Reunion Parcel 7A
Commerce City, CO

Traffic Impact Study

Prepared For:

Oakwood Homes
4908 Tower Road
Denver, CO 80249
(303) 486-8555

City of Commerce City
7887 E. 60th Avenue
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November 4, 2021

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Section 1: Introduction

Purpose of Report and Study Objectives

JR Engineering (JR) has completed a review of the traffic impacts of the proposed developments located in Reunion Parcel PA-7A in Commerce City, CO. The purpose of this Traffic Impact Study (TIS) is to assess the short-term and long-term effects of the proposed development project on both the local and regional transportation system.

Project Description

Site Description

Reunion Parcel 7A is located within a part of the northern half of Section 8, Township 2 South, Range 66 West of the 6th Principle Meridian, City of Commerce City, County of Adams, and State of Colorado. The area lies just west of Buffalo Run Golf Course and is a portion of Reunion Village 7 by Reunion Metropolitan District. The overall site is bounded by E. 112th Avenue to the north, Chambers Road to the west, and the Buffalo Run Golf Course to the south and east. The vicinity map is shown in **Figure 1**.

It is anticipated that construction of the parcels will start in Year 2022, with an anticipated buildout date of the overall site in the Year 2023.

The remainder of this report presents our findings concerning the traffic impacts of the developments within Reunion Parcel 7A. The Year 2021 existing conditions, Year 2023 completion of the development, and Year 2040 will be evaluated in this study.

Background Developments and Roadway Improvements

Outside of the improvements recommended with Reunion Village 7A and based on the *2010 Commerce City Comprehensive Plan*, E. 112th Avenue was widened to include bike lanes and turn lanes as a multimodal arterial between Chambers Road and Parkside Drive North. A traffic signal was installed at the intersection of Chambers Road and E. 112th Avenue. Chambers Road is widened to the full minor arterial section at the intersection, but tapers back to the existing section.

Proposed and Future Parcel Descriptions

The project site encompasses approximately 19.5 acres. According to the *Reunion Village 7 Site Plan* by Terracina Design, dated May 2020, the site is proposed to be comprised of the following land uses:

- PA-7A (19.5 ac): Single Family Residential (153 dwelling units, access from north and west)

The final lot numbers on the approved plat may differ from the current site plan. The most recent *Reunion Village 7A Site Plan* by Terracina Design is attached as **Appendix D**.

Study Area Boundaries

Several developments in this area have already been completed, such as the *Reunion Parcels 7B and 7E Traffic Impact Study*, prepared by JR Engineering in 2019. Therefore, this study only focuses on the proposed accesses to be built with Village 7A and the nearest major intersection. The intersections analyzed in this study include:

- Chambers Road and E. 112th Avenue (E1)
- E. 112th Avenue and Village 7A North Access (E2)
- Chambers Road and Village 7A West Access (A1)

The vicinity map is shown in **Figure 1**.

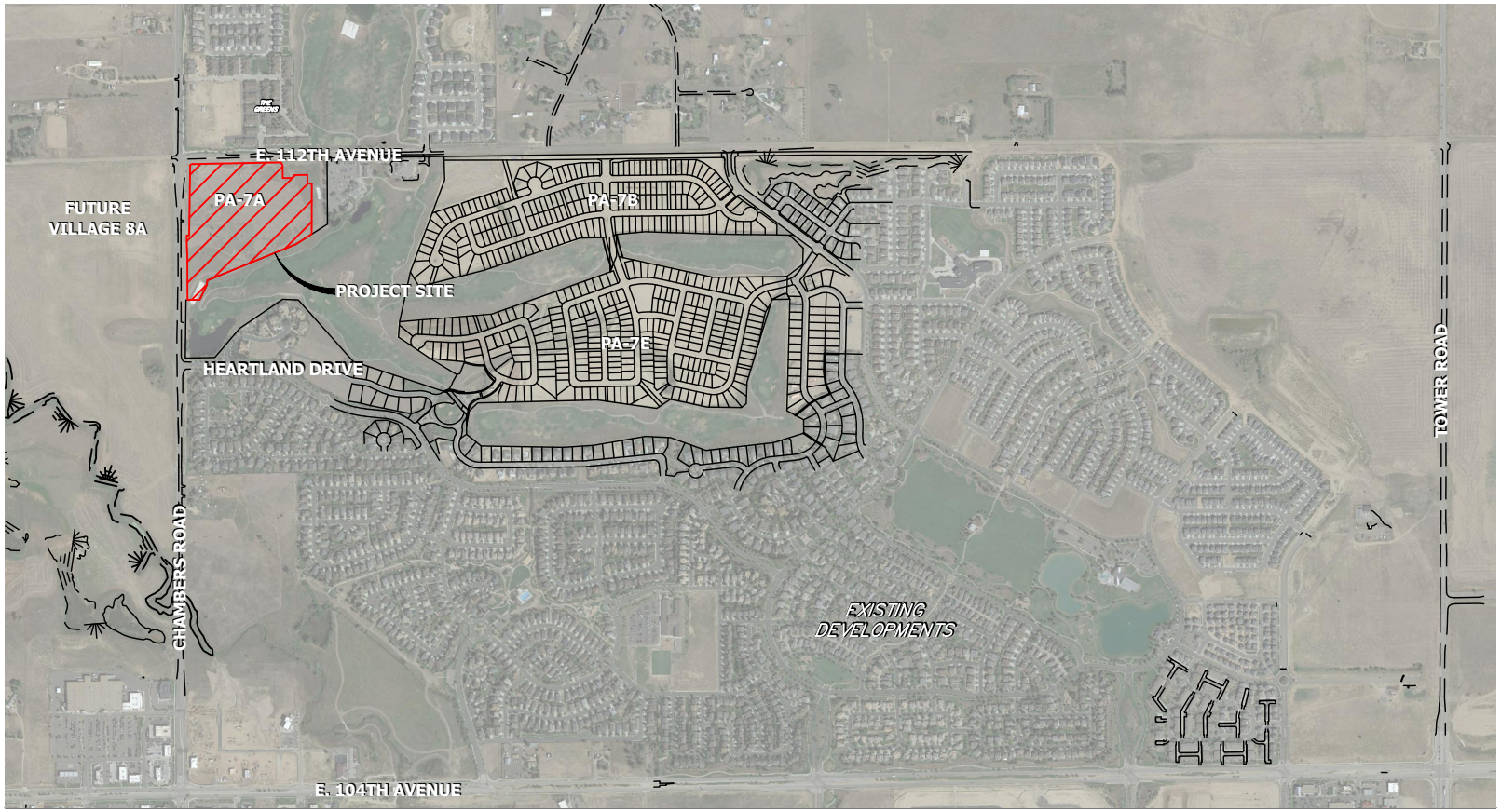
Existing and Proposed Site Uses

Currently, the existing land within Reunion Parcel 7A is vacant and the existing vegetation will need to be removed with the construction of the development. The proposed development in the parcel is planned to be single family residential.

As stated previously, the project site is bounded by E. 112th Avenue to the north, Chambers Road to the west, and Buffalo Run Golf Course to the south and east.

Existing and Proposed Land Uses

The zoning for all of the developments is PUD, which is planned unit development and owned by Reunion Metropolitan District. Based on Commerce City criteria, a development plan permit is required prior to a building permit. The developments have already been planned for a housing land use and no re-zoning will be required with the developments.



PROJECT SITE LOCATION

N

1500 750 0 1500

ORIGINAL SCALE: 1" = 1500'

FIGURE 1–VICINITY MAP
VILLAGE 7A TIS
JOB NO. 14421.52
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Existing Roadway Network

All intersections within the study area boundary are located in the city limits of Commerce City. The main roadway systems to be utilized to access the parcels will be East 112th Avenue and Chambers Road. The existing conditions are described as follows:

The existing lane geometry on East 112th Avenue consists of the following:

- E 112th Avenue is a multimodal arterial with two lanes running east and west with a posted speed limit of 40 MPH in the vicinity of the site. Currently, E 112th Avenue is an unimproved arterial with one travel lane in each direction east of Parkside Drive North.
- The surface consists of paved asphalt between Chambers Road and Parkside Drive North, where the surface transitions east to a dirt road. The paved asphalt also tapers to gravel west of Chambers Road.
- Construction documents for *E. 112th Avenue Improvements Phase 1* by JR Engineering were approved on 11/6/2019.

The existing intersections on East 112th Avenue consist of the following:

- Signalized intersection at Chambers Road located northwest of the project site. The intersection is adjacent to the northwest corner of the parcel PA-7A boundary.
- The traffic signal is also included within *E. 112th Avenue Improvements Phase 1* construction documents.

The existing lane geometry on Chambers Road consists of the following:

- Chambers Road runs north and south with a posted speed limit of 40 MPH in the vicinity of the site. Chambers Road is a future minor arterial. The cross section currently consists of two through lanes northbound and one through lane southbound at the intersection of E. 112th Avenue. South of E. 112th Avenue, the two northbound thru lanes transition to one thru lane and the one southbound thru lane remains as one.

The existing intersections on Chambers Road consist of the following:

- Two-way stop controlled intersection at Heartland Drive approximately 1,750 feet to the south of E. 112th Avenue.

Proposed Site Access

Access to Reunion Parcel 7A is proposed in two locations, which are described below.

The north access (E2) is proposed to connect into the south side of E. 112th Avenue, approximately 715 feet east of Chambers Road and 585 feet west of the Buffalo Run Golf Course parking lot entrance. This access aligns with an existing access to The Greens development on the north side of E. 112th Avenue.

The west access (A1) is proposed to connect to the east side of Chambers Road, approximately 765 feet south of E. 112th Avenue and 975 feet north of Heartland Drive.

The site accesses and intersection spacing are shown in **Figure 4**. All distances are centerline to centerline.

Section 2: Existing and Projected Traffic Volumes

Data Collection

Existing turning movement counts were previously collected by All Traffic Data on Thursday July 19, 2018 at the intersection of Chambers Road and E. 112th Avenue (E1) for the traffic study of *Reunion Parcels 7B & 7E*. For this *Reunion Parcel 7A* study, counts were collected on Thursday March 18, 2021. However, because it is believed traffic has increased since March 2021 during the COVID-19 pandemic, counts were collected again on Wednesday October 27, 2021. Turning movement counts were indeed much higher than July 2018 or March 2021 and believed to be a "new normal" for traffic patterns due to the ongoing pandemic, particularly on school days. Therefore, the counts obtained in October 2021 were utilized without any adjustment.

The counts were collected from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, with the actual AM and PM peak hours generally occurring from 7:15 to 8:15 AM and from 4:45 to 5:45 PM, respectively.

24-hour tube counts were collected along Chambers Road just south of E. 112th Avenue. The counts collected on October 27, 2021 were used to determine the average daily traffic (ADT).

Additionally, the existing turning movement volumes at The Greens residential access along E 112th Avenue (north leg of E2) were estimated using TripGen software and the data contained within the Institute of Transportation Engineers' (ITE) *Trip Generation Manual: 10th Edition Volume 1, 2017*.

Year 2021 lane geometry and peak hour counts are shown in **Figure 2** and **Figure 3**, respectively. The actual traffic counts collected by All Traffic Data are included in **Appendix A**. The TripGen summary and detailed land use reports for The Greens access are included in **Appendix B**.

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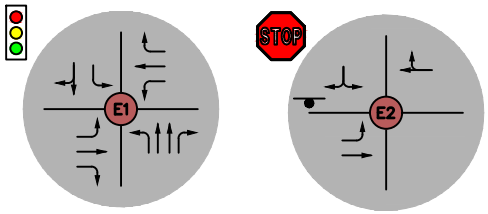

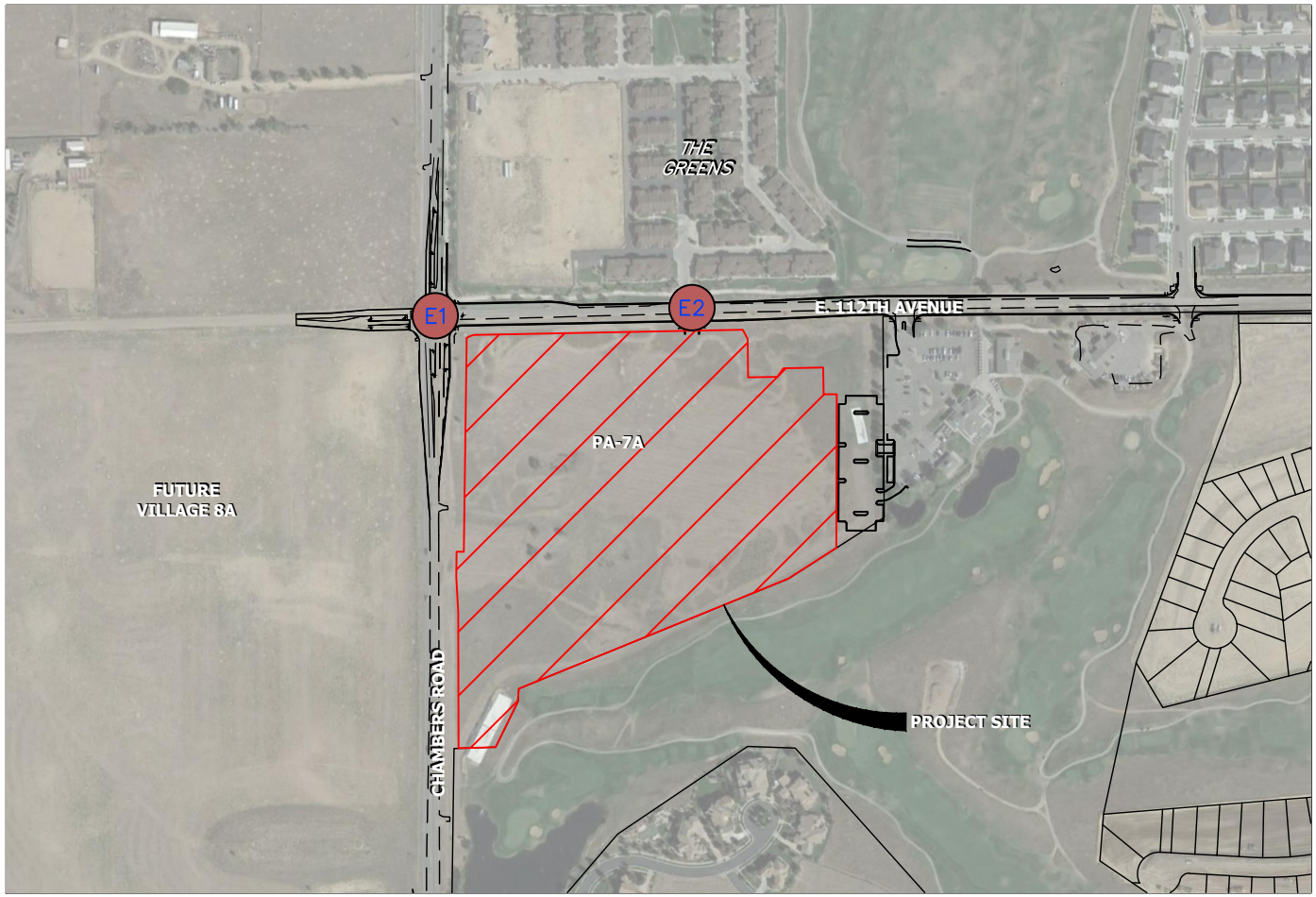

LEGEND

- EXISTING INTERSECTION
- PROPOSED INTERSECTION
- EXISTING MOVEMENT
- PROJECT SITE
- STOP SIGN CONTROL
- SIGNAL CONTROL

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 2–EXISTING 2021
LANE GEOMETRY
VILLAGE 7A TIS
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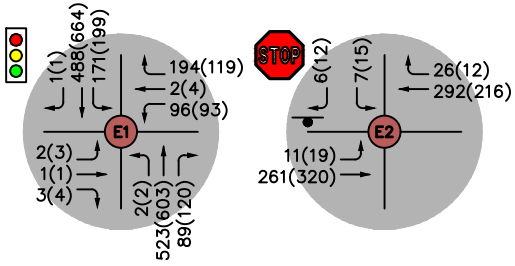

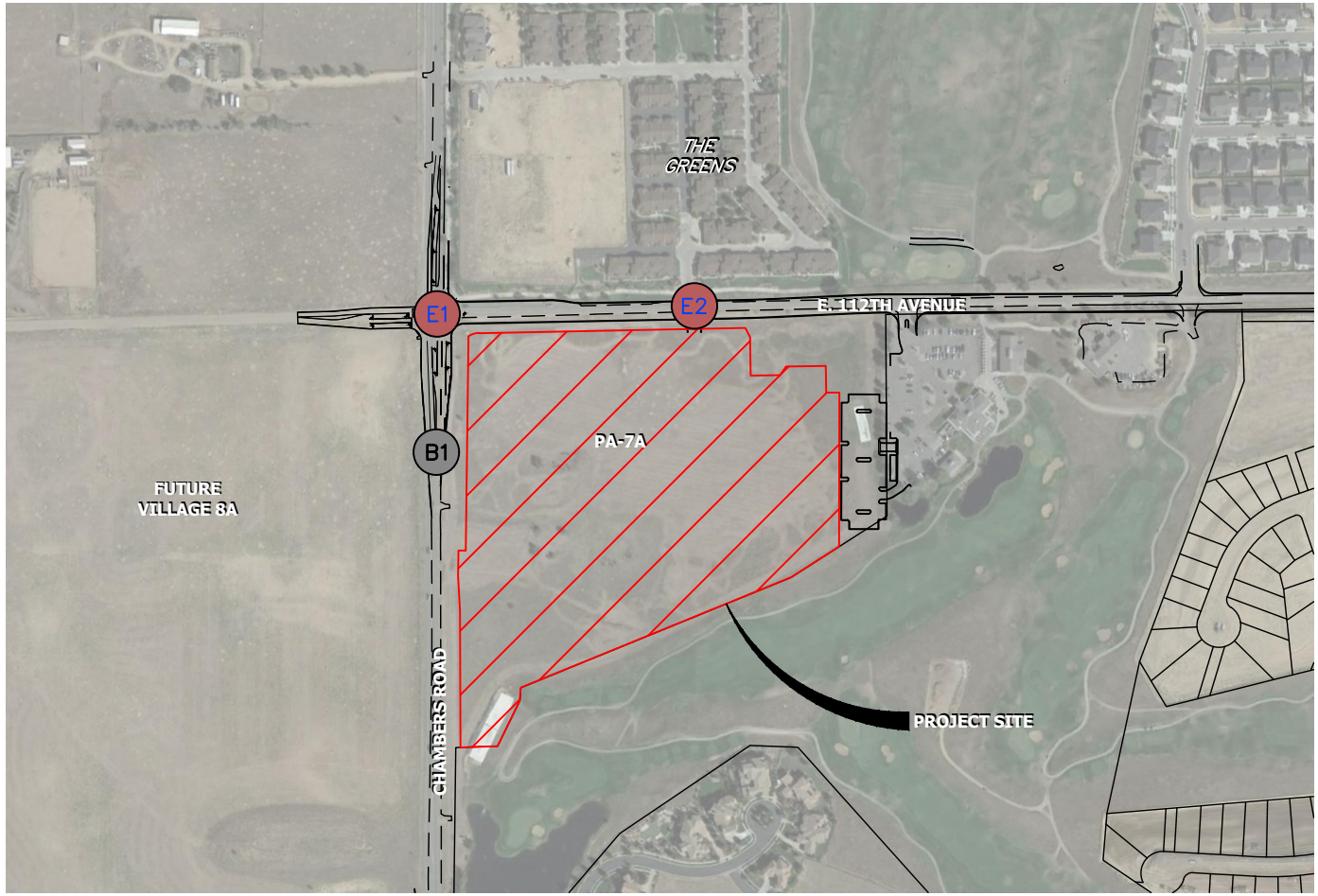

YEAR 2021 ADT

B1 15,500

LEGEND

- X — EXISTING INTERSECTION
- XX — 2021 AVERAGE DAILY TRAFFIC
- XX (XX) — AM (PM) PEAK HOUR TRIP DISTRIBUTION
- SIGNAL CONTROL
- STOP SIGN CONTROL
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 3–EXISTING 2021
TRAFFIC VOLUME
VILLAGE 7A TIS
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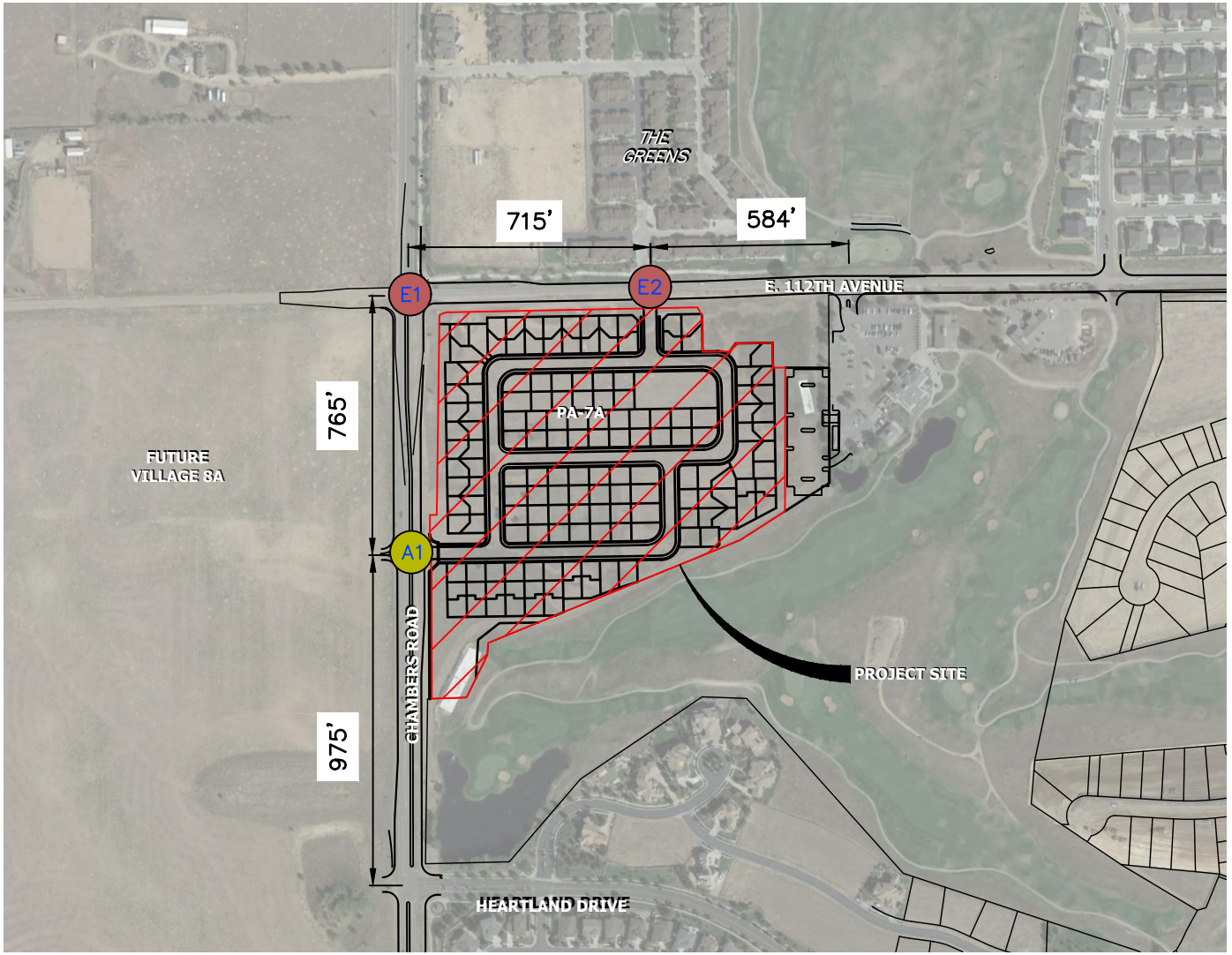

LEGEND

- PROPOSED INTERSECTION
- EXISTING INTERSECTION
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 4–INTERSECTION SPACING
VILLAGE 7A TIS
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Background Traffic Projections

Projections of Years 2023 and 2040 peak hour background traffic volumes have been made for the roadway system adjacent to the site in order to have a basis for determining future traffic impacts. The projections for Year 2023 were based on a 2.0% growth rate applied to all traffic volumes along E. 112th Avenue and Chambers Road. A 2.0% growth rate is sufficient because site generated traffic was also included from the adjacent *Reunion Parcels 7B and 7E TIS* by JR Engineering, approved in November 2019 and nearby *Reunion Village 8 Filing 1 TIS* by JR Engineering, submitted in October 2021.

The projections for Year 2040 were based on a 4.0% growth rate applied to the existing thru traffic volumes along E. 112th Avenue and Chambers Road and a 2.0% growth rate applied to the existing turning volumes and the minor street traffic.

The selected growth rate of 4.0% for major thru volumes to Year 2040 is consistent with the *Buffalo Hills Development Traffic Impact Study*, prepared by Carter & Burgess, Inc. dated May 5, 2000. Since the study was approved, the Buffalo Hills Development has been renamed Reunion, and all expected development within Villages 1 through 9 were accounted for in the study. From this study, it was shown that the maximum growth rate from the Year 2000 to the Year 2018 is approximately 4.0%.

Site generated traffic was also included in the Year 2040 background scenario from the adjacent *Reunion Parcel 8A TIS* by JR Engineering, submitted in October 2021 and remaining filings of *Reunion Village 8 TIS* by JR Engineering, approved in March 2020.

Background average daily traffic (ADT) volumes for Year 2040 are based on volumes projected in previous traffic studies, such as the *Reunion Development – PUD Amendment #5 Traffic Impact Study*, prepared by JR Engineering in 2018. This represents the master traffic study for Reunion Development. However, ADT volumes along 112th Avenue were replaced with more recent studies for Village 1 (*Reunion Center TIS* by JR Engineering, approved in June 2020) and Village 8 (*Reunion Village 8 TIS* by JR Engineering, approved in June 2020). These studies are considered more accurate with more recent site plans.

Background traffic volumes for Years 2023 and 2040 are shown in **Figure 5** and **Figure 6**, respectively.

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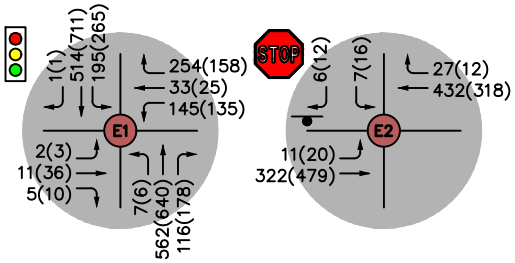

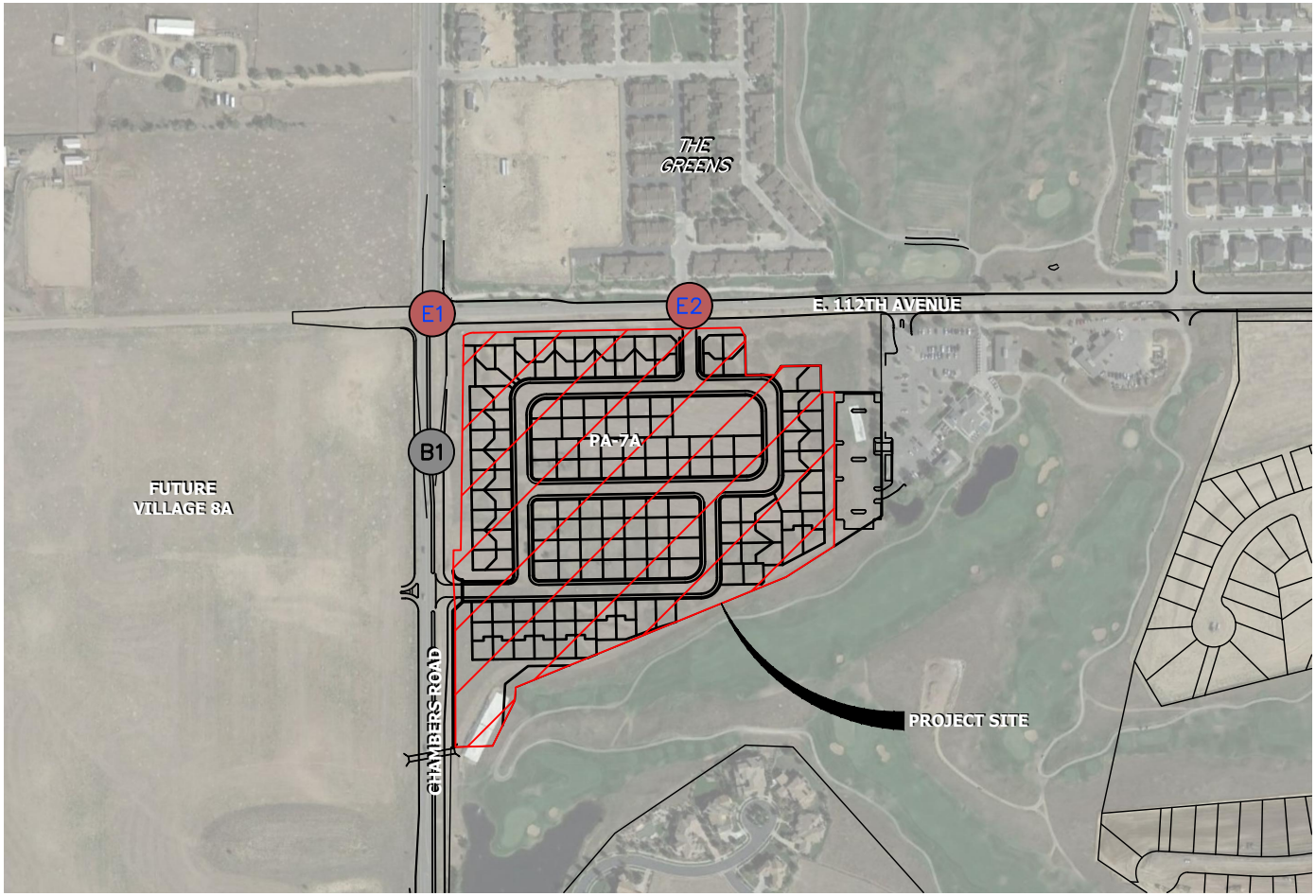

YEAR 2023 ADT

B1 16,750

LEGEND

- PROPOSED INTERSECTION
- EXISTING INTERSECTION
- 2023 AVERAGE DAILY TRAFFIC
- XX (XX) AM (PM) PEAK HOUR TRIP DISTRIBUTION
- SIGNAL CONTROL
- STOP SIGN CONTROL
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 5–2023
BACKGROUND TRAFFIC
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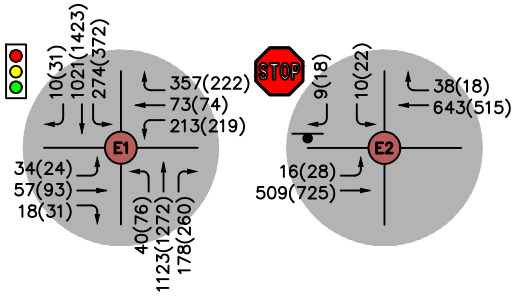

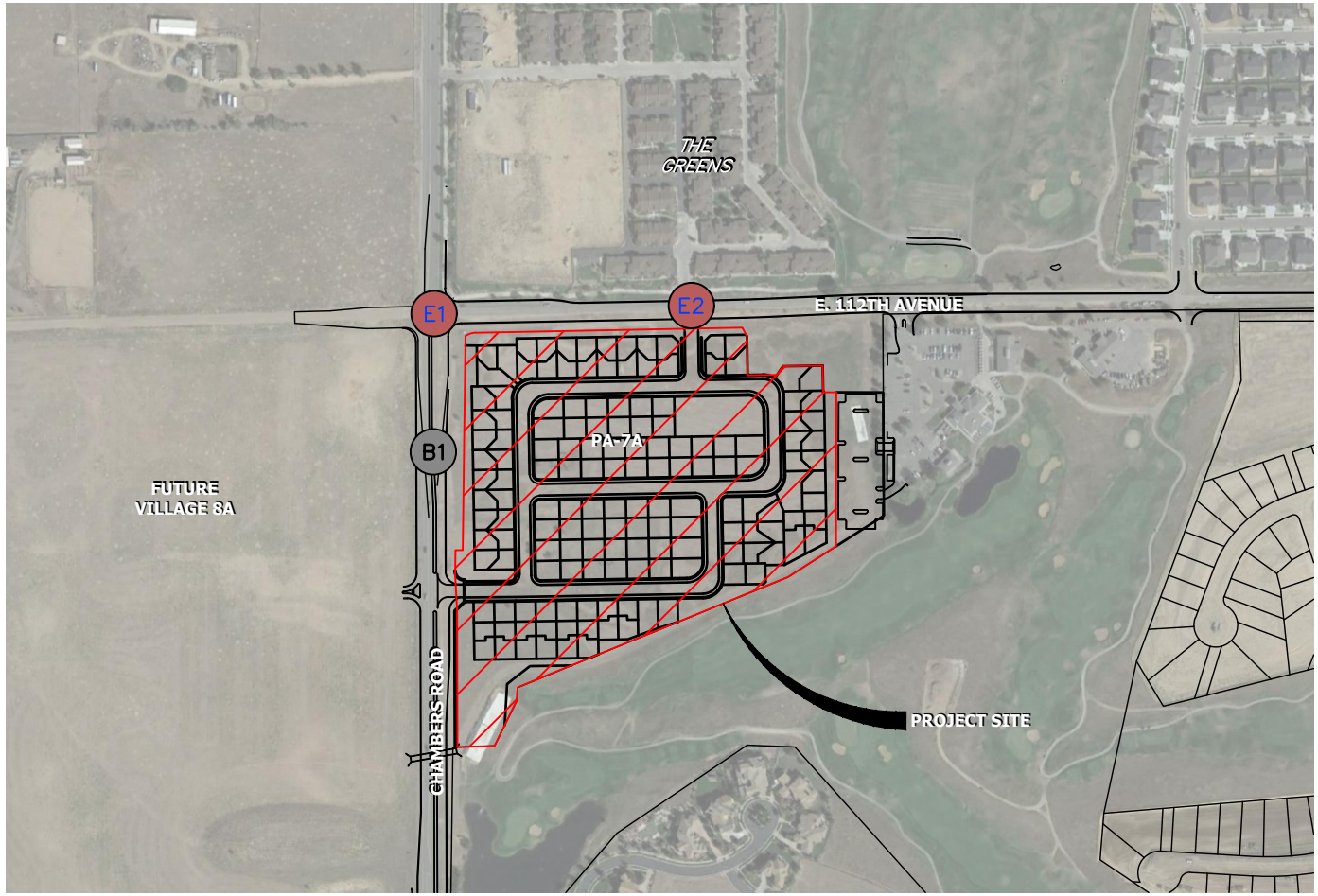

YEAR 2040 ADT

B1 22,750

LEGEND

- X — PROPOSED INTERSECTION
- X — EXISTING INTERSECTION
- XX — 2040 AVERAGE DAILY TRAFFIC
- XX (XX) — AM (PM) PEAK HOUR TRIP DISTRIBUTION
- SIGNAL CONTROL
- STOP SIGN CONTROL
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 6–2040
BACKGROUND TRAFFIC
VILLAGE 7A TIS
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Project Traffic

Trip Generation

Trip generation has been calculated from the latest data contained within the Institute of Transportation Engineers' (ITE) *Trip Generation Manual: 10th Edition Volume 1, 2017*. Based on the land use and the guidelines within the *Trip Generation Manual*, JR used the fitted curve equations for the weekday AM peak hour of adjacent street traffic, weekday PM peak hour of adjacent street traffic, and weekday average daily traffic (ADT).

Based on the site plans for parcel PA-7A and the proposed land use, the parcels were studied as Single-Family Detached Housing (Code No. 210) with 153 dwelling units in the development.

Reunion Parcel PA-7A development is expected to generate:

- 1538 weekday trips
- 113 AM peak hour vehicle trips split 25% entering and 75% exiting
- 153 PM peak hour vehicle trips split 63% entering and 37% exiting

Table 1 shows a summary of land use, trip generation rates, and total external vehicle trips generated. No adjustments were made for internal site trips and pass-by trips. The detailed land use reports are included in **Appendix B**.

Project Trip Distribution

An important element in the determination of the proposed project's traffic impact is the directional distribution of its traffic onto the surrounding roadway system. The relative location of the site, the type of land use, and specific characteristics of the roadway and access system dictate this distribution of traffic. Note that in this analysis, the distribution was based on the approximate directional distribution of the approved *Reunion Development – PUD Amendment #5 Traffic Impact Study*.

The distribution of the site generated traffic will be oriented as follows:

- 5 percent to the north along Chambers Road
- 20 percent to the east along E. 112th Avenue
- 50 percent to the south along Chambers Road
- 25 percent to the west along E. 112th Avenue

The Year 2023 lane geometry is shown in **Figure 7**.
The directional distribution of site generated traffic is shown in **Figure 8**.

Assignment of Site Generated Traffic

Access to the site will be in two locations as follows:

- E. 112th Avenue & North Access (E2)
- Chambers Road & West Access (A1)

The assignment of site generated traffic is shown in **Figure 9**.

Total Traffic

The site generated traffic was added to the background traffic in order to estimate total traffic. The Year 2023 Opening Day Traffic and the Year 2040 Total Traffic are shown in **Figure 10** and **Figure 11**, respectively.

Table 1
Trip Generation Summary

Alternative: Village 7A
Phase:
Project: Village 7A

Open Date: 10/15/2020
Analysis Date: 10/15/2020

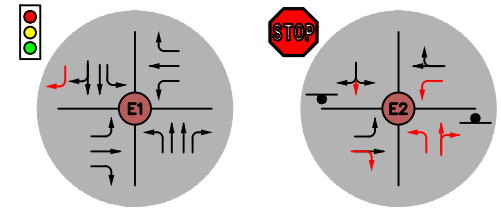
ITE	Land Use		Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic		
		*	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
210	SFHOUSE 1		769	769	1538	28	85	113	96	57	153
	153 Dwelling Units										
Unadjusted Volume			769	769	1538	28	85	113	96	57	153
Internal Capture Trips			0	0	0	0	0	0	0	0	0
Pass-By Trips			0	0	0	0	0	0	0	0	0
Volume Added to Adjacent Streets			769	769	1538	28	85	113	96	57	153

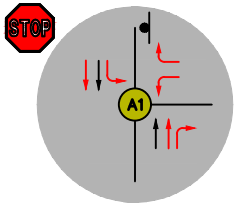
Total Weekday Average Daily Trips Internal Capture = 0 Percent
Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

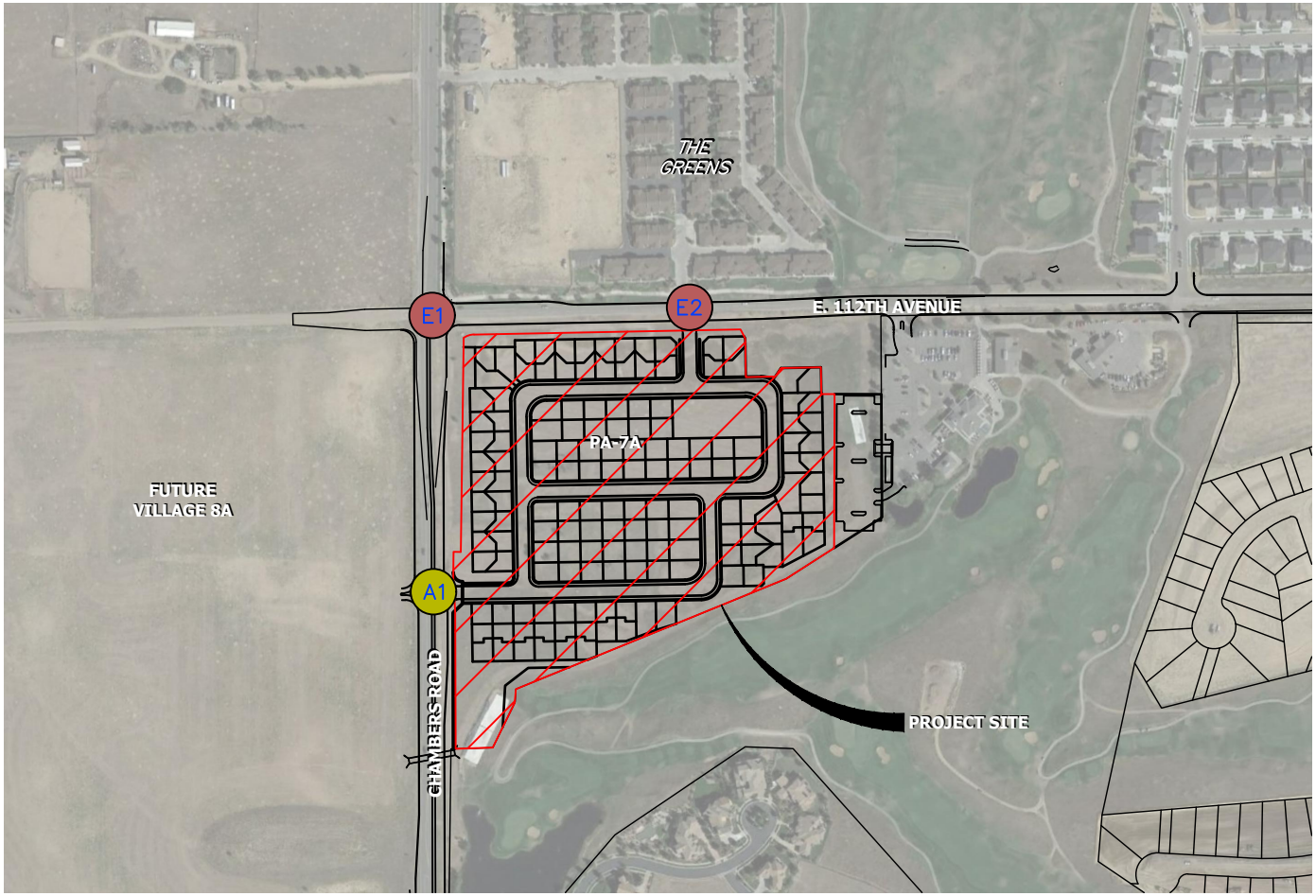
* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRAFFIC IMPACT STUDY
COMMERCE CITY, CO







LEGEND

- EXISTING INTERSECTION
- PROPOSED INTERSECTION
- EXISTING MOVEMENT
- 2023 MOVEMENT
- PROJECT SITE
- STOP SIGN CONTROL
- SIGNAL CONTROL

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 7–2023 & 2040
LANE GEOMETRY
VILLAGE 7A TIS
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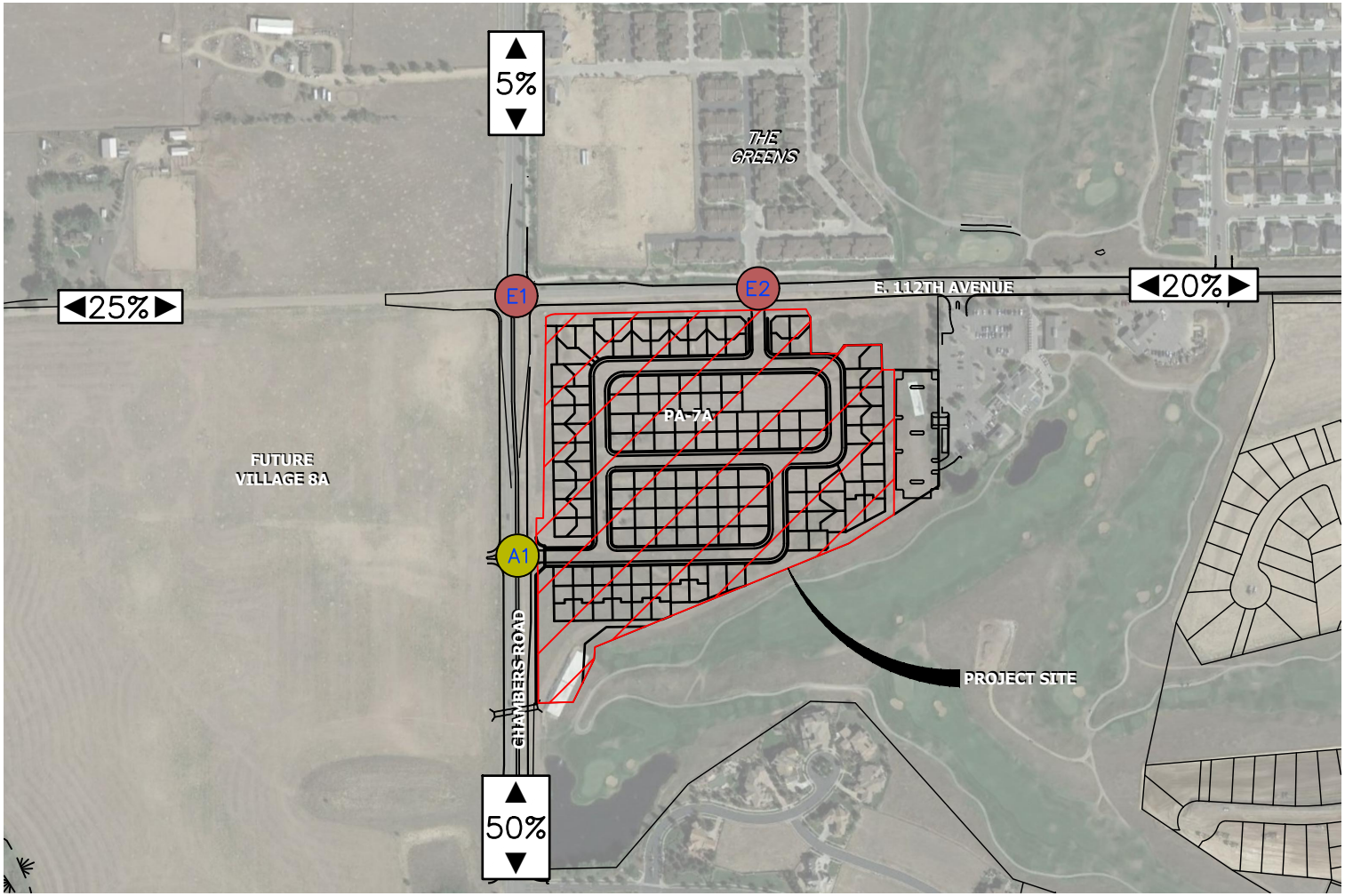

LEGEND

- PROPOSED INTERSECTION
- EXISTING INTERSECTION
- PROJECT SITE
- ◀XX%▶ PERCENT DIRECTIONAL DISTRIBUTION

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 8–DIRECTIONAL DISTRIBUTION OF SITE GENERATED TRAFFIC
VILLAGE 7A TIS
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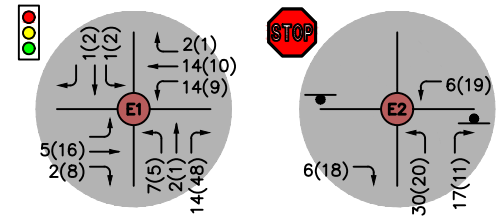

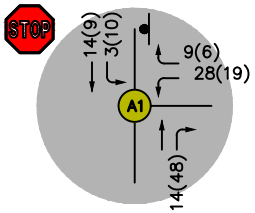

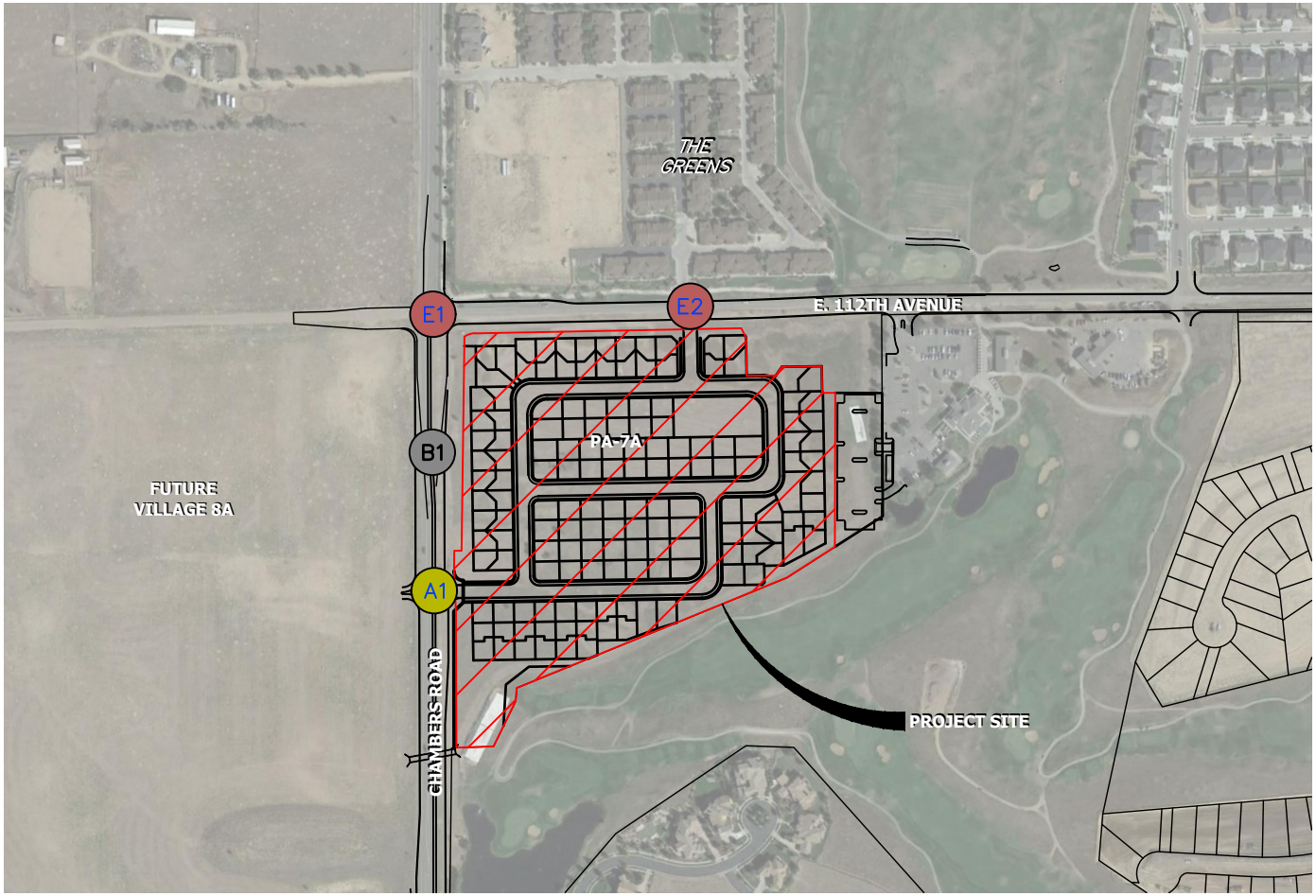

SITE GEN ADT

B1 1,550

LEGEND

- X — PROPOSED INTERSECTION
- X — EXISTING INTERSECTION
- PROJECT SITE

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 9–SITE GENERATED TRAFFIC
VILLAGE 7A TIS
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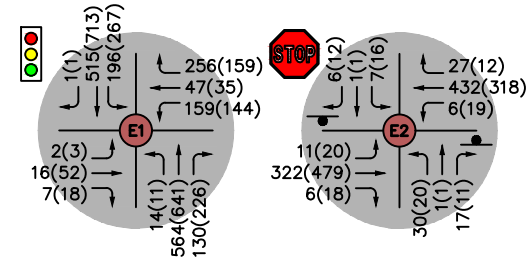

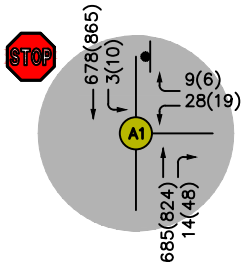

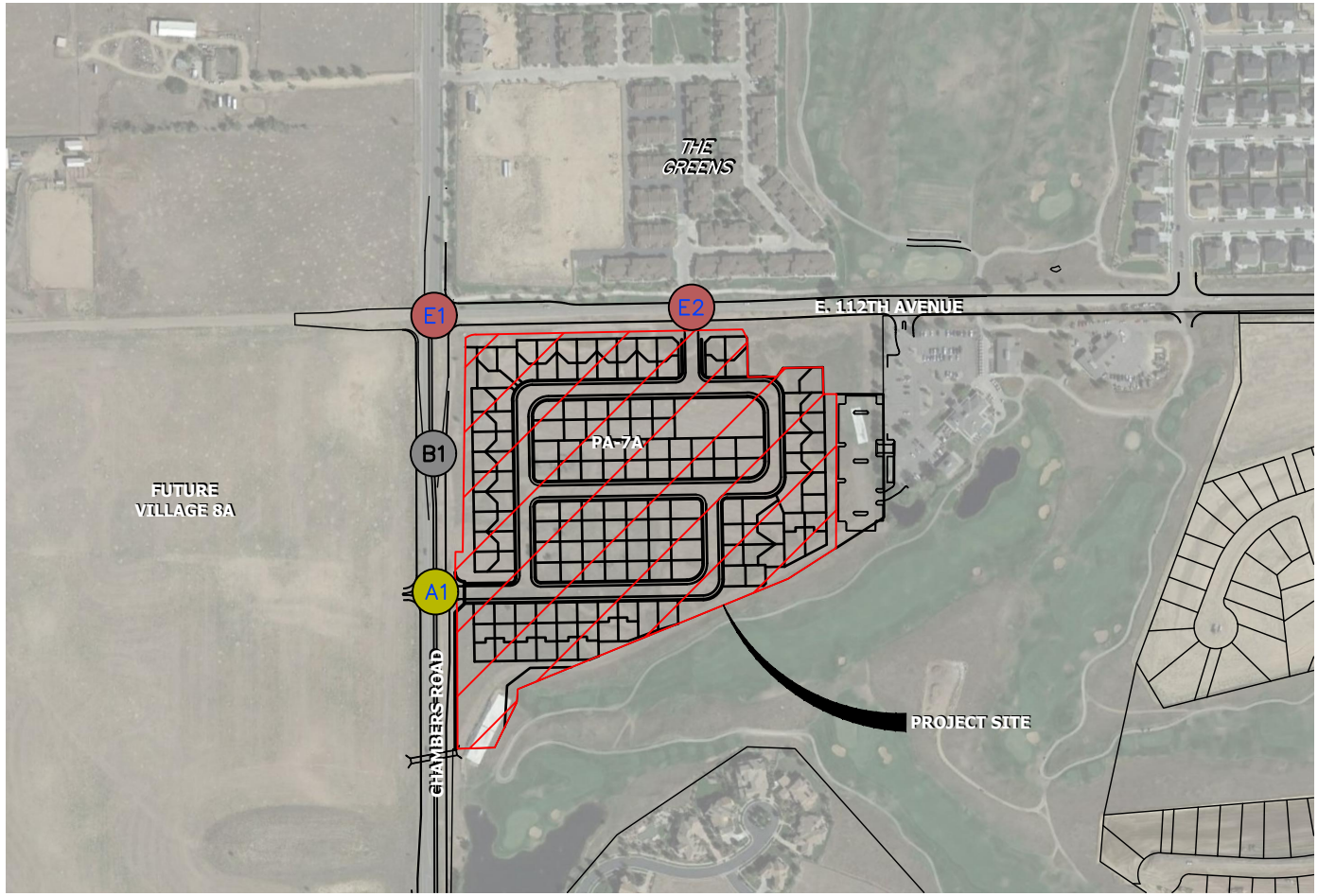

YEAR 2023 ADT

B1 17,550

LEGEND

- X — PROPOSED INTERSECTION
- X — EXISTING INTERSECTION
- XX — 2023 AVERAGE DAILY TRAFFIC
- XX (XX) — AM (PM) PEAK HOUR TRIP DISTRIBUTION
- SIGNAL CONTROL
- STOP SIGN CONTROL
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 10–2023 OPENING DAY TRAFFIC
VILLAGE 7A TIS
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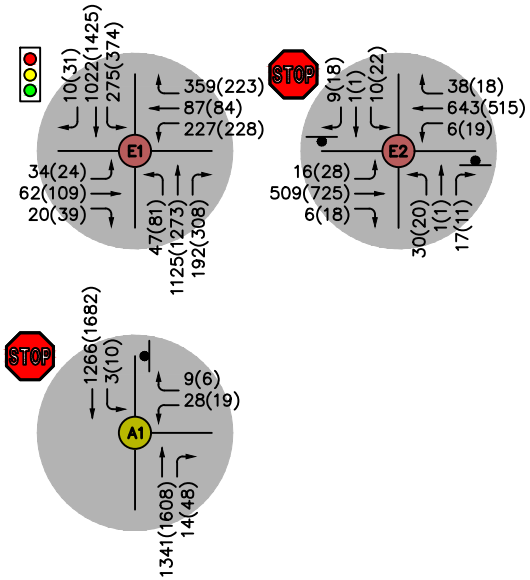

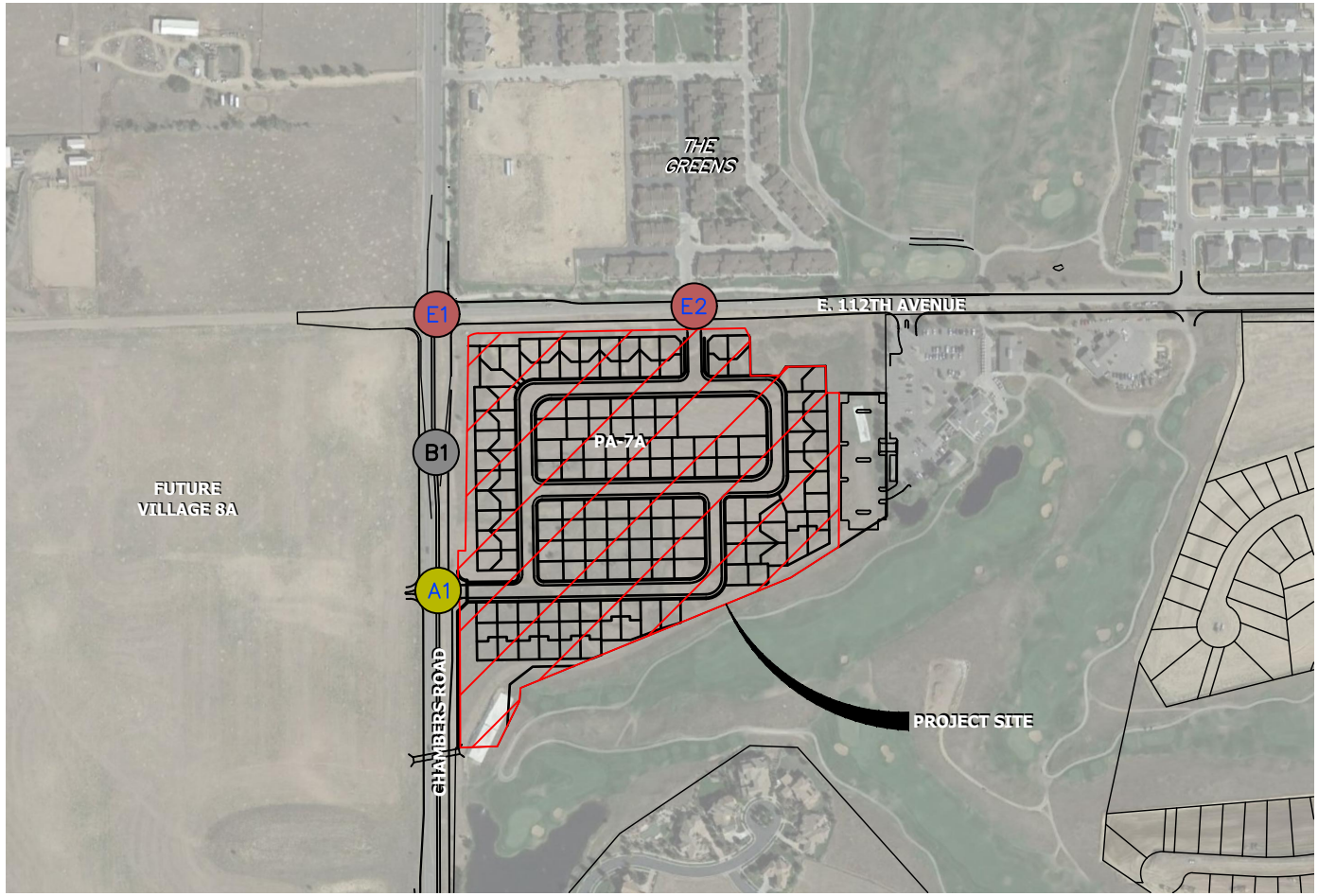

YEAR 2040 ADT

B1 23,550

LEGEND

- X — PROPOSED INTERSECTION
- X — EXISTING INTERSECTION
- XX — 2040 AVERAGE DAILY TRAFFIC
- XX (XX) — AM (PM) PEAK HOUR TRIP DISTRIBUTION
- SIGNAL CONTROL
- STOP SIGN CONTROL
- PROJECT SITE

N

500 250 0 500

ORIGINAL SCALE: 1" = 500'

FIGURE 11–2040 TOTAL TRAFFIC
VILLAGE 7A TIS
JOB NO. 14421.52
PAGE 20

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Fort Collins 970–491–9888 • www.jrengineering.com

Section 3: Traffic Operations and Project Impacts

Level of Service

The capacity of an intersection is measured by how well it operates during the peak hours of the day. Intersection capacities are expressed in terms of levels of service (LOS). LOS is a qualitative measure of intersection functionality, which is based on average delay experienced at an intersection. LOS ratings range from LOS A (best – free flow conditions) to LOS F (worst – unstable flow or high vehicle delay).

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the volume to capacity (v/c) ratio for the lane group.

The HCM 6th Edition LOS thresholds for lane groups take into account the volume-to-capacity (v/c) ratio, in addition to control delay, such that any value above 1.0 would denote LOS 'F' regardless of the corresponding value of control delay. Values for approach and overall intersection LOS are still based on just control delay. **Table 2** lists the LOS thresholds for the automobile mode at a signalized intersection:

Table 2 – Signalized Intersection (Auto Mode) LOS Thresholds

Control Delay (Seconds per Vehicle)	Level of Service (v/c Ratio)	
	<= 1.0	> 1.0
<=10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

Level of service for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons:

a) Major-street through vehicles are assumed to experience zero delay

b) The disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average for all movements, resulting in a very low overall average delay for all vehicles
c) The resulting low delay can mask important LOS deficiencies for minor movements

The LOS criteria for TWSC intersections are somewhat different from the criteria used for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals, which can reduce user's delay tolerance.[1]

As with signalized intersections, LOS F is assigned to the movement if the v/c ratio for the movement exceeds 1.0, regardless of the control delay. **Table 3** lists the LOS thresholds for the automobile mode at a TWSC intersection.

Table 3 – TWSC Intersection (Auto Mode) LOS Thresholds

Control Delay (Seconds per Vehicle)	Level of Service (v/c Ratio)	
	<= 1.0	> 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Analysis of Existing Conditions

Traffic analyses of the existing conditions were performed using the *Highway Capacity Manual (HCM) 6th Edition* discussed above. Utilizing the existing traffic volumes, the operation of the study intersections were analyzed using the Synchro software. Input data for creating the Synchro network included intersection geometry (number of travel lanes, turning lanes, and lengths of storage bays), traffic control mitigation (speed limits and stop signs), and vehicular traffic volumes. Operational analyses were conducted in the AM and PM peak hours to determine the levels of service. The values were input and the lane movement LOS results are summarized in **Table 4**. The detailed LOS reports are included in **Appendix C**.

[1] Highway Capacity Manual 2010, Transportation Research Board, 2010

Table 4 – LOS for Year 2021 Existing Conditions

Signalized Intersection	Movement	ExistingTraffic LOS	
		AM Peak Hour	PM Peak Hour
E1 - Chambers Road & E. 112th Avenue	EBL	B	C
	EBT	B	C
	EBR	B	C
	WBL	B	C
	WBT	B	C
	WBR	C	C
	NBL	B	B
	NBT	C	B
	NBR	B	B
	SBL	B	B
	SBTR	C	C
	Overall	C	C
TWSC Intersection	**Movement**	**Existing Traffic LOS**	
		AM Peak Hour	**PM Peak Hour**
E2 - E. 112th Avenue & North Access	EBL	A	A
	SBLTR	B	B

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
N/A=Not Applicable

2. L=Left, R=Right, T=Through

3. Yellow highlight exceeds Established Threshold of LOS D

As shown in **Table 4**, the movements are operating at acceptable levels of service in the Year 2021 existing conditions.

Analysis of Year 2023

Traffic analyses of the Year 2023 were also performed using the *HCM 6th Edition* discussed above. The values were input and the lane movement LOS results are summarized in **Table 5**. The detailed LOS reports are included in **Appendix C**.

The approved *E 112th Avenue Improvements Phase 1* project and the proposed *Final Engineering Design for Chambers Road from 106th Avenue to 112th Avenue* project are expected to be complete by the Year 2023. The following improvements were reflected in the Year 2023 Background and Opening Day analysis:

- WBL and NBL turn lanes will be provided at the North Access on E. 112th Avenue (E2).
- SBL, NBR, and WBL turn lanes will be provided at the West Access on Chambers Road (A1).

- Chambers Road will be built to the full minor arterial section in the vicinity of the site.
- A southbound median acceleration lane will be provided on Chambers Road for the WBL movement out of the West Access (A1). A RIRO restriction is expected to be appropriate for the future west leg in/out of Village 8.
- A SBR turn lane will be added at the intersection of Chambers Road and E 112th Avenue.

Table 5 – LOS for Year 2023 Opening Day Traffic

Signalized Intersection	Movement	Background Traffic LOS		Total Traffic LOS	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
E1 - Chambers Road & E. 112th Avenue	EBL	C	C	C	C
	EBT	C	C	C	C
	EBR	C	C	C	C
	WBL	B	C	B	C
	WBT	B	C	B	C
	WBR	C	C	C	C
	NBL	B	B	B	B
	NBT	C	C	C	C
	NBR	C	C	C	C
	SBL	B	C	B	C
	SBT	B	B	B	B
	SBR	B	B	B	B
	Overall	C	C	C	C
TWSC Intersection	**Movement**	**Background Traffic LOS**		**Total Traffic LOS**	
		AM Peak Hour	**PM Peak Hour**	**AM Peak Hour**	**PM Peak Hour**
E2 - E. 112th Avenue & North Access	EBL	A	A	A	A
	WBL	N/A	N/A	A	A
	NBL	N/A	N/A	C	D
	NBTR	N/A	N/A	B	B
	SBLTR	C	C	C	C
A1 - Chambers Road & West Access	WBL	N/A	N/A	C	C
	WBR	N/A	N/A	B	B
	SBL	N/A	N/A	A	B

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, N/A=Not Applicable
2. L=Left, R=Right, T=Through
3. Yellow highlight exceeds Established Threshold of LOS D

As shown in **Table 5**, all movements are expected to operate at acceptable levels of service in the Year 2023 Background Traffic and Opening Day Traffic scenarios.

Analysis of Year 2040

Traffic analyses of the Year 2040 were also performed using the *HCM 6th Edition* discussed above. The values were input, and the lane movement LOS results are summarized in **Table 6**. The detailed LOS reports are included in **Appendix C**.

No further improvements are expected between the Year 2023 and Year 2040.

Table 6 – LOS for Year 2040 Traffic

Signalized Intersection	Movement	Background Traffic LOS		Total Traffic LOS	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
E1 - Chambers Road & E. 112th Avenue	EBL	D	D	D	D
	EBT	D	E	D	E
	EBR	D	D	D	D
	WBL	D	F	D	F
	WBT	D	D	D	D
	WBR	F	F	F	F
	NBL	B	C	B	C
	NBT	C	D	C	D
	NBR	C	C	C	C
	SBL	D	E	D	E
	SBT	B	C	B	C
	SBR	B	B	B	B
	Overall	D	D	D	D
TWSC Intersection	**Movement**	**Background Traffic LOS**		**Opening Day Traffic LOS**	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
E2 - E. 112th Avenue & North Access	EBL	A	A	A	A
	WBL	N/A	N/A	A	A
	NBL	N/A	N/A	E	F
	NBTR	N/A	N/A	B	B
	SBLTR	D	E	D	E
A1 - Chambers Road & West Access	WBL	N/A	N/A	E	F
	WBR	N/A	N/A	C	C
	SBL	N/A	N/A	B	C

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, N/A=Not Applicable
2. L=Left, R=Right, T=Through
3. Yellow highlight exceeds Established Threshold of LOS D

As shown in **Table 6**, movements are not expected to degrade to a failing level of service in the Year 2040 due to site generated traffic, except for the following:

- NBL movement in the AM peak hour at 112th & 7A North Access (E2): the 95th percentile queue lengths are 32 feet and 33 feet, respectively, and are not expected to impede the upstream thru lane or intersection within the site. The control delays are 48 seconds and 60 seconds, respectively, which are not unreasonable during the peak hours.
- WBL movement in the AM and PM peak hours at Chambers & 7A West Access (A1): the 95th percentile queue lengths are 19 feet and 17 feet, respectively, and are not expected to impede the upstream thru lane or intersection within the site. The control delays are 41 seconds and 58 seconds, respectively, which are not unreasonable during the peak hours.

Furthermore, since these left turn movements exiting the site operate satisfactorily in Year 2023 opening day, the failures in 2040 are caused by background traffic on Chambers Road and E 112th Avenue. Therefore, mitigation is not required at intersections E2 or A1 with the development of Reunion Parcel 7A.

The City may consider improvements at the intersection of Chambers & 112th (E1) by the Year 2040 in order to mitigate the resulting failing movements, such as a northbound acceleration lane on Chambers Road and/or dual westbound-left turn lanes. The resulting mitigations are shown in **Table 7** below.

Table 7 – LOS for Year 2040 Traffic – Mitigated

Signalized Intersection	Movement	Background Traffic LOS		Total Traffic LOS	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
E1 - Chambers Road & E. 112th Avenue	EBL	C	D	C	D
	EBT	D	E	D	E
	EBR	D	D	D	D
	WBL (dual left)	D	D	D	D
	WBT	C	D	C	D
	WBR (channelized)	TBD	TBD	TBD	TBD
	NBL	B	C	B	C
	NBT	C	D	C	D
	NBR	B	C	B	C
	SBL	D	F	D	F
	SBT	B	C	B	C
	SBR	B	B	B	B
	Overall	C	D	C	D

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, N/A=Not Applicable
2. L=Left, R=Right, T=Through
3. Yellow highlight exceeds Established Threshold of LOS D
4. TBD = To Be Determined (Synchro result seems incorrect)

As shown in **Table 7**, these future improvements may be considered at the intersection of Chambers & 112th (E1) if it is worth widening the north and east legs. Regarding the westbound-right acceleration lane, Synchro does not seem to model this correctly; the results show zero delay, but there must be some delay. In general, Synchro does not seem to model acceleration lanes effectively. JR assumes the LOS for the westbound-right movement would be improved with an acceleration lane.

Turn Lane Lengths

The queuing analysis was performed for all intersection approach lanes controlled by stop signs or traffic signals for the Year 2040 Background and Total Traffic scenarios. The results are shown in **Table 8**.

Table 8 – Year 2040 Turn Lane Lengths

Intersection	Movement	Year 2040 Max Total Traffic Volume (VPH)	Required Storage Length (ft)	Existing Storage Length (ft)	Required Deceleration Length	95th Percentile Queue Length (ft)			
						Background Traffic		Total Traffic	
						AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
E1 - Chambers Road & E. 112th Avenue †	EBL	34	100	100	135	48	39	48	39
	WBL	228	100	235	135	257*	311*	291*	274*
	NBL	81	100	100	135	26	51	29	57
	SBL	374	100	200	135	306*	477*	309*	480*
E2 - E. 112th Avenue & North Access	WBL	19	40	N/A	135	N/A	N/A	1	2
	NBL	30	40	N/A	50	N/A	N/A	32	33
A1 - Chambers Road & West Access	WBL	28	40	N/A	50	N/A	N/A	19	17
	SBL	10	40	N/A	135	N/A	N/A	1	3

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound, N/A=Not Applicable

2. L=Left, R=Right, T=Through

* 95th percentile volume exceeds minimum; additional storage length to be provided if possible

† To be improved with the *Engineering Design for Chambers Road from 106th Avenue to 112th Avenue* project

As shown in **Table 8**, problems related to driveway blockages or thru lane blockages are not anticipated anywhere within the Reunion Parcel 7A site. However, improvements may need to be considered for turn lane lengths at the intersection of Chambers & 112th (E1). In the mitigated scenario of Year 2040 total traffic, the 95th percentile queue lengths for the WBL at intersection E1 become 110 feet and 122 feet, respectively, and fit within the existing storage length.

Traffic Signal Warrant Analysis

Chambers Road and E. 112th Avenue

As previously stated, a traffic signal has already been installed at this intersection as a part of the *E. 112th Avenue Improvements Phase 1* project. As part of the *Reunion Parcels 7B and 7E Traffic Impact Study*, a traffic signal warrant analysis was conducted and shown to be warranted.

Section 4: Conclusion

Based on the analyses presented herein, the following conclusions and recommendations are made with respect to Reunion Parcel 7A proposed development.

Trip Generation, Distribution and Assignment

Trip generation was calculated from the latest data contained within the Institute of Transportation Engineers' (ITE) *Trip Generation Manual: 10th Edition Volume 1*.

In summary, Reunion Parcel 7A is expected to generate 1,538 weekday trips, including 113 AM peak hour trips and 153 PM peak hour trips.

The distribution of the site generated traffic was oriented as follows:

- 5 percent to the north along Chambers Road
- 20 percent to the east along E. 112th Avenue
- 50 percent to the south along Chambers Road
- 25 percent to the west along E. 112th Avenue

Traffic Operations and Project Impacts

Traffic analyses of Year 2021, Year 2023, and Year 2040 conditions were performed using the *HCM 6th Edition* methodologies and the Synchro software.

Year 2021 Existing Conditions
As shown in **Table 4**, all movements are operating at acceptable levels of service in the Year 2021 existing conditions.

Year 2023 Opening Day
As shown in **Table 5**, all movements are expected to operate at acceptable levels of service in the Year 2023 Background Traffic and Opening Day Traffic scenarios.

Year 2040 Future
As shown in **Table 6**, movements are not expected to degrade to a failing level of service in the Year 2040 due to site generated traffic, except for the NBL movement at 112th & 7A North Access (E2) and the WBL movement at Chambers & 7A West Access (A1). JR recommends the City accept these failing LOS because the 95th percentile queue lengths are not expected to impede the upstream thru lanes or intersections within the site.

Future improvements may be considered at Chambers & 112th (E1) as shown in **Table 7**.

Recommendations

The traffic impacts of the proposed project can be accommodated by the adjacent roadway network with the following recommendations. The following recommendations are to accommodate the estimated trips due to the existing traffic, surrounding developments, and project site:

- Provide WBL and NBL turn lanes at the intersection of E 112th Avenue and 7A North Access (E2).
- Provide SBL, NBR, and WBL turn lanes at the intersection of Chambers Road and 7A West Access (A1).
- Provide a southbound median acceleration lane on Chambers Road for the WBL movement out of the intersection of Chambers Road and 7A West Access (A1).
- Provide a SBR turn lane at the intersection of Chambers Road and E 112th Avenue (E1).

Intersection sight distance shall be verified at each project site access. This verification shall be done in accordance with the *City of Commerce City Construction Standards and Specifications*, revised 12/11/2017.

JR Engineering trusts that this report will assist with planning for the proposed development of Reunion Parcel 7A.

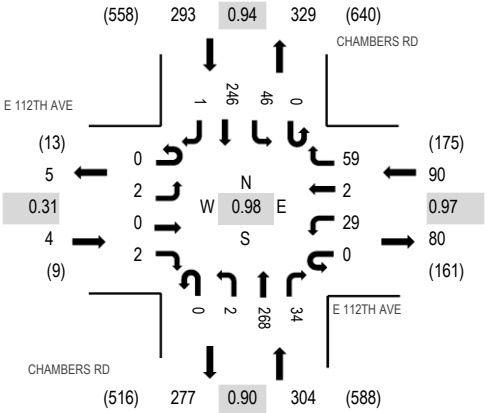
Appendix A
Traffic Counts

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

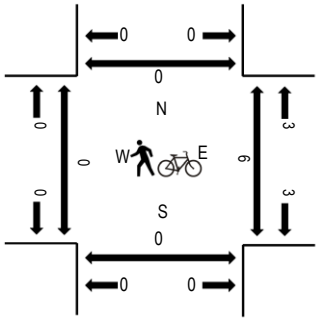
Location: 1 CHAMBERS RD & E 112TH AVE AM
Date and Start Time: Thursday, July 19, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



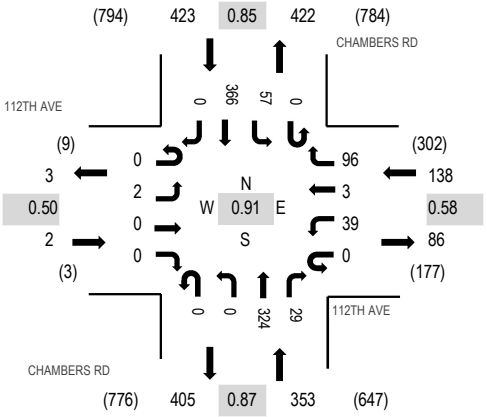
Traffic Counts

Interval Start Time	E 112TH AVE Eastbound				E 112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	5	0	16	0	0	63	8	0	14	49	1	156	677	0	3	0	0
7:15 AM	0	0	0	1	0	9	0	12	0	1	73	11	0	14	56	0	177	691	0	3	0	0
7:30 AM	0	2	0	1	0	3	0	18	0	0	69	6	0	7	61	1	168	680	0	1	0	0
7:45 AM	0	0	0	0	0	7	1	16	0	0	61	13	0	12	66	0	176	676	0	1	0	0
8:00 AM	0	0	0	0	0	10	1	13	0	1	65	4	0	13	63	0	170	653	0	1	0	0
8:15 AM	0	0	1	0	0	5	1	18	0	2	60	10	0	8	61	0	166		0	1	0	0
8:30 AM	0	0	0	0	0	7	0	14	0	2	69	4	0	15	53	0	164		0	1	0	0
8:45 AM	0	1	0	3	0	5	0	14	0	1	56	9	0	12	51	1	153		0	0	0	0
Count Total	0	3	1	5	0	51	3	121	0	7	516	65	0	95	460	3	1,330		0	11	0	0
Peak Hour	0	2	0	2	0	29	2	59	0	2	268	34	0	46	246	1	691		0	6	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

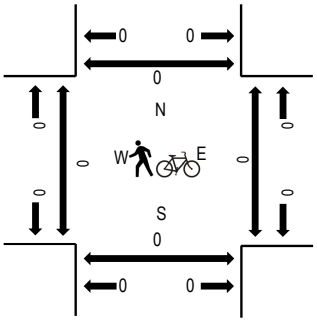
Location: 1 CHAMBERS RD & 112TH AVE AM
Date: Thursday, March 18, 2021
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



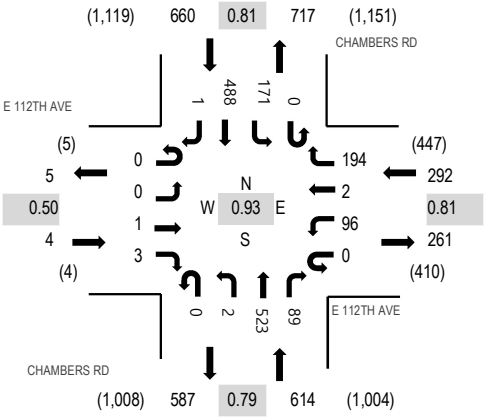
Traffic Counts

Interval Start Time	112TH AVE Eastbound				112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	11	0	25	0	0	55	3	0	7	61	0	162	835	0	0	0	0
7:15 AM	0	0	0	0	0	9	0	26	0	0	78	3	0	13	71	0	200	916	0	0	0	0
7:30 AM	0	1	0	0	0	13	1	22	0	0	73	7	0	11	93	0	221	899	0	0	0	0
7:45 AM	0	0	0	0	0	9	2	23	0	0	84	7	0	16	111	0	252	906	0	0	0	0
8:00 AM	0	1	0	0	0	8	0	25	0	0	89	12	0	17	91	0	243	911	0	0	0	0
8:15 AM	0	0	0	0	0	12	0	16	0	0	56	8	0	11	80	0	183		0	0	0	0
8:30 AM	0	0	0	0	0	9	0	21	0	0	75	16	0	17	88	2	228		0	0	0	0
8:45 AM	0	0	0	1	0	25	1	44	0	0	70	11	0	18	84	3	257		0	0	0	0
Count Total	0	2	0	1	0	96	4	202	0	0	580	67	0	110	679	5	1,746		0	0	0	0
Peak Hour	0	2	0	0	0	39	3	96	0	0	324	29	0	57	366	0	916		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

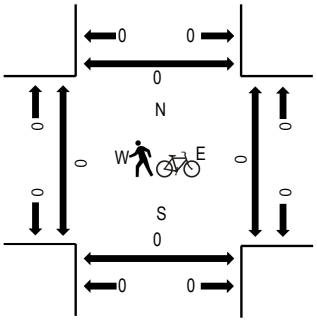
Location: 1 CHAMBERS RD & E 112TH AVE AM
Date: Wednesday, October 27, 2021
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



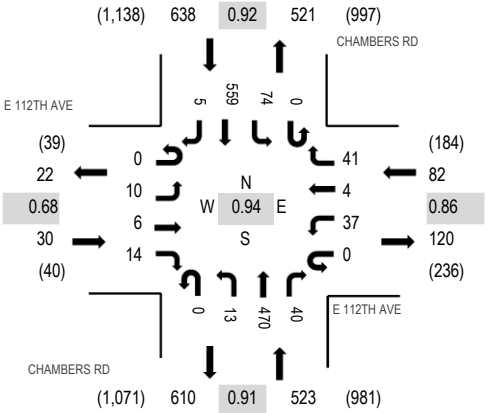
Traffic Counts

Interval Start Time	E 112TH AVE Eastbound				E 112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	14	0	29	0	0	73	11	0	22	80	0	229	1,389	0	0	0	0
7:15 AM	0	0	0	0	0	17	0	41	0	0	99	14	0	34	111	0	316	1,570	0	0	0	0
7:30 AM	0	0	0	0	0	30	0	47	0	0	114	25	0	75	129	0	420	1,558	0	0	0	0
7:45 AM	0	0	1	1	0	31	0	59	0	1	139	26	0	31	134	1	424	1,399	0	0	0	0
8:00 AM	0	0	0	2	0	18	2	47	0	1	171	24	0	31	114	0	410	1,185	0	0	0	0
8:15 AM	0	0	0	0	0	10	0	29	0	0	98	22	0	25	120	0	304		0	0	0	0
8:30 AM	0	0	0	0	0	13	0	29	0	0	93	13	0	25	88	0	261		0	0	0	0
8:45 AM	0	0	0	0	0	15	0	16	0	0	67	13	0	18	81	0	210		0	0	0	0
Count Total	0	0	1	3	0	148	2	297	0	2	854	148	0	261	857	1	2,574		0	0	0	0
Peak Hour	0	0	1	3	0	96	2	194	0	2	523	89	0	171	488	1	1,570		0	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

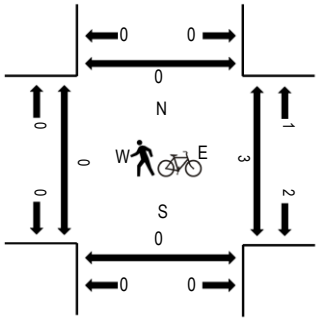
Location: 1 CHAMBERS RD & E 112TH AVE PM
Date and Start Time: Thursday, July 19, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



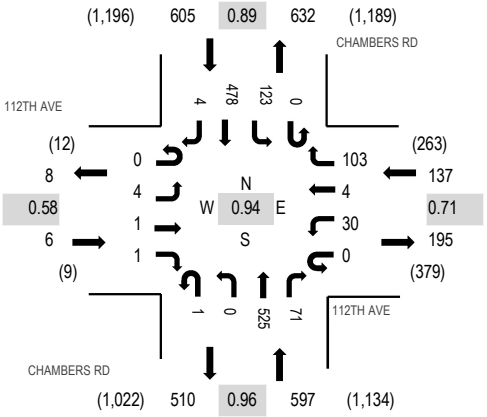
Traffic Counts

Interval Start Time	E 112TH AVE Eastbound				E 112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	1	1	0	7	1	24	0	4	116	8	0	21	92	1	276	1,134	0	0	0	0
4:15 PM	0	1	1	1	0	8	0	13	0	4	99	11	0	13	103	1	255	1,154	0	0	0	0
4:30 PM	0	1	0	2	0	9	1	20	0	3	95	12	0	17	105	1	266	1,215	0	0	0	1
4:45 PM	0	5	1	3	0	12	1	14	0	3	113	12	0	22	149	2	337	1,273	0	1	0	0
5:00 PM	0	0	0	0	0	5	1	10	0	4	109	9	0	13	144	1	296	1,209	0	2	0	0
5:15 PM	0	3	2	5	0	7	2	8	0	6	126	11	0	13	132	1	316		0	0	0	0
5:30 PM	0	2	3	6	0	13	0	9	0	0	122	8	0	26	134	1	324		0	0	0	0
5:45 PM	0	0	1	1	0	5	1	13	0	0	94	12	0	19	127	0	273		0	2	0	0
Count Total	0	12	9	19	0	66	7	111	0	24	874	83	0	144	986	8	2,343		0	5	0	1
Peak Hour	0	10	6	14	0	37	4	41	0	13	470	40	0	74	559	5	1,273		0	3	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

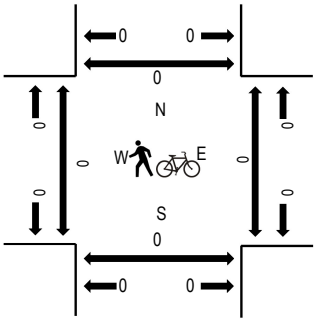
Location: 1 CHAMBERS RD & 112TH AVE PM
Date: Thursday, March 18, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



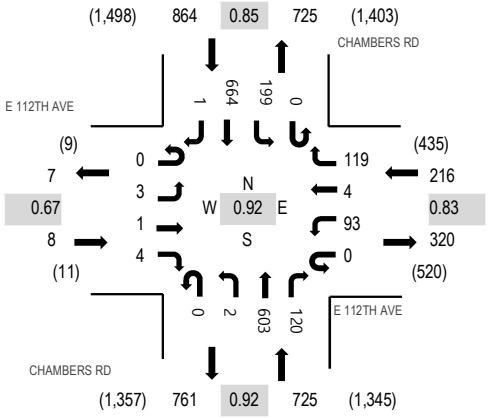
Traffic Counts

Interval Start Time	112TH AVE Eastbound				112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	9	1	38	0	0	131	23	0	21	120	1	344	1,345	0	0	0	0
4:15 PM	0	1	1	0	0	10	1	19	1	0	129	10	0	29	99	1	301	1,306	0	0	0	0
4:30 PM	0	2	0	1	0	8	1	19	0	0	129	19	0	34	144	0	357	1,337	0	0	0	0
4:45 PM	0	1	0	0	0	3	1	27	0	0	136	19	0	39	115	2	343	1,296	0	0	0	0
5:00 PM	0	1	0	0	0	9	0	26	0	1	114	13	0	23	118	0	305	1,257	0	0	0	0
5:15 PM	0	0	0	0	0	11	0	14	0	0	127	19	0	31	129	1	332		0	0	0	0
5:30 PM	0	2	0	0	0	13	1	16	0	0	122	14	0	40	108	0	316		0	0	0	0
5:45 PM	0	0	0	0	0	12	0	24	0	1	111	15	0	29	112	0	304		0	0	0	0
Count Total	0	7	1	1	0	75	5	183	1	2	999	132	0	246	945	5	2,602		0	0	0	0
Peak Hour	0	4	1	1	0	30	4	103	1	0	525	71	0	123	478	4	1,345		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

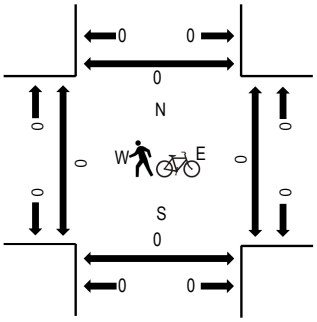
Location: 1 CHAMBERS RD & E 112TH AVE PM
Date: Wednesday, October 27, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	E 112TH AVE Eastbound				E 112TH AVE Westbound				CHAMBERS RD Northbound				CHAMBERS RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	0	1	0	18	0	35	0	1	153	18	0	28	99	0	354	1,634	0	0	0	0
4:15 PM	0	0	0	1	0	22	0	50	0	1	145	17	0	28	146	0	410	1,754	0	0	0	0
4:30 PM	0	0	0	0	0	23	0	30	1	0	130	20	1	37	137	0	379	1,753	0	0	0	0
4:45 PM	0	1	0	1	0	23	1	30	0	1	156	25	0	63	190	0	491	1,813	0	0	0	0
5:00 PM	0	0	0	2	0	26	2	33	0	0	153	26	0	51	181	0	474	1,655	0	0	0	0
5:15 PM	0	1	0	0	0	23	0	23	0	0	133	35	0	43	150	1	409		0	0	0	0
5:30 PM	0	1	1	1	0	21	1	33	0	1	161	34	0	42	143	0	439		0	0	0	0
5:45 PM	0	0	0	0	0	22	0	19	0	0	114	20	0	32	126	0	333		0	0	0	0
Count Total	0	4	1	6	0	178	4	253	1	4	1,145	195	1	324	1,172	1	3,289		0	0	0	0
Peak Hour	0	3	1	4	0	93	4	119	0	2	603	120	0	199	664	1	1,813		0	0	0	0

All Traffic Data

Wheat Ridge, CO 80033

Date Start: 19-Jul-18
Date End: 19-Jul-18
Site Code: 5
CHAMBERS RD S.O. 112TH AVE

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/19/18	0	27	5	0	1	0	0	0	0	0	0	0	0	33
01:00	1	11	3	0	0	0	0	0	0	0	0	0	0	15
02:00	0	13	3	0	1	0	0	0	0	0	0	0	0	17
03:00	0	31	3	0	1	0	0	0	**1**	0	0	0	0	36
04:00	0	35	5	0	0	1	0	0	0	0	0	0	0	41
05:00	1	82	24	0	1	1	0	0	0	0	0	0	0	109
06:00	1	176	39	0	2	2	0	1	0	0	0	0	0	221
07:00	3	257	31	0	4	0	0	1	1	0	0	0	0	297
08:00	0	244	30	0	3	11	0	**2**	0	0	0	0	0	290
09:00	2	267	**43**	**1**	3	13	0	0	1	0	0	0	0	330
10:00	**4**	257	42	0	**6**	**14**	0	1	1	0	0	0	0	325
11:00	1	**288**	43	0	4	11	0	2	1	0	0	0	0	**350**
12 PM	1	304	44	0	**4**	5	0	0	**1**	0	0	0	0	359
13:00	2	300	42	0	0	**11**	0	**1**	0	0	0	0	0	356
14:00	2	261	39	0	2	1	0	1	0	0	0	0	0	306
15:00	3	346	34	0	1	1	0	0	1	0	0	0	0	386
16:00	**5**	417	44	0	2	0	0	1	0	0	0	0	0	469
17:00	3	**440**	**48**	0	2	1	0	0	0	0	0	0	0	**494**
18:00	2	400	46	0	0	0	0	0	0	0	0	0	0	448
19:00	1	253	30	0	1	0	0	0	0	0	0	0	0	285
20:00	3	235	20	0	0	1	0	0	0	0	0	0	0	259
21:00	0	133	15	0	0	1	0	0	0	0	0	0	0	149
22:00	1	88	14	0	0	0	0	0	1	0	0	0	0	104
23:00	0	56	4	0	0	0	0	0	0	0	0	0	0	60
Day Total	36	4921	651	1	38	74	0	10	8	0	0	0	0	5739
Percent	0.6%	85.7%	11.3%	0.0%	0.7%	1.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	09:00	09:00	10:00	10:00		08:00	03:00					11:00
Vol.	4	288	43	1	6	14		2	1					350
PM Peak	16:00	17:00	17:00		12:00	13:00		13:00	12:00					17:00
Vol.	5	440	48		4	11		1	1					494
Grand Total	36	4921	651	1	38	74	0	10	8	0	0	0	0	5739
Percent	0.6%	85.7%	11.3%	0.0%	0.7%	1.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data

Wheat Ridge, CO 80033

Date Start: 19-Jul-18
Date End: 19-Jul-18
Site Code: 5
CHAMBERS RD S.O. 112TH AVE

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/19/18	0	21	7	0	0	0	0	1	0	0	0	0	0	29
01:00	0	14	0	0	1	0	0	0	**1**	0	0	0	0	16
02:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
03:00	1	24	3	0	1	0	0	0	0	0	0	0	0	29
04:00	0	35	7	0	0	0	0	0	0	0	0	0	0	42
05:00	2	80	15	0	1	0	0	0	0	0	0	0	0	98
06:00	3	168	40	0	2	0	0	0	1	0	0	0	0	214
07:00	**4**	201	42	0	1	0	0	1	1	0	0	**1**	0	251
08:00	0	207	43	0	5	2	0	0	1	0	0	0	0	258
09:00	0	209	**49**	0	6	11	**1**	0	0	0	0	0	0	276
10:00	2	255	47	**1**	2	12	0	**2**	0	0	0	0	0	321
11:00	0	**270**	35	0	**8**	**13**	0	0	0	0	0	0	0	**326**
12 PM	3	310	48	0	**6**	8	0	0	0	0	0	0	0	375
13:00	1	315	47	0	6	**16**	0	1	1	0	0	0	0	387
14:00	5	302	62	0	1	2	0	0	1	0	0	0	0	373
15:00	2	371	56	**1**	1	0	0	**4**	0	**1**	0	0	0	436
16:00	3	404	71	0	2	0	0	1	**2**	0	0	0	0	483
17:00	2	**486**	**93**	0	2	1	0	1	1	0	0	0	0	**586**
18:00	4	396	54	0	1	0	0	0	0	0	0	0	0	455
19:00	5	336	42	0	0	1	0	0	0	0	0	0	0	384
20:00	4	291	32	0	0	0	0	0	0	0	0	0	0	327
21:00	**6**	197	24	0	0	1	0	0	0	0	0	0	0	228
22:00	0	115	10	0	0	0	0	0	0	0	0	0	0	125
23:00	1	57	5	0	0	1	0	0	0	0	0	0	0	64
Day Total	48	5076	835	2	46	68	1	11	9	1	0	1	0	6098
Percent	0.8%	83.2%	13.7%	0.0%	0.8%	1.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	09:00	10:00	11:00	11:00	09:00	10:00	01:00			07:00		11:00
Vol.	4	270	49	1	8	13	1	2	1			1		326
PM Peak	21:00	17:00	17:00	15:00	12:00	13:00		15:00	16:00	15:00				17:00
Vol.	6	486	93	1	6	16		4	2	1				586
Grand Total	48	5076	835	2	46	68	1	11	9	1	0	1	0	6098
Percent	0.8%	83.2%	13.7%	0.0%	0.8%	1.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services

www.alltrafficdata.net

Date Start: 18-Mar-21
Site Code: 3
Station ID: 3
CHAMBERS RD S.O. E 112TH AVE

Start Time	18-Mar-21 Thu	NB	SB							Total
12:00 AM		22	20							42
01:00		15	10							25
02:00		12	14							26
03:00		14	16							30
04:00		30	39							69
05:00		80	86							166
06:00		185	180							365
07:00		305	375							680
08:00		**342**	**397**							**739**
09:00		286	283							569
10:00		271	275							546
11:00		314	347							661
12:00 PM		353	367							720
01:00		302	375							677
02:00		348	401							749
03:00		461	465							926
04:00		**620**	**519**							**1139**
05:00		511	504							1015
06:00		406	461							867
07:00		272	322							594
08:00		173	253							426
09:00		135	163							298
10:00		83	78							161
11:00		41	42							83
Total		5581	5992							11573
Percent		48.2%	51.8%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	342	397	-	-	-	-	-	-	739
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	620	519	-	-	-	-	-	-	1139
Grand Total		5581	5992							11573
Percent		48.2%	51.8%							
ADT		ADT 11,573		AADT 11,573						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 3
Station ID:
CHAMBERS RD N.O. HEARTLAND DR

Latitude: 0' 0.0000 Undefined

Start Time	27-Oct-21 Wed	NB	SB							Total
12:00 AM		23	18							41
01:00		15	12							27
02:00		23	11							34
03:00		9	15							24
04:00		79	47							126
05:00		225	136							361
06:00		312	236							548
07:00		483	466							949
08:00		**512**	**555**							**1067**
09:00		321	383							704
10:00		376	364							740
11:00		416	436							852
12:00 PM		478	525							1003
01:00		435	440							875
02:00		451	481							932
03:00		661	633							1294
04:00		**680**	**673**							**1353**
05:00		676	673							1349
06:00		582	547							1129
07:00		349	373							722
08:00		274	329							603
09:00		199	180							379
10:00		121	101							222
11:00		83	38							121
Total		7783	7672							15455
Percent		50.4%	49.6%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	512	555	-	-	-	-	-	-	1067
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	680	673	-	-	-	-	-	-	1353
Grand Total		7783	7672							15455
Percent		50.4%	49.6%							
ADT		ADT 15,455		AADT 15,455						

Appendix B
Trip Generation Detailed Land Use Report

Detailed Land Use Data

For 153 Dwelling Units of SFHOUSE 1

(210) Single-Family Detached Housing

Open Date: 10/15/2020

Project: Village 7A

Analysis Date: 10/15/2020

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	1538	0	9.44	4.81	19.39	2.1	264	50	50	True	Ln(T) = 0.92 Ln(X) + 2.71	0.95
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	113	0	0.74	0.33	2.27	0.27	219	25	75	True	T = 0.71(X) + 4.8	0.89
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	153	0	0.99	0.44	2.98	0.31	242	63	37	True	Ln(T) = 0.96 Ln(X) + 0.2	0.92
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 292 Dwelling Units of Duplex

(220) Multifamily Housing (Low-Rise)

Open Date: 10/15/2020

Project: Village 7A

Analysis Date: 10/15/2020

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	2137	0	7.32	4.45	10.97	1.31	168	50	50	False	T = 7.56(X) - 40.86	0.96
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	134	0	0.46	0.18	0.74	0.12	199	23	77	False	Ln(T) = 0.95 Ln(X) - 0.51	0.9
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	164	0	0.56	0.18	1.25	0.16	187	63	37	False	Ln(T) = 0.89 Ln(X) - 0.02	0.86
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 957 Dwelling Units of SFHOUSE 2

(210) Single-Family Detached Housing

Project: Village 7A

Open Date: 10/15/2020

Analysis Date: 10/15/2020

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	9034	0	9.44	4.81	19.39	2.1	264	50	50	False	Ln(T) = 0.92 Ln(X) + 2.71	0.95
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	708	0	0.74	0.33	2.27	0.27	219	25	75	False	T = 0.71(X) + 4.8	0.89
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	947	0	0.99	0.44	2.98	0.31	242	63	37	False	Ln(T) = 0.96 Ln(X) + 0.2	0.92
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 205 Dwelling Units of NE Single Family

(210) Single-Family Detached Housing

Open Date: 10/15/2020

Project: Village 7A

Analysis Date: 10/15/2020

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	1935	0	9.44	4.81	19.39	2.1	264	50	50	False	Ln(T) = 0.92 Ln(X) + 2.71	0.95
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	152	0	0.74	0.33	2.27	0.27	219	25	75	False	T = 0.71(X) + 4.8	0.89
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	203	0	0.99	0.44	2.98	0.31	242	63	37	False	Ln(T) = 0.96 Ln(X) + 0.2	0.92
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 50 Dwelling Units of The Greens

(210) Single-Family Detached Housing

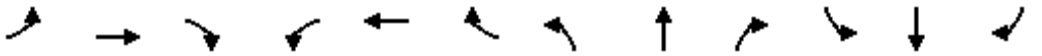
Open Date: 11/1/2021

Project: Village 7A

Analysis Date: 11/1/2023

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	550	0	9.44	4.81	19.39	2.1	264	50	50	True	Ln(T) = 0.92 Ln(X) + 2.71	0.95
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	40	0	0.74	0.33	2.27	0.27	219	25	75	True	T = 0.71(X) + 4.8	0.89
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	52	0	0.99	0.44	2.98	0.31	242	63	37	True	Ln(T) = 0.96 Ln(X) + 0.2	0.92
Source : Trip Generation Manual 10th Edition												

Appendix C
HCM 6th Edition Level of Service Reports

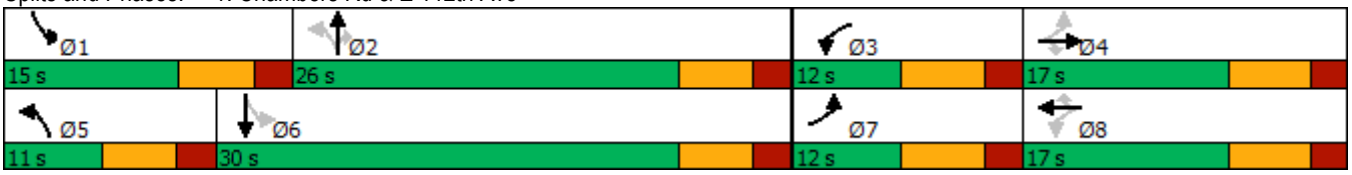


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	3	96	2	194	2	523	89	171	488	1
Future Volume (vph)	2	1	3	96	2	194	2	523	89	171	488	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	235		230	95		95	245		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	1863	0
Flt Permitted	0.976			0.385			0.410			0.285		
Satd. Flow (perm)	1818	1863	1583	717	1863	1583	764	3539	1583	531	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235			235			242			
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		838			905			726			655	
Travel Time (s)		14.3			15.4			12.4			11.2	
Peak Hour Factor	0.78	0.78	0.78	0.82	0.78	0.86	0.78	0.92	0.81	0.85	0.91	0.78
Adj. Flow (vph)	3	1	4	117	3	226	3	568	110	201	536	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1	4	117	3	226	3	568	110	201	537	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	
Total Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	26.0	26.0	15.0	30.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	17.1%	24.3%	24.3%	17.1%	24.3%	24.3%	15.7%	37.1%	37.1%	21.4%	42.9%	
Maximum Green (s)	5.7	10.7	10.7	5.7	10.7	10.7	5.1	20.1	20.1	9.1	24.1	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)	8.4	10.4	10.4	11.2	10.4	10.4	19.2	14.0	14.0	27.9	26.5	
Actuated g/C Ratio	0.16	0.20	0.20	0.21	0.20	0.20	0.36	0.26	0.26	0.53	0.50	
v/c Ratio	0.01	0.00	0.01	0.36	0.01	0.45	0.01	0.61	0.18	0.43	0.57	
Control Delay	18.5	22.0	0.0	21.6	22.0	7.2	8.0	20.6	0.7	10.1	15.6	
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	18.5	22.0	0.0	21.6	22.0	7.2	8.0	20.6	0.7	10.1	15.6	
LOS	B	C	A	C	C	A	A	C	A	B	B	
Approach Delay		9.7			12.2			17.3			14.1	
Approach LOS		A			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 52.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

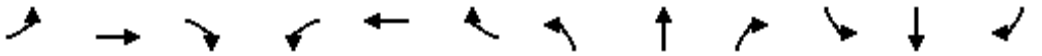
Splits and Phases: 1: Chambers Rd & E 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	1	4	117	3	226	3	568	110	201	537
v/c Ratio	0.01	0.00	0.01	0.36	0.01	0.45	0.01	0.61	0.18	0.43	0.57
Control Delay	18.5	22.0	0.0	21.6	22.0	7.2	8.0	20.6	0.7	10.1	15.6
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	18.5	22.0	0.0	21.6	22.0	7.2	8.0	20.6	0.7	10.1	15.6
Queue Length 50th (ft)	1	0	0	30	1	0	0	75	0	26	85
Queue Length 95th (ft)	5	4	0	65	7	45	4	156	0	76	#375
Internal Link Dist (ft)		758			825			646			575
Turn Bay Length (ft)	115		115	235		230	95		95	245	
Base Capacity (vph)	288	386	514	322	386	514	377	1379	764	498	953
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	0.01	0.00	0.01	0.36	0.01	0.44	0.01	0.41	0.14	0.40	0.56

Intersection Summary

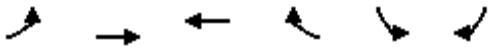
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1	3	96	2	194	2	523	89	171	488	1
Future Volume (veh/h)	2	1	3	96	2	194	2	523	89	171	488	1
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	3	1	4	117	3	226	3	568	110	201	536	1
Peak Hour Factor	0.78	0.78	0.78	0.82	0.78	0.86	0.78	0.92	0.81	0.85	0.91	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	317	269	497	449	381	182	777	347	380	612	1
Arrive On Green	0.00	0.17	0.17	0.07	0.24	0.24	0.00	0.22	0.22	0.11	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	1866	3
Grp Volume(v), veh/h	3	1	4	117	3	226	3	568	110	201	0	537
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	0	1870
Q Serve(g_s), s	0.1	0.0	0.1	3.1	0.1	7.3	0.1	8.6	3.4	4.6	0.0	15.6
Cycle Q Clear(g_c), s	0.1	0.0	0.1	3.1	0.1	7.3	0.1	8.6	3.4	4.6	0.0	15.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	328	317	269	497	449	381	182	777	347	380	0	613
V/C Ratio(X)	0.01	0.00	0.01	0.24	0.01	0.59	0.02	0.73	0.32	0.53	0.00	0.88
Avail Cap(c_a), veh/h	497	348	295	540	449	381	332	1240	553	460	0	783
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	0.00	1.00
Uniform Delay (d), s/veh	19.7	19.9	19.9	17.6	16.6	19.4	18.2	20.9	18.9	14.3	0.0	18.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	2.5	0.0	1.3	0.5	1.1	0.0	9.1
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	0.0	0.0	0.0	1.1	0.0	2.6	0.0	3.2	1.1	1.7	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	19.9	19.9	17.8	16.7	21.8	18.2	22.3	19.4	15.5	0.0	27.3
LnGrp LOS	B	B	B	B	B	C	B	C	B	B	A	C
Approach Vol, veh/h		8			346			681			738	
Approach Delay, s/veh		19.8			20.4			21.8			24.1	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	18.5	10.6	16.1	6.1	24.8	6.5	20.1
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	9.1	20.1	5.7	10.7	5.1	24.1	5.7	10.7
Max Q Clear Time (g_c+I1), s	6.6	10.6	5.1	2.1	2.1	17.6	2.1	9.3
Green Ext Time (p_c), s	0.1	2.0	0.0	0.0	0.0	1.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	261	292	26	7	6
Future Volume (vph)	11	261	292	26	7	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.988		0.936	
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1770	1863	1840	0	1698	0
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1770	1863	1840	0	1698	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		905	1166		383	
Travel Time (s)		20.6	26.5		8.7	
Peak Hour Factor	0.78	0.88	0.88	0.78	0.78	0.78
Adj. Flow (vph)	14	297	332	33	9	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	297	365	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

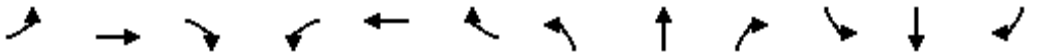
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	261	292	26	7	6
Future Vol, veh/h	11	261	292	26	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	88	88	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	297	332	33	9	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	365	0	-	0	674	349
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1194	-	-	-	420	694
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1194	-	-	-	415	694
Mov Cap-2 Maneuver	-	-	-	-	415	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1194	-	-	-	510
HCM Lane V/C Ratio	0.012	-	-	-	0.033
HCM Control Delay (s)	8.1	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	4	93	4	119	2	603	120	199	664	1
Future Volume (vph)	3	1	4	93	4	119	2	603	120	199	664	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	235		230	95		95	245		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	1863	0
Flt Permitted				0.533			0.280			0.276		
Satd. Flow (perm)	1863	1863	1583	993	1863	1583	522	3539	1583	514	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			229			233			
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		838			905			726			655	
Travel Time (s)		14.3			15.4			12.4			11.2	
Peak Hour Factor	0.78	0.78	0.78	0.82	0.78	0.83	0.78	0.92	0.83	0.86	0.92	0.78
Adj. Flow (vph)	4	1	5	113	5	143	3	655	145	231	722	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	1	5	113	5	143	3	655	145	231	723	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	
Total Split (s)	12.0	17.0	17.0	13.0	18.0	18.0	11.0	52.0	52.0	18.0	59.0	

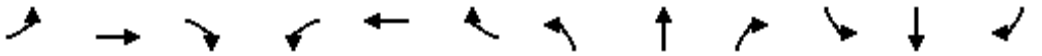
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	12.0%	17.0%	17.0%	13.0%	18.0%	18.0%	11.0%	52.0%	52.0%	18.0%	59.0%	
Maximum Green (s)	5.7	10.7	10.7	6.7	11.7	11.7	5.1	46.1	46.1	12.1	53.1	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)	7.6	11.6	11.6	10.9	11.7	11.7	25.9	20.1	20.1	36.7	37.7	
Actuated g/C Ratio	0.13	0.20	0.20	0.19	0.20	0.20	0.45	0.35	0.35	0.64	0.65	
v/c Ratio	0.02	0.00	0.01	0.35	0.01	0.28	0.01	0.53	0.21	0.43	0.59	
Control Delay	26.3	32.0	0.0	27.9	29.8	1.8	6.5	17.3	0.8	8.4	12.6	
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	26.3	32.0	0.0	27.9	29.8	1.8	6.5	17.3	0.8	8.4	12.6	
LOS	C	C	A	C	C	A	A	B	A	A	B	
Approach Delay		13.7			13.6			14.3			11.6	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 57.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E 112th Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	4	1	5	113	5	143	3	655	145	231	723
v/c Ratio	0.02	0.00	0.01	0.35	0.01	0.28	0.01	0.53	0.21	0.43	0.59
Control Delay	26.3	32.0	0.0	27.9	29.8	1.8	6.5	17.3	0.8	8.4	12.6
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	26.3	32.0	0.0	27.9	29.8	1.8	6.5	17.3	0.8	8.4	12.6
Queue Length 50th (ft)	1	0	0	31	1	0	0	91	0	30	133
Queue Length 95th (ft)	9	5	0	97	12	0	3	183	0	82	476
Internal Link Dist (ft)		758			825			646			575
Turn Bay Length (ft)	115		115	235		230	95		95	245	
Base Capacity (vph)	240	399	519	326	437	546	362	2891	1336	632	1674
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	0.02	0.00	0.01	0.35	0.01	0.26	0.01	0.23	0.11	0.37	0.43

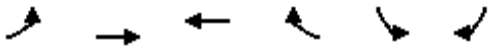
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	4	93	4	119	2	603	120	199	664	1
Future Volume (veh/h)	3	1	4	93	4	119	2	603	120	199	664	1
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	4	1	5	113	5	143	3	655	145	231	722	1
Peak Hour Factor	0.78	0.78	0.78	0.82	0.78	0.83	0.78	0.92	0.83	0.86	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	258	219	428	385	326	165	1150	513	420	805	1
Arrive On Green	0.01	0.14	0.14	0.07	0.21	0.21	0.00	0.32	0.32	0.11	0.43	0.43
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	1867	3
Grp Volume(v), veh/h	4	1	5	113	5	143	3	655	145	231	0	723
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	0	1870
Q Serve(g_s), s	0.1	0.0	0.2	3.7	0.1	5.4	0.1	10.5	4.7	5.5	0.0	24.7
Cycle Q Clear(g_c), s	0.1	0.0	0.2	3.7	0.1	5.4	0.1	10.5	4.7	5.5	0.0	24.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	285	258	219	428	385	326	165	1150	513	420	0	807
V/C Ratio(X)	0.01	0.00	0.02	0.26	0.01	0.44	0.02	0.57	0.28	0.55	0.00	0.90
Avail Cap(c_a), veh/h	423	290	246	471	385	326	289	2374	1059	533	0	1439
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	0.00	1.00
Uniform Delay (d), s/veh	25.4	25.7	25.7	22.6	21.8	23.9	17.8	19.4	17.4	13.1	0.0	18.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.9	0.0	0.4	0.3	1.1	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	1.4	0.1	2.0	0.0	3.9	1.6	2.0	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	25.7	25.8	23.0	21.8	24.9	17.8	19.8	17.7	14.2	0.0	22.1
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	A	C
Approach Vol, veh/h		10			261			803			954	
Approach Delay, s/veh		25.6			24.0			19.4			20.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	28.2	11.3	15.8	6.2	35.7	6.7	20.5
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	12.1	46.1	6.7	10.7	5.1	53.1	5.7	11.7
Max Q Clear Time (g_c+I1), s	7.5	12.5	5.7	2.2	2.1	26.7	2.1	7.4
Green Ext Time (p_c), s	0.3	3.5	0.0	0.0	0.0	3.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	320	216	12	15	12
Future Volume (vph)	19	320	216	12	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.992		0.940	
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1770	1863	1848	0	1704	0
Flt Permitted	0.950				0.973	
Satd. Flow (perm)	1770	1863	1848	0	1704	0
Link Speed (mph)		40	40		25	
Link Distance (ft)		905	1166		383	
Travel Time (s)		15.4	19.9		10.4	
Peak Hour Factor	0.78	0.89	0.87	0.78	0.78	0.78
Adj. Flow (vph)	24	360	248	15	19	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	360	263	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			

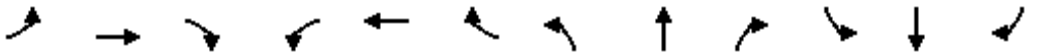
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	320	216	12	15	12
Future Vol, veh/h	19	320	216	12	15	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	89	87	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	360	248	15	19	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	263	0	-	0	664	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1301	-	-	-	426	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1301	-	-	-	418	783
Mov Cap-2 Maneuver	-	-	-	-	418	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1301	-	-	-	527
HCM Lane V/C Ratio	0.019	-	-	-	0.066
HCM Control Delay (s)	7.8	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

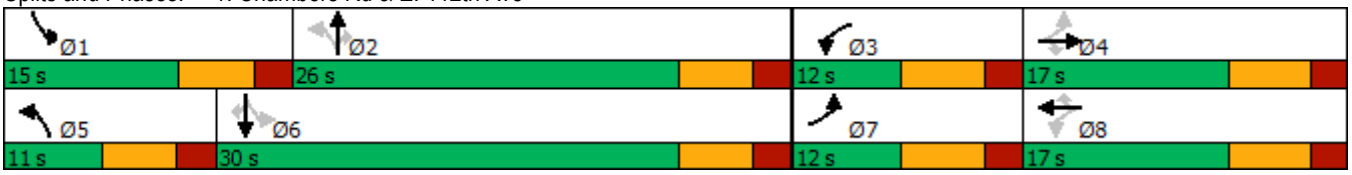


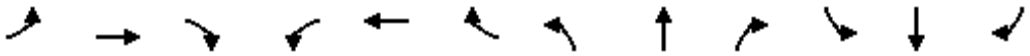
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	11	5	145	33	254	7	562	116	195	514	1
Future Volume (vph)	2	11	5	145	33	254	7	562	116	195	514	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.730			0.416			0.442			0.259		
Satd. Flow (perm)	1360	1863	1583	775	1863	1583	823	3539	1583	482	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235			292			242			242
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.87	0.78	0.92	0.83	0.86	0.92	0.78
Adj. Flow (vph)	3	14	6	173	42	292	9	611	140	227	559	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	14	6	173	42	292	9	611	140	227	559	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0
Total Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	26.0	26.0	15.0	30.0	30.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	17.1%	24.3%	24.3%	17.1%	24.3%	24.3%	15.7%	37.1%	37.1%	21.4%	42.9%	42.9%
Maximum Green (s)	5.7	10.7	10.7	5.7	10.7	10.7	5.1	20.1	20.1	9.1	24.1	24.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.3	10.5	10.5	13.4	12.4	12.4	20.4	15.1	15.1	29.3	27.8	27.8
Actuated g/C Ratio	0.18	0.19	0.19	0.24	0.22	0.22	0.36	0.27	0.27	0.52	0.49	0.49
v/c Ratio	0.01	0.04	0.01	0.54	0.10	0.51	0.02	0.65	0.23	0.52	0.32	0.00
Control Delay	17.0	24.5	0.0	27.0	21.6	7.1	9.1	22.7	1.1	12.9	11.2	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	0.0
Total Delay	17.0	24.5	0.0	27.0	21.6	7.1	9.1	22.7	1.1	12.9	11.2	0.0
LOS	B	C	A	C	C	A	A	C	A	B	B	A
Approach Delay		17.1			15.1			18.5			11.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 56.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 56.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E. 112th Ave

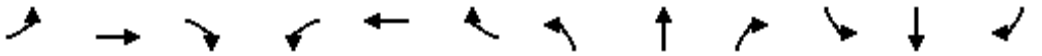




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	14	6	173	42	292	9	611	140	227	559	1
v/c Ratio	0.01	0.04	0.01	0.54	0.10	0.51	0.02	0.65	0.23	0.52	0.32	0.00
Control Delay	17.0	24.5	0.0	27.0	21.6	7.1	9.1	22.7	1.1	12.9	11.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	24.5	0.0	27.0	21.6	7.1	9.1	22.7	1.1	12.9	11.2	0.0
Queue Length 50th (ft)	1	4	0	47	11	0	1	83	0	29	39	0
Queue Length 95th (ft)	5	17	0	#100	36	56	7	169	0	87	140	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	291	364	498	320	425	587	384	1299	734	463	1763	910
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.04	0.01	0.54	0.10	0.50	0.02	0.47	0.19	0.49	0.32	0.00

Intersection Summary

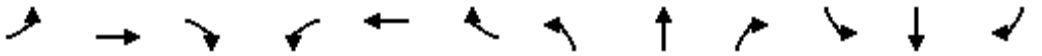
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	11	5	145	33	254	7	562	116	195	514	1
Future Volume (veh/h)	2	11	5	145	33	254	7	562	116	195	514	1
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	3	14	6	173	42	292	9	611	140	227	559	1
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.87	0.78	0.92	0.83	0.86	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	303	257	499	469	397	319	807	360	382	1200	535
Arrive On Green	0.00	0.16	0.16	0.09	0.25	0.25	0.01	0.23	0.23	0.12	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	3	14	6	173	42	292	9	611	140	227	559	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.4	0.2	4.8	1.1	10.4	0.2	9.9	4.6	5.6	7.6	0.0
Cycle Q Clear(g_c), s	0.1	0.4	0.2	4.8	1.1	10.4	0.2	9.9	4.6	5.6	7.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	303	257	499	469	397	319	807	360	382	1200	535
V/C Ratio(X)	0.01	0.05	0.02	0.35	0.09	0.74	0.03	0.76	0.39	0.59	0.47	0.00
Avail Cap(c_a), veh/h	451	325	275	499	469	397	446	1160	517	428	1391	620
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	21.4	21.8	21.7	18.0	17.7	21.2	17.9	22.2	20.2	15.1	16.0	13.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.1	7.0	0.0	1.8	0.7	1.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.1	1.8	0.4	4.2	0.1	3.8	1.6	2.1	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	21.8	21.7	18.4	17.8	28.2	18.0	24.0	20.9	16.9	16.3	13.5
LnGrp LOS	C	C	C	B	B	C	B	C	C	B	B	B
Approach Vol, veh/h		23			507			760			787	
Approach Delay, s/veh		21.8			24.0			23.3			16.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	19.9	12.0	16.3	6.6	26.7	6.6	21.7
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	9.1	20.1	5.7	10.7	5.1	24.1	5.7	10.7
Max Q Clear Time (g_c+I1), s	7.6	11.9	6.8	2.4	2.2	9.6	2.1	12.4
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	322	0	0	432	27	0	0	0	7	0	6
Future Volume (vph)	11	322	0	0	432	27	0	0	0	7	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990						0.936	
Flt Protected	0.950										0.974	
Satd. Flow (prot)	1770	1863	0	1863	1844	0	1863	1863	0	0	1698	0
Flt Permitted	0.950										0.974	
Satd. Flow (perm)	1770	1863	0	1863	1844	0	1863	1863	0	0	1698	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.89	0.78	0.78	0.90	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	14	362	0	0	480	35	0	0	0	9	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	362	0	0	515	0	0	0	0	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

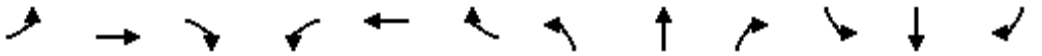
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	322	0	0	432	27	0	0	0	7	0	6
Future Vol, veh/h	11	322	0	0	432	27	0	0	0	7	0	6
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	89	78	78	90	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	362	0	0	480	35	0	0	0	9	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	362	0	0	892	905	362	888	888	498
Stage 1	-	-	-	-	-	-	390	390	-	498	498	-
Stage 2	-	-	-	-	-	-	502	515	-	390	390	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1197	-	-	263	276	683	264	283	572
Stage 1	-	-	-	-	-	-	634	608	-	554	544	-
Stage 2	-	-	-	-	-	-	552	535	-	634	608	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1197	-	-	257	272	683	261	279	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	272	-	261	279	-
Stage 1	-	-	-	-	-	-	626	600	-	547	544	-
Stage 2	-	-	-	-	-	-	545	535	-	626	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	0	15.9
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1051	-	-	1197	-	-	348
HCM Lane V/C Ratio	-	-	0.013	-	-	-	-	-	0.048
HCM Control Delay (s)	0	0	8.5	-	-	0	-	-	15.9
HCM Lane LOS	A	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.1

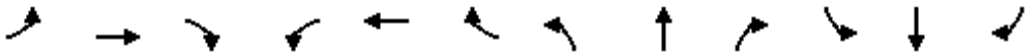


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	36	10	135	25	158	6	640	178	265	711	1
Future Volume (vph)	3	36	10	135	25	158	6	640	178	265	711	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.736			0.390			0.359			0.220		
Satd. Flow (perm)	1371	1863	1583	726	1863	1583	669	3539	1583	410	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			229			233			169
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.85	0.78	0.92	0.86	0.88	0.92	0.78
Adj. Flow (vph)	4	46	13	161	32	186	8	696	207	301	773	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	46	13	161	32	186	8	696	207	301	773	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0
Total Split (s)	12.0	17.0	17.0	13.0	18.0	18.0	11.0	52.0	52.0	18.0	59.0	59.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	12.0%	17.0%	17.0%	13.0%	18.0%	18.0%	11.0%	52.0%	52.0%	18.0%	59.0%	59.0%
Maximum Green (s)	5.7	10.7	10.7	6.7	11.7	11.7	5.1	46.1	46.1	12.1	53.1	53.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	11.0	10.5	10.5	16.3	15.2	15.2	24.6	19.3	19.3	36.2	34.4	34.4
Actuated g/C Ratio	0.17	0.16	0.16	0.25	0.23	0.23	0.37	0.29	0.29	0.55	0.52	0.52
v/c Ratio	0.02	0.16	0.03	0.51	0.07	0.34	0.02	0.67	0.33	0.68	0.42	0.00
Control Delay	20.3	31.1	0.1	28.8	24.9	4.5	9.2	24.9	3.8	18.1	12.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	31.1	0.1	28.8	24.9	4.5	9.2	24.9	3.8	18.1	12.1	0.0
LOS	C	C	A	C	C	A	A	C	A	B	B	A
Approach Delay		24.0			16.5			20.0			13.8	
Approach LOS		C			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 66.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

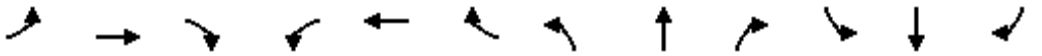
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	4	46	13	161	32	186	8	696	207	301	773	1
v/c Ratio	0.02	0.16	0.03	0.51	0.07	0.34	0.02	0.67	0.33	0.68	0.42	0.00
Control Delay	20.3	31.1	0.1	28.8	24.9	4.5	9.2	24.9	3.8	18.1	12.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	31.1	0.1	28.8	24.9	4.5	9.2	24.9	3.8	18.1	12.1	0.0
Queue Length 50th (ft)	1	19	0	55	10	0	2	149	0	74	105	0
Queue Length 95th (ft)	7	45	0	#110	34	26	6	204	28	123	196	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	266	315	458	317	457	561	338	2582	1218	484	2885	1322
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.15	0.03	0.51	0.07	0.33	0.02	0.27	0.17	0.62	0.27	0.00

Intersection Summary

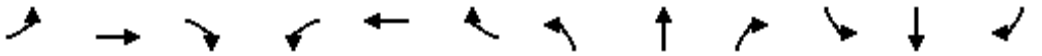
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	36	10	135	25	158	6	640	178	265	711	1
Future Volume (veh/h)	3	36	10	135	25	158	6	640	178	265	711	1
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	4	46	13	161	32	186	8	696	207	301	773	1
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.85	0.78	0.92	0.86	0.88	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	267	226	437	437	370	285	943	421	416	1424	635
Arrive On Green	0.01	0.14	0.14	0.10	0.23	0.23	0.01	0.27	0.27	0.15	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	4	46	13	161	32	186	8	696	207	301	773	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	1.5	0.5	5.1	0.9	7.1	0.2	12.5	7.7	7.9	11.6	0.0
Cycle Q Clear(g_c), s	0.1	1.5	0.5	5.1	0.9	7.1	0.2	12.5	7.7	7.9	11.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	267	226	437	437	370	285	943	421	416	1424	635
V/C Ratio(X)	0.01	0.17	0.06	0.37	0.07	0.50	0.03	0.74	0.49	0.72	0.54	0.00
Avail Cap(c_a), veh/h	415	287	243	437	437	370	397	2350	1048	466	2707	1207
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	25.3	26.3	25.8	20.7	20.8	23.2	18.4	23.4	21.6	15.6	16.0	12.5
Incr Delay (d2), s/veh	0.0	0.3	0.1	0.5	0.1	1.1	0.0	1.1	0.9	4.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.6	0.2	2.0	0.4	2.5	0.1	4.9	2.7	3.3	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	26.6	25.9	21.2	20.9	24.3	18.4	24.5	22.5	20.5	16.3	12.5
LnGrp LOS	C	C	C	C	C	C	B	C	C	C	B	B
Approach Vol, veh/h		63			379			911			1075	
Approach Delay, s/veh		26.4			22.7			24.0			17.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	24.4	13.0	16.3	6.6	33.8	6.7	22.6
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	12.1	46.1	6.7	10.7	5.1	53.1	5.7	11.7
Max Q Clear Time (g_c+I1), s	9.9	14.5	7.1	3.5	2.2	13.6	2.1	9.1
Green Ext Time (p_c), s	0.2	4.0	0.0	0.1	0.0	3.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	479	0	0	318	12	0	0	0	16	0	12
Future Volume (vph)	20	479	0	0	318	12	0	0	0	16	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.994						0.944	
Flt Protected	0.950										0.972	
Satd. Flow (prot)	1770	1863	0	1863	1852	0	1863	1863	0	0	1709	0
Flt Permitted	0.950										0.972	
Satd. Flow (perm)	1770	1863	0	1863	1852	0	1863	1863	0	0	1709	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.91	0.78	0.78	0.88	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	26	526	0	0	361	15	0	0	0	21	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	526	0	0	376	0	0	0	0	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

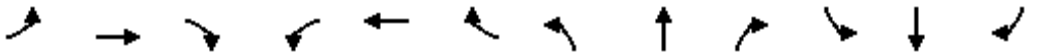
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	479	0	0	318	12	0	0	0	16	0	12
Future Vol, veh/h	20	479	0	0	318	12	0	0	0	16	0	12
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	91	78	78	88	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	526	0	0	361	15	0	0	0	21	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	526	0	0	954	954	526	947	947	369
Stage 1	-	-	-	-	-	-	578	578	-	369	369	-
Stage 2	-	-	-	-	-	-	376	376	-	578	578	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	1041	-	-	238	259	552	241	261	677
Stage 1	-	-	-	-	-	-	501	501	-	651	621	-
Stage 2	-	-	-	-	-	-	645	616	-	501	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1182	-	-	1041	-	-	229	253	552	237	255	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	253	-	237	255	-
Stage 1	-	-	-	-	-	-	490	490	-	637	621	-
Stage 2	-	-	-	-	-	-	630	616	-	490	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	0	17.3
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1182	-	-	1041	-	-	329
HCM Lane V/C Ratio	-	-	0.022	-	-	-	-	-	0.109
HCM Control Delay (s)	0	0	8.1	-	-	0	-	-	17.3
HCM Lane LOS	A	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.4

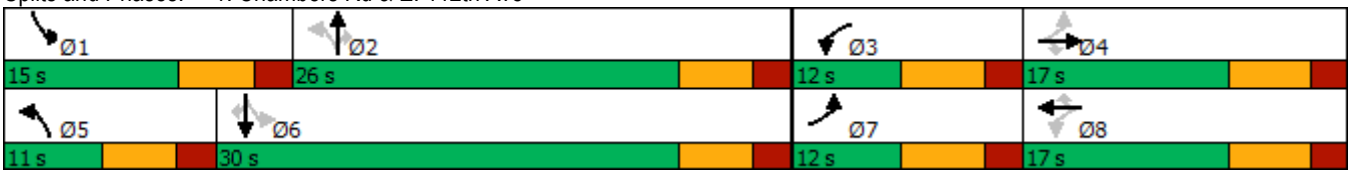


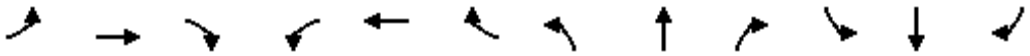
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	7	159	47	256	14	564	130	196	515	1
Future Volume (vph)	2	16	7	159	47	256	14	564	130	196	515	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.718			0.414			0.442			0.258		
Satd. Flow (perm)	1337	1863	1583	771	1863	1583	823	3539	1583	481	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235			294			242			242
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.78	0.78	0.85	0.78	0.87	0.78	0.92	0.84	0.86	0.92	0.78
Adj. Flow (vph)	3	21	9	187	60	294	18	613	155	228	560	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	21	9	187	60	294	18	613	155	228	560	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0
Total Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	26.0	26.0	15.0	30.0	30.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	17.1%	24.3%	24.3%	17.1%	24.3%	24.3%	15.7%	37.1%	37.1%	21.4%	42.9%	42.9%
Maximum Green (s)	5.7	10.7	10.7	5.7	10.7	10.7	5.1	20.1	20.1	9.1	24.1	24.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.3	10.5	10.5	13.4	12.4	12.4	20.4	15.1	15.1	29.3	27.8	27.8
Actuated g/C Ratio	0.18	0.19	0.19	0.24	0.22	0.22	0.36	0.27	0.27	0.52	0.49	0.49
v/c Ratio	0.01	0.06	0.02	0.58	0.15	0.51	0.05	0.65	0.26	0.52	0.32	0.00
Control Delay	17.0	24.6	0.0	29.0	21.8	7.1	9.2	22.7	1.7	12.9	11.2	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	0.0
Total Delay	17.0	24.6	0.0	29.0	21.8	7.1	9.2	22.7	1.7	12.9	11.2	0.0
LOS	B	C	A	C	C	A	A	C	A	B	B	A
Approach Delay		17.2			16.3			18.2			11.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 56.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E. 112th Ave

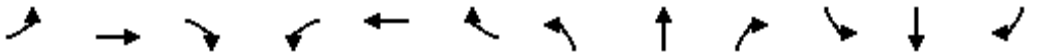




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	3	21	9	187	60	294	18	613	155	228	560	1
v/c Ratio	0.01	0.06	0.02	0.58	0.15	0.51	0.05	0.65	0.26	0.52	0.32	0.00
Control Delay	17.0	24.6	0.0	29.0	21.8	7.1	9.2	22.7	1.7	12.9	11.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	24.6	0.0	29.0	21.8	7.1	9.2	22.7	1.7	12.9	11.2	0.0
Queue Length 50th (ft)	1	5	0	52	15	0	2	83	0	29	39	0
Queue Length 95th (ft)	5	23	0	#119	47	56	11	170	4	87	140	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	289	364	498	320	425	588	384	1299	734	463	1764	910
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.06	0.02	0.58	0.14	0.50	0.05	0.47	0.21	0.49	0.32	0.00

Intersection Summary

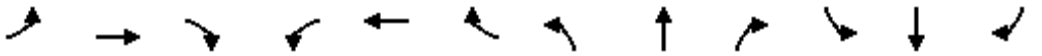
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	7	159	47	256	14	564	130	196	515	1
Future Volume (veh/h)	2	16	7	159	47	256	14	564	130	196	515	1
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	3	21	9	187	60	294	18	613	155	228	560	1
Peak Hour Factor	0.78	0.78	0.78	0.85	0.78	0.87	0.78	0.92	0.84	0.86	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	303	256	491	468	396	328	811	362	382	1169	521
Arrive On Green	0.00	0.16	0.16	0.09	0.25	0.25	0.02	0.23	0.23	0.12	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	3	21	9	187	60	294	18	613	155	228	560	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.6	0.3	5.3	1.5	10.5	0.5	9.9	5.2	5.6	7.7	0.0
Cycle Q Clear(g_c), s	0.1	0.6	0.3	5.3	1.5	10.5	0.5	9.9	5.2	5.6	7.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	303	256	491	468	396	328	811	362	382	1169	521
V/C Ratio(X)	0.01	0.07	0.04	0.38	0.13	0.74	0.05	0.76	0.43	0.60	0.48	0.00
Avail Cap(c_a), veh/h	447	324	275	491	468	396	437	1157	516	426	1388	619
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	21.5	21.9	21.8	18.3	17.9	21.3	17.6	22.2	20.4	15.1	16.5	13.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.5	0.1	7.3	0.1	1.8	0.8	1.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.1	2.0	0.6	4.2	0.2	3.9	1.8	2.1	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	22.0	21.9	18.7	18.0	28.6	17.6	24.0	21.2	17.0	16.8	13.9
LnGrp LOS	C	C	C	B	B	C	B	C	C	B	B	B
Approach Vol, veh/h		33			541			786			789	
Approach Delay, s/veh		21.9			24.0			23.3			16.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	20.0	12.0	16.3	7.2	26.2	6.6	21.7
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	9.1	20.1	5.7	10.7	5.1	24.1	5.7	10.7
Max Q Clear Time (g_c+I1), s	7.6	11.9	7.3	2.6	2.5	9.7	2.1	12.5
Green Ext Time (p_c), s	0.1	2.1	0.0	0.0	0.0	2.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	322	6	6	432	27	30	0	17	7	0	6
Future Volume (vph)	11	322	6	6	432	27	30	0	17	7	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.990			0.850			0.936	
Flt Protected	0.950			0.950			0.950				0.974	
Satd. Flow (prot)	1770	1857	0	1770	1844	0	1770	1583	0	0	1698	0
Flt Permitted	0.950			0.950			0.950				0.974	
Satd. Flow (perm)	1770	1857	0	1770	1844	0	1770	1583	0	0	1698	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.89	0.78	0.78	0.90	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	14	362	8	8	480	35	38	0	22	9	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	370	0	8	515	0	38	22	0	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	322	6	6	432	27	30	0	17	7	0	6
Future Vol, veh/h	11	322	6	6	432	27	30	0	17	7	0	6
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	89	78	78	90	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	362	8	8	480	35	38	0	22	9	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	370	0	0	912	925	366	919	912	498
Stage 1	-	-	-	-	-	-	394	394	-	514	514	-
Stage 2	-	-	-	-	-	-	518	531	-	405	398	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1189	-	-	255	269	679	252	274	572
Stage 1	-	-	-	-	-	-	631	605	-	543	535	-
Stage 2	-	-	-	-	-	-	541	526	-	622	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1189	-	-	248	264	679	240	269	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	264	-	240	269	-
Stage 1	-	-	-	-	-	-	623	597	-	536	531	-
Stage 2	-	-	-	-	-	-	530	522	-	594	595	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	18	16.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	679	1051	-	-	1189	-	-	328
HCM Lane V/C Ratio	0.155	0.032	0.013	-	-	0.006	-	-	0.051
HCM Control Delay (s)	22.2	10.5	8.5	-	-	8	-	-	16.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	0	-	-	0	-	-	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	28	9	685	14	3	678
Future Volume (vph)	28	9	685	14	3	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		135	185	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	868		1893			619
Travel Time (s)	19.7		32.3			10.6
Peak Hour Factor	0.78	0.78	0.92	0.78	0.78	0.92
Adj. Flow (vph)	36	12	745	18	4	737
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	12	745	18	4	737
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.9%		ICU Level of Service A	
Analysis Period (min) 15			

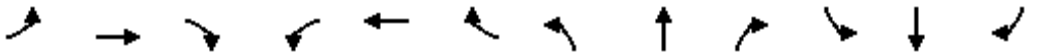
Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	9	685	14	3	678
Future Vol, veh/h	28	9	685	14	3	678
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	135	185	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	92	78	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	12	745	18	4	737

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1122	373	0	0	763	0
Stage 1	745	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	200	624	-	-	845	-
Stage 1	430	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	199	624	-	-	845	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	322	624	845	-
HCM Lane V/C Ratio	-	-	0.111	0.018	0.005	-
HCM Control Delay (s)	-	-	17.6	10.9	9.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0	-

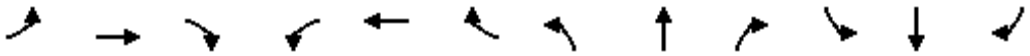


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	52	18	144	35	159	11	641	226	267	713	1
Future Volume (vph)	3	52	18	144	35	159	11	641	226	267	713	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.728			0.457			0.358			0.213		
Satd. Flow (perm)	1356	1863	1583	851	1863	1583	667	3539	1583	397	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			229			260			169
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.85	0.78	0.92	0.87	0.88	0.92	0.78
Adj. Flow (vph)	4	67	23	171	45	187	14	697	260	303	775	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	67	23	171	45	187	14	697	260	303	775	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0
Total Split (s)	12.0	17.0	17.0	13.0	18.0	18.0	11.0	52.0	52.0	18.0	59.0	59.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	12.0%	17.0%	17.0%	13.0%	18.0%	18.0%	11.0%	52.0%	52.0%	18.0%	59.0%	59.0%
Maximum Green (s)	5.7	10.7	10.7	6.7	11.7	11.7	5.1	46.1	46.1	12.1	53.1	53.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.3	10.5	10.5	19.2	18.1	18.1	25.4	20.1	20.1	37.3	35.4	35.4
Actuated g/C Ratio	0.19	0.15	0.15	0.27	0.26	0.26	0.36	0.29	0.29	0.53	0.50	0.50
v/c Ratio	0.01	0.24	0.05	0.51	0.09	0.32	0.04	0.69	0.41	0.71	0.43	0.00
Control Delay	20.3	32.9	0.2	28.1	24.6	4.2	9.5	26.6	5.0	20.8	13.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	32.9	0.2	28.1	24.6	4.2	9.5	26.6	5.0	20.8	13.1	0.0
LOS	C	C	A	C	C	A	A	C	A	C	B	A
Approach Delay		24.3			16.6			20.5			15.2	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 70.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 62.2%		ICU Level of Service B	
Analysis Period (min) 15			

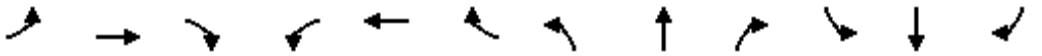
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	4	67	23	171	45	187	14	697	260	303	775	1
v/c Ratio	0.01	0.24	0.05	0.51	0.09	0.32	0.04	0.69	0.41	0.71	0.43	0.00
Control Delay	20.3	32.9	0.2	28.1	24.6	4.2	9.5	26.6	5.0	20.8	13.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	32.9	0.2	28.1	24.6	4.2	9.5	26.6	5.0	20.8	13.1	0.0
Queue Length 50th (ft)	1	28	0	60	15	0	3	149	0	74	105	0
Queue Length 95th (ft)	7	59	0	112	43	26	9	207	43	#137	200	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	295	294	443	337	494	588	324	2412	1161	456	2700	1248
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.05	0.51	0.09	0.32	0.04	0.29	0.22	0.66	0.29	0.00

Intersection Summary

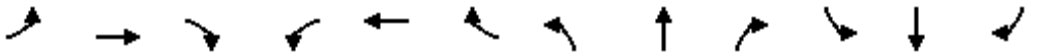
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	52	18	144	35	159	11	641	226	267	713	1
Future Volume (veh/h)	3	52	18	144	35	159	11	641	226	267	713	1
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	4	67	23	171	45	187	14	697	260	303	775	1
Peak Hour Factor	0.78	0.78	0.78	0.84	0.78	0.85	0.78	0.92	0.87	0.88	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	266	226	417	435	369	292	954	426	415	1412	630
Arrive On Green	0.01	0.14	0.14	0.10	0.23	0.23	0.02	0.27	0.27	0.15	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	4	67	23	171	45	187	14	697	260	303	775	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	2.2	0.9	5.5	1.3	7.2	0.4	12.5	10.1	8.0	11.8	0.0
Cycle Q Clear(g_c), s	0.1	2.2	0.9	5.5	1.3	7.2	0.4	12.5	10.1	8.0	11.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	266	226	417	435	369	292	954	426	415	1412	630
V/C Ratio(X)	0.01	0.25	0.10	0.41	0.10	0.51	0.05	0.73	0.61	0.73	0.55	0.00
Avail Cap(c_a), veh/h	411	285	242	417	435	369	391	2336	1042	463	2691	1200
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	25.5	26.8	26.2	21.0	21.2	23.4	18.1	23.3	22.4	15.7	16.3	12.7
Incr Delay (d2), s/veh	0.0	0.5	0.2	0.6	0.1	1.1	0.1	1.1	1.4	5.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	0.3	2.1	0.5	2.6	0.2	4.9	3.6	3.3	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	27.2	26.4	21.7	21.3	24.6	18.2	24.4	23.9	20.8	16.6	12.8
LnGrp LOS	C	C	C	C	C	C	B	C	C	C	B	B
Approach Vol, veh/h		94			403			971			1079	
Approach Delay, s/veh		27.0			23.0			24.2			17.8	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	24.7	13.0	16.3	7.1	33.8	6.7	22.6
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	12.1	46.1	6.7	10.7	5.1	53.1	5.7	11.7
Max Q Clear Time (g_c+I1), s	10.0	14.5	7.5	4.2	2.4	13.8	2.1	9.2
Green Ext Time (p_c), s	0.2	4.3	0.0	0.1	0.0	3.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	479	18	19	318	12	20	0	11	16	0	12
Future Volume (vph)	20	479	18	19	318	12	20	0	11	16	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.994			0.850			0.944	
Flt Protected	0.950			0.950			0.950				0.972	
Satd. Flow (prot)	1770	1852	0	1770	1852	0	1770	1583	0	0	1709	0
Flt Permitted	0.950			0.950			0.950				0.972	
Satd. Flow (perm)	1770	1852	0	1770	1852	0	1770	1583	0	0	1709	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.91	0.78	0.78	0.88	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	26	526	23	24	361	15	26	0	14	21	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	549	0	24	376	0	26	14	0	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	479	18	19	318	12	20	0	11	16	0	12
Future Vol, veh/h	20	479	18	19	318	12	20	0	11	16	0	12
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	91	78	78	88	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	526	23	24	361	15	26	0	14	21	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	549	0	0	1014	1014	538	1014	1018	369
Stage 1	-	-	-	-	-	-	590	590	-	417	417	-
Stage 2	-	-	-	-	-	-	424	424	-	597	601	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	1021	-	-	217	239	543	217	237	677
Stage 1	-	-	-	-	-	-	494	495	-	613	591	-
Stage 2	-	-	-	-	-	-	608	587	-	490	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1182	-	-	1021	-	-	205	228	543	204	226	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	205	228	-	204	226	-
Stage 1	-	-	-	-	-	-	483	484	-	600	577	-
Stage 2	-	-	-	-	-	-	580	573	-	467	478	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.5	20.4	19.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	205	543	1182	-	-	1021	-	-	291
HCM Lane V/C Ratio	0.125	0.026	0.022	-	-	0.024	-	-	0.123
HCM Control Delay (s)	25.1	11.8	8.1	-	-	8.6	-	-	19.1
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	0.1	-	-	0.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	6	824	48	10	865
Future Volume (vph)	19	6	824	48	10	865
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		135	185	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	868		1893			619
Travel Time (s)	19.7		32.3			10.6
Peak Hour Factor	0.78	0.78	0.92	0.78	0.78	0.92
Adj. Flow (vph)	24	8	896	62	13	940
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	8	896	62	13	940
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.9%		ICU Level of Service A	
Analysis Period (min) 15			

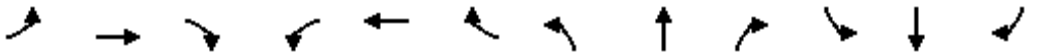
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	6	824	48	10	865
Future Vol, veh/h	19	6	824	48	10	865
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	135	185	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	92	78	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	8	896	62	13	940

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1392	448	0	0	958	0
Stage 1	896	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	133	558	-	-	714	-
Stage 1	359	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	131	558	-	-	714	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	256	558	714	-
HCM Lane V/C Ratio	-	-	0.095	0.014	0.018	-
HCM Control Delay (s)	-	-	20.5	11.5	10.1	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0.1	-

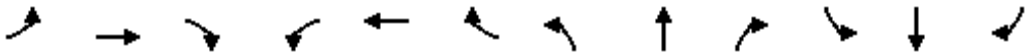


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	57	18	213	73	357	40	1123	178	274	1021	10
Future Volume (vph)	34	57	18	213	73	357	40	1123	178	274	1021	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1736	1863	1583	1770	3539	1455	1770	3539	1583
Flt Permitted	0.698			0.399			0.243			0.081		
Satd. Flow (perm)	1300	1863	1583	729	1863	1583	453	3539	1455	151	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248			310			252			198
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.78	0.78	0.87	0.80	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%	2%	2%	11%	2%	2%	2%
Adj. Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	19.0	19.0	20.0	27.0	27.0	11.0	54.0	54.0	27.0	70.0	70.0
Total Split (%)	10.0%	15.8%	15.8%	16.7%	22.5%	22.5%	9.2%	45.0%	45.0%	22.5%	58.3%	58.3%
Maximum Green (s)	5.7	12.7	12.7	13.7	20.7	20.7	5.1	48.1	48.1	21.1	64.1	64.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.0	11.3	11.3	26.1	17.3	17.3	47.1	41.7	41.7	66.3	58.3	58.3
Actuated g/C Ratio	0.13	0.11	0.11	0.25	0.16	0.16	0.45	0.40	0.40	0.63	0.55	0.55
v/c Ratio	0.22	0.36	0.06	0.80	0.30	0.77	0.19	0.86	0.28	0.82	0.56	0.01
Control Delay	36.1	55.5	0.3	56.0	46.0	22.9	12.4	37.7	2.3	47.0	18.2	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	0.0
Total Delay	36.1	55.5	0.3	56.0	46.0	22.9	12.4	37.7	2.3	47.0	18.2	0.0
LOS	D	E	A	E	D	C	B	D	A	D	B	A
Approach Delay		40.3			36.8			31.8			24.3	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 105.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 30.3		Intersection LOS: C	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

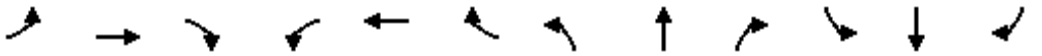
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
v/c Ratio	0.22	0.36	0.06	0.80	0.30	0.77	0.19	0.86	0.28	0.82	0.56	0.01
Control Delay	36.1	55.5	0.3	56.0	46.0	22.9	12.4	37.7	2.3	47.0	18.2	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	0.0
Total Delay	36.1	55.5	0.3	56.0	46.0	22.9	12.4	37.7	2.3	47.0	18.2	0.0
Queue Length 50th (ft)	25	53	0	159	61	62	13	423	0	166	274	0
Queue Length 95th (ft)	48	88	0	#257	100	180	26	537	18	#306	355	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	200	237	418	326	387	574	269	1710	833	438	2279	1090
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.31	0.06	0.75	0.24	0.70	0.19	0.71	0.25	0.71	0.48	0.01

Intersection Summary

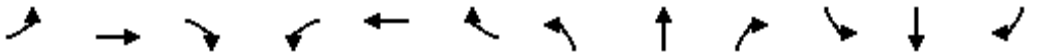
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	57	18	213	73	357	40	1123	178	274	1021	10
Future Volume (veh/h)	34	57	18	213	73	357	40	1123	178	274	1021	10
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	1841	1870	1870	1870	1870	1737	1870	1870	1870
Adj Flow Rate, veh/h	44	73	23	245	91	401	51	1208	207	311	1098	13
Peak Hour Factor	0.78	0.78	0.78	0.87	0.80	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Percent Heavy Veh, %	2	2	2	4	2	2	2	2	11	2	2	2
Cap, veh/h	224	191	162	386	374	317	270	1380	572	348	1749	780
Arrive On Green	0.03	0.10	0.10	0.13	0.20	0.20	0.04	0.39	0.39	0.14	0.49	0.49
Sat Flow, veh/h	1781	1870	1585	1753	1870	1585	1781	3554	1472	1781	3554	1585
Grp Volume(v), veh/h	44	73	23	245	91	401	51	1208	207	311	1098	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1753	1870	1585	1781	1777	1472	1781	1777	1585
Q Serve(g_s), s	2.3	3.8	1.4	12.5	4.2	20.7	1.8	32.6	10.4	11.9	23.5	0.4
Cycle Q Clear(g_c), s	2.3	3.8	1.4	12.5	4.2	20.7	1.8	32.6	10.4	11.9	23.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	191	162	386	374	317	270	1380	572	348	1749	780
V/C Ratio(X)	0.20	0.38	0.14	0.63	0.24	1.26	0.19	0.88	0.36	0.89	0.63	0.02
Avail Cap(c_a), veh/h	260	230	195	386	374	317	292	1653	685	461	2202	982
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	39.5	43.4	42.3	33.6	34.8	41.4	18.4	29.3	22.5	26.5	19.3	13.5
Incr Delay (d2), s/veh	0.4	1.2	0.4	3.4	0.3	141.6	0.3	4.9	0.4	15.8	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.8	0.5	5.5	1.9	20.3	0.7	14.0	3.5	6.2	9.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	44.6	42.7	37.0	35.1	183.0	18.8	34.2	22.9	42.3	19.7	13.5
LnGrp LOS	D	D	D	D	D	F	B	C	C	D	B	B
Approach Vol, veh/h		140			737			1466			1422	
Approach Delay, s/veh		42.8			116.2			32.1			24.6	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	46.1	20.0	16.9	9.7	56.8	9.9	27.0
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	21.1	48.1	13.7	12.7	5.1	64.1	5.7	20.7
Max Q Clear Time (g_c+I1), s	13.9	34.6	14.5	5.8	3.8	25.5	4.3	22.7
Green Ext Time (p_c), s	0.6	5.6	0.0	0.1	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	509	0	0	643	38	0	0	0	10	0	9
Future Volume (vph)	16	509	0	0	643	38	0	0	0	10	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990						0.935	
Flt Protected	0.950										0.975	
Satd. Flow (prot)	1770	1863	0	1863	1844	0	1863	1863	0	0	1698	0
Flt Permitted	0.950										0.975	
Satd. Flow (perm)	1770	1863	0	1863	1844	0	1863	1863	0	0	1698	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.92	0.78	0.78	0.92	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	21	553	0	0	699	49	0	0	0	13	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	553	0	0	748	0	0	0	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

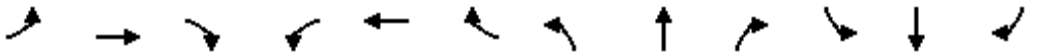
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	509	0	0	643	38	0	0	0	10	0	9
Future Vol, veh/h	16	509	0	0	643	38	0	0	0	10	0	9
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	78	92	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	553	0	0	699	49	0	0	0	13	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	748	0	0	553	0	0	1325	1343	553	1319	1319	724
Stage 1	-	-	-	-	-	-	595	595	-	724	724	-
Stage 2	-	-	-	-	-	-	730	748	-	595	595	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	861	-	-	1017	-	-	133	152	533	134	157	426
Stage 1	-	-	-	-	-	-	491	492	-	417	430	-
Stage 2	-	-	-	-	-	-	414	420	-	491	492	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	861	-	-	1017	-	-	127	148	533	131	153	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	148	-	131	153	-
Stage 1	-	-	-	-	-	-	479	480	-	407	430	-
Stage 2	-	-	-	-	-	-	403	420	-	479	480	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	0	26.1
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	861	-	-	1017	-	-	195
HCM Lane V/C Ratio	-	-	0.024	-	-	-	-	-	0.125
HCM Control Delay (s)	0	0	9.3	-	-	0	-	-	26.1
HCM Lane LOS	A	A	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.4

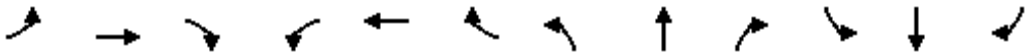


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	93	31	219	74	222	76	1272	260	372	1423	31
Future Volume (vph)	24	93	31	219	74	222	76	1272	260	372	1423	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1568	1770	3539	1583
Flt Permitted	0.697			0.428			0.096			0.074		
Satd. Flow (perm)	1298	1863	1583	797	1863	1583	179	3539	1568	138	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191			255			195			141
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.82	0.78	0.87	0.80	0.87	0.80	0.93	0.88	0.89	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	17.0	17.0	18.0	23.0	23.0	12.0	55.0	55.0	30.0	73.0	73.0
Total Split (%)	10.0%	14.2%	14.2%	15.0%	19.2%	19.2%	10.0%	45.8%	45.8%	25.0%	60.8%	60.8%
Maximum Green (s)	5.7	10.7	10.7	11.7	16.7	16.7	6.1	49.1	49.1	24.1	67.1	67.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.2	10.6	10.6	28.4	21.4	21.4	54.3	48.2	48.2	78.2	66.2	66.2
Actuated g/C Ratio	0.14	0.09	0.09	0.24	0.18	0.18	0.46	0.41	0.41	0.66	0.56	0.56
v/c Ratio	0.16	0.68	0.13	0.88	0.28	0.52	0.58	0.95	0.39	0.99	0.78	0.04
Control Delay	38.1	74.3	0.8	72.7	47.5	9.8	32.0	49.6	9.9	78.4	24.1	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	0.0
Total Delay	38.1	74.3	0.8	72.7	47.5	9.8	32.0	49.6	9.9	78.4	24.1	0.1
LOS	D	E	A	E	D	A	C	D	A	E	C	A
Approach Delay		52.2			42.1			42.0			35.0	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 39.4		Intersection LOS: D	
Intersection Capacity Utilization 89.7%		ICU Level of Service E	
Analysis Period (min) 15			

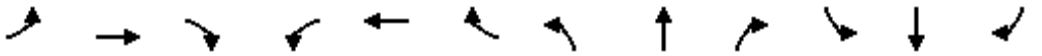
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
v/c Ratio	0.16	0.68	0.13	0.88	0.28	0.52	0.58	0.95	0.39	0.99	0.78	0.04
Control Delay	38.1	74.3	0.8	72.7	47.5	9.8	32.0	49.6	9.9	78.4	24.1	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	0.0
Total Delay	38.1	74.3	0.8	72.7	47.5	9.8	32.0	49.6	9.9	78.4	24.1	0.1
Queue Length 50th (ft)	19	86	0	174	66	0	24	529	48	273	462	0
Queue Length 95th (ft)	39	#142	0	#311	106	66	51	#684	110	#477	557	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	199	167	316	285	335	493	163	1460	761	421	1995	954
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.68	0.13	0.88	0.28	0.52	0.58	0.94	0.39	0.99	0.77	0.04

Intersection Summary

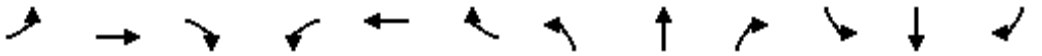
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	93	31	219	74	222	76	1272	260	372	1423	31
Future Volume (veh/h)	24	93	31	219	74	222	76	1272	260	372	1423	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	1856	1870	1870	1870
Adj Flow Rate, veh/h	31	113	40	252	92	255	95	1368	295	418	1530	40
Peak Hour Factor	0.78	0.82	0.78	0.87	0.80	0.87	0.80	0.93	0.88	0.89	0.93	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	3	2	2	2
Cap, veh/h	196	158	134	269	292	248	219	1446	640	434	2007	895
Arrive On Green	0.03	0.08	0.08	0.10	0.16	0.16	0.05	0.41	0.41	0.20	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1572	1781	3554	1585
Grp Volume(v), veh/h	31	113	40	252	92	255	95	1368	295	418	1530	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1572	1781	1777	1585
Q Serve(g_s), s	1.9	7.0	2.8	11.7	5.2	18.5	3.7	43.9	16.2	22.7	38.9	1.3
Cycle Q Clear(g_c), s	1.9	7.0	2.8	11.7	5.2	18.5	3.7	43.9	16.2	22.7	38.9	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	158	134	269	292	248	219	1446	640	434	2007	895
V/C Ratio(X)	0.16	0.71	0.30	0.94	0.31	1.03	0.43	0.95	0.46	0.96	0.76	0.04
Avail Cap(c_a), veh/h	234	169	143	269	292	248	230	1474	652	434	2015	899
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	47.5	52.8	50.9	46.5	44.3	49.9	21.2	33.9	25.6	37.0	19.7	11.5
Incr Delay (d2), s/veh	0.4	12.5	1.2	38.5	0.6	64.8	1.3	12.7	0.5	33.6	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.8	1.1	4.5	2.4	11.6	1.5	20.5	6.0	15.8	15.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	65.3	52.1	85.0	44.9	114.8	22.5	46.6	26.1	70.6	21.4	11.5
LnGrp LOS	D	E	D	F	D	F	C	D	C	E	C	B
Approach Vol, veh/h		184			599			1758			1988	
Approach Delay, s/veh		59.5			91.5			41.9			31.6	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	54.0	18.0	16.3	11.3	72.7	9.5	24.8
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	24.1	49.1	11.7	10.7	6.1	67.1	5.7	16.7
Max Q Clear Time (g_c+I1), s	24.7	45.9	13.7	9.0	5.7	40.9	3.9	20.5
Green Ext Time (p_c), s	0.0	2.2	0.0	0.1	0.0	8.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	725	0	0	515	18	0	0	0	22	0	18
Future Volume (vph)	28	725	0	0	515	18	0	0	0	22	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.994						0.939	
Flt Protected	0.950										0.973	
Satd. Flow (prot)	1770	1863	0	1863	1852	0	1863	1863	0	0	1702	0
Flt Permitted	0.950										0.973	
Satd. Flow (perm)	1770	1863	0	1863	1852	0	1863	1863	0	0	1702	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.92	0.78	0.78	0.92	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	36	788	0	0	560	23	0	0	0	28	0	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	788	0	0	583	0	0	0	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

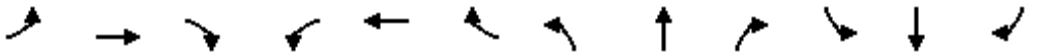
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	725	0	0	515	18	0	0	0	22	0	18
Future Vol, veh/h	28	725	0	0	515	18	0	0	0	22	0	18
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	78	92	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	788	0	0	560	23	0	0	0	28	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	583	0	0	788	0	0	1443	1443	788	1432	1432	572
Stage 1	-	-	-	-	-	-	860	860	-	572	572	-
Stage 2	-	-	-	-	-	-	583	583	-	860	860	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	991	-	-	831	-	-	110	132	391	112	134	520
Stage 1	-	-	-	-	-	-	351	373	-	505	504	-
Stage 2	-	-	-	-	-	-	498	499	-	351	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	991	-	-	831	-	-	102	127	391	109	129	520
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	127	-	109	129	-
Stage 1	-	-	-	-	-	-	338	360	-	487	504	-
Stage 2	-	-	-	-	-	-	476	499	-	338	360	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	0	35.3
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	991	-	-	831	-	-	169
HCM Lane V/C Ratio	-	-	0.036	-	-	-	-	-	0.303
HCM Control Delay (s)	0	0	8.8	-	-	0	-	-	35.3
HCM Lane LOS	A	A	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	1.2

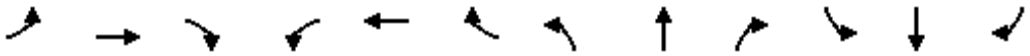


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	62	20	227	87	359	47	1125	192	275	1022	10
Future Volume (vph)	34	62	20	227	87	359	47	1125	192	275	1022	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1736	1863	1583	1770	3539	1455	1770	3539	1583
Flt Permitted	0.688			0.399			0.242			0.080		
Satd. Flow (perm)	1282	1863	1583	729	1863	1583	451	3539	1455	149	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248			310			252			198
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.79	0.78	0.87	0.81	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%	2%	2%	11%	2%	2%	2%
Adj. Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	19.0	19.0	20.0	27.0	27.0	11.0	54.0	54.0	27.0	70.0	70.0
Total Split (%)	10.0%	15.8%	15.8%	16.7%	22.5%	22.5%	9.2%	45.0%	45.0%	22.5%	58.3%	58.3%
Maximum Green (s)	5.7	12.7	12.7	13.7	20.7	20.7	5.1	48.1	48.1	21.1	64.1	64.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.1	11.4	11.4	26.4	17.7	17.7	47.2	41.9	41.9	66.6	58.6	58.6
Actuated g/C Ratio	0.13	0.11	0.11	0.25	0.17	0.17	0.45	0.40	0.40	0.63	0.55	0.55
v/c Ratio	0.22	0.39	0.07	0.84	0.35	0.77	0.22	0.86	0.31	0.83	0.56	0.01
Control Delay	36.2	56.2	0.3	60.7	46.6	22.9	13.0	38.0	3.0	48.1	18.3	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	0.0
Total Delay	36.2	56.2	0.3	60.7	46.6	22.9	13.0	38.0	3.0	48.1	18.3	0.0
LOS	D	E	A	E	D	C	B	D	A	D	B	A
Approach Delay		40.4			39.0			31.8			24.7	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 105.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

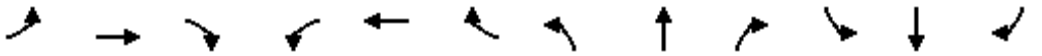
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
v/c Ratio	0.22	0.39	0.07	0.84	0.35	0.77	0.22	0.86	0.31	0.83	0.56	0.01
Control Delay	36.2	56.2	0.3	60.7	46.6	22.9	13.0	38.0	3.0	48.1	18.3	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	0.0
Total Delay	36.2	56.2	0.3	60.7	46.6	22.9	13.0	38.0	3.0	48.1	18.3	0.0
Queue Length 50th (ft)	25	57	0	172	73	63	16	426	0	170	276	0
Queue Length 95th (ft)	48	94	0	#291	115	184	29	539	27	#309	356	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	199	235	416	324	383	572	268	1692	827	433	2254	1080
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.33	0.06	0.81	0.28	0.70	0.22	0.72	0.27	0.72	0.49	0.01

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	62	20	227	87	359	47	1125	192	275	1022	10
Future Volume (veh/h)	34	62	20	227	87	359	47	1125	192	275	1022	10
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	1841	1870	1870	1870	1870	1737	1870	1870	1870
Adj Flow Rate, veh/h	44	78	26	261	107	403	60	1210	223	312	1099	13
Peak Hour Factor	0.78	0.79	0.78	0.87	0.81	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Percent Heavy Veh, %	2	2	2	4	2	2	2	2	11	2	2	2
Cap, veh/h	222	191	162	381	373	316	273	1382	573	349	1745	778
Arrive On Green	0.03	0.10	0.10	0.13	0.20	0.20	0.04	0.39	0.39	0.14	0.49	0.49
Sat Flow, veh/h	1781	1870	1585	1753	1870	1585	1781	3554	1472	1781	3554	1585
Grp Volume(v), veh/h	44	78	26	261	107	403	60	1210	223	312	1099	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1753	1870	1585	1781	1777	1472	1781	1777	1585
Q Serve(g_s), s	2.3	4.1	1.6	13.5	5.0	20.7	2.1	32.7	11.3	12.1	23.6	0.4
Cycle Q Clear(g_c), s	2.3	4.1	1.6	13.5	5.0	20.7	2.1	32.7	11.3	12.1	23.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	191	162	381	373	316	273	1382	573	349	1745	778
V/C Ratio(X)	0.20	0.41	0.16	0.69	0.29	1.27	0.22	0.88	0.39	0.89	0.63	0.02
Avail Cap(c_a), veh/h	258	229	194	381	373	316	290	1647	682	459	2196	979
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	39.6	43.6	42.5	34.2	35.3	41.5	18.5	29.4	22.8	26.7	19.5	13.5
Incr Delay (d2), s/veh	0.4	1.4	0.5	5.0	0.4	145.8	0.4	4.9	0.4	16.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.9	0.6	6.1	2.3	20.6	0.8	14.0	3.8	6.3	9.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	45.0	43.0	39.2	35.7	187.4	18.9	34.3	23.3	42.8	19.8	13.6
LnGrp LOS	D	D	D	D	D	F	B	C	C	D	B	B
Approach Vol, veh/h		148			771			1493			1424	
Approach Delay, s/veh		43.2			116.2			32.0			24.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	46.3	20.0	16.9	10.0	56.8	9.9	27.0
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	21.1	48.1	13.7	12.7	5.1	64.1	5.7	20.7
Max Q Clear Time (g_c+I1), s	14.1	34.7	15.5	6.1	4.1	25.6	4.3	22.7
Green Ext Time (p_c), s	0.6	5.6	0.0	0.1	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	509	6	6	643	38	30	0	17	10	0	9
Future Volume (vph)	16	509	6	6	643	38	30	0	17	10	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.990			0.850			0.935	
Flt Protected	0.950			0.950			0.950				0.975	
Satd. Flow (prot)	1770	1859	0	1770	1844	0	1770	1583	0	0	1698	0
Flt Permitted	0.950			0.950			0.950				0.975	
Satd. Flow (perm)	1770	1859	0	1770	1844	0	1770	1583	0	0	1698	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.92	0.78	0.78	0.92	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	21	553	8	8	699	49	38	0	22	13	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	561	0	8	748	0	38	22	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	509	6	6	643	38	30	0	17	10	0	9
Future Vol, veh/h	16	509	6	6	643	38	30	0	17	10	0	9
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	78	92	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	553	8	8	699	49	38	0	22	13	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	748	0	0	561	0	0	1345	1363	557	1350	1343	724
Stage 1	-	-	-	-	-	-	599	599	-	740	740	-
Stage 2	-	-	-	-	-	-	746	764	-	610	603	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	861	-	-	1010	-	-	129	148	530	128	152	426
Stage 1	-	-	-	-	-	-	488	490	-	409	423	-
Stage 2	-	-	-	-	-	-	405	413	-	482	488	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	861	-	-	1010	-	-	122	143	530	120	147	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	143	-	120	147	-
Stage 1	-	-	-	-	-	-	476	478	-	399	420	-
Stage 2	-	-	-	-	-	-	391	410	-	451	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	34.7	27.8
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	122	530	861	-	-	1010	-	-	182
HCM Lane V/C Ratio	0.315	0.041	0.024	-	-	0.008	-	-	0.134
HCM Control Delay (s)	47.5	12.1	9.3	-	-	8.6	-	-	27.8
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.2	0.1	0.1	-	-	0	-	-	0.5

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	28	9	1341	14	3	1266
Future Volume (vph)	28	9	1341	14	3	1266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		135	185	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	868		1893			619
Travel Time (s)	19.7		32.3			10.6
Peak Hour Factor	0.78	0.78	0.93	0.78	0.78	0.93
Adj. Flow (vph)	36	12	1442	18	4	1361
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	12	1442	18	4	1361
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

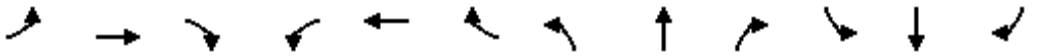
Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	9	1341	14	3	1266
Future Vol, veh/h	28	9	1341	14	3	1266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	135	185	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	78	78	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	12	1442	18	4	1361

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2131	721	0	0	1460	0
Stage 1	1442	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	42	370	-	-	459	-
Stage 1	184	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	42	370	-	-	459	-
Mov Cap-2 Maneuver	135	-	-	-	-	-
Stage 1	184	-	-	-	-	-
Stage 2	456	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	135	370	459	-
HCM Lane V/C Ratio	-	-	0.266	0.031	0.008	-
HCM Control Delay (s)	-	-	41.1	15	12.9	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	1	0.1	0	-

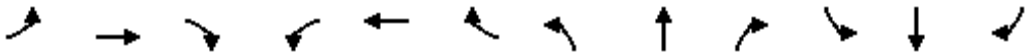


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	109	39	228	84	223	81	1273	308	374	1425	31
Future Volume (vph)	24	109	39	228	84	223	81	1273	308	374	1425	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1568	1770	3539	1583
Flt Permitted	0.690			0.377			0.095			0.074		
Satd. Flow (perm)	1285	1863	1583	702	1863	1583	177	3539	1568	138	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191			256			195			141
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			1341	
Travel Time (s)		30.9			11.7			10.6			22.9	
Peak Hour Factor	0.78	0.83	0.78	0.87	0.81	0.87	0.81	0.93	0.88	0.89	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	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		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	17.0	17.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	17.0	17.0	18.0	23.0	23.0	12.0	55.0	55.0	30.0	73.0	73.0
Total Split (%)	10.0%	14.2%	14.2%	15.0%	19.2%	19.2%	10.0%	45.8%	45.8%	25.0%	60.8%	60.8%
Maximum Green (s)	5.7	10.7	10.7	11.7	16.7	16.7	6.1	49.1	49.1	24.1	67.1	67.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.2	10.6	10.6	28.4	21.4	21.4	54.6	48.5	48.5	78.5	66.5	66.5
Actuated g/C Ratio	0.14	0.09	0.09	0.24	0.18	0.18	0.46	0.41	0.41	0.66	0.56	0.56
v/c Ratio	0.16	0.79	0.16	0.96	0.31	0.52	0.62	0.95	0.46	1.00	0.78	0.04
Control Delay	38.1	85.6	1.1	89.4	48.0	9.8	35.3	49.3	13.0	80.1	24.1	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	0.0
Total Delay	38.1	85.6	1.1	89.4	48.0	9.8	35.3	49.3	13.0	80.1	24.1	0.1
LOS	D	F	A	F	D	A	D	D	B	F	C	A
Approach Delay		58.7			49.7			41.6			35.4	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.3			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 40.8		Intersection LOS: D	
Intersection Capacity Utilization 90.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E. 112th Ave

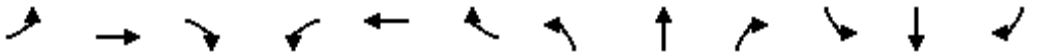


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
v/c Ratio	0.16	0.79	0.16	0.96	0.31	0.52	0.62	0.95	0.46	1.00	0.78	0.04
Control Delay	38.1	85.6	1.1	89.4	48.0	9.8	35.3	49.3	13.0	80.1	24.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	85.6	1.1	89.4	48.0	9.8	35.3	49.3	13.0	80.1	24.1	0.1
Queue Length 50th (ft)	19	101	0	182	75	0	26	530	80	~276	463	0
Queue Length 95th (ft)	39	#179	0	#274	117	66	57	#685	155	#480	558	0
Internal Link Dist (ft)		1735			609			539			1261	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	198	167	316	272	334	494	162	1457	760	420	1991	952
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.78	0.16	0.96	0.31	0.52	0.62	0.94	0.46	1.00	0.77	0.04

Intersection Summary

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

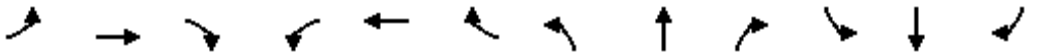
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	109	39	228	84	223	81	1273	308	374	1425	31
Future Volume (veh/h)	24	109	39	228	84	223	81	1273	308	374	1425	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	1856	1870	1870	1870
Adj Flow Rate, veh/h	31	131	50	262	104	256	100	1369	350	420	1532	40
Peak Hour Factor	0.78	0.83	0.78	0.87	0.81	0.87	0.81	0.93	0.88	0.89	0.93	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	3	2	2	2
Cap, veh/h	197	161	136	257	295	250	221	1445	639	432	1998	891
Arrive On Green	0.03	0.09	0.09	0.10	0.16	0.16	0.05	0.41	0.41	0.20	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1572	1781	3554	1585
Grp Volume(v), veh/h	31	131	50	262	104	256	100	1369	350	420	1532	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1572	1781	1777	1585
Q Serve(g_s), s	1.9	8.2	3.5	11.7	5.9	18.7	3.9	44.1	20.2	23.0	39.4	1.3
Cycle Q Clear(g_c), s	1.9	8.2	3.5	11.7	5.9	18.7	3.9	44.1	20.2	23.0	39.4	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	161	136	257	295	250	221	1445	639	432	1998	891
V/C Ratio(X)	0.16	0.81	0.37	1.02	0.35	1.02	0.45	0.95	0.55	0.97	0.77	0.04
Avail Cap(c_a), veh/h	234	169	143	257	295	250	228	1471	651	432	2010	896
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	47.5	53.3	51.2	46.9	44.6	50.0	21.4	34.0	26.9	37.4	20.0	11.7
Incr Delay (d2), s/veh	0.4	24.7	1.6	61.3	0.7	63.5	1.5	12.9	0.9	35.7	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.9	1.4	6.2	2.7	11.6	1.6	20.6	7.5	16.2	15.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	78.0	52.8	108.2	45.3	113.5	22.8	46.9	27.8	73.2	21.8	11.7
LnGrp LOS	D	E	D	F	D	F	C	D	C	E	C	B
Approach Vol, veh/h		212			622			1819			1992	
Approach Delay, s/veh		67.7			99.9			41.9			32.4	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	54.2	18.0	16.5	11.5	72.6	9.5	25.0
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	24.1	49.1	11.7	10.7	6.1	67.1	5.7	16.7
Max Q Clear Time (g_c+I1), s	25.0	46.1	13.7	10.2	5.9	41.4	3.9	20.7
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	8.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	725	18	19	515	18	20	0	11	22	0	18
Future Volume (vph)	28	725	18	19	515	18	20	0	11	22	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		150	150		0	150		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.850			0.939	
Flt Protected	0.950			0.950			0.950				0.973	
Satd. Flow (prot)	1770	1855	0	1770	1852	0	1770	1583	0	0	1702	0
Flt Permitted	0.950			0.950			0.950				0.973	
Satd. Flow (perm)	1770	1855	0	1770	1852	0	1770	1583	0	0	1702	0
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		689			6993			306			313	
Travel Time (s)		11.7			119.2			7.0			7.1	
Peak Hour Factor	0.78	0.92	0.78	0.78	0.92	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	36	788	23	24	560	23	26	0	14	28	0	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	811	0	24	583	0	26	14	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	725	18	19	515	18	20	0	11	22	0	18
Future Vol, veh/h	28	725	18	19	515	18	20	0	11	22	0	18
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	185	-	-	150	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	92	78	78	92	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	788	23	24	560	23	26	0	14	28	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	583	0	0	811	0	0	1503	1503	800	1499	1503	572
Stage 1	-	-	-	-	-	-	872	872	-	620	620	-
Stage 2	-	-	-	-	-	-	631	631	-	879	883	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	991	-	-	815	-	-	100	122	385	101	122	520
Stage 1	-	-	-	-	-	-	345	368	-	476	480	-
Stage 2	-	-	-	-	-	-	469	474	-	342	364	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	991	-	-	815	-	-	91	114	385	93	114	520
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	114	-	93	114	-
Stage 1	-	-	-	-	-	-	333	355	-	459	466	-
Stage 2	-	-	-	-	-	-	435	460	-	318	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	43.5	41.7
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	91	385	991	-	-	815	-	-	148
HCM Lane V/C Ratio	0.282	0.037	0.036	-	-	0.03	-	-	0.347
HCM Control Delay (s)	59.4	14.7	8.8	-	-	9.6	-	-	41.7
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1	0.1	0.1	-	-	0.1	-	-	1.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	6	1608	48	10	1682
Future Volume (vph)	19	6	1608	48	10	1682
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		135	185	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	868		1893			619
Travel Time (s)	19.7		32.3			10.6
Peak Hour Factor	0.78	0.78	0.94	0.78	0.78	0.94
Adj. Flow (vph)	24	8	1711	62	13	1789
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	8	1711	62	13	1789
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

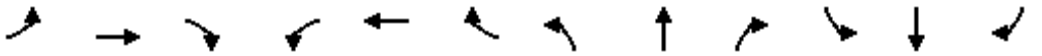
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	6	1608	48	10	1682
Future Vol, veh/h	19	6	1608	48	10	1682
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	135	185	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	94	78	78	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	8	1711	62	13	1789

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2632	856	0	0	1773	0
Stage 1	1711	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 19	301	-	-	347	-
Stage 1	131	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 18	301	-	-	347	-
Mov Cap-2 Maneuver	92	-	-	-	-	-
Stage 1	131	-	-	-	-	-
Stage 2	335	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	92	301	347	-
HCM Lane V/C Ratio	-	-	0.265	0.026	0.037	-
HCM Control Delay (s)	-	-	57.7	17.3	15.8	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	1	0.1	0.1	-

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

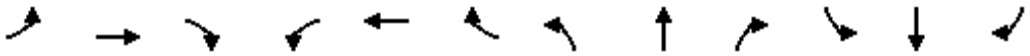


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	57	18	213	73	357	40	1123	178	274	1021	10
Future Volume (vph)	34	57	18	213	73	357	40	1123	178	274	1021	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3367	1863	1583	1770	3539	1455	1770	3539	1583
Flt Permitted	0.698			0.950			0.214			0.098		
Satd. Flow (perm)	1300	1863	1583	3367	1863	1583	399	3539	1455	183	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			255			255			259			188
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			784	
Travel Time (s)		30.9			11.7			10.6			13.4	
Peak Hour Factor	0.78	0.78	0.78	0.87	0.80	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%	2%	2%	11%	2%	2%	2%
Adj. Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	12.0	12.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	15.0	15.0	17.0	20.0	20.0	11.0	40.0	40.0	18.0	47.0	47.0
Total Split (%)	13.3%	16.7%	16.7%	18.9%	22.2%	22.2%	12.2%	44.4%	44.4%	20.0%	52.2%	52.2%
Maximum Green (s)	5.7	8.7	8.7	10.7	13.7	13.7	5.1	34.1	34.1	12.1	41.1	41.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.1	7.8	7.8	10.7	15.0	15.0	37.3	32.1	32.1	50.4	44.2	44.2
Actuated g/C Ratio	0.14	0.09	0.09	0.13	0.18	0.18	0.44	0.38	0.38	0.60	0.52	0.52
v/c Ratio	0.20	0.42	0.06	0.58	0.28	0.82	0.20	0.90	0.29	0.91	0.59	0.01
Control Delay	26.8	46.5	0.3	42.7	35.5	29.1	11.2	35.9	2.2	55.7	17.8	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	0.0
Total Delay	26.8	46.5	0.3	42.7	35.5	29.1	11.2	35.9	2.2	55.7	17.8	0.0
LOS	C	D	A	D	D	C	B	D	A	E	B	A
Approach Delay		32.7			34.4			30.3			25.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 84.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 29.5		Intersection LOS: C	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

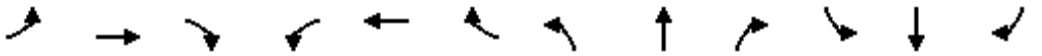
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	73	23	245	91	401	51	1208	207	311	1098	13
v/c Ratio	0.20	0.42	0.06	0.58	0.28	0.82	0.20	0.90	0.29	0.91	0.59	0.01
Control Delay	26.8	46.5	0.3	42.7	35.5	29.1	11.2	35.9	2.2	55.7	17.8	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	0.0
Total Delay	26.8	46.5	0.3	42.7	35.5	29.1	11.2	35.9	2.2	55.7	17.8	0.0
Queue Length 50th (ft)	18	40	0	69	47	81	12	334	0	127	250	0
Queue Length 95th (ft)	38	71	0	104	81	#242	23	#466	17	#281	322	0
Internal Link Dist (ft)		1735			609			539			704	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	218	195	394	433	351	505	259	1452	750	340	1850	917
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.37	0.06	0.57	0.26	0.79	0.20	0.83	0.28	0.91	0.59	0.01

Intersection Summary

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



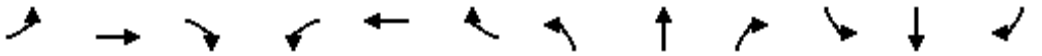
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	57	18	213	73	357	40	1123	178	274	1021	10
Future Volume (veh/h)	34	57	18	213	73	357	40	1123	178	274	1021	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1841	1870	1870	1870	1870	1737	1870	1870	1870
Adj Flow Rate, veh/h	44	73	23	245	91	0	51	1208	207	311	1098	13
Peak Hour Factor	0.78	0.78	0.78	0.87	0.80	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Percent Heavy Veh, %	2	2	2	4	2	2	2	2	11	2	2	2
Cap, veh/h	252	128	109	336	239		292	1385	574	353	1696	757
Arrive On Green	0.04	0.07	0.07	0.10	0.13	0.00	0.04	0.39	0.39	0.13	0.48	0.48
Sat Flow, veh/h	1781	1870	1585	3401	1870	1585	1781	3554	1472	1781	3554	1585
Grp Volume(v), veh/h	44	73	23	245	91	0	51	1208	207	311	1098	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1700	1870	1585	1781	1777	1472	1781	1777	1585
Q Serve(g_s), s	1.8	3.0	1.1	5.5	3.5	0.0	1.3	24.5	7.8	7.9	18.3	0.3
Cycle Q Clear(g_c), s	1.8	3.0	1.1	5.5	3.5	0.0	1.3	24.5	7.8	7.9	18.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	128	109	336	239		292	1385	574	353	1696	757
V/C Ratio(X)	0.17	0.57	0.21	0.73	0.38		0.17	0.87	0.36	0.88	0.65	0.02
Avail Cap(c_a), veh/h	312	208	177	466	328		332	1551	643	397	1870	834
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	35.3	34.4	34.2	31.2	0.0	13.9	22.0	16.9	17.4	15.4	10.8
Incr Delay (d2), s/veh	0.3	3.9	1.0	3.6	1.0	0.0	0.3	5.3	0.4	18.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	0.4	2.3	1.6	0.0	0.5	10.1	2.4	4.5	6.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	39.2	35.3	37.8	32.2	0.0	14.1	27.3	17.3	35.9	16.1	10.8
LnGrp LOS	C	D	D	D	C		B	C	B	D	B	B
Approach Vol, veh/h		140			336	A		1466			1422	
Approach Delay, s/veh		36.3			36.3			25.4			20.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	36.4	14.0	11.7	9.2	43.2	9.4	16.3
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	12.1	34.1	10.7	8.7	5.1	41.1	5.7	13.7
Max Q Clear Time (g_c+I1), s	9.9	26.5	7.5	5.0	3.3	20.3	3.8	5.5
Green Ext Time (p_c), s	0.2	3.9	0.3	0.1	0.0	5.1	0.0	0.1

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

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

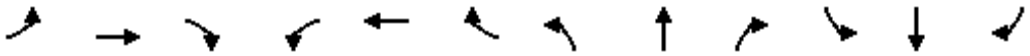


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	93	31	219	74	222	76	1272	260	372	1423	31
Future Volume (vph)	24	93	31	219	74	222	76	1272	260	372	1423	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1568	1770	3539	1583
Flt Permitted	0.697			0.950			0.099			0.086		
Satd. Flow (perm)	1298	1863	1583	3433	1863	1583	184	3539	1568	160	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			255			233			169
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			784	
Travel Time (s)		30.9			11.7			10.6			13.4	
Peak Hour Factor	0.78	0.82	0.78	0.87	0.80	0.87	0.80	0.93	0.88	0.89	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	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	5.0
Minimum Split (s)	12.0	12.0	12.0	12.0	12.0	12.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	15.0	15.0	17.0	17.0	17.0	11.0	45.0	45.0	23.0	57.0	57.0
Total Split (%)	15.0%	15.0%	15.0%	17.0%	17.0%	17.0%	11.0%	45.0%	45.0%	23.0%	57.0%	57.0%
Maximum Green (s)	8.7	8.7	8.7	10.7	10.7	10.7	5.1	39.1	39.1	17.1	51.1	51.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.4	8.5	8.5	10.4	16.8	16.8	44.2	39.1	39.1	62.1	53.3	53.3
Actuated g/C Ratio	0.15	0.09	0.09	0.10	0.17	0.17	0.44	0.39	0.39	0.62	0.54	0.54
v/c Ratio	0.13	0.72	0.12	0.70	0.30	0.53	0.58	0.98	0.39	1.11	0.81	0.04
Control Delay	30.1	69.6	0.7	54.5	42.2	10.0	29.8	51.3	6.9	108.9	24.0	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	0.0
Total Delay	30.1	69.6	0.7	54.5	42.2	10.0	29.8	51.3	6.9	108.9	24.0	0.1
LOS	C	E	A	D	D	B	C	D	A	F	C	A
Approach Delay		47.9			33.7			42.7			41.4	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 99.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 83.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E. 112th Ave

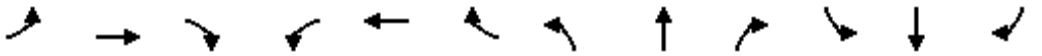


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	113	40	252	93	255	95	1368	295	418	1530	40
v/c Ratio	0.13	0.72	0.12	0.70	0.30	0.53	0.58	0.98	0.39	1.11	0.81	0.04
Control Delay	30.1	69.6	0.7	54.5	42.2	10.0	29.8	51.3	6.9	108.9	24.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	69.6	0.7	54.5	42.2	10.0	29.8	51.3	6.9	108.9	24.0	0.1
Queue Length 50th (ft)	15	71	0	80	55	0	22	447	25	~259	423	0
Queue Length 95th (ft)	33	#131	0	118	94	64	47	#609	78	#441	527	0
Internal Link Dist (ft)		1735			609			539			704	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	264	163	347	369	314	479	163	1391	757	376	1899	927
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.69	0.12	0.68	0.30	0.53	0.58	0.98	0.39	1.11	0.81	0.04

Intersection Summary

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

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



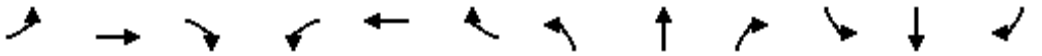
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	93	31	219	74	222	76	1272	260	372	1423	31
Future Volume (veh/h)	24	93	31	219	74	222	76	1272	260	372	1423	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1856	1870	1870	1870
Adj Flow Rate, veh/h	31	113	40	252	92	0	95	1368	295	418	1530	40
Peak Hour Factor	0.78	0.82	0.78	0.87	0.80	0.87	0.80	0.93	0.88	0.89	0.93	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	3	2	2	2
Cap, veh/h	230	150	127	323	270		215	1422	629	394	1877	837
Arrive On Green	0.03	0.08	0.08	0.09	0.14	0.00	0.05	0.40	0.40	0.18	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1572	1781	3554	1585
Grp Volume(v), veh/h	31	113	40	252	92	0	95	1368	295	418	1530	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1572	1781	1777	1585
Q Serve(g_s), s	1.5	5.8	2.3	6.9	4.3	0.0	3.0	36.6	13.5	17.1	34.7	1.2
Cycle Q Clear(g_c), s	1.5	5.8	2.3	6.9	4.3	0.0	3.0	36.6	13.5	17.1	34.7	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	150	127	323	270		215	1422	629	394	1877	837
V/C Ratio(X)	0.13	0.75	0.32	0.78	0.34		0.44	0.96	0.47	1.06	0.82	0.05
Avail Cap(c_a), veh/h	338	167	142	380	270		223	1427	631	394	1877	837
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	43.9	42.3	43.2	37.5	0.0	19.3	28.5	21.6	30.2	19.0	11.1
Incr Delay (d2), s/veh	0.3	15.9	1.4	8.6	0.7	0.0	1.4	15.6	0.5	62.2	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	0.9	3.3	2.0	0.0	1.2	17.4	4.8	15.8	13.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	59.8	43.7	51.7	38.2	0.0	20.7	44.1	22.1	92.4	21.9	11.1
LnGrp LOS	D	E	D	D	D		C	D	C	F	C	B
Approach Vol, veh/h		184			344	A		1758			1988	
Approach Delay, s/veh		52.9			48.1			39.1			36.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	44.9	15.4	14.1	10.5	57.3	9.1	20.4
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	17.1	39.1	10.7	8.7	5.1	51.1	8.7	10.7
Max Q Clear Time (g_c+I1), s	19.1	38.6	8.9	7.8	5.0	36.7	3.5	6.3
Green Ext Time (p_c), s	0.0	0.4	0.2	0.0	0.0	6.7	0.0	0.1

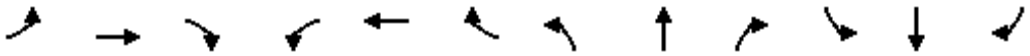
Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



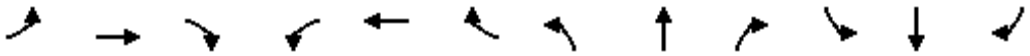
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	62	20	227	87	359	47	1125	192	275	1022	10
Future Volume (vph)	34	62	20	227	87	359	47	1125	192	275	1022	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3367	1863	1583	1770	3539	1455	1770	3539	1583
Flt Permitted	0.688			0.950			0.201			0.101		
Satd. Flow (perm)	1282	1863	1583	3367	1863	1583	374	3539	1455	188	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			255			255			259			188
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			784	
Travel Time (s)		30.9			11.7			10.6			13.4	
Peak Hour Factor	0.78	0.79	0.78	0.87	0.81	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%	2%	2%	11%	2%	2%	2%
Adj. Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	12.0	12.0	12.0	17.0	17.0	11.0	12.0	12.0	11.0	12.0	12.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	15.0	15.0	17.0	20.0	20.0	11.0	40.0	40.0	18.0	47.0	47.0
Total Split (%)	13.3%	16.7%	16.7%	18.9%	22.2%	22.2%	12.2%	44.4%	44.4%	20.0%	52.2%	52.2%
Maximum Green (s)	5.7	8.7	8.7	10.7	13.7	13.7	5.1	34.1	34.1	12.1	41.1	41.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.1	7.9	7.9	10.7	15.1	15.1	37.3	32.1	32.1	50.4	42.1	42.1
Actuated g/C Ratio	0.14	0.09	0.09	0.13	0.18	0.18	0.44	0.38	0.38	0.60	0.50	0.50
v/c Ratio	0.20	0.45	0.07	0.61	0.32	0.82	0.24	0.90	0.31	0.92	0.62	0.01
Control Delay	26.8	47.4	0.3	43.6	36.1	29.4	11.9	36.2	2.8	55.5	19.4	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	0.0
Total Delay	26.8	47.4	0.3	43.6	36.1	29.4	11.9	36.2	2.8	55.5	19.4	0.0
LOS	C	D	A	D	D	C	B	D	A	E	B	A
Approach Delay		33.0			35.2			30.2			27.2	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 84.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 30.2		Intersection LOS: C	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			

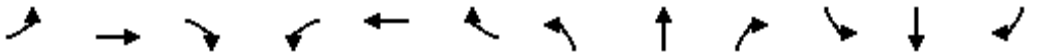
Splits and Phases: 1: Chambers Rd & E. 112th Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	44	78	26	261	107	403	60	1210	223	313	1099	13
v/c Ratio	0.20	0.45	0.07	0.61	0.32	0.82	0.24	0.90	0.31	0.92	0.62	0.01
Control Delay	26.8	47.4	0.3	43.6	36.1	29.4	11.9	36.2	2.8	55.5	19.4	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	0.0
Total Delay	26.8	47.4	0.3	43.6	36.1	29.4	11.9	36.2	2.8	55.5	19.4	0.0
Queue Length 50th (ft)	18	43	0	74	55	83	14	335	0	126	250	0
Queue Length 95th (ft)	38	76	0	110	94	#245	26	#468	24	#281	322	0
Internal Link Dist (ft)		1735			609			539			704	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	218	195	393	433	352	506	250	1450	749	342	1760	882
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.40	0.07	0.60	0.30	0.80	0.24	0.83	0.30	0.92	0.62	0.01

Intersection Summary

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



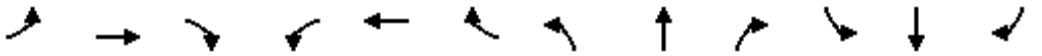
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	62	20	227	87	359	47	1125	192	275	1022	10
Future Volume (veh/h)	34	62	20	227	87	359	47	1125	192	275	1022	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1841	1870	1870	1870	1870	1737	1870	1870	1870
Adj Flow Rate, veh/h	44	78	26	261	107	0	60	1210	223	312	1099	13
Peak Hour Factor	0.78	0.79	0.78	0.87	0.81	0.89	0.78	0.93	0.86	0.88	0.93	0.78
Percent Heavy Veh, %	2	2	2	4	2	2	2	2	11	2	2	2
Cap, veh/h	247	125	106	351	244		295	1383	573	353	1686	752
Arrive On Green	0.04	0.07	0.07	0.10	0.13	0.00	0.05	0.39	0.39	0.13	0.47	0.47
Sat Flow, veh/h	1781	1870	1585	3401	1870	1585	1781	3554	1472	1781	3554	1585
Grp Volume(v), veh/h	44	78	26	261	107	0	60	1210	223	312	1099	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1700	1870	1585	1781	1777	1472	1781	1777	1585
Q Serve(g_s), s	1.8	3.2	1.2	5.9	4.2	0.0	1.6	24.9	8.6	8.2	18.6	0.3
Cycle Q Clear(g_c), s	1.8	3.2	1.2	5.9	4.2	0.0	1.6	24.9	8.6	8.2	18.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	125	106	351	244		295	1383	573	353	1686	752
V/C Ratio(X)	0.18	0.63	0.25	0.74	0.44		0.20	0.87	0.39	0.88	0.65	0.02
Avail Cap(c_a), veh/h	306	206	175	461	325		328	1537	637	392	1852	826
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	35.8	34.9	34.4	31.6	0.0	14.0	22.3	17.3	17.8	15.8	11.0
Incr Delay (d2), s/veh	0.3	5.1	1.2	4.6	1.2	0.0	0.3	5.5	0.4	19.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.6	0.5	2.5	1.9	0.0	0.6	10.3	2.7	4.7	6.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	40.9	36.1	38.9	32.9	0.0	14.3	27.8	17.8	37.0	16.5	11.0
LnGrp LOS	C	D	D	D	C		B	C	B	D	B	B
Approach Vol, veh/h		148			368	A		1493			1424	
Approach Delay, s/veh		37.6			37.2			25.8			20.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	36.6	14.4	11.6	9.6	43.3	9.4	16.6
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	12.1	34.1	10.7	8.7	5.1	41.1	5.7	13.7
Max Q Clear Time (g_c+I1), s	10.2	26.9	7.9	5.2	3.6	20.6	3.8	6.2
Green Ext Time (p_c), s	0.2	3.8	0.3	0.1	0.0	5.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

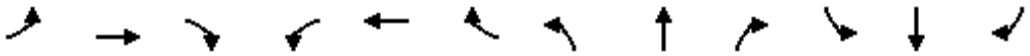


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	109	39	228	84	223	81	1273	308	374	1425	31
Future Volume (vph)	24	109	39	228	84	223	81	1273	308	374	1425	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		115	250		235	235		135	245		150
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1568	1770	3539	1583
Flt Permitted	0.690			0.950			0.102			0.089		
Satd. Flow (perm)	1285	1863	1583	3433	1863	1583	190	3539	1568	166	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			256			233			169
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1815			689			619			784	
Travel Time (s)		30.9			11.7			10.6			13.4	
Peak Hour Factor	0.78	0.83	0.78	0.87	0.81	0.87	0.81	0.93	0.88	0.89	0.93	0.78
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	40	40	40	40	40	40	40	40	40	40	40	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40	40	40	40	40	40	40	40	40	40	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	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	5.0
Minimum Split (s)	12.0	12.0	12.0	12.0	12.0	12.0	11.0	12.0	12.0	11.0	12.0	12.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	15.0	15.0	17.0	17.0	17.0	11.0	45.0	45.0	23.0	57.0	57.0
Total Split (%)	15.0%	15.0%	15.0%	17.0%	17.0%	17.0%	11.0%	45.0%	45.0%	23.0%	57.0%	57.0%
Maximum Green (s)	8.7	8.7	8.7	10.7	10.7	10.7	5.1	39.1	39.1	17.1	51.1	51.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.9	5.9	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.6	8.7	8.7	10.4	17.1	17.1	44.2	39.1	39.1	62.1	51.1	51.1
Actuated g/C Ratio	0.16	0.09	0.09	0.10	0.17	0.17	0.44	0.39	0.39	0.62	0.51	0.51
v/c Ratio	0.13	0.81	0.14	0.73	0.33	0.53	0.61	0.99	0.46	1.11	0.85	0.04
Control Delay	30.1	79.7	0.9	56.1	42.6	9.9	31.2	52.3	9.6	108.5	26.6	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	0.0
Total Delay	30.1	79.7	0.9	56.1	42.6	9.9	31.2	52.3	9.6	108.5	26.6	0.1
LOS	C	E	A	E	D	A	C	D	A	F	C	A
Approach Delay		53.9			34.8			42.9			43.3	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 99.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 84.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Chambers Rd & E. 112th Ave

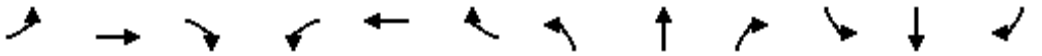


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	131	50	262	104	256	100	1369	350	420	1532	40
v/c Ratio	0.13	0.81	0.14	0.73	0.33	0.53	0.61	0.99	0.46	1.11	0.85	0.04
Control Delay	30.1	79.7	0.9	56.1	42.6	9.9	31.2	52.3	9.6	108.5	26.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	79.7	0.9	56.1	42.6	9.9	31.2	52.3	9.6	108.5	26.6	0.1
Queue Length 50th (ft)	15	83	0	84	62	0	24	448	48	~258	424	0
Queue Length 95th (ft)	33	#163	0	122	105	64	50	#610	116	#440	528	0
Internal Link Dist (ft)		1735			609			539			704	
Turn Bay Length (ft)	115		115	250		235	235		135	245		150
Base Capacity (vph)	266	162	346	368	318	483	164	1387	755	378	1813	893
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.81	0.14	0.71	0.33	0.53	0.61	0.99	0.46	1.11	0.85	0.04

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	109	39	228	84	223	81	1273	308	374	1425	31
Future Volume (veh/h)	24	109	39	228	84	223	81	1273	308	374	1425	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	1856	1870	1870	1870
Adj Flow Rate, veh/h	31	131	50	262	104	0	100	1369	350	420	1532	40
Peak Hour Factor	0.78	0.83	0.78	0.87	0.81	0.87	0.81	0.93	0.88	0.89	0.93	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	3	2	2	2
Cap, veh/h	238	165	140	331	290		212	1407	623	386	1845	823
Arrive On Green	0.03	0.09	0.09	0.10	0.15	0.00	0.05	0.40	0.40	0.17	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1572	1781	3554	1585
Grp Volume(v), veh/h	31	131	50	262	104	0	100	1369	350	420	1532	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1572	1781	1777	1585
Q Serve(g_s), s	1.5	6.8	2.9	7.3	4.9	0.0	3.3	37.4	17.1	17.1	36.0	1.2
Cycle Q Clear(g_c), s	1.5	6.8	2.9	7.3	4.9	0.0	3.3	37.4	17.1	17.1	36.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	165	140	331	290		212	1407	623	386	1845	823
V/C Ratio(X)	0.13	0.80	0.36	0.79	0.36		0.47	0.97	0.56	1.09	0.83	0.05
Avail Cap(c_a), veh/h	343	165	140	374	290		215	1407	623	386	1845	823
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	44.2	42.4	43.7	37.3	0.0	20.2	29.3	23.2	30.9	20.1	11.7
Incr Delay (d2), s/veh	0.2	23.0	1.5	9.9	0.7	0.0	1.6	17.9	1.2	71.3	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.1	1.2	3.5	2.2	0.0	1.4	18.2	6.2	16.6	14.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	67.2	43.9	53.6	38.1	0.0	21.8	47.2	24.3	102.3	23.4	11.7
LnGrp LOS	D	E	D	D	D		C	D	C	F	C	B
Approach Vol, veh/h		212			366	A		1819			1992	
Approach Delay, s/veh		57.6			49.2			41.4			39.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	45.0	15.8	15.0	10.8	57.2	9.2	21.6
Change Period (Y+Rc), s	5.9	5.9	6.3	6.3	5.9	5.9	6.3	6.3
Max Green Setting (Gmax), s	17.1	39.1	10.7	8.7	5.1	51.1	8.7	10.7
Max Q Clear Time (g_c+I1), s	19.1	39.4	9.3	8.8	5.3	38.0	3.5	6.9
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	6.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Appendix D
Reunion Village 7A Preliminary Site Layout

OAKWOOD HOMES
A Berkshire Hathaway Company

terracina design

REUNION PA - 7A
ILLUSTRATIVE SITE PLAN

N

Scale: 1" = 150'
0 150 300 600

May 6, 2020