	791	-	*846	777	-
Stage 2	-	-	-	-	-	-	919	777	-	*966	785	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	914	1447	-	-	1444	-	-	921
HCM Lane V/C Ratio	0.026	0.001	-	-	0.002	-	-	0.011
HCM Control Delay (s)	9	7.5	0	-	7.5	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Notes

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	75	53	30	197	1	62	2	19	0	0	1
Future Vol, veh/h	8	75	53	30	197	1	62	2	19	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	104	74	42	274	1	86	3	26	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	178	0	0	347	485	52	435	559	138
Stage 1	-	-	-	-	-	-	126	126	-	359	359	-
Stage 2	-	-	-	-	-	-	221	359	-	76	200	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1285	-	-	1416	-	-	604	492	1040	522	446	885
Stage 1	-	-	-	-	-	-	891	807	-	632	626	-
Stage 2	-	-	-	-	-	-	761	626	-	953	748	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1285	-	-	1416	-	-	584	472	1040	492	428	885
Mov Cap-2 Maneuver	-	-	-	-	-	-	621	513	-	540	489	-
Stage 1	-	-	-	-	-	-	882	798	-	626	607	-
Stage 2	-	-	-	-	-	-	737	607	-	916	741	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1	11.4	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1285	-	-	1416	-	-	885
HCM Lane V/C Ratio	0.17	0.009	-	-	0.029	-	-	0.002
HCM Control Delay (s)	11.4	7.8	0	-	7.6	-	-	9.1
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	165	73	20	117	1	60	1	31	2	0	7
Future Vol, veh/h	1	165	73	20	117	1	60	1	31	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	183	81	22	130	1	67	1	34	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	131	0	0	264	0	0	294	360	92	269	441	66
Stage 1	-	-	-	-	-	-	185	185	-	175	175	-
Stage 2	-	-	-	-	-	-	109	175	-	94	266	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1452	-	-	1366	-	-	725	621	*1043	*757	557	984
Stage 1	-	-	-	-	-	-	890	800	-	*810	753	-
Stage 2	-	-	-	-	-	-	885	753	-	*983	736	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1452	-	-	1366	-	-	710	610	*1043	*721	548	984
Mov Cap-2 Maneuver	-	-	-	-	-	-	723	627	-	*714	581	-
Stage 1	-	-	-	-	-	-	889	799	-	*809	741	-
Stage 2	-	-	-	-	-	-	864	741	-	*948	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	10.1	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	805	1452	-	-	1366	-	-	908
HCM Lane V/C Ratio	0.127	0.001	-	-	0.016	-	-	0.011
HCM Control Delay (s)	10.1	7.5	0	-	7.7	-	-	9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	88	3	10	236	1	7	2	3	0	0	1
Future Vol, veh/h	8	88	3	10	236	1	7	2	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	110	4	13	295	1	9	3	4	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	296	0	0	114	0	0	306	454	57	399	456	148
Stage 1	-	-	-	-	-	-	132	132	-	322	322	-
Stage 2	-	-	-	-	-	-	174	322	-	77	134	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1262	-	-	1495	-	-	646	513	1033	554	512	872
Stage 1	-	-	-	-	-	-	884	802	-	664	650	-
Stage 2	-	-	-	-	-	-	811	650	-	952	800	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1262	-	-	1495	-	-	637	504	1033	543	503	872
Mov Cap-2 Maneuver	-	-	-	-	-	-	668	542	-	577	544	-
Stage 1	-	-	-	-	-	-	877	795	-	659	644	-
Stage 2	-	-	-	-	-	-	803	644	-	938	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	10.2	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	1262	-	-	1495	-	-	872
HCM Lane V/C Ratio	0.021	0.008	-	-	0.008	-	-	0.001
HCM Control Delay (s)	10.2	7.9	0	-	7.4	-	-	9.1
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	193	15	3	140	1	6	1	14	2	0	7
Future Vol, veh/h	1	193	15	3	140	1	6	1	14	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	214	17	3	156	1	7	1	16	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	157	0	0	231	0	0	309	388	116	273	396	79
Stage 1	-	-	-	-	-	-	225	225	-	163	163	-
Stage 2	-	-	-	-	-	-	84	163	-	110	233	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1420	-	-	1470	-	-	789	646	*1011	*840	639	965
Stage 1	-	-	-	-	-	-	919	813	-	*823	762	-
Stage 2	-	-	-	-	-	-	915	762	-	*954	806	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1420	-	-	1470	-	-	781	644	*1011	*824	637	965
Mov Cap-2 Maneuver	-	-	-	-	-	-	772	650	-	*750	646	-
Stage 1	-	-	-	-	-	-	918	813	-	*822	760	-
Stage 2	-	-	-	-	-	-	906	760	-	*937	805	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	9.1	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	907	1420	-	-	1470	-	-	907
HCM Lane V/C Ratio	0.026	0.001	-	-	0.002	-	-	0.011
HCM Control Delay (s)	9.1	7.5	0	-	7.5	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Notes

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	87	53	30	229	1	62	2	19	0	0	1
Future Vol, veh/h	8	87	53	30	229	1	62	2	19	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	116	71	40	305	1	83	3	25	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	306	0	0	187	0	0	371	524	58	468	595	153
Stage 1	-	-	-	-	-	-	138	138	-	386	386	-
Stage 2	-	-	-	-	-	-	233	386	-	82	209	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1252	-	-	1405	-	-	581	467	1031	495	426	866
Stage 1	-	-	-	-	-	-	877	797	-	609	609	-
Stage 2	-	-	-	-	-	-	749	609	-	945	742	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1252	-	-	1405	-	-	563	449	1031	467	409	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	607	497	-	519	475	-
Stage 1	-	-	-	-	-	-	868	789	-	603	592	-
Stage 2	-	-	-	-	-	-	727	592	-	910	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.9	11.5	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	666	1252	-	-	1405	-	-	866
HCM Lane V/C Ratio	0.166	0.009	-	-	0.028	-	-	0.002
HCM Control Delay (s)	11.5	7.9	0	-	7.6	-	-	9.2
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	192	73	20	136	1	60	1	31	2	0	7
Future Vol, veh/h	1	192	73	20	136	1	60	1	31	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	213	81	22	151	1	67	1	34	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	294	0	0	335	411	107	305	492	76
Stage 1	-	-	-	-	-	-	215	215	-	196	196	-
Stage 2	-	-	-	-	-	-	120	196	-	109	296	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1426	-	-	1389	-	-	755	626	*1011	*795	560	970
Stage 1	-	-	-	-	-	-	933	822	-	*787	737	-
Stage 2	-	-	-	-	-	-	872	737	-	*954	755	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1426	-	-	1389	-	-	739	615	*1011	*757	551	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	739	626	-	*713	584	-
Stage 1	-	-	-	-	-	-	932	821	-	*786	725	-
Stage 2	-	-	-	-	-	-	851	725	-	*919	754	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	10.1	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	811	1426	-	-	1389	-	-	898
HCM Lane V/C Ratio	0.126	0.001	-	-	0.016	-	-	0.011
HCM Control Delay (s)	10.1	7.5	0	-	7.6	-	-	9.1
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

Notes

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

APPENDIX E

Queue Analysis Worksheets

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	4	109	9	170	4	719	60	88	399	29
v/c Ratio	0.03	0.00	0.22	0.01	0.24	0.01	0.60	0.09	0.30	0.27	0.04
Control Delay	14.8	19.8	16.5	18.4	3.3	12.5	25.2	0.3	15.7	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	19.8	16.5	18.4	3.3	12.5	25.2	0.3	15.7	16.6	0.1
Queue Length 50th (ft)	5	0	34	3	0	1	161	0	25	62	0
Queue Length 95th (ft)	18	4	66	14	33	6	220	0	51	118	0
Internal Link Dist (ft)		466		211			263			192	
Turn Bay Length (ft)	100		125			350		250	375		250
Base Capacity (vph)	517	1009	506	705	722	425	1202	664	295	1495	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.00	0.22	0.01	0.24	0.01	0.60	0.09	0.30	0.27	0.04

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	14	6	69	2	124	1	572	93	157	798	19
v/c Ratio	0.03	0.01	0.16	0.00	0.20	0.00	0.44	0.14	0.36	0.45	0.02
Control Delay	21.5	30.2	22.8	26.5	3.3	12.0	25.4	1.1	14.6	17.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	30.2	22.8	26.5	3.3	12.0	25.4	1.1	14.6	17.4	0.1
Queue Length 50th (ft)	6	1	29	1	0	0	142	0	49	154	0
Queue Length 95th (ft)	19	7	60	7	27	3	200	7	84	257	0
Internal Link Dist (ft)		466		211			263			192	
Turn Bay Length (ft)	100		125			350		250	375		250
Base Capacity (vph)	466	891	439	614	627	364	1308	681	476	1792	877
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.16	0.00	0.20	0.00	0.44	0.14	0.33	0.45	0.02

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	4	122	10	189	5	827	65	97	460	34
v/c Ratio	0.04	0.00	0.23	0.01	0.27	0.01	0.71	0.10	0.39	0.32	0.04
Control Delay	14.2	19.8	16.0	20.6	4.5	13.0	28.7	0.3	18.5	17.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	19.8	16.0	20.6	4.5	13.0	28.7	0.3	18.5	17.7	0.1
Queue Length 50th (ft)	6	0	37	3	0	1	197	0	28	75	0
Queue Length 95th (ft)	19	4	71	15	43	7	265	0	56	139	0
Internal Link Dist (ft)		466		211			263			192	
Turn Bay Length (ft)	100		125			350		250	375		250
Base Capacity (vph)	538	1017	525	669	694	396	1158	646	247	1451	762
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.00	0.23	0.01	0.27	0.01	0.71	0.10	0.39	0.32	0.04

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	7	76	2	140	1	665	103	176	929	22
v/c Ratio	0.04	0.01	0.17	0.00	0.23	0.00	0.53	0.16	0.44	0.53	0.03
Control Delay	20.9	30.1	22.2	28.0	4.9	12.0	27.7	1.7	16.6	19.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	30.1	22.2	28.0	4.9	12.0	27.7	1.7	16.6	19.3	0.0
Queue Length 50th (ft)	6	1	32	1	0	0	175	0	57	193	0
Queue Length 95th (ft)	21	7	64	7	37	3	237	13	95	316	0
Internal Link Dist (ft)		466		211			263			192	
Turn Bay Length (ft)	100		125			350		250	375		250
Base Capacity (vph)	487	905	461	587	608	310	1262	663	418	1757	863
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.16	0.00	0.23	0.00	0.53	0.16	0.42	0.53	0.03

Intersection Summary

APPENDIX F

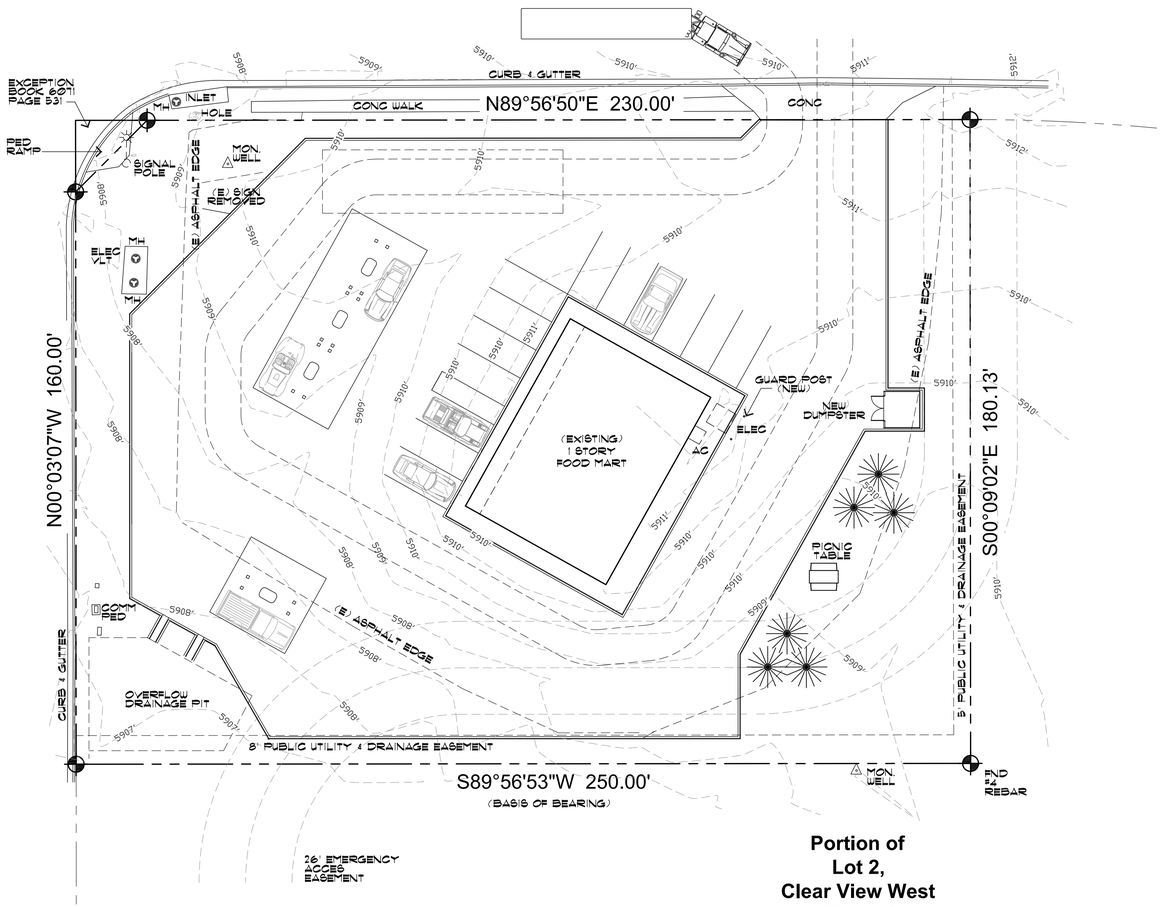
Conceptual Site Plan

HANCOCK EXPY

Project & Directory:
CLEARVIEW MARKET
4815 YUCATAN DRIVE

Colorado Springs, Colorado 80911

YUCATAN DRIVE



Portion of
Lot 2,
Clear View West
Fil. No.2
Area= 44,800 SQ.FT. +/-

A
A-4

Site Development Plan

SCALE: 1" = 20'-0"

VICINITY MAP
NO SCALE

NORTH

LAND DESCRIPTION:

ABBREVIATIONS:

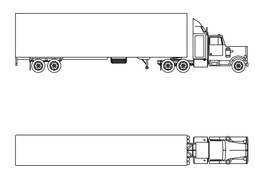
A	ABANDON EXISTING
B.O.	BOTTOM OF
C	COMPACT
CW	CONCRETE WALL
(E)	EXISTING TO REMAIN
EXT.	EXTERIOR
(F)	FUTURE
FND	FOUND
H/C	HANDICAP
LL	LOWER LEVEL
ML	MAIN LEVEL
(N)	NEW CONSTRUCTION
PH.	PHASE
P.O.B.	POINT OF BEGINNING
(R)	REMOVE AS REQUIRED
(REL)	RELOCATED AS REQUIRED
R.O.W.	RIGHT OF WAY
RRTW	RAILROAD TIE WALL
S.F.	SQUARE FEET
TBD	TO BE DETERMINED
T.O.	TOP OF
(TYP.)	TYPICAL
UG	UNDERGROUND
W.	WIDE

INDEX OF DRAWINGS:

SITE PLAN LEGEND:

	PROPERTY LINE
	EXISTING PROPERTY CORNER
	SIGN
	EXISTING ELECTRIC METER
PP	EXISTING POWER POLE
(E)OHE	EXISTING OVERHEAD ELECTRIC SERVICE LINE
	EXISTING TELEPHONE PEDESTAL
	EXISTING WELL
CO	EXISTING CLEAN OUT
	EXISTING SEPTIC SYSTEM MANHOLE
	EXISTING CONTOUR LINES
	EIXISTING CONTOUR LINES
	EXISTING WALKS, APRONS, & PATIOS
	EXISTING WOOD FENCE
	EXISTING DECIDUOUS TREES
	EXISTING CONIFER TREES
(R)	REMOVE TREE

County File Number: AL-09-002



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FOR BIDDING PURPOSES ONLY

N·C·B·D·C
NATIONAL COUNCIL OF
Barrel Allison Kern
CERTIFICATE NO. 06-123

IF THIS STAMP IS NOT RED IT IS AN ILLEGAL SET OF PLANS

Designer:
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Gas Station
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Colorado Springs, CO 80911

Contractor:

Revisions:

Plan Number:
R-20210601

Sheet Title:
DEVELOPMENT

Date:
08.31.2021

Sheet No:
A-4

Of 8 Sheets