LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lscdenver@lsctrans.com

December 18, 2024

Mr. Brian Moss
Cover 3 Engineering
bmass@cover3engineering.com

Re: Canyons Far South
Castle Rock, CO
LSC #210311

Dear Mr. Moss:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the proposed Canyons Far South development to account for an updated land use plan. As shown on Figure 1, the site is located northeast of Founders Parkway (SH 86) in the Town of Castle Rock, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; an adjustment to account for the ongoing pandemic; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the growth in background traffic or the impact of the site.

LAND USE AND ACCESS

The site is proposed to include about 439 single-family detached dwelling units, about 76 single-family attached dwelling units, about 30,000 square feet of retail space, and about 20,000 square feet of office space. Access is proposed from several locations as shown in the conceptual site plan in Figure 2a. The proposed collector street system will provide connectivity between Founders Parkway (SH 86), Crowfoot Valley Road, and Castle Oaks Drive. The proposed planning areas are shown in Figure 2b.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Founders Parkway (SH 86)** is a four-lane arterial roadway southwest of the site. The intersections with Allen Way, Front Street, Woodlands Boulevard, Crowfoot Valley Road, and 5th Street/SH 86 are signalized with auxiliary turn lanes. The posted speed limit is 50 mph in the vicinity of the site. It is classified by CDOT as RA (Regional Highway).

- **Crowfoot Valley Road** is a north-south, four-lane major arterial north of the site. The intersection with Founders Parkway (SH 86) is signalized with auxiliary turn lanes. The posted speed limit is 40 mph in the vicinity of Founders Parkway but increases to 45 mph to the north. It is planned to be a four-lane roadway from Castle Rock to Parker over time.

- **Castle Oaks Drive** is a two-lane collector roadway east of the site with a 40 mph posted speed limit. The proposed Community Collector roadway (Minor Collector) is planned to connect east to Castle Oaks Drive and northwest towards Crowfoot Valley Road.

Existing Traffic Conditions

Figure 3 shows the estimated existing traffic volumes, lane geometry, and traffic control in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and average daily traffic volumes are from the attached traffic counts conducted in April, May, and June, 2021 by Counter Measures, Inc. These counts were grown to 2024 at an annual growth rate of three percent based on coordination with Town staff.

2028 and 2044 Background Traffic

Figure 4 shows the estimated 2028 background traffic and Figure 5 shows the estimated 2044 background traffic. The 2028 background traffic in Figure 4 assumes four years of growth at an annual rate of three percent plus half of the estimated 2044 background traffic passing through the site. Little or no growth was assumed for movements serving built out developments. The 2044 background traffic in Figure 5 assumes an annual growth rate of three percent with the following exception: Intersection #8 is based on the 2040 traffic projections provided by Town staff (attached) grown for four years at an annual rate of three percent. This was done because the Canyons South development was not included in the modeling that resulted in the 2040 traffic volumes provided. The volumes on the south leg of Intersection #6 are based on the traffic volumes in Figure 7a from the 2017 *Pine Canyon TIA* by LSC. The build-out lane geometry at Intersection #8 is based on the figure provided by Town staff (attached). The side road volumes at Intersections #1, #2, #3, and #4 are based on the 2040 total traffic volumes from Figure 12 of the 2020 *Pine Canyon TIA* by Kimley Horn with some adjustments based on the recent traffic counts.

About 30 percent of Castle Oaks Drive traffic at Intersection #7 is expected to divert to the proposed minor collector roadway through the site.

Existing, 2028, and 2044 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in Figures 3, 4, and 5 were analyzed to determine the existing, 2028, and 2044 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached. CDOT and the Town plan to implement adaptive traffic signal control between I-25 and Crowfoot Valley Road so those intersections were optimized with a 120-second cycle length per coordination with CDOT and Town staff.

1. **Founders Parkway (SH 86)/Allen Way:** This signalized intersection currently operates at an overall LOS "C" during both morning and afternoon peak-hours and is expected to do operate at LOS "D" or better through 2044.

2. **Founders Parkway (SH 86)/Front Street:** This signalized intersection currently operates at an overall LOS "C" during both morning and afternoon peak-hours and is expected to do so through 2044.

3. **Founders Parkway (SH 86)/Woodlands Boulevard:** This signalized intersection currently operates at an overall LOS "B" during both morning and afternoon peak-hours. By 2028, it is expected to operate at LOS "C" during both peak-hours and do so through 2044.

4. **Founders Parkway (SH 86)/Crowfoot Valley Road:** This signalized intersection currently operates at an overall LOS "B" during the morning peak-hour and LOS "C" during the afternoon peak-hour and is expected to operate at LOS "C" or better through 2044.

5. **Connector Collector Road/Internal Collector Roadway:** This future roundabout controlled intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2044.

6. **Founders Parkway/Pioneer Ranch Access/Connector Collector Roadway:** This future signalized intersection is expected to operate at an overall LOS "B" or better through 2044.

7. **Castle Oaks Drive/Internal Community Collector:** This future roundabout controlled intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2044.

8. **Founders Parkway (SH 86)/Ridge Road/5th Street/SH 86:** This signalized intersection currently operates at an overall LOS "D" during both morning and afternoon peak-hours and is expected to do so through 2044.

9a. **Connector Collector Roadway/Commercial RIRO Access:** This intersection was only analyzed in the total traffic scenarios.

9b. **Connecter Collector Roadway/Commercial Full Access:** This intersection was only analyzed in the total traffic scenarios.

10. **Internal Collector Roadway/Site Access #10:** This intersection was only analyzed in the total traffic scenarios.

11. **Internal Collector Roadway/Site Access #11:** This intersection was only analyzed in the total traffic scenarios.

12. **Internal Collector Roadway/Site Access #12:** This intersection was only analyzed in the total traffic scenarios.

13. **Internal Collector Roadway/Site Access #13:** This intersection was only analyzed in the total traffic scenarios.

14. **Internal Collector Roadway/Site Access #14:** This intersection was only analyzed in the total traffic scenarios.

15. **Internal Collector Roadway/Site Access #15:** This intersection was only analyzed in the total traffic scenarios.

TRIP GENERATION

Table 2 shows the estimated average weekday, morning peak-hour, and afternoon peak-hour trip generation for the proposed site based on the rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

The site is projected to generate about 6,537 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 158 vehicles would enter and about 288 vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:00 p.m., about 389 vehicles would enter and about 294 vehicles would exit. Table 2 also shows the estimated pass-by trips.

TRIP DISTRIBUTION

Figure 6 shows the estimated directional distribution of the primary site-generated traffic volumes on the area roadways. The estimates were based on the location of the site with respect to the regional population, employment, and activity centers; and the site's proposed land use.

TRIP ASSIGNMENT

Figures 7a and 7b show the estimated assignment of the residential site-generated traffic volumes based on the directional distribution percentages (from Figure 6) and the residential trip generation estimate (from Table 2).

Figures 7c and 7d show the assignment of primary non-residential site-generated traffic based on the directional distribution percentages (from Figure 6) and the non-residential trip generation estimate (from Table 2).

Figure 7e shows the assignment of the passby site-generated traffic.

Figures 7f and 7g show the assignment of the total site-generated traffic which is the sum of the volumes in Figures 7a, 7c, and 7e for Figure 7f and in Figures 7b, 7d, and 7e for Figure 7g.

2028 AND 2044 TOTAL TRAFFIC

Figures 8a and 8b show the 2028 total traffic which is the sum of the 2028 background traffic volumes (from Figure 4) and the total site-generated traffic volumes (from Figure 7f for Figure 8a and from Figure 7g for Figure 8b). Figures 8a and 8b also shows the recommended 2028 lane geometry and traffic control.

Figures 9a and 9b shows the 2044 total traffic which is the sum of the 2044 background traffic volumes (from Figure 5) and the total site-generated traffic volumes (from Figure 7f for Figure 9a and from Figure 7g for Figure 9b). Figures 9a and 9b also shows the recommended 2044 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in Figures 8a through 9b were analyzed to determine the 2028 and 2044 total traffic levels of service. Table 1 shows the level of service analysis results.

1. **Founders Parkway (SH 86)/Allen Way:** This signalized intersection is expected to operate at an overall LOS "D" or better during both morning and afternoon peak-hours through 2044.

2. **Founders Parkway (SH 86)/Front Street:** This signalized intersection is expected to operate at an overall LOS "C" during both morning and afternoon peak-hours through 2044.

3. **Founders Parkway (SH 86)/Woodlands Boulevard:** This signalized intersection is expected to operate at an overall LOS "D" or better during both morning and afternoon peak-hours through 2044

4. **Founders Parkway (SH 86)/Crowfoot Valley Road:** This signalized intersection is expected to operate at an overall LOS "C" during both morning and afternoon peak-hours through 2028. By 2044, this intersection is expected to operate at LOS "C" during the morning peak-hour and LOS "D" during the afternoon peak-hour.

5. **Connector Collector Road/Internal Collector Roadway:** This future roundabout controlled intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2044.

6. **Founders Parkway (SH 86)/Pioneer Ranch Access/Connector Collector Roadway:** This future signalized intersection is expected to operate at an overall LOS "B" or better through 2044.

7. **Castle Oaks Drive/Internal Community Collector:** This future roundabout controlled intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2044.

8. **Founders Parkway (SH 86)/Ridge Road/5th Street/SH 86:** This signalized intersection is expected to operate at an overall LOS "D" during both morning and afternoon peak-hours through 2044.

9a. Connector Collector Roadway/Commercial RIRO Access: All movements at this future stop-sign controlled intersection are expected to operate at LOS "B" or better during both morning and afternoon peak-hours through 2044.

9b. Connector Collector Roadway/Commercial Full Access: All movements at this future stop-sign controlled intersection are expected to operate at LOS "C" or better during both morning and afternoon peak-hours through 2044.

10. Internal Collector Roadway/Site Access #10: All movements at this unsignalized intersection are expected to operate at LOS "B" or better through 2044.

11. Internal Collector Roadway/Site Access #11: All movements at this unsignalized intersection are expected to operate at LOS "B" or better through 2044.

12. Internal Collector Roadway/Site Access #12: All movements at this unsignalized intersection are expected to operate at LOS "B" or better through 2044.

13. Internal Collector Roadway/Site Access #13: All movements at this unsignalized intersection are expected to operate at LOS "B" or better through 2044.

14. Internal Collector Roadway/Site Access #14: All movements at this unsignalized intersection are expected to operate at LOS "B" or better through 2044.

15. Internal Collector Roadway/Site Access #15: All movements at this unsignalized intersection are expected to operate at LOS "A" through 2044.

TRAFFIC SIGNAL WARRANT ANALYSIS

The projected traffic volumes at Intersection #6 (Founders Parkway (SH 86)/Pioneer Ranch Access/Connector Collector Roadway) shown in Figure 8a (2028 Total Traffic) and Figure 9a (2044 Total Traffic) are sufficient to warrant traffic signal control over time based on the 70 percent reduced criteria due to the posted speed limit being over 40 mph on Founders Parkway (SH 86).

95th PERCENTILE QUEUING ANALYSIS

The estimated 2028 and 2044 95th percentile queue lengths for the signalized intersections in the study area are shown in Table 3 along with the recommended turn lane lengths.

PEDESTRIAN AND BICYCLE ACCOMMODATION

The site plan will include an east-west multi-use path through the site along the prominent drainage as well as a multi-use path along the site's frontage to Founders Parkway.

RECOMMENDED IMPROVEMENTS

Table 4 shows the 2028 and 2044 recommended improvements to the public street network.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The site is projected to generate about 6,537 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 158 vehicles would enter and about 288 vehicles would exit the site. During the afternoon peak-hour, about 389 vehicles would enter and about 294 vehicles would exit. Table 2 also shows the estimated pass-by trips.

Projected Levels of Service

2. The two future roundabout controlled intersections are expected to operate at an overall LOS "A" through 2044.

3. All movements at the unsignalized intersections are expected to operate at LOS "C" or better through 2044.

4. All of the signalized intersections are expected to operate at an overall LOS "D" or better through 2044 with implementation of the recommended improvements shown in Figures 8a through 9b and in Tables 3 and 4.

Conclusions

5. The impact of the site can be accommodated by the existing and planned roadway improvements with the recommended improvements.

Recommendations

6. The recommended improvements are shown in Figures 8a through 9b and in Tables 3 and 4.

* * * * *

We trust our findings will assist you in gaining approval of the Canyons South development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By_____
Christopher S. McGranahan, PE
Principal/President

12-18-24

CSM/wc

Enclosures: Tables 1 - 4
Figures 1 - 9b
Traffic Counts
2019 Traffic Volumes provided by Town Staff
Figure 3 from 2020 *Pine Canyon TIA* by Kimley Horn
2040 Traffic Projections provided by Town Staff
Figure 7a from 2017 *Pine Canyon TIA* by LSC
Buildout Lane Geometry of Founders Parkway/Ridge Road/5th Street/SH 86 provided by Town Staff
Figure 12 from 2020 *Pine Canyon TIA* by Kimley Horn
Level of Service Definitions
Level of Service Reports
Queuing Reports

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Table 1 (Page 1 of 4)
Intersection Levels of Service Analysis
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Intersection No. & Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2044 Background Traffic Level of Service AM	2044 Background Traffic Level of Service PM	2044 Total Traffic Level of Service AM	2044 Total Traffic Level of Service PM
1) Founders Parkway/Allen Way	Signalized										
EB Left		E	E	E	E	E	E	E	D	E	D
EB Through/Right or Through		B	C	B	D	B	D	A	C	A	C
EB Right		--	--	--	--	--	--	A	A	A	A
WB Left		B	C	A	C	A	C	A	C	A	C
WB Through		C	C	C	C	C	C	C	C	C	C
WB Right		B	B	B	B	B	B	A	B	A	B
NB Left		D	E	E	E	E	E	E	E	E	E
NB Through/Right		D	E	E	E	E	E	E	E	E	E
SB Left		D	E	D	E	D	E	D	E	D	E
SB Through		D	D	D	D	D	D	D	D	D	D
SB Right		D	D	D	D	D	D	E	D	E	D
Entire Intersection Delay (sec /veh)		24.7	29.1	25.7	35.6	27.5	37.2	24.7	29.8	26.8	33.6
Entire Intersection LOS		C	C	C	D	C	D	C	C	C	C
2) Founders Parkway/Front Street	Signalized										
SEB Left		B	B	B	B	C	C	C	D	C	D
SEB Through/Right or Through		B	C	B	C	B	C	B	C	B	C
SEB Right		--	--	--	--	--	--	B	B	B	B
NWB Left		B	D	B	D	B	E	B	E	B	E
NWB Through/Right		B	B	C	B	C	B	D	C	D	C
NEB Left		D	E	D	E	D	E	D	E	D	E
NEB Through		D	D	D	D	D	D	D	D	D	D
NEB Right		D	E	D	D	D	E	D	E	D	E
SWB Left		D	D	D	D	D	D	D	D	D	D
SWB Right or Through/Right		E	E	E	E	E	E	E	E	E	E
Entire Intersection Delay (sec /veh)		22.2	30.6	23.5	28.9	24.3	30.9	29.4	30.1	33.3	32.5
Entire Intersection LOS		C	C	C	C	C	C	C	C	C	C
3) Founders Parkway/Woodlands Boulevard	Signalized										
EB Left		B	A	B	A	C	B	B	B	C	B
EB Through		B	B	B	B	B	D	C	C	C	C
EB Through/Right or Right		A	A	A	A	B	B	C	C	C	C
WB Left		A	C	C	D	C	E	D	D	D	E
WB Through		B	A	C	B	D	B	--	--	--	--
WB Through/Right or Right		A	A	A	A	A	A	C	B	C	B
NB Left		D	D	D	D	D	D	D	D	D	D
NB Through or Through/Right		D	E	D	E	D	D	D	D	D	D
NB Right		A	A	A	A	D	E	C	E	C	E
SB Left		E	E	D	E	D	E	D	D	D	D
SB Through/Right		E	D	D	D	D	D	D	D	D	D
Entire Intersection Delay (sec /veh)		14.4	17.5	20.0	21.0	31.4	35.6	25.2	30.2	26.8	32.7
Entire Intersection LOS		B	B	C	C	C	D	C	C	C	C

Table 1 (Page 2 of 4)
Intersection Levels of Service Analysis
Canyons Far South
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Intersection No. & Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2044 Background Traffic Level of Service AM	2044 Background Traffic Level of Service PM	2044 Total Traffic Level of Service AM	2044 Total Traffic Level of Service PM
4) Founders Parkway/Crowfoot Valley Road	Signalized										
EB Left		D	D	D	D	D	D	E	E	E	E
EB Through		A	A	A	A	A	A	A	A	A	A
WB Through		B	C	B	C	B	C	C	D	C	D
WB Right		A	B	A	B	A	B	B	C	B	C
SB Left		E	E	E	E	E	E	E	E	E	E
SB Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		15.9	21.5	18.9	23.4	20.1	24.5	26.1	32.4	29.9	36.0
Entire Intersection LOS		B	C	B	C	C	C	C	C	C	D
5) Connector Collector Roadway/Internal Collector Roadway	Roundabout										
EB Approach		--	--	A	A	A	A	A	A	A	A
WB Approach		--	--	A	A	A	A	A	A	A	A
NB Approach		--	--	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		--	--	3.1	3.2	4.7	5.0	3.6	3.8	5.3	5.9
Entire Intersection LOS		--	--	A	A	A	A	A	A	A	A
6) Founders Parkway/Pioneer Ranch Access/ Connector Collector Roadway	Signalized										
EB Left		--	--	A	A	B	B	E	E	E	D
EB Through		--	--	A	A	A	A	A	A	A	B
EB Right		--	--	--	--	--	--	A	A	A	A
WB Left		--	--	--	--	--	--	A	A	A	B
WB Through		--	--	A	A	A	A	A	A	B	B
WB Right		--	--	A	A	A	A	A	A	A	A
NB Left		--	--	--	--	--	--	E	E	D	D
NB Through/Right		--	--	--	--	--	--	A	A	D	D
SB Left		--	--	E	E	E	E	E	E	D	D
SB Right or Through/Right		--	--	A	A	A	A	A	A	D	E
Entire Intersection Delay (sec /veh)		--	--	4.3	2.8	7.6	6.9	11.6	9.2	19.9	18.2
Entire Intersection LOS		--	--	A	A	A	A	B	A	B	B
7) Castle Oaks Drive/Internal Community Collector	Roundabout										
EB Approach		--	--	A	A	A	A	A	A	A	A
NB Approach		--	--	A	A	A	A	A	A	A	A
SB Approach		--	--	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		--	--	4.1	4.4	4.2	4.6	5.3	5.3	5.4	5.5
Entire Intersection LOS		--	--	A	A	A	A	A	A	A	A

Table 1 (Page 3 of 4)
Intersection Levels of Service Analysis
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Intersection No. & Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2044 Background Traffic Level of Service AM	2044 Background Traffic Level of Service PM	2044 Total Traffic Level of Service AM	2044 Total Traffic Level of Service PM
8) Founders Parkway/Ridge Road/5th Street/SH 86	Signalized										
EB Left		B	B	B	B	B	B	B	C	B	C
EB Through		B	C	B	C	B	C	B	D	B	D
EB Right		A	A	A	A	A	A	A	A	A	A
WB Left		B	B	B	C	B	C	B	C	B	C
WB Through		B	C	B	C	C	C	B	C	B	C
WB Right		A	A	A	A	A	A	A	A	A	A
NB Left		E	E	E	E	E	E	E	D	E	D
NB Through		D	D	D	D	D	D	D	D	D	D
NB Right		A	A	A	A	A	A	A	A	A	A
SB Left		E	D	E	D	E	D	E	D	E	D
SB Through		D	D	D	D	D	D	D	C	D	C
SB Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		38.4	39.1	42.2	40.9	42.6	41.3	42.7	42.6	43.2	43.4
Entire Intersection LOS		D	D	D	D	D	D	D	D	D	D
9a) Connector Collector Roadway/Commercial RIRO Access	TWSC										
WB Right		--	--	--	--	A	B	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	9.0	10.3	--	--	9.2	9.8
9b) Connector Collector Roadway/Commercial Full Movement Access	TWSC										
WB Approach		--	--	--	--	B	B	--	--	B	C
SB Left		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	11.4	14.7	--	--	12.5	17.4
10) Internal Collector Roadway/Site Access #10	TWSC										
WB Approach		--	--	--	--	B	A	--	--	B	A
SB Left/Through		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	10.3	9.6	--	--	10.8	9.9
11) Internal Collector Roadway/Site Access #11	TWSC										
WB Approach		--	--	--	--	B	A	--	--	B	B
SB Approach		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	10.3	9.8	--	--	10.9	10.2

Table 1 (Page 4 of 4)
Intersection Levels of Service Analysis
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Intersection No. & Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2044 Background Traffic Level of Service AM	2044 Background Traffic Level of Service PM	2044 Total Traffic Level of Service AM	2044 Total Traffic Level of Service PM
12) Internal Collector Roadway/Site Access #12	TWSC										
WB Approach		--	--	--	--	B	A	--	--	B	A
SB Left		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	10.1	9.4	--	--	10.7	9.7
13) Internal Collector Roadway/Site Access #13	TWSC										
WB Approach		--	--	--	--	B	B	--	--	B	B
NB Approach		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	10.1	10.9	--	--	10.9	12.1
14) Internal Collector Roadway/Site Access #14	TWSC										
NB Approach		--	--	--	--	A	B	--	--	B	B
WB Approach		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	9.8	10.3	--	--	10.6	11.4
15) Internal Collector Roadway/Site Access #15	TWSC										
EB Approach		--	--	--	--	A	A.	--	--	A	A
SB Approach		--	--	--	--	A	A	--	--	A	A
Critical Movement Delay (sec/veh)		--	--	--	--	8.9	8.8	--	--	9.4	9.1

Table 2
ESTIMATED TRAFFIC GENERATION
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

			Trip Generation Rates [1]					Total Trips Generated				
			Average	AM Peak-Hour		PM Peak-Hour		Average	AM Peak-Hour		PM Peak-Hour	
Trip Generating Category		Quantity	Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
CURRENTLY PROPOSED LAND USE												
PA 1	Single-Family Detached [2]	59 DU [3]	9.43	0.182	0.518	0.592	0.348	556	11	31	35	21
PA 2	Single-Family Detached [2]	153 DU [3]	9.43	0.182	0.518	0.592	0.348	1,443	28	79	91	53
	Single-Family Attached [4]	76 DU [3]	7.20	0.120	0.360	0.336	0.230	547	9	28	25	18
PA 3	Single-Family Detached [2]	38 DU [3]	9.43	0.182	0.518	0.592	0.348	358	7	20	22	13
PA 4	Single-Family Detached [2]	189 DU [3]	9.43	0.182	0.518	0.592	0.348	1,782	34	98	112	66
PA 5	Retail [5]	30 KSF [6]	54.45	1.416	0.944	3.295	3.295	1,634	42	28	99	99
	Office [7]	20 KSF [6]	10.84	1.338	0.182	0.245	1.195	217	27	4	5	24
							Total =	**6,537**	**158**	**288**	**389**	**294**
							Passby Trips [8] =	556	12	12	34	34
							Net External Trips =	**5,981**	**146**	**276**	**355**	**260**

Notes:
(1) Source: *Trip Generation*, Institute of Transportation Engineers, 11th Edition, 2021.
(2) ITE Land Use No. 210 - Single-Family Detached Housing
(3) DU = Dwelling Unit
(4) ITE Land Use No. 215 - Single-Family Attached Housing
(5) ITE Land Use No. 822 - Strip Retail Plaza (<40k)
(6) KSF = 1,000 square feet
(7) ITE Land Use No. 710 - General Office Building
(8) A passby rate of 34% was assumed for the retail land use.

Table 3
95th Percentile Queue Lengths
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Intersection No. & Location	Existing Turn Lane Length (feet)	2028 Queue Length AM Peak (feet)	2028 Queue Length PM Peak (feet)	2028 Queue Length Recommended Lane Length (feet)	2044 Queue Length AM Peak (feet)	2044 Queue Length PM Peak (feet)	2044 Queue Length Recommended Lane Length (feet)
1) Founders Parkway/Allen Way							
EB Left	2 @ 290	160	274		190	230	
EB Through/Right	--	266	1,115		232	1,153	
EB Right	--	--	--		21	28	
WB Left	320	m7	m12		m3	m7	
WB Through	--	949	* m750		m1,054	m913	
WB Right	175	m4	m10		m0	m5	
NB Left	100	84	135	2 @135	109	144	2 @ 135
NB Through/Right	--	67	158		71	168	
SB Left	140	91	170		104	223	
SB Through	--	33	68		35	68	
SB Right	1 @ 105; 1 @ 265	169	227		198	211	
2) Founders Parkway/Front Street							
SEB Left	465	75	m120		m74	m149	
SEB Through/Right	--	236	m471		280	m783	
SEB Right	--	--	--		61	m143	
NWB Left	195	37	191		38	198	
NWB Through/Right	--	640	427		1,093	626	
NEB Left	1 @ 285; 1 Continuous	223	323		273	315	
NEB Through	--	83	160		104	191	
NEB Right	Continuous	0	163		0	139	
SWB Left	225	14	58		13	57	
SWB Right or Through/Right	--	52	77		65	93	
3) Founders Parkway/Woodlands Boulevard							
EB Left	450	5	5		6	6	
EB Through or Through/Right	--	283	1,008		275	692	
EB Right	Continuous	0	21		57	152	
WB Left	500	252	292		422	242	
WB Through or Through/Right	--	1,191	628		740	357	
WB Right	Continuous	18	15		--	--	
NB Left	220	85	73		240	187	2 @ 240
NB Through or Through/Right	--	54	86		57	73	
NB Right	Continuous	64	377		70	525	75
SB Left	125	66	284	240	65	242	240
SB Through/Right	--	18	43		19	43	
4) Founders Parkway/Crowfoot Valley Road							
EB Left	1 @ 475; 1 Continuous	204	408		316	587	
EB Through	--	110	375		121	456	
WB Through	--	931	739		1,097	763	
WB Right	Continuous	50	58		65	73	
SB Left	1 @ 140; 1 Continuous	203	113		357	213	
SB Right	Continuous	0	0		0	0	
6) Founders Parkway/Pioneer Ranch Access/Connector Collector Roadway							
EB Left	--	77	185	2 @ 478	86	173	2 @ 478
EB Through	--	110	273		241	782	
EB Right	--	--	--		0	27	320
WB Left	--	--	--		6	9	350
WB Through	--	658	387		1,037	592	
WB Right	--	15	25	320	2	16	320
NB Left	--	--	--		129	95	150
NB Through/Right	--	--	--		25	24	
SB Left	--	94	134	150	95	108	150
SB Through/Right	--	161	68		233	82	
8) Founders Parkway/Ridge Road/5th Street/SH 86							
EB Left		58	123		57	166	
EB Through		193	466		91	309	
EB Right		0	0		0	0	
WB Left		64	86		84	179	
WB Through		392	235		194	153	
WB Right	Under Construction by the Town	0	0		0	0	
NB Left		251	134		225	140	
NB Through		255	217		308	285	
NB Right		0	0		0	0	
SB Left		159	357	2 @ 600	222	529	
SB Through		105	279		102	347	
SB Right		0	0		0	0	

m = metered by adjacent intersection

Table 4 (Page 1 of 2)
Recommended Improvements to Public Street Network
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Inter-section No.	Intersection Location	Recommended Improvements by 2028 (1)	Responsibility	Recommended Improvements by 2044 (1)	Responsibility
#1	Founders Parkway/Allen Way	NB LT - Add second left-turn lane (2 @ 135 feet)	Others		
#2	Founders Parkway/Front Street	None			
#3	Founders Parkway/Woodlands Boulevard	SB LT - Restripe from 125 feet to 240 feet	Others	NB LT - Add second lane (2 @ 240 feet)	Others
				NB RT - construct lane - 1 @ 75 feet + Overlap Phasing	Others
#4	Founders Parkway/Crowfoot Valley Road	None			
#5	Connector Collector Roadway/ Internal Collector Roadway	Construct single-lane modern roundabout	Applicant		
#6	Founders Parkway/Pioneer Ranch Access/Connector Collector Roadway	EB LT - construct lane - 2 @ 478 feet and 15:1 transition taper	Applicant	WB LT - construct lane - 1 @ 350 feet and 180-foot transition taper	Others
		WB RT - construct lane - 1 @ 320 feet and 180-foot transition taper	Applicant	EB RT - construct lane - 1 @ 320 feet and 180-foot transition taper	Others
		SB LT - construct lane - 1 @ 150 feet and 120-foot transition taper	Applicant	NB LT - construct lane - 1 @ 150 feet and 120-foot transition taper	Others
		SB to WB Accel Lane - 1 @ 580 feet and 180-foot transition taper	Applicant	NB to EB Accel Lane - 580 feet and 180-foot transition taper	Others
		Traffic signal installation when warranted	Applicant/Others		
#7	Castle Oaks Drive/Connector Collector	Construct single-lane modern roundabout	Applicant/Others		
#8	Founders Parkway/Ridge Road/ 5th Street/SH 86	Under construction by the Town of Castle Rock	Others	Intersection Reconstruction by Town including:	
				EB LT - construct lane - 1 @ 300 feet	Others
				EB Through - construct 2 lanes	Others
				EB RT - construct lane - 1 @ 300 feet	Others
				WB LT - construct lane - 1 @ 250 feet	Others
				WB Through - construct 2 lanes	Others
				WB RT - construct continuous lane	Others
				NB LT - construct lanes - 2 @ 250 feet	Others
				NB Through - construct 2 lanes	Others
				NB RT - construct continuous lane	Others
				SB LT - construct lanes - 2 @ 600 feet	Others
				SB Through - construct 2 lanes	Others
				SB RT - construct lane - 1 @ 600 feet	Others
				Traffic Signal Modification	Others

(1) An appropriate redirect taper for 50 mph is 50:1; for 35 mph is 20:1, and for 30 mph or less is 15:1.

Table 4 (Page 2 of 2)
Recommended Improvements to Public Street Network
Canyons Far South
Castle Rock, CO
LSC #210311; December, 2024

Inter-section No.	Intersection Location	Recommended Improvements by 2028 (1)	Responsibility	Recommended Improvements by 2044 (1)	Responsibility
#9a	Connector Collector Roadway/ Commercial RIRO Access	NB RT - construct lane - 1 @ 190 feet and 120-foot transition taper	Applicant		
#9b	Connector Collector Roadway/ Commercial Access	NB RT - construct lane - 1 @ 190 feet and 120-foot transition taper	Applicant		
		SB LT - construct lane - 1 @ 220 feet and 120-foot transition taper	Applicant		
		WB LT - construct lane - 1 @ 150 feet and 90-foot transition taper	Applicant		
#10	Internal Connector Collector/ Roadway/Site Access #10	None			
#11	Internal Connector Collector/ Roadway/Site Access #10	None			
#12	Internal Connector Collector/ Roadway/Site Access #15	EB LT - construct lane - 1 @ 245 feet and 120-foot transition taper			
#13	Internal Connector Collector/ Roadway/Site Access #13	None			
#14	Internal Connector Collector/ Roadway/Site Access #14	None			
#15	Internal Connector Collector/ Roadway/Site Access #15	None			

(1) An appropriate redirect taper for 50 mph is 50:1; for 35 mph is 20:1, and for 30 mph or less is 15:1.

Figure 1

Vicinity Map

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.

Approximate Scale
Scale: NTS

Figure 2a

Site Plan

Canyons Far South (LSC #210311)

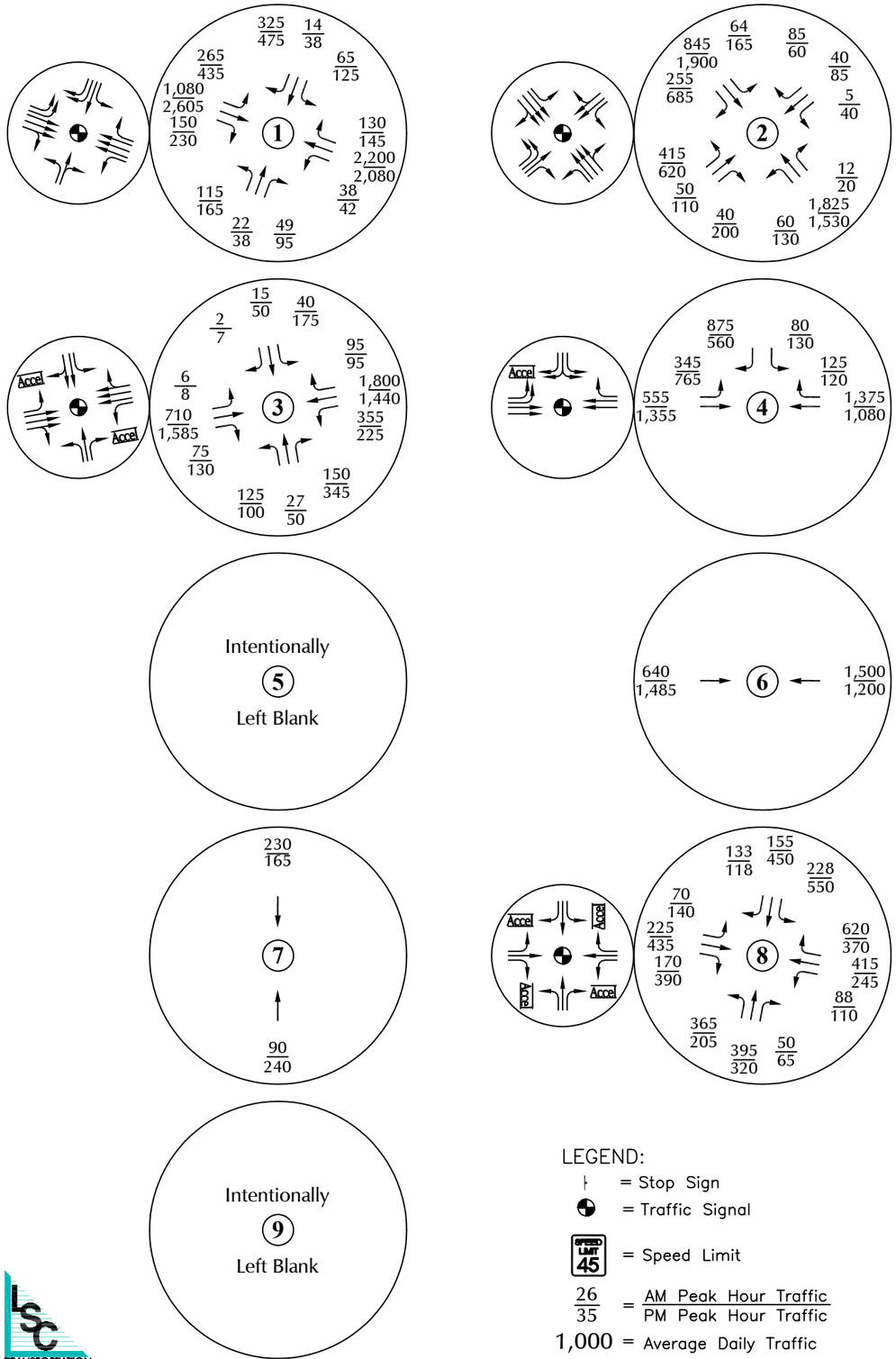
LSC TRANSPORTATION CONSULTANTS, INC.

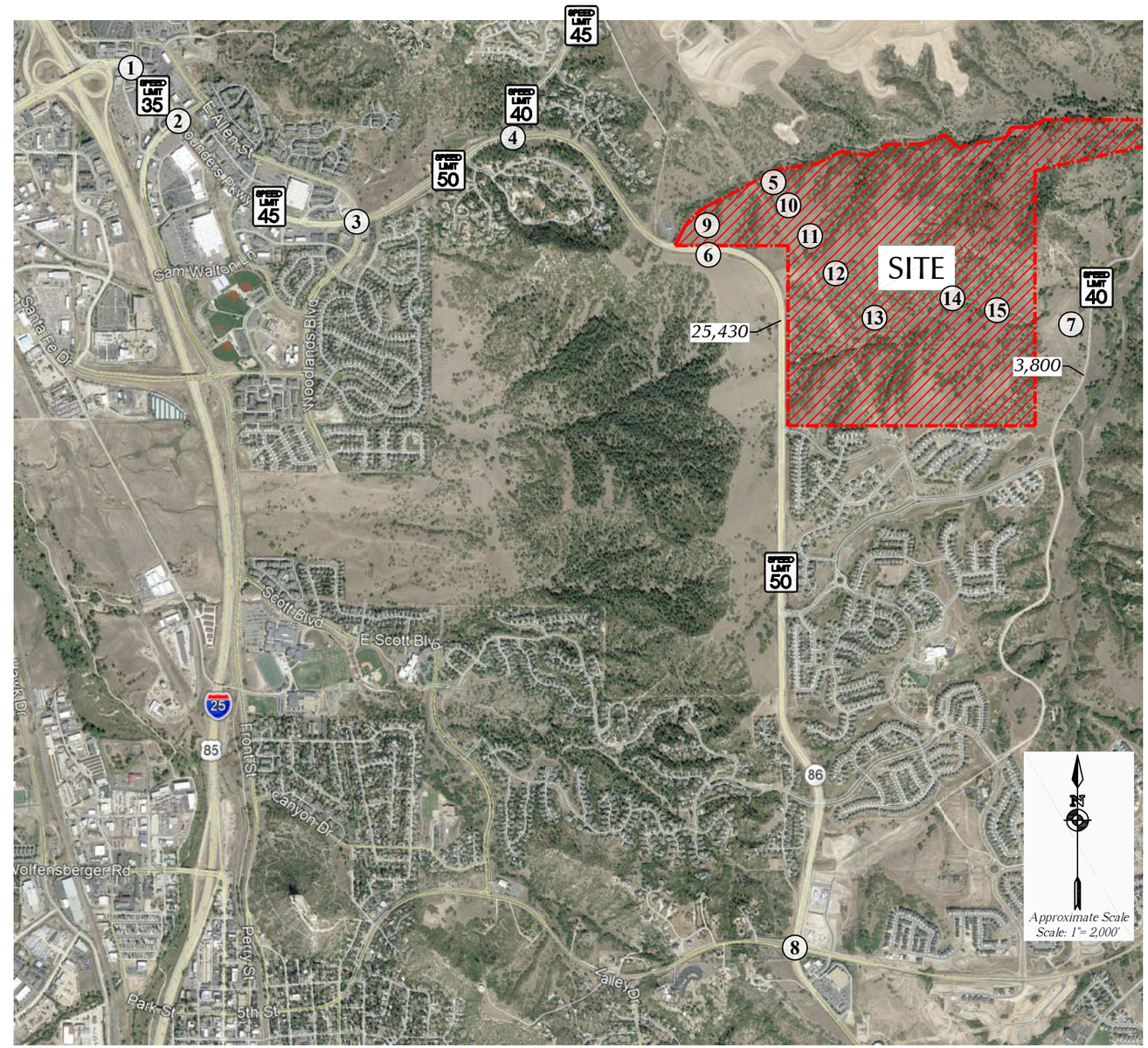
Approximate Scale
Scale: NTS

Figure 2b

Planning Areas

Canyons Far South (LSC #210311)





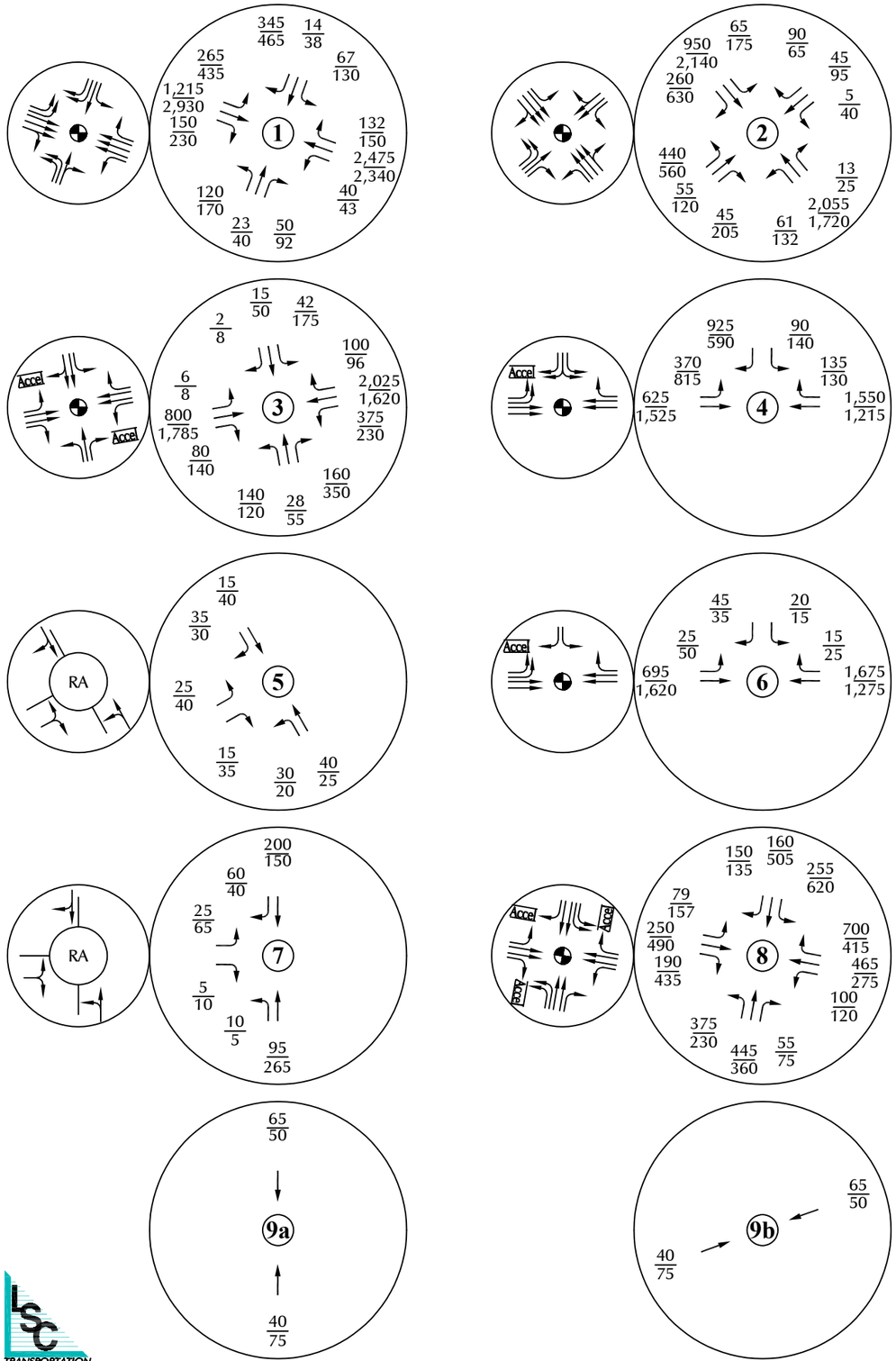
Note: Assumes the 2021 existing traffic volumes from the 2021 TIA by LSC are grown for three years at an annual rate of three percent based on coordination with Town Staff.

Figure 3

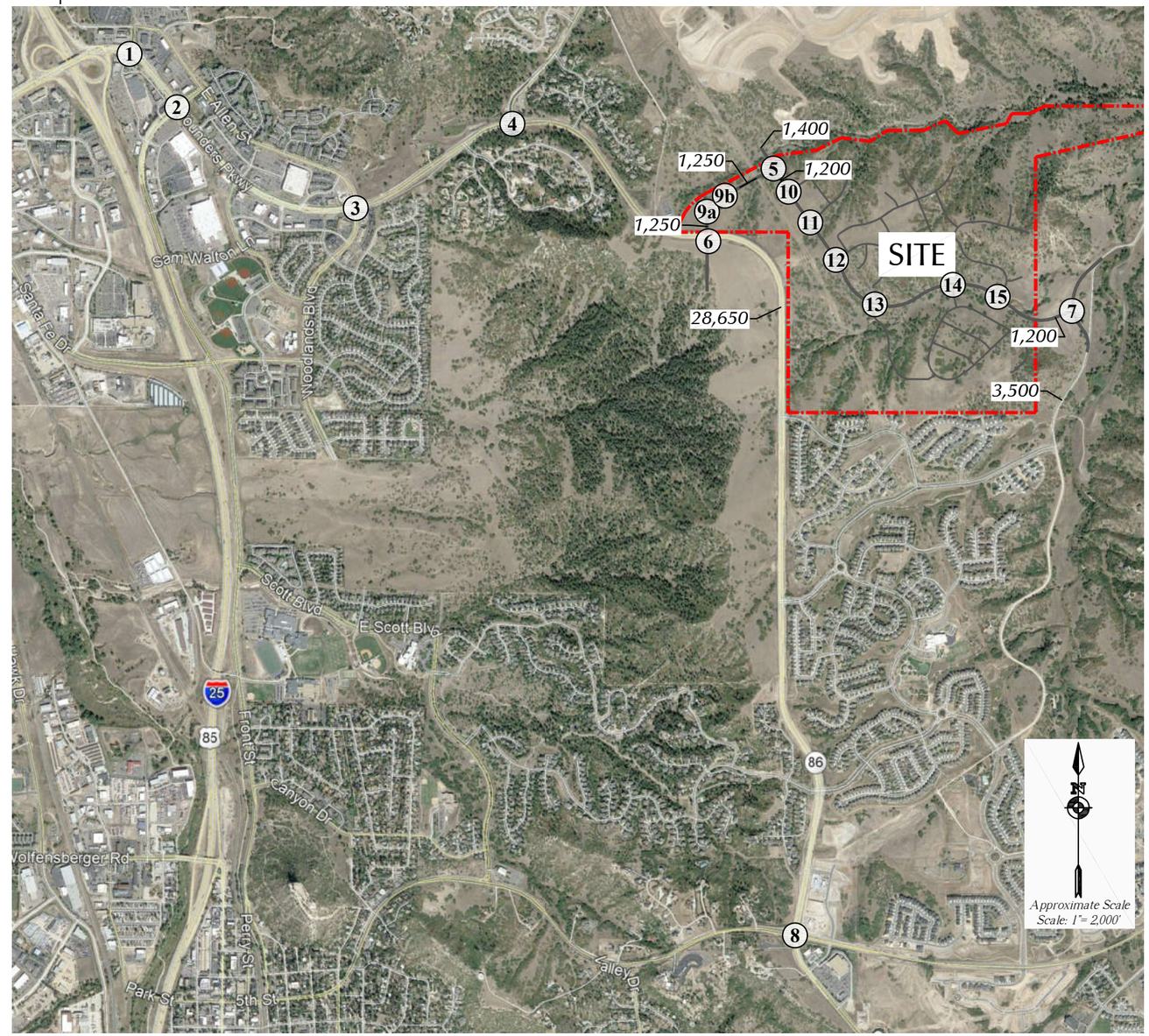
Existing Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.



Note: Assumes four years of growth at an annual rate of three percent plus a portion of the 2044 Background traffic passing through the site. Little or no growth was assumed for movements serving built-out developments.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

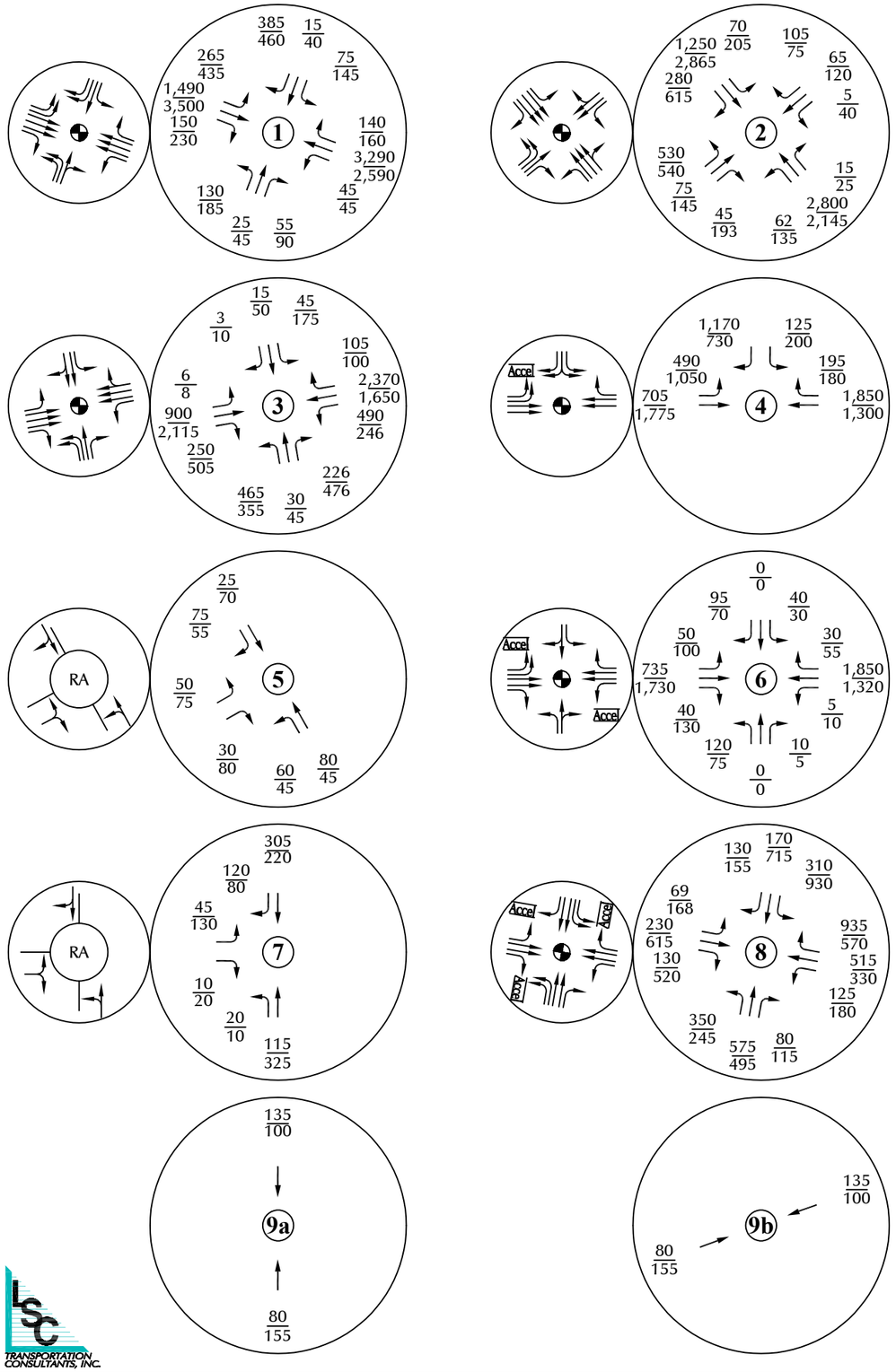
LSC TRANSPORTATION CONSULTANTS, INC.

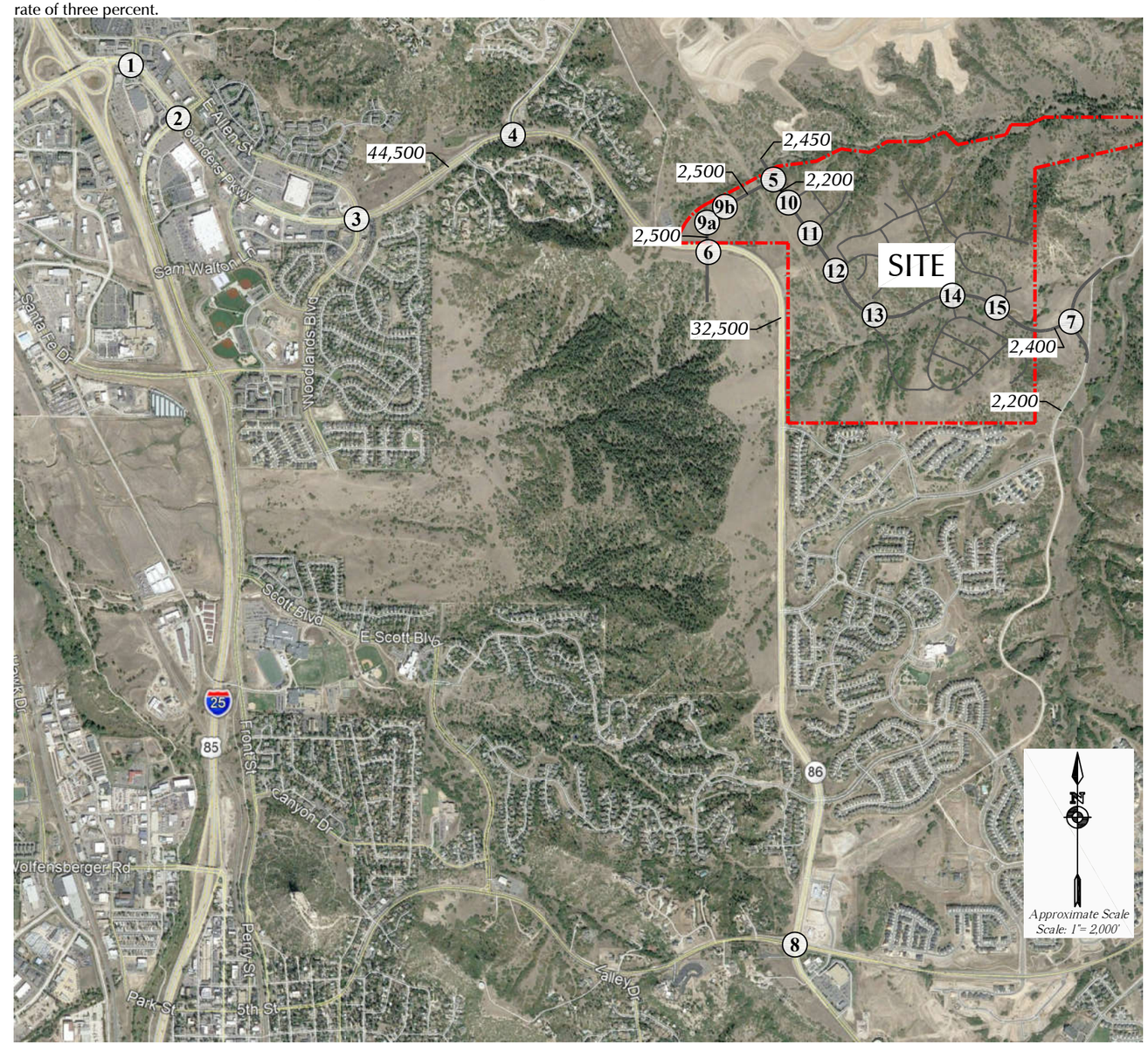
Figure 4

Year 2028 Background Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)

Notes:
1. These volumes are based on an annual growth at three percent with the exception of movements serving built-out developments.
2. Intersection #8 is based on the 2040 projections provided by Town staff grown for four years at an annual rate of three percent.





LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

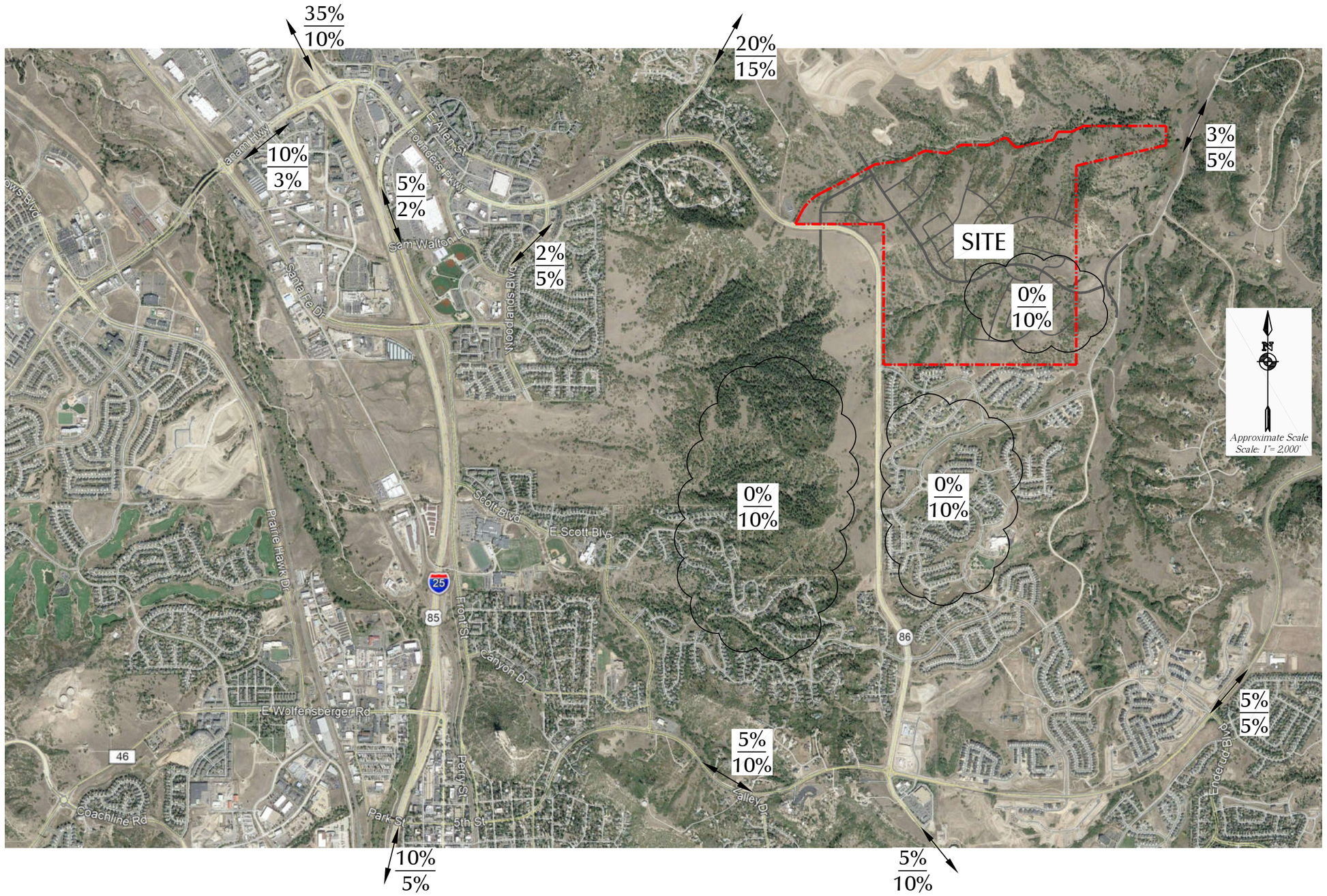
1,000 = Average Daily Traffic

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 5

Year 2044 Background Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)



LEGEND:

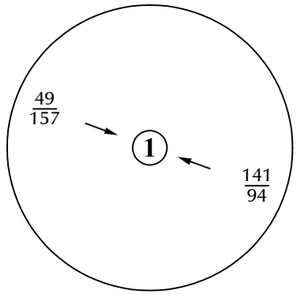
$\frac{5\%}{5\%}$ = $\frac{\text{Residential Percent Directional Distribution}}{\text{Commercial Percent Directional Distribution}}$

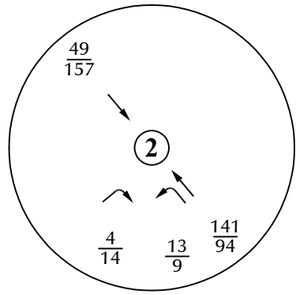
LSC TRANSPORTATION CONSULTANTS, INC.

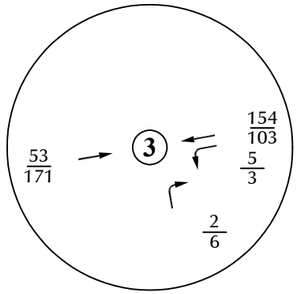
Figure 6

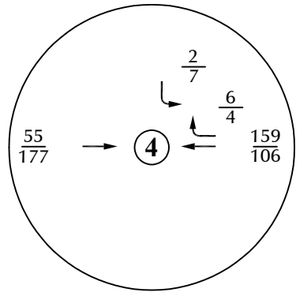
Directional Distribution of Primary Site-Generated Traffic

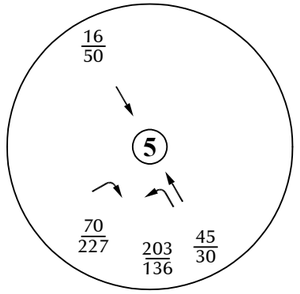
Canyons Far South (LSC #210311)

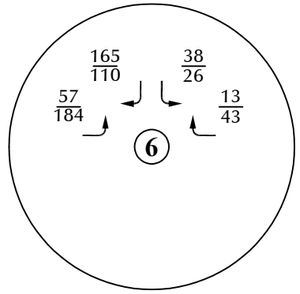


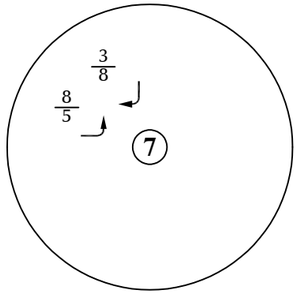


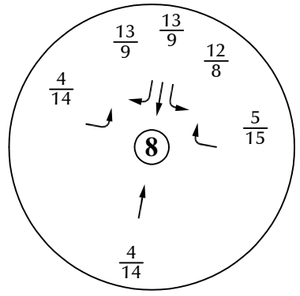


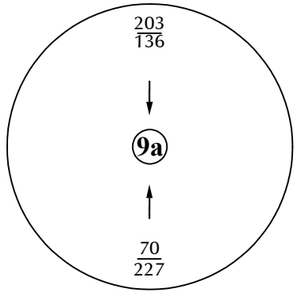


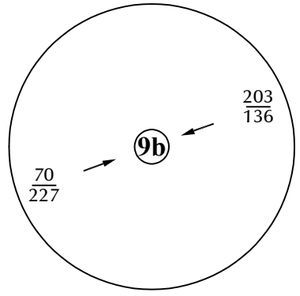


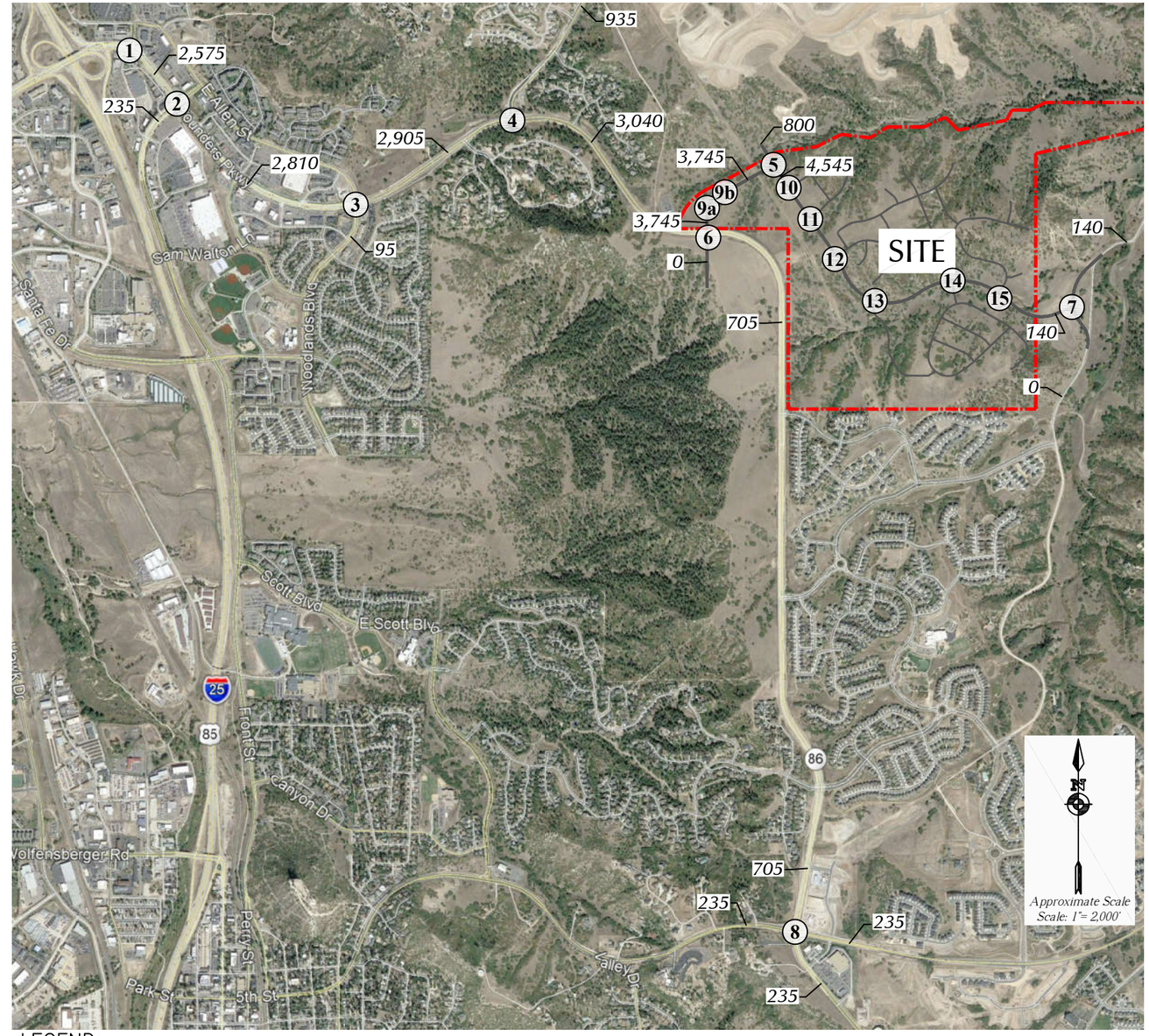












LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

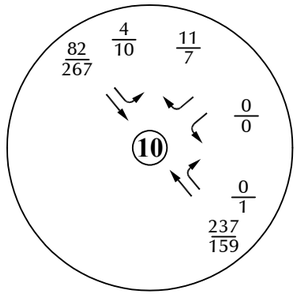
1,000 = Average Daily Traffic

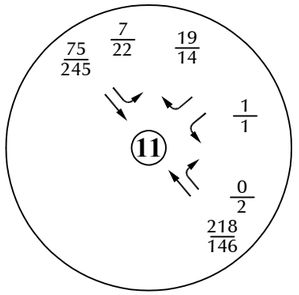
Figure 7a

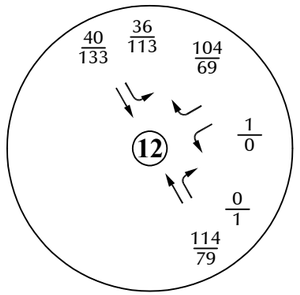
Major Intersections - Assignment of Residential Site-Generated Traffic

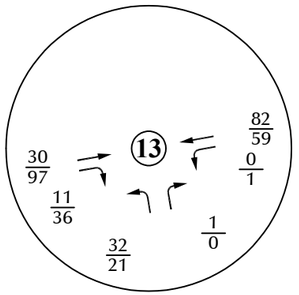
Canyons Far South (LSC #210311)

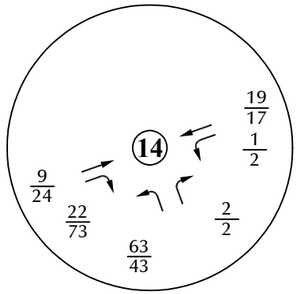
LSC TRANSPORTATION CONSULTANTS, INC.

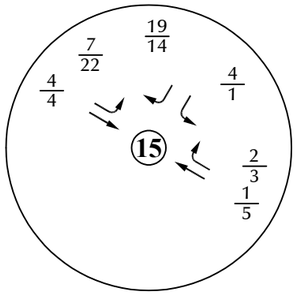


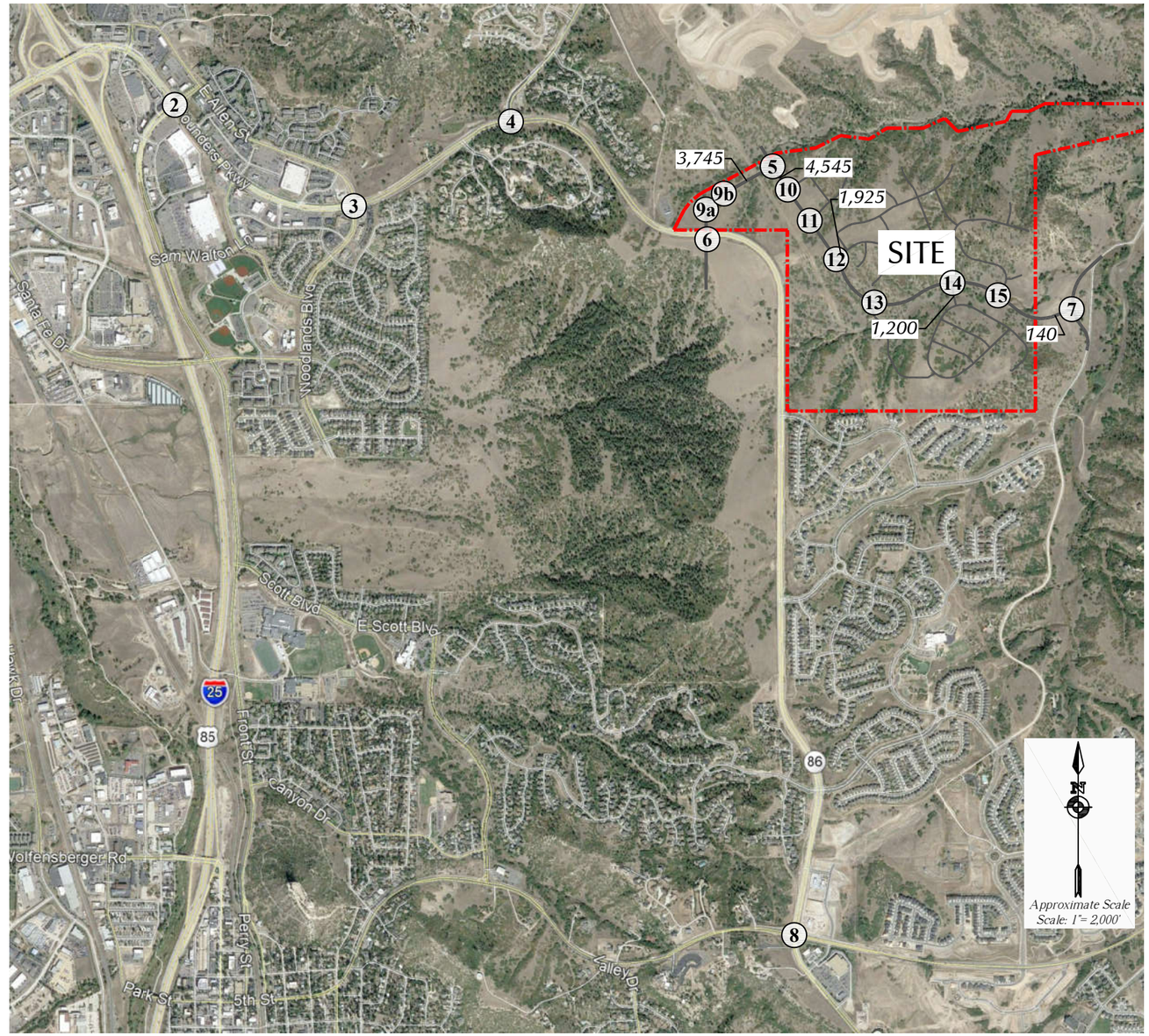












LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

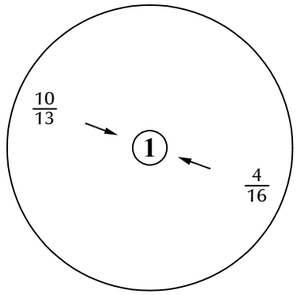
1,000 = Average Daily Traffic

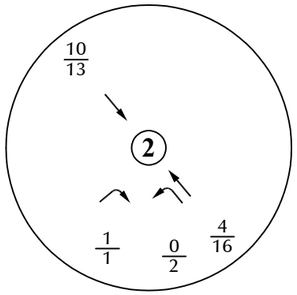
Figure 7b

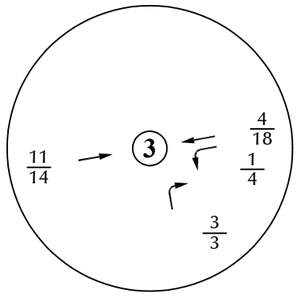
Access/Minor Intersections - Assignment of Residential Site-Generated Traffic

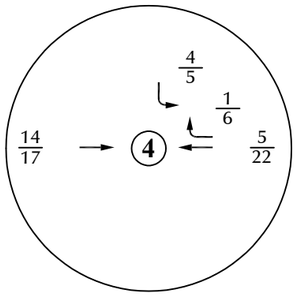
Canyons Far South (LSC #210311)

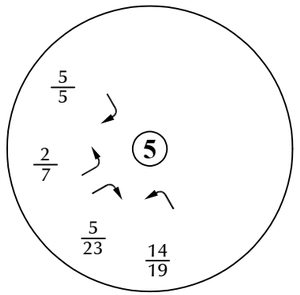
LSC TRANSPORTATION CONSULTANTS, INC.

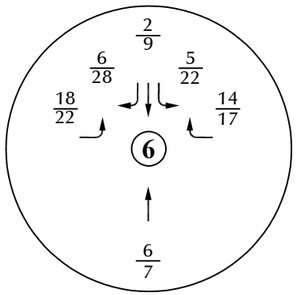


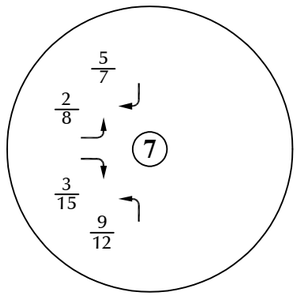


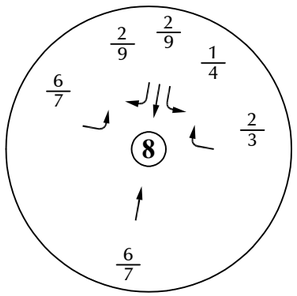


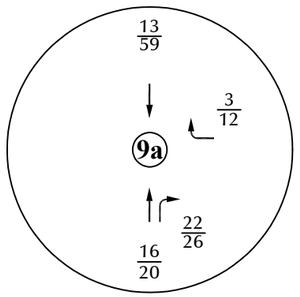


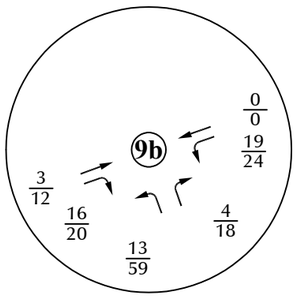


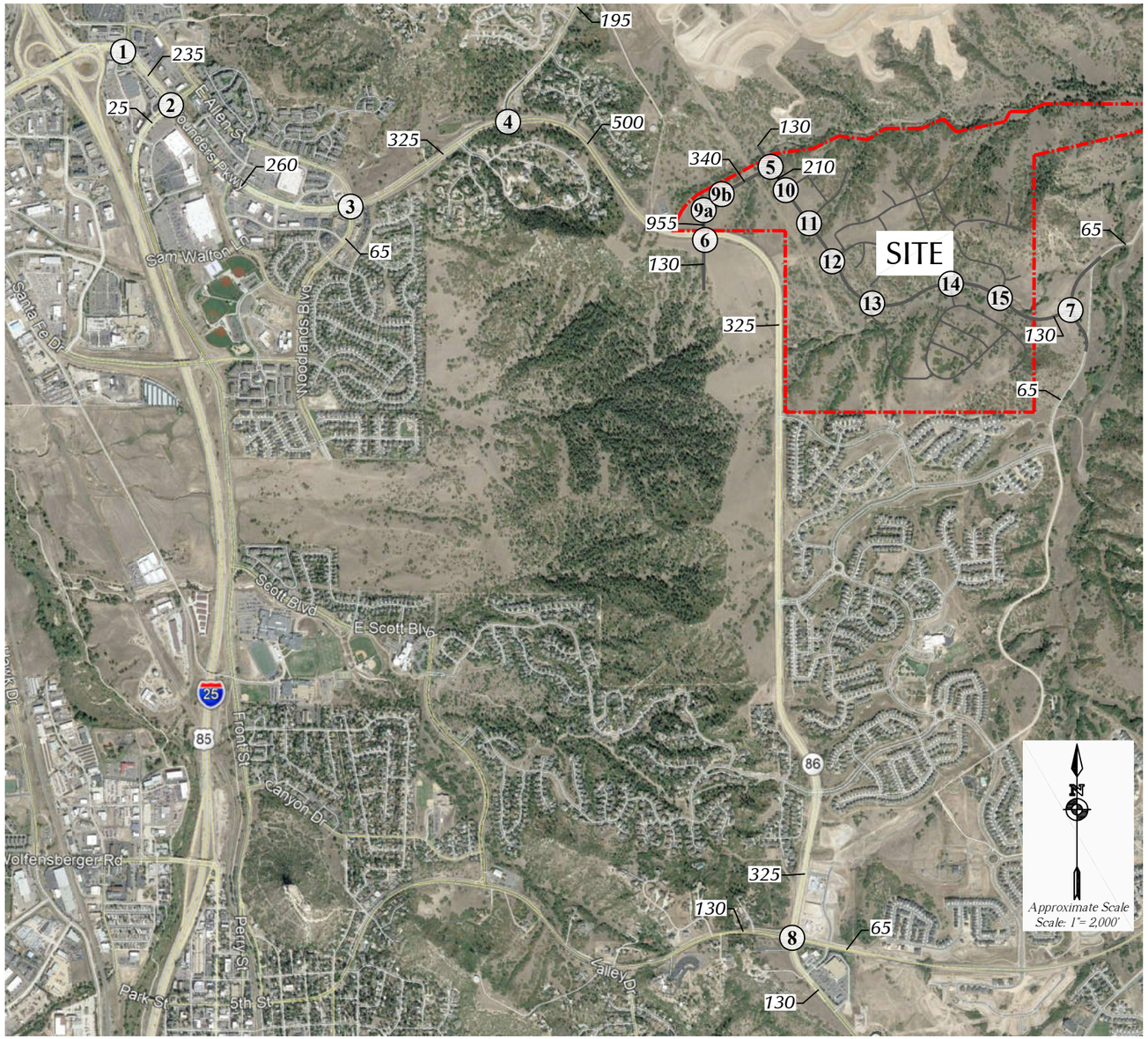












LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

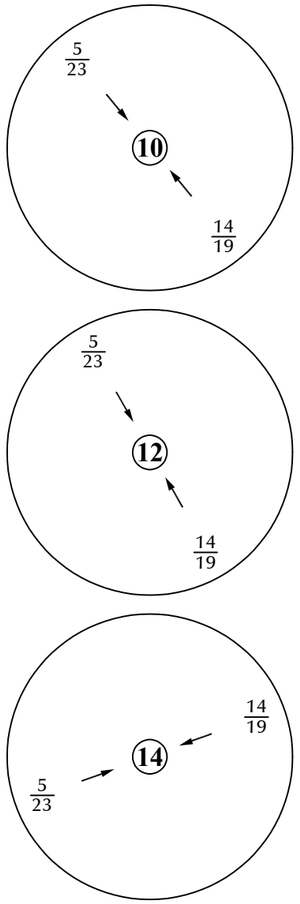
1,000 = Average Daily Traffic

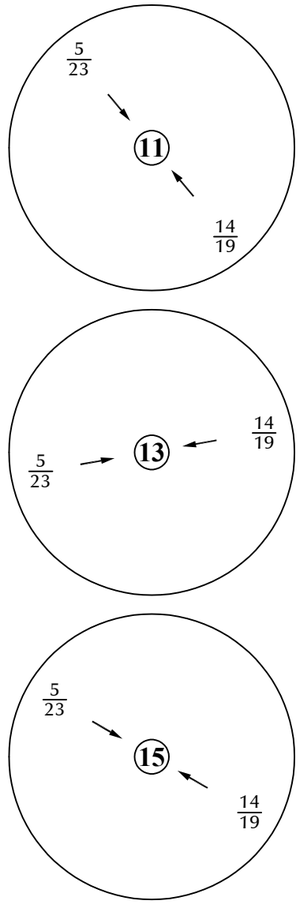
Figure 7c

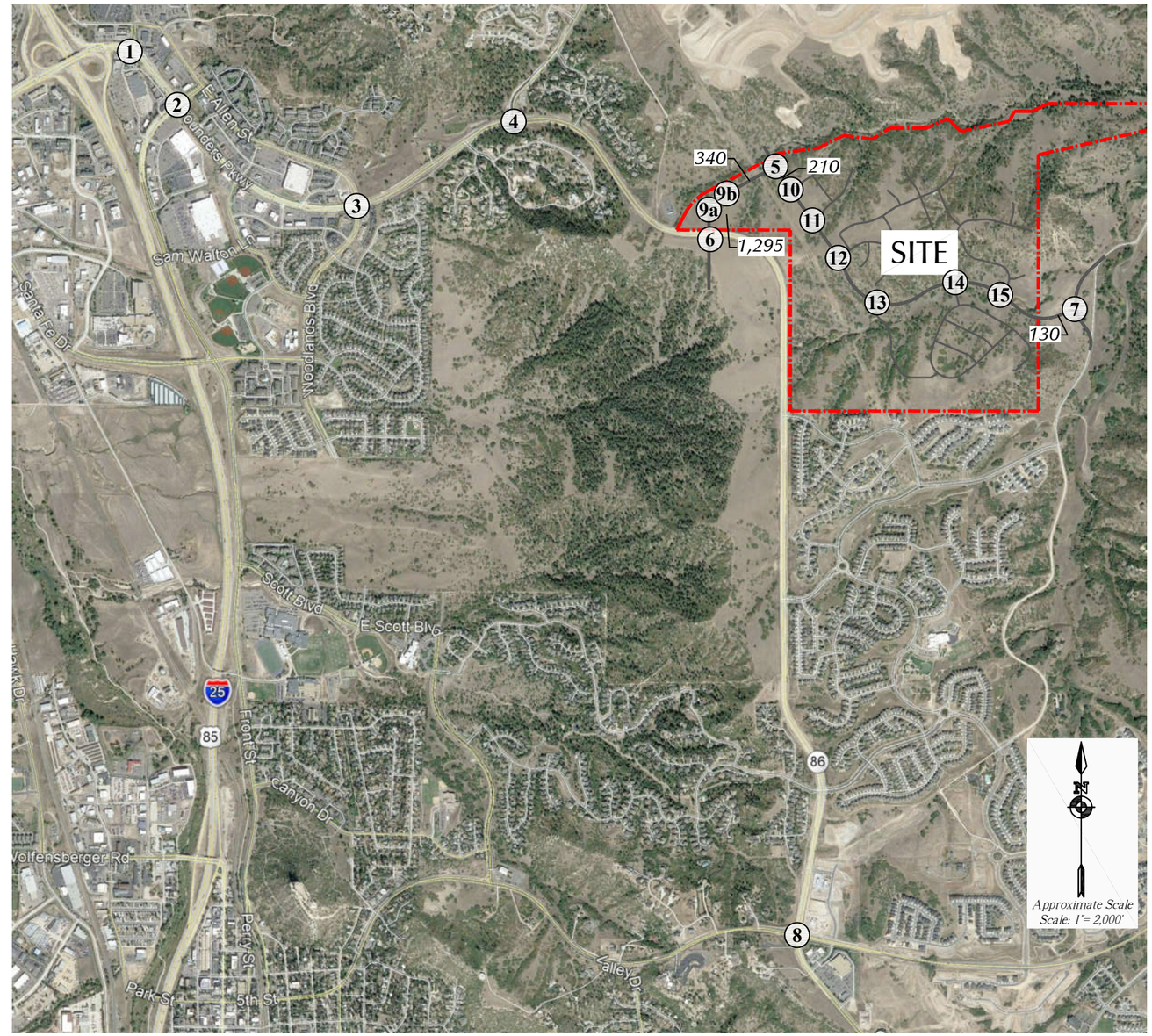
Major Intersections - Assignment of Primary Non-Residential Site-Generated Traffic

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.







LEGEND:

$\frac{26}{35} = \frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

Figure 7d

Access/Minor Intersections - Assignment of Primary Non-Residential Site-Generated Traffic

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.

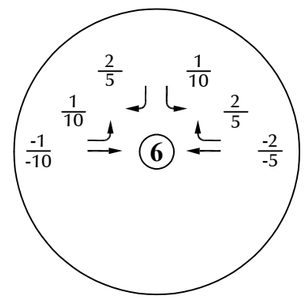
Intentionally
1
Left Blank

Intentionally
2
Left Blank

Intentionally
3
Left Blank

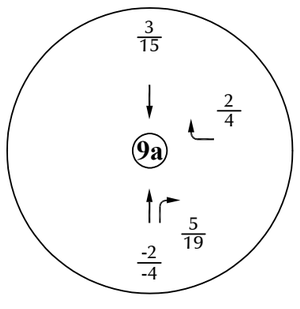
Intentionally
4
Left Blank

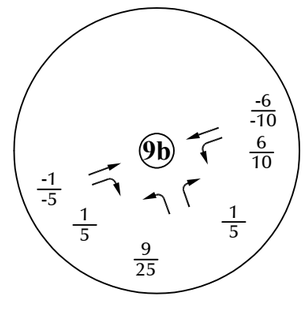
Intentionally
5
Left Blank

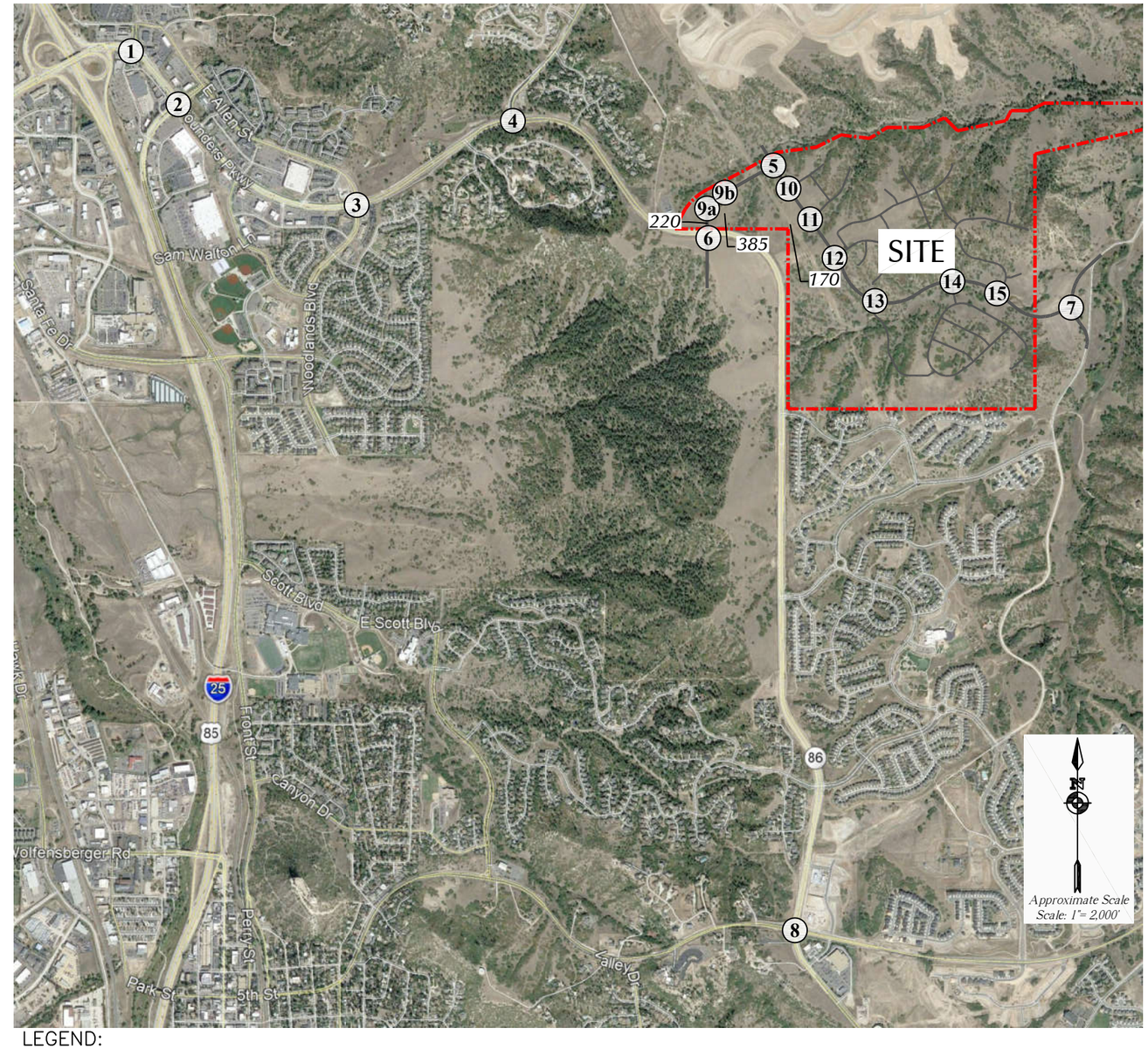


Intentionally
7
Left Blank

Intentionally
8
Left Blank







LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

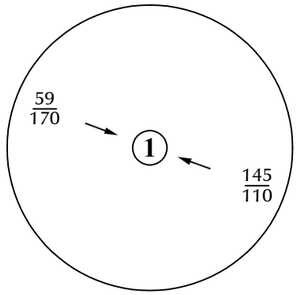
1,000 = Average Daily Traffic

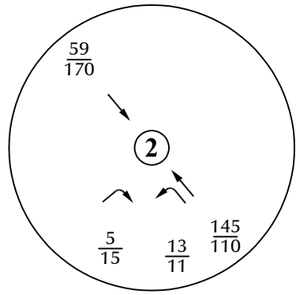
Figure 7e

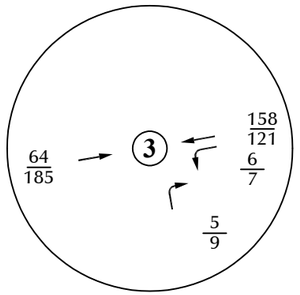
Assignment of Passby Site-Generated Traffic

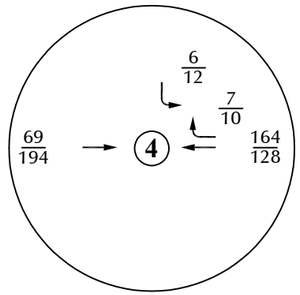
Canyons Far South (LSC #210311)

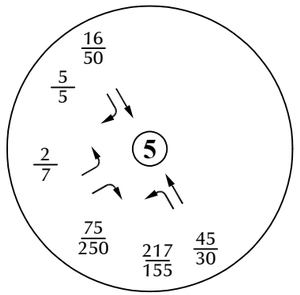
LSC TRANSPORTATION CONSULTANTS, INC.

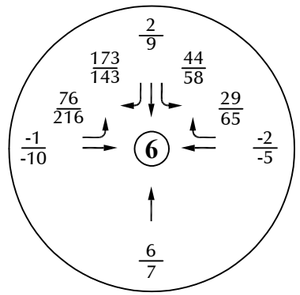


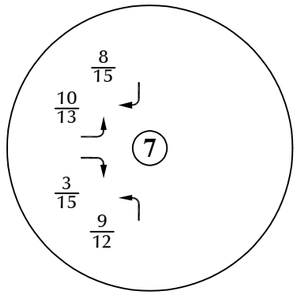


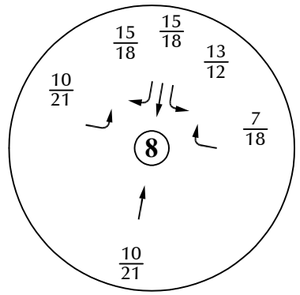


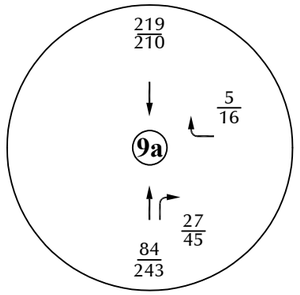


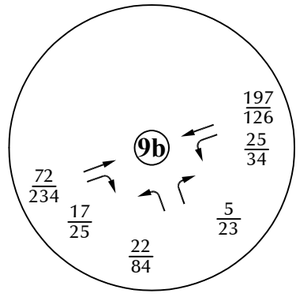




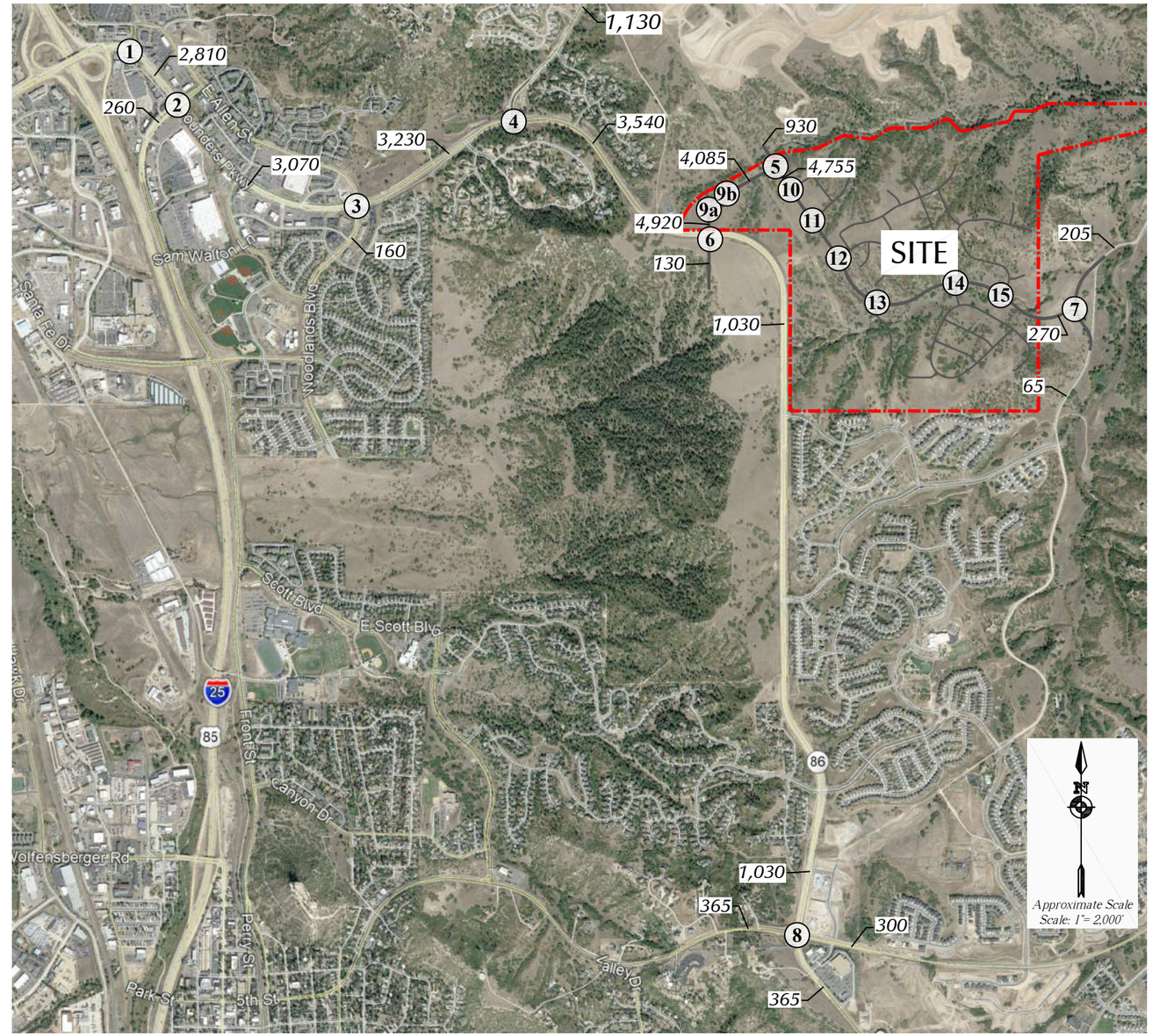








Note: These volumes are the sum of the volumes in Figures 7a, 7c and 7e.



LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

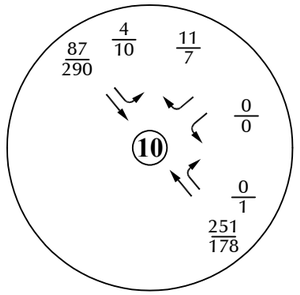
1,000 = Average Daily Traffic

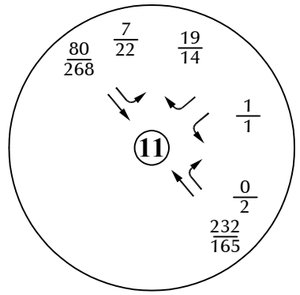
Figure 7f

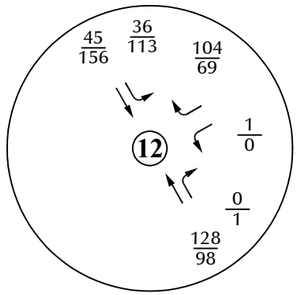
Major Intersections - Assignment of Total Site-Generated Traffic

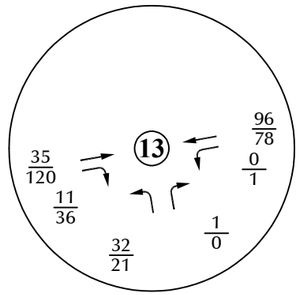
Canyons Far South (LSC #210310)

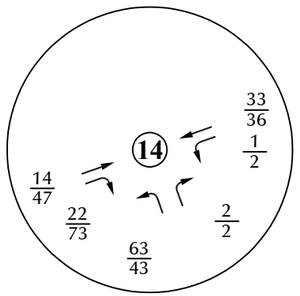
LSC TRANSPORTATION CONSULTANTS, INC.

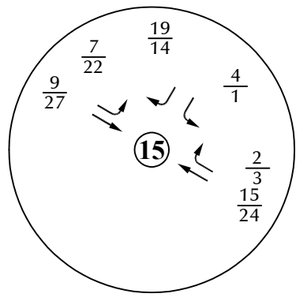




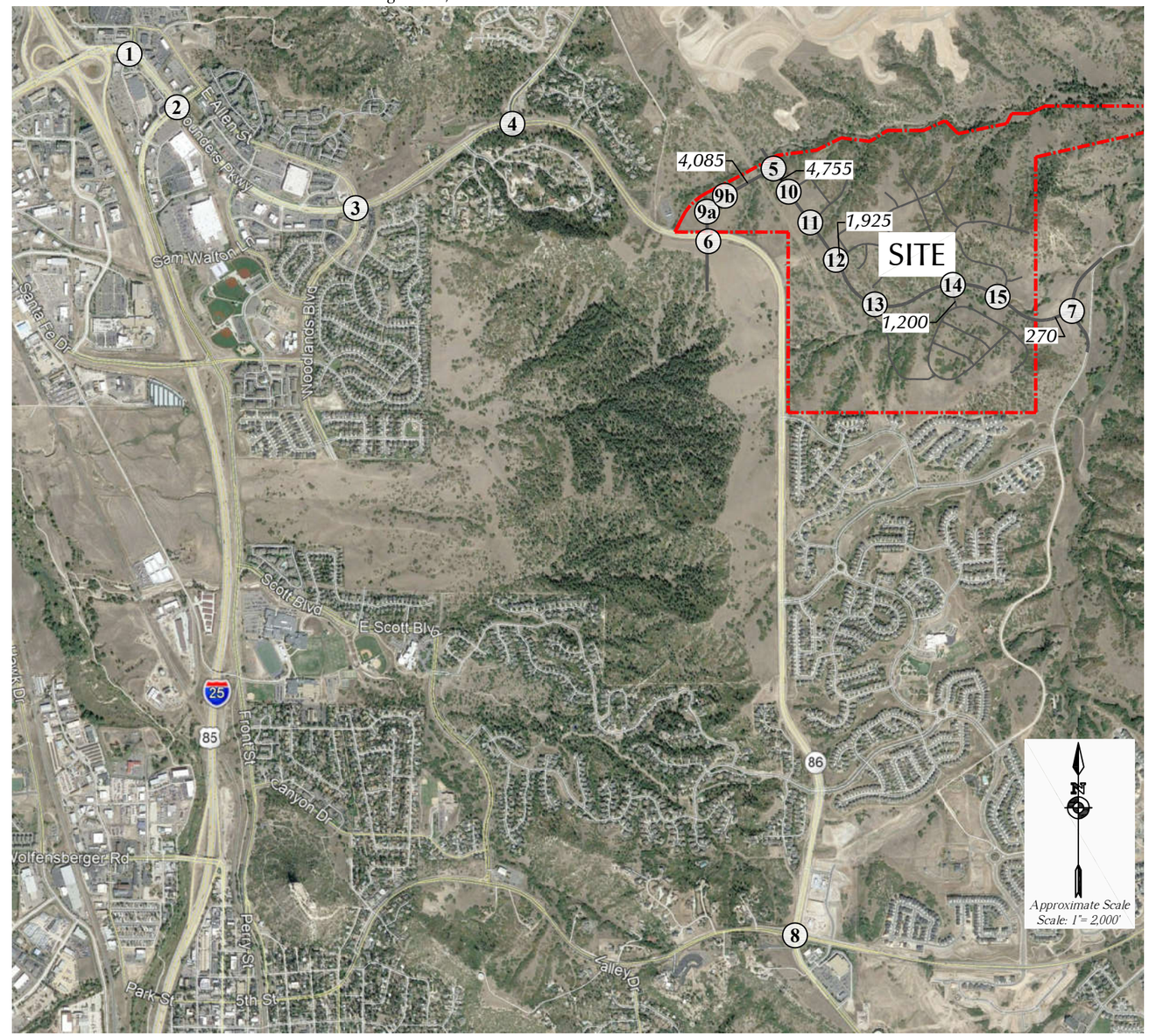








Note: These volumes are the sum of the volumes in Figures 7b, 7d and 7e.



LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

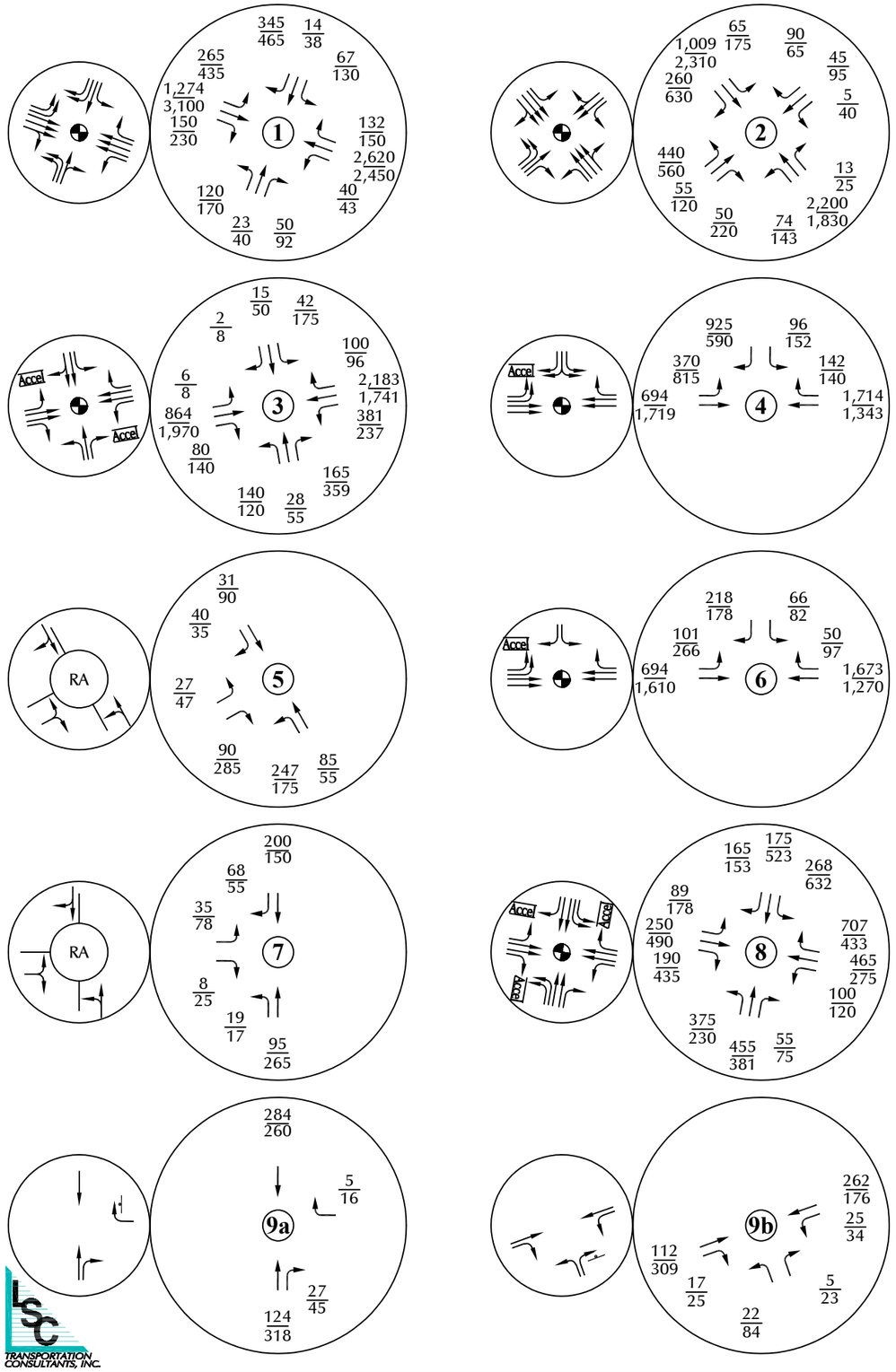
1,000 = Average Daily Traffic

Figure 7g

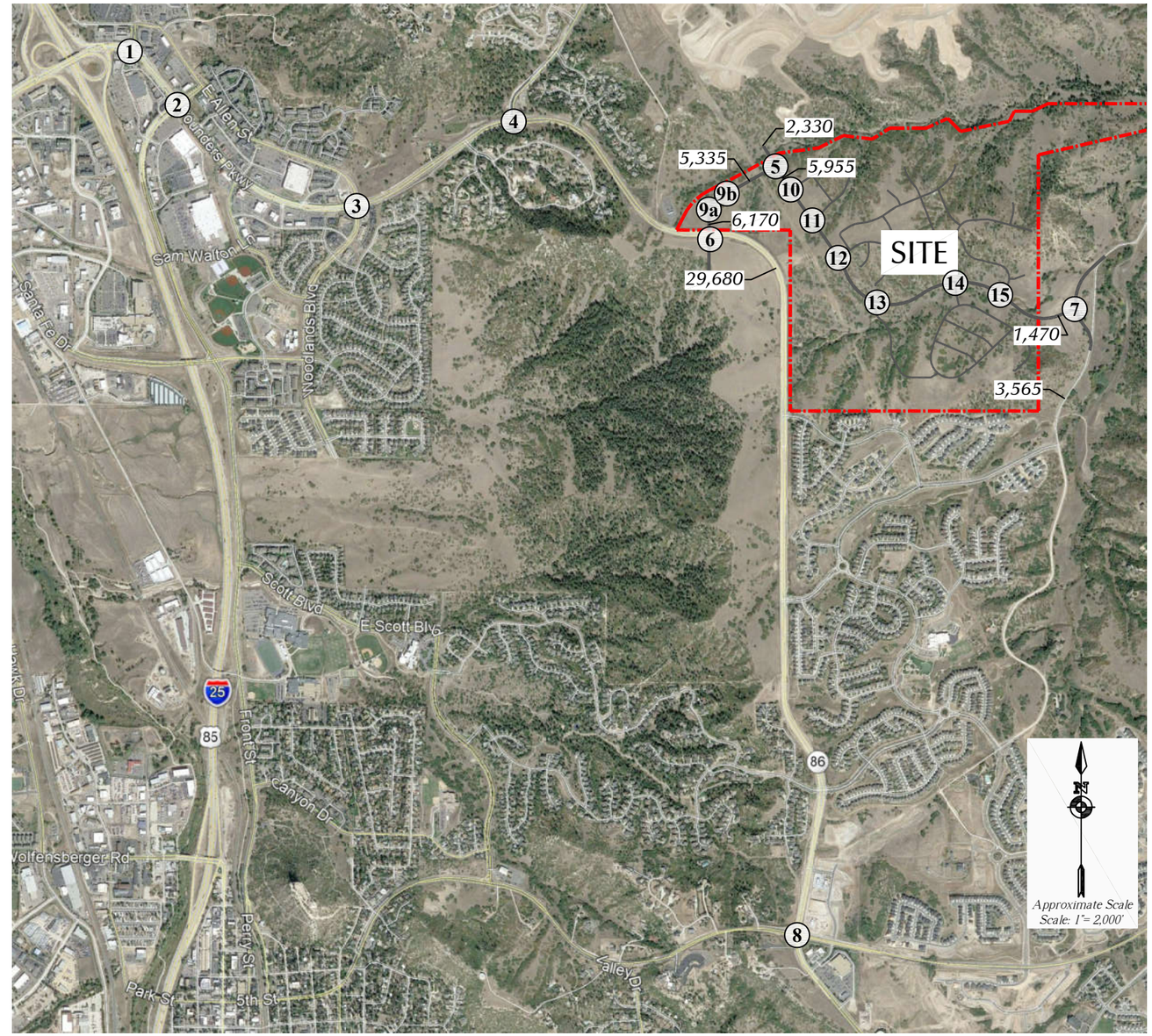
Access/Minor Intersections - Assignment of Total Site-Generated Traffic

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.



Note: These volumes are the sum of the volumes in Figure 4 and Figure 7f.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

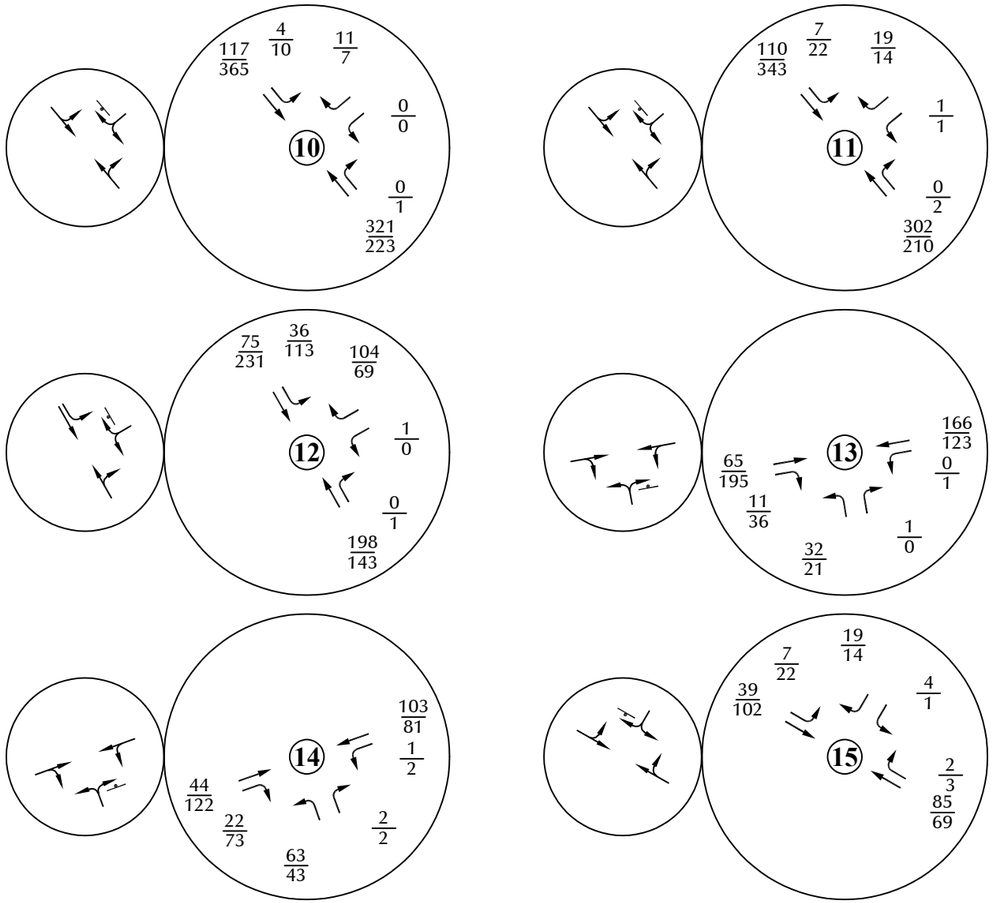
1,000 = Average Daily Traffic

Figure 8a

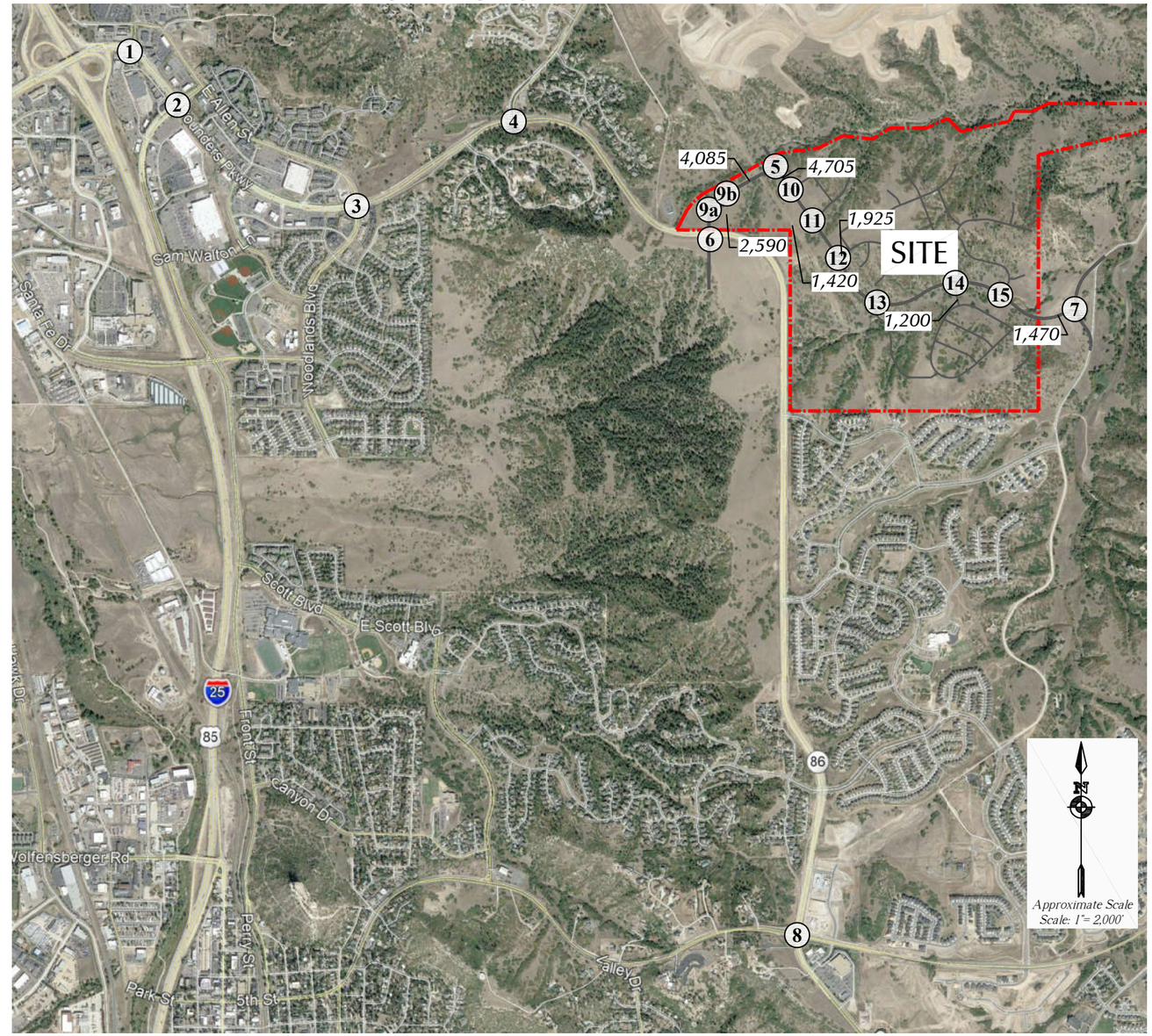
Major Intersections - Year 2028 Total Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.



Note: These volumes are the sum of the volumes in Figure 4 and Figure 7g.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

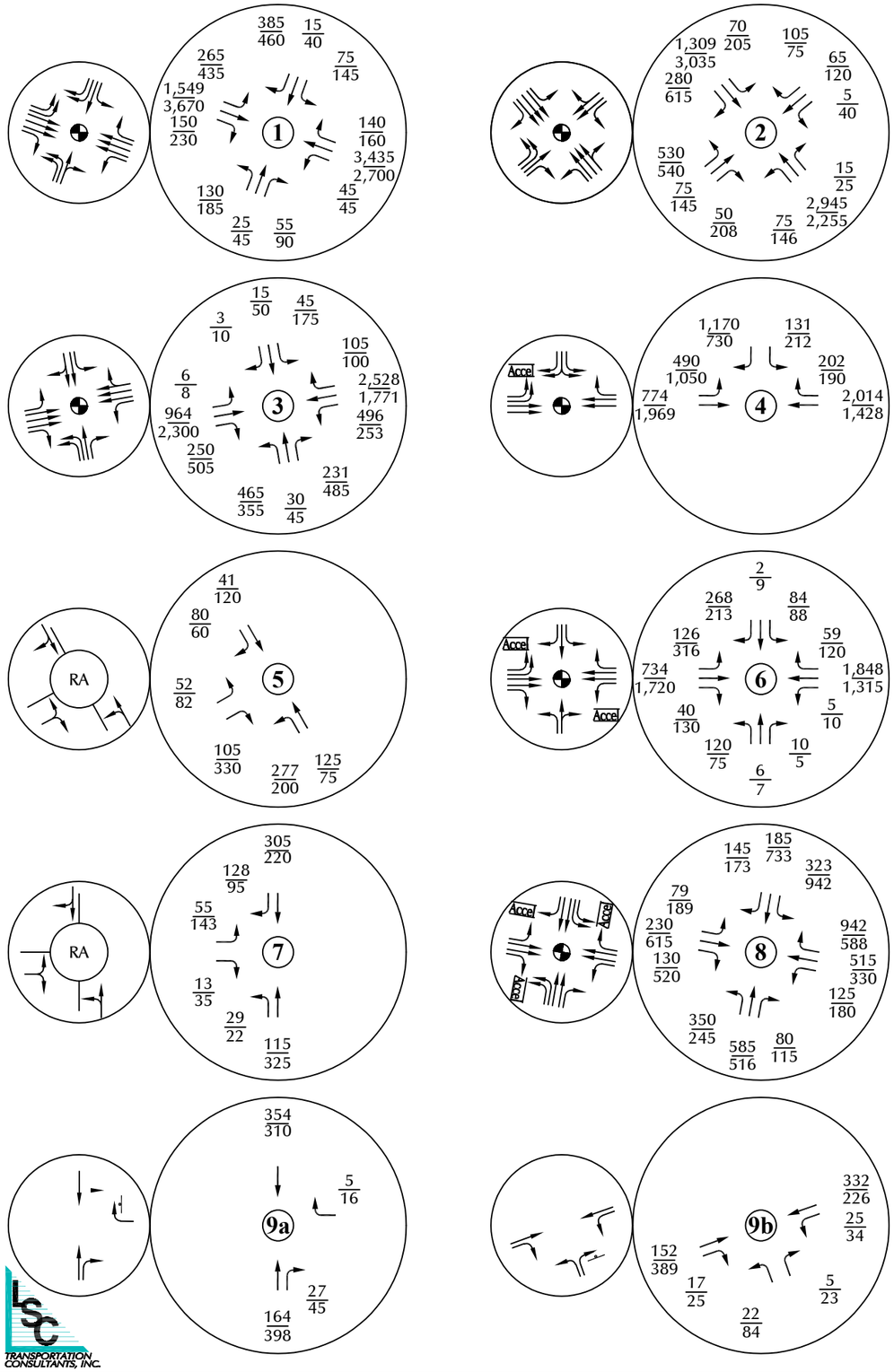
1,000 = Average Daily Traffic

LSC TRANSPORTATION CONSULTANTS, INC.

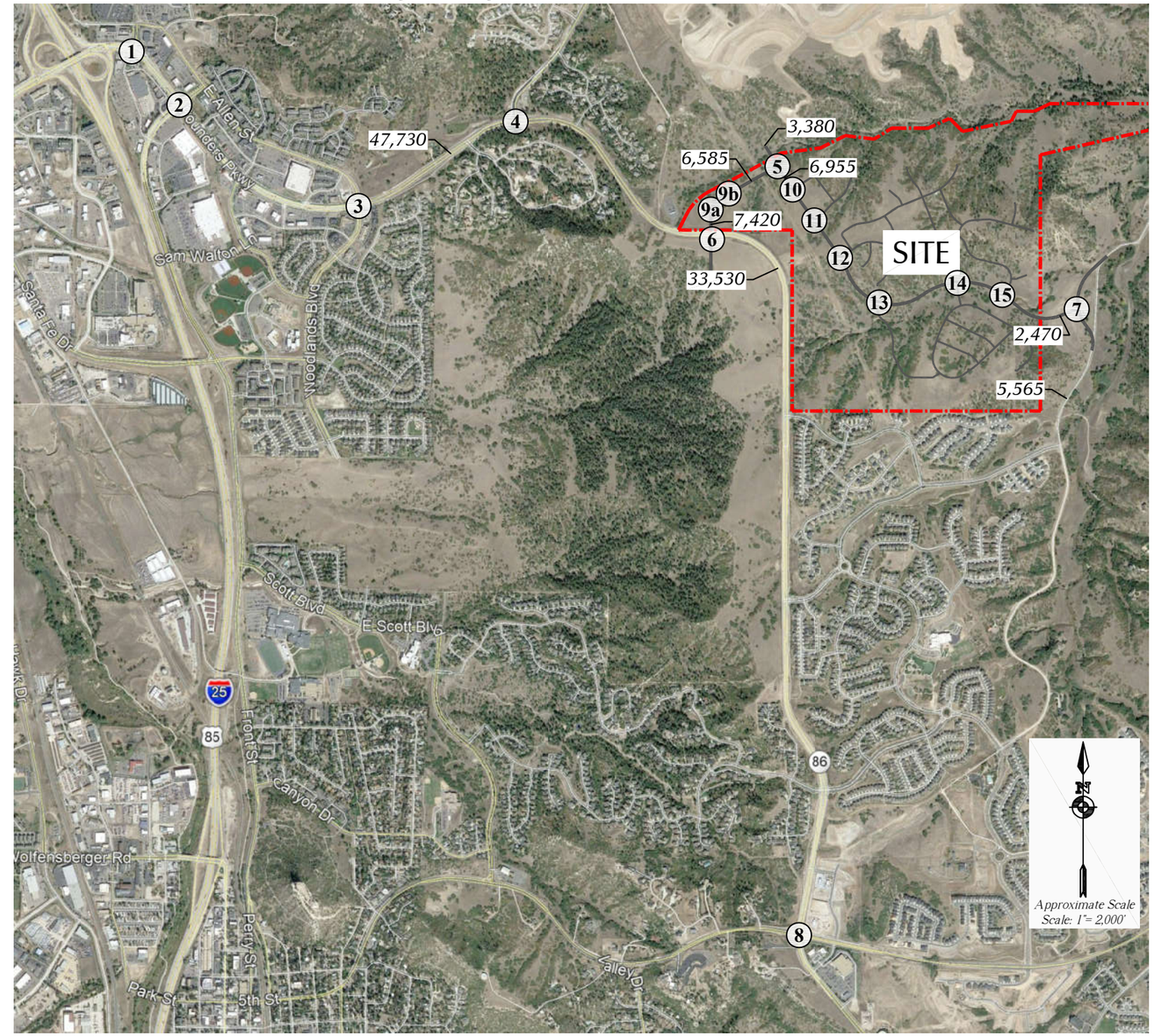
Figure 8b

Access/Minor Intersections - Year 2028 Total Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)



Notes: These volumes are the sum of the volumes in Figure 5 and Figure 7f.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

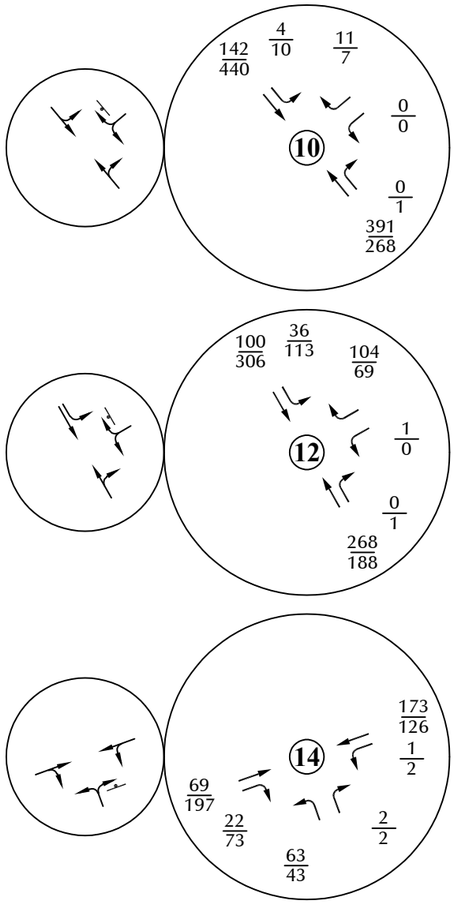
1,000 = Average Daily Traffic

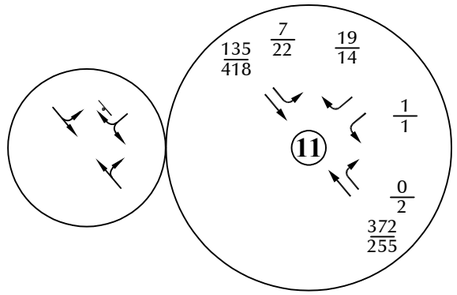
LSC TRANSPORTATION CONSULTANTS, INC.

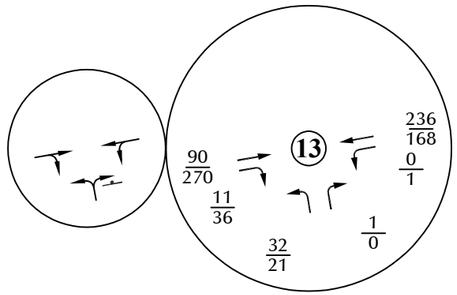
Figure 9a

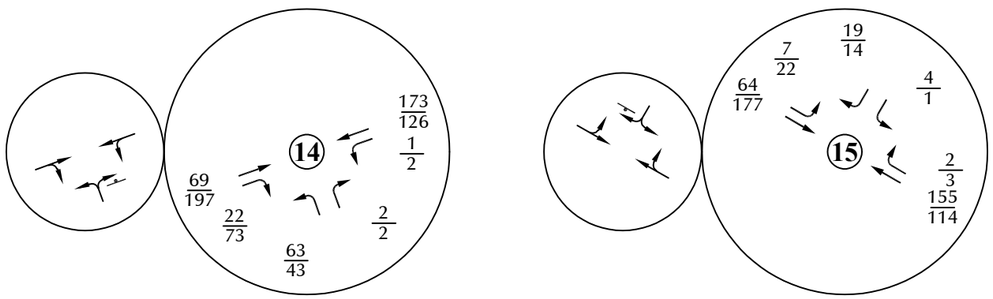
Major Intersections - Year 2044 Total Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)

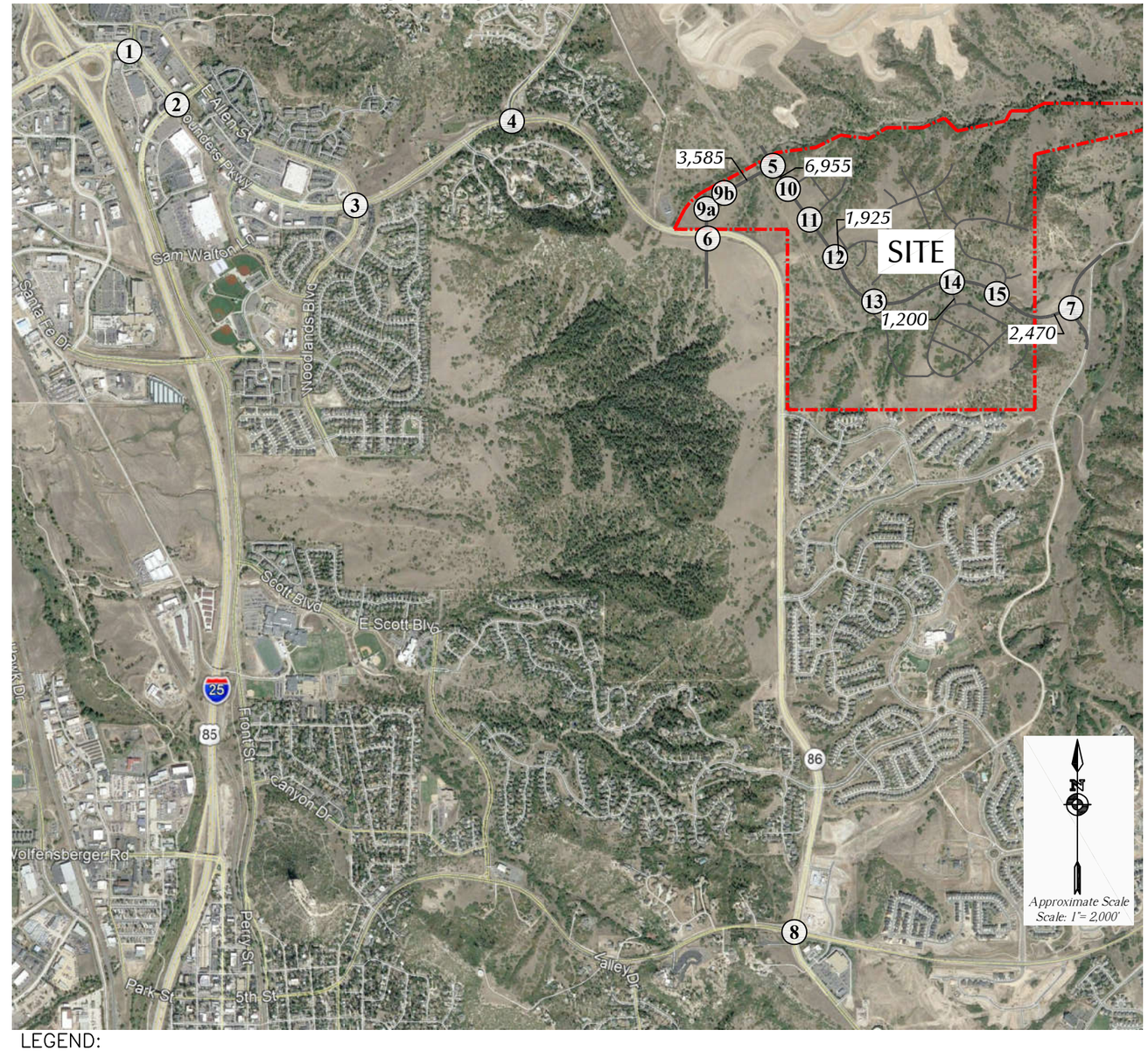








Note: These volumes are the sum of the volumes in Figure 5 and Figure 7g.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Figure 9b

Access/Minor Intersections - Year 2044 Total Traffic, Lane Geometry and Traffic Control

Canyons Far South (LSC #210311)

LSC TRANSPORTATION CONSULTANTS, INC.

COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN WAY
E/W STREET: FOUNDERS PKWY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLEN WAY FOUNDERS PKWY 6-3-21
Site Code : 00000022
Start Date : 6/3/2021
Page No : 1

Groups Printed- VEHICLES

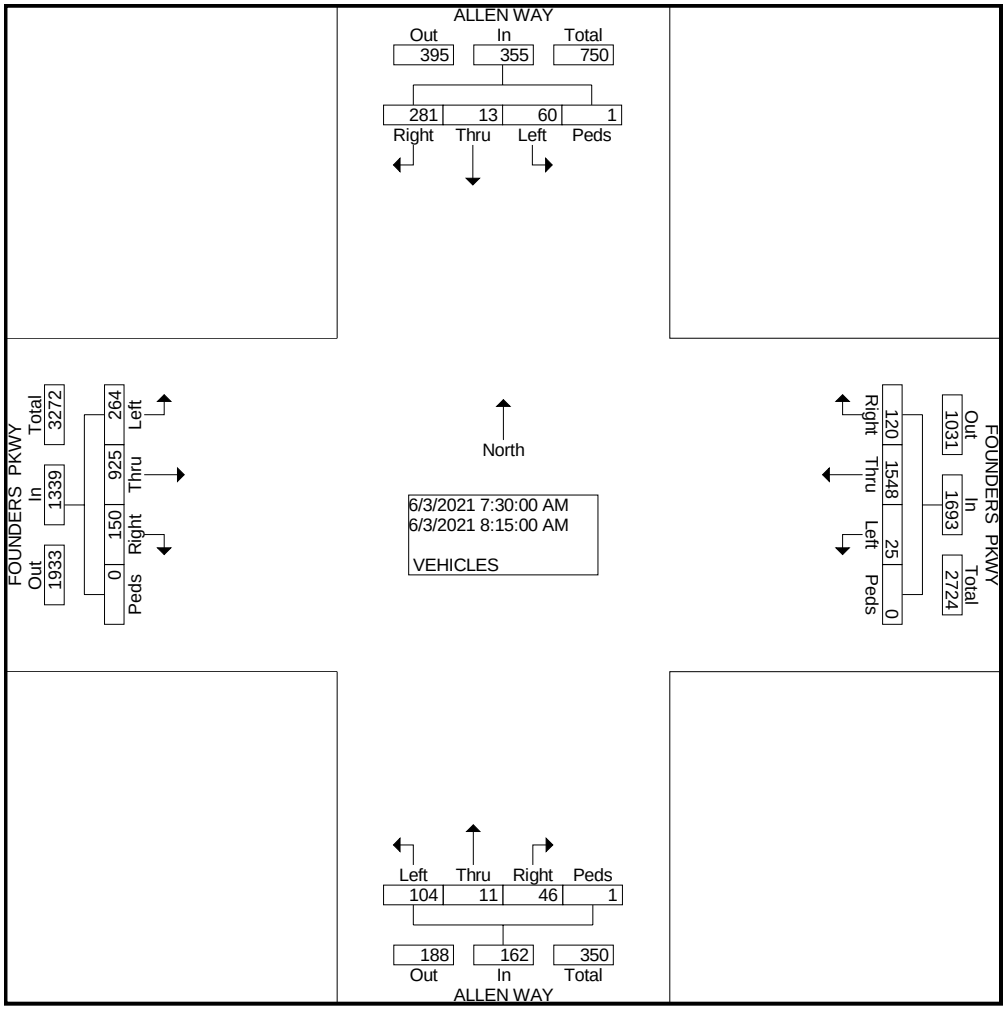
	ALLEN WAY Southbound				FOUNDERS PKWY Westbound				ALLEN WAY Northbound				FOUNDERS PKWY Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	15	2	37	0	5	292	28	0	14	2	11	0	35	131	18	0	590
06:45 AM	10	3	47	0	11	344	28	0	22	0	11	0	60	155	35	0	726
Total	25	5	84	0	16	636	56	0	36	2	22	0	95	286	53	0	1316
07:00 AM	6	2	73	0	10	324	53	0	22	7	14	0	37	145	30	0	723
07:15 AM	13	5	76	0	8	352	43	1	19	1	12	0	74	167	20	0	791
07:30 AM	15	3	72	0	3	430	30	0	26	1	12	0	64	186	29	0	871
07:45 AM	17	3	63	0	7	402	26	0	20	3	14	0	71	279	55	0	960
Total	51	13	284	0	28	1508	152	1	87	12	52	0	246	777	134	0	3345
08:00 AM	17	2	80	0	5	360	33	0	30	5	12	1	64	227	36	0	872
08:15 AM	11	5	66	1	10	356	31	0	28	2	8	0	65	233	30	0	846
Total	28	7	146	1	15	716	64	0	58	7	20	1	129	460	66	0	1718
04:00 PM	35	9	122	0	7	399	45	1	39	10	19	0	111	513	74	0	1384
04:15 PM	20	11	117	0	9	449	37	0	43	3	20	0	107	440	50	0	1306
04:30 PM	23	8	107	0	7	363	34	0	40	12	22	0	112	504	54	0	1286
04:45 PM	33	7	103	0	1	458	31	0	35	2	33	0	117	517	55	0	1392
Total	111	35	449	0	24	1669	147	1	157	27	94	0	447	1974	233	0	5368
05:00 PM	22	13	137	0	14	402	31	0	34	5	19	0	111	536	65	0	1389
05:15 PM	26	7	108	0	17	439	39	0	38	1	14	0	96	549	53	0	1387
05:30 PM	19	7	121	0	10	383	45	0	39	11	11	0	89	470	47	0	1252
05:45 PM	14	13	114	0	8	391	24	0	34	10	14	0	105	424	48	1	1200
Total	81	40	480	0	49	1615	139	0	145	27	58	0	401	1979	213	1	5228
Grand Total	296	100	1443	1	132	6144	558	2	483	75	246	1	1318	5476	699	1	16975
Apprch %	16.1	5.4	78.4	0.1	1.9	89.9	8.2	0.0	60.0	9.3	30.6	0.1	17.6	73.1	9.3	0.0	
Total %	1.7	0.6	8.5	0.0	0.8	36.2	3.3	0.0	2.8	0.4	1.4	0.0	7.8	32.3	4.1	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN WAY
E/W STREET: FOUNDERS PKWY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLEN WAY FOUNDERS PKWY 6-3-21
Site Code : 00000022
Start Date : 6/3/2021
Page No : 2

	ALLEN WAY Southbound					FOUNDERS PKWY Westbound					ALLEN WAY Northbound					FOUNDERS PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	60	13	281	1	355	25	1548	120	0	1693	104	11	46	1	162	264	925	150	0	1339	3549
Percent	16.9	3.7	79.2	0.3		1.5	91.4	7.1	0.0		64.2	6.8	28.4	0.6		19.7	69.1	11.2	0.0		
07:45 Volume	17	3	63	0	83	7	402	26	0	435	20	3	14	0	37	71	279	55	0	405	960
Peak Factor																					0.924
High Int.	08:00 AM					07:30 AM					08:00 AM					07:45 AM					
Volume	17	2	80	0	99	3	430	30	0	463	30	5	12	1	48	71	279	55	0	405	
Peak Factor					0.896					0.914					0.844					0.827	

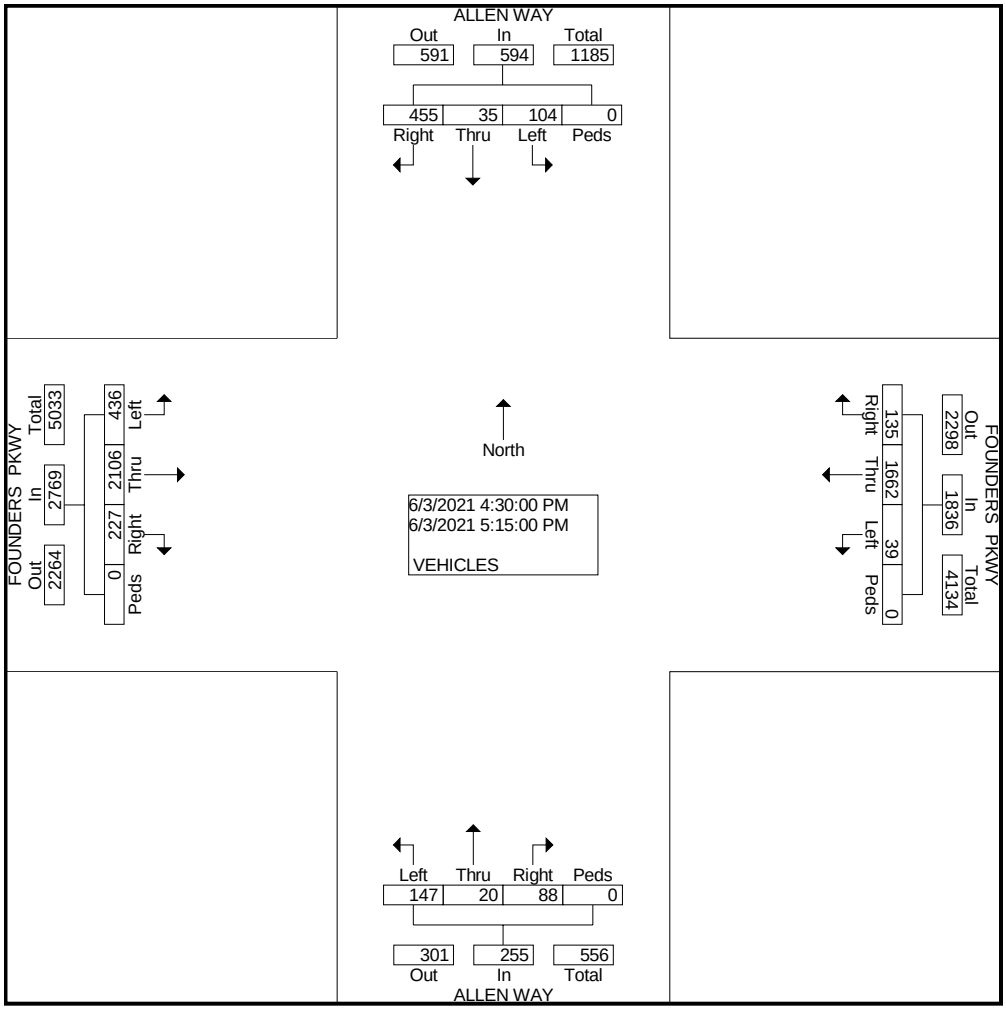


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN WAY
E/W STREET: FOUNDERS PKWY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLEN WAY FOUNDERS PKWY 6-3-21
Site Code : 00000022
Start Date : 6/3/2021
Page No : 2

	ALLEN WAY Southbound					FOUNDERS PKWY Westbound					ALLEN WAY Northbound					FOUNDERS PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	104	35	455	0	594	39	1662	135	0	1836	147	20	88	0	255	436	2106	227	0	2769	5454
Percent	17.5	5.9	76.6	0.0		2.1	90.5	7.4	0.0		57.6	7.8	34.5	0.0		15.7	76.1	8.2	0.0		
04:45 Volume	33	7	103	0	143	1	458	31	0	490	35	2	33	0	70	117	517	55	0	689	1392
Peak Factor																					0.980
High Int.	05:00 PM					05:15 PM					04:30 PM					05:00 PM					
Volume	22	13	137	0	172	17	439	39	0	495	40	12	22	0	74	111	536	65	0	712	
Peak Factor					0.863					0.927					0.861					0.972	



COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: FRONT STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FRONTFOUND
Site Code : 00000020
Start Date : 5/4/2021
Page No : 1

Groups Printed- VEHICLES

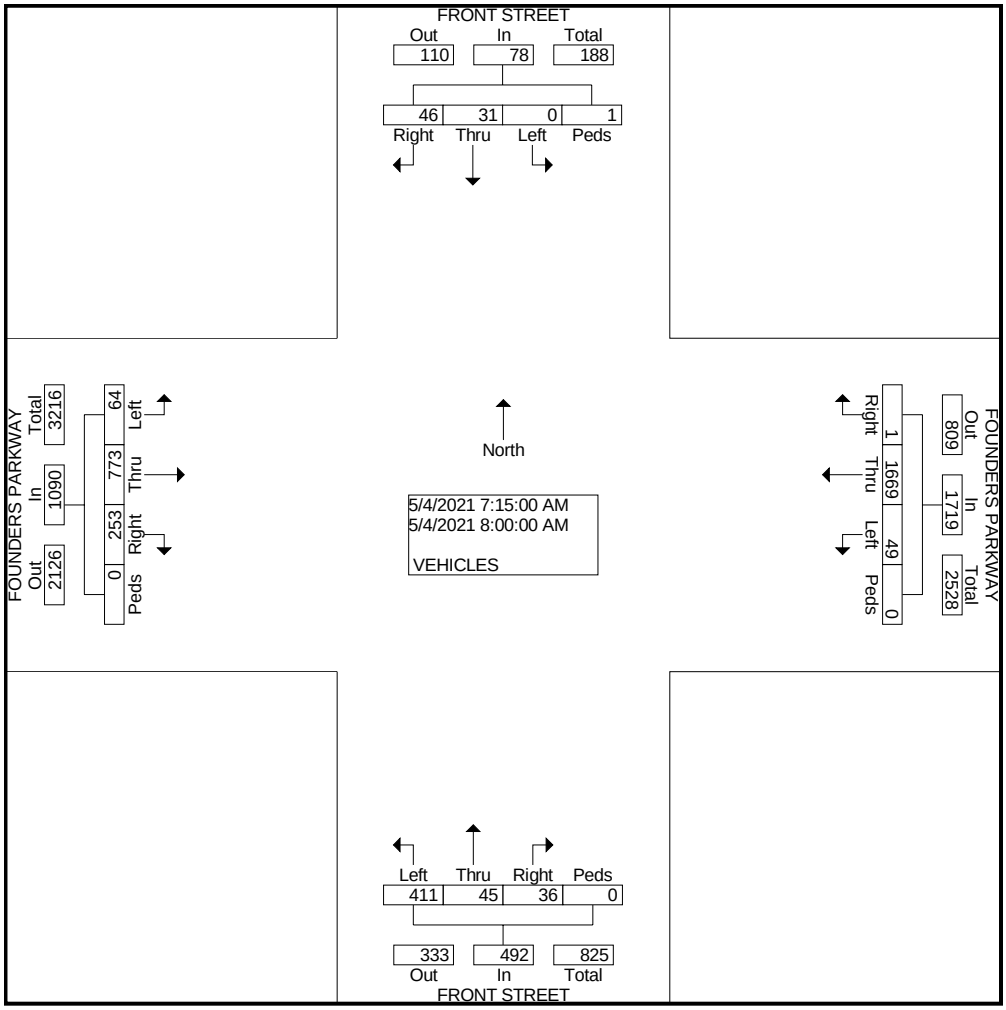
	FRONT STREET Southbound				FOUNDERS PARKWAY Westbound				FRONT STREET Northbound				FOUNDERS PARKWAY Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	2	13	0	8	282	0	0	55	3	4	0	7	105	42	0	522
06:45 AM	0	0	11	0	9	339	0	0	62	6	5	0	5	148	49	4	638
Total	1	2	24	0	17	621	0	0	117	9	9	0	12	253	91	4	1160
07:00 AM	0	0	14	0	12	343	0	0	78	8	6	0	3	126	44	0	634
07:15 AM	0	11	11	0	13	448	0	0	107	12	5	0	10	142	70	0	829
07:30 AM	0	6	12	1	10	458	1	0	106	14	13	0	8	180	51	0	860
07:45 AM	0	6	10	0	11	418	0	0	107	9	6	0	26	231	69	0	893
Total	0	23	47	1	46	1667	1	0	398	43	30	0	47	679	234	0	3216
08:00 AM	0	8	13	0	15	345	0	0	91	10	12	0	20	220	63	0	797
08:15 AM	0	9	17	0	8	331	0	0	64	9	8	0	12	230	73	4	765
Total	0	17	30	0	23	676	0	0	155	19	20	0	32	450	136	4	1562
04:00 PM	0	20	14	0	25	316	0	0	163	30	38	0	41	410	167	0	1224
04:15 PM	1	18	12	1	37	373	0	0	157	34	50	0	38	437	187	0	1345
04:30 PM	0	22	9	0	31	340	0	0	139	20	44	0	33	408	163	1	1210
04:45 PM	0	17	15	1	33	339	0	0	175	23	49	0	48	443	172	0	1315
Total	1	77	50	2	126	1368	0	0	634	107	181	0	160	1698	689	1	5094
05:00 PM	0	14	13	1	26	349	0	0	148	32	53	0	37	453	164	0	1290
05:15 PM	0	18	14	0	31	317	0	0	143	27	48	0	40	400	173	0	1211
05:30 PM	0	23	9	0	25	279	0	0	176	34	45	0	43	514	169	0	1317
05:45 PM	0	14	7	0	23	306	0	0	126	23	48	0	37	410	145	0	1139
Total	0	69	43	1	105	1251	0	0	593	116	194	0	157	1777	651	0	4957
Grand Total	2	188	194	4	317	5583	1	0	1897	294	434	0	408	4857	1801	9	15989
Apprch %	0.5	48.5	50.0	1.0	5.4	94.6	0.0	0.0	72.3	11.2	16.5	0.0	5.8	68.7	25.5	0.1	
Total %	0.0	1.2	1.2	0.0	2.0	34.9	0.0	0.0	11.9	1.8	2.7	0.0	2.6	30.4	11.3	0.1	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: FRONT STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FRONTFOUND
Site Code : 00000020
Start Date : 5/4/2021
Page No : 2

	FRONT STREET Southbound					FOUNDERS PARKWAY Westbound					FRONT STREET Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	0	31	46	1	78	49	1669	1	0	1719	411	45	36	0	492	64	773	253	0	1090	3379
Percent	0.0	39.7	59.0	1.3		2.9	97.1	0.1	0.0		83.5	9.1	7.3	0.0		5.9	70.9	23.2	0.0		
07:45 Volume	0	6	10	0	16	11	418	0	0	429	107	9	6	0	122	26	231	69	0	326	893
Peak Factor																					0.946
High Int.	07:15 AM					07:30 AM					07:30 AM					07:45 AM					
Volume	0	11	11	0	22	10	458	1	0	469	106	14	13	0	133	26	231	69	0	326	
Peak Factor					0.886					0.916					0.925					0.836	

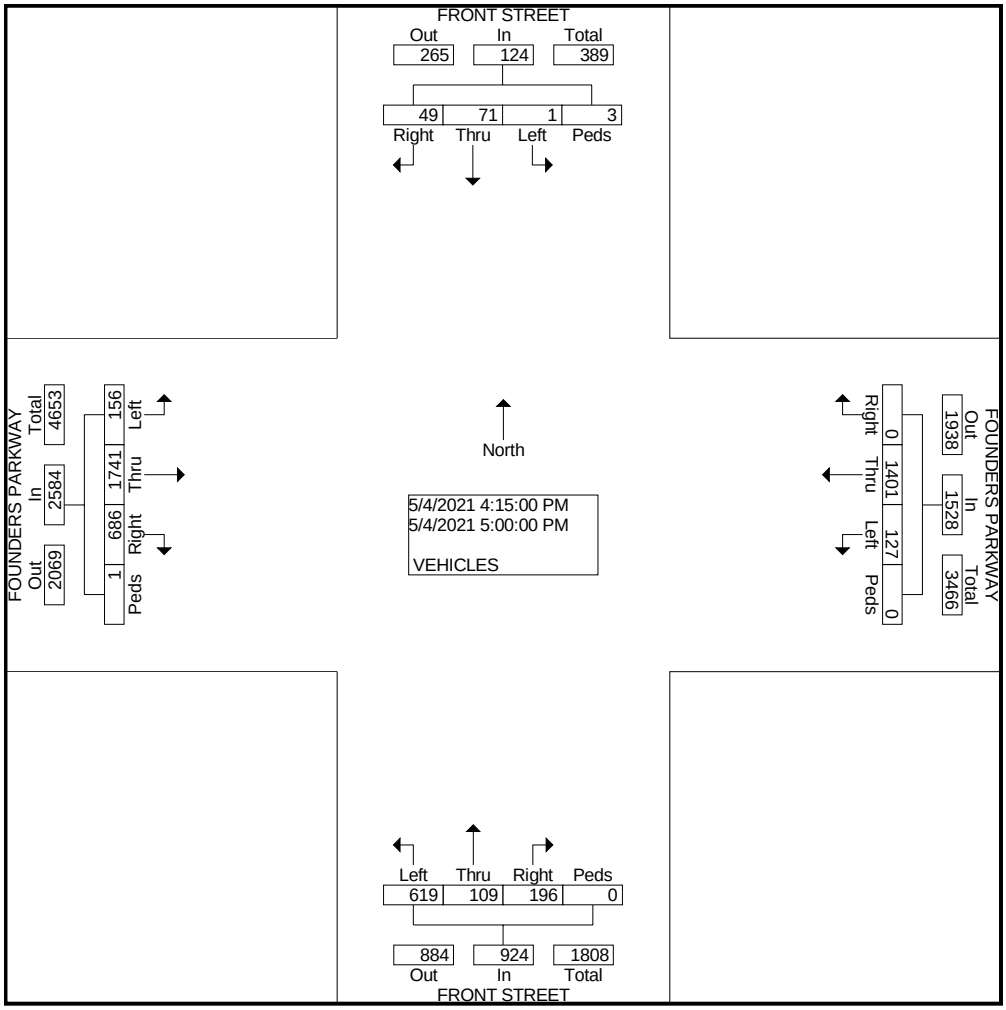


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: FRONT STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FRONTFOUND
Site Code : 00000020
Start Date : 5/4/2021
Page No : 2

	FRONT STREET Southbound					FOUNDERS PARKWAY Westbound					FRONT STREET Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	1	71	49	3	124	127	1401	0	0	1528	619	109	196	0	924	156	1741	686	1	2584	5160
Percent	0.8	57.3	39.5	2.4		8.3	91.7	0.0	0.0		67.0	11.8	21.2	0.0		6.0	67.4	26.5	0.0		
04:15 Volume	1	18	12	1	32	37	373	0	0	410	157	34	50	0	241	38	437	187	0	662	1345
Peak Factor																					0.959
High Int.	04:45 PM					04:15 PM					04:45 PM					04:45 PM					
Volume	0	17	15	1	33	37	373	0	0	410	175	23	49	0	247	48	443	172	0	663	
Peak Factor					0.939					0.932					0.935					0.974	



COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 1

Groups Printed- 1 - VEHICLES

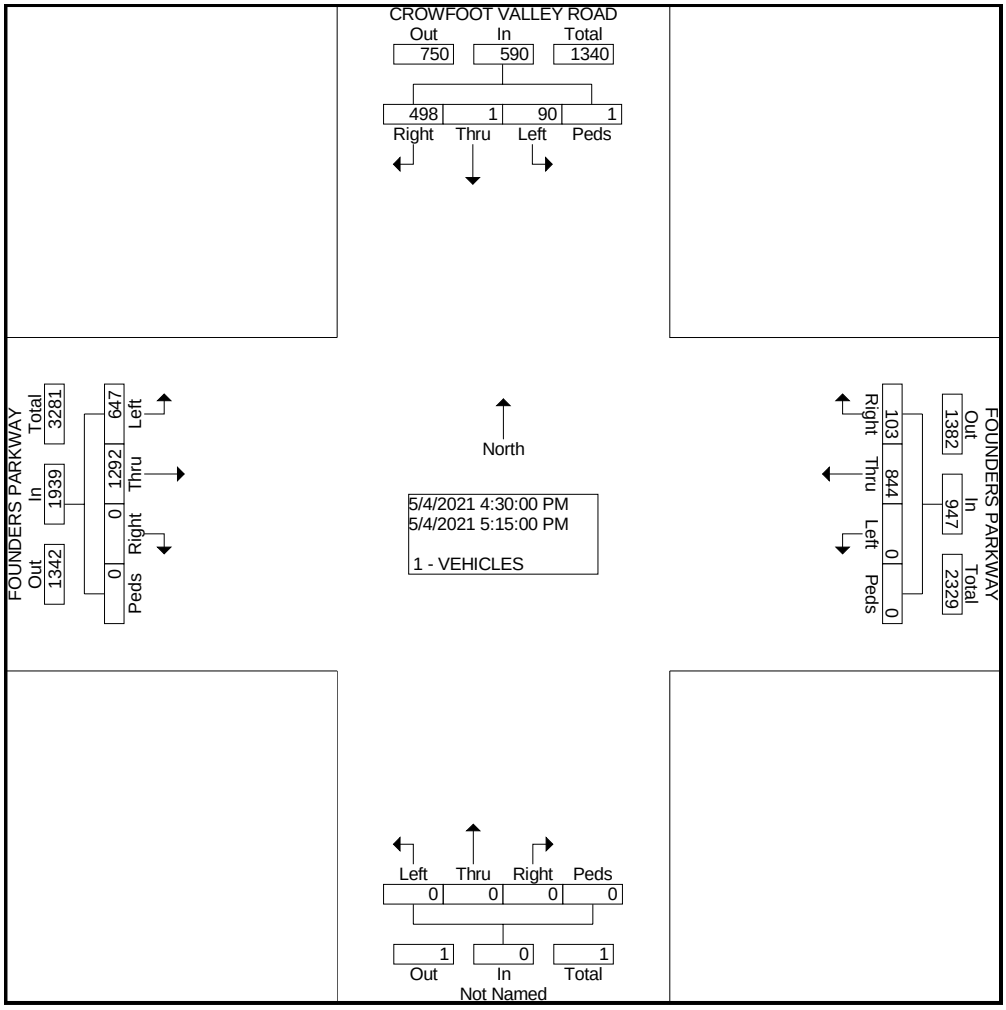
	CROWFOOT VALLEY ROAD Southbound				FOUNDERS PARKWAY Westbound				Northbound				FOUNDERS PARKWAY Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	8	0	71	0	0	252	11	0	0	0	0	0	50	65	0	0	457
06:45 AM	15	0	122	0	0	242	18	0	0	0	0	0	53	92	0	0	542
Total	23	0	193	0	0	494	29	0	0	0	0	0	103	157	0	0	999
07:00 AM	19	0	144	0	0	273	26	0	0	0	0	0	61	77	0	0	600
07:15 AM	10	0	187	0	0	310	31	0	0	0	0	0	48	87	0	0	673
07:30 AM	12	0	162	0	0	389	46	0	0	0	0	0	91	100	0	0	800
07:45 AM	23	0	154	1	0	284	18	0	0	0	0	0	65	121	0	0	666
Total	64	0	647	1	0	1256	121	0	0	0	0	0	265	385	0	0	2739
08:00 AM	14	0	124	0	0	301	21	0	0	0	0	0	87	128	0	0	675
08:15 AM	28	0	108	0	0	250	19	0	0	0	0	0	80	137	0	0	622
Total	42	0	232	0	0	551	40	0	0	0	0	0	167	265	0	0	1297
04:00 PM	22	0	109	0	0	217	47	0	0	0	0	0	164	286	0	0	845
04:15 PM	23	0	149	0	0	271	27	0	0	0	0	0	129	270	0	0	869
04:30 PM	20	1	130	0	0	225	27	0	0	0	0	0	167	344	0	0	914
04:45 PM	32	0	123	1	0	226	25	0	0	0	0	0	137	263	0	0	807
Total	97	1	511	1	0	939	126	0	0	0	0	0	597	1163	0	0	3435
05:00 PM	16	0	113	0	0	194	26	0	0	0	0	0	176	350	0	0	875
05:15 PM	22	0	132	0	0	199	25	0	0	0	0	0	167	335	0	0	880
05:30 PM	30	0	119	0	0	182	18	0	0	0	0	0	195	336	0	0	880
05:45 PM	18	0	125	0	0	191	21	0	0	0	0	0	132	319	0	0	806
Total	86	0	489	0	0	766	90	0	0	0	0	0	670	1340	0	0	3441
Grand Total	312	1	2072	2	0	4006	406	0	0	0	0	0	1802	3310	0	0	11911
Apprch %	13.1	0.0	86.8	0.1	0.0	90.8	9.2	0.0	0.0	0.0	0.0	0.0	35.3	64.7	0.0	0.0	
Total %	2.6	0.0	17.4	0.0	0.0	33.6	3.4	0.0	0.0	0.0	0.0	0.0	15.1	27.8	0.0	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 2

	CROWFOOT VALLEY ROAD Southbound					FOUNDERS PARKWAY Westbound					Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	90	1	498	1	590	0	844	103	0	947	0	0	0	0	0	647	1292	0	0	1939	3476
Percent	15.3	0.2	84.4	0.2		0.0	89.1	10.9	0.0		0.0	0.0	0.0	0.0		33.4	66.6	0.0	0.0		
04:30 Volume	20	1	130	0	151	0	225	27	0	252	0	0	0	0	0	167	344	0	0	511	914
Peak Factor																					0.951
High Int.	04:45 PM					04:30 PM										05:00 PM					
Volume	32	0	123	1	156	0	225	27	0	252	0	0	0	0	0	176	350	0	0	526	
Peak Factor					0.946					0.939										0.922	

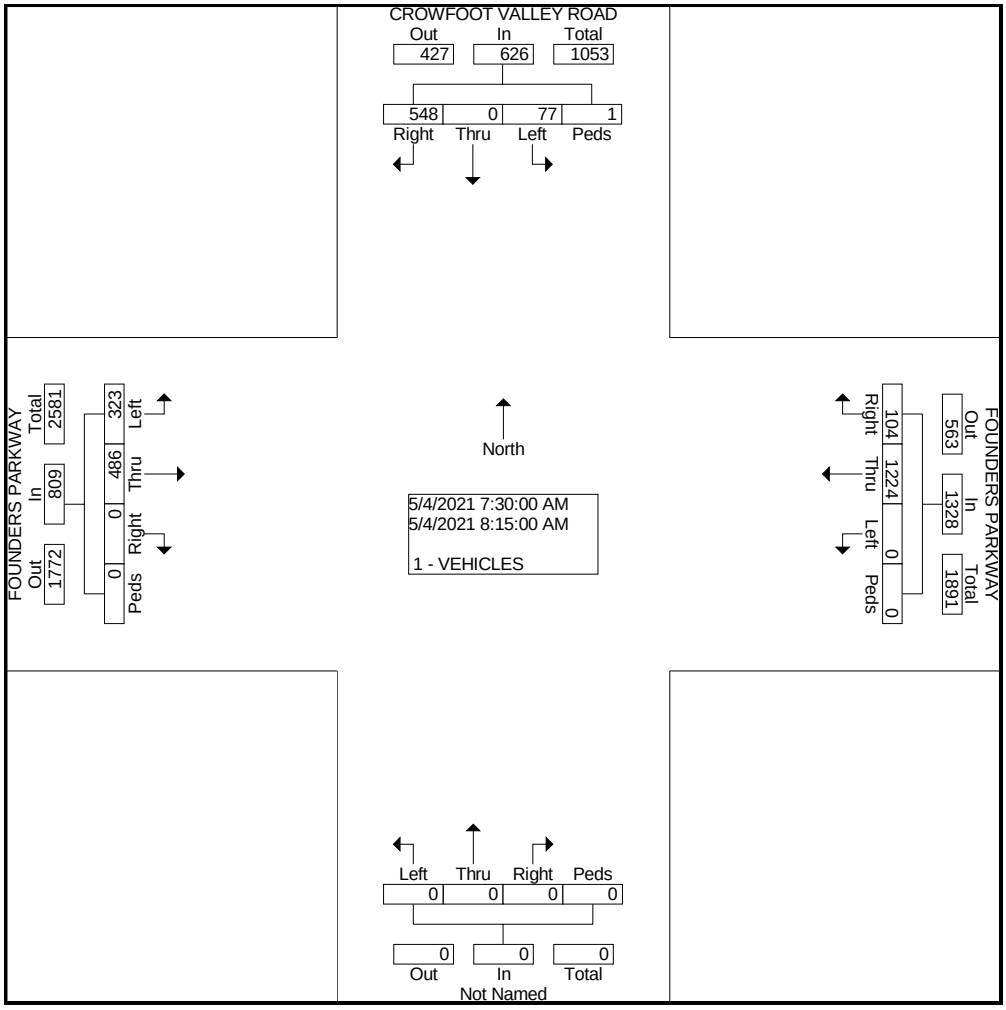


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 2

	CROWFOOT VALLEY ROAD Southbound					FOUNDERS PARKWAY Westbound					Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	77	0	548	1	626	0	1224	104	0	1328	0	0	0	0	0	323	486	0	0	809	2763
Percent	12.3	0.0	87.5	0.2		0.0	92.2	7.8	0.0		0.0	0.0	0.0	0.0		39.9	60.1	0.0	0.0		
07:30 Volume	12	0	162	0	174	0	389	46	0	435	0	0	0	0	0	91	100	0	0	191	800
Peak Factor																					0.863
High Int.	07:45 AM					07:30 AM										08:15 AM					
Volume	23	0	154	1	178	0	389	46	0	435	0	0	0	0	0	80	137	0	0	217	
Peak Factor					0.879					0.763										0.932	



COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 1

Groups Printed- VEHICLES

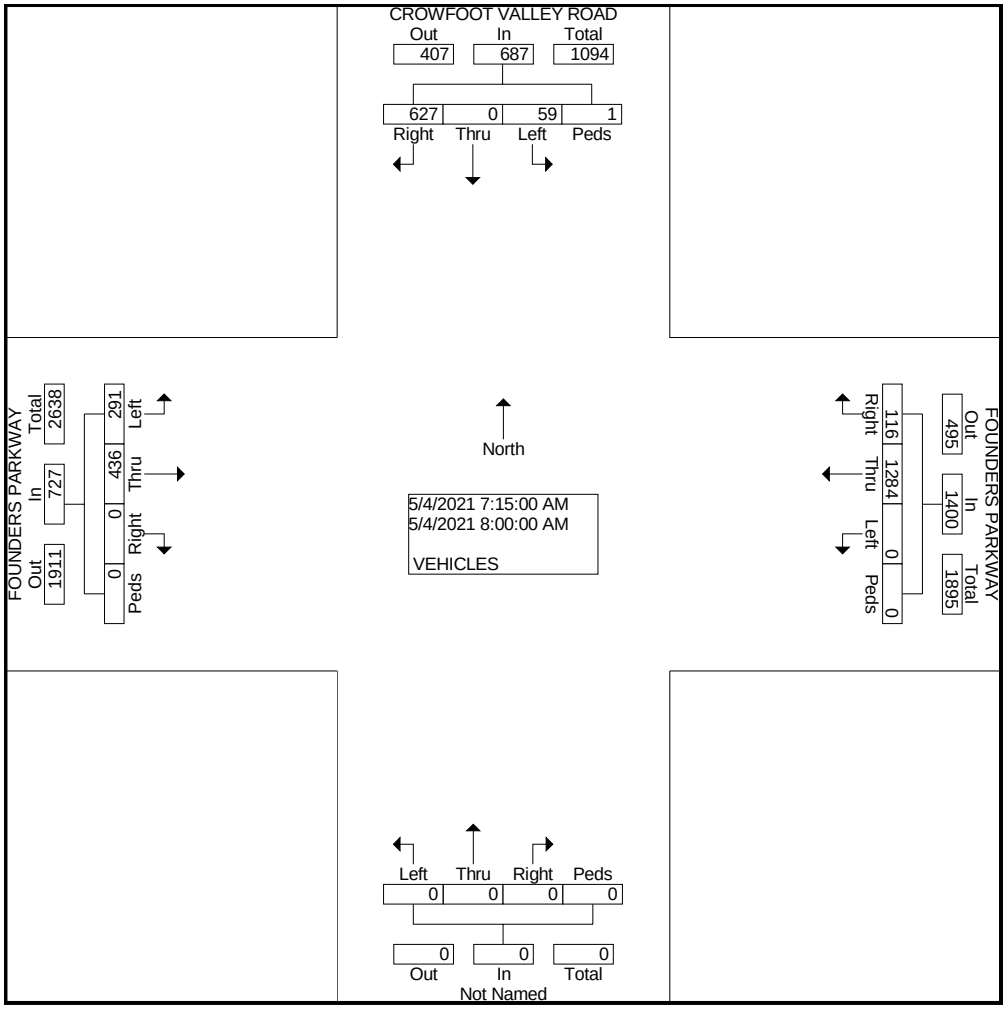
	CROWFOOT VALLEY ROAD Southbound				FOUNDERS PARKWAY Westbound				Northbound				FOUNDERS PARKWAY Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	8	0	71	0	0	252	11	0	0	0	0	0	50	65	0	0	457
06:45 AM	15	0	122	0	0	242	18	0	0	0	0	0	53	92	0	0	542
Total	23	0	193	0	0	494	29	0	0	0	0	0	103	157	0	0	999
07:00 AM	19	0	144	0	0	273	26	0	0	0	0	0	61	77	0	0	600
07:15 AM	10	0	187	0	0	310	31	0	0	0	0	0	48	87	0	0	673
07:30 AM	12	0	162	0	0	389	46	0	0	0	0	0	91	100	0	0	800
07:45 AM	23	0	154	1	0	284	18	0	0	0	0	0	65	121	0	0	666
Total	64	0	647	1	0	1256	121	0	0	0	0	0	265	385	0	0	2739
08:00 AM	14	0	124	0	0	301	21	0	0	0	0	0	87	128	0	0	675
08:15 AM	28	0	108	0	0	250	19	0	0	0	0	0	80	137	0	0	622
Total	42	0	232	0	0	551	40	0	0	0	0	0	167	265	0	0	1297
04:00 PM	22	0	109	0	0	217	47	0	0	0	0	0	164	286	0	0	845
04:15 PM	23	0	149	0	0	271	27	0	0	0	0	0	129	270	0	0	869
04:30 PM	20	1	130	0	0	225	27	0	0	0	0	0	167	344	0	0	914
04:45 PM	32	0	123	1	0	226	25	0	0	0	0	0	137	263	0	0	807
Total	97	1	511	1	0	939	126	0	0	0	0	0	597	1163	0	0	3435
05:00 PM	16	0	113	0	0	194	26	0	0	0	0	0	176	350	0	0	875
05:15 PM	22	0	132	0	0	199	25	0	0	0	0	0	167	335	0	0	880
05:30 PM	30	0	119	0	0	182	18	0	0	0	0	0	195	336	0	0	880
05:45 PM	18	0	125	0	0	191	21	0	0	0	0	0	132	319	0	0	806
Total	86	0	489	0	0	766	90	0	0	0	0	0	670	1340	0	0	3441
Grand Total	312	1	2072	2	0	4006	406	0	0	0	0	0	1802	3310	0	0	11911
Apprch %	13.1	0.0	86.8	0.1	0.0	90.8	9.2	0.0	0.0	0.0	0.0	0.0	35.3	64.7	0.0	0.0	
Total %	2.6	0.0	17.4	0.0	0.0	33.6	3.4	0.0	0.0	0.0	0.0	0.0	15.1	27.8	0.0	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 2

	CROWFOOT VALLEY ROAD Southbound					FOUNDERS PARKWAY Westbound					Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	59	0	627	1	687	0	1284	116	0	1400	0	0	0	0	0	291	436	0	0	727	2814
Percent	8.6	0.0	91.3	0.1		0.0	91.7	8.3	0.0		0.0	0.0	0.0	0.0		40.0	60.0	0.0	0.0		
07:30 Volume	12	0	162	0	174	0	389	46	0	435	0	0	0	0	0	91	100	0	0	191	800
Peak Factor																					0.879
High Int.	07:15 AM					07:30 AM										08:00 AM					
Volume	10	0	187	0	197	0	389	46	0	435	0	0	0	0	0	87	128	0	0	215	
Peak Factor					0.872					0.805										0.845	

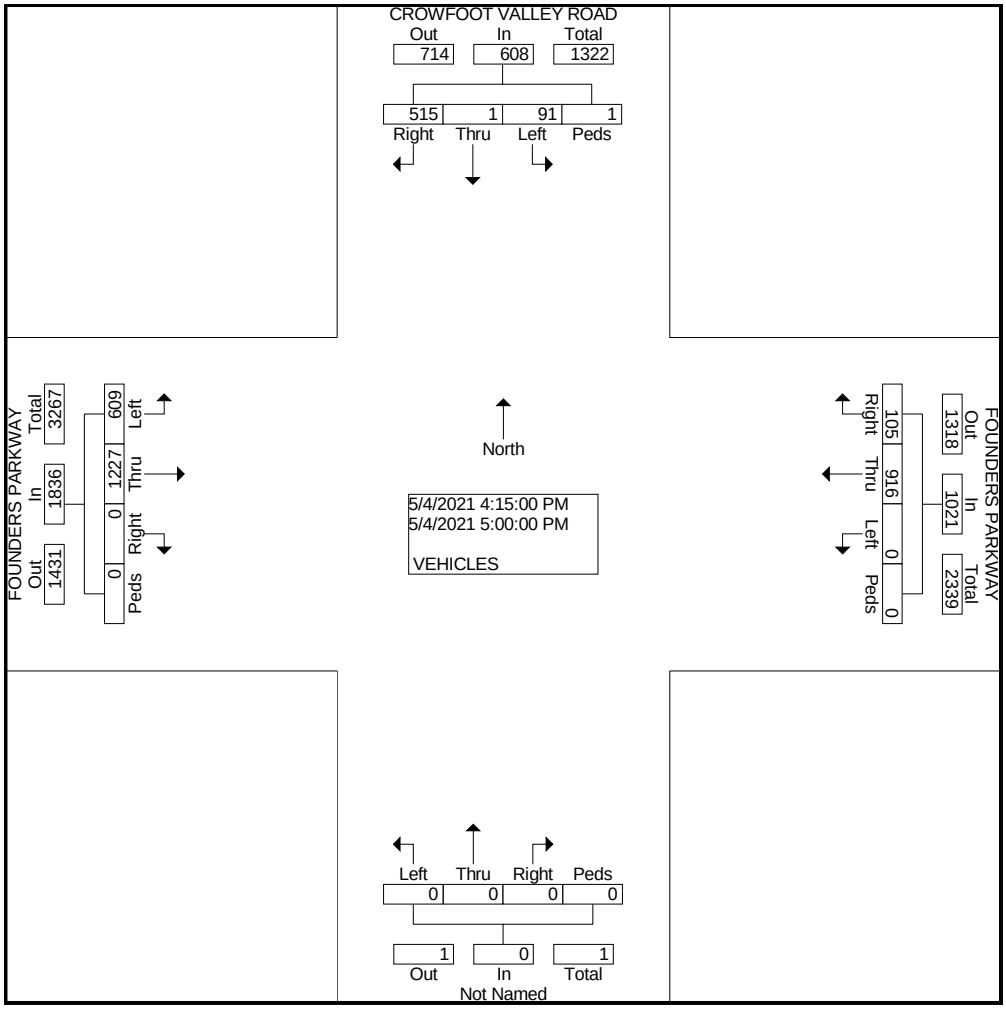


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: CROWFOOT VALLEY ROAD
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : CROWFOUND
Site Code : 00000016
Start Date : 5/4/2021
Page No : 2

	CROWFOOT VALLEY ROAD Southbound					FOUNDERS PARKWAY Westbound					Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	91	1	515	1	608	0	916	105	0	1021	0	0	0	0	0	609	1227	0	0	1836	3465
Percent	15.0	0.2	84.7	0.2		0.0	89.7	10.3	0.0		0.0	0.0	0.0	0.0		33.2	66.8	0.0	0.0		
04:30 Volume	20	1	130	0	151	0	225	27	0	252	0	0	0	0	0	167	344	0	0	511	914
Peak Factor																					0.948
High Int.	04:15 PM					04:15 PM										05:00 PM					
Volume	23	0	149	0	172	0	271	27	0	298	0	0	0	0	0	176	350	0	0	526	
Peak Factor					0.884					0.857										0.873	



COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLENSTFOUND
Site Code : 00000016
Start Date : 4/29/2021
Page No : 1

Groups Printed- VEHICLES

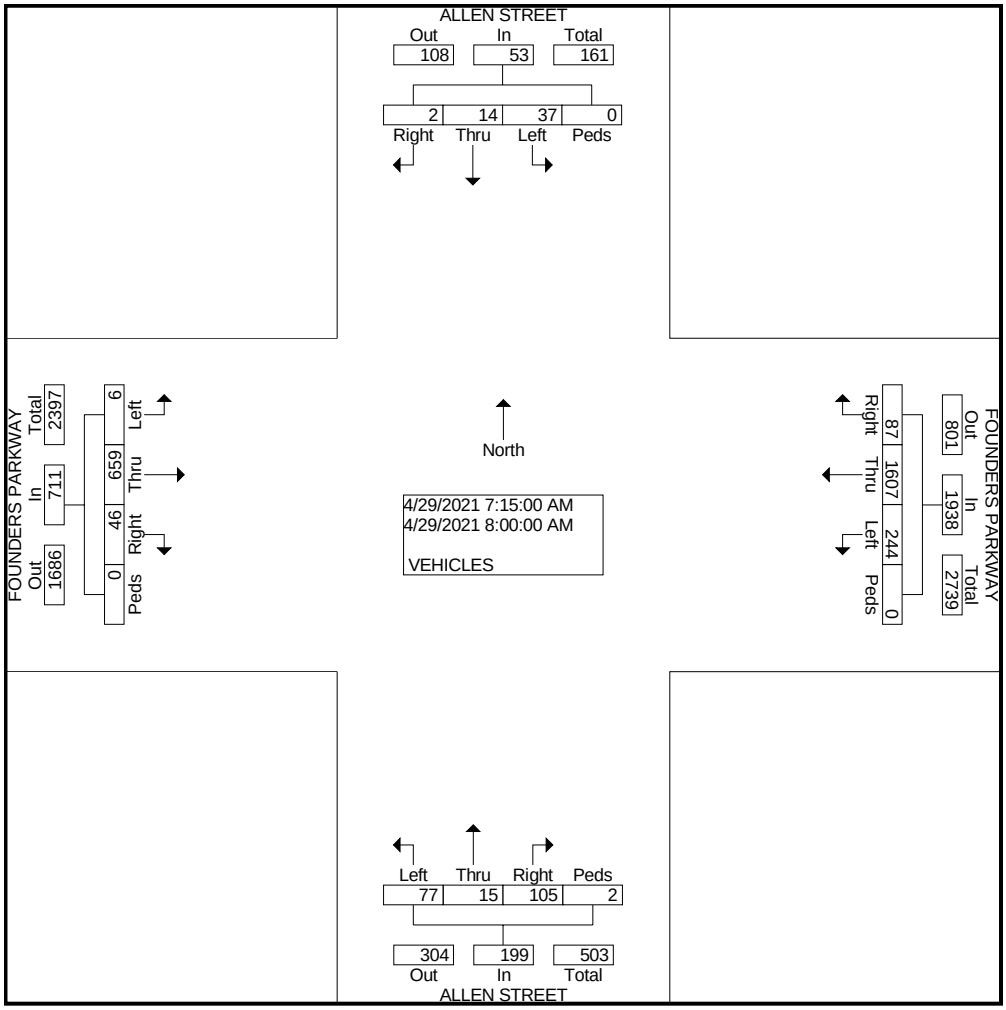
	ALLEN STREET Southbound				FOUNDERS PARKWAY Westbound				ALLEN STREET Northbound				FOUNDERS PARKWAY Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	7	1	1	0	17	261	8	0	12	1	19	0	1	112	2	0	442
06:45 AM	13	1	2	0	43	339	19	0	11	1	20	0	0	106	4	0	559
Total	20	2	3	0	60	600	27	0	23	2	39	0	1	218	6	0	1001
07:00 AM	8	1	0	0	49	311	15	0	13	5	23	0	0	124	6	0	555
07:15 AM	10	0	0	0	91	442	25	0	16	1	23	0	1	134	3	0	746
07:30 AM	5	5	2	0	36	434	22	0	23	5	38	0	1	165	5	0	741
07:45 AM	7	4	0	0	64	432	27	0	14	5	19	0	3	176	16	0	767
Total	30	10	2	0	240	1619	89	0	66	16	103	0	5	599	30	0	2809
08:00 AM	15	5	0	0	53	299	13	0	24	4	25	2	1	184	22	0	647
08:15 AM	8	7	1	0	71	321	24	0	13	3	41	0	1	195	20	1	706
Total	23	12	1	0	124	620	37	0	37	7	66	2	2	379	42	1	1353
04:00 PM	46	15	2	0	43	284	19	0	22	9	100	2	4	386	15	0	947
04:15 PM	45	7	2	0	57	330	23	0	16	8	38	3	0	371	5	2	907
04:30 PM	43	12	0	0	43	319	21	0	24	12	90	0	3	362	11	0	940
04:45 PM	28	10	0	0	54	302	20	0	21	9	61	0	4	363	26	0	898
Total	162	44	4	0	197	1235	83	0	83	38	289	5	11	1482	57	2	3692
05:00 PM	55	17	2	0	48	268	26	1	21	13	61	2	1	372	10	0	897
05:15 PM	46	18	0	0	38	356	23	0	27	13	51	0	2	367	16	0	957
05:30 PM	36	16	1	0	42	279	27	0	19	10	57	0	2	337	27	0	853
05:45 PM	24	7	0	0	44	248	23	0	8	4	38	0	3	367	26	0	792
Total	161	58	3	0	172	1151	99	1	75	40	207	2	8	1443	79	0	3499
Grand Total	396	126	13	0	793	5225	335	1	284	103	704	9	27	4121	214	3	12354
Apprch %	74.0	23.6	2.4	0.0	12.5	82.2	5.3	0.0	25.8	9.4	64.0	0.8	0.6	94.4	4.9	0.1	
Total %	3.2	1.0	0.1	0.0	6.4	42.3	2.7	0.0	2.3	0.8	5.7	0.1	0.2	33.4	1.7	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLENSTFOUND
Site Code : 00000016
Start Date : 4/29/2021
Page No : 2

	ALLEN STREET Southbound					FOUNDERS PARKWAY Westbound					ALLEN STREET Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	37	14	2	0	53	244	1607	87	0	1938	77	15	105	2	199	6	659	46	0	711	2901
Percent	69.8	26.4	3.8	0.0		12.6	82.9	4.5	0.0		38.7	7.5	52.8	1.0		0.8	92.7	6.5	0.0		
07:45 Volume	7	4	0	0	11	64	432	27	0	523	14	5	19	0	38	3	176	16	0	195	767
Peak Factor																					0.946
High Int.	08:00 AM					07:15 AM					07:30 AM					08:00 AM					
Volume	15	5	0	0	20	91	442	25	0	558	23	5	38	0	66	1	184	22	0	207	
Peak Factor					0.663					0.868					0.754					0.859	

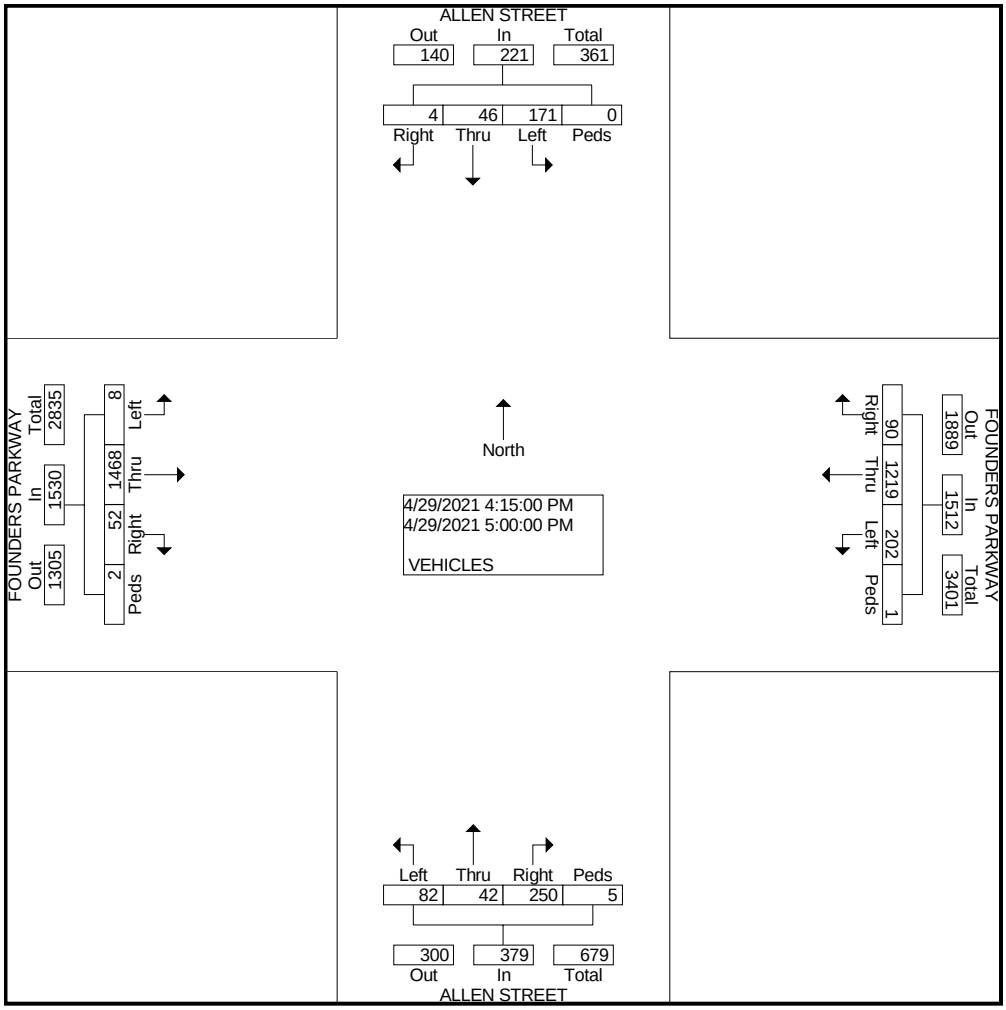


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: ALLEN STREET
E/W STREET: FOUNDERS PARKWAY
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : ALLENSTFOUND
Site Code : 00000016
Start Date : 4/29/2021
Page No : 2

	ALLEN STREET Southbound					FOUNDERS PARKWAY Westbound					ALLEN STREET Northbound					FOUNDERS PARKWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	171	46	4	0	221	202	1219	90	1	1512	82	42	250	5	379	8	1468	52	2	1530	3642
Percent	77.4	20.8	1.8	0.0		13.4	80.6	6.0	0.1		21.6	11.1	66.0	1.3		0.5	95.9	3.4	0.1		
04:30 Volume	43	12	0	0	55	43	319	21	0	383	24	12	90	0	126	3	362	11	0	376	940
Peak Factor																					0.969
High Int.	05:00 PM					04:15 PM					04:30 PM					04:45 PM					
Volume	55	17	2	0	74	57	330	23	0	410	24	12	90	0	126	4	363	26	0	393	
Peak Factor					0.747					0.922					0.752					0.973	



COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET:FOUNDERS PARKWAY
E/W STREET: 5TH ST/STATE ROAD 86
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FOUNDSR86
Site Code : 00000017
Start Date : 4/27/2021
Page No : 1

Groups Printed- VEHICLES

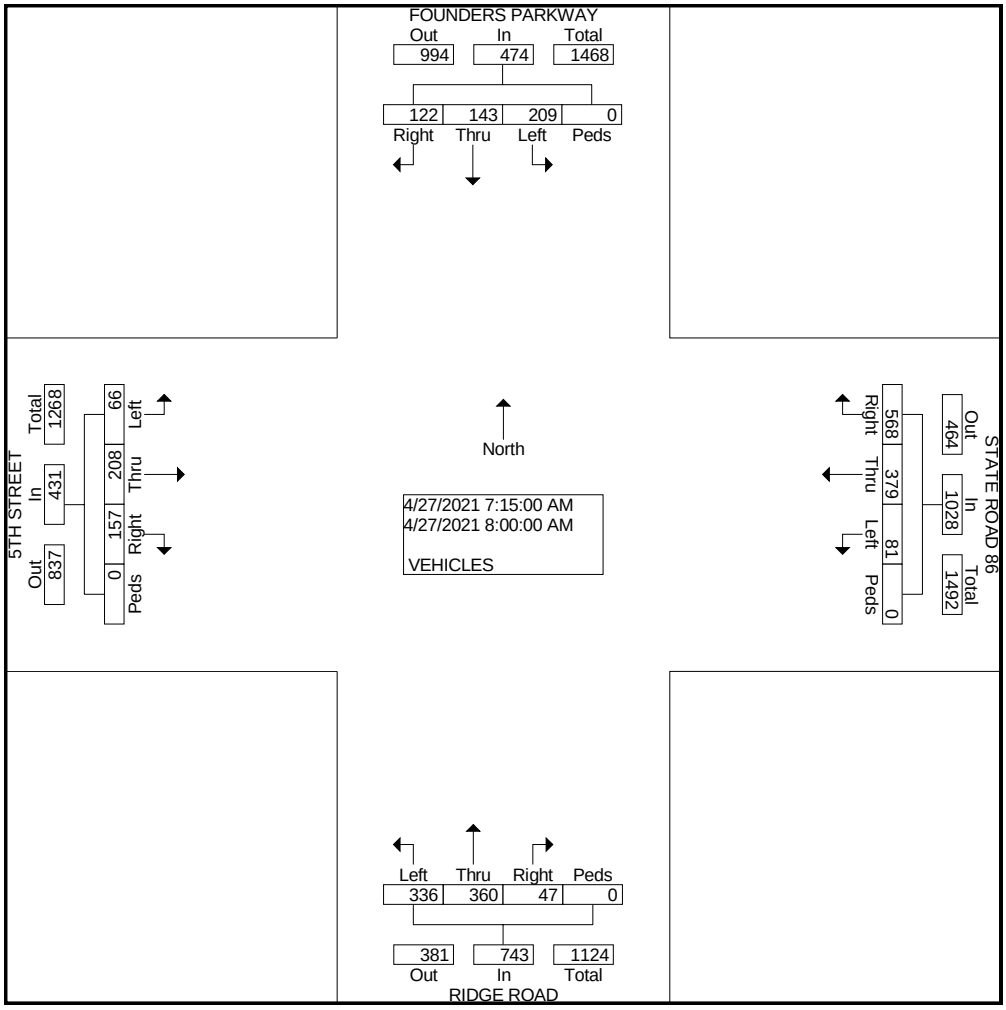
	FOUNDERS PARKWAY Southbound				STATE ROAD 86 Westbound				RIDGE ROAD Northbound				5TH STREET Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	41	19	14	0	12	75	107	0	37	59	8	0	10	24	22	0	428
06:45 AM	59	17	18	0	11	70	103	0	46	68	7	0	14	51	10	0	474
Total	100	36	32	0	23	145	210	0	83	127	15	0	24	75	32	0	902
07:00 AM	75	19	31	0	13	86	100	0	81	95	4	0	12	37	21	0	574
07:15 AM	52	37	39	0	22	118	147	0	132	95	9	0	15	52	35	0	753
07:30 AM	60	30	41	0	13	109	167	0	87	103	10	0	19	49	51	0	739
07:45 AM	49	30	22	0	24	93	124	0	79	81	13	0	17	53	38	0	623
Total	236	116	133	0	72	406	538	0	379	374	36	0	63	191	145	0	2689
08:00 AM	48	46	20	0	22	59	130	0	38	81	15	0	15	54	33	0	561
08:15 AM	49	29	24	0	19	77	129	0	58	84	12	0	19	42	28	0	570
Total	97	75	44	0	41	136	259	0	96	165	27	0	34	96	61	0	1131
04:00 PM	123	98	30	0	18	62	98	0	39	68	4	0	32	89	76	0	737
04:15 PM	122	108	17	0	32	63	87	0	53	85	15	0	35	88	66	0	771
04:30 PM	116	92	22	0	30	56	88	0	44	74	13	0	28	91	86	0	740
04:45 PM	148	121	22	0	22	56	84	0	40	69	14	0	36	93	116	0	821
Total	509	419	91	0	102	237	357	0	176	296	46	0	131	361	344	0	3069
05:00 PM	119	87	18	0	17	52	78	0	53	66	14	0	31	90	79	1	705
05:15 PM	114	105	15	4	34	62	60	0	49	80	10	0	33	89	97	0	752
05:30 PM	138	93	11	0	19	57	76	0	33	69	16	0	25	89	82	0	708
05:45 PM	96	76	23	0	31	57	56	0	38	56	6	0	37	79	62	0	617
Total	467	361	67	4	101	228	270	0	173	271	46	0	126	347	320	1	2782
Grand Total	1409	1007	367	4	339	1152	1634	0	907	1233	170	0	378	1070	902	1	10573
Apprch %	50.6	36.1	13.2	0.1	10.8	36.9	52.3	0.0	39.3	53.4	7.4	0.0	16.1	45.5	38.4	0.0	
Total %	13.3	9.5	3.5	0.0	3.2	10.9	15.5	0.0	8.6	11.7	1.6	0.0	3.6	10.1	8.5	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET:FOUNDERS PARKWAY
E/W STREET: 5TH ST/STATE ROAD 86
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FOUNDSR86
Site Code : 00000017
Start Date : 4/27/2021
Page No : 2

	FOUNDERS PARKWAY Southbound					STATE ROAD 86 Westbound					RIDGE ROAD Northbound					5TH STREET Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	209	143	122	0	474	81	379	568	0	1028	336	360	47	0	743	66	208	157	0	431	2676
Percent	44.1	30.2	25.7	0.0		7.9	36.9	55.3	0.0		45.2	48.5	6.3	0.0		15.3	48.3	36.4	0.0		
07:15 Volume	52	37	39	0	128	22	118	147	0	287	132	95	9	0	236	15	52	35	0	102	753
Peak Factor																					0.888
High Int.	07:30 AM					07:30 AM					07:15 AM					07:30 AM					
Volume	60	30	41	0	131	13	109	167	0	289	132	95	9	0	236	19	49	51	0	119	
Peak Factor					0.905					0.889					0.787					0.905	

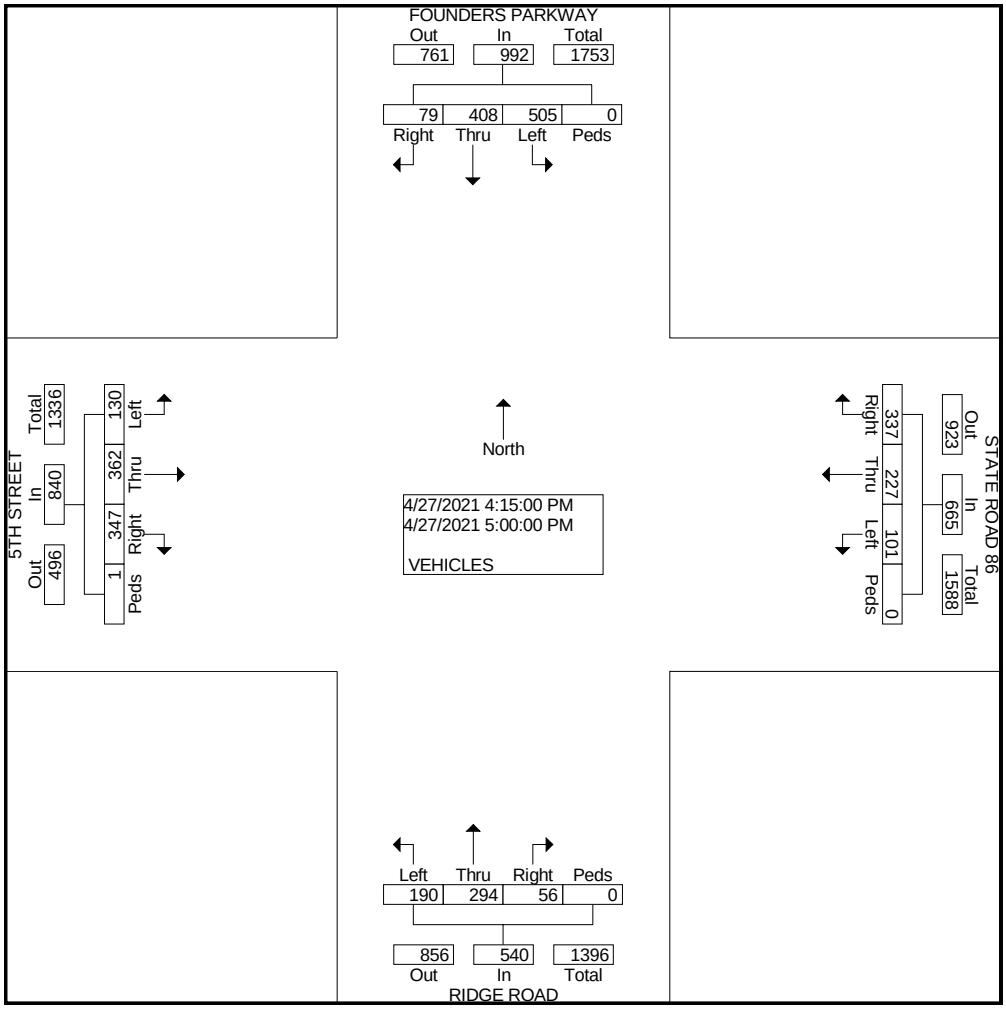


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET:FOUNDERS PARKWAY
E/W STREET: 5TH ST/STATE ROAD 86
CITY: CASTLE ROCK
COUNTY: DOUGLAS

File Name : FOUNDSR86
Site Code : 00000017
Start Date : 4/27/2021
Page No : 2

	FOUNDERS PARKWAY Southbound					STATE ROAD 86 Westbound					RIDGE ROAD Northbound					5TH STREET Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	505	408	79	0	992	101	227	337	0	665	190	294	56	0	540	130	362	347	1	840	3037
Percent	50.9	41.1	8.0	0.0		15.2	34.1	50.7	0.0		35.2	54.4	10.4	0.0		15.5	43.1	41.3	0.1		
04:45 Volume	148	121	22	0	291	22	56	84	0	162	40	69	14	0	123	36	93	116	0	245	821
Peak Factor																					0.925
High Int.	04:45 PM					04:15 PM					04:15 PM					04:45 PM					
Volume	148	121	22	0	291	32	63	87	0	182	53	85	15	0	153	36	93	116	0	245	
Peak Factor					0.852					0.913					0.882					0.857	



Location: CASTLE OAKS DR S-O ROCKY VIEW RD
City: CASTLE ROCK
County: DOUGLAS
Direction: NORTH/SOUTH

COUNTER MEASURES INC.
1889 YORK STREET
DENVER,COLORADO 80206
303-333-7409

Site Code: 210314
Station ID: 210314

Start Time	04-May-21 Tue	NORTHBOU	SOUTHBOU								Total
12:00 AM		5	3								8
01:00		1	1								2
02:00		0	0								0
03:00		1	3								4
04:00		1	14								15
05:00		3	47								50
06:00		22	136								158
07:00		70	**202**								**272**
08:00		89	160								249
09:00		91	117								208
10:00		78	106								184
11:00		**105**	137								242
12:00 PM		121	120								241
01:00		104	109								213
02:00		121	116								237
03:00		167	127								294
04:00		203	132								335
05:00		**218**	**147**								**365**
06:00		177	105								282
07:00		118	69								187
08:00		97	44								141
09:00		53	18								71
10:00		23	9								32
11:00		9	8								17
Total		1877	1930								3807
Percent		49.3%	50.7%								
AM Peak	-	11:00	07:00	-	-	-	-	-	-		07:00
Vol.	-	105	202	-	-	-	-	-	-		272
PM Peak	-	17:00	17:00	-	-	-	-	-	-		17:00
Vol.	-	218	147	-	-	-	-	-	-		365

Location: CASTLE OAKS DR S-O ROCKY VIEW RD
City: CASTLE ROCK
County: DOUGLAS
Direction: NORTH/SOUTH

COUNTER MEASURES INC.
1889 YORK STREET
DENVER,COLORADO 80206
303-333-7409

Site Code: 210314
Station ID: 210314

Start Time	05-May-21 Wed	NORTHBOU	SOUTHBOU							Total
12:00 AM		6	5							11
01:00		1	2							3
02:00		1	1							2
03:00		2	3							5
04:00		2	9							11
05:00		4	58							62
06:00		29	136							165
07:00		72	**217**							**289**
08:00		**99**	183							282
09:00		23	25							48
10:00		0	0							0
11:00		0	0							0
12:00 PM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		0	0							0
06:00		0	0							0
07:00		0	0							0
08:00		0	0							0
09:00		0	0							0
10:00		0	0							0
11:00		0	0							0
Total		239	639							878
Percent		27.2%	72.8%							
AM Peak	-	08:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	99	217	-	-	-	-	-	-	289
PM Peak	-	-	-	-	-	-	-	-	-	-
Vol.	-	-	-	-	-	-	-	-	-	-
Grand Total		2116	2569							4685
Percent		45.2%	54.8%							
ADT		ADT 2,342		AADT 2,342						

COUNTER MEASURES INC.

1889 YORK STREET
DENVER,COLORADO 80206
303-333-7409

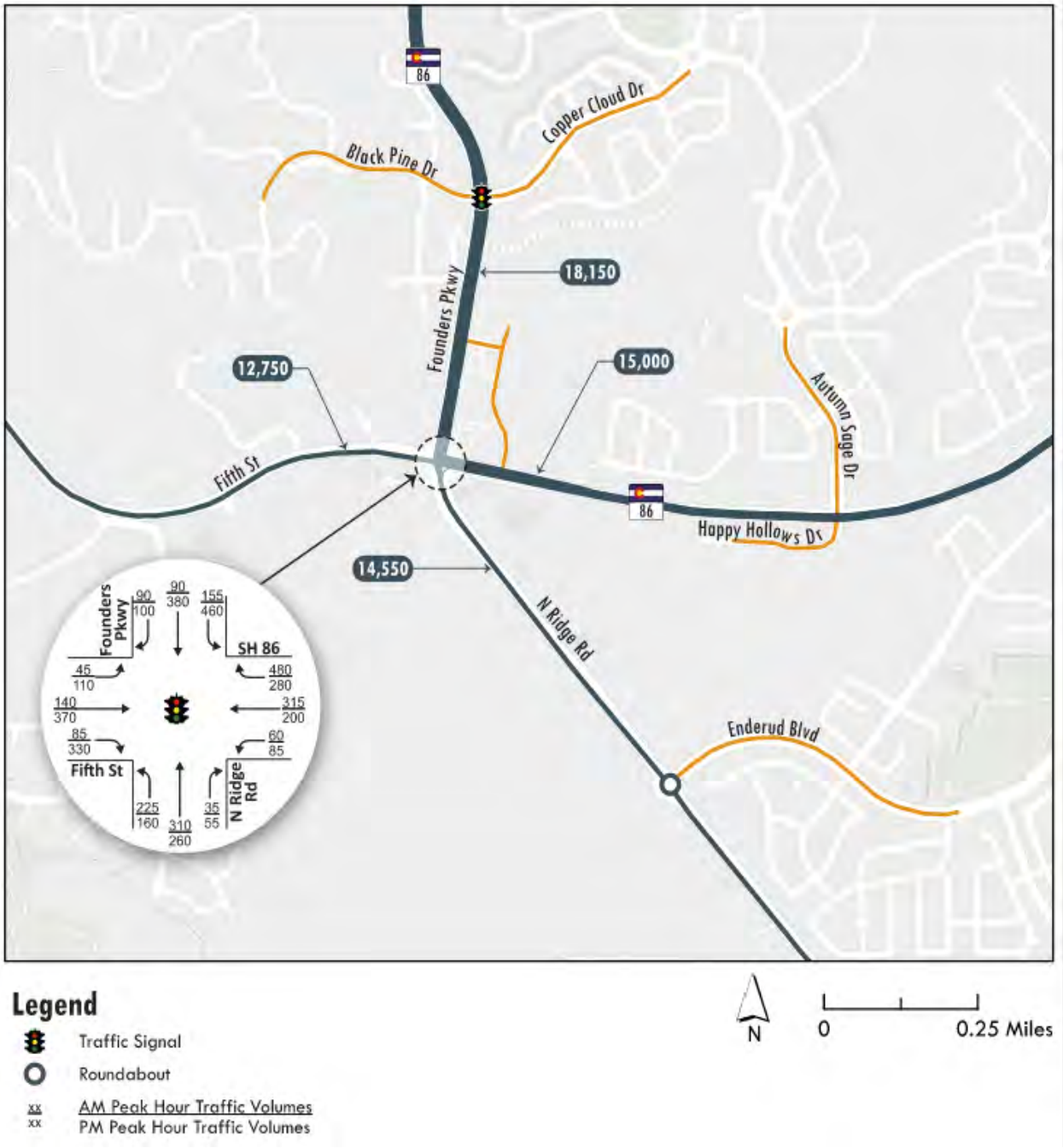
Location: FOUNDERS PKWY E-O CROWFOOT VALLEY RD
City: CASTLE ROCK
County: DOUGLAS
Direction: EAST/WEST

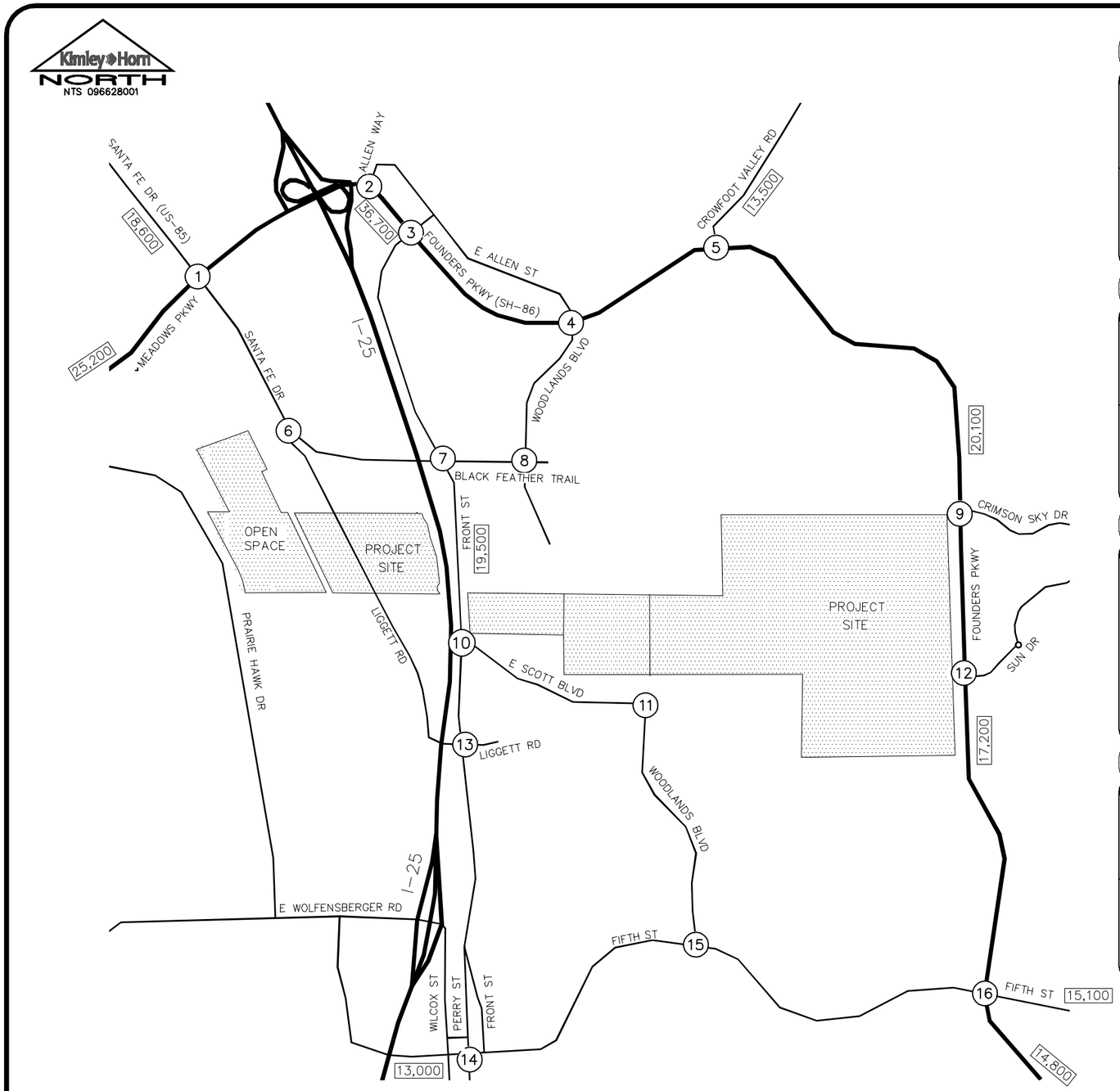
Site Code: 210310
Station ID: 210310

Start Time	04-May-21 Tue	EASTBOUN	WESTBOUN							Total
12:00 AM		50	23							73
01:00		15	12							27
02:00		3	18							21
03:00		12	48							60
04:00		27	130							157
05:00		46	394							440
06:00		252	885							1137
07:00		467	**1360**							
09:00		461	908							1369
10:00		564	824							1388
11:00		**682**	856							1538
12:00 PM		756	783							1539
01:00		780	802							1582
02:00		833	796							1629
03:00		1141	826							1967
04:00		1232	**1056**							**2288**
05:00		**1386**	854							2240
06:00		1002	634							1636
07:00		700	377							1077
08:00		534	279							813
09:00		360	150							510
10:00		176	61							237
11:00		79	40							119
Total		12190	13242							25432
Percent		47.9%	52.1%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	682	1360	-	-	-	-	-	-	1827
PM Peak	-	17:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	1386	1056	-	-	-	-	-	-	2288
Grand Total		12190	13242							25432
Percent		47.9%	52.1%							
ADT		ADT 25,432		AADT 25,432						

Traffic Data for Canyons Far South Proposal

Figure 1: Existing 2019 counts from the Town's Founders/SH-86/Ridge Rd/5th St. intersection improvement project





Tuesday, August 14, 2018 | AM 7:15–8:15 | PM 4:15–5:15

1 — MEADOWS PKWY / HWY 85

127(193)	303(350)	353(372)
367(434)	557(961)	112(145)
202(201)	845(772)	204(177)
148(217)	227(305)	87(100)

Tuesday, August 14, 2018 | AM 7:15–8:15 | PM 4:00–5:00

2 — FOUNDERS PKWY / ALLEN WAY

299(364)	12(31)	58(110)
105(125)	1833(1358)	35(34)
192(303)	790(1912)	113(184)
102(149)	16(35)	42(66)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:15–5:15

3 — FOUNDERS PKWY / FRONT ST

82(59)	38(83)	3(39)
11(18)	1652(1239)	60(102)
54(163)	657(1586)	137(344)
285(281)	46(103)	38(165)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

4 — FOUNDERS PKWY / WOODLANDS BLVD

2(7)	10(31)	35(141)
82(77)	1598(905)	317(147)
1(2)	470(1415)	64(114)
107(87)	22(35)	132(305)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30 – 5:30

5 — FOUNDERS PKWY / CROWFOOT VALLEY RD

754(465)	70(115)	
110(104)	1237(668)	
296(665)	332(1159)	

Tuesday, August 14, 2018 | AM 7:15–8:15 | PM 4:14–5:15

6 — LIGGETT RD / HWY 85

172(192)	380(510)	
130(144)	12(18)	
26(14)	321(448)	

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

7 — BLACK FEATHER TRAIL / FRONT ST

39(103)	191(525)	10(49)
41(38)	170(151)	249(232)
40(95)	110(221)	179(405)
294(180)	378(408)	169(196)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

8 — BLACK FEATHER TRAIL / WOODLANDS BLVD

257(186)	13(19)	5(26)
21(21)	77(49)	
143(243)	23(47)	25(45)
44(35)	27(16)	0(1)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

9 — FOUNDERS PKWY / CRIMSON SKY DR

375(1092)	46(150)	
196(89)	9(10)	
1135(676)	8(17)	

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

10 — E SCOTT BLVD / FRONT ST

493(786)	128(391)	
296(169)	128(37)	
527(607)	90(41)	

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

11 — E SCOTT BLVD / WOODLANDS BLVD

168(366)	415(144)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

12 — RISING SUN DR / FOUNDERS PKWY

334(993)	44(127)	
127(88)	61(47)	
1009(614)	30(61)	

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

13 — LIGGETT RD / FRONT ST

7(5)	356(785)	94(27)
89(63)	14(6)	55(33)
16(4)	24(6)	96(208)
134(95)	541(568)	184(31)

Thursday, April 26, 2018 | AM 7:30–8:30 | PM 4:45–5:45

14 — FIFTH ST / PERRY ST

93(131)	123(250)	15(58)
16(9)	578(384)	50(71)
47(114)	234(567)	44(49)
26(45)	139(257)	27(119)

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:30–5:30

15 — FIFTH ST / WOODLANDS BLVD

50(41)	159(289)	
393(121)	607(351)	
37(56)	212(648)	

Tuesday, August 14, 2018 | AM 7:00–8:00 | PM 4:45–5:45

16 — FIFTH ST / FOUNDERS PKWY

136(103)	115(454)	191(506)
541(292)	411(196)	65(86)
63(121)	190(372)	146(423)
407(187)	406(278)	41(54)

LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

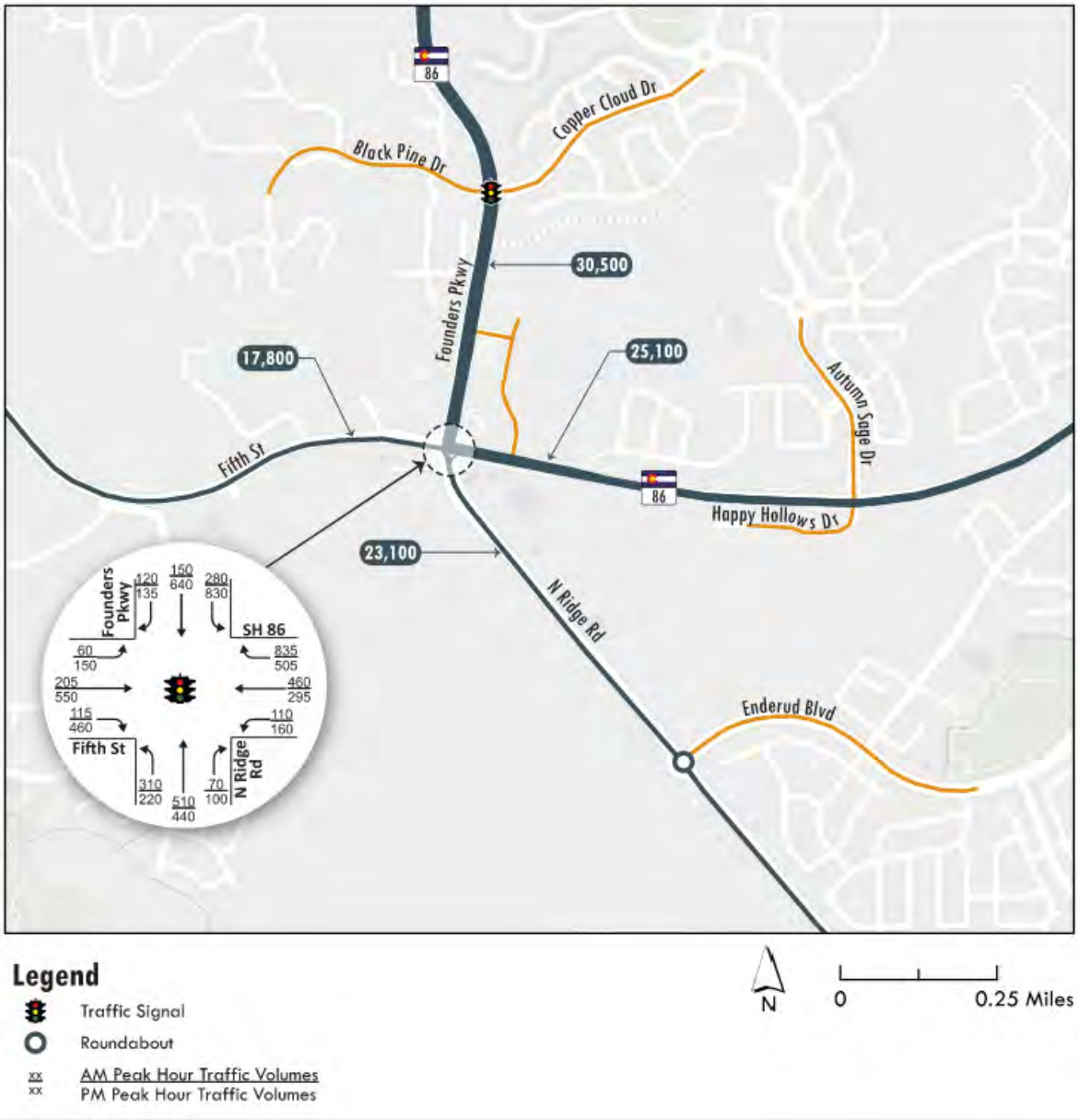
XX,X00 Estimated Daily Traffic Volume

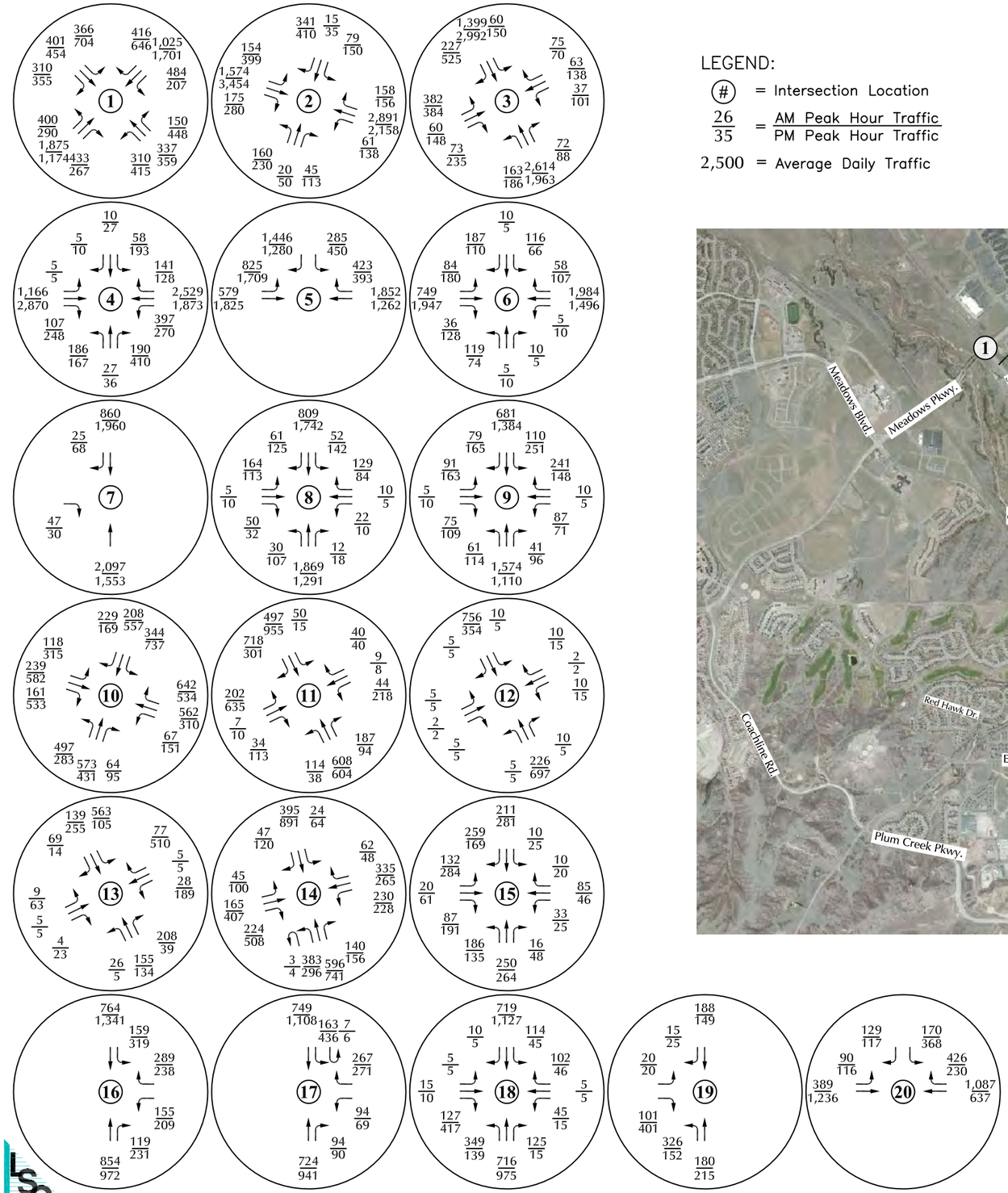
PINE CANYON
DOUGLAS COUNTY, CO
EXISTING TRAFFIC VOLUMES

FIGURE 3

Kimley»Horn

Figure 2: 2040 counts from the Town's Founders/SH-86/Ridge Rd/5th St. intersection improvement project





LEGEND:

(#) = Intersection Location

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

2,500 = Average Daily Traffic

Approximate Scale
Scale: 1"=3,000'

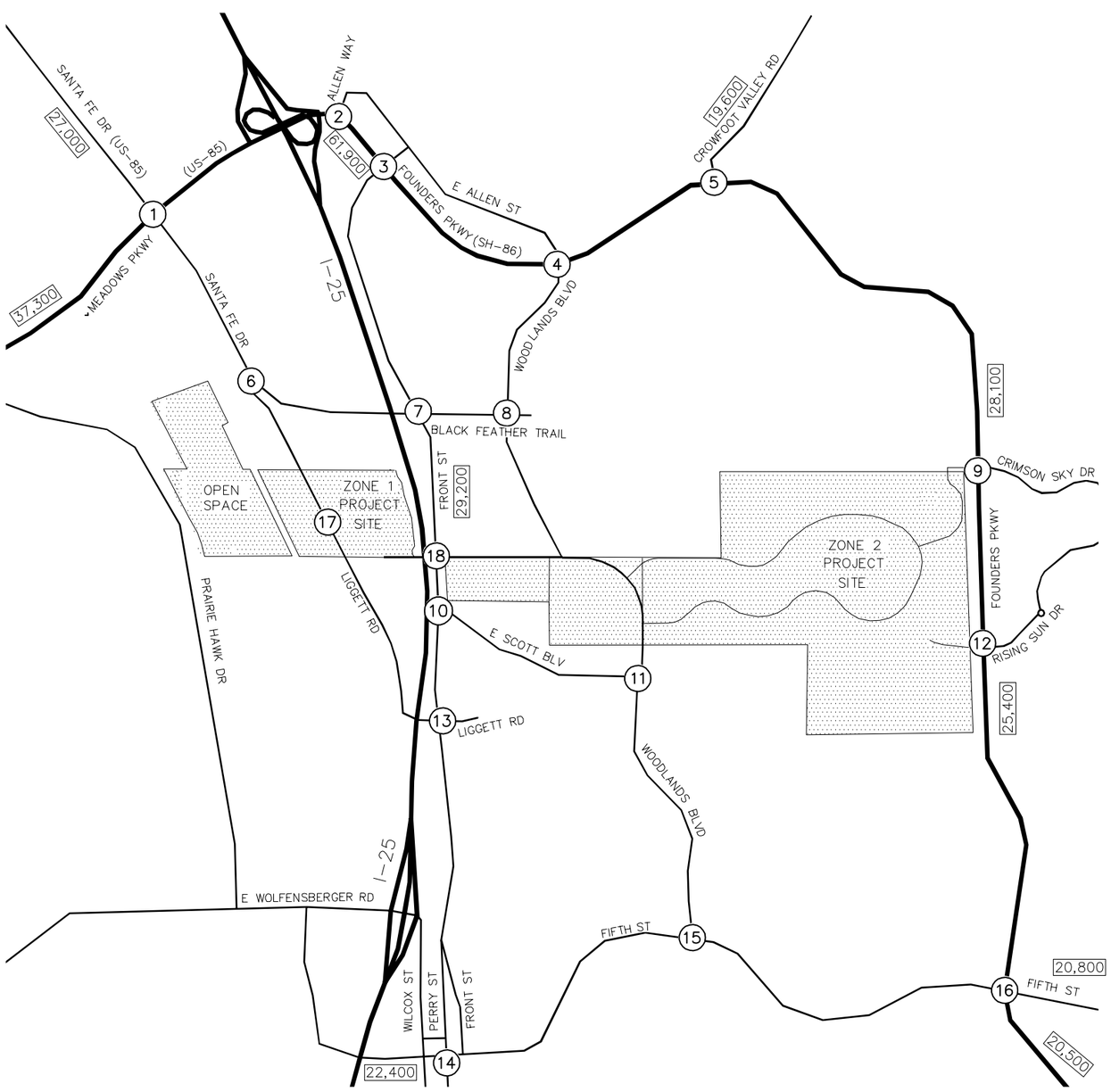
LSC TRANSPORTATION CONSULTANTS, INC.

Figure 7a

Year 2035 Total Traffic Volumes

Pine Canyon Update (LSC #160590)

Founders Pkwy
Ridge Rd



Intersection	Leg	Left	Thru	Right
1 MEADOWS PKWY / HWY 85	Eastbound	158(240)	485(516)	482(567)
	Westbound	536(614)	828(1319)	355(260)
	Northbound	251(250)	1121(1130)	408(326)
	Southbound	293(424)	364(488)	183(299)
2 FOUNDERS PKWY / ALLEN WAY	Eastbound	387(458)	15(39)	76(144)
	Westbound	138(161)	3050(2418)	44(42)
	Northbound	244(391)	1419(3229)	141(229)
	Southbound	127(185)	20(44)	52(82)
3 FOUNDERS PKWY / FRONT ST	Eastbound	102(73)	63(119)	4(49)
	Westbound	14(22)	2615(2060)	75(127)
	Northbound	67(203)	1151(2636)	278(612)
	Southbound	530(537)	74(144)	47(205)
4 FOUNDERS PKWY / WOODLANDS BLVD	Eastbound	2(9)	12(39)	44(176)
	Westbound	102(96)	2254(1372)	494(254)
	Northbound	1(2)	716(2096)	247(504)
	Southbound	463(356)	27(44)	231(486)
5 FOUNDERS PKWY / CROWFOOT VALLEY RD	Eastbound	1038(650)	114(191)	
	Westbound	185(161)	1805(1077)	
	Northbound	435(934)	544(1778)	
	Southbound			
6 LIGGETT RD / HWY 85	Eastbound	633(401)	601(918)	
	Westbound			
	Northbound	324(548)		
	Southbound	32(17)	639(761)	
7 BLACK FEATHER TRAIL / FRONT ST	Eastbound	49(128)	384(807)	24(82)
	Westbound	72(61)	281(234)	387(314)
	Northbound	63(154)	189(380)	242(538)
	Southbound	401(247)	593(679)	223(280)
8 BLACK FEATHER TRAIL / WOODLANDS BLVD	Eastbound	397(257)	205(432)	6(32)
	Westbound	26(26)	96(61)	
	Northbound	204(374)	29(59)	81(145)
	Southbound	145(103)	404(300)	0(1)
9 FOUNDERS PKWY / CRIMSON SKY DR	Eastbound	57(120)	502(1406)	57(187)
	Westbound	244(111)		11(12)
	Northbound	106(80)	98(82)	
	Southbound	52(118)	1451(884)	10(21)
10 E SCOTT BLVD / FRONT ST	Eastbound	690(1076)	119(397)	
	Westbound	258(120)		159(46)
	Northbound			
	Southbound	740(845)	112(51)	
11 E SCOTT BLVD / WOODLANDS BLVD	Eastbound	10(5)	251(316)	
	Westbound			
	Northbound	5(10)	169(366)	
	Southbound	407(139)	282(279)	
12 RISING SUN DR / FOUNDERS PKWY	Eastbound	15(27)	539(1343)	55(158)
	Westbound	158(110)		76(59)
	Northbound	28(18)	21(14)	
	Southbound	12(21)	1318(912)	37(76)
13 LIGGETT RD / FRONT ST	Eastbound	9(6)	519(1075)	117(34)
	Westbound	111(78)	17(7)	68(41)
	Northbound	20(5)	30(7)	145(331)
	Southbound	244(143)	757(796)	229(39)
14 FIFTH ST / PERRY ST	Eastbound	204(308)	168(338)	19(72)
	Westbound	20(11)	895(628)	76(97)
	Northbound	194(242)	383(916)	55(61)
	Southbound	32(56)	200(334)	42(162)
15 FIFTH ST / WOODLANDS BLVD	Eastbound	196(162)	275(476)	
	Westbound	592(233)	807(481)	
	Northbound	120(229)	291(873)	
	Southbound			
16 FIFTH ST / FOUNDERS PKWY	Eastbound	225(177)	191(603)	279(664)
	Westbound	695(409)	565(288)	81(107)
	Northbound	105(217)	278(523)	217(583)
	Southbound	556(270)	530(403)	51(67)
17 SITE ACCESS / LIGGETT RD	Eastbound	38(12)	246(256)	380(150)
	Westbound	175(405)		21(58)
	Northbound	13(36)	5(14)	
	Southbound	15(5)	193(132)	62(20)
18 SITE ACCESS / FRONT ST	Eastbound	161(52)	750(1400)	120(252)
	Westbound	238(163)	112(48)	58(48)
	Northbound	42(115)	45(106)	18(50)
	Southbound	54(17)	969(946)	30(72)

LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

PINE CANYON
DOUGLAS COUNTY, CO
2040 TOTAL TRAFFIC VOLUMES

FIGURE 12

Kimley»Horn

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	Average Vehicle Delay sec/vehicle	Operational Characteristics
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

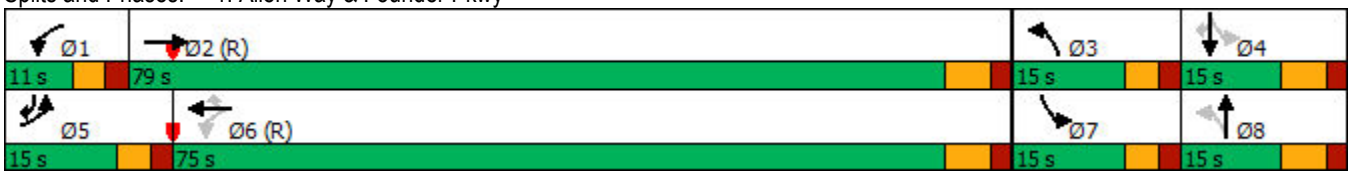
Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. The delay could be up to 15 seconds. Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.
D	25 to 35 seconds	This is the point at which a traffic signal may be warranted for this intersection. The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. There is a high probability that this intersection will meet traffic signal warrants. The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. The only remedy for these long delays is installing a traffic signal or restricting the accesses. The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	265	1080	35	2200	130	115	22	65	14	325
Future Volume (vph)	265	1080	35	2200	130	115	22	65	14	325
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	9.5	21.0	21.0	9.0	13.0	9.0	21.0	11.0
Total Split (s)	15.0	79.0	11.0	75.0	75.0	15.0	15.0	15.0	15.0	15.0
Total Split (%)	12.5%	65.8%	9.2%	62.5%	62.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	-1.0	0.0	0.0	0.0	-2.0	-2.0
Total Lost Time (s)	3.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	4.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	13.7	82.0	78.9	72.0	73.0	18.3	7.6	13.0	9.1	19.7
Actuated g/C Ratio	0.11	0.68	0.66	0.60	0.61	0.15	0.06	0.11	0.08	0.16
v/c Ratio	0.74	0.39	0.13	0.78	0.14	0.52	0.50	0.37	0.11	0.68
Control Delay	63.9	9.7	9.8	26.8	8.1	51.4	33.1	50.2	52.4	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.7	9.8	26.8	8.1	51.4	33.1	50.2	52.4	43.5
LOS	E	A	A	C	A	D	C	D	D	D
Approach Delay		19.3		25.5			44.4		44.9	
Approach LOS		B		C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 75.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1080	150	35	2200	130	115	22	49	65	14	325
Future Volume (veh/h)	265	1080	150	35	2200	130	115	22	49	65	14	325
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	288	1174	163	38	2391	141	125	24	53	71	15	353
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	2895	402	312	2958	932	269	55	121	229	171	535
Arrive On Green	0.10	0.64	0.65	0.02	0.58	0.59	0.08	0.11	0.11	0.05	0.09	0.09
Sat Flow, veh/h	3456	4532	629	1781	5106	1585	1781	519	1145	1781	1870	2790
Grp Volume(v), veh/h	288	882	455	38	2391	141	125	0	77	71	15	353
Grp Sat Flow(s),veh/h/ln	1728	1702	1757	1781	1702	1585	1781	0	1664	1781	1870	1395
Q Serve(g_s), s	9.8	15.2	15.1	1.0	44.4	4.8	7.6	0.0	5.2	4.4	0.9	11.0
Cycle Q Clear(g_c), s	9.8	15.2	15.1	1.0	44.4	4.8	7.6	0.0	5.2	4.4	0.9	11.0
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	346	2174	1122	312	2958	932	269	0	176	229	171	535
V/C Ratio(X)	0.83	0.41	0.41	0.12	0.81	0.15	0.46	0.00	0.44	0.31	0.09	0.66
Avail Cap(c_a), veh/h	346	2174	1122	359	2958	932	277	0	176	291	171	535
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	0.68	0.68	0.68	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	10.6	10.5	9.9	20.0	11.2	45.6	0.0	50.0	48.0	49.9	44.9
Incr Delay (d2), s/veh	15.9	0.6	1.1	0.1	1.7	0.2	1.2	0.0	1.7	0.8	0.2	3.0
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	5.0	5.5	5.8	0.4	16.8	1.7	3.5	0.0	2.2	2.0	0.4	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	11.1	11.6	10.1	21.7	11.4	46.8	0.0	51.7	48.8	50.1	47.9
LnGrp LOS	E	B	B	B	C	B	D	A	D	D	D	D
Approach Vol, veh/h		1625			2570			202			439	
Approach Delay, s/veh		21.5			20.9			48.7			48.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	82.7	14.5	15.0	15.0	75.5	10.8	18.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	73.0	10.0	9.0	10.0	69.0	10.0	9.0
Max Q Clear Time (g_c+I1), s	3.0	17.2	9.6	13.0	11.8	46.4	6.4	7.2
Green Ext Time (p_c), s	0.0	12.7	0.0	0.0	0.0	18.7	0.0	0.0

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

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	64	845	60	1825	415	50	40	5	40
Future Volume (vph)	64	845	60	1825	415	50	40	5	40
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2	1	6	3	8	1	7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	1	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	21.0	9.0	10.0	21.0
Total Split (s)	12.0	64.0	12.0	64.0	19.0	32.0	12.0	12.0	25.0
Total Split (%)	10.0%	53.3%	10.0%	53.3%	15.8%	26.7%	10.0%	10.0%	20.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	5.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	78.8	71.8	78.4	71.6	27.4	24.1	37.0	14.2	7.4
Actuated g/C Ratio	0.66	0.60	0.65	0.60	0.23	0.20	0.31	0.12	0.06
v/c Ratio	0.41	0.40	0.21	0.66	0.77	0.14	0.08	0.03	0.48
Control Delay	17.3	10.1	8.2	18.3	50.7	41.9	2.7	35.6	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	10.1	8.2	18.3	50.7	41.9	2.7	35.6	25.7
LOS	B	B	A	B	D	D	A	D	C
Approach Delay		10.5		18.0		46.1			26.0
Approach LOS		B		B		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 42 (35%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	64	845	255	60	1825	12	415	50	40	5	40	85
Future Volume (veh/h)	64	845	255	60	1825	12	415	50	40	5	40	85
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	70	918	277	65	1984	13	451	54	43	5	43	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	2309	695	331	3102	20	573	353	346	169	137	122
Arrive On Green	0.03	0.59	0.59	0.03	0.59	0.59	0.12	0.19	0.19	0.01	0.08	0.08
Sat Flow, veh/h	1781	3893	1171	1781	5234	34	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	70	802	393	65	1290	707	451	54	43	5	43	92
Grp Sat Flow(s),veh/h/ln	1781	1702	1660	1781	1702	1864	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	1.9	15.1	15.1	1.7	29.8	29.9	14.0	2.9	2.6	0.3	2.7	6.8
Cycle Q Clear(g_c), s	1.9	15.1	15.1	1.7	29.8	29.9	14.0	2.9	2.6	0.3	2.7	6.8
Prop In Lane	1.00		0.71	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	188	2019	985	331	2017	1105	573	353	346	169	137	122
V/C Ratio(X)	0.37	0.40	0.40	0.20	0.64	0.64	0.79	0.15	0.12	0.03	0.31	0.75
Avail Cap(c_a), veh/h	238	2019	985	383	2017	1105	573	405	390	264	281	251
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)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	13.0	13.0	10.0	16.0	16.0	43.5	40.7	37.7	50.7	52.4	54.2
Incr Delay (d2), s/veh	1.1	0.5	1.1	0.3	1.6	2.8	7.2	0.2	0.2	0.1	1.3	8.9
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	0.7	5.6	5.7	0.7	11.3	12.8	6.6	1.4	1.0	0.1	1.3	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	13.5	14.1	10.3	17.6	18.9	50.7	40.9	37.8	50.7	53.6	63.1
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	D	E
Approach Vol, veh/h		1265			2062			548			140	
Approach Delay, s/veh		13.8			17.8			48.8			59.8	
Approach LOS		B			B			D			E	

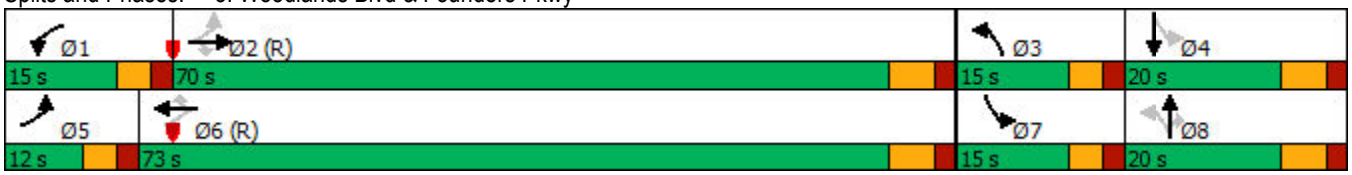
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	77.2	19.0	15.3	8.6	77.1	5.6	28.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	58.0	14.0	19.0	7.0	58.0	7.0	26.0
Max Q Clear Time (g_c+I1), s	3.7	17.1	16.0	8.8	3.9	31.9	2.3	4.9
Green Ext Time (p_c), s	0.0	10.4	0.0	0.4	0.0	16.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	650	70	325	1650	87	115	25	140	37	14
Future Volume (vph)	6	650	70	325	1650	87	115	25	140	37	14
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0	20.0	9.0	20.0
Total Split (s)	12.0	70.0	70.0	15.0	73.0	73.0	15.0	20.0	20.0	15.0	20.0
Total Split (%)	10.0%	58.3%	58.3%	12.5%	60.8%	60.8%	12.5%	16.7%	16.7%	12.5%	16.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
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)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
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
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	78.6	72.0	72.0	89.9	86.7	86.7	18.3	8.3	8.3	12.2	7.4
Actuated g/C Ratio	0.66	0.60	0.60	0.75	0.72	0.72	0.15	0.07	0.07	0.10	0.06
v/c Ratio	0.04	0.33	0.08	0.63	0.70	0.08	0.53	0.21	0.61	0.22	0.08
Control Delay	6.7	13.7	0.8	11.3	13.5	1.2	51.8	55.6	18.8	45.6	47.8
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	6.7	13.7	0.8	11.3	13.5	1.2	51.8	55.6	18.8	45.6	47.8
LOS	A	B	A	B	B	A	D	E	B	D	D
Approach Delay		12.4			12.6			35.6			46.3
Approach LOS		B			B			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 42 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 15.2	Intersection LOS: B
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	650	70	325	1650	87	115	25	140	37	14	2
Future Volume (veh/h)	6	650	70	325	1650	87	115	25	140	37	14	2
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	7	707	76	353	1793	95	125	27	0	40	15	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	2207	984	572	2478	1105	242	157		154	111	
Arrive On Green	0.01	0.62	0.62	0.08	0.70	0.70	0.08	0.08	0.00	0.03	0.03	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	3647	0
Grp Volume(v), veh/h	7	707	76	353	1793	95	125	27	0	40	15	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	0
Q Serve(g_s), s	0.2	11.3	2.3	8.3	37.0	2.3	7.9	1.6	0.0	2.6	0.5	0.0
Cycle Q Clear(g_c), s	0.2	11.3	2.3	8.3	37.0	2.3	7.9	1.6	0.0	2.6	0.5	0.0
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	166	2207	984	572	2478	1105	242	157		154	111	
V/C Ratio(X)	0.04	0.32	0.08	0.62	0.72	0.09	0.52	0.17		0.26	0.14	
Avail Cap(c_a), veh/h	257	2207	984	572	2478	1105	246	218		252	415	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.7	10.8	9.1	7.3	11.1	5.8	49.0	51.1	0.0	54.3	56.6	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.2	2.0	1.9	0.2	1.8	0.5	0.0	0.9	0.5	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	4.0	0.8	2.7	12.1	0.8	3.6	0.8	0.0	1.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	11.1	9.2	9.3	13.0	6.0	50.8	51.6	0.0	55.2	57.1	0.0
LnGrp LOS	B	B	A	A	B	A	D	D		E	E	
Approach Vol, veh/h		790			2241			152			55	
Approach Delay, s/veh		11.0			12.1			50.9			55.7	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	80.5	14.7	9.7	5.8	89.7	8.4	16.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	64.0	10.0	14.0	7.0	67.0	10.0	14.0
Max Q Clear Time (g_c+I1), s	10.3	13.3	9.9	2.5	2.2	39.0	4.6	3.6
Green Ext Time (p_c), s	0.0	5.1	0.0	0.0	0.0	16.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

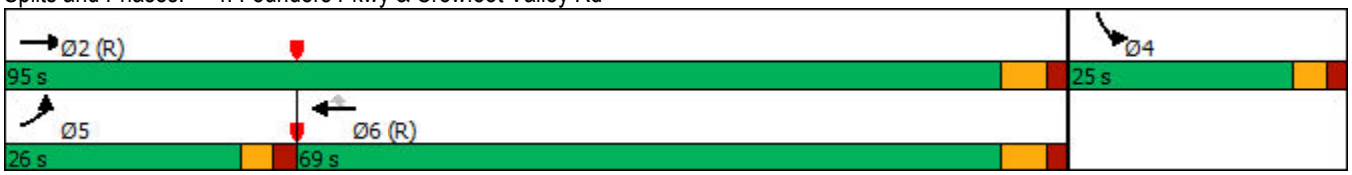
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	315	510	1260	116	75	800
Future Volume (vph)	315	510	1260	116	75	800
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	10.0	10.0	10.0	9.0	
Total Split (s)	26.0	95.0	69.0	69.0	25.0	
Total Split (%)	21.7%	79.2%	57.5%	57.5%	20.8%	
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	19.0	94.7	72.6	72.6	14.3	120.0
Actuated g/C Ratio	0.16	0.79	0.60	0.60	0.12	1.00
v/c Ratio	0.63	0.20	0.64	0.13	0.97dr	0.30
Control Delay	52.2	3.7	18.3	2.9	32.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	3.7	18.3	2.9	32.0	0.5
LOS	D	A	B	A	C	A
Approach Delay		22.2	17.0		17.6	
Approach LOS		C	B		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 93 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 66.9%	ICU Level of Service C
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	315	510	1260	116	75	800
Future Volume (veh/h)	315	510	1260	116	75	800
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	342	554	1370	126	82	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	464	3018	2452	1094	105	
Arrive On Green	0.13	0.85	0.69	0.69	0.06	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	342	554	1370	126	82	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	11.4	3.3	23.3	3.2	5.4	0.0
Cycle Q Clear(g_c), s	11.4	3.3	23.3	3.2	5.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	464	3018	2452	1094	105	
V/C Ratio(X)	0.74	0.18	0.56	0.12	0.78	
Avail Cap(c_a), veh/h	662	3018	2452	1094	297	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.9	1.6	9.4	6.3	55.7	0.0
Incr Delay (d2), s/veh	2.6	0.1	0.9	0.2	11.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.5	7.6	1.0	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.5	1.7	10.3	6.5	67.4	0.0
LnGrp LOS	D	A	B	A	E	
Approach Vol, veh/h		896	1496		82	
Approach Delay, s/veh		21.1	10.0		67.4	
Approach LOS		C	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.9		12.1	19.1	88.8
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	21.0	63.0
Max Q Clear Time (g_c+I1), s		5.3		7.4	13.4	25.3
Green Ext Time (p_c), s		3.6		0.1	0.7	12.6

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

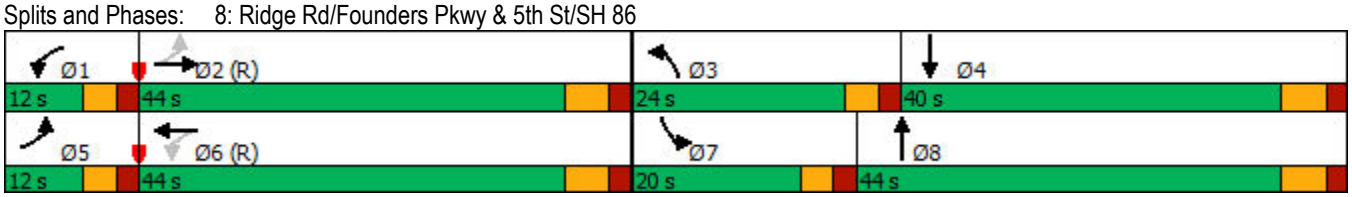
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] 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)	70	225	170	88	415	620	365	395	50	228	155	133
Future Volume (vph)	70	225	170	88	415	620	365	395	50	228	155	133
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	44.0		12.0	44.0		24.0	44.0		20.0	40.0	
Total Split (%)	10.0%	36.7%		10.0%	36.7%		20.0%	36.7%		16.7%	33.3%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	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		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	64.9	56.1	120.0	67.2	58.9	120.0	18.7	21.1	120.0	14.3	16.8	120.0
Actuated g/C Ratio	0.54	0.47	1.00	0.56	0.49	1.00	0.16	0.18	1.00	0.12	0.14	1.00
v/c Ratio	0.16	0.28	0.12	0.15	0.48	0.43	0.74	0.69	0.03	0.61	0.34	0.09
Control Delay	13.1	22.5	0.2	12.9	25.1	0.8	57.5	52.0	0.0	56.6	47.5	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	13.1	22.5	0.2	12.9	25.1	0.8	57.5	52.0	0.0	56.6	47.5	0.1
LOS	B	C	A	B	C	A	E	D	A	E	D	A
Approach Delay		12.9			10.6			51.3			39.3	
Approach LOS		B			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 27.4	Intersection LOS: C
Intersection Capacity Utilization 59.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	225	170	88	415	620	365	395	50	228	155	133
Future Volume (veh/h)	70	225	170	88	415	620	365	395	50	228	155	133
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	76	245	0	96	437	0	397	429	0	248	168	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	998		656	1010		487	578		337	424	
Arrive On Green	0.03	0.53	0.00	0.04	0.54	0.00	0.14	0.16	0.00	0.10	0.12	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	76	245	0	96	437	0	397	429	0	248	168	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.3	8.4	0.0	2.9	16.8	0.0	13.4	13.8	0.0	8.4	5.2	0.0
Cycle Q Clear(g_c), s	2.3	8.4	0.0	2.9	16.8	0.0	13.4	13.8	0.0	8.4	5.2	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	500	998		656	1010		487	578		337	424	
V/C Ratio(X)	0.15	0.25		0.15	0.43		0.82	0.74		0.74	0.40	
Avail Cap(c_a), veh/h	544	998		690	1010		576	1155		461	1036	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.9	15.0	0.0	11.9	16.6	0.0	50.0	47.9	0.0	52.7	48.9	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.0	0.1	1.4	0.0	7.7	1.9	0.0	4.0	0.6	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	0.9	3.7	0.0	1.1	7.0	0.0	6.2	6.2	0.0	3.7	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	15.6	0.0	12.0	17.9	0.0	57.7	49.8	0.0	56.6	49.5	0.0
LnGrp LOS	B	B		B	B		E	D		E	D	
Approach Vol, veh/h		321			533			826			416	
Approach Delay, s/veh		15.0			16.9			53.6			53.7	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	70.0	20.9	19.3	9.0	70.8	15.7	24.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	38.0	19.0	34.0	7.0	38.0	15.0	38.0
Max Q Clear Time (g_c+I1), s	4.9	10.4	15.4	7.2	4.3	18.8	10.4	15.8
Green Ext Time (p_c), s	0.0	1.4	0.5	0.9	0.0	2.2	0.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

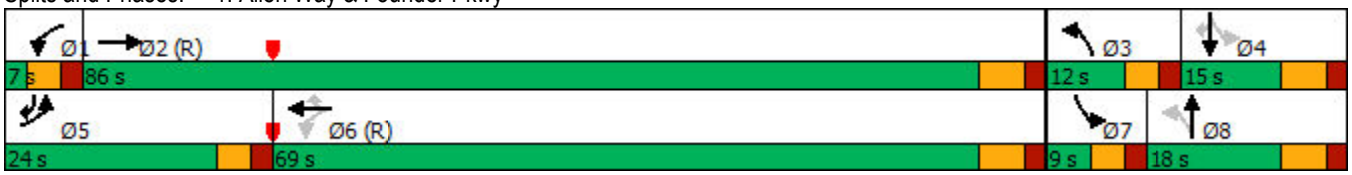
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	435	2606	42	2080	145	165	38	125	38	475
Future Volume (vph)	435	2606	42	2080	145	165	38	125	38	475
Turn Type	Prot	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6	8		4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	7.0	21.0	21.0	9.0	13.0	9.0	13.0	11.0
Total Split (s)	24.0	86.0	7.0	69.0	69.0	12.0	18.0	9.0	15.0	24.0
Total Split (%)	20.0%	71.7%	5.8%	57.5%	57.5%	10.0%	15.0%	7.5%	12.5%	20.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	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	-3.0	0.0	-1.0	0.0	-1.0	-1.0	-2.0	0.0	0.0
Total Lost Time (s)	5.0	3.0	5.0	5.0	6.0	4.0	5.0	3.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	19.0	85.4	68.3	65.3	64.3	20.9	11.7	15.3	8.0	30.7
Actuated g/C Ratio	0.16	0.71	0.57	0.54	0.54	0.17	0.10	0.13	0.07	0.26
v/c Ratio	0.83	0.84	0.43	0.77	0.17	0.78	0.72	0.74	0.33	0.67
Control Delay	63.3	15.7	18.3	19.7	2.4	69.0	56.5	69.3	60.3	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	15.7	18.3	19.7	2.4	69.0	56.5	69.3	60.3	38.3
LOS	E	B	B	B	A	E	E	E	E	D
Approach Delay		21.9		18.5			63.4		45.7	
Approach LOS		C		B			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	2606	230	42	2080	145	165	38	95	125	38	475
Future Volume (veh/h)	435	2606	230	42	2080	145	165	38	95	125	38	475
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	453	2743	250	46	2122	158	179	41	103	136	41	516
Peak Hour Factor	0.96	0.95	0.92	0.92	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	511	3303	292	107	2777	849	232	51	128	189	140	621
Arrive On Green	0.15	0.69	0.68	0.02	0.54	0.54	0.07	0.11	0.11	0.05	0.08	0.08
Sat Flow, veh/h	3456	4776	423	1781	5106	1585	1781	472	1185	1781	1870	2790
Grp Volume(v), veh/h	453	1932	1061	46	2122	158	179	0	144	136	41	516
Grp Sat Flow(s),veh/h/ln	1728	1702	1794	1781	1702	1585	1781	0	1657	1781	1870	1395
Q Serve(g_s), s	15.4	48.5	53.8	1.4	38.9	6.2	8.0	0.0	10.2	6.0	2.5	9.0
Cycle Q Clear(g_c), s	15.4	48.5	53.8	1.4	38.9	6.2	8.0	0.0	10.2	6.0	2.5	9.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	511	2354	1241	107	2777	849	232	0	180	189	140	621
V/C Ratio(X)	0.89	0.82	0.86	0.43	0.76	0.19	0.77	0.00	0.80	0.72	0.29	0.83
Avail Cap(c_a), veh/h	547	2354	1241	107	2777	849	232	0	180	189	140	621
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	0.65	0.65	0.65	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	13.2	14.2	24.6	21.4	14.4	48.9	0.0	52.2	50.3	52.5	44.5
Incr Delay (d2), s/veh	15.5	3.4	7.7	1.8	1.3	0.3	14.7	0.0	22.4	12.6	1.1	9.3
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	7.7	17.1	21.5	0.7	15.0	2.3	2.4	0.0	5.3	1.8	1.2	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	16.5	21.8	26.4	22.7	14.7	63.6	0.0	74.7	62.9	53.6	53.7
LnGrp LOS	E	B	C	C	C	B	E	A	E	E	D	D
Approach Vol, veh/h		3446			2326			323			693	
Approach Delay, s/veh		24.6			22.2			68.5			55.5	
Approach LOS		C			C			E			E	

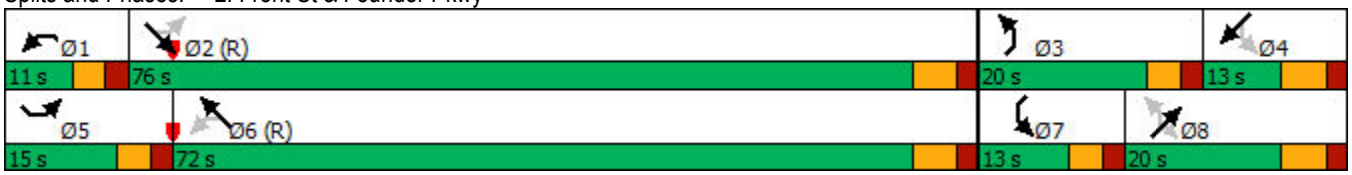
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	86.0	12.0	15.0	22.7	70.3	9.0	18.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	2.0	80.0	7.0	9.0	19.0	63.0	4.0	12.0
Max Q Clear Time (g_c+I1), s	3.4	55.8	10.0	11.0	17.4	40.9	8.0	12.2
Green Ext Time (p_c), s	0.0	22.1	0.0	0.0	0.3	16.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	165	1900	130	1530	620	110	200	40	85
Future Volume (vph)	165	1900	130	1530	620	110	200	40	85
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	20.0	20.0	10.0	13.0
Total Split (s)	15.0	76.0	11.0	72.0	20.0	20.0	20.0	13.0	13.0
Total Split (%)	12.5%	63.3%	9.2%	60.0%	16.7%	16.7%	16.7%	10.8%	10.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-2.0	-2.0	-2.0	-2.0	-3.0	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	83.6	73.0	78.4	69.1	29.7	18.6	19.6	18.9	8.7
Actuated g/C Ratio	0.70	0.61	0.65	0.58	0.25	0.16	0.16	0.16	0.07
v/c Ratio	0.67	0.86	0.76	0.56	1.04	0.42	0.54	0.18	0.52
Control Delay	32.2	13.4	49.5	17.0	86.6	52.2	18.5	37.1	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	13.4	49.5	17.0	86.6	52.2	18.5	37.1	37.7
LOS	C	B	D	B	F	D	B	D	D
Approach Delay		14.6		19.5		67.9			37.5
Approach LOS		B		B		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 112 (93%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	165	1900	685	130	1530	20	620	110	200	40	85	60
Future Volume (veh/h)	165	1900	685	130	1530	20	620	110	200	40	85	60
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	179	1919	685	141	1611	22	674	120	217	43	92	65
Peak Hour Factor	0.92	0.99	1.00	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	2303	767	194	3088	42	676	319	284	220	155	101
Arrive On Green	0.07	0.61	0.58	0.07	0.59	0.58	0.14	0.17	0.18	0.05	0.08	0.06
Sat Flow, veh/h	1781	3787	1261	1781	5191	71	3456	1870	1585	1781	2062	1343
Grp Volume(v), veh/h	179	1711	893	141	1056	577	674	120	217	43	78	79
Grp Sat Flow(s),veh/h/ln	1781	1702	1643	1781	1702	1858	1728	1870	1585	1781	1777	1629
Q Serve(g_s), s	4.5	47.5	56.5	4.1	21.9	21.9	17.0	6.8	15.6	2.6	5.1	5.7
Cycle Q Clear(g_c), s	4.5	47.5	56.5	4.1	21.9	21.9	17.0	6.8	15.6	2.6	5.1	5.7
Prop In Lane	1.00		0.77	1.00		0.04	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	315	2071	1000	194	2025	1105	676	319	284	220	133	122
V/C Ratio(X)	0.57	0.83	0.89	0.73	0.52	0.52	1.00	0.38	0.76	0.20	0.59	0.65
Avail Cap(c_a), veh/h	365	2071	1000	194	2025	1105	676	319	284	287	133	122
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)	0.44	0.44	0.44	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	18.5	21.3	30.6	14.3	14.3	45.7	44.1	46.9	47.5	53.7	54.8
Incr Delay (d2), s/veh	0.7	1.8	5.9	12.8	1.0	1.8	34.0	0.7	11.7	0.4	6.5	11.1
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	1.6	17.6	21.7	3.0	8.2	9.3	5.3	3.2	7.1	1.2	2.5	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	20.3	27.2	43.4	15.2	16.1	79.7	44.8	58.6	47.9	60.2	65.9
LnGrp LOS	B	C	C	D	B	B	E	D	E	D	E	E
Approach Vol, veh/h		2783			1774			1011			200	
Approach Delay, s/veh		22.0			17.7			71.0			59.8	
Approach LOS		C			B			E			E	

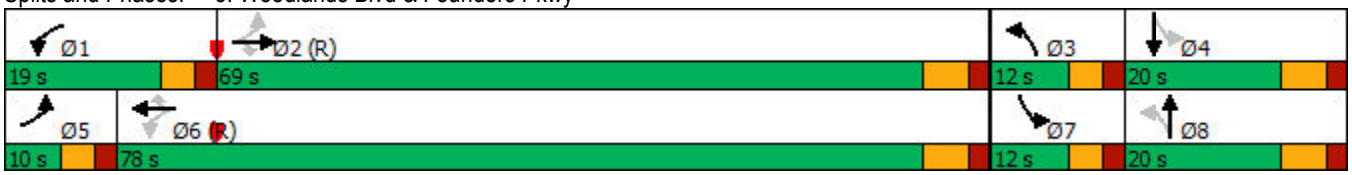
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	76.0	20.0	13.0	11.6	75.4	8.5	24.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	70.0	15.0	7.0	10.0	66.0	8.0	14.0
Max Q Clear Time (g_c+I1), s	6.1	58.5	19.0	7.7	6.5	23.9	4.6	17.6
Green Ext Time (p_c), s	0.0	10.5	0.0	0.0	0.1	16.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	8	1585	130	225	1440	95	100	50	345	175	50
Future Volume (vph)	8	1585	130	225	1440	95	100	50	345	175	50
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		Free	4	
Detector Phase	5	2	2	1	6	6	3	8		7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	20.0	20.0	9.0	20.0	20.0	9.0	13.0		9.0	13.0
Total Split (s)	10.0	69.0	69.0	19.0	78.0	78.0	12.0	20.0		12.0	20.0
Total Split (%)	8.3%	57.5%	57.5%	15.8%	65.0%	65.0%	10.0%	16.7%		10.0%	16.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0		3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)	3.0	3.0	5.0	3.0	4.0	5.0	3.0	4.0		3.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None
Act Effct Green (s)	79.6	72.0	70.0	92.5	89.3	88.3	19.1	10.8	120.0	19.1	10.8
Actuated g/C Ratio	0.66	0.60	0.58	0.77	0.74	0.74	0.16	0.09	1.00	0.16	0.09
v/c Ratio	0.03	0.79	0.14	0.76	0.56	0.09	0.44	0.32	0.24	0.77	0.19
Control Delay	5.4	23.4	1.7	46.3	9.2	1.3	47.4	55.4	0.4	66.1	44.5
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	5.4	23.4	1.7	46.3	9.2	1.3	47.4	55.4	0.4	66.1	44.5
LOS	A	C	A	D	A	A	D	E	A	E	D
Approach Delay		21.6			13.7			15.4			60.8
Approach LOS		C			B			B			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 112 (93%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1585	130	225	1440	95	100	50	345	175	50	7
Future Volume (veh/h)	8	1585	130	225	1440	95	100	50	345	175	50	7
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	9	1668	141	245	1469	103	109	54	0	190	54	0
Peak Hour Factor	0.92	0.95	0.92	0.92	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	2369	1030	313	2562	1130	258	116		240	220	
Arrive On Green	0.03	0.67	0.65	0.09	0.72	0.71	0.08	0.06	0.00	0.08	0.06	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	3647	0
Grp Volume(v), veh/h	9	1668	141	245	1469	103	109	54	0	190	54	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	0
Q Serve(g_s), s	0.2	35.4	4.1	5.2	23.6	2.4	6.8	3.3	0.0	9.0	1.7	0.0
Cycle Q Clear(g_c), s	0.2	35.4	4.1	5.2	23.6	2.4	6.8	3.3	0.0	9.0	1.7	0.0
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	276	2369	1030	313	2562	1130	258	116		240	220	
V/C Ratio(X)	0.03	0.70	0.14	0.78	0.57	0.09	0.42	0.47		0.79	0.25	
Avail Cap(c_a), veh/h	335	2369	1030	394	2562	1130	258	249		240	474	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	12.6	8.1	24.3	8.0	5.3	47.6	54.4	0.0	51.1	53.6	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.3	7.8	0.9	0.2	1.1	2.9	0.0	16.5	0.6	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	12.1	1.4	5.3	7.3	0.8	3.1	1.7	0.0	2.4	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	14.3	8.3	32.1	8.9	5.5	48.7	57.2	0.0	67.6	54.2	0.0
LnGrp LOS	A	B	A	C	A	A	D	E		E	D	
Approach Vol, veh/h		1818			1817			163			244	
Approach Delay, s/veh		13.8			11.8			51.5			64.6	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	83.0	12.0	11.4	6.0	90.5	12.0	11.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	63.0	7.0	14.0	5.0	72.0	7.0	14.0
Max Q Clear Time (g_c+I1), s	8.2	37.4	8.8	3.7	2.2	25.6	11.0	5.3
Green Ext Time (p_c), s	0.3	14.2	0.0	0.1	0.0	14.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

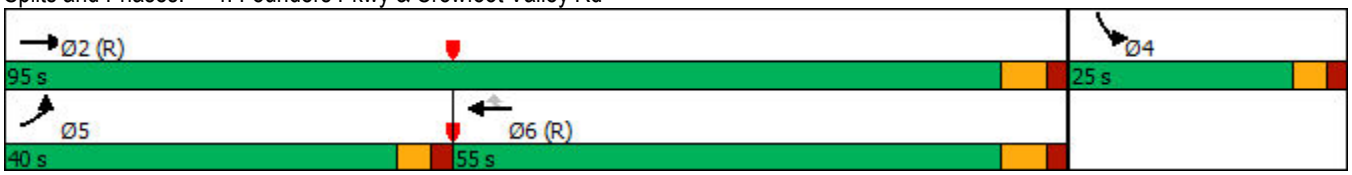
Notes

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	765	1355	1080	120	130	560
Future Volume (vph)	765	1355	1080	120	130	560
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	10.0	10.0	10.0	9.0	
Total Split (s)	40.0	95.0	55.0	55.0	25.0	
Total Split (%)	33.3%	79.2%	45.8%	45.8%	20.8%	
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	3.0	4.0	4.0	4.0	3.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	35.6	99.7	61.1	61.1	13.3	120.0
Actuated g/C Ratio	0.30	0.83	0.51	0.51	0.11	1.00
v/c Ratio	0.82	0.50	0.65	0.15	0.72	0.21
Control Delay	46.2	4.0	25.4	4.6	22.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	4.0	25.4	4.6	22.4	0.3
LOS	D	A	C	A	C	A
Approach Delay		19.2	23.3		13.4	
Approach LOS		B	C		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 101 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	765	1355	1080	120	130	560
Future Volume (veh/h)	765	1355	1080	120	130	560
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	832	1473	1174	130	141	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	956	2953	1882	839	197	
Arrive On Green	0.28	0.83	0.53	0.53	0.11	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	832	1473	1174	130	141	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	27.5	14.4	27.9	5.0	9.2	0.0
Cycle Q Clear(g_c), s	27.5	14.4	27.9	5.0	9.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	956	2953	1882	839	197	
V/C Ratio(X)	0.87	0.50	0.62	0.15	0.72	
Avail Cap(c_a), veh/h	1066	2953	1882	839	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	2.9	19.8	14.5	51.5	0.0
Incr Delay (d2), s/veh	7.4	0.6	1.6	0.4	4.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	2.6	10.8	1.8	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	3.5	21.4	14.9	56.3	0.0
LnGrp LOS	D	A	C	B	E	
Approach Vol, veh/h		2305	1304		141	
Approach Delay, s/veh		19.9	20.8		56.3	
Approach LOS		B	C		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.7		16.3	36.2	67.5
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	35.0	49.0
Max Q Clear Time (g_c+I1), s		16.4		11.2	29.5	29.9
Green Ext Time (p_c), s		15.1		0.2	1.7	8.0

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

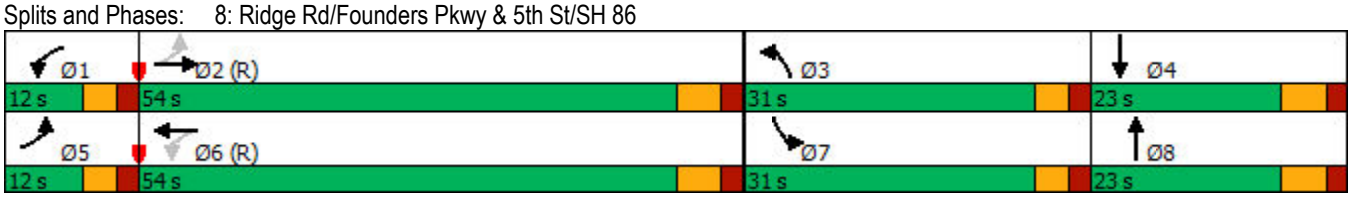
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] 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)	140	435	390	110	245	370	205	320	65	550	450	118
Future Volume (vph)	140	435	390	110	245	370	205	320	65	550	450	118
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	54.0		12.0	54.0		31.0	23.0		31.0	23.0	
Total Split (%)	10.0%	45.0%		10.0%	45.0%		25.8%	19.2%		25.8%	19.2%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-2.0		-1.0	-2.0		-1.0	-2.0		-2.0	-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	61.6	53.0	120.0	61.0	52.7	120.0	14.1	17.8	120.0	25.9	27.6	120.0
Actuated g/C Ratio	0.51	0.44	1.00	0.51	0.44	1.00	0.12	0.15	1.00	0.22	0.23	1.00
v/c Ratio	0.28	0.58	0.27	0.32	0.33	0.25	0.55	0.67	0.04	0.78	0.60	0.08
Control Delay	16.2	29.5	0.4	16.8	24.3	0.4	55.0	54.8	0.0	52.3	44.6	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	16.2	29.5	0.4	16.8	24.3	0.4	55.0	54.8	0.0	52.3	44.6	0.1
LOS	B	C	A	B	C	A	D	D	A	D	D	A
Approach Delay		15.8			11.0			48.8			43.6	
Approach LOS		B			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 66.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	435	390	110	245	370	205	320	65	550	450	118
Future Volume (veh/h)	140	435	390	110	245	370	205	320	65	550	450	118
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	152	473	0	120	266	0	223	348	0	579	489	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	599	899		438	884		321	474		698	803	
Arrive On Green	0.07	0.48	0.00	0.06	0.47	0.00	0.09	0.13	0.00	0.20	0.23	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	152	473	0	120	266	0	223	348	0	579	489	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.2	21.1	0.0	4.1	10.5	0.0	7.5	11.3	0.0	19.3	14.8	0.0
Cycle Q Clear(g_c), s	5.2	21.1	0.0	4.1	10.5	0.0	7.5	11.3	0.0	19.3	14.8	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	599	899		438	884		321	474		698	803	
V/C Ratio(X)	0.25	0.53		0.27	0.30		0.69	0.73		0.83	0.61	
Avail Cap(c_a), veh/h	599	899		452	884		778	563		806	803	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.9	21.6	0.0	16.6	19.4	0.0	52.8	50.0	0.0	45.9	41.7	0.0
Incr Delay (d2), s/veh	0.2	2.2	0.0	0.3	0.9	0.0	2.7	4.1	0.0	6.4	1.3	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	2.1	9.5	0.0	1.6	4.5	0.0	3.4	5.2	0.0	8.6	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	23.8	0.0	16.9	20.3	0.0	55.5	54.0	0.0	52.3	43.0	0.0
LnGrp LOS	B	C		B	C		E	D		D	D	
Approach Vol, veh/h		625			386			571			1068	
Approach Delay, s/veh		21.7			19.3			54.6			48.1	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	61.7	15.1	32.1	12.0	60.7	27.3	20.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	48.0	26.0	17.0	7.0	48.0	26.0	17.0
Max Q Clear Time (g_c+I1), s	6.1	23.1	9.5	16.8	7.2	12.5	21.3	13.3
Green Ext Time (p_c), s	0.0	3.0	0.6	0.1	0.0	1.4	1.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

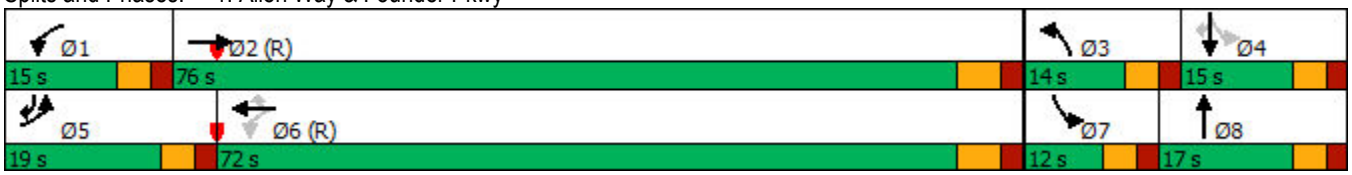
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	265	1215	40	2475	132	120	23	67	14	345
Future Volume (vph)	265	1215	40	2475	132	120	23	67	14	345
Turn Type	Prot	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	9.5	21.0	21.0	9.0	13.0	9.0	13.0	11.0
Total Split (s)	19.0	76.0	15.0	72.0	72.0	14.0	17.0	12.0	15.0	19.0
Total Split (%)	15.8%	63.3%	12.5%	60.0%	60.0%	11.7%	14.2%	10.0%	12.5%	15.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	15.5	82.1	78.0	70.7	70.7	12.4	8.2	10.2	6.9	20.9
Actuated g/C Ratio	0.13	0.68	0.65	0.59	0.59	0.10	0.07	0.08	0.06	0.17
v/c Ratio	0.65	0.43	0.16	0.90	0.15	0.37	0.48	0.48	0.14	0.67
Control Delay	57.1	10.0	5.7	24.5	1.7	53.7	31.4	57.6	55.6	42.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	10.0	5.7	24.5	1.7	53.7	31.4	57.6	55.6	42.0
LOS	E	A	A	C	A	D	C	E	E	D
Approach Delay		17.6		23.1			45.3		44.9	
Approach LOS		B		C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1215	150	40	2475	132	120	23	50	67	14	345
Future Volume (veh/h)	265	1215	150	40	2475	132	120	23	50	67	14	345
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	288	1321	163	43	2690	143	130	25	54	73	15	363
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	3051	376	292	3001	932	185	46	100	204	156	512
Arrive On Green	0.10	0.66	0.67	0.03	0.59	0.59	0.05	0.09	0.10	0.05	0.08	0.08
Sat Flow, veh/h	3456	4604	568	1781	5106	1585	3456	527	1138	1781	1870	2790
Grp Volume(v), veh/h	288	977	507	43	2690	143	130	0	79	73	15	363
Grp Sat Flow(s),veh/h/ln	1728	1702	1768	1781	1702	1585	1728	0	1665	1781	1870	1395
Q Serve(g_s), s	9.8	16.3	16.2	1.1	55.1	4.9	4.4	0.0	5.4	4.4	0.9	10.0
Cycle Q Clear(g_c), s	9.8	16.3	16.2	1.1	55.1	4.9	4.4	0.0	5.4	4.4	0.9	10.0
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	347	2256	1172	292	3001	932	185	0	146	204	156	512
V/C Ratio(X)	0.83	0.43	0.43	0.15	0.90	0.15	0.70	0.00	0.54	0.36	0.10	0.71
Avail Cap(c_a), veh/h	403	2256	1172	396	3001	932	259	0	167	220	156	512
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	0.58	0.58	0.58	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	9.6	9.5	9.5	21.6	11.2	55.8	0.0	52.1	47.2	50.8	46.0
Incr Delay (d2), s/veh	12.1	0.6	1.2	0.1	2.8	0.2	4.8	0.0	3.1	1.1	0.3	4.5
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	4.8	5.8	6.1	0.4	20.9	1.8	2.1	0.0	2.4	2.0	0.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	10.2	10.7	9.6	24.4	11.4	60.7	0.0	55.1	48.3	51.1	50.5
LnGrp LOS	E	B	B	A	C	B	E	A	E	D	D	D
Approach Vol, veh/h		1772			2876			209			451	
Approach Delay, s/veh		19.2			23.5			58.6			50.1	
Approach LOS		B			C			E			D	

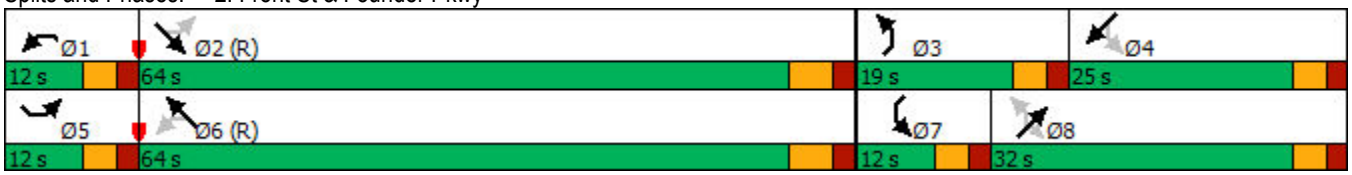
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	85.5	11.4	15.0	17.0	76.5	10.9	15.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	70.0	9.0	10.0	14.0	66.0	7.0	12.0
Max Q Clear Time (g_c+I1), s	3.1	18.3	6.4	12.0	11.8	57.1	6.4	7.4
Green Ext Time (p_c), s	0.0	14.9	0.1	0.0	0.2	8.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	65	950	61	2055	440	55	45	5	45
Future Volume (vph)	65	950	61	2055	440	55	45	5	45
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	21.0	21.0	10.0	21.0
Total Split (s)	12.0	64.0	12.0	64.0	19.0	32.0	32.0	12.0	25.0
Total Split (%)	10.0%	53.3%	10.0%	53.3%	15.8%	26.7%	26.7%	10.0%	20.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	79.6	72.6	79.2	72.4	26.6	24.3	24.3	13.4	7.6
Actuated g/C Ratio	0.66	0.60	0.66	0.60	0.22	0.20	0.20	0.11	0.06
v/c Ratio	0.41	0.44	0.24	0.73	0.83	0.16	0.12	0.03	0.50
Control Delay	26.3	12.4	8.4	19.8	55.9	41.8	0.6	36.2	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	12.4	8.4	19.8	55.9	41.8	0.6	36.2	26.2
LOS	C	B	A	B	E	D	A	D	C
Approach Delay		13.1		19.5		49.8			26.5
Approach LOS		B		B		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 77.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	65	950	260	61	2055	13	440	55	45	5	45	90
Future Volume (veh/h)	65	950	260	61	2055	13	440	55	45	5	45	90
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	71	1033	283	66	2234	14	478	60	49	5	49	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	2380	652	303	3123	20	574	361	306	174	145	129
Arrive On Green	0.03	0.60	0.60	0.03	0.60	0.60	0.12	0.19	0.19	0.01	0.08	0.07
Sat Flow, veh/h	1781	3987	1091	1781	5236	33	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	71	882	434	66	1452	796	478	60	49	5	49	98
Grp Sat Flow(s),veh/h/ln	1781	1702	1674	1781	1702	1864	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	1.9	16.9	16.9	1.7	36.0	36.1	14.0	3.2	3.1	0.3	3.1	7.3
Cycle Q Clear(g_c), s	1.9	16.9	16.9	1.7	36.0	36.1	14.0	3.2	3.1	0.3	3.1	7.3
Prop In Lane	1.00		0.65	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	2032	999	303	2030	1112	574	361	306	174	145	129
V/C Ratio(X)	0.43	0.43	0.43	0.22	0.72	0.72	0.83	0.17	0.16	0.03	0.34	0.76
Avail Cap(c_a), veh/h	214	2032	999	354	2030	1112	574	421	357	269	296	264
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	13.2	13.2	10.1	17.0	17.1	44.0	40.3	40.3	50.2	52.0	54.4
Incr Delay (d2), s/veh	1.6	0.6	1.2	0.4	2.2	4.0	10.2	0.2	0.2	0.1	1.4	8.7
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	0.9	6.3	6.4	0.7	13.7	15.6	7.3	1.5	1.2	0.1	1.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	13.8	14.4	10.5	19.2	21.0	54.2	40.6	40.5	50.2	53.4	63.1
LnGrp LOS	B	B	B	B	B	C	D	D	D	D	D	E
Approach Vol, veh/h		1387			2314			587			152	
Approach Delay, s/veh		14.3			19.6			51.7			59.6	
Approach LOS		B			B			D			E	

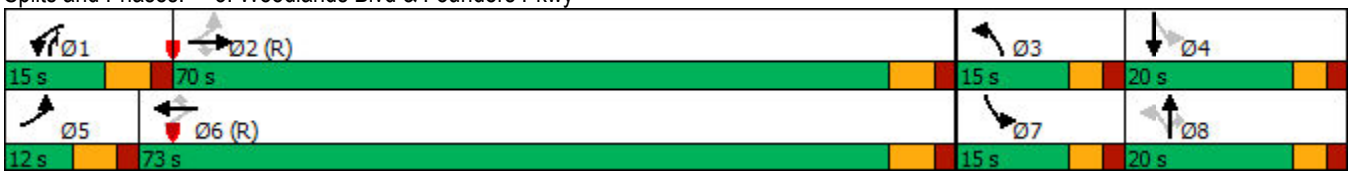
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	77.6	19.0	14.8	8.6	77.6	5.6	28.2
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	58.0	14.0	20.0	7.0	58.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	3.7	18.9	16.0	9.3	3.9	38.1	2.3	5.2
Green Ext Time (p_c), s	0.0	11.8	0.0	0.5	0.0	15.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	800	80	375	2025	100	140	28	160	42	15
Future Volume (vph)	6	800	80	375	2025	100	140	28	160	42	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	12.0	70.0	70.0	15.0	73.0	73.0	15.0	20.0	15.0	15.0	20.0
Total Split (%)	10.0%	58.3%	58.3%	12.5%	60.8%	60.8%	12.5%	16.7%	12.5%	12.5%	16.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
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	-2.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	6.0	5.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	71.8	66.1	66.1	91.4	89.0	89.0	15.7	8.3	30.3	12.1	8.9
Actuated g/C Ratio	0.60	0.55	0.55	0.76	0.74	0.74	0.13	0.07	0.25	0.10	0.07
v/c Ratio	0.05	0.45	0.09	0.75	0.84	0.09	0.74	0.23	0.33	0.25	0.07
Control Delay	6.8	17.2	1.2	17.8	16.8	1.5	68.4	57.4	7.1	47.5	47.2
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	6.8	17.2	1.2	17.8	16.8	1.5	68.4	57.4	7.1	47.5	47.2
LOS	A	B	A	B	B	A	E	E	A	D	D
Approach Delay		15.7			16.3			37.5			47.4
Approach LOS		B			B			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	800	80	375	2025	100	140	28	160	42	15	2
Future Volume (veh/h)	6	800	80	375	2025	100	140	28	160	42	15	2
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	7	870	87	408	2201	109	152	30	0	46	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	2227	993	490	2468	1101	247	154		162	172	
Arrive On Green	0.01	0.63	0.63	0.08	0.69	0.69	0.08	0.08	0.00	0.03	0.05	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	3647	0
Grp Volume(v), veh/h	7	870	87	408	2201	109	152	30	0	46	16	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	0
Q Serve(g_s), s	0.2	14.5	2.6	9.0	59.6	2.7	9.7	1.8	0.0	3.0	0.5	0.0
Cycle Q Clear(g_c), s	0.2	14.5	2.6	9.0	59.6	2.7	9.7	1.8	0.0	3.0	0.5	0.0
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	104	2227	993	490	2468	1101	247	154		162	172	
V/C Ratio(X)	0.07	0.39	0.09	0.83	0.89	0.10	0.62	0.19		0.28	0.09	
Avail Cap(c_a), veh/h	180	2227	993	490	2468	1101	247	234		252	503	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	11.1	8.9	11.6	14.7	6.0	49.5	51.3	0.0	53.9	54.6	0.0
Incr Delay (d2), s/veh	0.3	0.5	0.2	11.7	5.4	0.2	4.5	0.6	0.0	0.9	0.2	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	5.2	0.9	4.5	20.3	0.9	4.6	0.9	0.0	1.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	11.6	9.0	23.3	20.1	6.2	54.0	51.9	0.0	54.9	54.8	0.0
LnGrp LOS	B	B	A	C	C	A	D	D		D	D	
Approach Vol, veh/h		964			2718			182			62	
Approach Delay, s/veh		11.4			20.0			53.7			54.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	81.2	15.0	8.8	6.8	89.4	8.9	14.9
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	9.0	64.0	10.0	15.0	6.0	67.0	10.0	15.0
Max Q Clear Time (g_c+I1), s	11.0	16.5	11.7	2.5	2.2	61.6	5.0	3.8
Green Ext Time (p_c), s	0.0	6.7	0.0	0.0	0.0	4.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

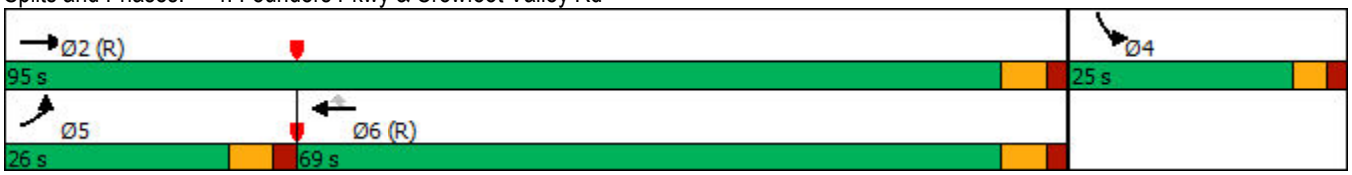
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	370	625	1550	135	90	925
Future Volume (vph)	370	625	1550	135	90	925
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	26.0	95.0	69.0	69.0	25.0	
Total Split (%)	21.7%	79.2%	57.5%	57.5%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	20.2	91.5	67.3	67.3	17.5	120.0
Actuated g/C Ratio	0.17	0.76	0.56	0.56	0.15	1.00
v/c Ratio	0.70	0.25	0.85	0.16	1.08dr	0.35
Control Delay	53.8	4.7	28.3	4.6	41.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	4.7	28.3	4.6	41.1	0.7
LOS	D	A	C	A	D	A
Approach Delay		22.9	26.4		22.7	
Approach LOS		C	C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	370	625	1550	135	90	925
Future Volume (veh/h)	370	625	1550	135	90	925
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	679	1685	147	98	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	519	2981	2329	1039	124	
Arrive On Green	0.15	0.84	0.66	0.66	0.07	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	402	679	1685	147	98	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	13.4	4.6	37.3	4.2	6.5	0.0
Cycle Q Clear(g_c), s	13.4	4.6	37.3	4.2	6.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	519	2981	2329	1039	124	
V/C Ratio(X)	0.77	0.23	0.72	0.14	0.79	
Avail Cap(c_a), veh/h	634	2981	2329	1039	297	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.0	1.9	13.6	7.9	55.0	0.0
Incr Delay (d2), s/veh	4.8	0.2	2.0	0.3	10.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.7	13.0	1.3	3.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.9	2.1	15.5	8.1	65.8	0.0
LnGrp LOS	D	A	B	A	E	
Approach Vol, veh/h		1081	1832		98	
Approach Delay, s/veh		21.4	14.9		65.8	
Approach LOS		C	B		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.7		13.3	22.0	84.6
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	20.0	63.0
Max Q Clear Time (g_c+I1), s		6.6		8.5	15.4	39.3
Green Ext Time (p_c), s		4.6		0.2	0.6	13.7

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	3.1
Intersection LOS	A

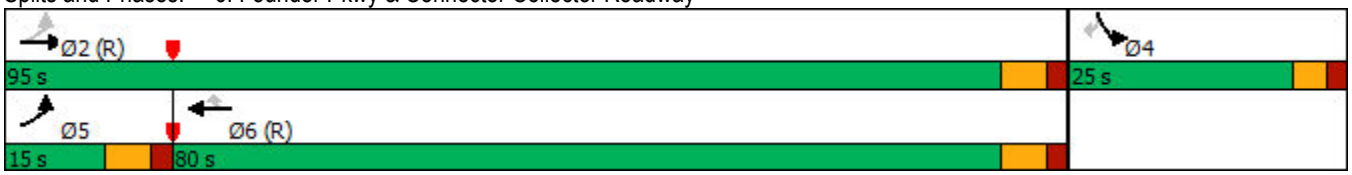
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	54	76	43
Demand Flow Rate, veh/h	55	78	44
Vehicles Circulating, veh/h	34	28	16
Vehicles Exiting, veh/h	72	32	73
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.1	3.2	3.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	55	78	44
Cap Entry Lane, veh/h	1333	1341	1358
Entry HV Adj Factor	0.976	0.976	0.977
Flow Entry, veh/h	54	76	43
Cap Entry, veh/h	1301	1309	1327
V/C Ratio	0.041	0.058	0.032
Control Delay, s/veh	3.1	3.2	3.0
LOS	A	A	A
95th %tile Queue, veh	0	0	0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	695	1675	15	20	45
Future Volume (vph)	25	695	1675	15	20	45
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	20.0	9.0	9.0
Total Split (s)	15.0	95.0	80.0	80.0	25.0	25.0
Total Split (%)	12.5%	79.2%	66.7%	66.7%	20.8%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-2.0	-2.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.0	3.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	104.0	105.2	98.1	98.1	9.1	9.1
Actuated g/C Ratio	0.87	0.88	0.82	0.82	0.08	0.08
v/c Ratio	0.12	0.24	0.63	0.01	0.16	0.30
Control Delay	2.7	1.8	7.4	2.1	54.0	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	1.8	7.4	2.1	54.0	18.9
LOS	A	A	A	A	D	B
Approach Delay		1.8	7.3		29.8	
Approach LOS		A	A		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 6.3	Intersection LOS: A
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Founder Pkwy & Connector Collector Roadway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	695	1675	15	20	45
Future Volume (veh/h)	25	695	1675	15	20	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	755	1821	16	22	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	255	3166	2918	1302	61	
Arrive On Green	0.02	0.89	0.82	0.82	0.03	0.00
Sat Flow, veh/h	1781	3647	3647	1585	1781	1585
Grp Volume(v), veh/h	27	755	1821	16	22	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1585	1781	1585
Q Serve(g_s), s	0.3	3.5	22.5	0.2	1.4	0.0
Cycle Q Clear(g_c), s	0.3	3.5	22.5	0.2	1.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	255	3166	2918	1302	61	
V/C Ratio(X)	0.11	0.24	0.62	0.01	0.36	
Avail Cap(c_a), veh/h	354	3166	2918	1302	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	4.0	0.9	3.9	1.9	56.7	0.0
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.0	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	4.5	0.0	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.2	1.1	5.0	2.0	60.3	0.0
LnGrp LOS	A	A	A	A	E	
Approach Vol, veh/h		782	1837		22	
Approach Delay, s/veh		1.2	4.9		60.3	
Approach LOS		A	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		112.9		7.1	8.4	104.5
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	9.0	74.0
Max Q Clear Time (g_c+I1), s		5.5		3.4	2.3	24.5
Green Ext Time (p_c), s		5.3		0.0	0.0	21.2

Intersection Summary	
HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

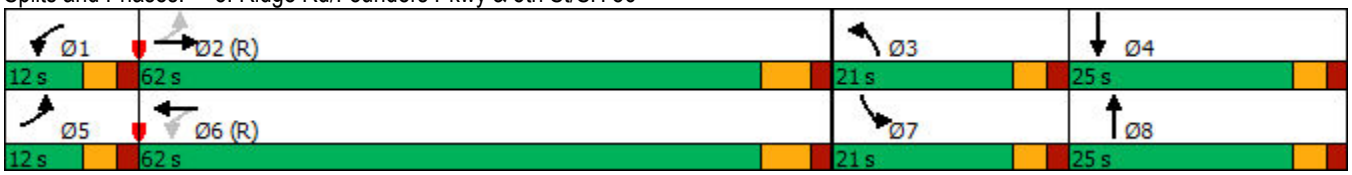
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	32	114	282
Demand Flow Rate, veh/h	33	116	287
Vehicles Circulating, veh/h	221	28	11
Vehicles Exiting, veh/h	77	226	133
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.4	4.5
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	33	116	287
Cap Entry Lane, veh/h	1101	1341	1364
Entry HV Adj Factor	0.970	0.982	0.981
Flow Entry, veh/h	32	114	282
Cap Entry, veh/h	1068	1317	1339
V/C Ratio	0.030	0.087	0.210
Control Delay, s/veh	3.6	3.4	4.5
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	250	190	100	465	700	375	445	55	255	160	150
Future Volume (vph)	79	250	190	100	465	700	375	445	55	255	160	150
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	62.0		12.0	62.0		21.0	25.0		21.0	25.0	
Total Split (%)	10.0%	51.7%		10.0%	51.7%		17.5%	20.8%		17.5%	20.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	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	-2.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	3.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	66.2	57.9	120.0	67.5	60.3	120.0	15.9	21.4	120.0	14.2	17.7	120.0
Actuated g/C Ratio	0.55	0.48	1.00	0.56	0.50	1.00	0.13	0.18	1.00	0.12	0.15	1.00
v/c Ratio	0.20	0.30	0.13	0.18	0.52	0.48	0.90	0.77	0.04	0.68	0.33	0.10
Control Delay	12.3	20.7	0.2	12.0	24.2	1.0	74.4	55.8	0.0	59.5	47.0	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	12.3	20.7	0.2	12.0	24.2	1.0	74.4	55.8	0.0	59.5	47.0	0.1
LOS	B	C	A	B	C	A	E	E	A	E	D	A
Approach Delay		11.9			10.3			60.3			40.2	
Approach LOS		B			B			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	250	190	100	465	700	375	445	55	255	160	150
Future Volume (veh/h)	79	250	190	100	465	700	375	445	55	255	160	150
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	86	272	0	109	489	0	408	484	0	277	174	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	458	983		630	995		459	604		340	422	
Arrive On Green	0.04	0.53	0.00	0.04	0.53	0.00	0.13	0.17	0.00	0.10	0.12	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	86	272	0	109	489	0	408	484	0	277	174	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.7	9.7	0.0	3.4	19.9	0.0	13.9	15.7	0.0	9.4	5.4	0.0
Cycle Q Clear(g_c), s	2.7	9.7	0.0	3.4	19.9	0.0	13.9	15.7	0.0	9.4	5.4	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	458	983		630	995		459	604		340	422	
V/C Ratio(X)	0.19	0.28		0.17	0.49		0.89	0.80		0.81	0.41	
Avail Cap(c_a), veh/h	497	983		656	995		461	652		461	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.8	15.8	0.0	12.3	17.8	0.0	51.2	47.9	0.0	53.0	49.0	0.0
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.1	1.7	0.0	18.7	6.7	0.0	8.0	0.6	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	1.1	4.2	0.0	1.2	8.3	0.0	7.2	7.4	0.0	4.3	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	16.5	0.0	12.4	19.5	0.0	69.9	54.5	0.0	61.0	49.6	0.0
LnGrp LOS	B	B		B	B		E	D		E	D	
Approach Vol, veh/h		358			598			892			451	
Approach Delay, s/veh		15.9			18.2			61.5			56.6	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	69.5	20.9	19.3	9.4	70.4	16.8	23.4
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	7.0	55.5	16.0	20.0	7.0	55.5	16.0	20.0
Max Q Clear Time (g_c+I1), s	5.4	11.7	15.9	7.4	4.7	21.9	11.4	17.7
Green Ext Time (p_c), s	0.0	1.7	0.0	0.6	0.0	2.9	0.4	0.7

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

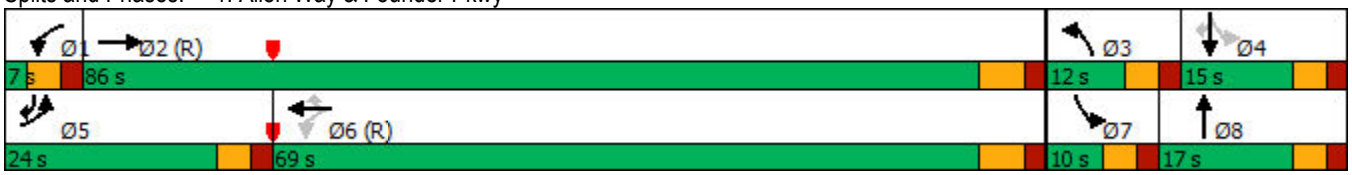
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	435	2930	43	2340	150	170	40	130	38	465
Future Volume (vph)	435	2930	43	2340	150	170	40	130	38	465
Turn Type	Prot	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	2.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
Minimum Split (s)	11.0	21.0	7.0	21.0	21.0	9.0	16.0	8.0	13.0	11.0
Total Split (s)	24.0	86.0	7.0	69.0	69.0	12.0	17.0	10.0	15.0	24.0
Total Split (%)	20.0%	71.7%	5.8%	57.5%	57.5%	10.0%	14.2%	8.3%	12.5%	20.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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	-3.0	0.0	-1.0	0.0	-1.0	-1.0	-2.0	0.0	0.0
Total Lost Time (s)	5.0	3.0	5.0	5.0	6.0	4.0	4.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	18.9	85.4	68.3	65.3	64.3	10.0	11.7	16.3	8.8	30.7
Actuated g/C Ratio	0.16	0.71	0.57	0.54	0.54	0.08	0.10	0.14	0.07	0.26
v/c Ratio	0.87	0.96	0.44	0.92	0.18	0.65	0.71	0.75	0.30	0.66
Control Delay	67.2	24.9	19.7	31.8	3.1	65.6	56.3	70.0	57.8	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	24.9	19.7	31.8	3.1	65.6	56.3	70.0	57.8	37.8
LOS	E	C	B	C	A	E	E	E	E	D
Approach Delay		30.0		29.9			61.6		45.6	
Approach LOS		C		C			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	2930	230	43	2340	150	170	40	92	130	38	465
Future Volume (veh/h)	435	2930	230	43	2340	150	170	40	92	130	38	465
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	473	3185	250	47	2543	163	185	43	100	141	41	505
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	527	3346	256	91	2753	841	230	54	126	205	156	658
Arrive On Green	0.15	0.69	0.69	0.02	0.54	0.53	0.07	0.11	0.11	0.06	0.08	0.08
Sat Flow, veh/h	3456	4838	370	1781	5106	1585	3456	500	1162	1781	1870	2790
Grp Volume(v), veh/h	473	2217	1218	47	2543	163	185	0	143	141	41	505
Grp Sat Flow(s),veh/h/ln	1728	1702	1804	1781	1702	1585	1728	0	1661	1781	1870	1395
Q Serve(g_s), s	16.1	69.1	77.0	1.5	54.9	6.5	6.3	0.0	10.1	7.0	2.5	10.0
Cycle Q Clear(g_c), s	16.1	69.1	77.0	1.5	54.9	6.5	6.3	0.0	10.1	7.0	2.5	10.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	527	2354	1248	91	2753	841	230	0	180	205	156	658
V/C Ratio(X)	0.90	0.94	0.98	0.52	0.92	0.19	0.80	0.00	0.79	0.69	0.26	0.77
Avail Cap(c_a), veh/h	547	2354	1248	91	2753	841	230	0	180	205	156	658
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	0.63	0.63	0.63	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	16.4	17.6	29.5	25.4	14.7	55.2	0.0	52.2	48.0	51.5	42.8
Incr Delay (d2), s/veh	17.1	9.1	20.4	3.2	4.4	0.3	18.3	0.0	21.3	9.4	0.9	5.4
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	8.1	25.7	33.9	0.8	21.8	0.1	3.3	0.0	5.3	1.3	1.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	25.5	38.0	32.7	29.8	15.1	73.5	0.0	73.5	57.4	52.4	48.2
LnGrp LOS	E	C	D	C	C	B	E	A	E	E	D	D
Approach Vol, veh/h		3908			2753			328			687	
Approach Delay, s/veh		34.4			29.0			73.5			50.3	
Approach LOS		C			C			E			D	

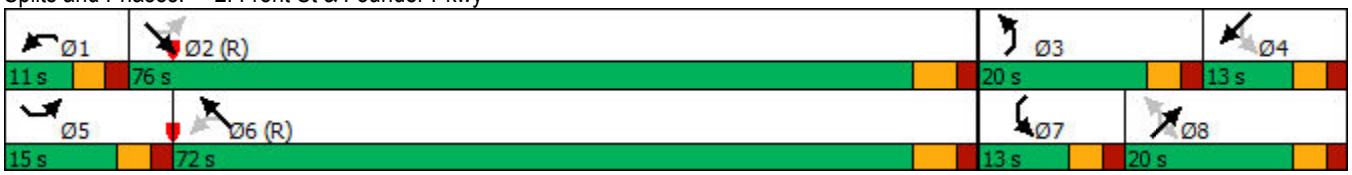
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	86.0	12.0	15.0	23.3	69.7	10.0	17.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	2.0	80.0	7.0	10.0	19.0	63.0	5.0	12.0
Max Q Clear Time (g_c+I1), s	3.5	79.0	8.3	12.0	18.1	56.9	9.0	12.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.2	5.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	165	1950	130	1575	620	110	190	40	85
Future Volume (vph)	165	1950	130	1575	620	110	190	40	85
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	19.0	19.0	10.0	12.0
Total Split (s)	15.0	76.0	11.0	72.0	20.0	20.0	20.0	13.0	13.0
Total Split (%)	12.5%	63.3%	9.2%	60.0%	16.7%	16.7%	16.7%	10.8%	10.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-2.0	-2.0	-2.0	-2.0	-3.0	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	3.0	4.0	3.0	3.0	2.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	83.7	73.2	78.8	69.4	29.4	19.3	20.3	18.6	9.4
Actuated g/C Ratio	0.70	0.61	0.66	0.58	0.24	0.16	0.17	0.16	0.08
v/c Ratio	0.69	0.88	0.75	0.57	1.06	0.40	0.51	0.18	0.49
Control Delay	25.5	20.6	49.4	17.1	94.9	51.0	16.4	37.2	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	20.6	49.4	17.1	94.9	51.0	16.4	37.2	36.1
LOS	C	C	D	B	F	D	B	D	D
Approach Delay		20.9		19.6		73.4			36.4
Approach LOS		C		B		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 30.0	Intersection LOS: C
Intersection Capacity Utilization 95.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	165	1950	685	130	1575	20	620	110	190	40	85	60
Future Volume (veh/h)	165	1950	685	130	1575	20	620	110	190	40	85	60
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	179	1970	685	141	1658	22	674	120	207	43	92	65
Peak Hour Factor	0.92	0.99	1.00	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	2333	754	191	3105	41	690	330	293	227	166	108
Arrive On Green	0.07	0.61	0.59	0.07	0.60	0.58	0.14	0.18	0.18	0.05	0.08	0.06
Sat Flow, veh/h	1781	3819	1234	1781	5193	69	3456	1870	1585	1781	2062	1343
Grp Volume(v), veh/h	179	1740	915	141	1087	593	674	120	207	43	78	79
Grp Sat Flow(s),veh/h/ln	1781	1702	1648	1781	1702	1858	1728	1870	1585	1781	1777	1629
Q Serve(g_s), s	4.4	48.8	58.9	4.3	22.6	22.7	17.0	6.8	14.7	2.6	5.1	5.7
Cycle Q Clear(g_c), s	4.4	48.8	58.9	4.3	22.6	22.7	17.0	6.8	14.7	2.6	5.1	5.7
Prop In Lane	1.00		0.75	1.00		0.04	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	307	2080	1007	191	2035	1111	690	330	293	227	143	131
V/C Ratio(X)	0.58	0.84	0.91	0.74	0.53	0.53	0.98	0.36	0.71	0.19	0.55	0.60
Avail Cap(c_a), veh/h	358	2080	1007	191	2035	1111	690	330	293	293	148	136
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)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	18.6	21.5	31.8	14.3	14.3	45.1	43.5	45.9	46.9	53.0	54.5
Incr Delay (d2), s/veh	0.4	0.9	3.5	13.8	1.0	1.8	28.6	0.7	7.6	0.4	3.8	6.8
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	1.6	17.8	21.9	3.1	8.5	9.6	4.8	3.2	6.4	1.2	2.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	19.5	25.0	45.7	15.3	16.1	73.7	44.2	53.4	47.3	56.9	61.3
LnGrp LOS	B	B	C	D	B	B	E	D	D	D	E	E
Approach Vol, veh/h		2834			1821			1001			200	
Approach Delay, s/veh		20.9			17.9			66.0			56.5	
Approach LOS		C			B			E			E	

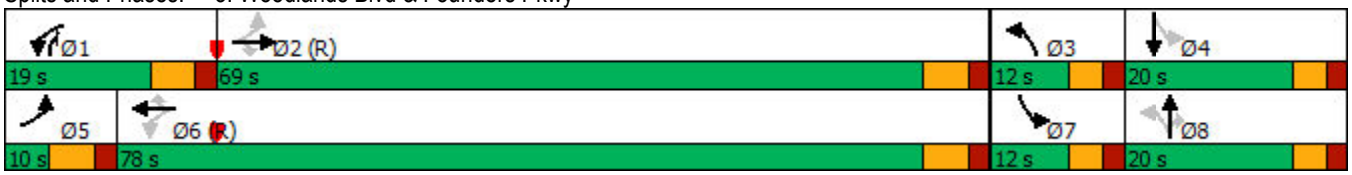
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	76.3	20.0	12.7	11.6	75.7	8.5	24.2
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	70.0	15.0	8.0	10.0	66.0	8.0	15.0
Max Q Clear Time (g_c+I1), s	6.3	60.9	19.0	7.7	6.4	24.7	4.6	16.7
Green Ext Time (p_c), s	0.0	8.5	0.0	0.0	0.2	16.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	8	1785	140	230	1620	96	120	55	350	175	50
Future Volume (vph)	8	1785	140	230	1620	96	120	55	350	175	50
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	9.0	19.0	10.0	8.0	20.0
Total Split (s)	10.0	69.0	69.0	19.0	78.0	78.0	12.0	20.0	19.0	12.0	20.0
Total Split (%)	8.3%	57.5%	57.5%	15.8%	65.0%	65.0%	10.0%	16.7%	15.8%	10.0%	16.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
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)	-2.0	-3.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	3.0	5.0	4.0	4.0	5.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	76.3	69.6	67.6	92.0	89.6	88.6	18.6	11.2	31.4	18.6	11.1
Actuated g/C Ratio	0.64	0.58	0.56	0.77	0.75	0.74	0.16	0.09	0.26	0.16	0.09
v/c Ratio	0.04	0.92	0.16	0.72	0.67	0.09	0.54	0.35	0.81	0.82	0.19
Control Delay	5.9	32.0	1.8	42.7	11.1	1.3	51.6	55.6	47.2	72.9	43.6
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	5.9	32.0	1.8	42.7	11.1	1.3	51.6	55.6	47.2	72.9	43.6
LOS	A	C	A	D	B	A	D	E	D	E	D
Approach Delay		29.6			14.3			49.1			65.6
Approach LOS		C			B			D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1785	140	230	1620	96	120	55	350	175	50	8
Future Volume (veh/h)	8	1785	140	230	1620	96	120	55	350	175	50	8
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	9	1879	152	250	1761	104	130	60	0	190	54	0
Peak Hour Factor	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	2283	992	303	2551	1124	262	122		240	232	
Arrive On Green	0.03	0.64	0.63	0.11	0.72	0.71	0.08	0.07	0.00	0.08	0.07	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	3647	0
Grp Volume(v), veh/h	9	1879	152	250	1761	104	130	60	0	190	54	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	0
Q Serve(g_s), s	0.2	48.2	4.8	8.9	33.3	2.4	8.1	3.7	0.0	9.0	1.7	0.0
Cycle Q Clear(g_c), s	0.2	48.2	4.8	8.9	33.3	2.4	8.1	3.7	0.0	9.0	1.7	0.0
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	213	2283	992	303	2551	1124	262	122		240	232	
V/C Ratio(X)	0.04	0.82	0.15	0.83	0.69	0.09	0.50	0.49		0.79	0.23	
Avail Cap(c_a), veh/h	257	2283	992	331	2551	1124	262	265		240	503	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.3	16.3	9.3	34.4	9.5	5.4	47.9	54.2	0.0	50.8	53.2	0.0
Incr Delay (d2), s/veh	0.1	3.5	0.3	14.6	1.6	0.2	1.4	3.0	0.0	16.5	0.5	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	17.3	1.7	8.2	10.4	0.8	3.7	1.8	0.0	2.3	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	19.8	9.6	49.0	11.0	5.6	49.3	57.2	0.0	67.3	53.7	0.0
LnGrp LOS	A	B	A	D	B	A	D	E		E	D	
Approach Vol, veh/h		2040			2115			190			244	
Approach Delay, s/veh		19.0			15.3			51.8			64.3	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	80.1	12.0	10.8	7.0	90.1	12.0	10.8
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	63.0	7.0	15.0	4.0	72.0	7.0	15.0
Max Q Clear Time (g_c+I1), s	10.9	50.2	10.1	3.7	2.2	35.3	11.0	5.7
Green Ext Time (p_c), s	0.1	9.8	0.0	0.1	0.0	18.2	0.0	0.1

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

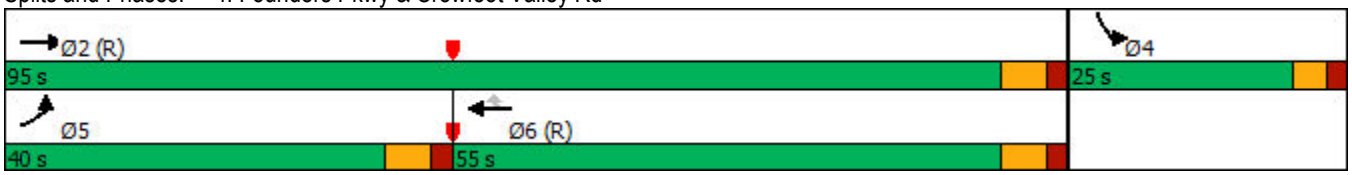
Notes

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	815	1525	1215	130	140	590
Future Volume (vph)	815	1525	1215	130	140	590
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	40.0	95.0	55.0	55.0	25.0	
Total Split (%)	33.3%	79.2%	45.8%	45.8%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	3.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	37.2	99.3	58.1	58.1	13.7	120.0
Actuated g/C Ratio	0.31	0.83	0.48	0.48	0.11	1.00
v/c Ratio	0.83	0.57	0.77	0.17	0.73	0.22
Control Delay	46.2	4.7	30.8	6.1	22.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	4.7	30.8	6.1	22.6	0.4
LOS	D	A	C	A	C	A
Approach Delay		19.2	28.4		13.6	
Approach LOS		B	C		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 21.1	Intersection LOS: C
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	815	1525	1215	130	140	590
Future Volume (veh/h)	815	1525	1215	130	140	590
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	886	1658	1321	141	152	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	992	2931	1792	799	208	
Arrive On Green	0.29	0.82	0.50	0.50	0.12	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	886	1658	1321	141	152	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	29.5	18.4	35.2	5.8	9.9	0.0
Cycle Q Clear(g_c), s	29.5	18.4	35.2	5.8	9.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	992	2931	1792	799	208	
V/C Ratio(X)	0.89	0.57	0.74	0.18	0.73	
Avail Cap(c_a), veh/h	1037	2931	1792	799	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.0	3.5	23.5	16.2	51.2	0.0
Incr Delay (d2), s/veh	9.7	0.8	2.8	0.5	4.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	3.5	14.1	2.1	4.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	4.3	26.2	16.7	56.0	0.0
LnGrp LOS	D	A	C	B	E	
Approach Vol, veh/h		2544	1462		152	
Approach Delay, s/veh		20.4	25.3		56.0	
Approach LOS		C	C		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.0		17.0	38.5	64.5
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	34.0	49.0
Max Q Clear Time (g_c+I1), s		20.4		11.9	31.5	37.2
Green Ext Time (p_c), s		19.1		0.2	1.0	6.8

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	3.2
Intersection LOS	A

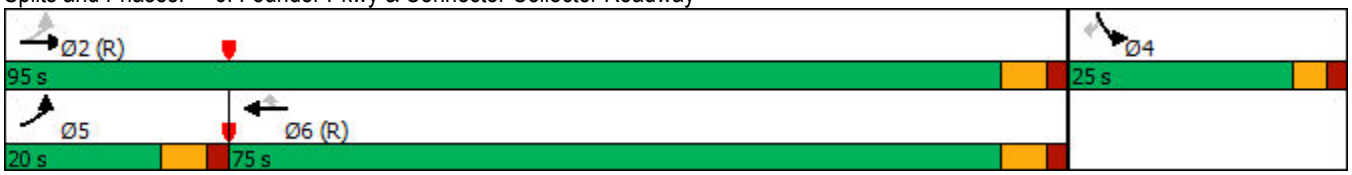
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	76	49	81
Demand Flow Rate, veh/h	78	50	83
Vehicles Circulating, veh/h	22	44	44
Vehicles Exiting, veh/h	72	83	56
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.2	3.1	3.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	78	50	83
Cap Entry Lane, veh/h	1349	1319	1319
Entry HV Adj Factor	0.976	0.989	0.976
Flow Entry, veh/h	76	49	81
Cap Entry, veh/h	1317	1305	1287
V/C Ratio	0.058	0.038	0.063
Control Delay, s/veh	3.2	3.1	3.3
LOS	A	A	A
95th %tile Queue, veh	0	0	0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	1620	1275	25	15	35
Future Volume (vph)	50	1620	1275	25	15	35
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	20.0	9.0	9.0
Total Split (s)	20.0	95.0	75.0	75.0	25.0	25.0
Total Split (%)	16.7%	79.2%	62.5%	62.5%	20.8%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	4.0	5.0	5.0	5.0	3.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	106.4	106.4	96.7	96.7	8.7	7.7
Actuated g/C Ratio	0.89	0.89	0.81	0.81	0.07	0.06
v/c Ratio	0.15	0.56	0.49	0.02	0.12	0.28
Control Delay	2.0	2.9	5.8	1.4	53.5	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	2.9	5.8	1.4	53.5	21.3
LOS	A	A	A	A	D	C
Approach Delay		2.9	5.7		30.9	
Approach LOS		A	A		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 4.6	Intersection LOS: A
Intersection Capacity Utilization 55.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Founder Pkwy & Connector Collector Roadway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	1620	1275	25	15	35
Future Volume (veh/h)	50	1620	1275	25	15	35
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	1761	1386	27	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	414	3209	2932	1308	54	
Arrive On Green	0.04	0.90	0.83	0.83	0.03	0.00
Sat Flow, veh/h	1781	3647	3647	1585	1781	1585
Grp Volume(v), veh/h	54	1761	1386	27	16	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1585	1781	1585
Q Serve(g_s), s	0.4	11.4	13.4	0.4	1.1	0.0
Cycle Q Clear(g_c), s	0.4	11.4	13.4	0.4	1.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	414	3209	2932	1308	54	
V/C Ratio(X)	0.13	0.55	0.47	0.02	0.30	
Avail Cap(c_a), veh/h	572	3209	2932	1308	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.8	1.1	3.0	1.9	56.9	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.5	0.0	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	2.6	0.1	0.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.0	1.8	3.6	1.9	59.9	0.0
LnGrp LOS	A	A	A	A	E	
Approach Vol, veh/h		1815	1413		16	
Approach Delay, s/veh		1.8	3.5		59.9	
Approach LOS		A	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		113.3		6.7	9.3	104.0
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	14.0	69.0
Max Q Clear Time (g_c+I1), s		13.4		3.1	2.4	15.4
Green Ext Time (p_c), s		22.1		0.0	0.1	13.2

Intersection Summary	
HCM 6th Ctrl Delay	2.8
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

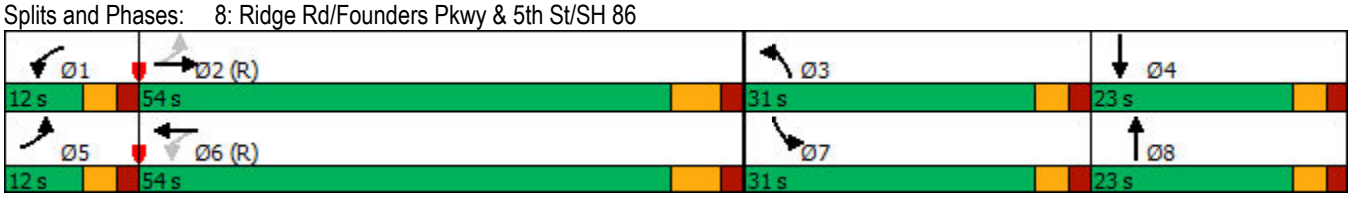
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	82	293	206
Demand Flow Rate, veh/h	83	299	210
Vehicles Circulating, veh/h	166	72	5
Vehicles Exiting, veh/h	49	177	366
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.7	4.9	3.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	83	299	210
Cap Entry Lane, veh/h	1165	1282	1373
Entry HV Adj Factor	0.988	0.981	0.980
Flow Entry, veh/h	82	293	206
Cap Entry, veh/h	1151	1257	1345
V/C Ratio	0.071	0.233	0.153
Control Delay, s/veh	3.7	4.9	3.9
LOS	A	A	A
95th %tile Queue, veh	0	1	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	490	435	120	275	415	230	360	75	620	505	135
Future Volume (vph)	157	490	435	120	275	415	230	360	75	620	505	135
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	54.0		12.0	54.0		31.0	23.0		31.0	23.0	
Total Split (%)	10.0%	45.0%		10.0%	45.0%		25.8%	19.2%		25.8%	19.2%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-2.0		-1.0	-2.0		-1.0	-2.0		-2.0	-1.0	
Total Lost Time (s)	4.0	4.5		4.0	4.5		4.0	3.0		3.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	60.0	51.0	120.0	59.6	50.8	120.0	15.1	18.9	120.0	27.4	29.2	120.0
Actuated g/C Ratio	0.50	0.42	1.00	0.50	0.42	1.00	0.13	0.16	1.00	0.23	0.24	1.00
v/c Ratio	0.34	0.67	0.30	0.42	0.38	0.28	0.58	0.70	0.05	0.86	0.64	0.09
Control Delay	17.5	33.5	0.5	19.2	26.0	0.5	54.7	55.2	0.1	56.7	44.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	33.5	0.5	19.2	26.0	0.5	54.7	55.2	0.1	56.7	44.7	0.1
LOS	B	C	A	B	C	A	D	E	A	E	D	A
Approach Delay		17.9			11.9			48.8			45.8	
Approach LOS		B			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 31.2	Intersection LOS: C
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	490	435	120	275	415	230	360	75	620	505	135
Future Volume (veh/h)	157	490	435	120	275	415	230	360	75	620	505	135
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	171	533	0	130	299	0	250	391	0	674	549	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	533	833		362	827		349	516		777	897	
Arrive On Green	0.07	0.45	0.00	0.06	0.44	0.00	0.10	0.15	0.00	0.22	0.25	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	171	533	0	130	299	0	250	391	0	674	549	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.4	26.5	0.0	4.7	12.7	0.0	8.4	12.7	0.0	22.5	16.4	0.0
Cycle Q Clear(g_c), s	6.4	26.5	0.0	4.7	12.7	0.0	8.4	12.7	0.0	22.5	16.4	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	533	833		362	827		349	516		777	897	
V/C Ratio(X)	0.32	0.64		0.36	0.36		0.72	0.76		0.87	0.61	
Avail Cap(c_a), veh/h	533	833		367	827		778	592		806	897	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.3	25.8	0.0	19.7	22.2	0.0	52.3	49.3	0.0	44.8	39.7	0.0
Incr Delay (d2), s/veh	0.3	3.8	0.0	0.6	1.2	0.0	2.7	4.9	0.0	9.7	1.2	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	2.6	12.3	0.0	1.9	5.5	0.0	3.8	5.9	0.0	10.3	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	29.6	0.0	20.3	23.4	0.0	55.0	54.1	0.0	54.5	40.9	0.0
LnGrp LOS	B	C		C	C		E	D		D	D	
Approach Vol, veh/h		704			429			641			1223	
Approach Delay, s/veh		26.7			22.5			54.5			48.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	57.9	16.1	34.3	12.0	57.6	30.0	20.4
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	7.0	47.5	26.0	18.0	7.0	47.5	26.0	18.0
Max Q Clear Time (g_c+I1), s	6.7	28.5	10.4	18.4	8.4	14.7	24.5	14.7
Green Ext Time (p_c), s	0.0	3.2	0.7	0.0	0.0	1.6	0.4	0.7

Intersection Summary	
HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

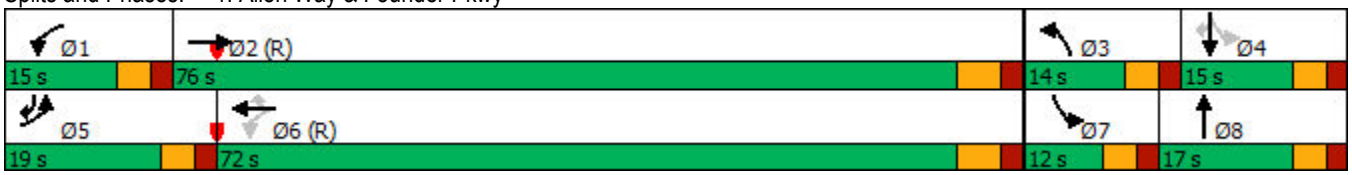
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	265	1274	40	2620	132	120	23	67	14	345
Future Volume (vph)	265	1274	40	2620	132	120	23	67	14	345
Turn Type	Prot	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	9.5	21.0	21.0	9.0	13.0	9.0	13.0	11.0
Total Split (s)	19.0	76.0	15.0	72.0	72.0	14.0	17.0	12.0	15.0	19.0
Total Split (%)	15.8%	63.3%	12.5%	60.0%	60.0%	11.7%	14.2%	10.0%	12.5%	15.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	15.7	82.1	77.7	70.5	70.5	12.4	8.2	10.2	6.9	21.1
Actuated g/C Ratio	0.13	0.68	0.65	0.59	0.59	0.10	0.07	0.08	0.06	0.18
v/c Ratio	0.64	0.45	0.17	0.95	0.15	0.37	0.48	0.48	0.14	0.68
Control Delay	56.5	10.2	5.5	27.9	1.5	53.7	31.4	57.6	55.6	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	10.2	5.5	27.9	1.5	53.7	31.4	57.6	55.6	42.6
LOS	E	B	A	C	A	D	C	E	E	D
Approach Delay		17.5		26.3			45.3		45.4	
Approach LOS		B		C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 25.7	Intersection LOS: C
Intersection Capacity Utilization 81.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1274	150	40	2620	132	120	23	50	67	14	345
Future Volume (veh/h)	265	1274	150	40	2620	132	120	23	50	67	14	345
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	288	1385	163	43	2848	143	130	25	54	73	15	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	3069	361	279	3001	932	185	46	100	204	156	512
Arrive On Green	0.10	0.66	0.67	0.03	0.59	0.59	0.05	0.09	0.10	0.05	0.08	0.08
Sat Flow, veh/h	3456	4631	545	1781	5106	1585	3456	527	1138	1781	1870	2790
Grp Volume(v), veh/h	288	1018	530	43	2848	143	130	0	79	73	15	375
Grp Sat Flow(s),veh/h/ln	1728	1702	1772	1781	1702	1585	1728	0	1665	1781	1870	1395
Q Serve(g_s), s	9.8	17.3	17.2	1.1	62.4	4.9	4.4	0.0	5.4	4.4	0.9	10.0
Cycle Q Clear(g_c), s	9.8	17.3	17.2	1.1	62.4	4.9	4.4	0.0	5.4	4.4	0.9	10.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	347	2256	1174	279	3001	932	185	0	146	204	156	512
V/C Ratio(X)	0.83	0.45	0.45	0.15	0.95	0.15	0.70	0.00	0.54	0.36	0.10	0.73
Avail Cap(c_a), veh/h	403	2256	1174	382	3001	932	259	0	167	220	156	512
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	0.51	0.51	0.51	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	9.7	9.7	9.5	23.1	11.2	55.8	0.0	52.1	47.2	50.8	46.2
Incr Delay (d2), s/veh	12.1	0.7	1.3	0.1	4.7	0.2	4.8	0.0	3.1	1.1	0.3	5.3
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	4.8	6.1	6.5	0.4	24.1	1.7	2.1	0.0	2.4	2.0	0.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	10.4	10.9	9.7	27.8	11.4	60.7	0.0	55.1	48.3	51.1	51.5
LnGrp LOS	E	B	B	A	C	B	E	A	E	D	D	D
Approach Vol, veh/h		1836			3034			209			463	
Approach Delay, s/veh		19.1			26.8			58.6			51.0	
Approach LOS		B			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	85.5	11.4	15.0	17.0	76.5	10.9	15.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	70.0	9.0	10.0	14.0	66.0	7.0	12.0
Max Q Clear Time (g_c+I1), s	3.1	19.3	6.4	12.0	11.8	64.4	6.4	7.4
Green Ext Time (p_c), s	0.0	15.9	0.1	0.0	0.2	1.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	65	1009	74	2200	440	55	50	5	45
Future Volume (vph)	65	1009	74	2200	440	55	50	5	45
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	21.0	21.0	10.0	21.0
Total Split (s)	12.0	64.0	12.0	64.0	19.0	32.0	32.0	12.0	25.0
Total Split (%)	10.0%	53.3%	10.0%	53.3%	15.8%	26.7%	26.7%	10.0%	20.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	79.3	72.3	79.5	72.4	26.6	24.3	24.3	13.4	7.6
Actuated g/C Ratio	0.66	0.60	0.66	0.60	0.22	0.20	0.20	0.11	0.06
v/c Ratio	0.42	0.46	0.30	0.78	0.83	0.16	0.13	0.03	0.50
Control Delay	26.2	13.2	9.3	21.5	55.9	41.8	0.7	36.2	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	13.2	9.3	21.5	55.9	41.8	0.7	36.2	26.2
LOS	C	B	A	C	E	D	A	D	C
Approach Delay		13.8		21.1		49.4			26.5
Approach LOS		B		C		D			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 22.6 — Intersection LOS: C
Intersection Capacity Utilization 80.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Front St & Founder Pkwy

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	65	1009	260	74	2200	13	440	55	50	5	45	90
Future Volume (veh/h)	65	1009	260	74	2200	13	440	55	50	5	45	90
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	71	1097	283	80	2391	14	478	60	54	5	49	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	2405	620	291	3125	18	573	361	306	173	145	129
Arrive On Green	0.03	0.59	0.59	0.03	0.60	0.60	0.12	0.19	0.19	0.01	0.08	0.07
Sat Flow, veh/h	1781	4044	1043	1781	5238	31	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	71	923	457	80	1553	852	478	60	54	5	49	98
Grp Sat Flow(s),veh/h/ln	1781	1702	1683	1781	1702	1865	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	1.9	18.1	18.1	2.1	40.6	40.7	14.0	3.2	3.4	0.3	3.1	7.3
Cycle Q Clear(g_c), s	1.9	18.1	18.1	2.1	40.6	40.7	14.0	3.2	3.4	0.3	3.1	7.3
Prop In Lane	1.00		0.62	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	2024	1001	291	2031	1113	573	361	306	173	145	129
V/C Ratio(X)	0.47	0.46	0.46	0.27	0.76	0.77	0.83	0.17	0.18	0.03	0.34	0.76
Avail Cap(c_a), veh/h	201	2024	1001	338	2031	1113	573	421	357	268	296	264
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)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	13.5	13.5	10.5	18.0	18.0	44.0	40.4	40.4	50.2	52.1	54.5
Incr Delay (d2), s/veh	2.0	0.7	1.3	0.5	2.8	5.0	10.2	0.2	0.3	0.1	1.4	8.8
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	1.2	6.8	6.9	0.8	15.6	17.8	7.2	1.5	1.4	0.1	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	14.2	14.9	11.0	20.8	23.0	54.3	40.6	40.7	50.3	53.4	63.2
LnGrp LOS	C	B	B	B	C	C	D	D	D	D	D	E
Approach Vol, veh/h		1451			2485			592			152	
Approach Delay, s/veh		14.9			21.2			51.6			59.6	
Approach LOS		B			C			D			E	

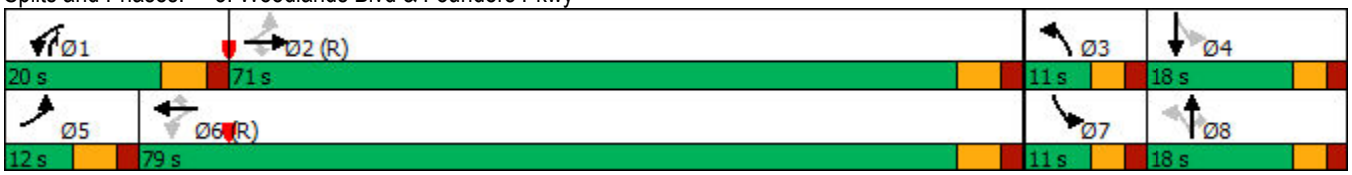
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	77.4	19.0	14.8	8.6	77.6	5.6	28.2
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	58.0	14.0	20.0	7.0	58.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	4.1	20.1	16.0	9.3	3.9	42.7	2.3	5.4
Green Ext Time (p_c), s	0.0	12.5	0.0	0.5	0.0	12.9	0.0	0.4

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	864	80	381	2183	100	140	28	165	42	15
Future Volume (vph)	6	864	80	381	2183	100	140	28	165	42	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	12.0	71.0	71.0	20.0	79.0	79.0	11.0	18.0	20.0	11.0	18.0
Total Split (%)	10.0%	59.2%	59.2%	16.7%	65.8%	65.8%	9.2%	15.0%	16.7%	9.2%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
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)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	77.6	72.0	72.0	94.9	92.6	92.6	12.1	7.5	27.2	9.5	7.0
Actuated g/C Ratio	0.65	0.60	0.60	0.79	0.77	0.77	0.10	0.06	0.23	0.08	0.06
v/c Ratio	0.05	0.44	0.09	0.79	0.87	0.09	0.50	0.26	0.37	0.32	0.09
Control Delay	6.3	15.1	0.2	20.2	16.6	1.3	53.6	58.5	8.8	53.2	49.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	15.1	0.2	20.2	16.6	1.3	53.6	58.5	8.8	53.2	49.1
LOS	A	B	A	C	B	A	D	E	A	D	D
Approach Delay		13.8			16.6			31.8			52.0
Approach LOS		B			B			C			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 88.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	864	80	381	2183	100	140	28	165	42	15	2
Future Volume (veh/h)	6	864	80	381	2183	100	140	28	165	42	15	2
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	7	939	87	414	2373	109	152	30	179	46	16	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	2013	898	483	2381	1062	523	203	347	221	286	35
Arrive On Green	0.01	0.57	0.57	0.11	0.67	0.67	0.05	0.11	0.11	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	3187	390
Grp Volume(v), veh/h	7	939	87	414	2373	109	152	30	179	46	9	9
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1777	1800
Q Serve(g_s), s	0.2	18.7	3.0	11.1	79.6	2.9	4.7	1.7	11.9	2.8	0.5	0.6
Cycle Q Clear(g_c), s	0.2	18.7	3.0	11.1	79.6	2.9	4.7	1.7	11.9	2.8	0.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	73	2013	898	483	2381	1062	523	203	347	221	159	161
V/C Ratio(X)	0.10	0.47	0.10	0.86	1.00	0.10	0.29	0.15	0.52	0.21	0.06	0.06
Avail Cap(c_a), veh/h	150	2013	898	494	2381	1062	523	203	347	254	192	195
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	30.2	15.3	11.9	14.3	19.7	7.0	46.4	48.5	41.3	47.6	50.0	50.0
Incr Delay (d2), s/veh	0.6	0.8	0.2	13.8	17.7	0.2	0.3	0.3	1.3	0.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.0	1.1	5.3	31.6	1.0	2.1	0.8	4.8	1.3	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	16.1	12.2	28.1	37.3	7.2	46.8	48.8	42.6	48.0	50.1	50.1
LnGrp LOS	C	B	B	C	D	A	D	D	D	D	D	D
Approach Vol, veh/h		1033			2896			361			64	
Approach Delay, s/veh		15.9			34.9			44.9			48.6	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.3	74.0	11.0	15.8	6.8	86.4	8.8	18.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	65.0	6.0	13.0	6.0	73.0	6.0	13.0
Max Q Clear Time (g_c+I1), s	13.1	20.7	6.7	2.6	2.2	81.6	4.8	13.9
Green Ext Time (p_c), s	0.1	7.4	0.0	0.0	0.0	0.0	0.0	0.0

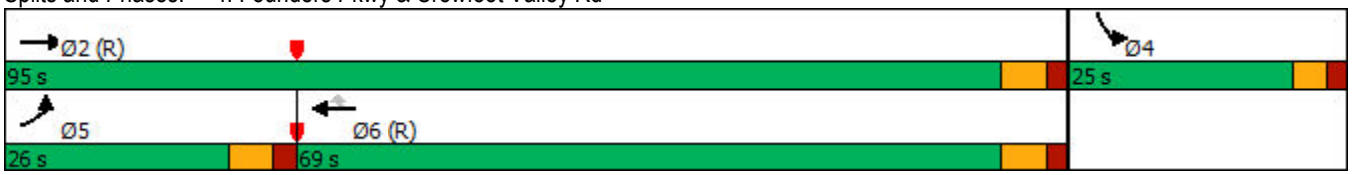
Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	370	694	1714	142	96	925
Future Volume (vph)	370	694	1714	142	96	925
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	26.0	95.0	69.0	69.0	25.0	
Total Split (%)	21.7%	79.2%	57.5%	57.5%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	6.0	5.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	20.2	91.2	67.1	67.1	17.8	120.0
Actuated g/C Ratio	0.17	0.76	0.56	0.56	0.15	1.00
v/c Ratio	0.70	0.28	0.94	0.17	1.09dr	0.35
Control Delay	53.8	4.9	36.6	5.3	41.9	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	4.9	36.6	5.3	41.9	0.7
LOS	D	A	D	A	D	A
Approach Delay		21.9	34.2		23.3	
Approach LOS		C	C		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	370	694	1714	142	96	925
Future Volume (veh/h)	370	694	1714	142	96	925
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	754	1863	154	104	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	519	2968	2316	1033	130	
Arrive On Green	0.15	0.84	0.65	0.65	0.07	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	402	754	1863	154	104	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	13.4	5.3	46.1	4.5	6.9	0.0
Cycle Q Clear(g_c), s	13.4	5.3	46.1	4.5	6.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	519	2968	2316	1033	130	
V/C Ratio(X)	0.77	0.25	0.80	0.15	0.80	
Avail Cap(c_a), veh/h	634	2968	2316	1033	297	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.0	2.1	15.3	8.1	54.7	0.0
Incr Delay (d2), s/veh	4.8	0.2	3.1	0.3	10.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.9	16.4	1.4	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.9	2.3	18.4	8.4	65.3	0.0
LnGrp LOS	D	A	B	A	E	
Approach Vol, veh/h		1156	2017		104	
Approach Delay, s/veh		20.2	17.6		65.3	
Approach LOS		C	B		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.2		13.8	22.0	84.2
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	20.0	63.0
Max Q Clear Time (g_c+I1), s		7.3		8.9	15.4	48.1
Green Ext Time (p_c), s		5.3		0.2	0.6	11.0

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	4.7
Intersection LOS	A

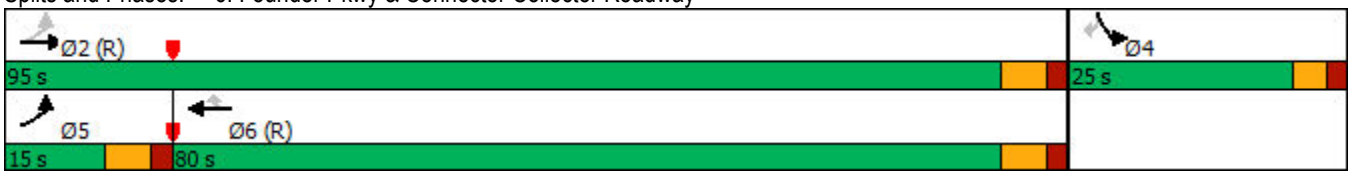
Approach	NB	SB	NE
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	360	77	127
Demand Flow Rate, veh/h	367	79	130
Vehicles Circulating, veh/h	30	273	35
Vehicles Exiting, veh/h	135	124	317
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	4.2	3.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	367	79	130
Cap Entry Lane, veh/h	1338	1045	1331
Entry HV Adj Factor	0.981	0.979	0.977
Flow Entry, veh/h	360	77	127
Cap Entry, veh/h	1313	1022	1301
V/C Ratio	0.274	0.076	0.098
Control Delay, s/veh	5.1	4.2	3.6
LOS	A	A	A
95th %tile Queue, veh	1	0	0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	694	1673	50	66	218
Future Volume (vph)	101	694	1673	50	66	218
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	20.0	9.0	9.0
Total Split (s)	15.0	95.0	80.0	80.0	25.0	25.0
Total Split (%)	12.5%	79.2%	66.7%	66.7%	20.8%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	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
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	95.6	95.6	81.7	81.7	13.4	13.4
Actuated g/C Ratio	0.80	0.80	0.68	0.68	0.11	0.11
v/c Ratio	0.54	0.27	0.75	0.05	0.36	0.80
Control Delay	21.8	3.8	16.5	2.5	52.5	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	3.8	16.5	2.5	52.5	40.9
LOS	C	A	B	A	D	D
Approach Delay		6.1	16.1		43.6	
Approach LOS		A	B		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 16.1	Intersection LOS: B
Intersection Capacity Utilization 69.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Founder Pkwy & Connector Collector Roadway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	101	694	1673	50	66	218
Future Volume (veh/h)	101	694	1673	50	66	218
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	754	1818	54	72	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	249	3042	2749	1226	93	
Arrive On Green	0.03	0.86	0.77	0.77	0.05	0.00
Sat Flow, veh/h	1781	3647	3647	1585	1781	1585
Grp Volume(v), veh/h	110	754	1818	54	72	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1585	1781	1585
Q Serve(g_s), s	1.4	4.7	28.5	1.0	4.8	0.0
Cycle Q Clear(g_c), s	1.4	4.7	28.5	1.0	4.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	249	3042	2749	1226	93	
V/C Ratio(X)	0.44	0.25	0.66	0.04	0.77	
Avail Cap(c_a), veh/h	324	3042	2749	1226	297	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.0	1.6	6.3	3.2	56.2	0.0
Incr Delay (d2), s/veh	1.2	0.2	1.3	0.1	12.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.6	7.5	0.2	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	1.8	7.6	3.3	68.8	0.0
LnGrp LOS	B	A	A	A	E	
Approach Vol, veh/h		864	1872		72	
Approach Delay, s/veh		2.9	7.4		68.8	
Approach LOS		A	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		108.7		11.3	9.9	98.8
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	9.0	74.0
Max Q Clear Time (g_c+I1), s		6.7		6.8	3.4	30.5
Green Ext Time (p_c), s		5.3		0.1	0.1	20.4

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

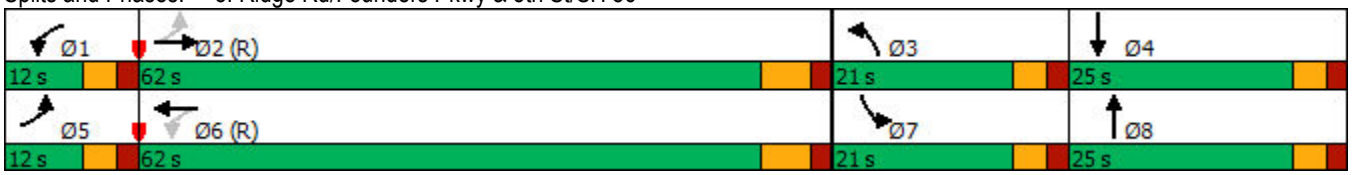
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	47	124	291
Demand Flow Rate, veh/h	48	126	296
Vehicles Circulating, veh/h	221	39	21
Vehicles Exiting, veh/h	96	230	144
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.5	4.6
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	48	126	296
Cap Entry Lane, veh/h	1101	1326	1351
Entry HV Adj Factor	0.979	0.984	0.982
Flow Entry, veh/h	47	124	291
Cap Entry, veh/h	1078	1304	1326
V/C Ratio	0.044	0.095	0.219
Control Delay, s/veh	3.7	3.5	4.6
LOS	A	A	A
95th %tile Queue, veh	0	0	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	250	190	100	465	707	375	455	55	268	175	165
Future Volume (vph)	89	250	190	100	465	707	375	455	55	268	175	165
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	62.0		12.0	62.0		21.0	25.0		21.0	25.0	
Total Split (%)	10.0%	51.7%		10.0%	51.7%		17.5%	20.8%		17.5%	20.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	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	-2.0		0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	3.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	66.0	57.6	120.0	66.2	57.7	120.0	15.9	21.4	120.0	14.5	17.9	120.0
Actuated g/C Ratio	0.55	0.48	1.00	0.55	0.48	1.00	0.13	0.18	1.00	0.12	0.15	1.00
v/c Ratio	0.24	0.30	0.13	0.18	0.56	0.49	0.90	0.79	0.04	0.70	0.36	0.11
Control Delay	12.8	20.8	0.2	12.1	25.9	1.1	74.4	56.8	0.0	60.2	47.3	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	12.8	20.8	0.2	12.1	25.9	1.1	74.4	56.8	0.0	60.2	47.3	0.1
LOS	B	C	A	B	C	A	E	E	A	E	D	A
Approach Delay		12.0			11.0			60.7			40.2	
Approach LOS		B			B			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 29.9	Intersection LOS: C
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	250	190	100	465	707	375	455	55	268	175	165
Future Volume (veh/h)	89	250	190	100	465	707	375	455	55	268	175	165
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	97	272	0	109	505	0	408	495	0	291	190	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	970		622	977		459	612		353	445	
Arrive On Green	0.04	0.52	0.00	0.04	0.52	0.00	0.13	0.17	0.00	0.10	0.13	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	97	272	0	109	505	0	408	495	0	291	190	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.0	9.8	0.0	3.4	21.2	0.0	13.9	16.1	0.0	9.9	5.9	0.0
Cycle Q Clear(g_c), s	3.0	9.8	0.0	3.4	21.2	0.0	13.9	16.1	0.0	9.9	5.9	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	441	970		622	977		459	612		353	445	
V/C Ratio(X)	0.22	0.28		0.18	0.52		0.89	0.81		0.82	0.43	
Avail Cap(c_a), veh/h	473	970		647	977		461	652		461	592	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	16.3	0.0	12.7	18.8	0.0	51.2	47.8	0.0	52.8	48.5	0.0
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.1	2.0	0.0	18.7	7.1	0.0	9.0	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	1.2	4.3	0.0	1.3	8.9	0.0	7.2	7.6	0.0	4.6	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	17.0	0.0	12.8	20.7	0.0	69.9	54.9	0.0	61.8	49.2	0.0
LnGrp LOS	B	B		B	C		E	D		E	D	
Approach Vol, veh/h		369			614			903			481	
Approach Delay, s/veh		16.4			19.3			61.6			56.8	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	68.7	20.9	20.0	9.9	69.2	17.3	23.7
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	7.0	55.5	16.0	20.0	7.0	55.5	16.0	20.0
Max Q Clear Time (g_c+I1), s	5.4	11.8	15.9	7.9	5.0	23.2	11.9	18.1
Green Ext Time (p_c), s	0.0	1.7	0.0	0.7	0.0	3.0	0.4	0.6

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑	↱		↑		↱
Traffic Vol, veh/h	124	27	0	284	0	5
Future Vol, veh/h	124	27	0	284	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	190	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	29	0	309	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	135
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	914
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	914
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	914	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	321	0	4	117
Future Vol, veh/h	0	11	321	0	4	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	349	0	4	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	484	349	0	0	349	0
Stage 1	349	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	542	694	-	-	1210	-
Stage 1	714	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	540	694	-	-	1210	-
Mov Cap-2 Maneuver	540	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	694	1210	-
HCM Lane V/C Ratio	-	-	0.017	0.004	-
HCM Control Delay (s)	-	-	10.3	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	19	302	0	7	110
Future Vol, veh/h	1	19	302	0	7	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	21	328	0	8	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	464	328	0	0	328	0
Stage 1	328	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	556	713	-	-	1232	-
Stage 1	730	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	552	713	-	-	1232	-
Mov Cap-2 Maneuver	552	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	703	1232	-
HCM Lane V/C Ratio	-	-	0.031	0.006	-
HCM Control Delay (s)	-	-	10.3	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	104	198	0	36	75
Future Vol, veh/h	1	104	198	0	36	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	113	215	0	39	82

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	375	215	0	0	215	0
Stage 1	215	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	626	825	-	-	1355	-
Stage 1	821	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	608	825	-	-	1355	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	822	1355	-
HCM Lane V/C Ratio	-	-	0.139	0.029	-
HCM Control Delay (s)	-	-	10.1	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	11	0	166	32	1
Future Vol, veh/h	65	11	0	166	32	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	12	0	180	35	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	83	0	257	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	180	-
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	-	-	1514	-	732	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1514	-	732	984
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	738	-	-	1514	-
HCM Lane V/C Ratio	0.049	-	-	-	-
HCM Control Delay (s)	10.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	44	22	1	103	63	2
Future Vol, veh/h	44	22	1	103	63	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	24	1	112	68	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	72	0	174	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	114	-
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	-	-	1528	-	816	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1528	-	815	1005
Mov Cap-2 Maneuver	-	-	-	-	815	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	910	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	820	-	-	1528	-
HCM Lane V/C Ratio	0.086	-	-	0.001	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	39	85	2	4	19
Future Vol, veh/h	7	39	85	2	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	42	92	2	4	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	94	0	-	0	151	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	58	-
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	1500	-	-	-	841	964
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1500	-	-	-	837	964
Mov Cap-2 Maneuver	-	-	-	-	837	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	965	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1500	-	-	-	939
HCM Lane V/C Ratio	0.005	-	-	-	0.027
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	22	5	112	17	25	262
Future Vol, veh/h	22	5	112	17	25	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	5	122	18	27	285

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	461	122	0	0	140	0
Stage 1	122	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	559	929	-	-	1443	-
Stage 1	903	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	548	929	-	-	1443	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	708	-	-	-	-	-

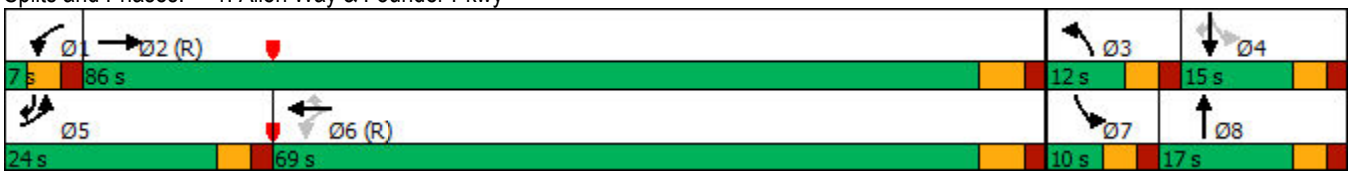
Approach	NW	NE	SW
HCM Control Delay, s	11.4	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	593	1443	-
HCM Lane V/C Ratio	-	-	0.049	0.019	-
HCM Control Delay (s)	-	-	11.4	7.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	435	3100	43	2450	150	170	40	130	38	465
Future Volume (vph)	435	3100	43	2450	150	170	40	130	38	465
Turn Type	Prot	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		3	8	7	4	5
Permitted Phases			6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	4.0	4.0	2.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
Minimum Split (s)	11.0	21.0	7.0	21.0	21.0	9.0	16.0	8.0	13.0	11.0
Total Split (s)	24.0	86.0	7.0	69.0	69.0	12.0	17.0	10.0	15.0	24.0
Total Split (%)	20.0%	71.7%	5.8%	57.5%	57.5%	10.0%	14.2%	8.3%	12.5%	20.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	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	-3.0	0.0	-1.0	0.0	-1.0	-1.0	-2.0	0.0	0.0
Total Lost Time (s)	5.0	3.0	5.0	5.0	6.0	4.0	4.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	18.9	85.4	68.3	65.3	64.3	10.0	11.7	16.3	8.8	30.7
Actuated g/C Ratio	0.16	0.71	0.57	0.54	0.54	0.08	0.10	0.14	0.07	0.26
v/c Ratio	0.87	0.98	0.44	0.93	0.18	0.65	0.71	0.75	0.30	0.66
Control Delay	67.2	28.0	17.8	28.6	2.0	65.6	56.3	70.0	57.8	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	28.0	17.8	28.6	2.0	65.6	56.3	70.0	57.8	37.8
LOS	E	C	B	C	A	E	E	E	E	D
Approach Delay		32.7		26.8			61.6		45.6	
Approach LOS		C		C			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 32.9	Intersection LOS: C
Intersection Capacity Utilization 97.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	3100	230	43	2450	150	170	40	92	130	38	465
Future Volume (veh/h)	435	3100	230	43	2450	150	170	40	92	130	38	465
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	473	3263	242	47	2579	163	185	43	100	141	41	505
Peak Hour Factor	0.92	0.95	0.95	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	527	3361	243	90	2753	841	230	54	126	205	156	658
Arrive On Green	0.15	0.69	0.69	0.02	0.54	0.53	0.07	0.11	0.11	0.06	0.08	0.08
Sat Flow, veh/h	3456	4859	352	1781	5106	1585	3456	500	1162	1781	1870	2790
Grp Volume(v), veh/h	473	2262	1243	47	2579	163	185	0	143	141	41	505
Grp Sat Flow(s),veh/h/ln	1728	1702	1807	1781	1702	1585	1728	0	1661	1781	1870	1395
Q Serve(g_s), s	16.1	73.3	81.5	1.5	56.4	6.5	6.3	0.0	10.1	7.0	2.5	10.0
Cycle Q Clear(g_c), s	16.1	73.3	81.5	1.5	56.4	6.5	6.3	0.0	10.1	7.0	2.5	10.0
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	527	2354	1250	90	2753	841	230	0	180	205	156	658
V/C Ratio(X)	0.90	0.96	0.99	0.52	0.94	0.19	0.80	0.00	0.79	0.69	0.26	0.77
Avail Cap(c_a), veh/h	547	2354	1250	90	2753	841	230	0	180	205	156	658
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	0.55	0.55	0.55	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	17.0	18.3	29.5	25.8	14.7	55.2	0.0	52.2	48.0	51.5	42.8
Incr Delay (d2), s/veh	17.1	11.4	24.2	3.0	4.6	0.3	18.3	0.0	21.3	9.4	0.9	5.4
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	8.1	27.9	36.9	0.8	22.5	0.1	3.3	0.0	5.3	1.3	1.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	28.4	42.4	32.6	30.4	15.0	73.5	0.0	73.5	57.4	52.4	48.2
LnGrp LOS	E	C	D	C	C	B	E	A	E	E	D	D
Approach Vol, veh/h		3978			2789			328			687	
Approach Delay, s/veh		37.4			29.5			73.5			50.3	
Approach LOS		D			C			E			D	

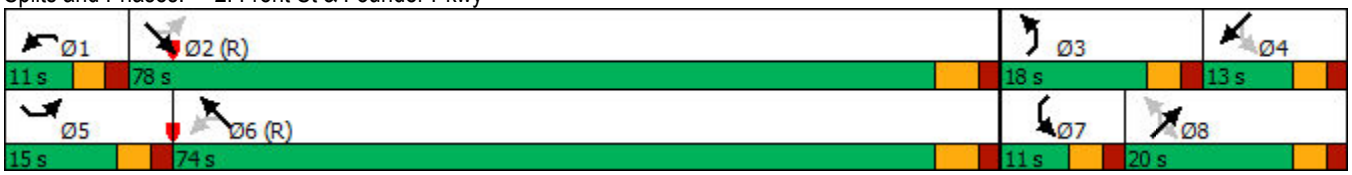
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	86.0	12.0	15.0	23.3	69.7	10.0	17.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	2.0	80.0	7.0	10.0	19.0	63.0	5.0	12.0
Max Q Clear Time (g_c+I1), s	3.5	83.5	8.3	12.0	18.1	58.4	9.0	12.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.2	4.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations									
Traffic Volume (vph)	175	2310	143	1830	560	120	220	40	95
Future Volume (vph)	175	2310	143	1830	560	120	220	40	95
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	3	8	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	19.0	19.0	10.0	12.0
Total Split (s)	15.0	78.0	11.0	74.0	18.0	20.0	20.0	11.0	13.0
Total Split (%)	12.5%	65.0%	9.2%	61.7%	15.0%	16.7%	16.7%	9.2%	10.8%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-2.0	-2.0	-2.0	-2.0	-3.0	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	3.0	4.0	3.0	3.0	2.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	85.9	75.0	80.3	70.8	27.5	18.7	19.7	17.4	9.5
Actuated g/C Ratio	0.72	0.62	0.67	0.59	0.23	0.16	0.16	0.14	0.08
v/c Ratio	0.81	0.95	0.82	0.67	1.08	0.45	0.63	0.20	0.53
Control Delay	37.0	22.6	59.9	18.3	101.6	52.6	28.4	39.1	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	22.6	59.9	18.3	101.6	52.6	28.4	39.1	37.2
LOS	D	C	E	B	F	D	C	D	D
Approach Delay		23.5		21.3		77.2			37.6
Approach LOS		C		C		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 31.3	Intersection LOS: C
Intersection Capacity Utilization 100.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	175	2310	630	143	1830	25	560	120	220	40	95	65
Future Volume (veh/h)	175	2310	630	143	1830	25	560	120	220	40	95	65
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	190	2333	630	155	1989	27	609	130	239	43	103	71
Peak Hour Factor	0.92	0.99	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	2550	633	179	3172	43	645	304	271	226	173	111
Arrive On Green	0.07	0.63	0.60	0.07	0.61	0.59	0.13	0.16	0.17	0.05	0.08	0.06
Sat Flow, veh/h	1781	4080	1012	1781	5191	70	3456	1870	1585	1781	2080	1328
Grp Volume(v), veh/h	190	1912	1051	155	1304	712	609	130	239	43	87	87
Grp Sat Flow(s),veh/h/ln	1781	1702	1688	1781	1702	1858	1728	1870	1585	1781	1777	1631
Q Serve(g_s), s	4.5	57.7	74.2	6.2	29.0	29.1	15.0	7.5	17.7	2.6	5.6	6.3
Cycle Q Clear(g_c), s	4.5	57.7	74.2	6.2	29.0	29.1	15.0	7.5	17.7	2.6	5.6	6.3
Prop In Lane	1.00		0.60	1.00		0.04	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	265	2128	1055	179	2080	1135	645	304	271	226	148	136
V/C Ratio(X)	0.72	0.90	1.00	0.87	0.63	0.63	0.94	0.43	0.88	0.19	0.59	0.64
Avail Cap(c_a), veh/h	315	2128	1055	179	2080	1135	645	304	271	263	148	136
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)	0.17	0.17	0.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	19.3	23.2	39.0	14.7	14.8	45.1	45.2	48.6	46.6	53.0	54.5
Incr Delay (d2), s/veh	1.1	1.2	10.5	33.4	1.4	2.6	22.8	1.0	27.0	0.4	5.9	9.8
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	3.4	20.8	29.7	6.2	10.8	12.2	4.0	3.5	8.9	1.2	2.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	20.5	33.7	72.4	16.2	17.4	67.8	46.2	75.5	47.0	58.9	64.3
LnGrp LOS	C	C	C	E	B	B	E	D	E	D	E	E
Approach Vol, veh/h		3153			2171			978			217	
Approach Delay, s/veh		25.0			20.6			66.8			58.7	
Approach LOS		C			C			E			E	

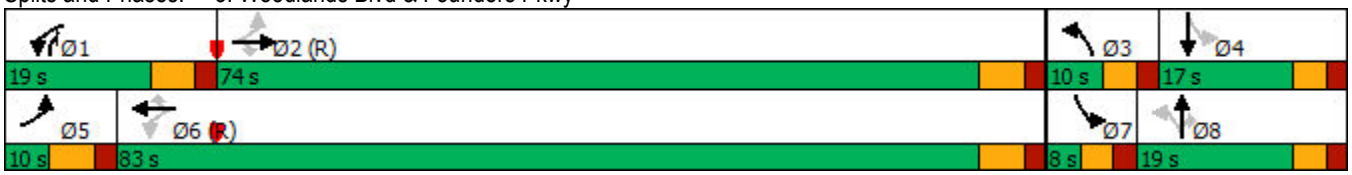
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	78.0	18.0	13.0	11.7	77.3	8.5	22.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	72.0	13.0	8.0	10.0	68.0	6.0	15.0
Max Q Clear Time (g_c+I1), s	8.2	76.2	18.0	8.3	6.5	32.0	4.6	19.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.2	20.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	8	1970	140	237	1741	96	120	55	359	175	50
Future Volume (vph)	8	1970	140	237	1741	96	120	55	359	175	50
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	9.0	19.0	10.0	8.0	20.0
Total Split (s)	10.0	74.0	74.0	19.0	83.0	83.0	10.0	19.0	19.0	8.0	17.0
Total Split (%)	8.3%	61.7%	61.7%	15.8%	69.2%	69.2%	8.3%	15.8%	15.8%	6.7%	14.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
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)	-2.0	-3.0	-1.0	-2.0	-2.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	3.0	5.0	4.0	4.0	5.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	79.7	73.1	71.1	95.4	93.1	92.1	16.8	11.4	31.5	13.6	9.7
Actuated g/C Ratio	0.66	0.61	0.59	0.80	0.78	0.77	0.14	0.10	0.26	0.11	0.08
v/c Ratio	0.04	0.96	0.15	0.75	0.69	0.08	0.34	0.34	0.83	1.11	0.22
Control Delay	4.8	35.5	1.5	45.6	9.8	1.1	46.4	55.3	49.5	149.0	45.6
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	4.8	35.5	1.5	45.6	9.8	1.1	46.4	55.3	49.5	149.0	45.6
LOS	A	D	A	D	A	A	D	E	D	F	D
Approach Delay		33.1			13.5			49.4			123.2
Approach LOS		C			B			D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1970	140	237	1741	96	120	55	359	175	50	8
Future Volume (veh/h)	8	1970	140	237	1741	96	120	55	359	175	50	8
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	9	2074	152	258	1892	104	130	60	390	190	54	9
Peak Hour Factor	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	2103	911	285	2427	1069	582	249	409	233	357	58
Arrive On Green	0.03	0.59	0.58	0.13	0.68	0.67	0.06	0.13	0.13	0.04	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	3060	498
Grp Volume(v), veh/h	9	2074	152	258	1892	104	130	60	390	190	31	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1777	1781
Q Serve(g_s), s	0.2	68.7	5.4	12.9	43.3	2.7	3.8	3.4	16.0	5.0	1.9	2.0
Cycle Q Clear(g_c), s	0.2	68.7	5.4	12.9	43.3	2.7	3.8	3.4	16.0	5.0	1.9	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	175	2103	911	285	2427	1069	582	249	409	233	207	208
V/C Ratio(X)	0.05	0.99	0.17	0.91	0.78	0.10	0.22	0.24	0.95	0.82	0.15	0.16
Avail Cap(c_a), veh/h	219	2103	911	285	2427	1069	582	249	409	233	207	208
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	13.5	24.0	12.0	42.1	12.9	6.8	41.6	46.6	43.8	50.3	47.6	47.7
Incr Delay (d2), s/veh	0.1	16.7	0.4	30.4	2.6	0.2	0.2	0.5	32.4	19.8	0.3	0.3
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	29.3	2.0	9.7	14.6	0.9	1.6	1.6	14.9	4.5	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	40.7	12.4	72.5	15.4	7.0	41.8	47.1	76.2	70.1	48.0	48.0
LnGrp LOS	B	D	B	E	B	A	D	D	E	E	D	D
Approach Vol, veh/h		2235			2254			580			253	
Approach Delay, s/veh		38.7			21.6			65.5			64.6	
Approach LOS		D			C			E			E	

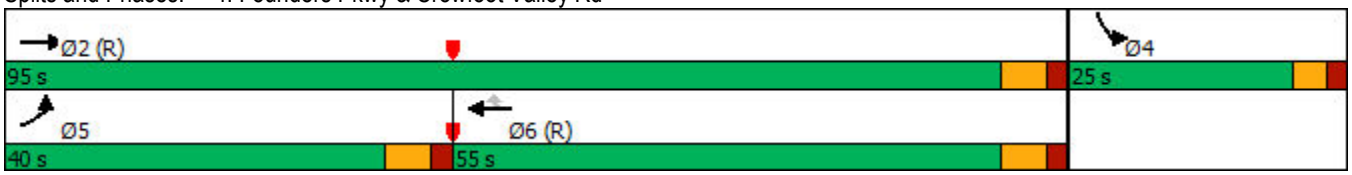
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	74.0	10.0	17.0	7.0	86.0	8.0	19.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	68.0	5.0	12.0	4.0	77.0	3.0	14.0
Max Q Clear Time (g_c+I1), s	14.9	70.7	5.8	4.0	2.2	45.3	7.0	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	18.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	815	1719	1343	140	152	590
Future Volume (vph)	815	1719	1343	140	152	590
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	40.0	95.0	55.0	55.0	25.0	
Total Split (%)	33.3%	79.2%	45.8%	45.8%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	3.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	37.0	98.8	57.8	57.8	14.2	120.0
Actuated g/C Ratio	0.31	0.82	0.48	0.48	0.12	1.00
v/c Ratio	0.84	0.64	0.86	0.18	0.74	0.22
Control Delay	46.7	5.7	35.0	7.0	23.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	5.7	35.0	7.0	23.4	0.4
LOS	D	A	D	A	C	A
Approach Delay		18.9	32.4		14.3	
Approach LOS		B	C		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 80.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	815	1719	1343	140	152	590
Future Volume (veh/h)	815	1719	1343	140	152	590
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	886	1868	1460	152	165	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	992	2905	1766	788	221	
Arrive On Green	0.29	0.82	0.50	0.50	0.12	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	886	1868	1460	152	165	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	29.5	24.3	42.1	6.4	10.7	0.0
Cycle Q Clear(g_c), s	29.5	24.3	42.1	6.4	10.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	992	2905	1766	788	221	
V/C Ratio(X)	0.89	0.64	0.83	0.19	0.75	
Avail Cap(c_a), veh/h	1037	2905	1766	788	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.0	4.2	25.8	16.8	50.7	0.0
Incr Delay (d2), s/veh	9.7	1.1	4.6	0.5	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	5.0	17.2	2.3	5.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	5.3	30.4	17.3	55.8	0.0
LnGrp LOS	D	A	C	B	E	
Approach Vol, veh/h		2754	1612		165	
Approach Delay, s/veh		19.9	29.1		55.8	
Approach LOS		B	C		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		102.1		17.9	38.5	63.6
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	34.0	49.0
Max Q Clear Time (g_c+I1), s		26.3		12.7	31.5	44.1
Green Ext Time (p_c), s		24.0		0.2	1.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	5.0
Intersection LOS	A

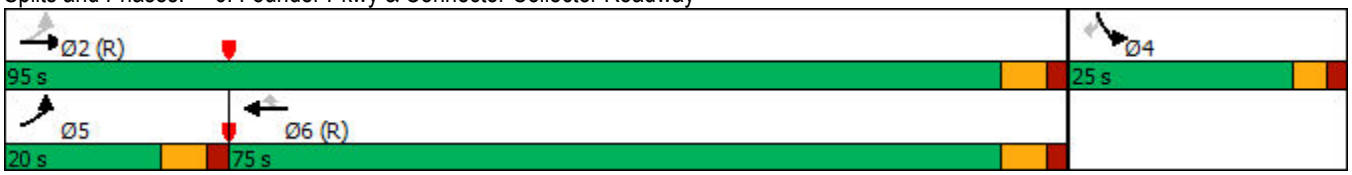
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	361	250	136
Demand Flow Rate, veh/h	368	255	139
Vehicles Circulating, veh/h	100	52	194
Vehicles Exiting, veh/h	233	416	113
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.7	4.5	4.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	368	255	139
Cap Entry Lane, veh/h	1246	1309	1132
Entry HV Adj Factor	0.981	0.980	0.979
Flow Entry, veh/h	361	250	136
Cap Entry, veh/h	1222	1282	1108
V/C Ratio	0.295	0.195	0.123
Control Delay, s/veh	5.7	4.5	4.3
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	266	1610	1270	97	82	178
Future Volume (vph)	266	1610	1270	97	82	178
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	20.0	9.0	9.0
Total Split (s)	20.0	95.0	75.0	75.0	25.0	25.0
Total Split (%)	16.7%	79.2%	62.5%	62.5%	20.8%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	4.0	5.0	5.0	5.0	3.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	99.6	98.6	78.2	78.2	13.4	12.4
Actuated g/C Ratio	0.83	0.82	0.65	0.65	0.11	0.10
v/c Ratio	0.70	0.60	0.60	0.10	0.45	0.57
Control Delay	21.2	5.1	14.5	2.2	56.4	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	5.1	14.5	2.2	56.4	13.8
LOS	C	A	B	A	E	B
Approach Delay		7.4	13.6		27.3	
Approach LOS		A	B		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 65.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Founder Pkwy & Connector Collector Roadway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	266	1610	1270	97	82	178
Future Volume (veh/h)	266	1610	1270	97	82	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	289	1750	1380	105	89	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	395	3034	2676	1193	142	
Arrive On Green	0.07	0.85	0.75	0.75	0.08	0.00
Sat Flow, veh/h	1781	3647	3647	1585	1781	1585
Grp Volume(v), veh/h	289	1750	1380	105	89	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1585	1781	1585
Q Serve(g_s), s	3.6	17.0	18.8	2.1	5.8	0.0
Cycle Q Clear(g_c), s	3.6	17.0	18.8	2.1	5.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	395	3034	2676	1193	142	
V/C Ratio(X)	0.73	0.58	0.52	0.09	0.63	
Avail Cap(c_a), veh/h	512	3034	2676	1193	327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.1	2.5	6.0	3.9	53.5	0.0
Incr Delay (d2), s/veh	3.8	0.8	0.7	0.1	4.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.2	5.3	0.5	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	3.3	6.7	4.1	58.0	0.0
LnGrp LOS	B	A	A	A	E	
Approach Vol, veh/h		2039	1485		89	
Approach Delay, s/veh		5.0	6.5		58.0	
Approach LOS		A	A		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.5		12.5	12.1	95.4
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	14.0	69.0
Max Q Clear Time (g_c+I1), s		19.0		7.8	5.6	20.8
Green Ext Time (p_c), s		21.5		0.1	0.5	13.4

Intersection Summary	
HCM 6th Ctrl Delay	6.9
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	4.6
Intersection LOS	A

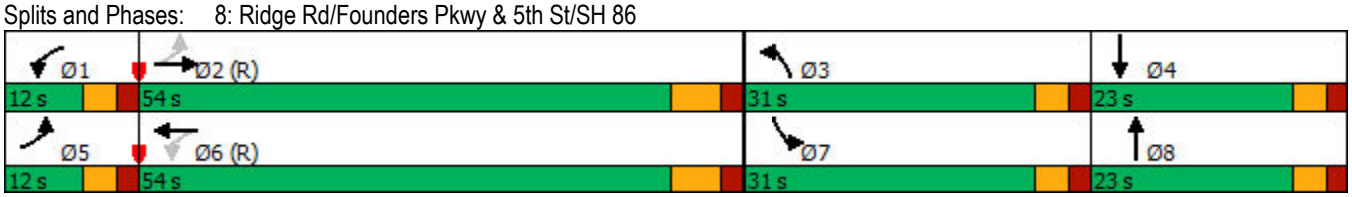
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	112	306	223
Demand Flow Rate, veh/h	115	312	227
Vehicles Circulating, veh/h	166	87	18
Vehicles Exiting, veh/h	79	194	381
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.0	5.1	4.1
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	115	312	227
Cap Entry Lane, veh/h	1165	1263	1355
Entry HV Adj Factor	0.974	0.982	0.981
Flow Entry, veh/h	112	306	223
Cap Entry, veh/h	1135	1239	1329
V/C Ratio	0.099	0.247	0.168
Control Delay, s/veh	4.0	5.1	4.1
LOS	A	A	A
95th %tile Queue, veh	0	1	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	490	435	120	275	433	230	381	75	632	523	153
Future Volume (vph)	178	490	435	120	275	433	230	381	75	632	523	153
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	54.0		12.0	54.0		31.0	23.0		31.0	23.0	
Total Split (%)	10.0%	45.0%		10.0%	45.0%		25.8%	19.2%		25.8%	19.2%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-2.0		-1.0	-2.0		-1.0	-2.0		-2.0	-1.0	
Total Lost Time (s)	4.0	4.5		4.0	4.5		4.0	3.0		3.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	59.7	50.8	120.0	59.1	50.5	120.0	15.1	19.1	120.0	27.5	29.5	120.0
Actuated g/C Ratio	0.50	0.42	1.00	0.49	0.42	1.00	0.13	0.16	1.00	0.23	0.25	1.00
v/c Ratio	0.39	0.68	0.30	0.42	0.38	0.30	0.58	0.74	0.05	0.88	0.65	0.10
Control Delay	18.4	33.7	0.5	19.4	26.1	0.5	54.7	56.4	0.1	57.9	45.0	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	18.4	33.7	0.5	19.4	26.1	0.5	54.7	56.4	0.1	57.9	45.0	0.1
LOS	B	C	A	B	C	A	D	E	A	E	D	A
Approach Delay		18.2			11.7			49.6			46.0	
Approach LOS		B			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	490	435	120	275	433	230	381	75	632	523	153
Future Volume (veh/h)	178	490	435	120	275	433	230	381	75	632	523	153
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	193	533	0	130	299	0	250	414	0	687	568	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	522	816		352	812		349	535		787	926	
Arrive On Green	0.07	0.44	0.00	0.06	0.43	0.00	0.10	0.15	0.00	0.23	0.26	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	193	533	0	130	299	0	250	414	0	687	568	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.4	27.0	0.0	4.8	12.9	0.0	8.4	13.4	0.0	23.0	16.9	0.0
Cycle Q Clear(g_c), s	7.4	27.0	0.0	4.8	12.9	0.0	8.4	13.4	0.0	23.0	16.9	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	522	816		352	812		349	535		787	926	
V/C Ratio(X)	0.37	0.65		0.37	0.37		0.72	0.77		0.87	0.61	
Avail Cap(c_a), veh/h	522	816		356	812		778	592		806	926	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	26.7	0.0	20.3	22.9	0.0	52.3	49.0	0.0	44.7	39.0	0.0
Incr Delay (d2), s/veh	0.4	4.0	0.0	0.6	1.3	0.0	2.7	5.7	0.0	10.3	1.2	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	3.0	12.6	0.0	1.9	5.6	0.0	3.8	6.3	0.0	10.5	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	30.7	0.0	20.9	24.1	0.0	55.0	54.7	0.0	54.9	40.3	0.0
LnGrp LOS	B	C		C	C		E	D		D	D	
Approach Vol, veh/h		726			429			664			1255	
Approach Delay, s/veh		27.5			23.2			54.8			48.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	56.9	16.1	35.3	12.0	56.6	30.3	21.1
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	7.0	47.5	26.0	18.0	7.0	47.5	26.0	18.0
Max Q Clear Time (g_c+I1), s	6.8	29.0	10.4	18.9	9.4	14.9	25.0	15.4
Green Ext Time (p_c), s	0.0	3.2	0.7	0.0	0.0	1.6	0.3	0.6

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	16	318	45	0	260
Future Vol, veh/h	0	16	318	45	0	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	190	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	346	49	0	283

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	346	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	697	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	697	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	697	-
HCM Lane V/C Ratio	-	-	0.025	-
HCM Control Delay (s)	-	-	10.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	223	1	10	365
Future Vol, veh/h	0	7	223	1	10	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	242	1	11	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	662	243	0	0	243	0
Stage 1	243	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	427	796	-	-	1323	-
Stage 1	797	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	422	796	-	-	1323	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	796	1323	-
HCM Lane V/C Ratio	-	-	0.01	0.008	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	14	210	2	22	343
Future Vol, veh/h	1	14	210	2	22	343
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	15	228	2	24	373

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	650	229	0	0	230	0
Stage 1	229	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	434	810	-	-	1338	-
Stage 1	809	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	424	810	-	-	1338	-
Mov Cap-2 Maneuver	424	-	-	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	764	1338	-
HCM Lane V/C Ratio	-	-	0.021	0.018	-
HCM Control Delay (s)	-	-	9.8	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	69	143	1	113	231
Future Vol, veh/h	0	69	143	1	113	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	75	155	1	123	251

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	653	156	0	0	156	0
Stage 1	156	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	432	890	-	-	1424	-
Stage 1	872	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	395	890	-	-	1424	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	558	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1424	-
HCM Lane V/C Ratio	-	-	0.084	0.086	-
HCM Control Delay (s)	-	-	9.4	7.8	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	195	36	1	123	21	0
Future Vol, veh/h	195	36	1	123	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	212	39	1	134	23	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	251	0	368	232
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	136	-
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	-	-	1314	-	632	807
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1314	-	631	807
Mov Cap-2 Maneuver	-	-	-	-	631	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	631	-	-	1314	-
HCM Lane V/C Ratio	0.036	-	-	0.001	-
HCM Control Delay (s)	10.9	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	73	2	81	43	2
Future Vol, veh/h	122	73	2	81	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	79	2	88	47	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	265	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	92	-
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	-	-	1358	-	724	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	723	871
Mov Cap-2 Maneuver	-	-	-	-	723	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	930	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	729	-	-	1358	-
HCM Lane V/C Ratio	0.067	-	-	0.002	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	102	69	3	1	14
Future Vol, veh/h	22	102	69	3	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	111	75	3	1	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	78	0	-	0	236	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	159	-
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	1520	-	-	-	752	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1520	-	-	-	739	984
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1520	-	-	-	963
HCM Lane V/C Ratio	0.016	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	84	23	309	25	34	176
Future Vol, veh/h	84	23	309	25	34	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	25	336	27	37	191

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	601	336	0	0	363	0
Stage 1	336	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	463	706	-	-	1196	-
Stage 1	724	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	449	706	-	-	1196	-
Mov Cap-2 Maneuver	449	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	755	-	-	-	-	-

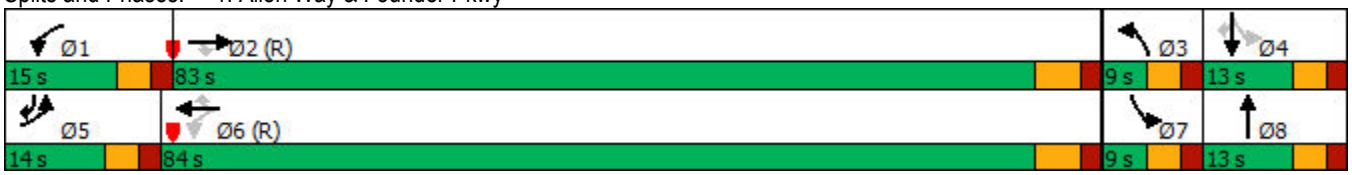
Approach	NW	NE	SW
HCM Control Delay, s	14.7	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	487	1196	-
HCM Lane V/C Ratio	-	-	0.239	0.031	-
HCM Control Delay (s)	-	-	14.7	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	265	1490	150	45	3290	140	130	25	75	15	385
Future Volume (vph)	265	1490	150	45	3290	140	130	25	75	15	385
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2	6		6			4		4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	21.0	9.5	21.0	21.0	9.0	13.0	9.0	13.0	11.0
Total Split (s)	14.0	83.0	83.0	15.0	84.0	84.0	9.0	13.0	9.0	13.0	14.0
Total Split (%)	11.7%	69.2%	69.2%	12.5%	70.0%	70.0%	7.5%	10.8%	7.5%	10.8%	11.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
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)	-2.0	-1.0	-1.0	-1.0	-3.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	5.0	5.0	4.0	3.0	5.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	12.6	86.9	86.9	88.5	82.3	80.3	10.9	7.9	8.6	7.7	16.8
Actuated g/C Ratio	0.10	0.72	0.72	0.74	0.69	0.67	0.09	0.07	0.07	0.06	0.14
v/c Ratio	0.78	0.43	0.13	0.17	0.94	0.13	0.44	0.52	0.63	0.13	0.90
Control Delay	68.1	7.9	1.3	2.2	16.4	0.4	57.3	32.6	72.6	54.9	63.9
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	68.1	7.9	1.3	2.2	16.4	0.4	57.3	32.6	72.6	54.9	63.9
LOS	E	A	A	A	B	A	E	C	E	D	E
Approach Delay		15.8			15.5			48.0		65.0	
Approach LOS		B			B			D		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 91.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1490	150	45	3290	140	130	25	55	75	15	385
Future Volume (veh/h)	265	1490	150	45	3290	140	130	25	55	75	15	385
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	279	1568	158	47	3290	147	137	26	58	79	16	405
Peak Hour Factor	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	3610	1121	284	3447	1043	173	39	86	168	140	442
Arrive On Green	0.09	0.71	0.71	0.03	0.68	0.66	0.05	0.08	0.08	0.04	0.08	0.08
Sat Flow, veh/h	3456	5106	1585	1781	5106	1585	3456	515	1149	1781	1870	2790
Grp Volume(v), veh/h	279	1568	158	47	3290	147	137	0	84	79	16	405
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1702	1585	1728	0	1664	1781	1870	1395
Q Serve(g_s), s	9.6	15.6	3.9	1.0	70.7	4.2	4.7	0.0	5.9	4.9	1.0	9.0
Cycle Q Clear(g_c), s	9.6	15.6	3.9	1.0	70.7	4.2	4.7	0.0	5.9	4.9	1.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	317	3610	1121	284	3447	1043	173	0	125	168	140	442
V/C Ratio(X)	0.88	0.43	0.14	0.17	0.95	0.14	0.79	0.00	0.67	0.47	0.11	0.92
Avail Cap(c_a), veh/h	317	3610	1121	386	3447	1043	173	0	125	168	140	442
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	0.23	0.23	0.23	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	7.4	5.7	6.3	17.8	7.7	56.4	0.0	54.1	49.1	51.8	49.7
Incr Delay (d2), s/veh	23.7	0.4	0.3	0.1	2.3	0.1	21.8	0.0	13.3	2.0	0.4	23.9
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	5.2	5.2	1.3	0.3	24.5	1.4	2.6	0.0	2.9	2.3	0.5	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	7.8	6.0	6.3	20.1	7.8	78.2	0.0	67.4	51.2	52.1	73.6
LnGrp LOS	E	A	A	A	C	A	E	A	E	D	D	E
Approach Vol, veh/h		2005			3484			221			500	
Approach Delay, s/veh		17.4			19.4			74.1			69.4	
Approach LOS		B			B			E			E	

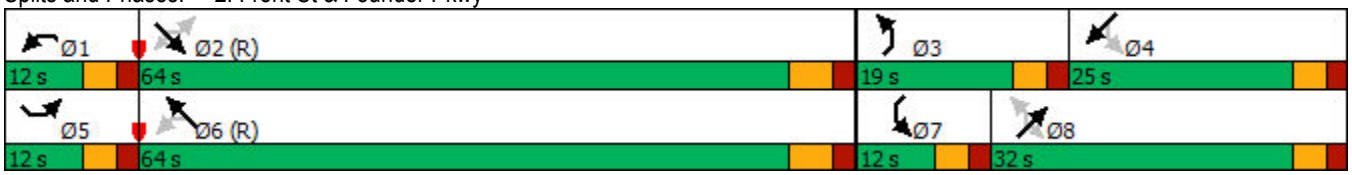
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	89.8	9.0	13.0	14.0	84.0	9.0	13.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	77.0	4.0	8.0	9.0	78.0	4.0	8.0
Max Q Clear Time (g_c+I1), s	3.0	17.6	6.7	11.0	11.6	72.7	6.9	7.9
Green Ext Time (p_c), s	0.0	19.3	0.0	0.0	0.0	5.3	0.0	0.0

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

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations										
Traffic Volume (vph)	70	1250	280	62	2800	530	75	45	5	65
Future Volume (vph)	70	1250	280	62	2800	530	75	45	5	65
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6	3	8		7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	9.0	21.0	21.0	10.0	21.0
Total Split (s)	12.0	64.0	64.0	12.0	64.0	19.0	32.0	32.0	12.0	25.0
Total Split (%)	10.0%	53.3%	53.3%	10.0%	53.3%	15.8%	26.7%	26.7%	10.0%	20.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	5.0	6.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	80.7	72.7	71.7	80.0	73.3	29.5	26.2	26.2	16.3	9.5
Actuated g/C Ratio	0.67	0.61	0.60	0.67	0.61	0.25	0.22	0.22	0.14	0.08
v/c Ratio	0.40	0.43	0.28	0.23	0.94	0.90	0.20	0.11	0.02	0.52
Control Delay	24.2	13.9	3.2	8.3	30.6	59.6	40.6	0.5	34.2	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	13.9	3.2	8.3	30.6	59.6	40.6	0.5	34.2	27.9
LOS	C	B	A	A	C	E	D	A	C	C
Approach Delay		12.5			30.1		53.3			28.1
Approach LOS		B			C		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	70	1250	280	62	2800	15	530	75	45	5	65	105
Future Volume (veh/h)	70	1250	280	62	2800	15	530	75	45	5	65	105
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	76	1316	304	67	2917	16	576	82	49	5	71	114
Peak Hour Factor	0.92	0.95	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	3038	930	269	3157	17	670	396	336	210	178	159
Arrive On Green	0.04	0.59	0.59	0.04	0.60	0.59	0.13	0.21	0.21	0.01	0.10	0.08
Sat Flow, veh/h	1781	5106	1585	1781	5241	29	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	76	1316	304	67	1893	1040	576	82	49	5	71	114
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1865	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.0	16.9	11.8	1.7	59.8	60.2	16.0	4.3	3.0	0.3	4.5	8.4
Cycle Q Clear(g_c), s	2.0	16.9	11.8	1.7	59.8	60.2	16.0	4.3	3.0	0.3	4.5	8.4
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	3038	930	269	2050	1123	670	396	336	210	178	159
V/C Ratio(X)	0.55	0.43	0.33	0.25	0.92	0.93	0.86	0.21	0.15	0.02	0.40	0.72
Avail Cap(c_a), veh/h	187	3038	930	320	2050	1123	670	436	370	305	311	277
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	13.3	12.7	9.9	21.4	21.5	41.2	39.0	38.5	47.3	50.6	53.3
Incr Delay (d2), s/veh	3.1	0.4	0.8	0.5	8.5	14.1	10.9	0.3	0.2	0.0	1.4	5.9
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	1.4	6.3	4.2	0.7	24.1	28.3	8.5	2.0	1.2	0.1	2.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	13.7	13.5	10.4	29.9	35.5	52.1	39.2	38.7	47.3	52.0	59.2
LnGrp LOS	C	B	B	B	C	D	D	D	D	D	D	E
Approach Vol, veh/h		1696			3000			707			190	
Approach Delay, s/veh		14.5			31.4			49.7			56.2	
Approach LOS		B			C			D			E	

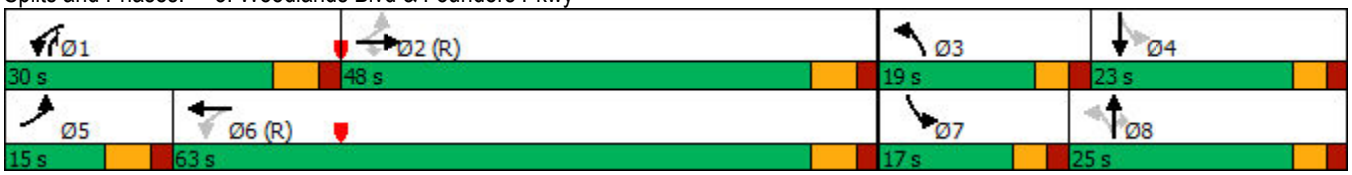
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	76.4	19.0	16.0	8.7	76.3	5.6	29.4
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	58.0	14.0	20.0	7.0	58.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	3.7	18.9	18.0	10.4	4.0	62.2	2.3	6.3
Green Ext Time (p_c), s	0.0	14.3	0.0	0.6	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	6	900	250	490	2370	465	30	226	45	15
Future Volume (vph)	6	900	250	490	2370	465	30	226	45	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	15.0	48.0	48.0	30.0	63.0	19.0	25.0	30.0	17.0	23.0
Total Split (%)	12.5%	40.0%	40.0%	25.0%	52.5%	15.8%	20.8%	25.0%	14.2%	19.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	3.0	4.0	5.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	56.4	49.7	49.7	90.9	87.5	22.1	10.9	47.7	13.7	7.1
Actuated g/C Ratio	0.47	0.41	0.41	0.76	0.73	0.18	0.09	0.40	0.11	0.06
v/c Ratio	0.04	0.45	0.33	0.76	0.71	0.88	0.20	0.32	0.24	0.09
Control Delay	11.3	27.2	4.3	23.8	12.2	64.3	53.9	5.3	44.8	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	27.2	4.3	23.8	12.2	64.3	53.9	5.3	44.8	48.1
LOS	B	C	A	C	B	E	D	A	D	D
Approach Delay		22.0			14.1		45.3			45.7
Approach LOS		C			B		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 21.1	Intersection LOS: C
Intersection Capacity Utilization 83.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	900	250	490	2370	105	465	30	226	45	15	3
Future Volume (veh/h)	6	900	250	490	2370	105	465	30	226	45	15	3
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	7	947	272	533	2495	114	505	33	246	49	16	3
Peak Hour Factor	0.92	0.95	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	2382	739	580	3223	146	768	278	541	208	198	36
Arrive On Green	0.02	0.47	0.47	0.20	0.64	0.64	0.13	0.15	0.15	0.04	0.07	0.06
Sat Flow, veh/h	1781	5106	1585	1781	5007	227	3456	1870	1585	1781	3003	546
Grp Volume(v), veh/h	7	947	272	533	1689	920	505	33	246	49	9	10
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1830	1728	1870	1585	1781	1777	1772
Q Serve(g_s), s	0.2	14.6	13.3	19.6	42.1	43.3	15.9	1.8	14.5	3.0	0.6	0.6
Cycle Q Clear(g_c), s	0.2	14.6	13.3	19.6	42.1	43.3	15.9	1.8	14.5	3.0	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	121	2382	739	580	2191	1178	768	278	541	208	117	117
V/C Ratio(X)	0.06	0.40	0.37	0.92	0.77	0.78	0.66	0.12	0.45	0.24	0.08	0.08
Avail Cap(c_a), veh/h	242	2382	739	608	2191	1178	768	327	583	326	281	281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	21.0	20.6	20.3	15.1	15.3	42.3	44.3	30.8	49.1	52.6	52.8
Incr Delay (d2), s/veh	0.2	0.5	1.4	18.9	2.7	5.2	2.1	0.2	0.6	0.6	0.3	0.3
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	5.5	5.1	9.9	14.4	16.7	6.9	0.9	5.6	1.4	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	21.5	22.0	39.1	17.8	20.5	44.4	44.4	31.4	49.6	52.9	53.1
LnGrp LOS	B	C	C	D	B	C	D	D	C	D	D	D
Approach Vol, veh/h		1226			3142			784			68	
Approach Delay, s/veh		21.6			22.2			40.3			50.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.1	61.0	19.0	11.9	6.8	82.2	9.1	21.8
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	24.0	42.0	14.0	18.0	9.0	57.0	12.0	20.0
Max Q Clear Time (g_c+I1), s	21.6	16.6	17.9	2.6	2.2	45.3	5.0	16.5
Green Ext Time (p_c), s	0.5	7.4	0.0	0.0	0.0	10.3	0.0	0.3

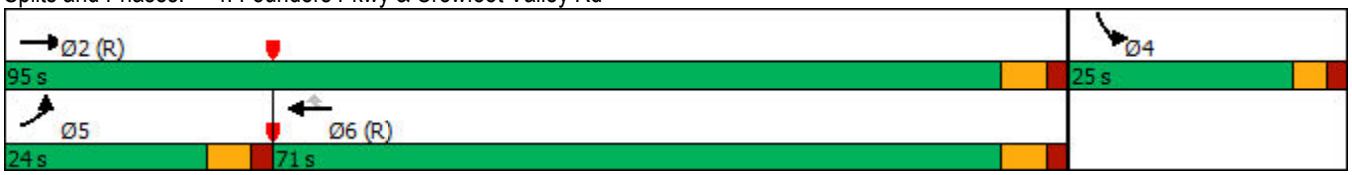
Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	490	705	1850	195	125	1170
Future Volume (vph)	490	705	1850	195	125	1170
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	24.0	95.0	71.0	71.0	25.0	
Total Split (%)	20.0%	79.2%	59.2%	59.2%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-1.0	-2.0	-1.0	-1.0	
Total Lost Time (s)	4.0	5.0	4.0	5.0	4.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	20.0	90.0	67.0	66.0	21.0	120.0
Actuated g/C Ratio	0.17	0.75	0.56	0.55	0.18	1.00
v/c Ratio	0.93	0.29	0.99	0.23	1.29dr	0.43
Control Delay	73.7	5.1	43.6	4.8	67.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.7	5.1	43.6	4.8	67.1	0.9
LOS	E	A	D	A	E	A
Approach Delay		33.3	39.8		37.3	
Approach LOS		C	D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 37.3	Intersection LOS: D
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	490	705	1850	195	125	1170
Future Volume (veh/h)	490	705	1850	195	125	1170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	533	766	1947	212	136	0
Peak Hour Factor	0.92	0.92	0.95	0.92	0.92	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	576	2931	2250	990	178	
Arrive On Green	0.17	0.82	0.63	0.62	0.10	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	533	766	1947	212	136	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	18.2	5.8	53.3	6.9	8.9	0.0
Cycle Q Clear(g_c), s	18.2	5.8	53.3	6.9	8.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	576	2931	2250	990	178	
V/C Ratio(X)	0.93	0.26	0.87	0.21	0.76	
Avail Cap(c_a), veh/h	576	2931	2250	990	312	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.3	2.3	17.9	9.7	52.6	0.0
Incr Delay (d2), s/veh	21.0	0.2	4.8	0.5	6.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	1.1	19.7	2.3	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	70.3	2.6	22.6	10.2	59.2	0.0
LnGrp LOS	E	A	C	B	E	
Approach Vol, veh/h		1299	2159		136	
Approach Delay, s/veh		30.4	21.4		59.2	
Approach LOS		C	C		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.0		16.0	24.0	80.0
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	18.0	65.0
Max Q Clear Time (g_c+I1), s		7.8		10.9	20.2	55.3
Green Ext Time (p_c), s		5.4		0.2	0.0	8.0

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	3.6
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	109	152	87
Demand Flow Rate, veh/h	112	155	89
Vehicles Circulating, veh/h	66	55	28
Vehicles Exiting, veh/h	144	62	150
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.8	3.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	112	155	89
Cap Entry Lane, veh/h	1290	1305	1341
Entry HV Adj Factor	0.977	0.982	0.978
Flow Entry, veh/h	109	152	87
Cap Entry, veh/h	1261	1281	1311
V/C Ratio	0.087	0.119	0.066
Control Delay, s/veh	3.6	3.8	3.3
LOS	A	A	A
95th %tile Queue, veh	0	0	0

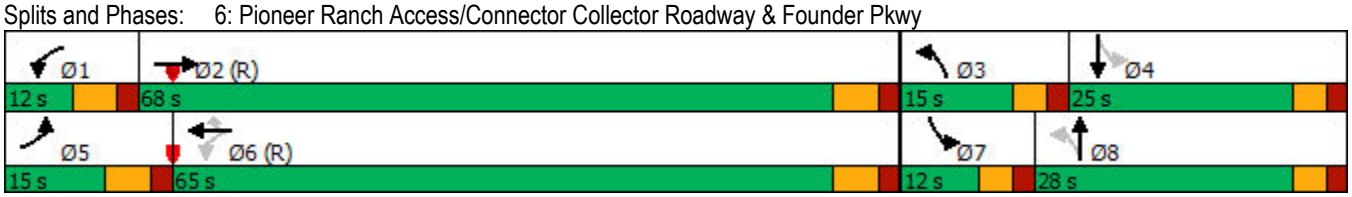
6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	50	735	40	5	1850	30	120	0	40	0
Future Volume (vph)	50	735	40	5	1850	30	120	0	40	0
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	9.0	20.0
Total Split (s)	15.0	68.0	68.0	12.0	65.0	65.0	15.0	28.0	12.0	25.0
Total Split (%)	12.5%	56.7%	56.7%	10.0%	54.2%	54.2%	12.5%	23.3%	10.0%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	8.3	86.9	86.9	83.6	78.3	78.3	17.3	13.3	17.5	8.0
Actuated g/C Ratio	0.07	0.72	0.72	0.70	0.65	0.65	0.14	0.11	0.15	0.07
v/c Ratio	0.23	0.31	0.04	0.01	0.84	0.03	0.63	0.03	0.18	0.44
Control Delay	54.6	6.9	0.1	4.6	21.9	0.1	62.2	0.1	42.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	6.9	0.1	4.6	21.9	0.1	62.2	0.1	42.7	9.3
LOS	D	A	A	A	C	A	E	A	D	A
Approach Delay		9.4			21.5			57.4		19.2
Approach LOS		A			C			E		B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 19.6 — Intersection LOS: B
Intersection Capacity Utilization 72.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	735	40	5	1850	30	120	0	10	40	0	95
Future Volume (veh/h)	50	735	40	5	1850	30	120	0	10	40	0	95
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	54	799	43	5	1947	33	130	0	0	43	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	2766	1234	550	2685	1198	223	36		130	2	
Arrive On Green	0.04	0.78	0.78	0.01	0.76	0.76	0.09	0.00	0.00	0.04	0.00	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	54	799	43	5	1947	33	130	0	0	43	0	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1870	0	1781	1870	0
Q Serve(g_s), s	1.8	7.7	0.7	0.1	35.6	0.6	8.6	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	7.7	0.7	0.1	35.6	0.6	8.6	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	125	2766	1234	550	2685	1198	223	36		130	2	
V/C Ratio(X)	0.43	0.29	0.03	0.01	0.73	0.03	0.58	0.00		0.33	0.00	
Avail Cap(c_a), veh/h	288	2766	1234	630	2685	1198	223	374		179	343	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.6	3.8	3.0	3.3	7.9	3.7	53.3	0.0	0.0	56.7	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.3	0.1	0.0	1.7	0.0	3.8	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.0	0.2	0.0	10.1	0.2	4.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	4.1	3.1	3.3	9.7	3.7	57.1	0.0	0.0	58.1	0.0	0.0
LnGrp LOS	E	A	A	A	A	A	E	A		E	A	
Approach Vol, veh/h		896			1985			130			43	
Approach Delay, s/veh		7.3			9.6			57.1			58.1	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	98.4	15.0	0.0	9.3	95.7	8.7	6.3
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	62.0	10.0	20.0	9.0	59.0	7.0	23.0
Max Q Clear Time (g_c+I1), s	2.1	9.7	10.6	0.0	3.8	37.6	4.8	0.0
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.0	14.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

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

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

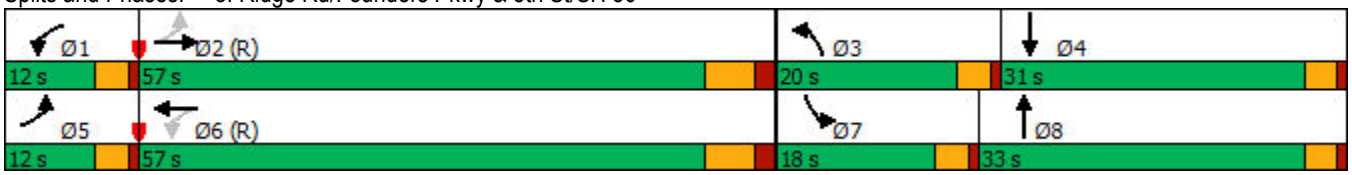
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	60	147	462
Demand Flow Rate, veh/h	61	150	472
Vehicles Circulating, veh/h	339	50	22
Vehicles Exiting, veh/h	155	350	177
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.3	3.7	5.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	61	150	472
Cap Entry Lane, veh/h	977	1311	1349
Entry HV Adj Factor	0.984	0.983	0.980
Flow Entry, veh/h	60	147	462
Cap Entry, veh/h	961	1289	1322
V/C Ratio	0.062	0.114	0.350
Control Delay, s/veh	4.3	3.7	5.9
LOS	A	A	A
95th %tile Queue, veh	0	0	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	230	130	125	515	935	350	575	80	310	170	130
Future Volume (vph)	69	230	130	125	515	935	350	575	80	310	170	130
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	57.0		12.0	57.0		20.0	33.0		18.0	31.0	
Total Split (%)	10.0%	47.5%		10.0%	47.5%		16.7%	27.5%		15.0%	25.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.5		4.0	6.5		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	63.1	53.3	120.0	65.7	56.3	120.0	15.7	26.0	120.0	13.8	24.2	120.0
Actuated g/C Ratio	0.53	0.44	1.00	0.55	0.47	1.00	0.13	0.22	1.00	0.12	0.20	1.00
v/c Ratio	0.16	0.16	0.09	0.22	0.33	0.64	0.85	0.81	0.05	0.85	0.26	0.09
Control Delay	13.6	21.0	0.1	13.9	21.9	2.0	69.2	53.7	0.1	72.5	40.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	21.0	0.1	13.9	21.9	2.0	69.2	53.7	0.1	72.5	40.7	0.1
LOS	B	C	A	B	C	A	E	D	A	E	D	A
Approach Delay		13.5			9.3			54.8			48.2	
Approach LOS		B			A			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	230	130	125	515	935	350	575	80	310	170	130
Future Volume (veh/h)	69	230	130	125	515	935	350	575	80	310	170	130
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	75	250	0	136	542	0	380	625	0	337	185	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	470	1681		647	1751		436	728		391	681	
Arrive On Green	0.04	0.47	0.00	0.06	0.49	0.00	0.13	0.20	0.00	0.11	0.19	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	75	250	0	136	542	0	380	625	0	337	185	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.6	4.8	0.0	4.7	11.0	0.0	13.0	20.4	0.0	11.5	5.3	0.0
Cycle Q Clear(g_c), s	2.6	4.8	0.0	4.7	11.0	0.0	13.0	20.4	0.0	11.5	5.3	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	470	1681		647	1751		436	728		391	681	
V/C Ratio(X)	0.16	0.15		0.21	0.31		0.87	0.86		0.86	0.27	
Avail Cap(c_a), veh/h	525	1681		668	1751		461	859		403	800	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.5	17.9	0.0	14.4	18.2	0.0	51.5	46.0	0.0	52.3	41.3	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.2	0.5	0.0	16.0	7.7	0.0	16.9	0.2	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	1.1	2.0	0.0	1.8	4.3	0.0	6.5	9.7	0.0	5.7	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	18.1	0.0	14.6	18.7	0.0	67.5	53.8	0.0	69.2	41.6	0.0
LnGrp LOS	B	B		B	B		E	D		E	D	
Approach Vol, veh/h		325			678			1005			522	
Approach Delay, s/veh		17.5			17.9			59.0			59.4	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	63.2	19.1	27.0	8.3	65.6	17.6	28.6
Change Period (Y+Rc), s	4.0	6.5	4.0	4.0	4.0	6.5	4.0	4.0
Max Green Setting (Gmax), s	8.0	50.5	16.0	27.0	8.0	50.5	14.0	29.0
Max Q Clear Time (g_c+I1), s	6.7	6.8	15.0	7.3	4.6	13.0	13.5	22.4
Green Ext Time (p_c), s	0.0	1.7	0.2	0.9	0.0	3.5	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

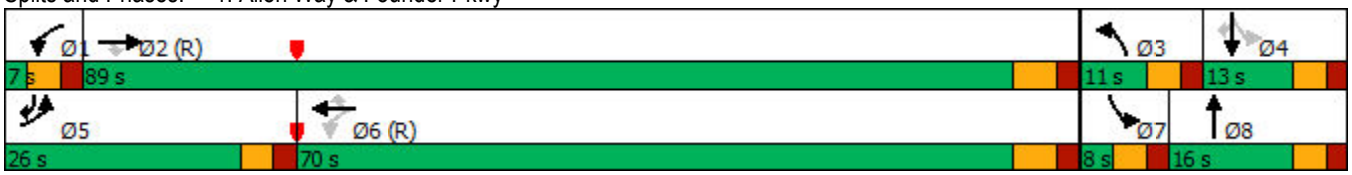
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	435	3500	230	45	2590	160	185	45	145	40	460
Future Volume (vph)	435	3500	230	45	2590	160	185	45	145	40	460
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2	6		6			4		4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
Minimum Split (s)	11.0	21.0	21.0	7.0	21.0	21.0	9.0	16.0	8.0	13.0	11.0
Total Split (s)	26.0	89.0	89.0	7.0	70.0	70.0	11.0	16.0	8.0	13.0	26.0
Total Split (%)	21.7%	74.2%	74.2%	5.8%	58.3%	58.3%	9.2%	13.3%	6.7%	10.8%	21.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
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)	-2.0	-3.0	-3.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.5	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	3.0	3.0	2.5	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	21.9	88.1	88.1	73.5	67.8	67.8	9.9	12.3	13.9	9.5	32.3
Actuated g/C Ratio	0.18	0.73	0.73	0.61	0.56	0.56	0.08	0.10	0.12	0.08	0.27
v/c Ratio	0.73	0.94	0.19	0.35	0.95	0.17	0.69	0.71	0.95	0.29	0.60
Control Delay	53.7	20.9	1.3	11.6	23.8	1.3	67.7	59.1	109.8	57.0	34.9
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	53.7	20.9	1.3	11.6	23.8	1.3	67.7	59.1	109.8	57.0	34.9
LOS	D	C	A	B	C	A	E	E	F	E	C
Approach Delay		23.4			22.3			64.1		52.7	
Approach LOS		C			C			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 100.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	3500	230	45	2590	160	185	45	90	145	40	460
Future Volume (veh/h)	435	3500	230	45	2590	160	185	45	90	145	40	460
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	458	3500	230	47	2726	168	195	47	95	148	42	484
Peak Hour Factor	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	574	3659	1136	123	2939	912	230	60	121	178	156	696
Arrive On Green	0.17	0.72	0.72	0.03	0.58	0.58	0.07	0.11	0.10	0.05	0.08	0.08
Sat Flow, veh/h	3456	5106	1585	1781	5106	1585	3456	553	1117	1781	1870	2790
Grp Volume(v), veh/h	458	3500	230	47	2726	168	195	0	142	148	42	484
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1702	1585	1728	0	1669	1781	1870	1395
Q Serve(g_s), s	15.3	74.1	5.8	1.3	58.3	6.0	6.7	0.0	10.0	5.5	2.5	10.0
Cycle Q Clear(g_c), s	15.3	74.1	5.8	1.3	58.3	6.0	6.7	0.0	10.0	5.5	2.5	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	574	3659	1136	123	2939	912	230	0	181	178	156	696
V/C Ratio(X)	0.80	0.96	0.20	0.38	0.93	0.18	0.85	0.00	0.79	0.83	0.27	0.70
Avail Cap(c_a), veh/h	662	3659	1136	123	2939	912	230	0	181	178	156	696
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	0.41	0.41	0.41	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	15.3	5.6	28.9	23.2	12.1	55.4	0.0	52.5	52.3	51.6	40.9
Incr Delay (d2), s/veh	6.0	7.7	0.4	0.8	2.9	0.2	24.2	0.0	20.0	26.7	0.9	3.0
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	7.0	26.1	1.9	0.8	22.3	2.2	3.7	0.0	5.2	3.1	1.2	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	23.1	6.0	29.7	26.1	12.3	79.6	0.0	72.5	79.0	52.5	43.9
LnGrp LOS	D	C	A	C	C	B	E	A	E	E	D	D
Approach Vol, veh/h		4188			2941			337			674	
Approach Delay, s/veh		25.5			25.4			76.6			52.2	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	89.0	11.0	13.0	22.9	73.1	8.0	16.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	2.0	83.0	6.0	8.0	21.0	64.0	3.0	11.0
Max Q Clear Time (g_c+I1), s	3.3	76.1	8.7	12.0	17.3	60.3	7.5	12.0
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.6	3.6	0.0	0.0

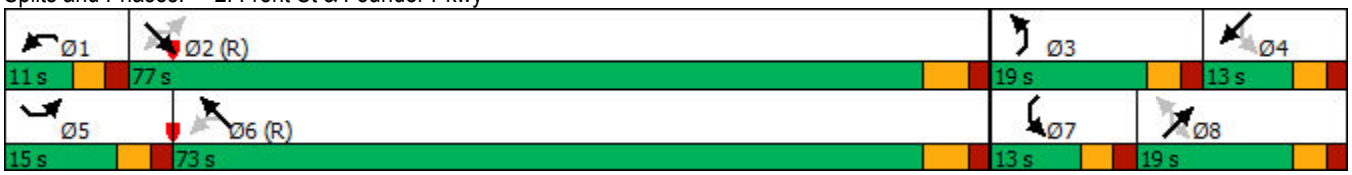
Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations										
Traffic Volume (vph)	205	2865	615	135	2145	540	145	193	40	120
Future Volume (vph)	205	2865	615	135	2145	540	145	193	40	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6	3	8		7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	9.0	19.0	19.0	10.0	12.0
Total Split (s)	15.0	77.0	77.0	11.0	73.0	19.0	19.0	19.0	13.0	13.0
Total Split (%)	12.5%	64.2%	64.2%	9.2%	60.8%	15.8%	15.8%	15.8%	10.8%	10.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	6.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	85.3	74.0	71.0	78.3	69.0	28.7	18.6	18.6	18.9	9.7
Actuated g/C Ratio	0.71	0.62	0.59	0.65	0.58	0.24	0.16	0.16	0.16	0.08
v/c Ratio	0.91	0.93	0.58	0.79	0.81	1.03	0.55	0.56	0.18	0.61
Control Delay	51.4	22.9	7.2	53.7	23.1	87.8	56.1	20.9	37.9	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	22.9	7.2	53.7	23.1	87.8	56.1	20.9	37.9	40.6
LOS	D	C	A	D	C	F	E	C	D	D
Approach Delay		21.8			24.9		67.9			40.1
Approach LOS		C			C		E			D

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 29.3 — Intersection LOS: C
Intersection Capacity Utilization 97.3% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	205	2865	615	135	2145	25	540	145	193	40	120	75
Future Volume (veh/h)	205	2865	615	135	2145	25	540	145	193	40	120	75
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	223	2923	668	147	2332	27	587	158	210	43	130	82
Peak Hour Factor	0.92	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	3149	938	183	2992	35	626	319	271	226	179	106
Arrive On Green	0.10	0.62	0.59	0.07	0.58	0.56	0.13	0.17	0.17	0.05	0.08	0.06
Sat Flow, veh/h	1781	5106	1585	1781	5203	60	3456	1870	1585	1781	2148	1271
Grp Volume(v), veh/h	223	2923	668	147	1524	835	587	158	210	43	106	106
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1860	1728	1870	1585	1781	1777	1642
Q Serve(g_s), s	8.2	61.6	35.7	5.4	41.4	41.5	16.0	9.2	15.2	2.6	7.0	7.6
Cycle Q Clear(g_c), s	8.2	61.6	35.7	5.4	41.4	41.5	16.0	9.2	15.2	2.6	7.0	7.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	273	3149	938	183	1957	1069	626	319	271	226	148	137
V/C Ratio(X)	0.82	0.93	0.71	0.80	0.78	0.78	0.94	0.49	0.78	0.19	0.72	0.77
Avail Cap(c_a), veh/h	273	3149	938	183	1957	1069	626	319	271	293	148	137
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)	0.23	0.23	0.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	20.6	17.3	34.7	19.6	19.7	44.2	45.1	47.6	46.6	53.6	55.0
Incr Delay (d2), s/veh	4.6	1.6	1.1	22.3	3.1	5.7	22.0	1.2	13.2	0.4	15.2	23.7
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	6.7	22.5	12.4	5.4	16.1	18.4	3.1	4.3	6.9	1.2	3.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	22.2	18.4	57.0	22.8	25.4	66.2	46.2	60.7	47.0	68.9	78.7
LnGrp LOS	D	C	B	E	C	C	E	D	E	D	E	E
Approach Vol, veh/h		3814			2506			955			255	
Approach Delay, s/veh		22.4			25.6			61.7			69.3	
Approach LOS		C			C			E			E	

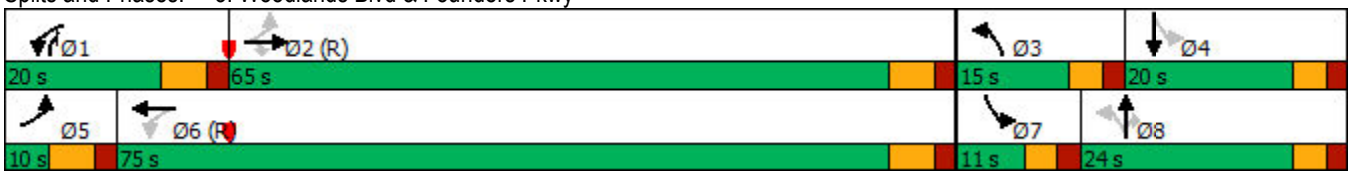
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	77.0	19.0	13.0	15.0	73.0	8.5	23.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	71.0	14.0	8.0	10.0	67.0	8.0	14.0
Max Q Clear Time (g_c+I1), s	7.4	63.6	18.0	9.6	10.2	43.5	4.6	17.2
Green Ext Time (p_c), s	0.0	7.3	0.0	0.0	0.0	18.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	2115	505	246	1650	355	45	476	175	50
Future Volume (vph)	8	2115	505	246	1650	355	45	476	175	50
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	10.0	65.0	65.0	20.0	75.0	15.0	24.0	20.0	11.0	20.0
Total Split (%)	8.3%	54.2%	54.2%	16.7%	62.5%	12.5%	20.0%	16.7%	9.2%	16.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-1.0	-3.0	-3.0	-2.0	-2.0	-3.0	-2.0	-2.0
Total Lost Time (s)	4.0	3.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	69.8	63.1	61.1	91.8	89.4	22.2	12.5	39.1	16.6	9.3
Actuated g/C Ratio	0.58	0.53	0.51	0.76	0.74	0.18	0.10	0.33	0.14	0.08
v/c Ratio	0.04	0.83	0.54	0.61	0.49	0.77	0.25	0.89	0.88	0.23
Control Delay	6.4	27.8	5.9	33.6	7.7	55.1	51.6	51.3	82.2	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	27.8	5.9	33.6	7.7	55.1	51.6	51.3	82.2	45.2
LOS	A	C	A	C	A	E	D	D	F	D
Approach Delay		23.4			10.9		52.9			72.7
Approach LOS		C			B		D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 25.7	Intersection LOS: C
Intersection Capacity Utilization 90.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	2115	505	246	1650	100	355	45	476	175	50	10
Future Volume (veh/h)	8	2115	505	246	1650	100	355	45	476	175	50	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	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	2226	549	267	1737	109	386	49	501	190	54	11
Peak Hour Factor	0.92	0.95	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	2638	793	327	3068	192	790	327	515	300	419	83
Arrive On Green	0.03	0.52	0.50	0.14	0.62	0.61	0.10	0.17	0.18	0.07	0.14	0.14
Sat Flow, veh/h	1781	5106	1585	1781	4911	308	3456	1870	1585	1781	2957	585
Grp Volume(v), veh/h	9	2226	549	267	1203	643	386	49	501	190	32	33
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1815	1728	1870	1585	1781	1777	1765
Q Serve(g_s), s	0.3	44.8	31.8	12.3	24.6	24.8	11.2	2.7	22.0	8.0	1.9	2.0
Cycle Q Clear(g_c), s	0.3	44.8	31.8	12.3	24.6	24.8	11.2	2.7	22.0	8.0	1.9	2.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	208	2638	793	327	2126	1134	790	327	515	300	252	250
V/C Ratio(X)	0.04	0.84	0.69	0.82	0.57	0.57	0.49	0.15	0.97	0.63	0.13	0.13
Avail Cap(c_a), veh/h	252	2638	793	327	2126	1134	790	327	515	300	252	250
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	13.7	24.9	22.9	36.5	13.1	13.2	37.2	41.9	40.0	42.6	45.0	45.1
Incr Delay (d2), s/veh	0.1	3.5	4.9	14.9	1.1	2.1	0.5	0.2	32.6	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	17.1	12.5	8.7	8.4	9.4	4.7	1.2	18.9	5.4	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	28.4	27.9	51.4	14.2	15.3	37.7	42.1	72.5	46.9	45.2	45.3
LnGrp LOS	B	C	C	D	B	B	D	D	E	D	D	D
Approach Vol, veh/h		2784			2113			936			255	
Approach Delay, s/veh		28.2			19.2			56.6			46.5	
Approach LOS		C			B			E			D	

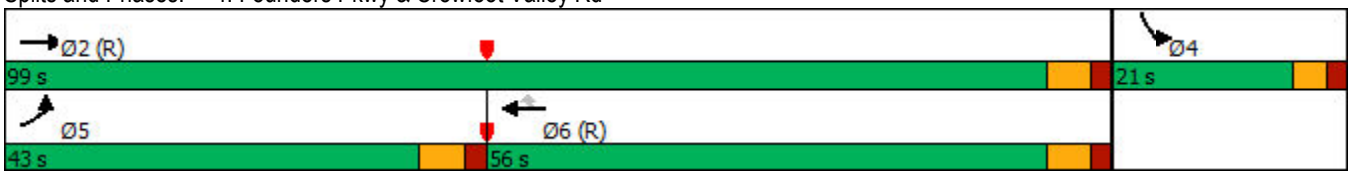
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	65.0	15.0	20.0	7.0	78.0	11.0	24.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	59.0	10.0	15.0	4.0	69.0	6.0	19.0
Max Q Clear Time (g_c+I1), s	14.3	46.8	13.2	4.0	2.3	26.8	10.0	24.0
Green Ext Time (p_c), s	0.0	10.6	0.0	0.2	0.0	17.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1050	1775	1300	180	200	730
Future Volume (vph)	1050	1775	1300	180	200	730
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	43.0	99.0	56.0	56.0	21.0	
Total Split (%)	35.8%	82.5%	46.7%	46.7%	17.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	3.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	40.4	96.4	52.0	52.0	16.6	120.0
Actuated g/C Ratio	0.34	0.80	0.43	0.43	0.14	1.00
v/c Ratio	0.96	0.68	0.89	0.25	0.84	0.27
Control Delay	57.4	6.8	40.2	6.1	35.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	6.8	40.2	6.1	35.2	0.5
LOS	E	A	D	A	D	A
Approach Delay		25.2	35.9		21.7	
Approach LOS		C	D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1050	1775	1300	180	200	730
Future Volume (veh/h)	1050	1775	1300	180	200	730
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1105	1929	1368	196	217	0
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1123	2813	1540	687	267	
Arrive On Green	0.32	0.79	0.43	0.43	0.15	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	1105	1929	1368	196	217	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	38.1	29.7	42.6	9.6	14.1	0.0
Cycle Q Clear(g_c), s	38.1	29.7	42.6	9.6	14.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1123	2813	1540	687	267	
V/C Ratio(X)	0.98	0.69	0.89	0.29	0.81	
Avail Cap(c_a), veh/h	1123	2813	1540	687	267	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.2	5.7	31.3	22.0	49.4	0.0
Incr Delay (d2), s/veh	22.9	1.4	8.0	1.0	17.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.8	7.2	18.5	3.6	7.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.1	7.1	39.3	23.0	66.5	0.0
LnGrp LOS	E	A	D	C	E	
Approach Vol, veh/h		3034	1564		217	
Approach Delay, s/veh		27.5	37.3		66.5	
Approach LOS		C	D		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		99.0		21.0	43.0	56.0
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		93.0		16.0	37.0	50.0
Max Q Clear Time (g_c+I1), s		31.7		16.1	40.1	44.6
Green Ext Time (p_c), s		25.5		0.0	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	136	98	169
Demand Flow Rate, veh/h	139	100	173
Vehicles Circulating, veh/h	50	84	78
Vehicles Exiting, veh/h	134	167	111
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.5	4.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	139	100	173
Cap Entry Lane, veh/h	1311	1267	1274
Entry HV Adj Factor	0.982	0.980	0.977
Flow Entry, veh/h	136	98	169
Cap Entry, veh/h	1287	1241	1245
V/C Ratio	0.106	0.079	0.136
Control Delay, s/veh	3.7	3.5	4.0
LOS	A	A	A
95th %tile Queue, veh	0	0	0

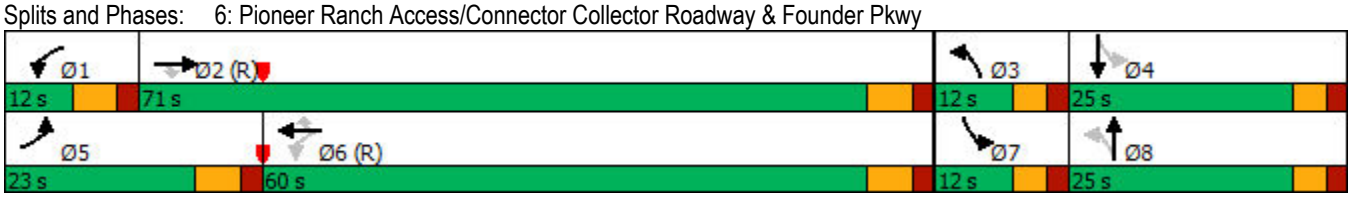
6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	100	1730	130	10	1320	55	75	0	30	0
Future Volume (vph)	100	1730	130	10	1320	55	75	0	30	0
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	12.0	20.0	9.0	20.0
Total Split (s)	23.0	71.0	71.0	12.0	60.0	60.0	12.0	25.0	12.0	25.0
Total Split (%)	19.2%	59.2%	59.2%	10.0%	50.0%	50.0%	10.0%	20.8%	10.0%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-1.0	-2.0
Total Lost Time (s)	4.0	5.0	5.0	5.0	5.0	5.0	4.0	3.0	4.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	11.2	95.6	95.6	88.5	81.8	81.8	11.3	9.9	14.4	7.5
Actuated g/C Ratio	0.09	0.80	0.80	0.74	0.68	0.68	0.09	0.08	0.12	0.06
v/c Ratio	0.34	0.67	0.11	0.06	0.58	0.05	0.53	0.02	0.17	0.23
Control Delay	53.4	9.3	1.1	4.3	12.7	0.1	63.3	0.2	46.2	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	9.3	1.1	4.3	12.7	0.1	63.3	0.2	46.2	1.7
LOS	D	A	A	A	B	A	E	A	D	A
Approach Delay		11.0			12.1			59.7		15.2
Approach LOS		B			B			E		B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 12.7 — Intersection LOS: B
Intersection Capacity Utilization 66.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1730	130	10	1320	55	75	0	5	30	0	70
Future Volume (veh/h)	100	1730	130	10	1320	55	75	0	5	30	0	70
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	109	1880	141	11	1389	60	82	0	0	33	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	2836	1265	214	2704	1206	179	19		116	2	
Arrive On Green	0.06	0.80	0.80	0.02	0.76	0.76	0.07	0.00	0.00	0.03	0.00	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	109	1880	141	11	1389	60	82	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.7	27.2	2.4	0.2	18.4	1.1	5.4	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	3.7	27.2	2.4	0.2	18.4	1.1	5.4	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	222	2836	1265	214	2704	1206	179	19		116	2	
V/C Ratio(X)	0.49	0.66	0.11	0.05	0.51	0.05	0.46	0.00		0.28	0.00	
Avail Cap(c_a), veh/h	547	2836	1265	284	2704	1206	179	343		179	343	
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.3	5.2	2.7	5.2	5.6	3.6	54.7	0.0	0.0	57.2	0.0	0.0
Incr Delay (d2), s/veh	1.7	1.2	0.2	0.1	0.7	0.1	1.8	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.4	0.6	0.0	5.0	0.3	2.5	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	6.4	2.9	5.3	6.3	3.6	56.5	0.0	0.0	58.5	0.0	0.0
LnGrp LOS	E	A	A	A	A	A	E	A		E	A	
Approach Vol, veh/h		2130			1460			82			33	
Approach Delay, s/veh		8.7			6.2			56.5			58.5	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	100.8	12.0	0.0	11.7	96.3	7.8	4.2
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	65.0	7.0	20.0	17.0	54.0	7.0	20.0
Max Q Clear Time (g_c+I1), s	2.2	29.2	7.4	0.0	5.7	20.4	4.2	0.0
Green Ext Time (p_c), s	0.0	20.0	0.0	0.0	0.2	12.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

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

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

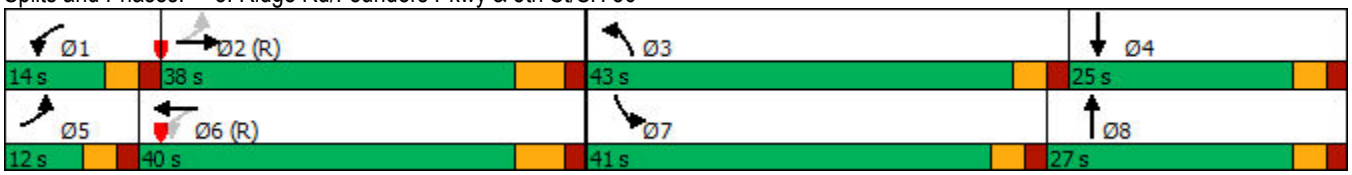
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	163	364	326
Demand Flow Rate, veh/h	166	371	333
Vehicles Circulating, veh/h	244	144	11
Vehicles Exiting, veh/h	100	266	504
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.8	6.0	4.8
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	166	371	333
Cap Entry Lane, veh/h	1076	1191	1364
Entry HV Adj Factor	0.982	0.981	0.980
Flow Entry, veh/h	163	364	326
Cap Entry, veh/h	1056	1169	1337
V/C Ratio	0.154	0.311	0.244
Control Delay, s/veh	4.8	6.0	4.8
LOS	A	A	A
95th %tile Queue, veh	1	1	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	615	520	180	330	570	245	495	115	930	715	155
Future Volume (vph)	168	615	520	180	330	570	245	495	115	930	715	155
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	38.0		14.0	40.0		43.0	27.0		41.0	25.0	
Total Split (%)	10.0%	31.7%		11.7%	33.3%		35.8%	22.5%		34.2%	20.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-2.0		-1.0	-2.0		-1.0	-2.0		-2.0	-1.0	
Total Lost Time (s)	4.0	4.5		4.0	4.5		4.0	3.0		3.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	42.2	33.5	120.0	46.2	35.5	120.0	15.7	24.0	120.0	37.8	44.1	120.0
Actuated g/C Ratio	0.35	0.28	1.00	0.38	0.30	1.00	0.13	0.20	1.00	0.32	0.37	1.00
v/c Ratio	0.48	0.68	0.36	0.77	0.33	0.39	0.59	0.76	0.08	0.93	0.60	0.11
Control Delay	30.1	42.5	0.6	46.6	34.1	0.7	54.4	53.4	0.1	55.8	33.6	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	42.5	0.6	46.6	34.1	0.7	54.4	53.4	0.1	55.8	33.6	0.1
LOS	C	D	A	D	C	A	D	D	A	E	C	A
Approach Delay		24.2			18.4			46.5			42.2	
Approach LOS		C			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 33.2	Intersection LOS: C
Intersection Capacity Utilization 80.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	615	520	180	330	570	245	495	115	930	715	155
Future Volume (veh/h)	168	615	520	180	330	570	245	495	115	930	715	155
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	183	668	0	196	347	0	266	538	0	1011	777	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	1044		302	1103		370	660		1093	1345	
Arrive On Green	0.07	0.29	0.00	0.08	0.31	0.00	0.11	0.19	0.00	0.32	0.38	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	183	668	0	196	347	0	266	538	0	1011	777	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	19.6	0.0	9.4	9.0	0.0	8.9	17.4	0.0	33.9	20.9	0.0
Cycle Q Clear(g_c), s	8.0	19.6	0.0	9.4	9.0	0.0	8.9	17.4	0.0	33.9	20.9	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	414	1044		302	1103		370	660		1093	1345	
V/C Ratio(X)	0.44	0.64		0.65	0.31		0.72	0.81		0.92	0.58	
Avail Cap(c_a), veh/h	414	1044		302	1103		1123	711		1094	1345	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.9	36.9	0.0	29.0	31.6	0.0	51.8	46.9	0.0	39.6	29.7	0.0
Incr Delay (d2), s/veh	0.7	3.0	0.0	4.8	0.7	0.0	2.6	6.9	0.0	12.9	0.6	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	3.8	8.8	0.0	4.2	3.8	0.0	4.0	8.3	0.0	15.6	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	39.9	0.0	33.8	32.4	0.0	54.5	53.7	0.0	52.5	30.3	0.0
LnGrp LOS	C	D		C	C		D	D		D	C	
Approach Vol, veh/h		851			543			804			1788	
Approach Delay, s/veh		37.7			32.9			54.0			42.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	39.7	16.8	49.4	12.0	41.7	41.0	25.3
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	9.0	31.5	38.0	20.0	7.0	33.5	36.0	22.0
Max Q Clear Time (g_c+I1), s	11.4	21.6	10.9	22.9	10.0	11.0	35.9	19.4
Green Ext Time (p_c), s	0.0	3.1	0.9	0.0	0.0	1.9	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

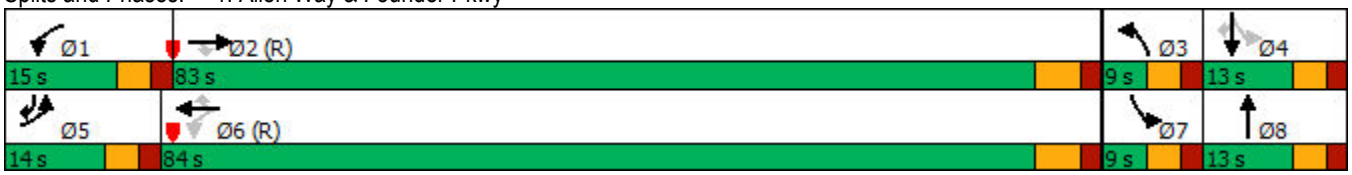
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	265	1549	150	45	3435	140	130	25	75	15	385
Future Volume (vph)	265	1549	150	45	3435	140	130	25	75	15	385
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2	6		6			4		4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	21.0	21.0	9.5	21.0	21.0	9.0	13.0	9.0	13.0	11.0
Total Split (s)	14.0	83.0	83.0	15.0	84.0	84.0	9.0	13.0	9.0	13.0	14.0
Total Split (%)	11.7%	69.2%	69.2%	12.5%	70.0%	70.0%	7.5%	10.8%	7.5%	10.8%	11.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
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)	-2.0	-1.0	-1.0	-1.0	-3.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	5.0	5.0	4.0	3.0	5.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	12.6	86.9	86.9	88.5	82.3	80.3	10.9	7.9	8.6	7.7	16.8
Actuated g/C Ratio	0.10	0.72	0.72	0.74	0.69	0.67	0.09	0.07	0.07	0.06	0.14
v/c Ratio	0.78	0.44	0.13	0.18	0.98	0.13	0.44	0.52	0.63	0.13	0.90
Control Delay	68.1	8.1	1.3	2.1	20.3	0.4	57.3	32.6	72.6	54.9	63.9
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	68.1	8.1	1.3	2.1	20.3	0.4	57.3	32.6	72.6	54.9	63.9
LOS	E	A	A	A	C	A	E	C	E	D	E
Approach Delay		15.7			19.2			48.0		65.0	
Approach LOS		B			B			D		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1549	150	45	3435	140	130	25	55	75	15	385
Future Volume (veh/h)	265	1549	150	45	3435	140	130	25	55	75	15	385
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	279	1631	158	47	3435	147	137	26	58	79	16	405
Peak Hour Factor	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	3610	1121	272	3447	1043	173	39	86	168	140	442
Arrive On Green	0.09	0.71	0.71	0.03	0.68	0.66	0.05	0.08	0.08	0.04	0.08	0.08
Sat Flow, veh/h	3456	5106	1585	1781	5106	1585	3456	515	1149	1781	1870	2790
Grp Volume(v), veh/h	279	1631	158	47	3435	147	137	0	84	79	16	405
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1781	1702	1585	1728	0	1664	1781	1870	1395
Q Serve(g_s), s	9.6	16.5	3.9	1.0	80.2	4.2	4.7	0.0	5.9	4.9	1.0	9.0
Cycle Q Clear(g_c), s	9.6	16.5	3.9	1.0	80.2	4.2	4.7	0.0	5.9	4.9	1.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	317	3610	1121	272	3447	1043	173	0	125	168	140	442
V/C Ratio(X)	0.88	0.45	0.14	0.17	1.00	0.14	0.79	0.00	0.67	0.47	0.11	0.92
Avail Cap(c_a), veh/h	317	3610	1121	374	3447	1043	173	0	125	168	140	442
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	0.14	0.14	0.14	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	7.6	5.7	6.4	19.4	7.7	56.4	0.0	54.1	49.1	51.8	49.7
Incr Delay (d2), s/veh	23.7	0.4	0.3	0.0	5.0	0.0	21.8	0.0	13.3	2.0	0.4	23.9
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	5.2	5.5	1.3	0.3	28.6	1.4	2.6	0.0	2.9	2.3	0.5	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	8.0	6.0	6.4	24.4	7.8	78.2	0.0	67.4	51.2	52.1	73.6
LnGrp LOS	E	A	A	A	C	A	E	A	E	D	D	E
Approach Vol, veh/h		2068			3629			221			500	
Approach Delay, s/veh		17.2			23.5			74.1			69.4	
Approach LOS		B			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	89.8	9.0	13.0	14.0	84.0	9.0	13.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	77.0	4.0	8.0	9.0	78.0	4.0	8.0
Max Q Clear Time (g_c+I1), s	3.0	18.5	6.7	11.0	11.6	82.2	6.9	7.9
Green Ext Time (p_c), s	0.0	20.6	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations										
Traffic Volume (vph)	70	1309	280	75	2945	530	75	50	5	65
Future Volume (vph)	70	1309	280	75	2945	530	75	50	5	65
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6	3	8		7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	9.0	21.0	21.0	10.0	21.0
Total Split (s)	12.0	64.0	64.0	12.0	64.0	19.0	32.0	32.0	12.0	25.0
Total Split (%)	10.0%	53.3%	53.3%	10.0%	53.3%	15.8%	26.7%	26.7%	10.0%	20.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	5.0	6.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	80.4	72.4	71.4	80.3	73.3	29.5	26.2	26.2	16.3	9.5
Actuated g/C Ratio	0.67	0.60	0.60	0.67	0.61	0.25	0.22	0.22	0.14	0.08
v/c Ratio	0.40	0.46	0.29	0.30	0.99	0.90	0.20	0.12	0.02	0.52
Control Delay	23.9	15.0	3.6	9.3	39.1	59.6	40.6	0.6	34.2	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	15.0	3.6	9.3	39.1	59.6	40.6	0.6	34.2	27.9
LOS	C	B	A	A	D	E	D	A	C	C
Approach Delay		13.4			38.3		53.0			28.1
Approach LOS		B			D		D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 32.1	Intersection LOS: C
Intersection Capacity Utilization 92.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	70	1309	280	75	2945	15	530	75	50	5	65	105
Future Volume (veh/h)	70	1309	280	75	2945	15	530	75	50	5	65	105
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	76	1423	304	82	3068	16	576	82	54	5	71	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	3024	926	255	3157	16	670	396	336	210	178	159
Arrive On Green	0.04	0.59	0.58	0.04	0.60	0.59	0.13	0.21	0.21	0.01	0.10	0.08
Sat Flow, veh/h	1781	5106	1585	1781	5242	27	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	76	1423	304	82	1990	1094	576	82	54	5	71	114
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1865	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	2.0	18.9	11.8	2.1	67.2	67.6	16.0	4.3	3.3	0.3	4.5	8.4
Cycle Q Clear(g_c), s	2.0	18.9	11.8	2.1	67.2	67.6	16.0	4.3	3.3	0.3	4.5	8.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	3024	926	255	2050	1124	670	396	336	210	178	159
V/C Ratio(X)	0.58	0.47	0.33	0.32	0.97	0.97	0.86	0.21	0.16	0.02	0.40	0.72
Avail Cap(c_a), veh/h	181	3024	926	301	2050	1124	670	436	370	304	311	277
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)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	13.8	12.9	10.6	22.9	23.0	41.2	39.0	38.6	47.3	50.6	53.3
Incr Delay (d2), s/veh	3.5	0.5	0.8	0.7	14.1	21.2	10.9	0.3	0.2	0.0	1.4	5.9
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	1.4	7.0	4.3	0.8	28.4	33.5	8.5	2.0	1.3	0.1	2.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	14.3	13.7	11.3	36.9	44.1	52.1	39.2	38.8	47.3	52.0	59.2
LnGrp LOS	C	B	B	B	D	D	D	D	D	D	D	E
Approach Vol, veh/h		1803			3166			712			190	
Approach Delay, s/veh		15.0			38.8			49.6			56.2	
Approach LOS		B			D			D			E	

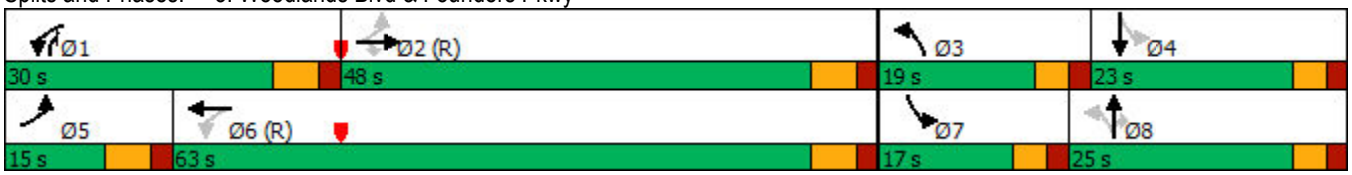
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	76.1	19.0	16.0	8.7	76.3	5.6	29.4
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	7.0	58.0	14.0	20.0	7.0	58.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	4.1	20.9	18.0	10.4	4.0	69.6	2.3	6.3
Green Ext Time (p_c), s	0.0	15.5	0.0	0.6	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	6	964	250	496	2528	465	30	231	45	15
Future Volume (vph)	6	964	250	496	2528	465	30	231	45	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	15.0	48.0	48.0	30.0	63.0	19.0	25.0	30.0	17.0	23.0
Total Split (%)	12.5%	40.0%	40.0%	25.0%	52.5%	15.8%	20.8%	25.0%	14.2%	19.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	5.0	3.0	4.0	5.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	53.3	46.6	46.6	90.9	87.5	22.1	10.9	50.9	13.7	7.1
Actuated g/C Ratio	0.44	0.39	0.39	0.76	0.73	0.18	0.09	0.42	0.11	0.06
v/c Ratio	0.04	0.51	0.35	0.76	0.75	0.88	0.20	0.32	0.24	0.09
Control Delay	11.5	29.8	4.4	27.4	13.3	64.3	53.9	5.7	44.8	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	29.8	4.4	27.4	13.3	64.3	53.9	5.7	44.8	48.1
LOS	B	C	A	C	B	E	D	A	D	D
Approach Delay		24.3			15.6		45.2			45.7
Approach LOS		C			B		D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 86.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	964	250	496	2528	105	465	30	231	45	15	3
Future Volume (veh/h)	6	964	250	496	2528	105	465	30	231	45	15	3
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	7	1015	272	539	2661	114	505	33	251	49	16	3
Peak Hour Factor	0.92	0.95	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	2311	717	581	3232	137	769	279	563	208	199	36
Arrive On Green	0.02	0.45	0.45	0.21	0.64	0.64	0.13	0.15	0.15	0.04	0.07	0.06
Sat Flow, veh/h	1781	5106	1585	1781	5023	213	3456	1870	1585	1781	3003	546
Grp Volume(v), veh/h	7	1015	272	539	1793	982	505	33	251	49	9	10
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1832	1728	1870	1585	1781	1777	1772
Q Serve(g_s), s	0.3	16.3	13.6	21.6	47.7	49.4	15.9	1.8	14.6	3.0	0.6	0.6
Cycle Q Clear(g_c), s	0.3	16.3	13.6	21.6	47.7	49.4	15.9	1.8	14.6	3.0	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	110	2311	717	581	2190	1179	769	279	563	208	118	118
V/C Ratio(X)	0.06	0.44	0.38	0.93	0.82	0.83	0.66	0.12	0.45	0.24	0.08	0.08
Avail Cap(c_a), veh/h	232	2311	717	585	2190	1179	769	327	604	326	281	281
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	20.2	22.4	21.7	22.8	16.1	16.4	42.3	44.2	29.6	49.0	52.6	52.7
Incr Delay (d2), s/veh	0.2	0.6	1.5	21.0	3.6	7.0	2.0	0.2	0.6	0.6	0.3	0.3
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	6.2	5.3	11.2	16.4	19.4	6.9	0.9	5.6	1.4	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	23.0	23.2	43.8	19.7	23.4	44.3	44.4	30.2	49.6	52.9	53.0
LnGrp LOS	C	C	C	D	B	C	D	D	C	D	D	D
Approach Vol, veh/h		1294			3314			789			68	
Approach Delay, s/veh		23.1			24.7			39.8			50.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.7	59.3	19.0	12.0	6.8	82.2	9.1	21.9
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	24.0	42.0	14.0	18.0	9.0	57.0	12.0	20.0
Max Q Clear Time (g_c+I1), s	23.6	18.3	17.9	2.6	2.3	51.4	5.0	16.6
Green Ext Time (p_c), s	0.1	7.8	0.0	0.0	0.0	5.3	0.0	0.3

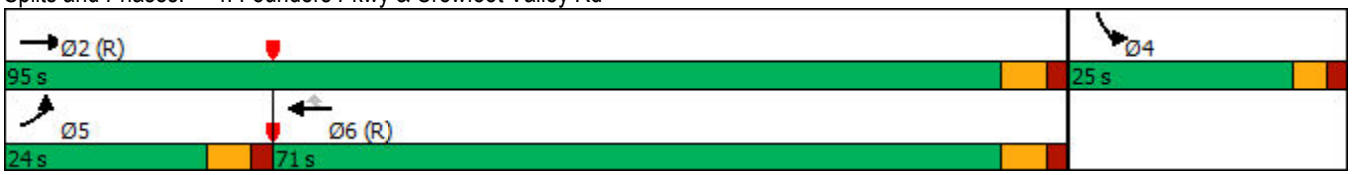
Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	490	774	2014	202	131	1170
Future Volume (vph)	490	774	2014	202	131	1170
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	24.0	95.0	71.0	71.0	25.0	
Total Split (%)	20.0%	79.2%	59.2%	59.2%	20.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-1.0	-2.0	-1.0	-1.0	
Total Lost Time (s)	4.0	5.0	4.0	5.0	4.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	20.0	90.0	67.0	66.0	21.0	120.0
Actuated g/C Ratio	0.17	0.75	0.56	0.55	0.18	1.00
v/c Ratio	0.93	0.32	1.07	0.24	1.30dr	0.43
Control Delay	73.7	5.3	70.1	5.5	69.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.7	5.3	70.1	5.5	69.6	0.9
LOS	E	A	E	A	E	A
Approach Delay		31.8	64.0		38.8	
Approach LOS		C	E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 48.5	Intersection LOS: D
Intersection Capacity Utilization 95.8%	ICU Level of Service F
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	490	774	2014	202	131	1170
Future Volume (veh/h)	490	774	2014	202	131	1170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	533	841	2120	220	142	0
Peak Hour Factor	0.92	0.92	0.95	0.92	0.92	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	576	2919	2238	985	185	
Arrive On Green	0.17	0.82	0.63	0.62	0.10	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	533	841	2120	220	142	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	18.2	6.6	65.7	7.3	9.3	0.0
Cycle Q Clear(g_c), s	18.2	6.6	65.7	7.3	9.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	576	2919	2238	985	185	
V/C Ratio(X)	0.93	0.29	0.95	0.22	0.77	
Avail Cap(c_a), veh/h	576	2919	2238	985	312	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.3	2.5	20.4	10.0	52.4	0.0
Incr Delay (d2), s/veh	21.0	0.2	10.1	0.5	6.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	1.3	25.6	2.4	4.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	70.3	2.8	30.5	10.5	59.0	0.0
LnGrp LOS	E	A	C	B	E	
Approach Vol, veh/h		1374	2340		142	
Approach Delay, s/veh		29.0	28.6		59.0	
Approach LOS		C	C		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.6		16.4	24.0	79.6
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		89.0		20.0	18.0	65.0
Max Q Clear Time (g_c+I1), s		8.6		11.3	20.2	67.7
Green Ext Time (p_c), s		6.1		0.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	5.3
Intersection LOS	A

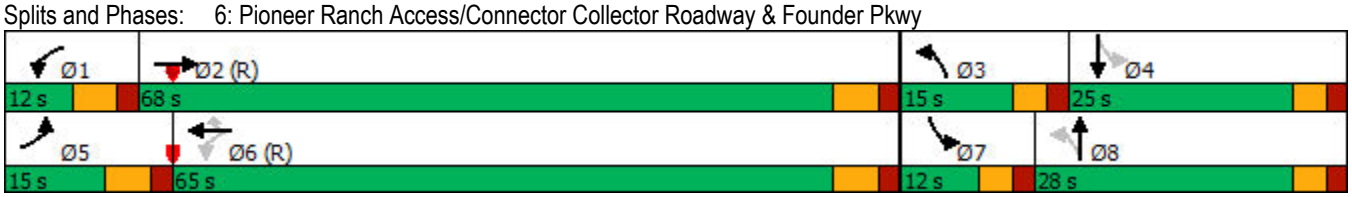
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	171	437	132
Demand Flow Rate, veh/h	174	446	135
Vehicles Circulating, veh/h	46	58	307
Vehicles Exiting, veh/h	396	162	197
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	6.0	4.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	174	446	135
Cap Entry Lane, veh/h	1317	1301	1009
Entry HV Adj Factor	0.983	0.980	0.979
Flow Entry, veh/h	171	437	132
Cap Entry, veh/h	1294	1275	987
V/C Ratio	0.132	0.343	0.134
Control Delay, s/veh	3.9	6.0	4.9
LOS	A	A	A
95th %tile Queue, veh	0	2	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	126	734	40	5	1848	59	120	6	84	2
Future Volume (vph)	126	734	40	5	1848	59	120	6	84	2
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	20.0	20.0	9.0	20.0
Total Split (s)	15.0	68.0	68.0	12.0	65.0	65.0	15.0	28.0	12.0	25.0
Total Split (%)	12.5%	56.7%	56.7%	10.0%	54.2%	54.2%	12.5%	23.3%	10.0%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	9.8	75.8	75.8	70.1	63.5	63.5	23.3	17.2	28.8	19.0
Actuated g/C Ratio	0.08	0.63	0.63	0.58	0.53	0.53	0.19	0.14	0.24	0.16
v/c Ratio	0.49	0.36	0.04	0.01	1.04	0.07	0.62	0.07	0.25	0.82
Control Delay	59.0	12.1	0.1	8.8	60.8	0.3	53.2	25.7	34.3	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	12.1	0.1	8.8	60.8	0.3	53.2	25.7	34.3	45.1
LOS	E	B	A	A	E	A	D	C	C	D
Approach Delay		18.2			58.7			49.8		42.5
Approach LOS		B			E			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 45.3	Intersection LOS: D
Intersection Capacity Utilization 88.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	734	40	5	1848	59	120	6	10	84	2	268
Future Volume (veh/h)	126	734	40	5	1848	59	120	6	10	84	2	268
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	137	798	43	5	1945	64	130	7	0	91	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	2503	1117	489	2325	1037	279	122		236	91	
Arrive On Green	0.06	0.70	0.70	0.01	0.65	0.65	0.09	0.07	0.00	0.07	0.05	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	137	798	43	5	1945	64	130	7	0	91	2	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1870	0	1781	1870	0
Q Serve(g_s), s	4.6	10.3	1.0	0.1	50.2	1.7	8.1	0.4	0.0	5.8	0.1	0.0
Cycle Q Clear(g_c), s	4.6	10.3	1.0	0.1	50.2	1.7	8.1	0.4	0.0	5.8	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	220	2503	1117	489	2325	1037	279	122		236	91	
V/C Ratio(X)	0.62	0.32	0.04	0.01	0.84	0.06	0.47	0.06		0.39	0.02	
Avail Cap(c_a), veh/h	288	2503	1117	569	2325	1037	279	374		236	343	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.8	6.8	5.4	6.7	15.9	7.5	47.8	52.6	0.0	50.4	54.3	0.0
Incr Delay (d2), s/veh	2.9	0.3	0.1	0.0	3.8	0.1	1.2	0.2	0.0	1.0	0.1	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	2.0	3.2	0.3	0.0	17.9	0.6	3.7	0.2	0.0	2.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	7.1	5.5	6.7	19.6	7.6	49.0	52.8	0.0	51.4	54.4	0.0
LnGrp LOS	E	A	A	A	B	A	D	D		D	D	
Approach Vol, veh/h		978			2014			137			93	
Approach Delay, s/veh		14.1			19.2			49.2			51.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	89.5	15.0	8.9	12.6	83.5	12.0	11.9
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	62.0	10.0	20.0	9.0	59.0	7.0	23.0
Max Q Clear Time (g_c+I1), s	2.1	12.3	10.1	2.1	6.6	52.2	7.8	2.4
Green Ext Time (p_c), s	0.0	5.8	0.0	0.0	0.1	5.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

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

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

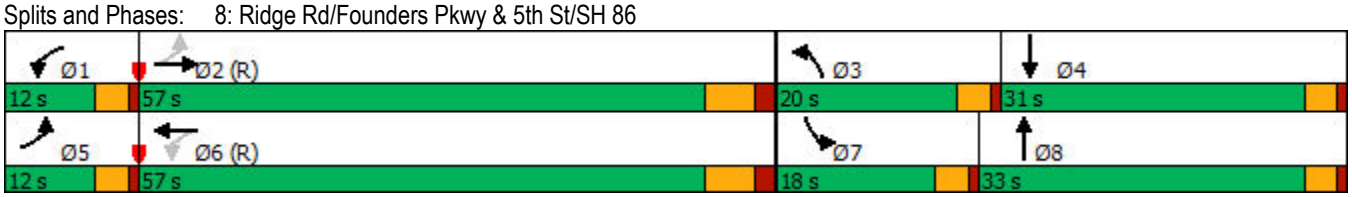
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	74	157	471
Demand Flow Rate, veh/h	75	161	481
Vehicles Circulating, veh/h	339	61	33
Vehicles Exiting, veh/h	175	353	188
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.4	3.9	6.1
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	75	161	481
Cap Entry Lane, veh/h	977	1297	1334
Entry HV Adj Factor	0.987	0.978	0.980
Flow Entry, veh/h	74	157	471
Cap Entry, veh/h	963	1268	1307
V/C Ratio	0.077	0.124	0.361
Control Delay, s/veh	4.4	3.9	6.1
LOS	A	A	A
95th %tile Queue, veh	0	0	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	230	130	125	515	942	350	585	80	323	185	145
Future Volume (vph)	79	230	130	125	515	942	350	585	80	323	185	145
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	57.0		12.0	57.0		20.0	33.0		18.0	31.0	
Total Split (%)	10.0%	47.5%		10.0%	47.5%		16.7%	27.5%		15.0%	25.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.5		4.0	6.5		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	63.0	53.0	120.0	65.1	55.8	120.0	15.7	26.3	120.0	14.0	24.6	120.0
Actuated g/C Ratio	0.52	0.44	1.00	0.54	0.46	1.00	0.13	0.22	1.00	0.12	0.20	1.00
v/c Ratio	0.18	0.16	0.09	0.22	0.33	0.65	0.85	0.82	0.05	0.88	0.28	0.10
Control Delay	13.8	21.1	0.1	14.0	22.2	2.1	69.2	54.0	0.1	75.5	40.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	21.1	0.1	14.0	22.2	2.1	69.2	54.0	0.1	75.5	40.7	0.1
LOS	B	C	A	B	C	A	E	D	A	E	D	A
Approach Delay		13.6			9.4			55.0			48.9	
Approach LOS		B			A			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 59.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	230	130	125	515	942	350	585	80	323	185	145
Future Volume (veh/h)	79	230	130	125	515	942	350	585	80	323	185	145
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	86	250	0	136	542	0	380	636	0	351	201	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	467	1656		640	1714		436	737		403	703	
Arrive On Green	0.04	0.47	0.00	0.06	0.48	0.00	0.13	0.21	0.00	0.12	0.20	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	86	250	0	136	542	0	380	636	0	351	201	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.0	4.8	0.0	4.7	11.2	0.0	13.0	20.7	0.0	12.0	5.8	0.0
Cycle Q Clear(g_c), s	3.0	4.8	0.0	4.7	11.2	0.0	13.0	20.7	0.0	12.0	5.8	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	467	1656		640	1714		436	737		403	703	
V/C Ratio(X)	0.18	0.15		0.21	0.32		0.87	0.86		0.87	0.29	
Avail Cap(c_a), veh/h	515	1656		660	1714		461	859		403	800	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.8	18.4	0.0	15.0	19.0	0.0	51.5	45.9	0.0	52.1	40.9	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.2	0.5	0.0	16.0	8.1	0.0	18.3	0.2	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	1.2	2.0	0.0	1.8	4.4	0.0	6.5	9.9	0.0	6.0	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	18.6	0.0	15.1	19.5	0.0	67.5	54.0	0.0	70.5	41.1	0.0
LnGrp LOS	B	B		B	B		E	D		E	D	
Approach Vol, veh/h		336			678			1016			552	
Approach Delay, s/veh		17.9			18.6			59.1			59.8	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	62.4	19.1	27.7	8.8	64.4	18.0	28.9
Change Period (Y+Rc), s	4.0	6.5	4.0	4.0	4.0	6.5	4.0	4.0
Max Green Setting (Gmax), s	8.0	50.5	16.0	27.0	8.0	50.5	14.0	29.0
Max Q Clear Time (g_c+I1), s	6.7	6.8	15.0	7.8	5.0	13.2	14.0	22.7
Green Ext Time (p_c), s	0.0	1.7	0.2	1.0	0.0	3.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	164	27	0	354
Future Vol, veh/h	0	5	164	27	0	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	190	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	178	29	0	385

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	178	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	865	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	865	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	865	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	9.2	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	391	0	4	142
Future Vol, veh/h	0	11	391	0	4	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	425	0	4	154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	587	425	0	0	425	0
Stage 1	425	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	472	629	-	-	1134	-
Stage 1	659	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	629	-	-	1134	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	629	1134	-
HCM Lane V/C Ratio	-	-	0.019	0.004	-
HCM Control Delay (s)	-	-	10.8	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	19	372	0	7	135
Future Vol, veh/h	1	19	372	0	7	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	21	404	0	8	147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	404	0	0	404	0
Stage 1	404	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	485	647	-	-	1155	-
Stage 1	674	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	481	647	-	-	1155	-
Mov Cap-2 Maneuver	481	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1155	-
HCM Lane V/C Ratio	-	-	0.034	0.007	-
HCM Control Delay (s)	-	-	10.9	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	104	268	0	36	100
Future Vol, veh/h	1	104	268	0	36	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	113	291	0	39	109

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	478	291	0	0	291	0
Stage 1	291	-	-	-	-	-
Stage 2	187	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	546	748	-	-	1271	-
Stage 1	759	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	748	-	-	1271	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	745	1271	-
HCM Lane V/C Ratio	-	-	0.153	0.031	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	90	11	0	236	32	1
Future Vol, veh/h	90	11	0	236	32	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	12	0	257	35	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	110	0	361	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	257	-
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	-	-	1480	-	638	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1480	-	638	951
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	786	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	644	-	-	1480	-
HCM Lane V/C Ratio	0.056	-	-	-	-
HCM Control Delay (s)	10.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	22	1	173	63	2
Future Vol, veh/h	69	22	1	173	63	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	24	1	188	68	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	99	0	277	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	190	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1494	-	713	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1494	-	712	971
Mov Cap-2 Maneuver	-	-	-	-	712	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	841	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1494	-
HCM Lane V/C Ratio	0.098	-	-	0.001	-
HCM Control Delay (s)	10.6	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	64	155	2	4	19
Future Vol, veh/h	7	64	155	2	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	70	168	2	4	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	170	0	-	0	255	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	86	-
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	1407	-	-	-	734	875
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	937	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1407	-	-	-	730	875
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1407	-	-	-	846
HCM Lane V/C Ratio	0.005	-	-	-	0.03
HCM Control Delay (s)	7.6	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	152	17	25	332	22	5
Future Vol, veh/h	152	17	25	332	22	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	18	27	361	24	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	580	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	415	-
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	-	-	1392	-	477	879
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	468	879
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	653	-

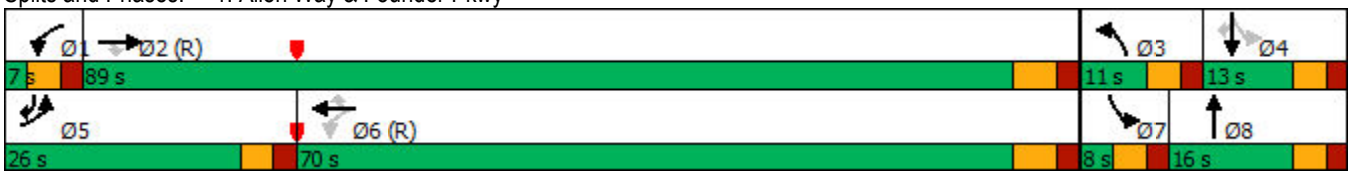
Approach	EB	WB	NW
HCM Control Delay, s	0	0.5	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	512	-	-	1392	-
HCM Lane V/C Ratio	0.057	-	-	0.02	-
HCM Control Delay (s)	12.5	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	435	3670	230	45	2700	160	185	45	145	40	460
Future Volume (vph)	435	3670	230	45	2700	160	185	45	145	40	460
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	7	4	5
Permitted Phases			2	6		6			4		4
Detector Phase	5	2	2	1	6	6	3	8	7	4	5
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
Minimum Split (s)	11.0	21.0	21.0	7.0	21.0	21.0	9.0	16.0	8.0	13.0	11.0
Total Split (s)	26.0	89.0	89.0	7.0	70.0	70.0	11.0	16.0	8.0	13.0	26.0
Total Split (%)	21.7%	74.2%	74.2%	5.8%	58.3%	58.3%	9.2%	13.3%	6.7%	10.8%	21.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
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)	-2.0	-3.0	-3.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.5	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	3.0	3.0	2.5	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	21.9	88.1	88.1	73.4	67.8	67.8	9.9	12.3	13.9	9.5	32.3
Actuated g/C Ratio	0.18	0.73	0.73	0.61	0.56	0.56	0.08	0.10	0.12	0.08	0.27
v/c Ratio	0.73	0.97	0.19	0.36	0.98	0.17	0.69	0.71	0.95	0.29	0.60
Control Delay	53.7	25.8	1.4	10.8	26.2	1.1	67.6	59.4	109.8	57.0	34.9
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	53.7	25.8	1.4	10.8	26.2	1.1	67.6	59.4	109.8	57.0	34.9
LOS	D	C	A	B	C	A	E	E	F	E	C
Approach Delay		27.5			24.6			64.2		52.7	
Approach LOS		C			C			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 29.9	Intersection LOS: C
Intersection Capacity Utilization 103.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Allen Way & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	3670	230	45	2700	160	185	45	90	145	40	460
Future Volume (veh/h)	435	3670	230	45	2700	160	185	45	90	145	40	460
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	1885	1870	1870	1885	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	458	3670	230	47	2842	168	195	47	95	148	42	484
Peak Hour Factor	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.95	0.95
Percent Heavy Veh, %	2	1	2	2	1	2	2	2	2	2	2	2
Cap, veh/h	574	3688	1136	120	2962	912	230	60	121	178	156	696
Arrive On Green	0.17	0.72	0.72	0.03	0.58	0.58	0.07	0.11	0.10	0.05	0.08	0.08
Sat Flow, veh/h	3456	5147	1585	1781	5147	1585	3456	553	1117	1781	1870	2790
Grp Volume(v), veh/h	458	3670	230	47	2842	168	195	0	142	148	42	484
Grp Sat Flow(s),veh/h/ln	1728	1716	1585	1781	1716	1585	1728	0	1669	1781	1870	1395
Q Serve(g_s), s	15.3	84.5	5.8	1.3	62.8	6.0	6.7	0.0	10.0	5.5	2.5	10.0
Cycle Q Clear(g_c), s	15.3	84.5	5.8	1.3	62.8	6.0	6.7	0.0	10.0	5.5	2.5	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	574	3688	1136	120	2962	912	230	0	181	178	156	696
V/C Ratio(X)	0.80	1.00	0.20	0.39	0.96	0.18	0.85	0.00	0.79	0.83	0.27	0.70
Avail Cap(c_a), veh/h	662	3688	1136	120	2962	912	230	0	181	178	156	696
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	0.35	0.35	0.35	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	16.8	5.6	29.3	24.1	12.1	55.4	0.0	52.5	52.3	51.6	40.9
Incr Delay (d2), s/veh	6.0	13.7	0.4	0.7	4.1	0.2	24.2	0.0	20.0	26.7	0.9	3.0
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	7.0	31.7	1.9	0.8	24.5	2.2	3.7	0.0	5.2	3.1	1.2	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	30.5	6.0	30.0	28.2	12.2	79.6	0.0	72.5	79.0	52.5	43.9
LnGrp LOS	D	C	A	C	C	B	E	A	E	E	D	D
Approach Vol, veh/h		4358			3057			337			674	
Approach Delay, s/veh		31.7			27.4			76.6			52.2	
Approach LOS		C			C			E			D	

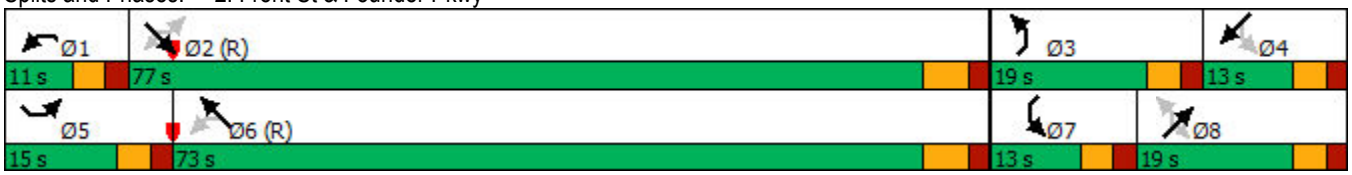
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	89.0	11.0	13.0	22.9	73.1	8.0	16.0
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	2.0	83.0	6.0	8.0	21.0	64.0	3.0	11.0
Max Q Clear Time (g_c+I1), s	3.3	86.5	8.7	12.0	17.3	64.8	7.5	12.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Configurations										
Traffic Volume (vph)	205	3035	615	146	2255	540	145	208	40	120
Future Volume (vph)	205	3035	615	146	2255	540	145	208	40	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6	3	8		7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	9.0	19.0	19.0	10.0	12.0
Total Split (s)	15.0	77.0	77.0	11.0	73.0	19.0	19.0	19.0	13.0	13.0
Total Split (%)	12.5%	64.2%	64.2%	9.2%	60.8%	15.8%	15.8%	15.8%	10.8%	10.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.0	3.0	6.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	85.3	74.0	71.0	78.3	69.0	28.7	18.6	18.6	18.9	9.7
Actuated g/C Ratio	0.71	0.62	0.59	0.65	0.58	0.24	0.16	0.16	0.16	0.08
v/c Ratio	0.91	0.99	0.59	0.85	0.85	1.03	0.55	0.60	0.18	0.61
Control Delay	48.7	28.7	7.7	64.0	24.8	87.8	56.1	24.2	37.9	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	28.7	7.7	64.0	24.8	87.8	56.1	24.2	37.9	40.6
LOS	D	C	A	E	C	F	E	C	D	D
Approach Delay		26.3			27.2		67.9			40.1
Approach LOS		C			C		E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:SETL and 6:NWTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 32.2	Intersection LOS: C
Intersection Capacity Utilization 101.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 2: Front St & Founder Pkwy



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	205	3035	615	146	2255	25	540	145	208	40	120	75
Future Volume (veh/h)	205	3035	615	146	2255	25	540	145	208	40	120	75
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	223	3097	668	159	2451	27	587	158	226	43	130	82
Peak Hour Factor	0.92	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	3149	938	179	2994	33	626	319	271	225	179	106
Arrive On Green	0.10	0.62	0.59	0.07	0.57	0.56	0.13	0.17	0.17	0.05	0.08	0.06
Sat Flow, veh/h	1781	5106	1585	1781	5207	57	3456	1870	1585	1781	2148	1271
Grp Volume(v), veh/h	223	3097	668	159	1601	877	587	158	226	43	106	106
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1860	1728	1870	1585	1781	1777	1642
Q Serve(g_s), s	8.8	70.9	35.7	6.5	45.3	45.5	16.0	9.2	16.5	2.6	7.0	7.6
Cycle Q Clear(g_c), s	8.8	70.9	35.7	6.5	45.3	45.5	16.0	9.2	16.5	2.6	7.0	7.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	264	3149	938	179	1957	1070	626	319	271	225	148	137
V/C Ratio(X)	0.84	0.98	0.71	0.89	0.82	0.82	0.94	0.49	0.83	0.19	0.72	0.77
Avail Cap(c_a), veh/h	264	3149	938	179	1957	1070	626	319	271	292	148	137
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)	0.15	0.15	0.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	22.4	17.3	37.7	20.5	20.5	44.2	45.1	48.1	46.6	53.6	55.0
Incr Delay (d2), s/veh	3.9	3.5	0.7	37.2	3.9	7.1	22.0	1.2	19.7	0.4	15.2	23.7
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	4.0	26.4	12.3	4.4	17.8	20.5	3.1	4.3	7.9	1.2	3.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	25.9	18.0	74.9	24.4	27.6	66.2	46.2	67.8	47.0	68.9	78.7
LnGrp LOS	D	C	B	E	C	C	E	D	E	D	E	E
Approach Vol, veh/h		3988			2637			971			255	
Approach Delay, s/veh		25.3			28.5			63.3			69.3	
Approach LOS		C			C			E			E	

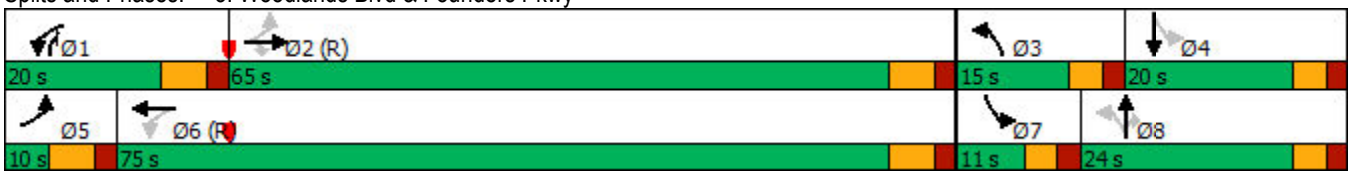
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	77.0	19.0	13.0	15.0	73.0	8.5	23.5
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	71.0	14.0	8.0	10.0	67.0	8.0	14.0
Max Q Clear Time (g_c+I1), s	8.5	72.9	18.0	9.6	10.8	47.5	4.6	18.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	16.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	2300	505	253	1771	355	45	485	175	50
Future Volume (vph)	8	2300	505	253	1771	355	45	485	175	50
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6	3	8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	9.0	20.0	10.0	9.0	20.0
Total Split (s)	10.0	65.0	65.0	20.0	75.0	15.0	24.0	20.0	11.0	20.0
Total Split (%)	8.3%	54.2%	54.2%	16.7%	62.5%	12.5%	20.0%	16.7%	9.2%	16.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-3.0	-1.0	-3.0	-3.0	-2.0	-2.0	-3.0	-2.0	-2.0
Total Lost Time (s)	4.0	3.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	69.6	62.9	60.9	91.8	89.4	22.2	12.5	39.3	16.6	9.3
Actuated g/C Ratio	0.58	0.52	0.51	0.76	0.74	0.18	0.10	0.33	0.14	0.08
v/c Ratio	0.04	0.91	0.55	0.62	0.52	0.77	0.25	0.90	0.88	0.23
Control Delay	6.5	32.4	7.1	34.3	8.0	55.1	51.6	53.1	82.2	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	32.4	7.1	34.3	8.0	55.1	51.6	53.1	82.2	45.2
LOS	A	C	A	C	A	E	D	D	F	D
Approach Delay		27.7			11.2		53.9			72.7
Approach LOS		C			B		D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Woodlands Blvd & Founders Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	2300	505	253	1771	100	355	45	485	175	50	10
Future Volume (veh/h)	8	2300	505	253	1771	100	355	45	485	175	50	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	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	2421	549	275	1864	109	386	49	511	190	54	11
Peak Hour Factor	0.92	0.95	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	2638	793	319	3083	180	790	327	515	299	419	83
Arrive On Green	0.03	0.52	0.50	0.14	0.62	0.61	0.10	0.17	0.18	0.07	0.14	0.14
Sat Flow, veh/h	1781	5106	1585	1781	4935	288	3456	1870	1585	1781	2957	585
Grp Volume(v), veh/h	9	2421	549	275	1284	689	386	49	511	190	32	33
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1819	1728	1870	1585	1781	1777	1765
Q Serve(g_s), s	0.3	52.3	31.8	13.5	27.3	27.6	11.2	2.7	22.0	8.0	1.9	2.0
Cycle Q Clear(g_c), s	0.3	52.3	31.8	13.5	27.3	27.6	11.2	2.7	22.0	8.0	1.9	2.0
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	191	2638	793	319	2126	1136	790	327	515	299	252	250
V/C Ratio(X)	0.05	0.92	0.69	0.86	0.60	0.61	0.49	0.15	0.99	0.64	0.13	0.13
Avail Cap(c_a), veh/h	235	2638	793	319	2126	1136	790	327	515	299	252	250
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	14.0	26.7	22.9	38.8	13.6	13.7	37.2	41.9	40.3	42.6	45.0	45.1
Incr Delay (d2), s/veh	0.1	6.5	4.9	20.7	1.3	2.4	0.5	0.2	37.5	4.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	20.5	12.5	9.5	9.4	10.5	4.7	1.2	20.0	5.5	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	33.1	27.9	59.5	14.9	16.1	37.7	42.1	77.8	47.0	45.2	45.3
LnGrp LOS	B	C	C	E	B	B	D	D	E	D	D	D
Approach Vol, veh/h		2979			2248			946			255	
Approach Delay, s/veh		32.1			20.7			59.6			46.6	
Approach LOS		C			C			E			D	

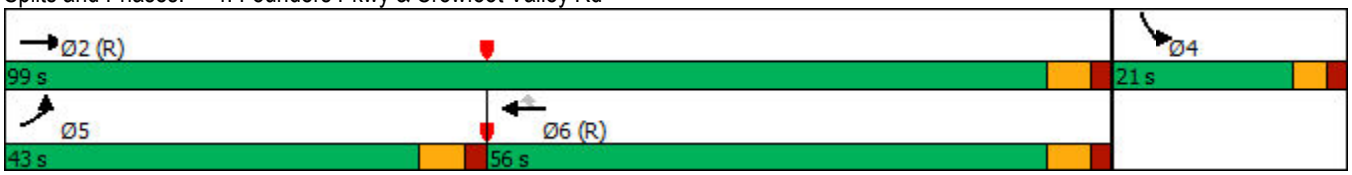
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	65.0	15.0	20.0	7.0	78.0	11.0	24.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	59.0	10.0	15.0	4.0	69.0	6.0	19.0
Max Q Clear Time (g_c+I1), s	15.5	54.3	13.2	4.0	2.3	29.6	10.0	24.0
Green Ext Time (p_c), s	0.0	4.5	0.0	0.2	0.0	18.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1050	1969	1428	190	212	730
Future Volume (vph)	1050	1969	1428	190	212	730
Turn Type	Prot	NA	NA	Perm	Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases				6		Free
Detector Phase	5	2	6	6	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	10.5	10.0	10.0	10.0	
Total Split (s)	43.0	99.0	56.0	56.0	21.0	
Total Split (%)	35.8%	82.5%	46.7%	46.7%	17.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	3.0	
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	
Act Effct Green (s)	39.8	95.8	52.0	52.0	17.2	120.0
Actuated g/C Ratio	0.33	0.80	0.43	0.43	0.14	1.00
v/c Ratio	0.97	0.76	0.98	0.27	0.86	0.27
Control Delay	60.4	8.5	52.6	7.4	39.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	8.5	52.6	7.4	39.0	0.5
LOS	E	A	D	A	D	A
Approach Delay		26.2	47.1		24.1	
Approach LOS		C	D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 31.9	Intersection LOS: C
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Founders Pkwy & Crowfoot Valley Rd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1050	1969	1428	190	212	730
Future Volume (veh/h)	1050	1969	1428	190	212	730
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1105	2140	1503	207	230	0
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1123	2813	1540	687	267	
Arrive On Green	0.32	0.79	0.43	0.43	0.15	0.00
Sat Flow, veh/h	3456	3647	3647	1585	1781	3170
Grp Volume(v), veh/h	1105	2140	1503	207	230	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1777	1585	1781	1585
Q Serve(g_s), s	38.1	37.8	49.8	10.2	15.1	0.0
Cycle Q Clear(g_c), s	38.1	37.8	49.8	10.2	15.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1123	2813	1540	687	267	
V/C Ratio(X)	0.98	0.76	0.98	0.30	0.86	
Avail Cap(c_a), veh/h	1123	2813	1540	687	267	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.2	6.5	33.4	22.2	49.8	0.0
Incr Delay (d2), s/veh	22.9	2.0	17.9	1.1	23.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.8	9.3	23.5	3.8	8.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.1	8.5	51.3	23.3	73.4	0.0
LnGrp LOS	E	A	D	C	E	
Approach Vol, veh/h		3245	1710		230	
Approach Delay, s/veh		27.1	47.9		73.4	
Approach LOS		C	D		E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		99.0		21.0	43.0	56.0
Change Period (Y+Rc), s		6.0		5.0	6.0	6.0
Max Green Setting (Gmax), s		93.0		16.0	37.0	50.0
Max Q Clear Time (g_c+I1), s		39.8		17.1	40.1	51.8
Green Ext Time (p_c), s		29.3		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Intersection Delay, s/veh	5.9
Intersection LOS	A

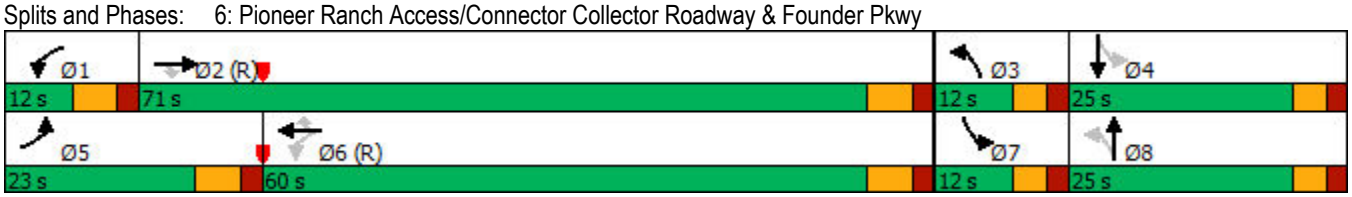
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	448	299	195
Demand Flow Rate, veh/h	457	305	199
Vehicles Circulating, veh/h	133	91	221
Vehicles Exiting, veh/h	287	499	175
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.8	5.1	5.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	457	305	199
Cap Entry Lane, veh/h	1205	1258	1101
Entry HV Adj Factor	0.980	0.981	0.982
Flow Entry, veh/h	448	299	195
Cap Entry, veh/h	1181	1234	1081
V/C Ratio	0.379	0.243	0.181
Control Delay, s/veh	6.8	5.1	5.0
LOS	A	A	A
95th %tile Queue, veh	2	1	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	316	1720	130	10	1315	120	75	7	88	9
Future Volume (vph)	316	1720	130	10	1315	120	75	7	88	9
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	12.0	20.0	9.0	20.0
Total Split (s)	23.0	71.0	71.0	12.0	60.0	60.0	12.0	25.0	12.0	25.0
Total Split (%)	19.2%	59.2%	59.2%	10.0%	50.0%	50.0%	10.0%	20.8%	10.0%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-1.0	-2.0
Total Lost Time (s)	4.0	5.0	5.0	5.0	5.0	5.0	4.0	3.0	4.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	18.9	88.5	88.5	74.8	68.0	68.0	13.8	10.9	18.4	11.4
Actuated g/C Ratio	0.16	0.74	0.74	0.62	0.57	0.57	0.12	0.09	0.15	0.10
v/c Ratio	0.63	0.72	0.12	0.06	0.69	0.13	0.47	0.08	0.42	0.67
Control Delay	52.6	13.3	1.8	7.8	22.9	1.3	53.8	36.4	47.6	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	13.3	1.8	7.8	22.9	1.3	53.8	36.4	47.6	16.8
LOS	D	B	A	A	C	A	D	D	D	B
Approach Delay		18.4			20.9			51.4		25.5
Approach LOS		B			C			D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 83.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Pioneer Ranch Access/Connector Collector Roadway & Founder Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	316	1720	130	10	1315	120	75	7	5	88	9	213
Future Volume (veh/h)	316	1720	130	10	1315	120	75	7	5	88	9	213
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	343	1870	141	11	1384	130	82	8	0	96	10	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	2572	1147	182	2198	980	229	92		231	92	
Arrive On Green	0.13	0.72	0.72	0.02	0.62	0.62	0.07	0.05	0.00	0.07	0.05	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	343	1870	141	11	1384	130	82	8	0	96	10	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1870	0	1781	1870	0
Q Serve(g_s), s	11.5	36.8	3.2	0.3	29.2	4.1	5.2	0.5	0.0	6.1	0.6	0.0
Cycle Q Clear(g_c), s	11.5	36.8	3.2	0.3	29.2	4.1	5.2	0.5	0.0	6.1	0.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	457	2572	1147	182	2198	980	229	92		231	92	
V/C Ratio(X)	0.75	0.73	0.12	0.06	0.63	0.13	0.36	0.09		0.42	0.11	
Avail Cap(c_a), veh/h	547	2572	1147	253	2198	980	229	343		231	343	
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	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.1	9.7	5.0	10.5	14.3	9.5	50.1	54.5	0.0	50.5	54.5	0.0
Incr Delay (d2), s/veh	4.7	1.8	0.2	0.1	1.4	0.3	0.9	0.4	0.0	1.2	0.5	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	5.1	11.4	1.0	0.1	10.6	1.4	2.3	0.2	0.0	2.8	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	11.5	5.2	10.7	15.7	9.8	51.0	54.9	0.0	51.7	55.0	0.0
LnGrp LOS	D	B	A	B	B	A	D	D		D	E	
Approach Vol, veh/h		2354			1525			90			106	
Approach Delay, s/veh		17.4			15.2			51.4			52.0	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	91.9	12.0	8.9	19.9	79.2	12.0	8.9
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	6.0	6.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	65.0	7.0	20.0	17.0	54.0	7.0	20.0
Max Q Clear Time (g_c+I1), s	2.3	38.8	7.2	2.6	13.5	31.2	8.1	2.5
Green Ext Time (p_c), s	0.0	16.5	0.0	0.0	0.4	10.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

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

Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

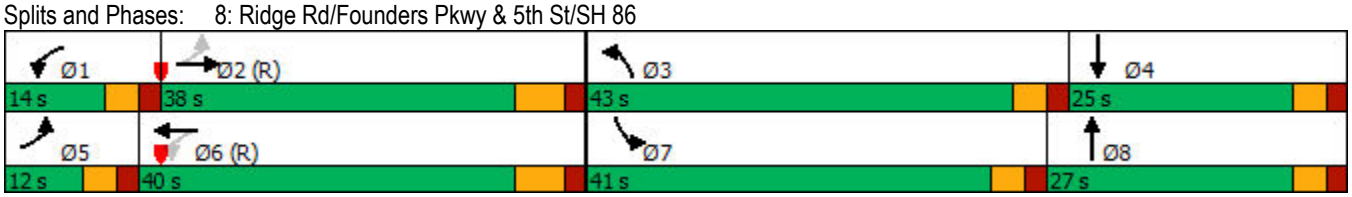
Approach	EB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	193	377	342
Demand Flow Rate, veh/h	197	384	349
Vehicles Circulating, veh/h	244	158	24
Vehicles Exiting, veh/h	129	283	518
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	6.3	5.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	LT	TR
Assumed Moves	LR	LT	TR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	197	384	349
Cap Entry Lane, veh/h	1076	1174	1346
Entry HV Adj Factor	0.980	0.982	0.981
Flow Entry, veh/h	193	377	342
Cap Entry, veh/h	1054	1153	1320
V/C Ratio	0.183	0.327	0.259
Control Delay, s/veh	5.1	6.3	5.0
LOS	A	A	A
95th %tile Queue, veh	1	1	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	615	520	180	330	588	245	516	115	942	733	173
Future Volume (vph)	189	615	520	180	330	588	245	516	115	942	733	173
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6		Free			Free			Free
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	20.0		9.0	20.0	
Total Split (s)	12.0	38.0		14.0	40.0		43.0	27.0		41.0	25.0	
Total Split (%)	10.0%	31.7%		11.7%	33.3%		35.8%	22.5%		34.2%	20.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-2.0		-1.0	-2.0		-1.0	-2.0		-2.0	-1.0	
Total Lost Time (s)	4.0	4.5		4.0	4.5		4.0	3.0		3.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	42.0	33.5	120.0	46.0	35.5	120.0	15.7	24.0	120.0	37.9	44.3	120.0
Actuated g/C Ratio	0.35	0.28	1.00	0.38	0.30	1.00	0.13	0.20	1.00	0.32	0.37	1.00
v/c Ratio	0.54	0.68	0.36	0.78	0.33	0.40	0.59	0.79	0.08	0.94	0.61	0.12
Control Delay	32.3	42.5	0.6	47.7	34.1	0.8	54.4	54.9	0.1	57.1	33.8	0.2
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	32.3	42.5	0.6	47.7	34.1	0.8	54.4	54.9	0.1	57.1	33.8	0.2
LOS	C	D	A	D	C	A	D	D	A	E	C	A
Approach Delay		24.6			18.3			47.5			42.5	
Approach LOS		C			B			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 33.6	Intersection LOS: C
Intersection Capacity Utilization 81.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Ridge Rd/Founders Pkwy & 5th St/SH 86



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	615	520	180	330	588	245	516	115	942	733	173
Future Volume (veh/h)	189	615	520	180	330	588	245	516	115	942	733	173
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	205	668	0	196	347	0	266	561	0	1024	797	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1026		297	1085		370	677		1094	1363	
Arrive On Green	0.07	0.29	0.00	0.08	0.31	0.00	0.11	0.19	0.00	0.32	0.38	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	205	668	0	196	347	0	266	561	0	1024	797	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	19.8	0.0	9.4	9.0	0.0	8.9	18.2	0.0	34.5	21.4	0.0
Cycle Q Clear(g_c), s	8.0	19.8	0.0	9.4	9.0	0.0	8.9	18.2	0.0	34.5	21.4	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	408	1026		297	1085		370	677		1094	1363	
V/C Ratio(X)	0.50	0.65		0.66	0.32		0.72	0.83		0.94	0.58	
Avail Cap(c_a), veh/h	408	1026		297	1085		1123	711		1094	1363	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.5	37.4	0.0	29.5	32.1	0.0	51.8	46.7	0.0	39.8	29.4	0.0
Incr Delay (d2), s/veh	1.0	3.2	0.0	5.3	0.8	0.0	2.6	7.8	0.0	14.4	0.6	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	8.9	0.0	4.3	3.8	0.0	4.0	8.7	0.0	16.0	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	40.6	0.0	34.8	32.9	0.0	54.5	54.5	0.0	54.2	30.0	0.0
LnGrp LOS	C	D		C	C		D	D		D	C	
Approach Vol, veh/h		873			543			827			1821	
Approach Delay, s/veh		38.5			33.5			54.5			43.6	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	39.1	16.8	50.0	12.0	41.1	41.0	25.9
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	5.0	6.5	5.0	5.0
Max Green Setting (Gmax), s	9.0	31.5	38.0	20.0	7.0	33.5	36.0	22.0
Max Q Clear Time (g_c+I1), s	11.4	21.8	10.9	23.4	10.0	11.0	36.5	20.2
Green Ext Time (p_c), s	0.0	3.1	0.9	0.0	0.0	1.9	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	16	398	45	0	310
Future Vol, veh/h	0	16	398	45	0	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	190	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	433	49	0	337

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	433	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	*770	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*770	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	770	-
HCM Lane V/C Ratio	-	-	0.023	-
HCM Control Delay (s)	-	-	9.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	268	1	10	440
Future Vol, veh/h	0	7	268	1	10	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	291	1	11	478

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	792	292	0	0	292	0
Stage 1	292	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	358	747	-	-	1270	-
Stage 1	758	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	354	747	-	-	1270	-
Mov Cap-2 Maneuver	354	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	747	1270	-
HCM Lane V/C Ratio	-	-	0.01	0.009	-
HCM Control Delay (s)	-	-	9.9	7.9	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	14	255	2	22	418
Future Vol, veh/h	1	14	255	2	22	418
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	15	277	2	24	454

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	780	278	0	0	279	0
Stage 1	278	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	364	761	-	-	1284	-
Stage 1	769	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	355	761	-	-	1284	-
Mov Cap-2 Maneuver	355	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	707	1284	-
HCM Lane V/C Ratio	-	-	0.023	0.019	-
HCM Control Delay (s)	-	-	10.2	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	69	188	1	113	306
Future Vol, veh/h	0	69	188	1	113	306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	75	204	1	123	333

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	784	205	0	0	205	0
Stage 1	205	-	-	-	-	-
Stage 2	579	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	362	836	-	-	1366	-
Stage 1	829	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	836	-	-	1366	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	836	1366	-
HCM Lane V/C Ratio	-	-	0.09	0.09	-
HCM Control Delay (s)	-	-	9.7	7.9	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	36	1	168	21	0
Future Vol, veh/h	270	36	1	168	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	293	39	1	183	23	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	498	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	185	-
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	-	-	1227	-	532	727
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	847	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	531	727
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	846	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	531	-	-	1227	-
HCM Lane V/C Ratio	0.043	-	-	0.001	-
HCM Control Delay (s)	12.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	197	73	2	126	43	2
Future Vol, veh/h	197	73	2	126	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	214	79	2	137	47	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	293	0	395	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	141	-
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	-	-	1269	-	610	785
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1269	-	609	785
Mov Cap-2 Maneuver	-	-	-	-	609	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	615	-	-	1269	-
HCM Lane V/C Ratio	0.08	-	-	0.002	-
HCM Control Delay (s)	11.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	177	114	3	1	14
Future Vol, veh/h	22	177	114	3	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	192	124	3	1	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	127	0	-	0	366	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	240	-
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	1459	-	-	-	634	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1459	-	-	-	623	924
Mov Cap-2 Maneuver	-	-	-	-	623	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	895
HCM Lane V/C Ratio	0.016	-	-	-	0.018
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	389	25	34	226	84	23
Future Vol, veh/h	389	25	34	226	84	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	423	27	37	246	91	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	450	0	743	423
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	320	-
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	-	-	1110	-	383	631
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	736	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1110	-	370	631
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	406	-	-	1110	-
HCM Lane V/C Ratio	0.286	-	-	0.033	-
HCM Control Delay (s)	17.4	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	288	1548	43	2848	143	130	79	73	15	375
v/c Ratio	0.64	0.45	0.17	0.95	0.15	0.37	0.48	0.48	0.14	0.68
Control Delay	56.5	10.2	5.5	27.9	1.5	53.7	31.4	57.6	55.6	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	10.2	5.5	27.9	1.5	53.7	31.4	57.6	55.6	42.6
Queue Length 50th (ft)	107	198	5	~854	9	45	19	57	11	128
Queue Length 95th (ft)	160	266	m7	#949	m4	84	67	91	33	169
Internal Link Dist (ft)		453		1015			198		312	
Turn Bay Length (ft)	290		325			75		130		110
Base Capacity (vph)	458	3431	311	2986	974	365	215	155	155	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.45	0.14	0.95	0.15	0.36	0.37	0.47	0.10	0.67

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Group Flow (vph)	71	1380	80	2405	478	60	54	5	147
v/c Ratio	0.42	0.46	0.30	0.78	0.83	0.16	0.13	0.03	0.50
Control Delay	26.2	13.2	9.3	21.5	55.9	41.8	0.7	36.2	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	13.2	9.3	21.5	55.9	41.8	0.7	36.2	26.2
Queue Length 50th (ft)	24	164	18	502	174	38	0	3	19
Queue Length 95th (ft)	75	236	37	640	223	83	0	14	52
Internal Link Dist (ft)		1015		408		476			317
Turn Bay Length (ft)	460		200		285			230	
Base Capacity (vph)	177	2998	272	3064	574	421	448	188	612
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.46	0.29	0.78	0.83	0.14	0.12	0.03	0.24

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	939	87	414	2373	109	152	30	179	46	18
v/c Ratio	0.05	0.44	0.09	0.79	0.87	0.09	0.50	0.26	0.37	0.32	0.09
Control Delay	6.3	15.1	0.2	20.2	16.6	1.3	53.6	58.5	8.8	53.2	49.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	15.1	0.2	20.2	16.6	1.3	53.6	58.5	8.8	53.2	49.1
Queue Length 50th (ft)	1	227	0	88	615	0	54	23	8	35	6
Queue Length 95th (ft)	5	283	0	#252	#1191	18	85	54	64	66	18
Internal Link Dist (ft)		641			702			339			417
Turn Bay Length (ft)	450			500			300			150	
Base Capacity (vph)	153	2122	1018	525	2729	1248	301	201	488	144	378
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	0.05	0.44	0.09	0.79	0.87	0.09	0.50	0.15	0.37	0.32	0.05

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	402	754	1863	154	607	502
v/c Ratio	0.70	0.28	0.94	0.17	1.09dr	0.35
Control Delay	53.8	4.9	36.6	5.3	41.9	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	4.9	36.6	5.3	41.9	0.7
Queue Length 50th (ft)	151	86	716	16	134	0
Queue Length 95th (ft)	204	110	#931	50	203	0
Internal Link Dist (ft)		561	537		515	
Turn Bay Length (ft)	485				150	
Base Capacity (vph)	629	2690	1978	932	747	1441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.28	0.94	0.17	0.81	0.35

Intersection Summary

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

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	110	754	1818	48	72	237
v/c Ratio	0.54	0.27	0.75	0.04	0.36	0.80
Control Delay	21.8	3.8	16.5	2.6	52.5	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	3.8	16.5	2.6	52.5	40.9
Queue Length 50th (ft)	15	65	446	0	52	76
Queue Length 95th (ft)	77	110	658	15	94	161
Internal Link Dist (ft)		403	466		542	
Turn Bay Length (ft)	400			400	200	
Base Capacity (vph)	220	2818	2408	1092	295	377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.27	0.75	0.04	0.24	0.63

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	97	272	207	109	505	768	408	495	60	291	190	179
v/c Ratio	0.24	0.30	0.13	0.18	0.56	0.49	0.90	0.79	0.04	0.70	0.36	0.11
Control Delay	12.8	20.8	0.2	12.1	25.9	1.1	74.4	56.8	0.0	60.2	47.3	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	12.8	20.8	0.2	12.1	25.9	1.1	74.4	56.8	0.0	60.2	47.3	0.1
Queue Length 50th (ft)	32	129	0	36	281	0	162	192	0	112	68	0
Queue Length 95th (ft)	58	193	0	64	392	0	#251	255	0	159	105	0
Internal Link Dist (ft)		370			768			579			785	
Turn Bay Length (ft)	300		425	250			250			600		500
Base Capacity (vph)	408	894	1583	605	895	1583	457	652	1583	457	589	1583
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	0.24	0.30	0.13	0.18	0.56	0.49	0.89	0.76	0.04	0.64	0.32	0.11

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	473	3505	47	2579	163	185	143	141	41	505
v/c Ratio	0.87	0.98	0.44	0.93	0.18	0.65	0.71	0.75	0.30	0.66
Control Delay	67.2	28.0	17.8	28.6	2.0	65.6	56.3	70.0	57.8	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	28.0	17.8	28.6	2.0	65.6	56.3	70.0	57.8	37.8
Queue Length 50th (ft)	186	~920	9	713	4	74	76	96	30	164
Queue Length 95th (ft)	#274	#1115	m12	m750	m10	#135	#158	#170	68	227
Internal Link Dist (ft)		453		1015			198		312	
Turn Bay Length (ft)	290		325			75		130		110
Base Capacity (vph)	551	3588	107	2769	920	285	218	187	155	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.98	0.44	0.93	0.18	0.65	0.66	0.75	0.26	0.65

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Group Flow (vph)	190	2963	155	2016	609	130	239	43	174
v/c Ratio	0.81	0.95	0.82	0.67	1.08	0.45	0.63	0.20	0.53
Control Delay	37.0	22.6	59.9	18.3	101.6	52.6	28.4	39.1	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	22.6	59.9	18.3	101.6	52.6	28.4	39.1	37.2
Queue Length 50th (ft)	112	457	68	374	~246	94	71	26	40
Queue Length 95th (ft)	m120	m471	#191	427	#323	160	163	58	77
Internal Link Dist (ft)		1015		408		476			317
Turn Bay Length (ft)	460		200		285			230	
Base Capacity (vph)	240	3117	188	2995	566	290	377	217	342
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.95	0.82	0.67	1.08	0.45	0.63	0.20	0.51

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	9	2074	152	258	1892	104	130	60	390	190	63
v/c Ratio	0.04	0.96	0.15	0.75	0.69	0.08	0.34	0.34	0.83	1.11	0.22
Control Delay	4.8	35.5	1.5	45.6	9.8	1.1	46.4	55.3	49.5	149.0	45.6
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	4.8	35.5	1.5	45.6	9.8	1.1	46.4	55.3	49.5	149.0	45.6
Queue Length 50th (ft)	1	787	0	138	302	0	45	44	230	~151	21
Queue Length 95th (ft)	5	#1008	21	#292	628	15	73	86	#377	#284	43
Internal Link Dist (ft)		641			702			339			417
Turn Bay Length (ft)	450			500			300			150	
Base Capacity (vph)	204	2156	1008	346	2746	1242	377	248	468	171	412
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.96	0.15	0.75	0.69	0.08	0.34	0.24	0.83	1.11	0.15

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.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	886	1868	1460	152	486	320
v/c Ratio	0.84	0.64	0.86	0.18	0.74	0.22
Control Delay	46.7	5.7	35.0	7.0	23.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	5.7	35.0	7.0	23.4	0.4
Queue Length 50th (ft)	322	219	525	16	62	0
Queue Length 95th (ft)	408	375	#739	58	113	0
Internal Link Dist (ft)		561	537		515	
Turn Bay Length (ft)	485				150	
Base Capacity (vph)	1083	2913	1705	822	849	1441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.64	0.86	0.18	0.57	0.22

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	321	1587	1272	123	109	209
v/c Ratio	0.74	0.55	0.56	0.12	0.50	0.57
Control Delay	21.8	5.1	14.2	2.2	56.7	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	5.1	14.2	2.2	56.7	12.8
Queue Length 50th (ft)	68	175	277	0	80	0
Queue Length 95th (ft)	185	273	387	25	134	68
Internal Link Dist (ft)		403	466		542	
Turn Bay Length (ft)	400			400	200	
Base Capacity (vph)	454	2870	2273	1060	324	449
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.55	0.56	0.12	0.34	0.47

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	193	533	473	130	299	471	250	414	82	687	568	166
v/c Ratio	0.39	0.68	0.30	0.42	0.38	0.30	0.58	0.74	0.05	0.88	0.65	0.10
Control Delay	18.4	33.7	0.5	19.4	26.1	0.5	54.7	56.4	0.1	57.9	45.0	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	18.4	33.7	0.5	19.4	26.1	0.5	54.7	56.4	0.1	57.9	45.0	0.1
Queue Length 50th (ft)	78	334	0	51	160	0	95	161	0	264	205	0
Queue Length 95th (ft)	123	466	0	86	235	0	134	217	0	#357	279	0
Internal Link Dist (ft)		370			768			579			785	
Turn Bay Length (ft)	300		425	250			250			600		500
Base Capacity (vph)	496	788	1583	307	783	1583	772	589	1583	801	870	1583
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	0.39	0.68	0.30	0.42	0.38	0.30	0.32	0.70	0.05	0.86	0.65	0.10

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	279	1631	158	47	3435	147	137	84	79	16	405
v/c Ratio	0.78	0.44	0.13	0.18	0.98	0.13	0.44	0.52	0.63	0.13	0.90
Control Delay	68.1	8.1	1.3	2.1	20.3	0.4	57.3	32.6	72.6	54.9	63.9
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	68.1	8.1	1.3	2.1	20.3	0.4	57.3	32.6	72.6	54.9	63.9
Queue Length 50th (ft)	111	191	0	2	~942	4	48	19	~68	12	~196
Queue Length 95th (ft)	#190	232	21	m3	m#1054	m0	#109	71	104	35	198
Internal Link Dist (ft)		453			1015			198		312	
Turn Bay Length (ft)	290			325			75		130		110
Base Capacity (vph)	360	3681	1189	321	3489	1096	310	178	126	139	452
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	0.78	0.44	0.13	0.15	0.98	0.13	0.44	0.47	0.63	0.12	0.90

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Group Flow (vph)	76	1423	304	82	3084	576	82	54	5	185
v/c Ratio	0.40	0.46	0.29	0.30	0.99	0.90	0.20	0.12	0.02	0.52
Control Delay	23.9	15.0	3.6	9.3	39.1	59.6	40.6	0.6	34.2	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	15.0	3.6	9.3	39.1	59.6	40.6	0.6	34.2	27.9
Queue Length 50th (ft)	27	203	0	18	~926	209	51	0	3	30
Queue Length 95th (ft)	m74	280	61	38	#1093	#273	104	0	13	65
Internal Link Dist (ft)		1015			408		476			317
Turn Bay Length (ft)	460			200		285			230	
Base Capacity (vph)	194	3067	1064	275	3104	640	441	464	221	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.46	0.29	0.30	0.99	0.90	0.19	0.12	0.02	0.28

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	1015	272	539	2775	505	33	251	49	19
v/c Ratio	0.04	0.51	0.35	0.76	0.75	0.88	0.20	0.32	0.24	0.09
Control Delay	11.5	29.8	4.4	27.4	13.3	64.3	53.9	5.7	44.8	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	29.8	4.4	27.4	13.3	64.3	53.9	5.7	44.8	48.1
Queue Length 50th (ft)	2	227	0	243	393	192	25	18	36	6
Queue Length 95th (ft)	6	275	57	#422	740	240	57	70	65	19
Internal Link Dist (ft)		641			702		339			417
Turn Bay Length (ft)	450			500		300			150	
Base Capacity (vph)	213	1974	780	711	3686	571	326	792	245	549
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.51	0.35	0.76	0.75	0.88	0.10	0.32	0.20	0.03

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	533	841	2120	220	758	616
v/c Ratio	0.93	0.32	1.07	0.24	1.30dr	0.43
Control Delay	73.7	5.3	70.1	5.5	69.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.7	5.3	70.1	5.5	69.6	0.9
Queue Length 50th (ft)	212	96	~960	26	~225	0
Queue Length 95th (ft)	#316	121	#1097	65	#357	0
Internal Link Dist (ft)		561	537		515	
Turn Bay Length (ft)	485				150	
Base Capacity (vph)	572	2654	1975	935	749	1441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.32	1.07	0.24	1.01	0.43

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	137	798	43	5	1945	64	130	18	91	293
v/c Ratio	0.49	0.36	0.04	0.01	1.04	0.07	0.62	0.07	0.25	0.82
Control Delay	59.0	12.1	0.1	8.8	60.8	0.3	53.2	25.7	34.3	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	12.1	0.1	8.8	60.8	0.3	53.2	25.7	34.3	45.1
Queue Length 50th (ft)	53	145	0	1	~899	0	100	5	52	123
Queue Length 95th (ft)	86	241	0	6	#1037	2	129	25	95	#233
Internal Link Dist (ft)		403			466			312		542
Turn Bay Length (ft)	400		400	400		400	200		200	
Base Capacity (vph)	289	2236	1043	430	1872	893	213	349	365	395
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.36	0.04	0.01	1.04	0.07	0.61	0.05	0.25	0.74

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.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	86	250	141	136	542	1024	380	636	87	351	201	158
v/c Ratio	0.18	0.16	0.09	0.22	0.33	0.65	0.85	0.82	0.05	0.88	0.28	0.10
Control Delay	13.8	21.1	0.1	14.0	22.2	2.1	69.2	54.0	0.1	75.5	40.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	21.1	0.1	14.0	22.2	2.1	69.2	54.0	0.1	75.5	40.7	0.1
Queue Length 50th (ft)	30	62	0	49	145	0	150	245	0	139	68	0
Queue Length 95th (ft)	57	91	0	84	194	0	#225	308	0	#222	102	0
Internal Link Dist (ft)		370			768			579			785	
Turn Bay Length (ft)	300		425	250			250			600		500
Base Capacity (vph)	478	1564	1583	631	1645	1583	457	855	1583	400	796	1583
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	0.18	0.16	0.09	0.22	0.33	0.65	0.83	0.74	0.05	0.88	0.25	0.10

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	458	3670	230	47	2842	168	195	142	148	42	484
v/c Ratio	0.73	0.97	0.19	0.36	0.98	0.17	0.69	0.71	0.95	0.29	0.60
Control Delay	53.7	25.8	1.4	10.8	26.2	1.1	67.6	59.4	109.8	57.0	34.9
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	53.7	25.8	1.4	10.8	26.2	1.1	67.6	59.4	109.8	57.0	34.9
Queue Length 50th (ft)	172	918	6	6	~820	3	78	83	104	31	151
Queue Length 95th (ft)	230	#1153	28	m7	m#913	m5	#144	#168	#223	68	211
Internal Link Dist (ft)		453			1015			198		312	
Turn Bay Length (ft)	290			325			75		130		110
Base Capacity (vph)	657	3768	1214	132	2899	961	284	210	155	155	828
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	0.70	0.97	0.19	0.36	0.98	0.17	0.69	0.68	0.95	0.27	0.58

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	NER	SWL	SWT
Lane Group Flow (vph)	223	3097	668	159	2478	587	158	226	43	212
v/c Ratio	0.91	0.99	0.59	0.85	0.85	1.03	0.55	0.60	0.18	0.61
Control Delay	48.7	28.7	7.7	64.0	24.8	87.8	56.1	24.2	37.9	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	28.7	7.7	64.0	24.8	87.8	56.1	24.2	37.9	40.6
Queue Length 50th (ft)	139	594	132	70	554	~222	117	51	26	51
Queue Length 95th (ft)	m149	m#783	m143	#198	626	#315	191	139	57	93
Internal Link Dist (ft)		1015			408		476			317
Turn Bay Length (ft)	460			200		285			230	
Base Capacity (vph)	244	3135	1130	186	2918	569	289	375	246	353
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.99	0.59	0.85	0.85	1.03	0.55	0.60	0.17	0.60

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	9	2421	549	275	1973	386	49	511	190	65
v/c Ratio	0.04	0.91	0.55	0.62	0.52	0.77	0.25	0.90	0.88	0.23
Control Delay	6.5	32.4	7.1	34.3	8.0	55.1	51.6	53.1	82.2	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	32.4	7.1	34.3	8.0	55.1	51.6	53.1	82.2	45.2
Queue Length 50th (ft)	2	611	58	141	198	139	35	324	133	21
Queue Length 95th (ft)	6	692	152	242	357	187	73	#525	#242	43
Internal Link Dist (ft)		641			702		339			417
Turn Bay Length (ft)	450			500		300			150	
Base Capacity (vph)	207	2664	1005	445	3760	504	326	567	217	498
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.91	0.55	0.62	0.52	0.77	0.15	0.90	0.88	0.13

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1105	2140	1503	207	614	384
v/c Ratio	0.97	0.76	0.98	0.27	0.86	0.27
Control Delay	60.4	8.5	52.6	7.4	39.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	8.5	52.6	7.4	39.0	0.5
Queue Length 50th (ft)	437	377	592	25	127	0
Queue Length 95th (ft)	#587	456	#763	73	#213	0
Internal Link Dist (ft)		561	537		515	
Turn Bay Length (ft)	485				150	
Base Capacity (vph)	1139	2826	1533	772	733	1441
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.76	0.98	0.27	0.84	0.27

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	343	1870	141	11	1384	130	82	13	96	242
v/c Ratio	0.63	0.72	0.12	0.06	0.69	0.13	0.47	0.08	0.42	0.67
Control Delay	52.6	13.3	1.8	7.8	22.9	1.3	53.8	36.4	47.6	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	13.3	1.8	7.8	22.9	1.3	53.8	36.4	47.6	16.8
Queue Length 50th (ft)	129	336	0	2	384	0	63	6	66	7
Queue Length 95th (ft)	173	782	27	9	592	16	95	24	108	82
Internal Link Dist (ft)		403			466			312		542
Turn Bay Length (ft)	400		400	400		400	200		200	
Base Capacity (vph)	574	2610	1204	177	2006	972	174	325	227	481
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.72	0.12	0.06	0.69	0.13	0.47	0.04	0.42	0.50

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	205	668	565	196	347	639	266	561	125	1024	797	188
v/c Ratio	0.54	0.68	0.36	0.78	0.33	0.40	0.59	0.79	0.08	0.94	0.61	0.12
Control Delay	32.3	42.5	0.6	47.7	34.1	0.8	54.4	54.9	0.1	57.1	33.8	0.2
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	32.3	42.5	0.6	47.7	34.1	0.8	54.4	54.9	0.1	57.1	33.8	0.2
Queue Length 50th (ft)	106	242	0	101	110	0	101	219	0	397	262	0
Queue Length 95th (ft)	166	309	0	#179	153	0	140	285	0	#529	347	0
Internal Link Dist (ft)		370			768			579			785	
Turn Bay Length (ft)	300		425	250			250			600		500
Base Capacity (vph)	378	987	1583	251	1046	1583	1115	709	1583	1087	1306	1583
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	0.54	0.68	0.36	0.78	0.33	0.40	0.24	0.79	0.08	0.94	0.61	0.12

Intersection Summary

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