Traffic Impact Study

The Annex at Rocky Fork

Gahanna, Ohio

Prepared for

Gallas Zadeh Development

By

Trans Associates Engineering Consultants, Inc.

March 3, 2015

GALZAD - 14296

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March 3, 2015

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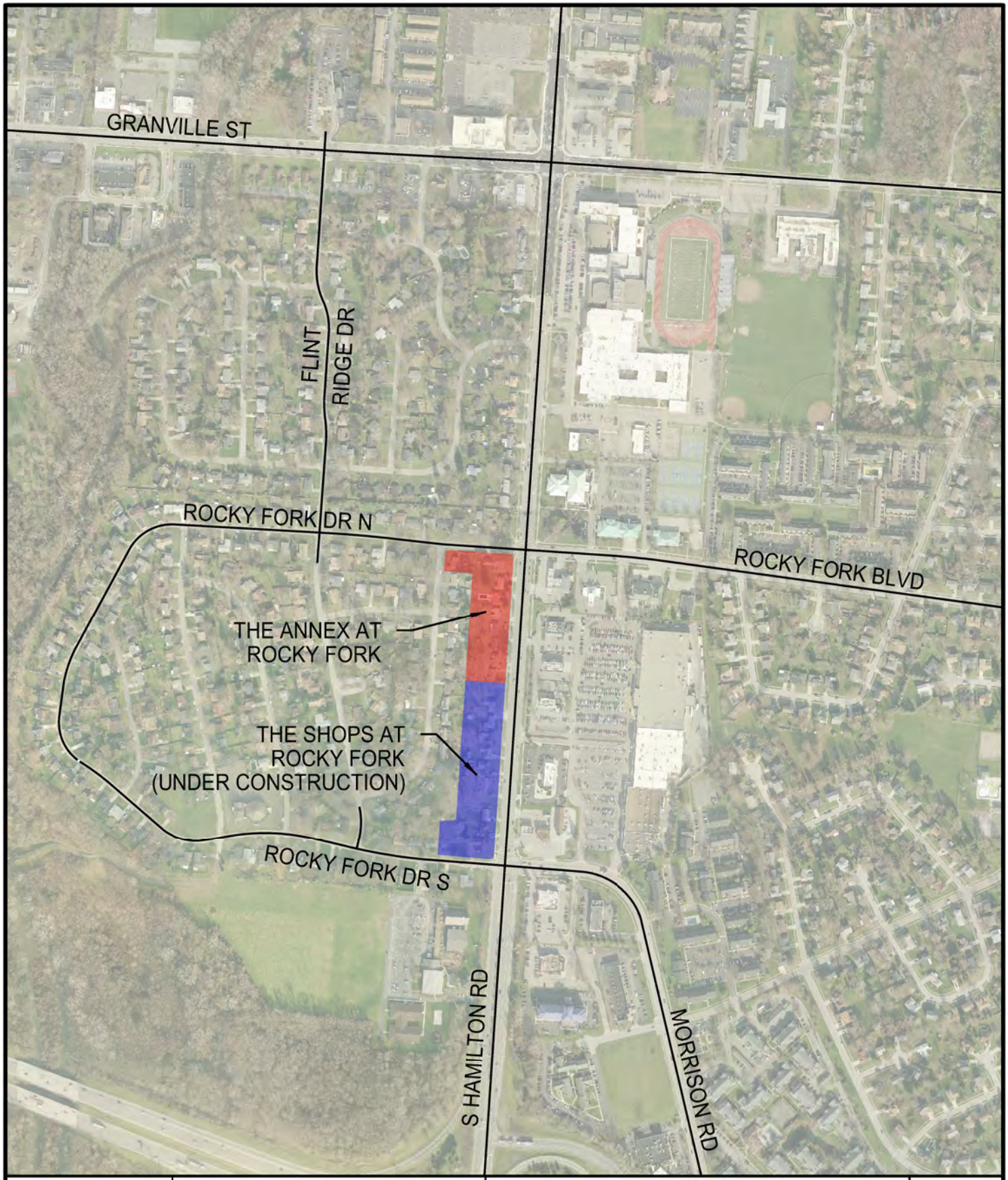
Introduction

Gallas Zadeh Development has plans to construct a multi-use development off of Hamilton Road in Gahanna, Ohio. This development, herein called “The Annex at Rocky Fork”, is to be located near the southwest quadrant of the intersection at Hamilton Road and Rocky Fork Drive North/Rocky Fork Boulevard. The preliminary site plan is contained in Appendix A and shows that the proposed development will contain a total of 13,900 sq. ft. of retail/commercial space. Two new access points are being proposed with the construction this development. A right-in/right-out drive will be positioned about 190’ south of the intersection at Hamilton Road and Rocky Fork North. A full access driveway will be located roughly 275’ west of the signalized intersection.

The Annex is to be part of a larger development taking place along Hamilton Road between Rocky Fork North and South. The first portion of this development was entitled “The Shops at Rocky Fork”, and the associated traffic study was completed by Trans Associated in December of 2013. This study was subsequently approved by the City of Gahanna, and the development is currently under construction. The Master Plan for these developments is also found in Appendix A and shows that there will be cross access between the Shops at Rocky Fork and the Annex at Rocky Fork. The locations of these developments in Gahanna are depicted in Figure 1.

The additional traffic generated by the redevelopment of this land may alter the traffic patterns on the adjacent streets, primarily at the intersection of Hamilton Road and Rocky Fork Drive North/Rocky Fork Boulevard. In order to identify any potential issues, the City of Gahanna requires a traffic study prior to rezoning. This study will focus on evaluating the operation of the proposed access points, including lane usages and potential queuing. At the signalized intersections on Hamilton Road, the main objective is to assess the phasing/timing of the signals. With this information, the necessary operational and geometric changes associated with the construction of this development will be determined.



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PROJECT NO.	GALZAD - 14296
PROJECT:	THE ANNEX AT ROCKY FORK
TITLE:	SITE LOCATION

FIGURE 1

DATE 1/6/15
D.B. AMC
C.B. MM
REV. ____

Study Parameters

The requirements of this study were outlined based on meetings held with the developer and City representatives. In addition to site access points, it will focus mainly on the following intersections:

1. Hamilton Road and Morrison Road/Rocky Fork Drive South
2. Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North
3. Rocky Fork Drive North and Flint Ridge Drive
4. Granville Street and Flint Ridge Drive

In order to properly evaluate the effect that the newly generated traffic has on surrounding operating conditions, the following scenarios will be analyzed:

- "No Build" – Existing traffic plus traffic generated by the approved Shops at Rocky Fork development
- "Build" – "No Build" traffic plus traffic generated by the proposed Annex at Rocky Fork development

By comparing the results of these analyses, the specific impact of the development can be established.

Operating conditions were first analyzed for the opening year (2016). The City also requested that a 20-year horizon be considered (2036). AM, midday, and PM peak hours were evaluated for each study year.

Existing Conditions and Traffic Volumes

The study intersections on Hamilton Road are signalized and the northbound and southbound through movements are coordinated. The existing cycle length is 110 seconds in the AM and 120 seconds during the midday and PM.

At the intersection with Morrison Road/Rocky Fork South, the eastbound approach includes a shared left/through lane and a separate right turn lane. Existing signal timings as obtained from the City of Gahanna (Appendix B) show that the eastbound and westbound phases are split due to the shared lane usages on Morrison Road and Rocky Fork Drive South. At Hamilton and Rocky Fork Boulevard/Rocky Fork Drive North, there are protected left turn phases on the northbound and southbound approaches while eastbound and westbound left turns operate as permitted only.

Hamilton Road has a five lane cross section north of Morrison, with two through lanes in each direction as well as a two-way left turn lane. The speed limit on Hamilton Road is 35 mph while all other streets have a posted limit of 25 mph. A driveway is located approximately 600' north of the signalized intersection at Morrison Road/Rocky Fork South, providing access to the existing retail/commercial development located on the east side of Hamilton Road. Vehicles may turn left or right into this driveway, but the outbound movement is restricted to right turn only.

Turning movement counts were conducted during the AM (7:00 – 9:00 AM), midday (11:00 AM – 1:00 PM), and PM (4:00 – 6:00 PM) weekday peak periods. Copies of all count data are contained in Appendix C. Based on this data, the commuter peak hours have been defined as follows:

- AM peak hour: 7:15 – 8:15 AM
- Midday peak hour: 12:00 – 1:00 PM
- PM peak hour: 4:45 – 5:45 PM

Turning movement counts had previously been performed for the Shops at Rock Fork traffic study. These counts were conducted in November of 2013 and include the intersection of Hamilton Road and Morrison Road/Rocky Fork Drive South as well as the intersection of Hamilton Road and the existing driveway. This data should still represent existing conditions and was thus utilized in this study.

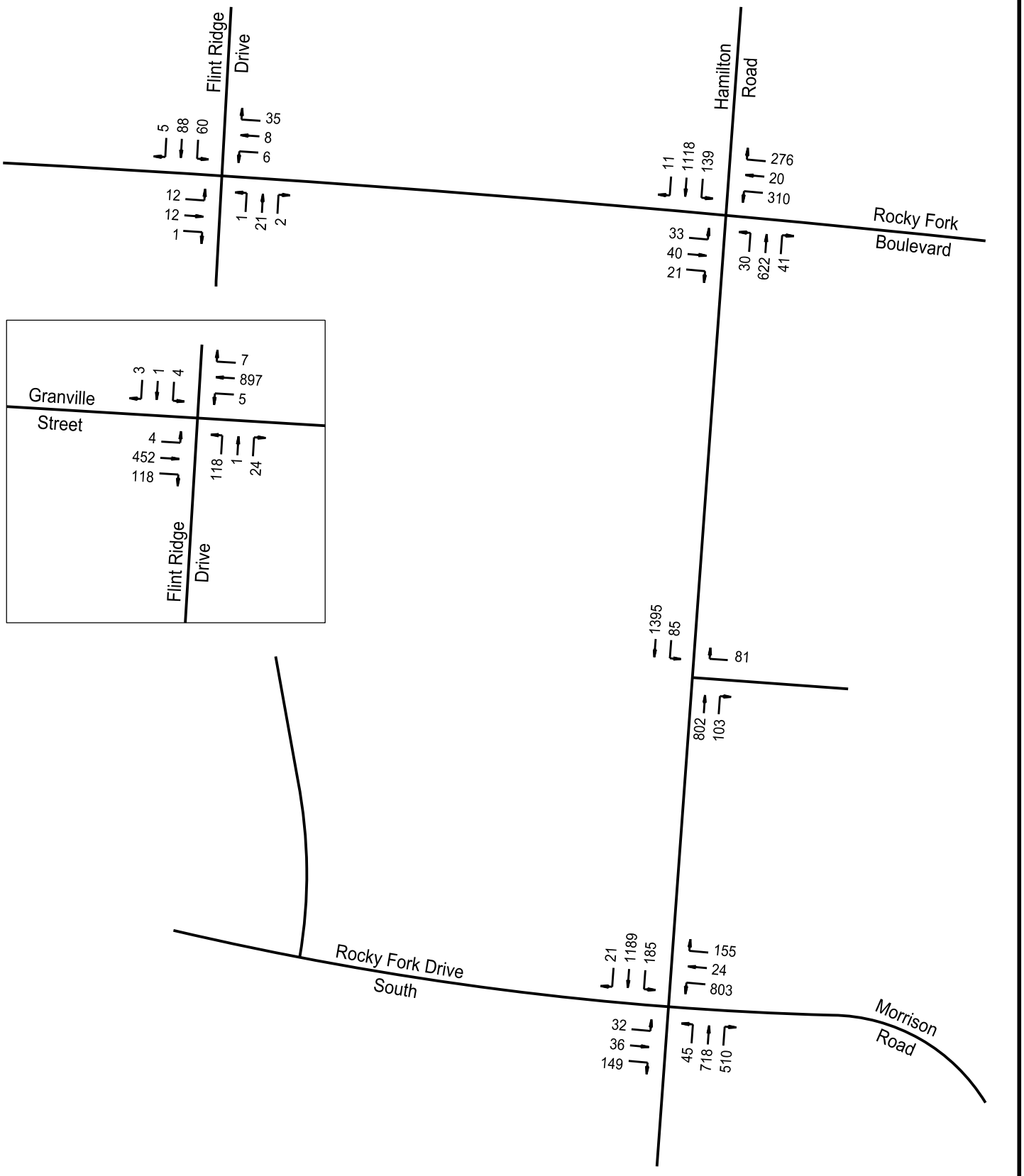
Due to time constraints, the intersection of Granville Street and Flint Ridge Drive had to be counted in late December of 2014. Given that this time frame falls within the holiday season, this count may not accurately reflect "typical" traffic volumes. In order to address this issue, a new count was performed at the intersection of Hamilton Road and Morrison Road/Rocky Fork Drive South and was compared to the November 2013 data. Adjustment factors were then calculated separately for residential traffic (traffic entering and existing Rocky Fork Drive South) and general background traffic (traffic on Hamilton Road and Morrison Road). Table 1 summarizes the adjustments factors that were determined for each peak hour.

Table 1. Summary of Traffic Adjustment Factors

Factor	Peak Hour		
	AM	Midday	PM
Residential	2.4	1.0	1.5
General Background	1.5	1.0	1.2

Based on this, no adjustments were made to the data that was collected during the midday peak hour. AM and PM peak traffic hour volumes were increased using the factors in Table 1. Residential factors were applied to traffic entering and exiting Flint Ridge Drive. General background factors were applied to through traffic on Granville Street. The traffic entering and exiting the library driveway was not adjusted.

Traffic counts at the remaining study intersections were collected in January of 2015. The counts were performed after the holiday season, and the data should be relatively accurate. The resulting current AM, midday, and PM peak hour volumes are detailed in Figures 2, 3, and 4, respectively.



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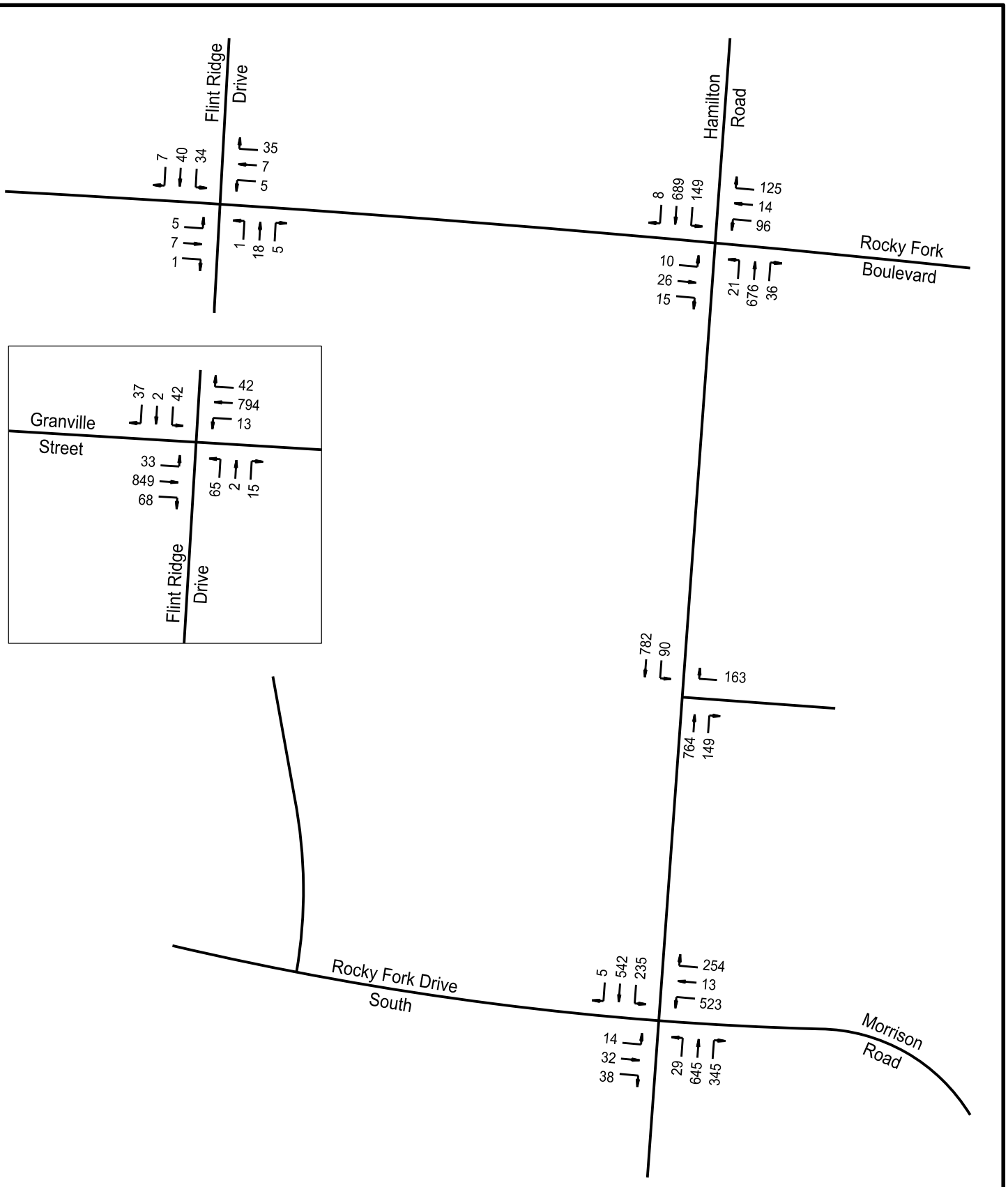
PROJECT: THE ANNEX AT ROCKY FORK

TITLE: CURRENT TRAFFIC VOLUMES AM PEAK HOUR

FIGURE 2

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.



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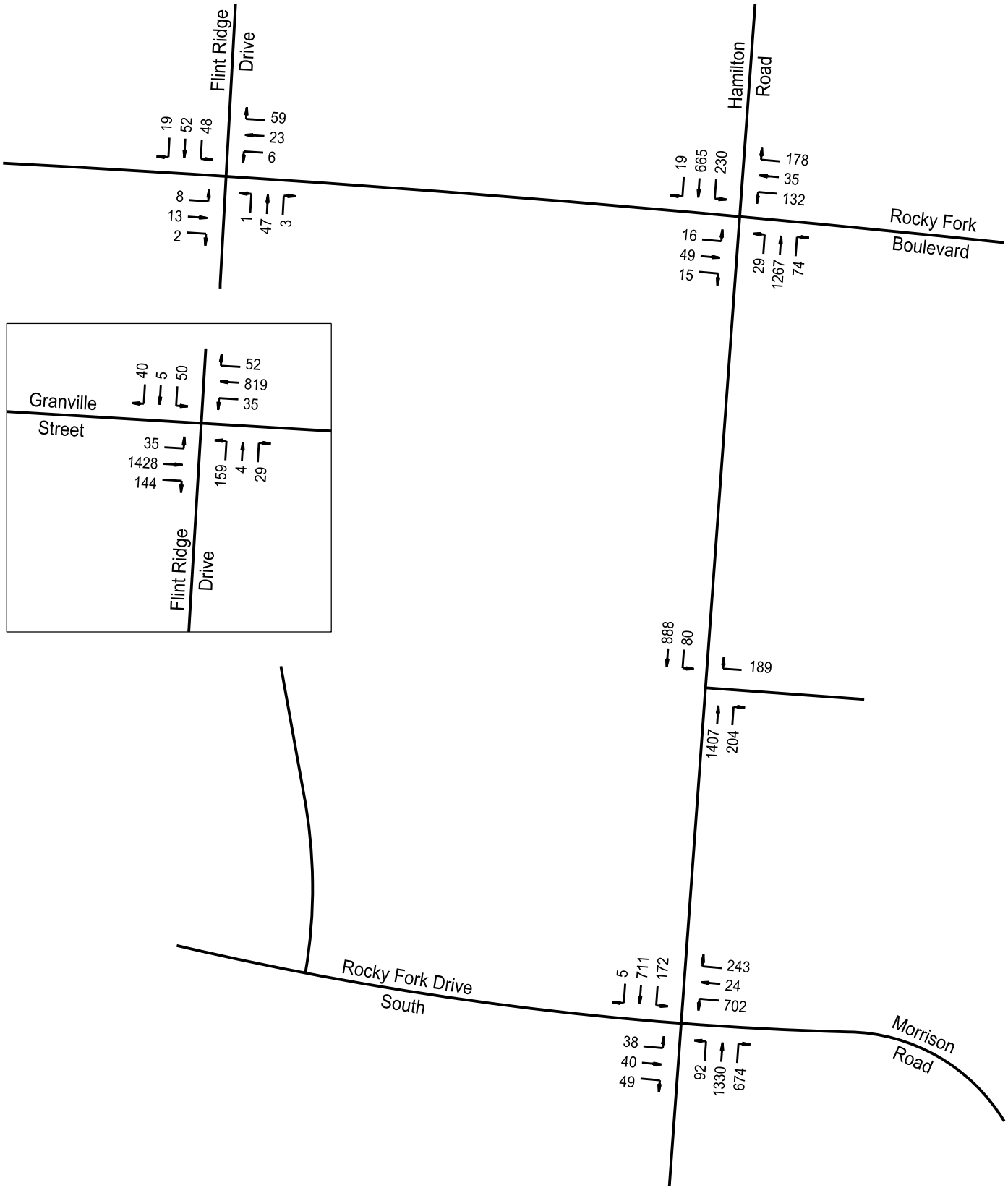
PROJECT NO. GALZAD - 14296

PROJECT: THE ANNEX AT ROCKY FORK

TITLE: CURRENT TRAFFIC VOLUMES MIDDAY PEAK HOUR

FIGURE 3

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.



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PROJECT: THE ANNEX AT ROCKY FORK

TITLE: CURRENT TRAFFIC VOLUMES PM PEAK HOUR

FIGURE 4

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.

No Build Conditions and Traffic Volumes

"No build" conditions refer to existing conditions plus the construction of access points associated with the Shops at Rocky Fork development. Access configurations and locations were determined from the provided site plan (see Appendix A). The resulting lane usages and traffic for the "no build" condition are found in Figure 5.

"No build" traffic volumes were determined by adding traffic volumes generated by the Shops at Rocky Fork development to background traffic volumes. The assignment of these traffic volumes was detailed in the associated traffic study. The volumes generated by the Shops at Rocky Fork are shown in Figures 6 – 8.

Minimal growth is expected between the current year (2015) and opening day (2016). As such, the current traffic volumes illustrated in Figures 2 – 4 were used directly for opening year background traffic volumes. After adding traffic from the Shops at Rocky Fork, the resulting 2016 "no build" traffic volumes are found in Figures 9 – 11.

For design year (2036) analyses, the traffic volumes illustrated in Figures 3 – 5 had to be inflated to account for potential traffic growth throughout the area. Based on information provided by the City of Gahanna's Engineering Division, a linear annual growth factor of 1.0% was applied to the background traffic over a 20 year horizon (Appendix D).

The resulting design year (2036) background traffic volumes for the AM, midday, and PM peak hours are presented in Figures 12 – 14. Figures 15 – 17 illustrate the total 2036 "no build" traffic volumes, with the addition of traffic generated by the Shops at Rocky Fork.

Build Traffic Volumes

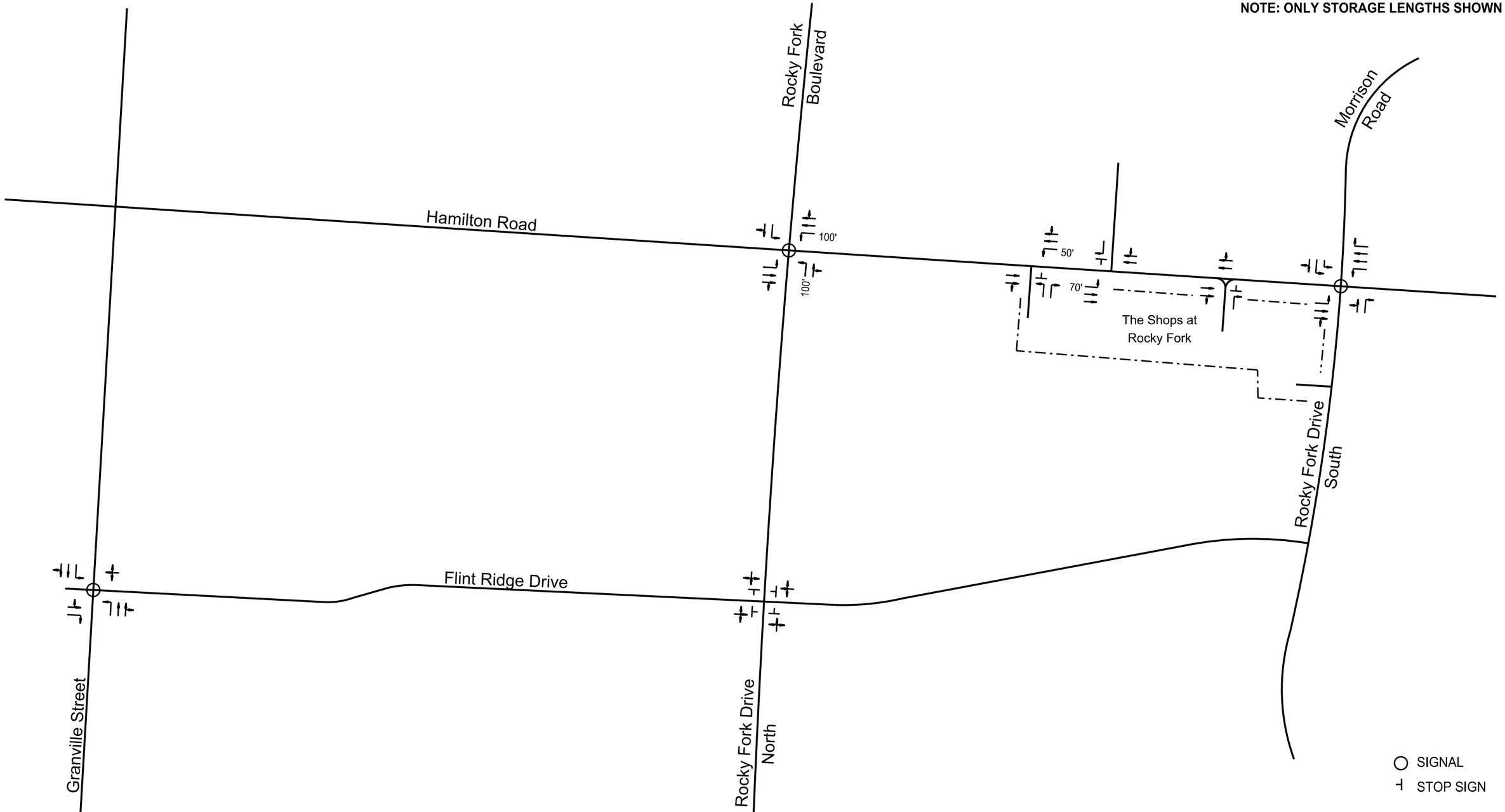
Site-generated traffic volumes were derived and assigned to the roadway system using the procedure outlined below. Complete trip generation and assignment data is located in Appendix E.

Trip Generation

The ITE *Trip Generation Manual (9th Edition)* was consulted for determining trip generation rates of the proposed development. As the site plan in Appendix A shows, the Annex at Rocky Fork development will include a 2,000-sf coffee shop with a drive-through window on the north side nearest Rocky Fork Drive North. South of that will be 8,000-sf of retail/restaurant space; it was assumed that this building would contain a 3,600-sf sit-down restaurant, 2,200 sf ft of a fast casual restaurant and 2,200 sf of retail. Lastly, the development will contain a 4,000-sf bank with a drive-through window on the south side nearest the Shops at Rocky Fork.

A coffee/donut shop with drive-through window is designated as ITE Land Use Code 937. However, local data was available from the approved Tim Horton's traffic impact study (in the northeast quadrant of the intersection at Hamilton and Morrison Roads). This data was thought to provide a more accurate representation of the hourly trip distribution and thus was utilized in place of ITE trip generation data (see Appendix E).

NOTE: ONLY STORAGE LENGTHS SHOWN



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PROJECT NO. GALZAD - 14296

PROJECT: THE ANNEX AT ROCKY FORK

TITLE: NO BUILD LANE USAGES AND TRAFFIC CONTROL

FIGURE 5

DATE 1/19/15
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C.B. MIM
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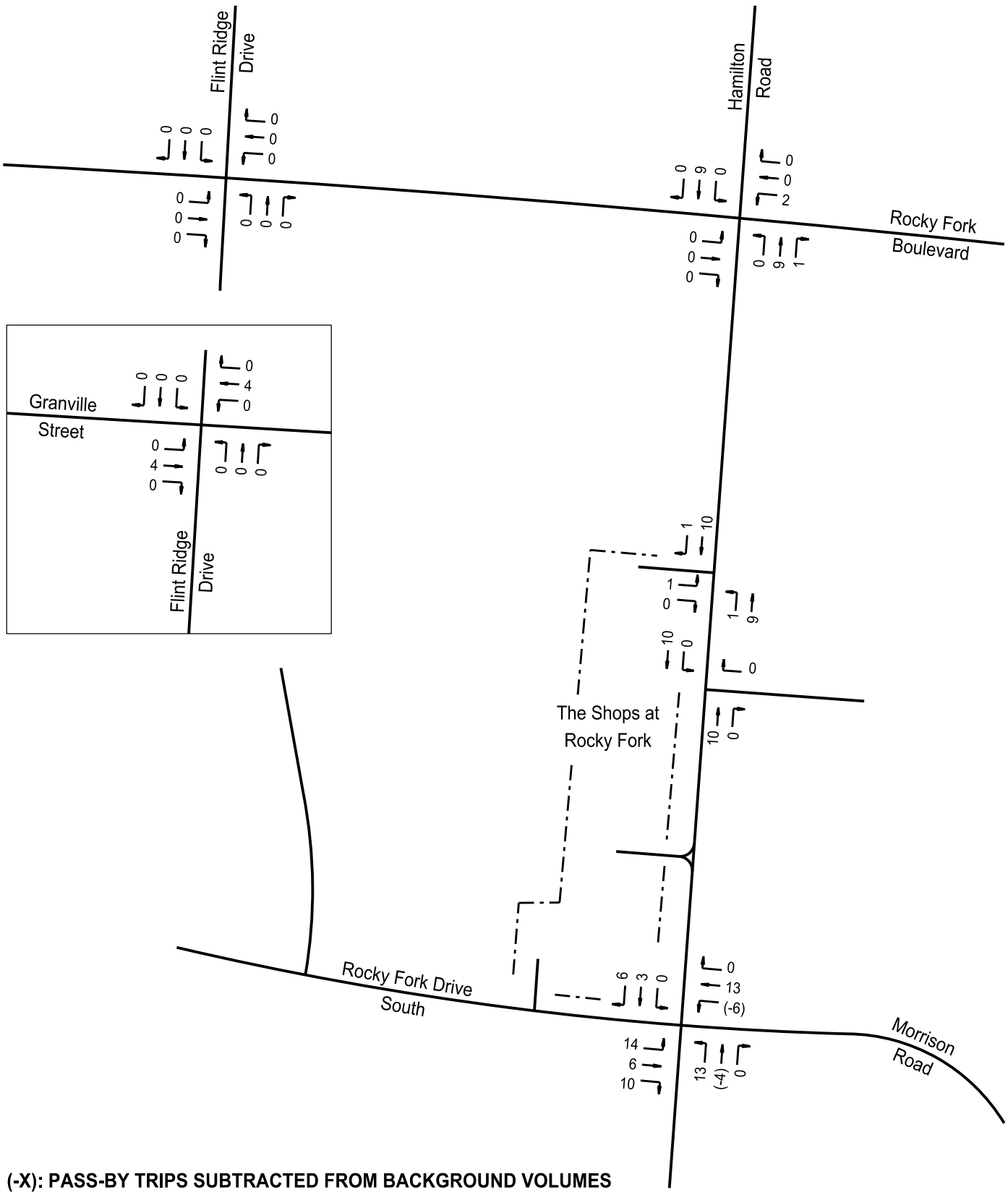
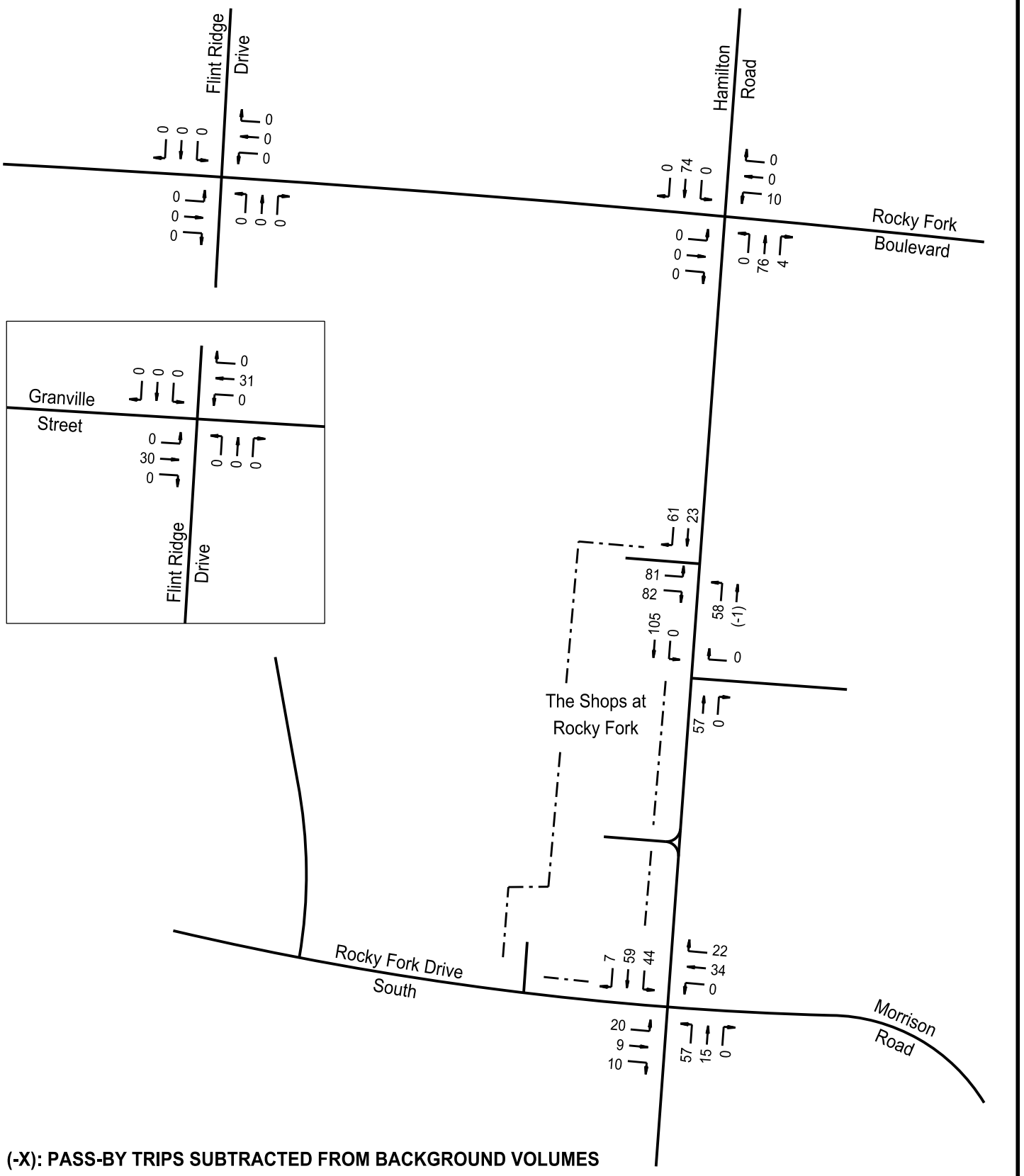


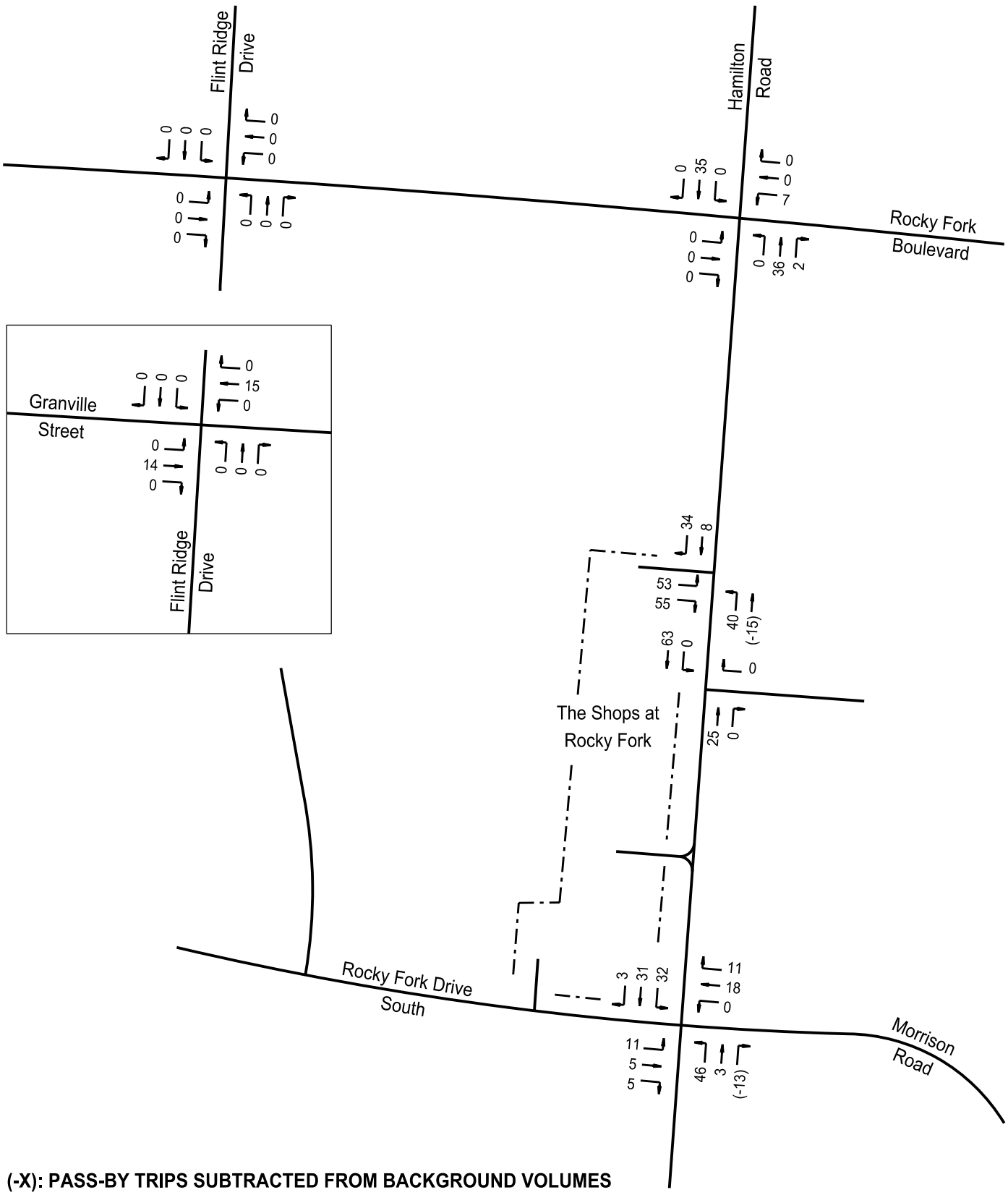
(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

N SCALE: N.T.S.	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: TRAFFIC VOLUMES GENERATED BY THE SHOPS AT ROCKY FORK AM PEAK HOUR	FIGURE 6 DATE 1/19/15 D.B. AMC C.B. MIM REV.



(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

N SCALE: N.T.S.	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: TRAFFIC VOLUMES GENERATED BY THE SHOPS AT ROCKY FORK MIDDAY PEAK HOUR	FIGURE 7 DATE 1/19/15 D.B. AMC C.B. MIM REV.



(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

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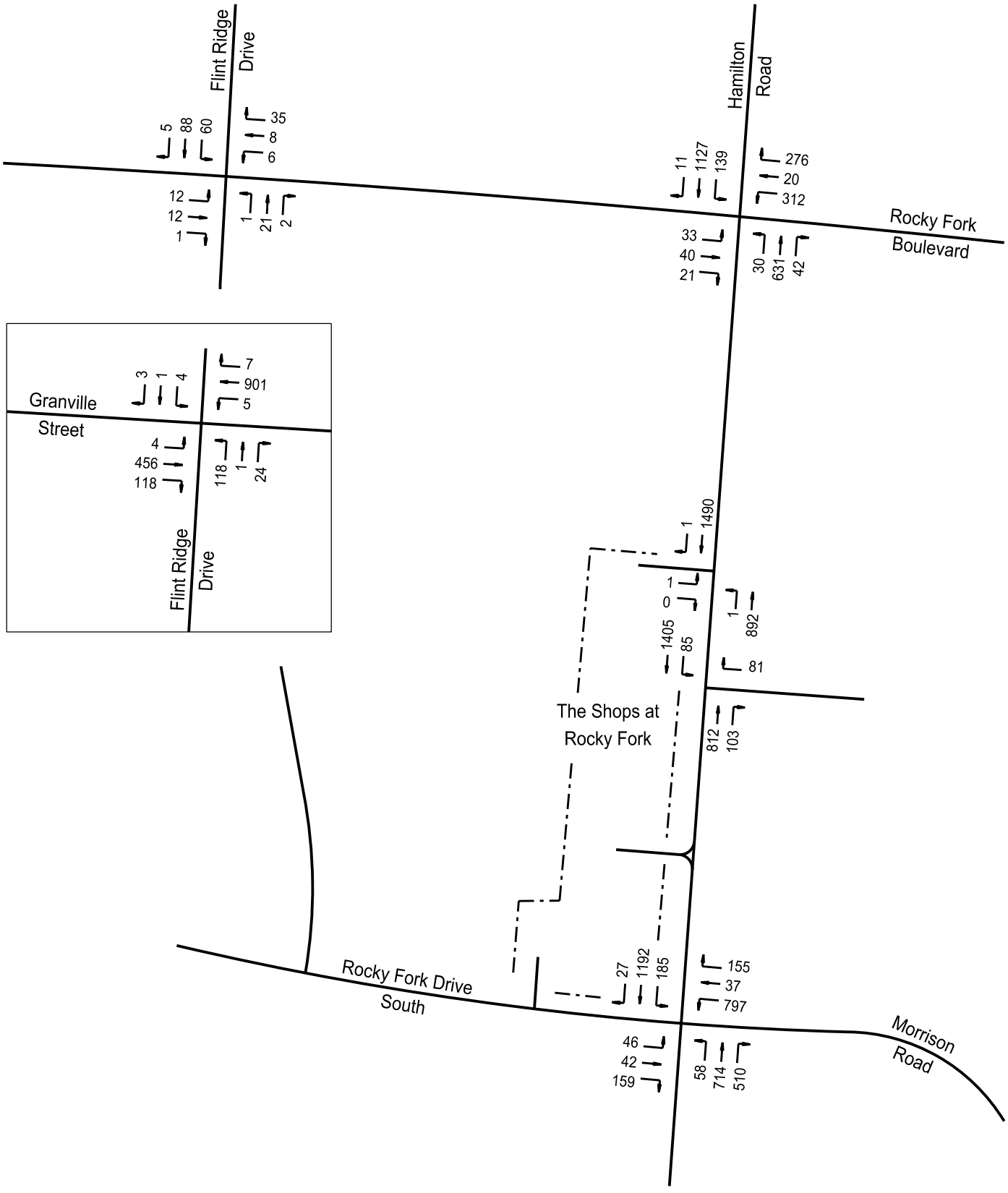

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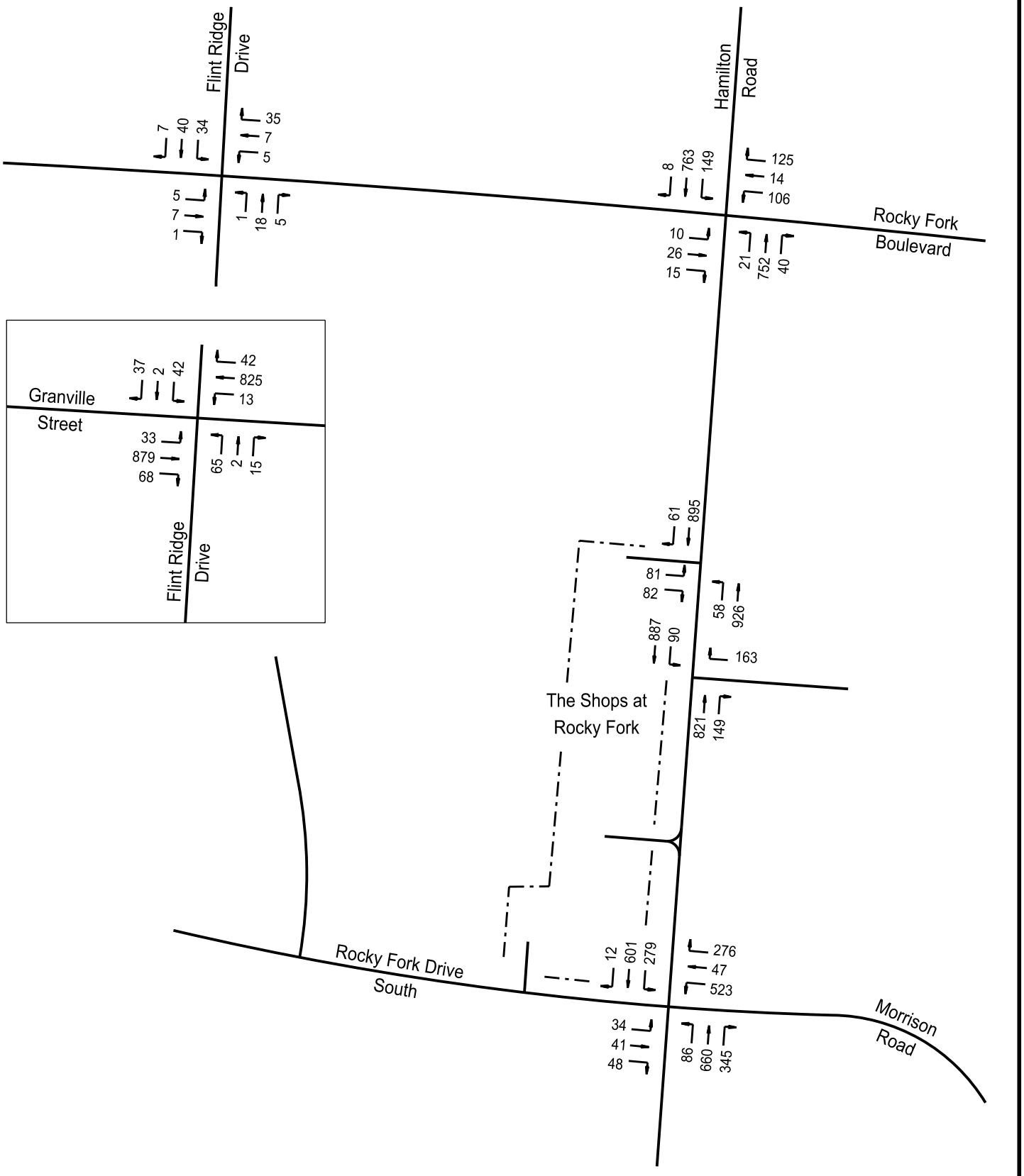
SCALE: N.T.S.			


Flint Ridge Drive
Hamilton Road
Rocky Fork Boulevard
Granville Street
Flint Ridge Drive
The Shops at Rocky Fork
Rocky Fork Drive South
Morrison Road
7 40 34
35 7 5
5 7 1
1 18 5
8 763 149
125 14 106
10 26 15
21 752 40
37 2 42
42 825 13
33 879 68
65 2 15
61 895
81 82
887 90
58 926
163
821 149
12 601 279
276 47 523
34 41 48
86 660 345
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PROJECT: THE ANNEX AT ROCKY FORK
TITLE: 2016 NO BUILD TRAFFIC VOLUMES MIDDAY PEAK HOUR
FIGURE 10
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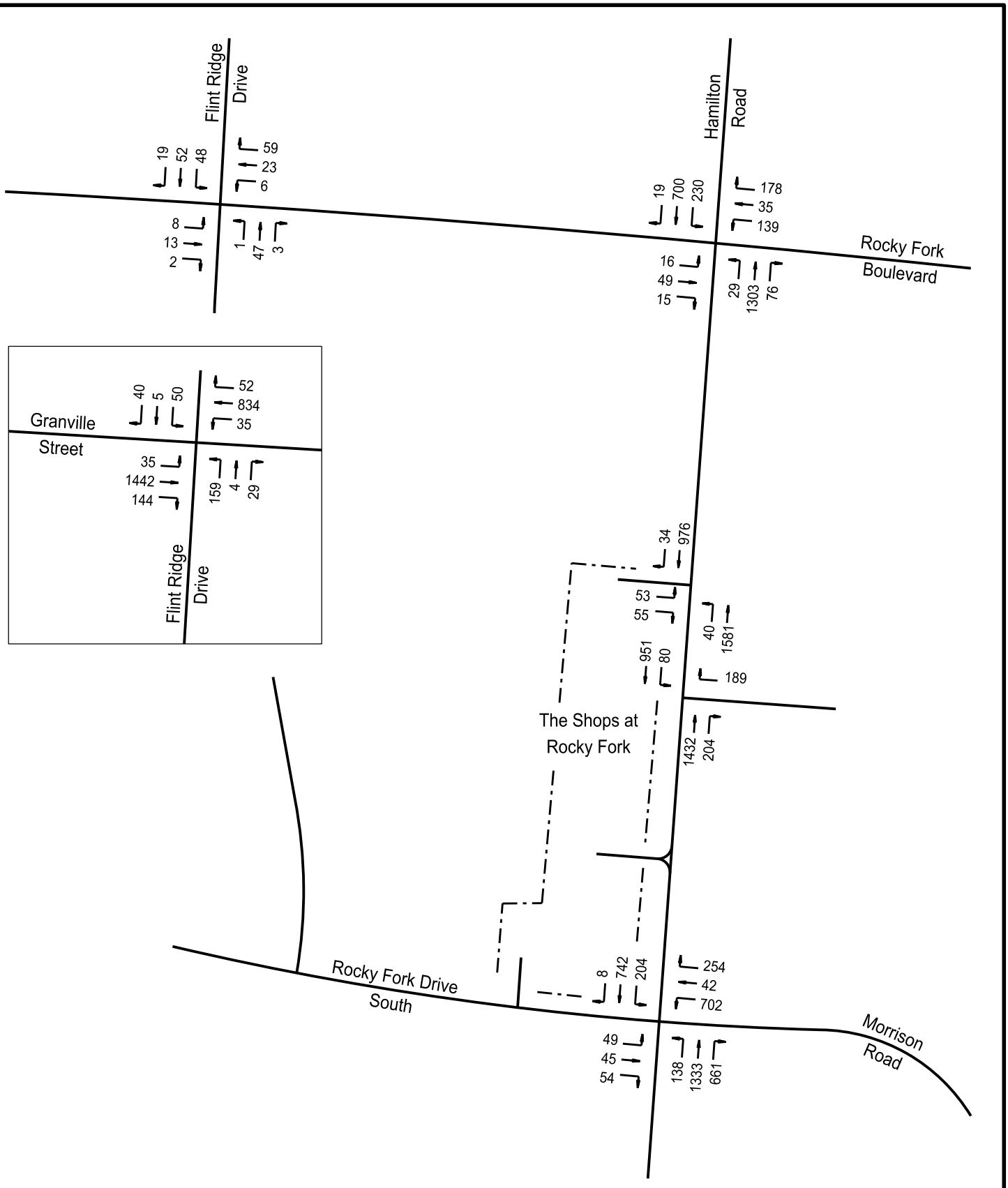

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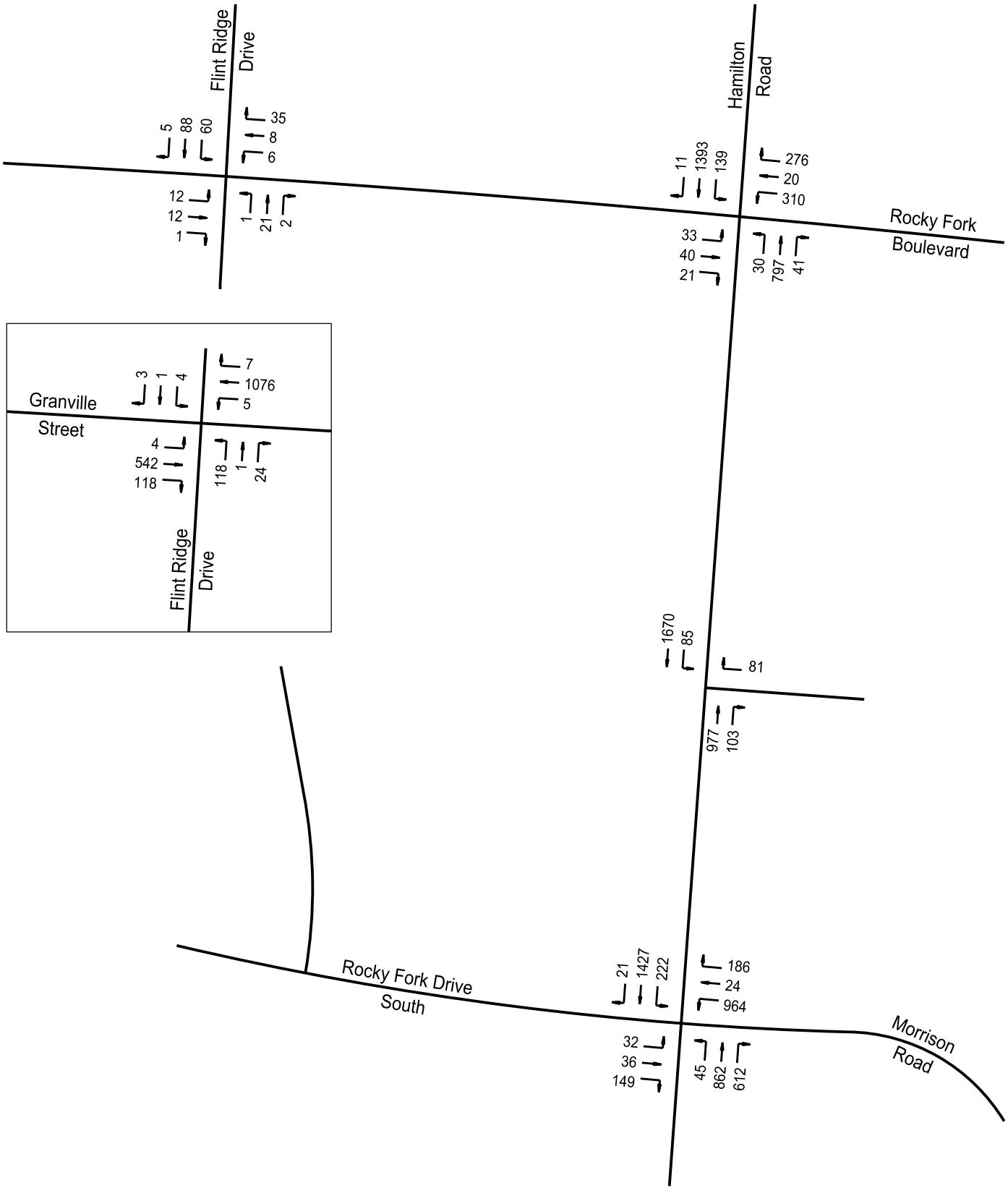

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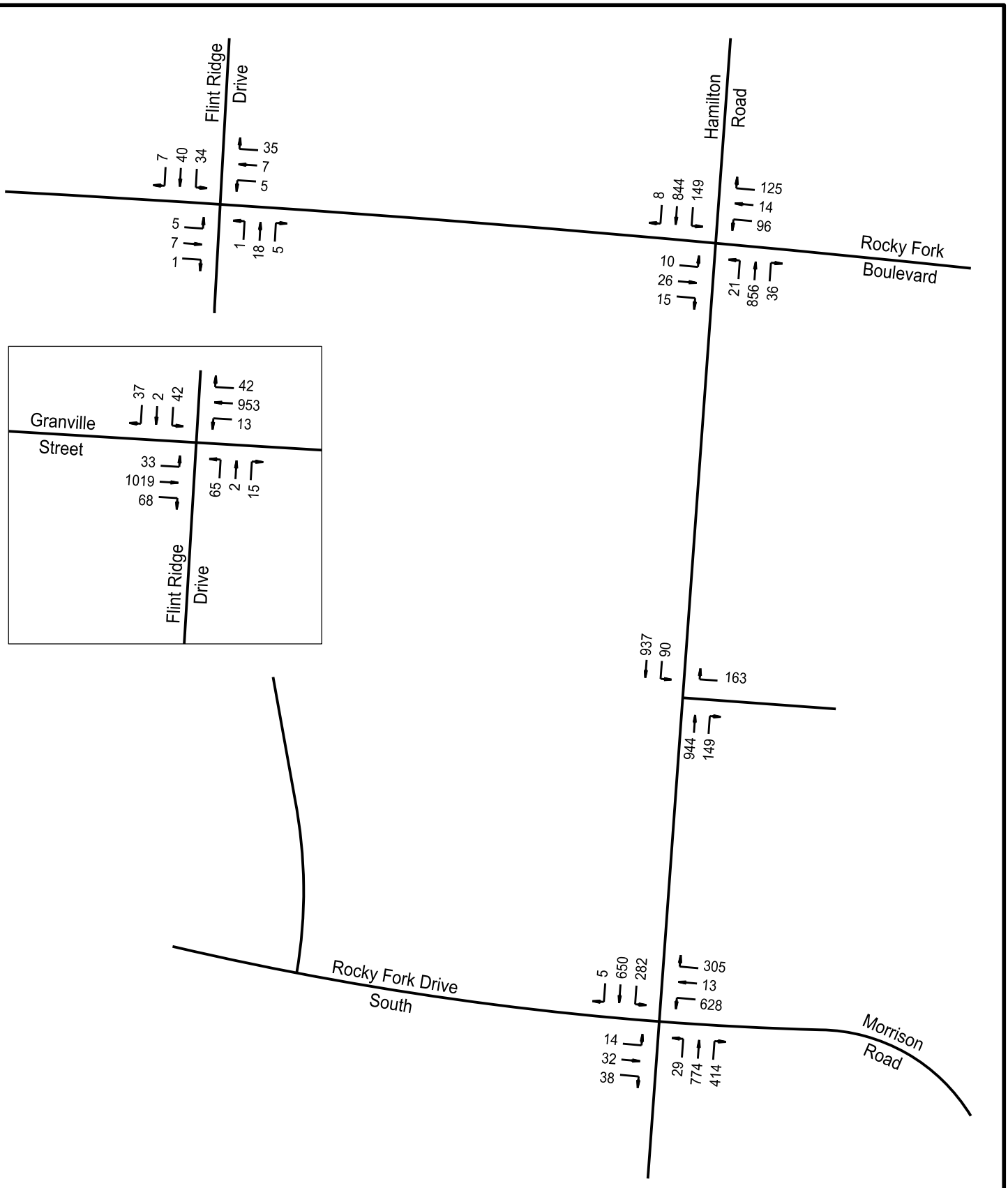
PROJECT: THE ANNEX AT ROCKY FORK

TITLE: 2036 BACKGROUND TRAFFIC VOLUMES AM PEAK HOUR

FIGURE 12

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.



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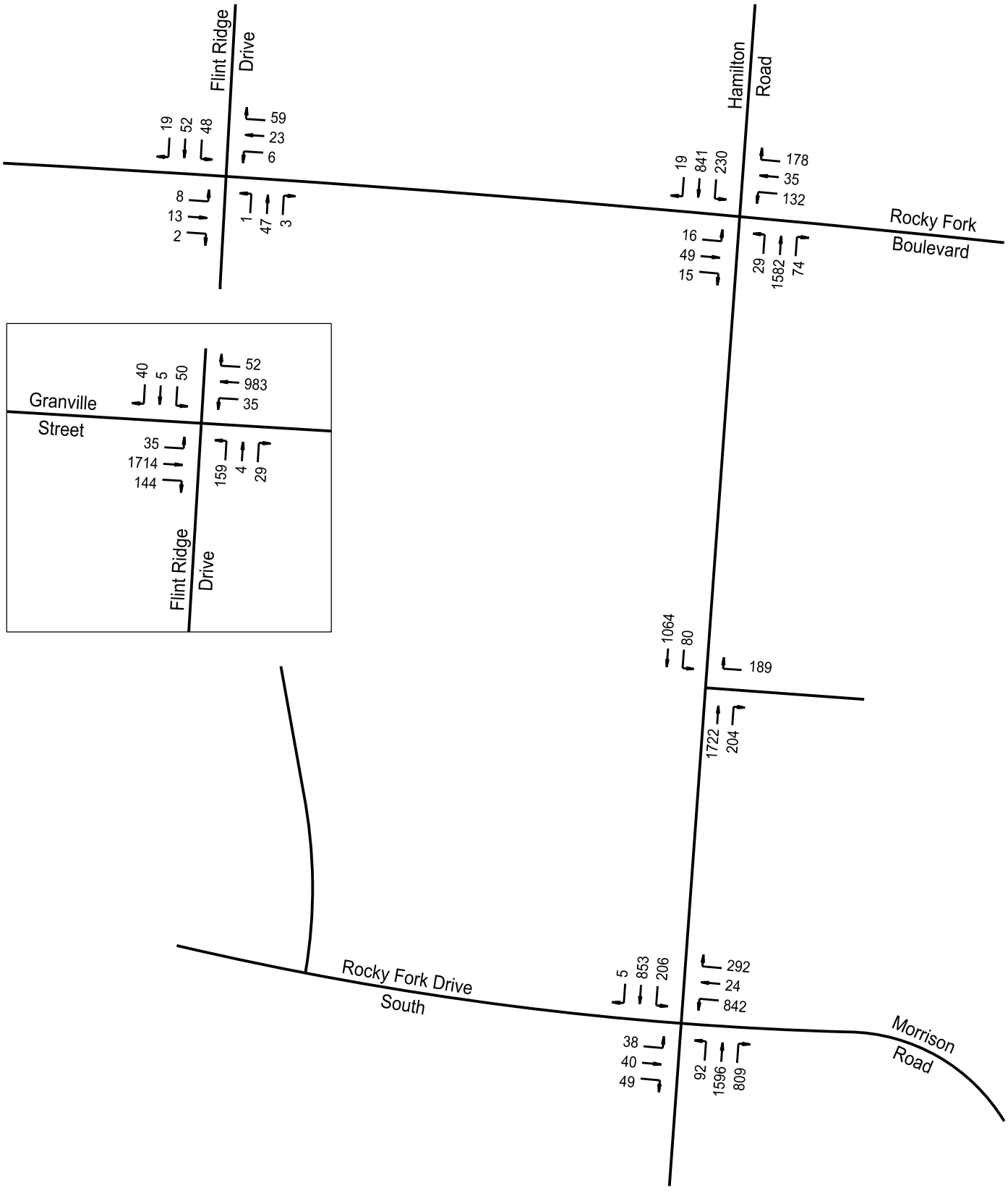

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PROJECT NO. GALZAD - 14296

PROJECT: THE ANNEX AT ROCKY FORK

TITLE: 2036 BACKGROUND TRAFFIC VOLUMES PM PEAK HOUR

FIGURE 14

DATE 1/19/15
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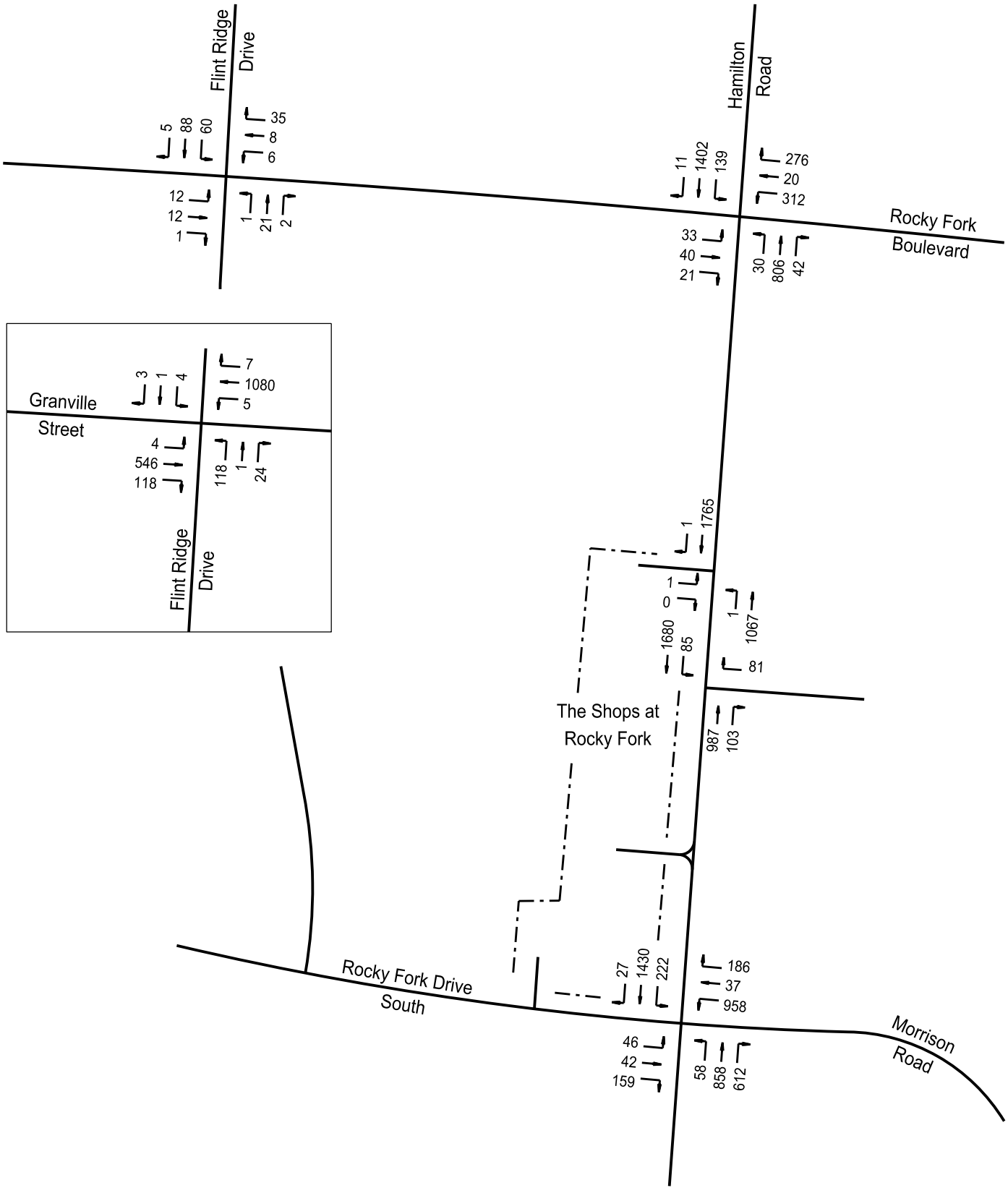

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PROJECT NO.	GALZAD - 14296
PROJECT:	THE ANNEX AT ROCKY FORK
TITLE:	2036 NO BUILD TRAFFIC VOLUMES AM PEAK HOUR

FIGURE 15

DATE 1/19/15
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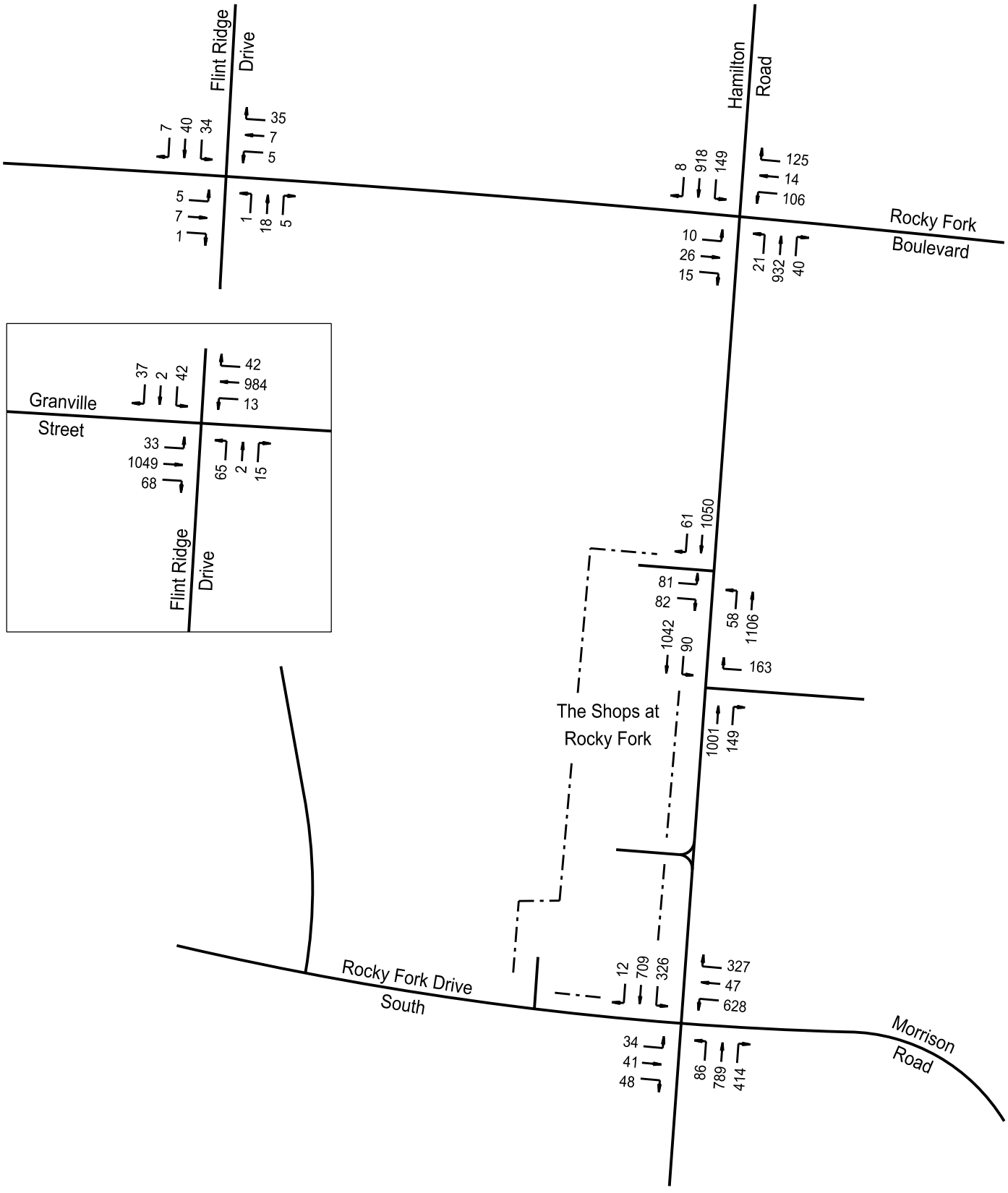

N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 NO BUILD TRAFFIC VOLUMES MIDDAY PEAK HOUR	FIGURE 16 DATE 1/19/15 D.B. AMC C.B. MIM REV.
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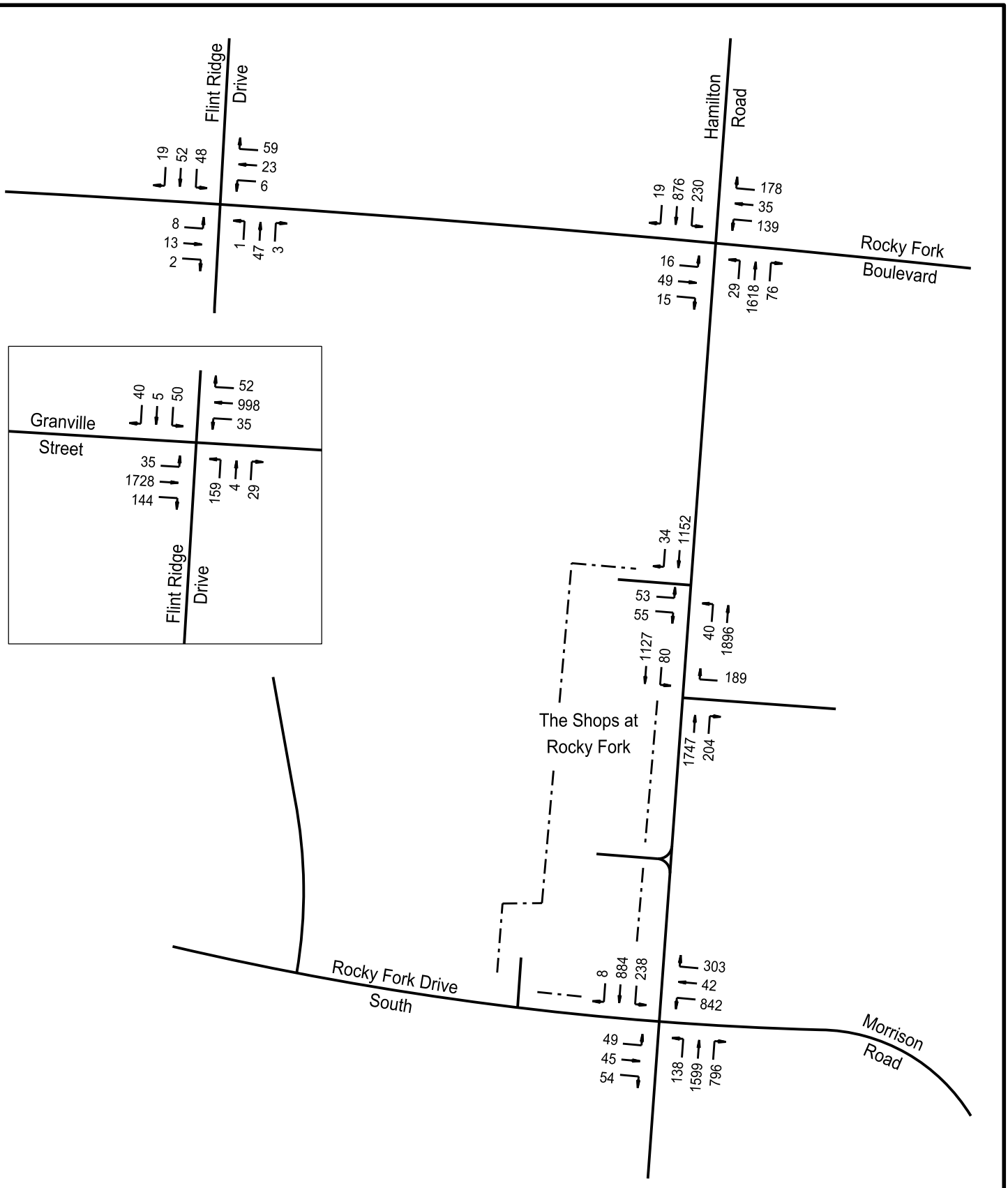

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TITLE:	2036 NO BUILD TRAFFIC VOLUMES PM PEAK HOUR

FIGURE 17

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.

The 4,000-sf bank falls under ITE land use code 912 (drive-in bank). The retail portion of this development is best described by land use code 826 (specialty retail center), while the restaurant portion falls under land use code 932 (high-turnover sit-down restaurant). It was assumed that the 8,000-sf retail/restaurant space would not be open during the AM peak hour. PM peak hour trip generation information was obtained directly from the ITE Trip Generation Manual. Midday peak hour trip generation was estimated using diurnal distributions for similar land uses. These distributions were compiled by Trans Associates and are based on distributions found in the Trip Generation Manual as well as data collected on previous projects for similar land uses. Table 2 shows the resulting number of entering and exiting trips by land use for each peak hour.

Table 2. Trip Generation Data, The Annex at Rocky Fork

Land Use	Trips	AM Peak Hour	Midday Peak Hour	PM Peak Hour
826 - Specialty Retail Center	Entering	0	16	14
	Exiting	0	15	18
	Total	**0**	**31**	**32**
912 – Drive-In Bank	Entering	27	52	17
	Exiting	21	52	17
	Total	**48**	**104**	**34**
932 - High-Turnover (Sit-Down) Restaurant	Entering	0	13	21
	Exiting	0	21	14
	Total	**0**	**34**	**35**
937 - Coffee/Donut Shop with Drive-Through Window	Entering	91	32	21
	Exiting	87	32	21
	Total	**178**	**64**	**42**
Annex Total	Entering	118	113	105
	Exiting	108	120	102
	Total	**226**	**233**	**207**

Trip Assignments

Pass-By and Diverted Link Trips

A certain percentage of the trips generated by the proposed development can be attributed to pass-by or diverted link trips. These are not new trips that are added to "no build" traffic; they originate from drivers that are already traveling past the site which stop at the development and then return to their original path.

The ITE *Trip Generation Handbook (3rd Edition)* provides average AM and PM pass-by percentages for land use codes 912 (drive-in bank), 932 (high-turnover sit-down restaurant), and 937 (coffee/donut shop). The percentage of pass-by trips made to the bank may be about 29% in the AM, 26% during the midday peak, and 35% during the PM. The coffee/donut shop is expected to have a pass-by percentage of 49% during the AM peak hour and 50% during the PM peak hour. The average PM pass-by trip percentage is 43% for land use code 932. No information was available on midday pass-by trips for land use codes 932 and 937. During this

time, it is expected that most of the trips made to the shops will be for lunch (non-pass-by). As such, a pass-by trip percentage of 20% was assumed for the midday peak hour.

All trips generated by the retail (land use code 826) portion of the development were assumed to be newly added to the system (0% pass-by). The total numbers of pass-by and primary trips are detailed in Appendix E for each scenario and study year.

The distribution of pass-by (existing) trips was determined using the current distribution of traffic at the intersection of Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North. A portion of the total pass-by trips result from background traffic that is diverted from its original path to visit the development, or diverted link trips. Diverted link trips result in negative turning movement volumes at the intersection of Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North. These distributions are tabulated in the trip assignment information contained in Appendix E.

Primary Trips

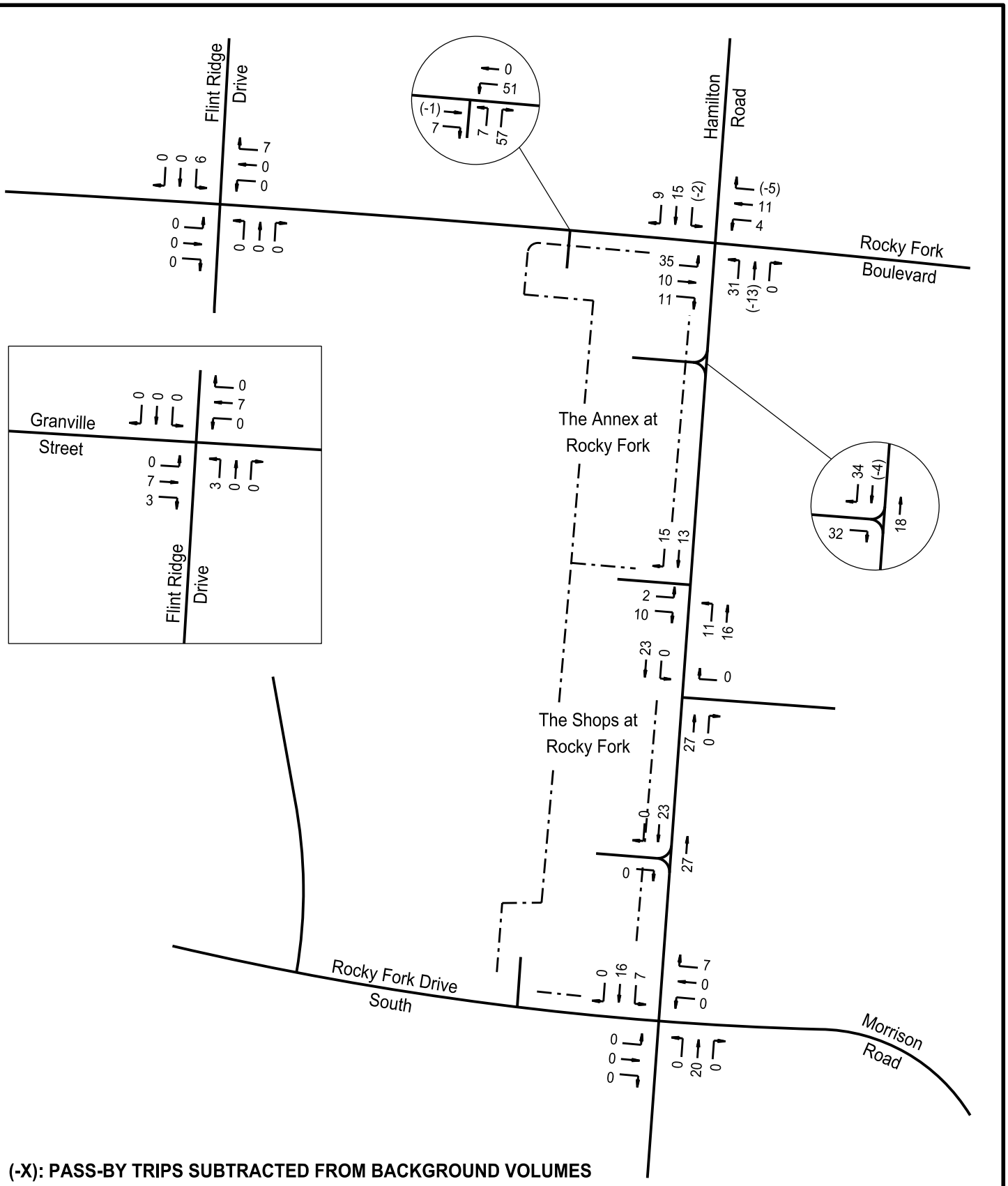
The distribution of primary (new) trips was established using the same directional distribution that was developed for the Shops at Rocky Fork traffic study. The distribution is as follows:

- 38% to/from the north
- 32% to/from the south
- 25% to/from the east
- 5% to/from the west

Given the larger volume of traffic on Morrison Road, a portion of the primary trips originating from the east was assumed to use Morrison Road as opposed to Rocky Fork Boulevard. However, drivers will likely use Rocky Fork Boulevard if possible since the intersection of Hamilton Road and Morrison Road/Rocky Fork Drive South is typically congested during the peak periods. Also, a small amount of traffic traveling to/from the north was assumed to take Flint Ridge Drive to Rocky Fork Drive North.

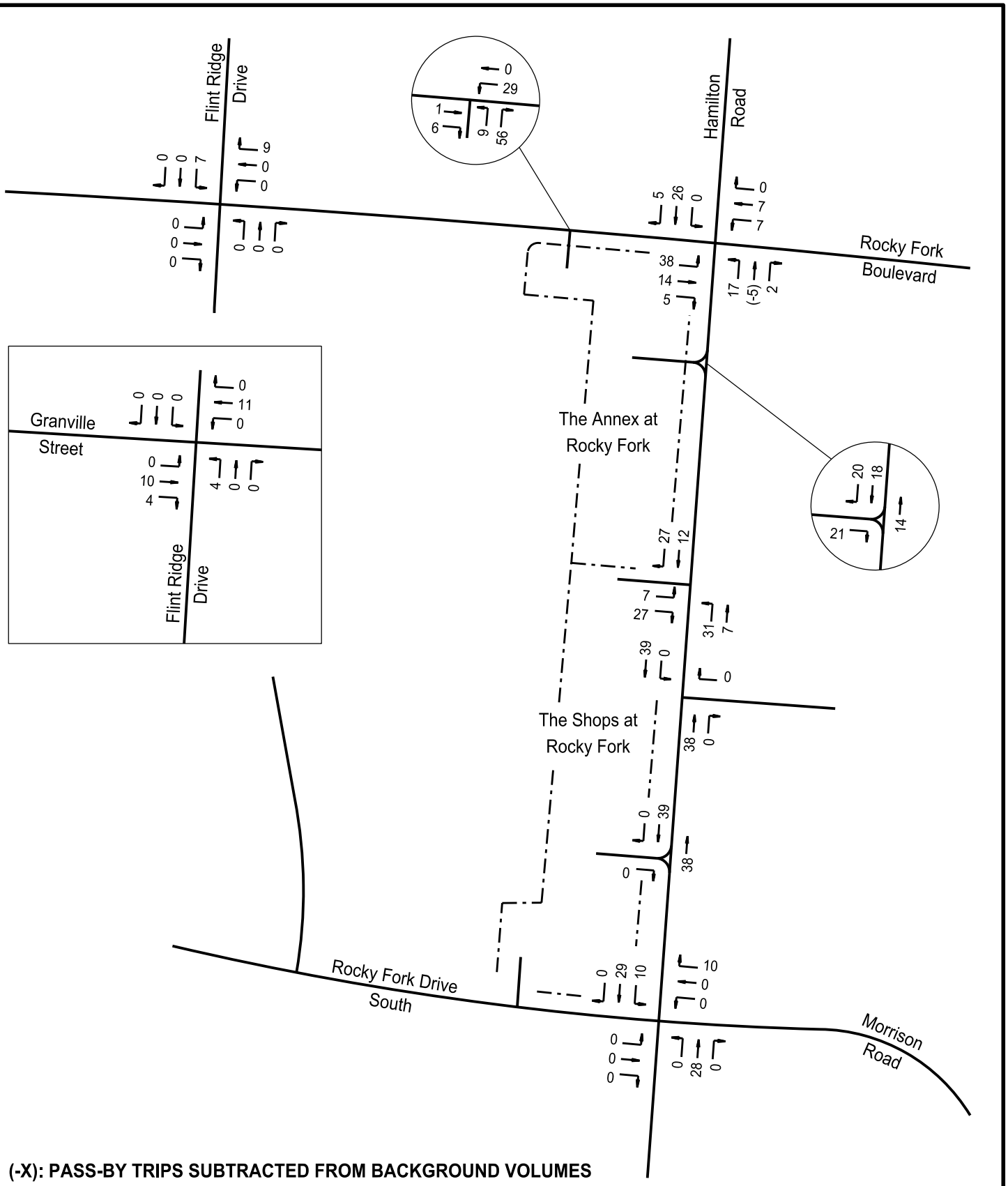
The trips generated by the Annex at Rocky Fork were assigned to the roadway system as described above. The assignments of site generated traffic (pass-by/diverted link and primary trips) are shown in Figures 18 – 20.

“Build” traffic volumes were obtained by adding the traffic generated by the Annex at Rocky Fork (Figures 18 – 20) to “no build” traffic volumes for each study year. 2016 “build” traffic volumes are found in Figures 21 – 23 while 2036 “build” traffic volumes are shown in Figures 24 – 26.



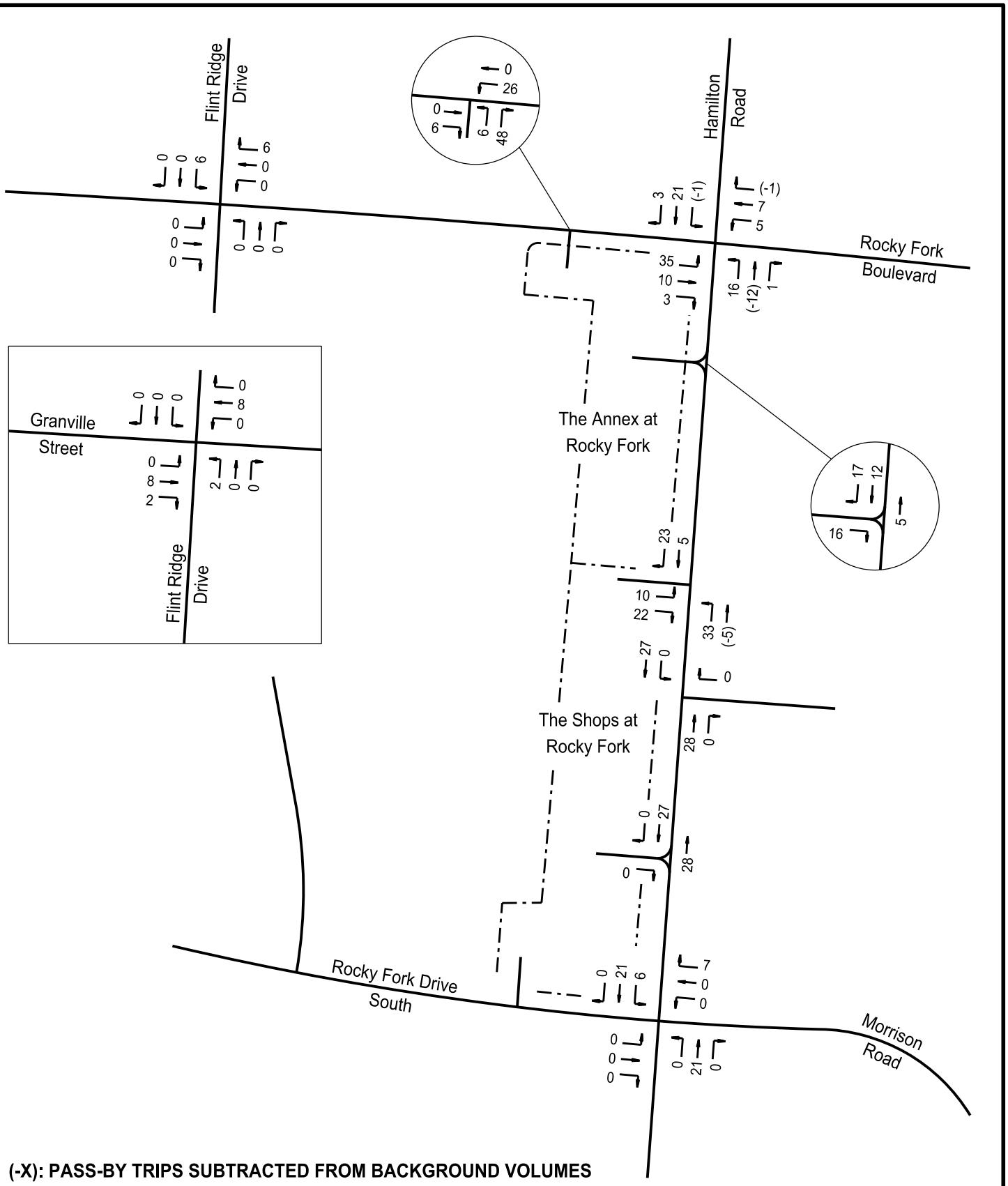
(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: SITE GENERATED TRAFFIC VOLUMES AM PEAK HOUR	FIGURE 18 DATE 1/19/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			



(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

N SCALE: N.T.S.	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: SITE GENERATED TRAFFIC VOLUMES MIDDAY PEAK HOUR	FIGURE 19 DATE 1/19/15 D.B. AMC C.B. MIM REV.



(-X): PASS-BY TRIPS SUBTRACTED FROM BACKGROUND VOLUMES

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SCALE: N.T.S.

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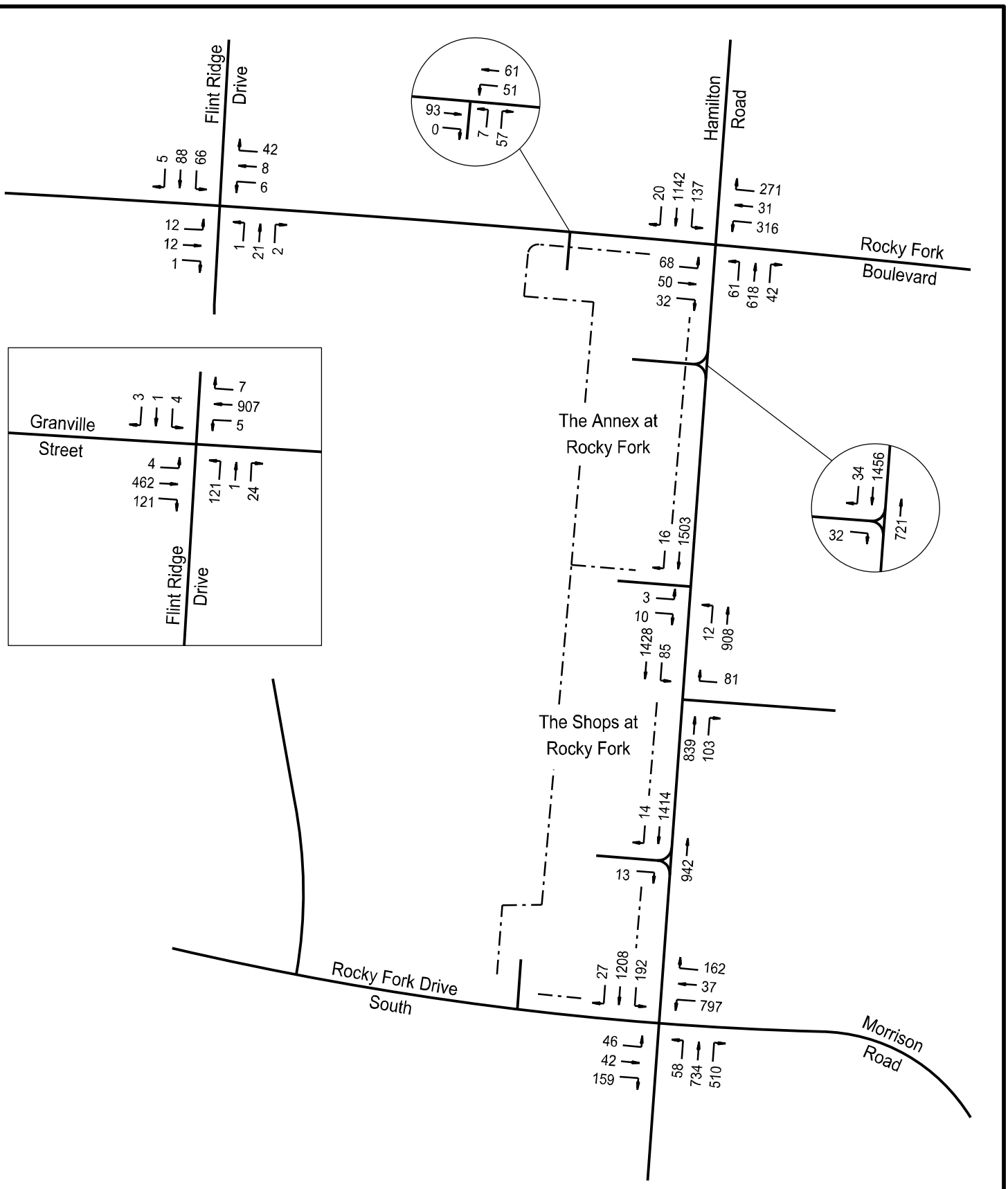
PROJECT: THE ANNEX AT ROCKY FORK

TITLE: SITE GENERATED TRAFFIC VOLUMES PM PEAK HOUR

FIGURE 20

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.



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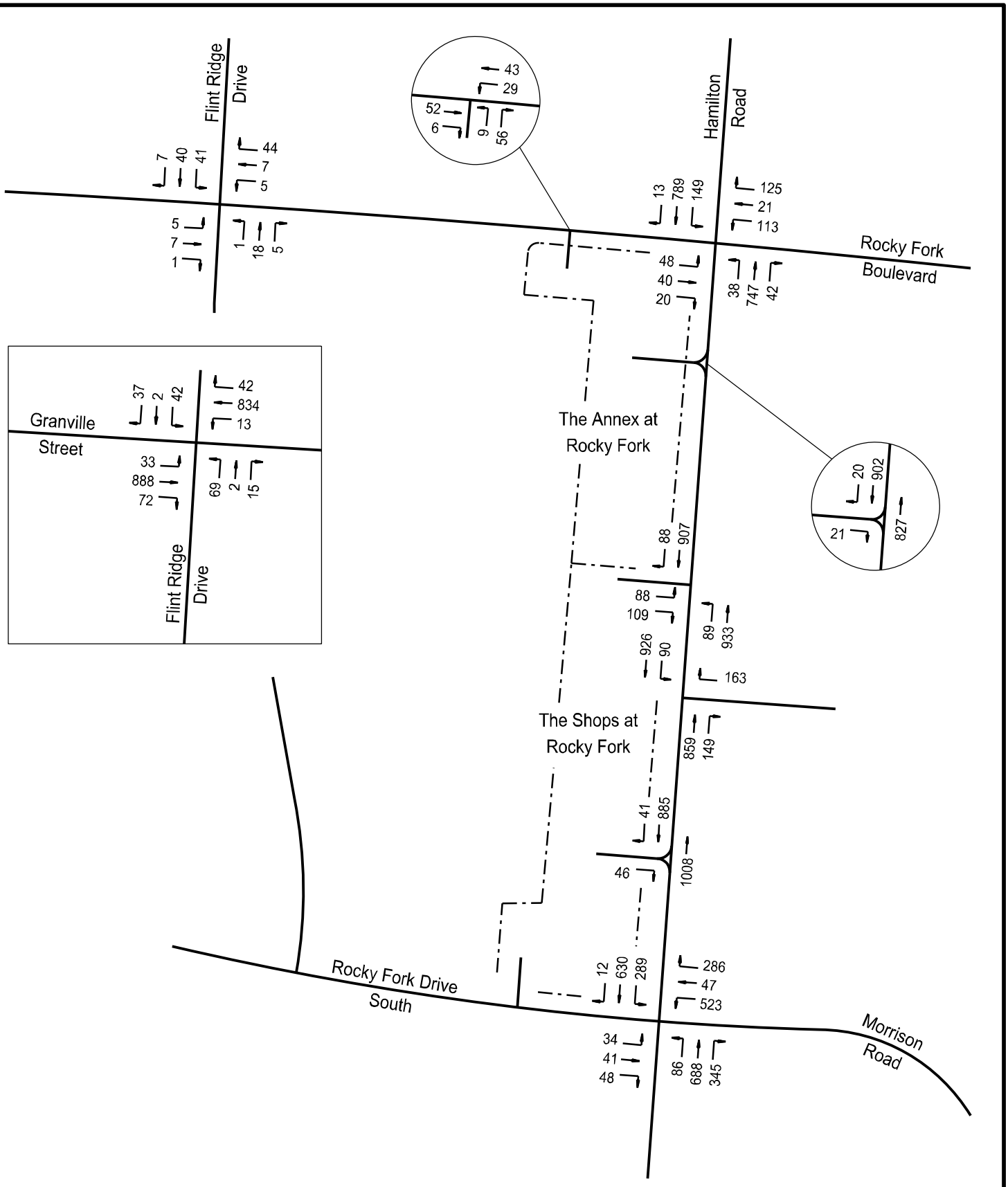
SCALE: N.T.S.			



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2016 BUILD TRAFFIC VOLUMES MIDDAY PEAK HOUR	FIGURE 22 DATE 1/19/15 D.B. AMC C.B. MIM REV.
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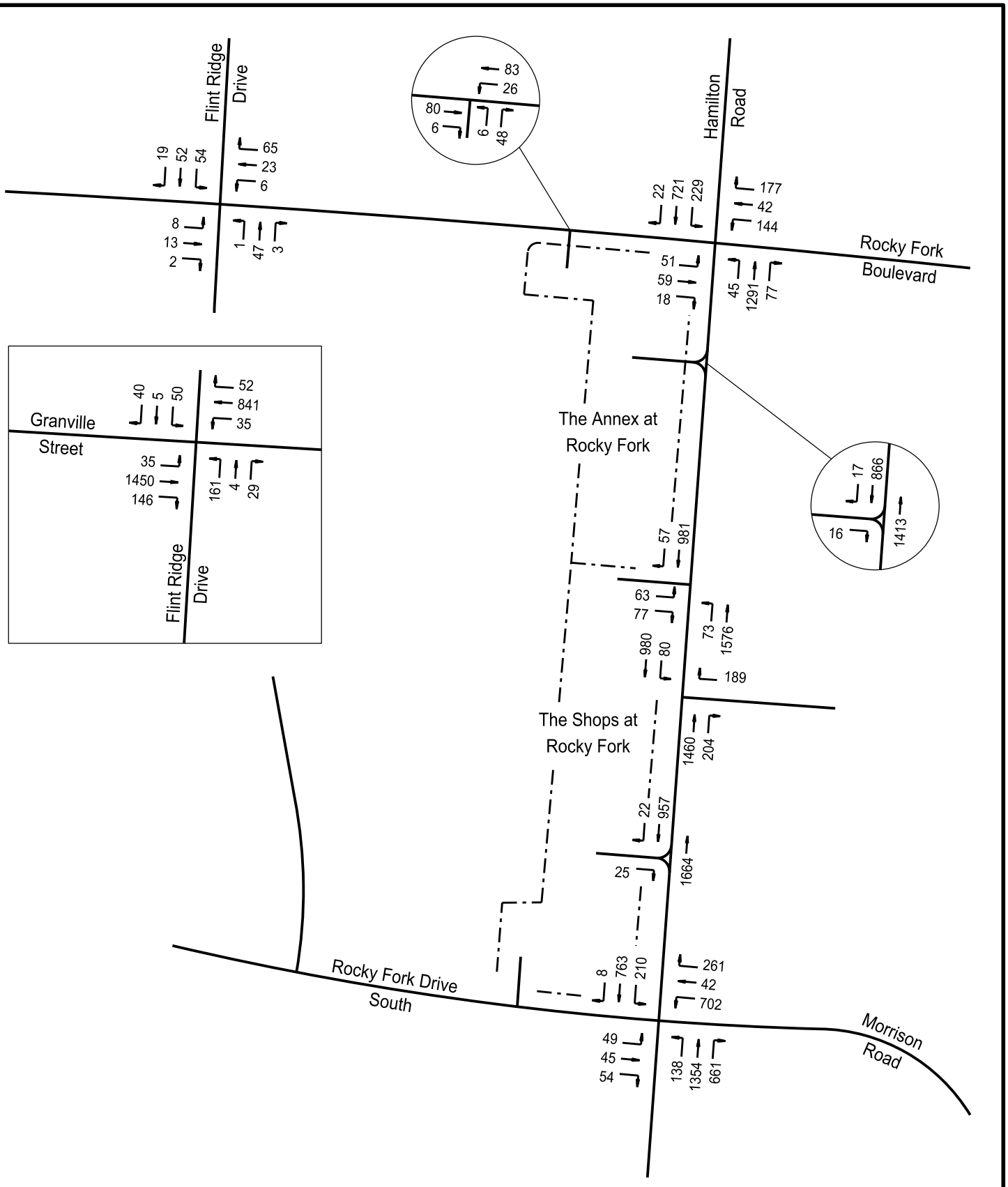

N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2016 BUILD TRAFFIC VOLUMES PM PEAK HOUR	FIGURE 23 DATE 1/19/15 D.B. AMC C.B. MIM REV.
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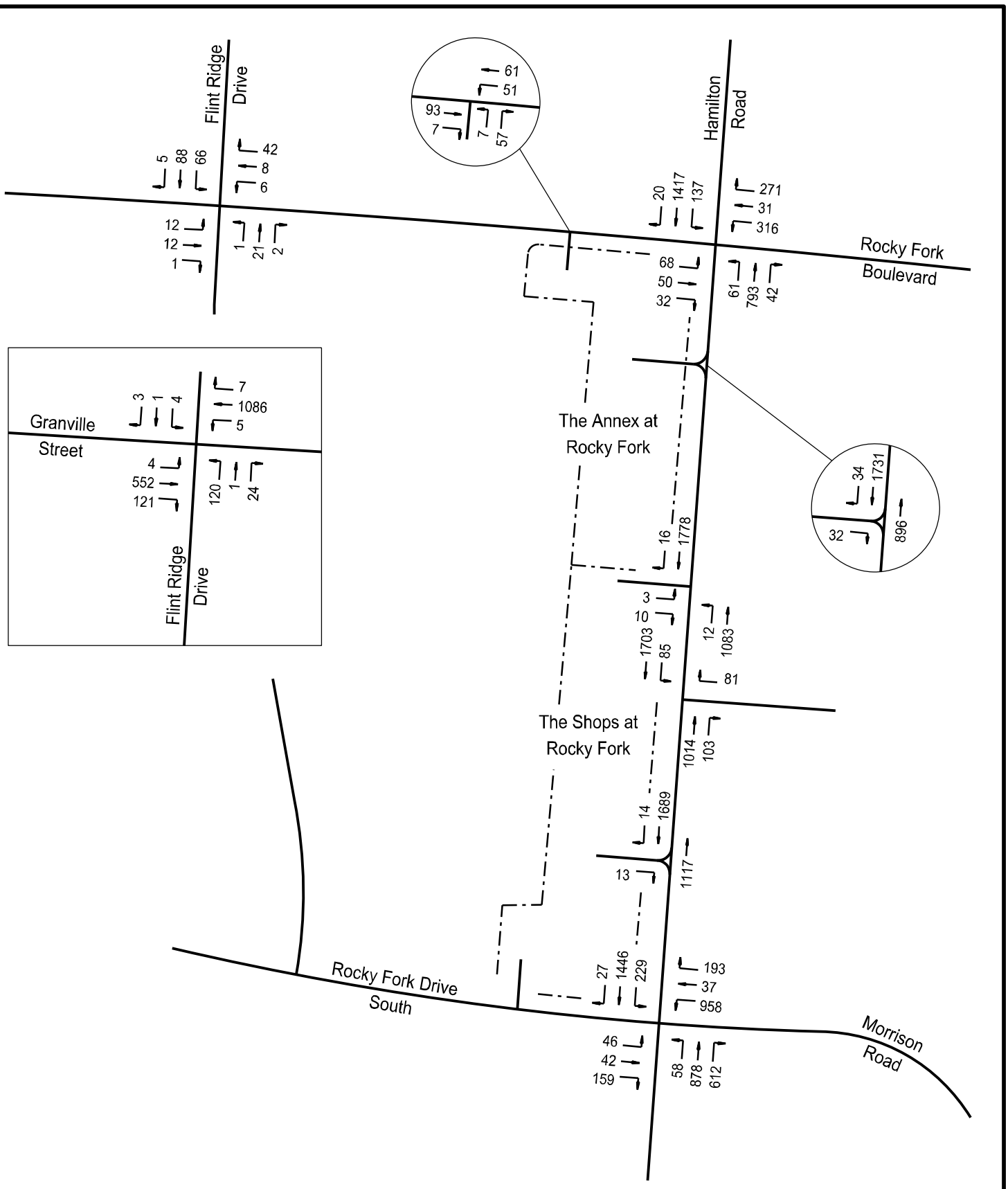

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SCALE: N.T.S.

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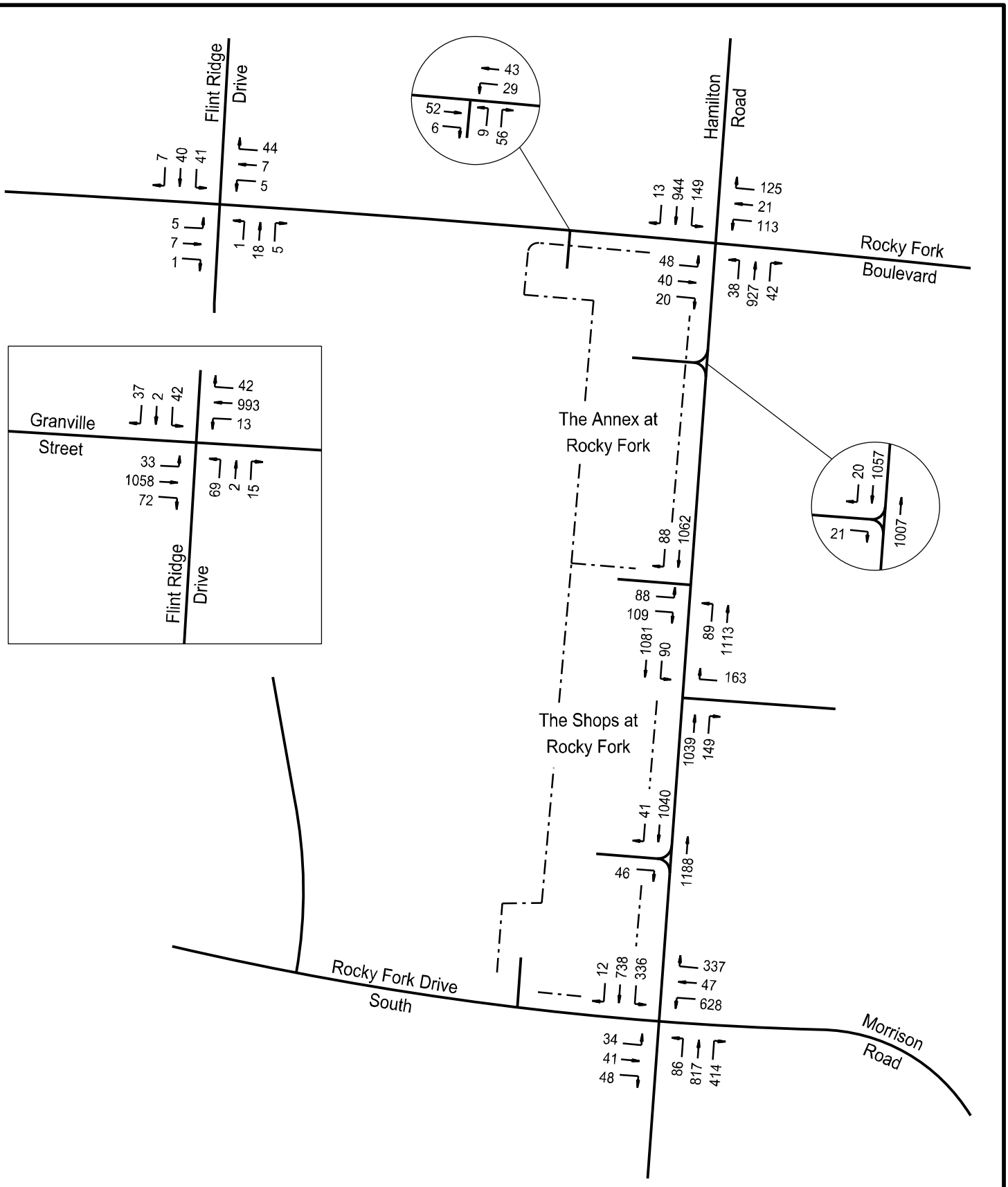
PROJECT NO. GALZAD - 14296

PROJECT: THE ANNEX AT ROCKY FORK

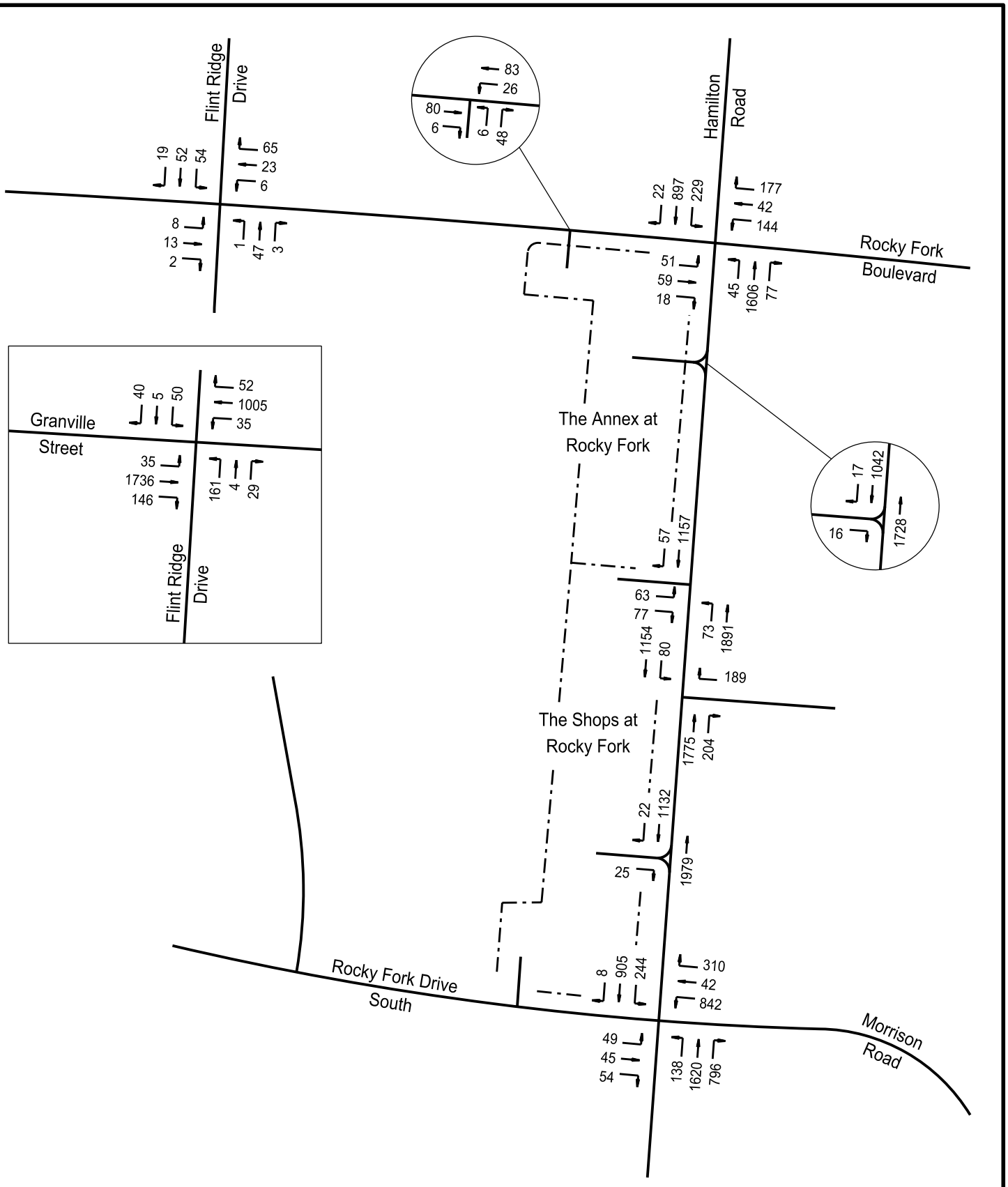
TITLE: 2036 BUILD TRAFFIC VOLUMES AM PEAK HOUR

FIGURE 24

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 BUILD TRAFFIC VOLUMES MIDDAY PEAK HOUR	FIGURE 25 DATE 1/19/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 BUILD TRAFFIC VOLUMES PM PEAK HOUR	FIGURE 26 DATE 1/19/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			

Turn Lane Warrant Evaluations

Turn lane warrants were evaluated at the unsignalized access points on Hamilton Road and Rocky Fork Drive North in accordance with the procedure outlined by ODOT's *Location and Design Manual* (dated July 2013). The results of these turn lane warrant analyses are located in Appendix F.

A southbound right turn lane is not warranted at the right-in/right-out driveway on Hamilton Road for "build" conditions. Additionally, neither an eastbound right turn lane nor a westbound left turn lane is warranted at the full access driveway on Rocky Fork Drive North.

It was found that a southbound right turn lane warrant is slightly met in the midday and PM peak hours at the Shops at Rocky Fork full access driveway. However, it was observed that there are no exclusive right turn lanes constructed at the existing access drives on Hamilton Road within the immediate area. Given this, and coupled with the fact that these warrants are not strongly met, it is not recommended that an exclusive right turn lane be constructed at this driveway.

Capacity Analyses

Capacity analyses were performed utilizing Synchro (HCM 2010 Module) software, and the outputs of all analyses are contained in the Appendix of this report.

The quality of traffic flow was calculated for each operating scenario associated with the projected 2036 long-term condition. In addition, conditions were evaluated for each 2016 opening day scenario. "No build" conditions were analyzed to determine a baseline operating condition.

The standard criterion used to define the quality of traffic flow is the level of service (LOS), which is a measure of effectiveness of the operation of an intersection for the purposes of this study. The LOS value is based on the procedure defined in the Highway Capacity Manual (HCM) and the associated Highway Capacity Software (HCS). This is a qualitative assessment of factors such as speed, volume, geometry, delays, and ease of maneuvering. All analysis techniques specify the quality of operations as a letter with respect to the amount of delay at the intersection, and the resulting LOS criteria are shown in Table 3. Typically, most governmental agencies consider LOS C to be an acceptable average operation of an intersection. Additionally, most consider intersection LOS D to be acceptable during peak periods of operation, with no individual movement being worse than LOS E and no approach below D.

Opening Day (2016) Results

The Synchro outputs for 2016 conditions are contained in Appendix G. These results were obtained using the existing coordinated cycle lengths for the signals on Hamilton Road; signal timing data in Appendix B shows that the cycle length is 110 seconds in the AM peak hour and 120 seconds during the midday and PM peak hours. While current cycle lengths were retained, phase splits and offsets were optimized to accommodate new traffic patterns. The cycle length and phase splits for the signal at Granville and Flint Ridge was optimized. The timing data used to obtain these results is also found in Appendix G.

Table 3. Level of Service Criteria for Intersections

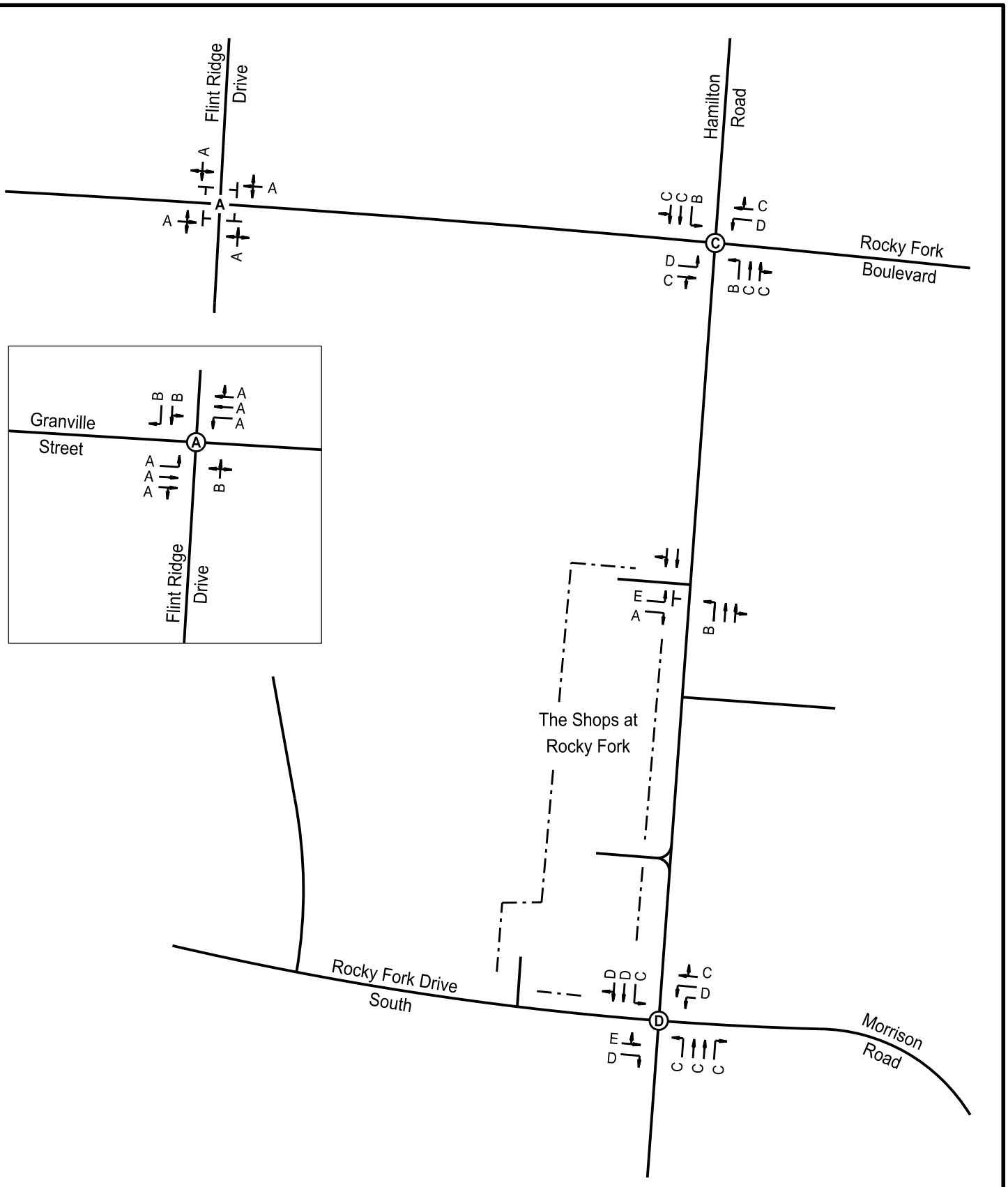
Level of Service	Average Delay (sec/veh)	
	Unsignalized Intersections	Signalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 and ≤ 15.0	> 10.0 and ≤ 20.0
C	> 15.0 and ≤ 25.0	> 20.0 and ≤ 35.0
D	> 25.0 and ≤ 35.0	> 35.0 and ≤ 55.0
E	> 35.0 and ≤ 50.0	> 55.0 and ≤ 80.0
F	> 50.0	> 80.0

Source: Transportation Research Board, *Highway Capacity Manual*, Special Report 209, National Research Council, Washington, DC, 2010.

2016 “no build” levels of service are illustrated in Figures 27 – 29. All intersections generally meet the required level of service criteria. The eastbound approach of Rocky Fork Drive South has a slightly higher delay than desired, resulting in an approach LOS E. However, the intersection has LOS D and all other approaches operate at LOS D.

2016 “build” levels of service are shown in Figures 30 – 32. These results show that the Annex at Rocky Fork does not have a notable impact on the study intersections for the opening day condition. Delay increases are minimal where present, and all intersection levels of service are maintained from “no build” conditions.

Site access points generally have above average levels of service. The level of service for eastbound left turns out of the Shops at Rocky Fork full access driveway degrades from ‘E’ to ‘F’. Drivers may experience longer delays while waiting to exit the development at this unsignalized access point due to the high through volumes on Hamilton Road. If drivers find this delay to be unacceptable, they instead have the option to exit onto Rocky Fork Drive North and complete their left turn at a signal.



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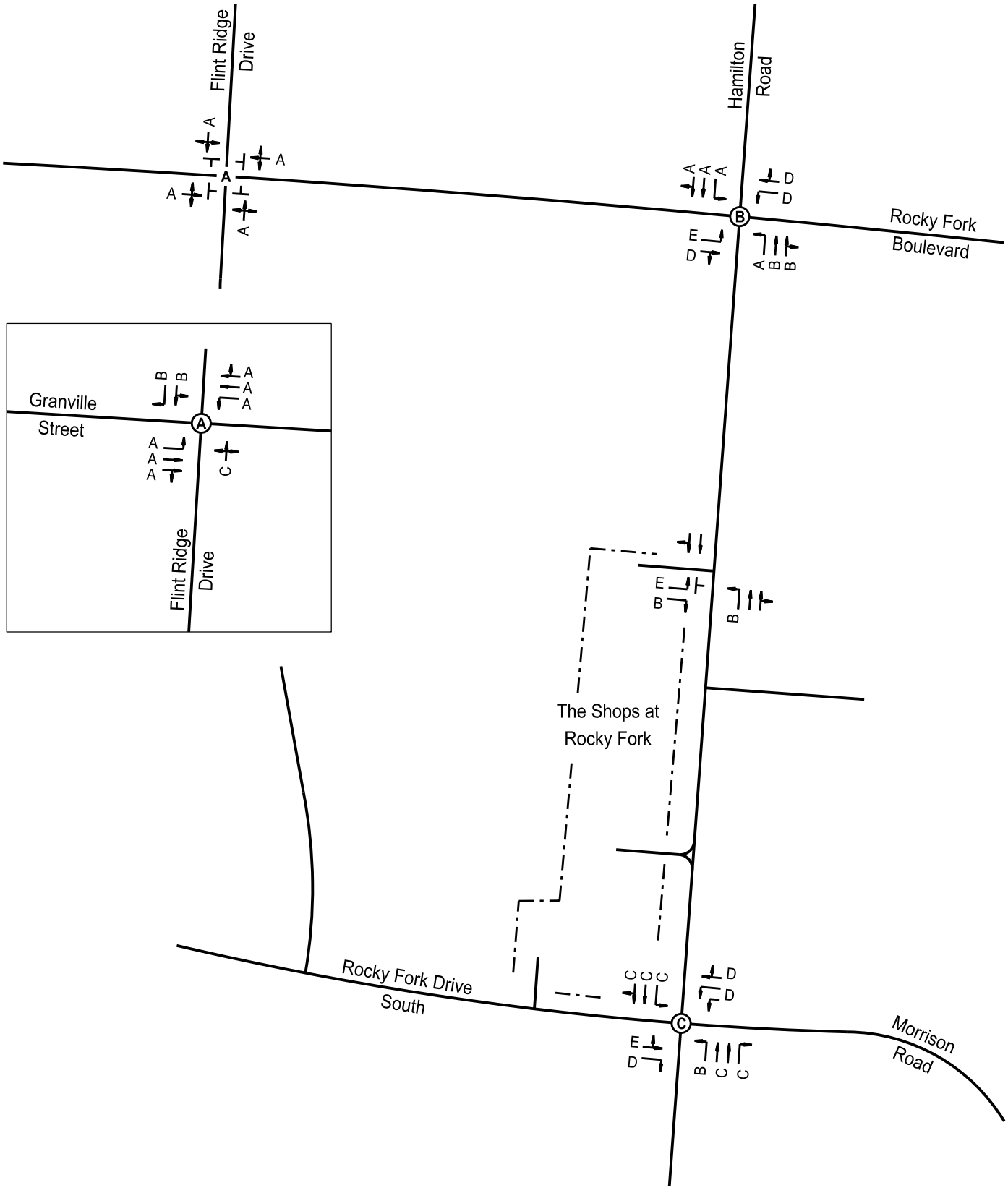
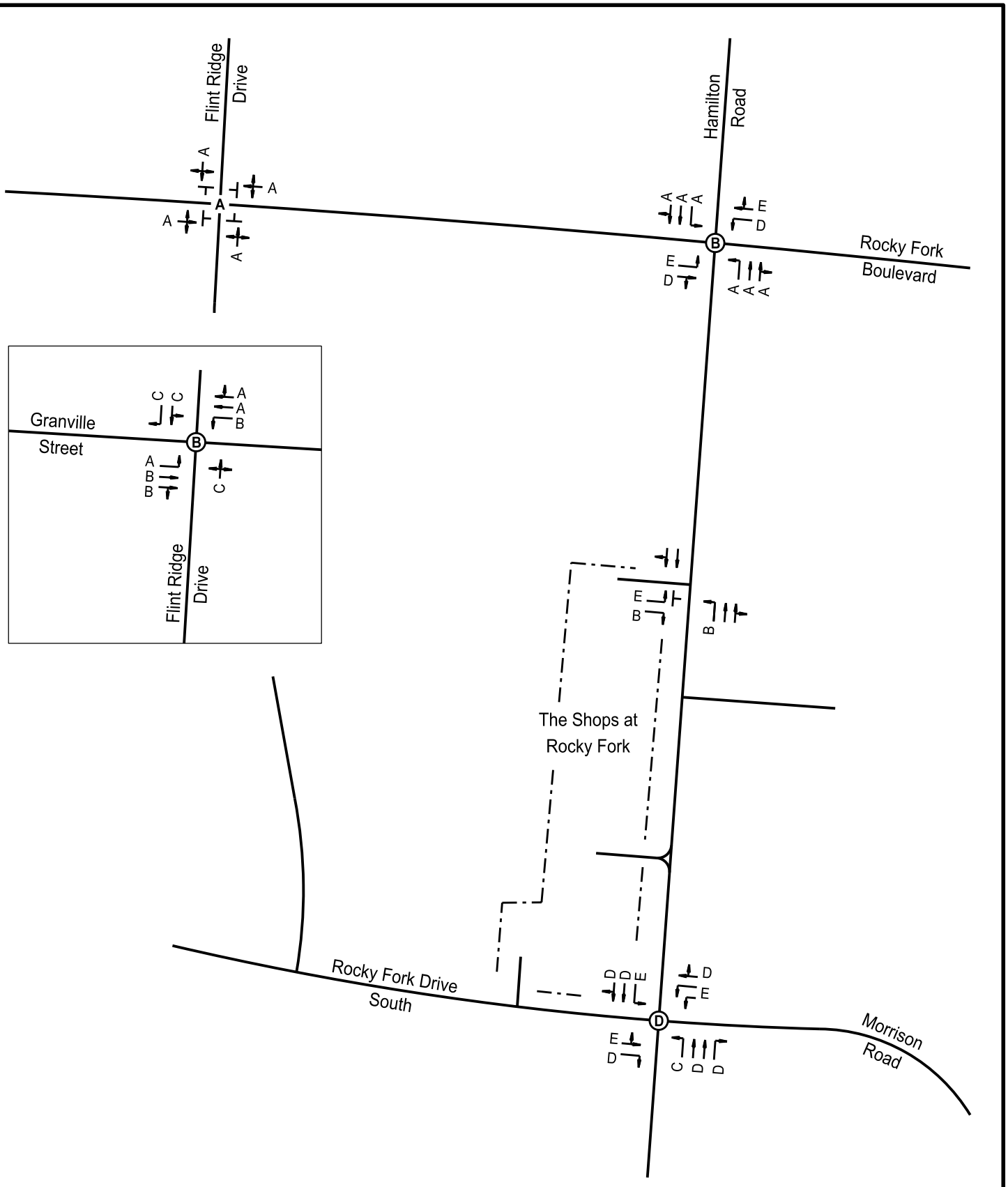
SCALE: N.T.S.			



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2016 NO BUILD LEVELS OF SERVICE MIDDAY PEAK HOUR	FIGURE 28 DATE 1/23/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2016 NO BUILD LEVELS OF SERVICE PM PEAK HOUR	FIGURE 29 DATE 1/23/15 D.B. AMC C.B. MIM REV.
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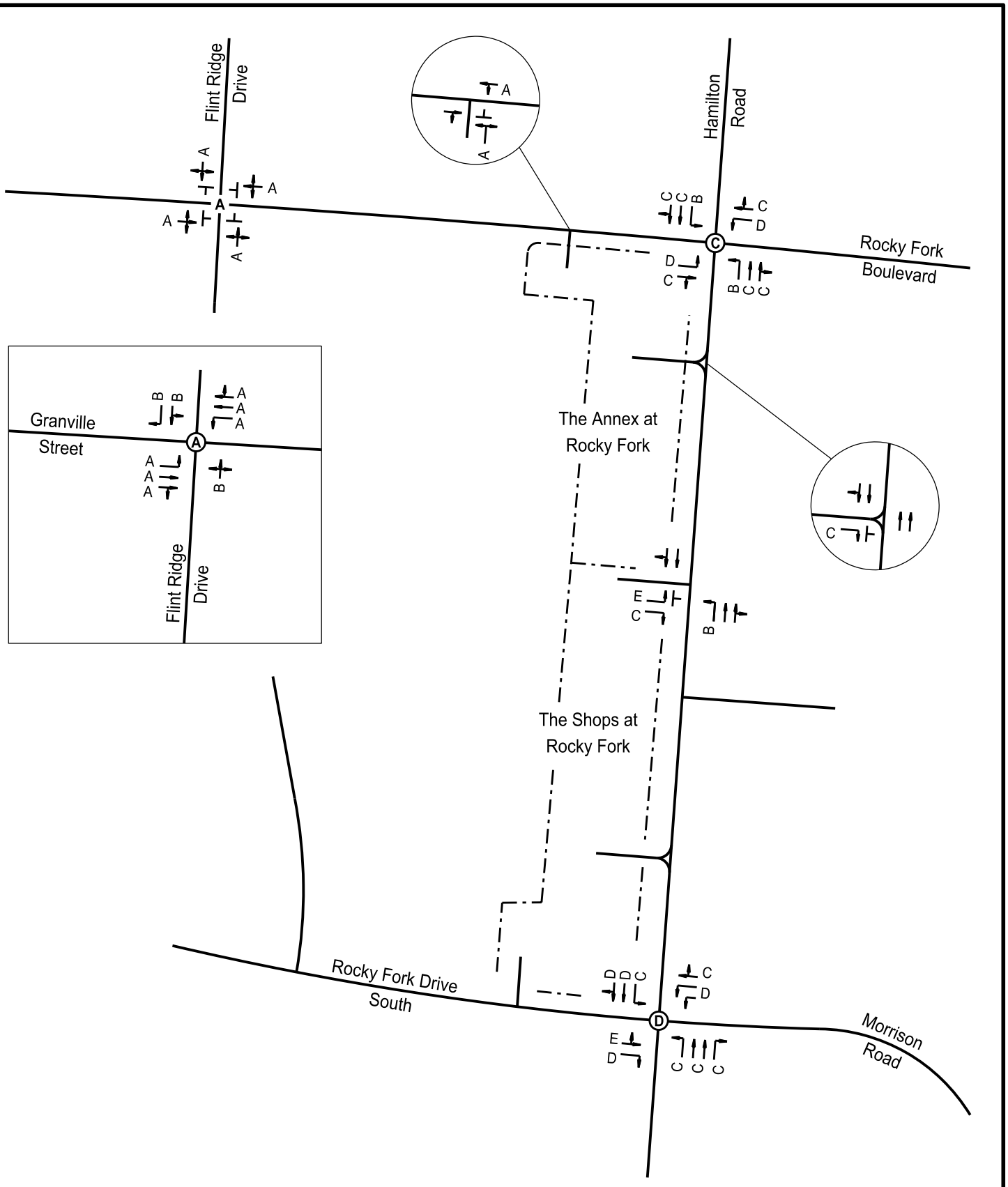

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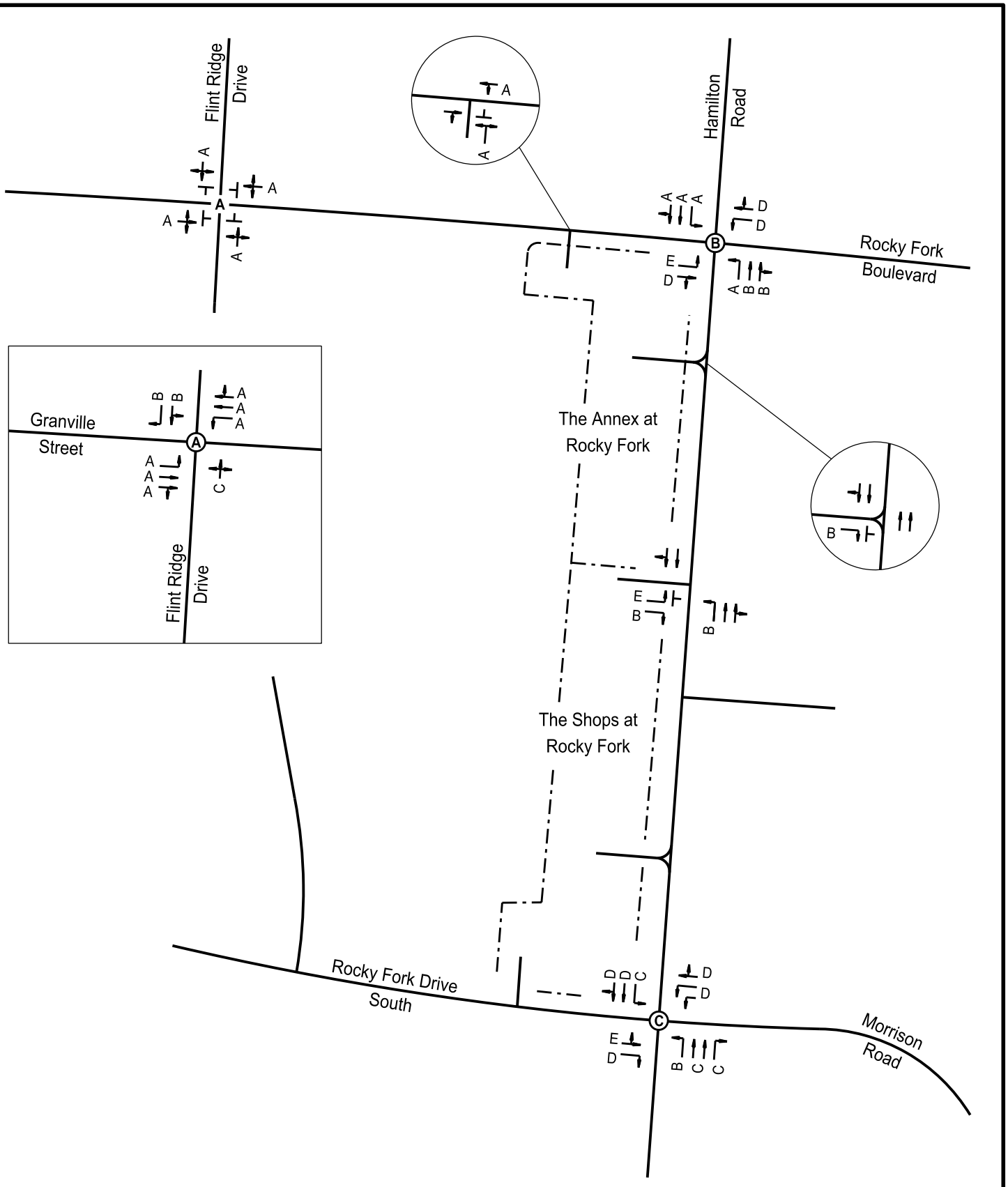

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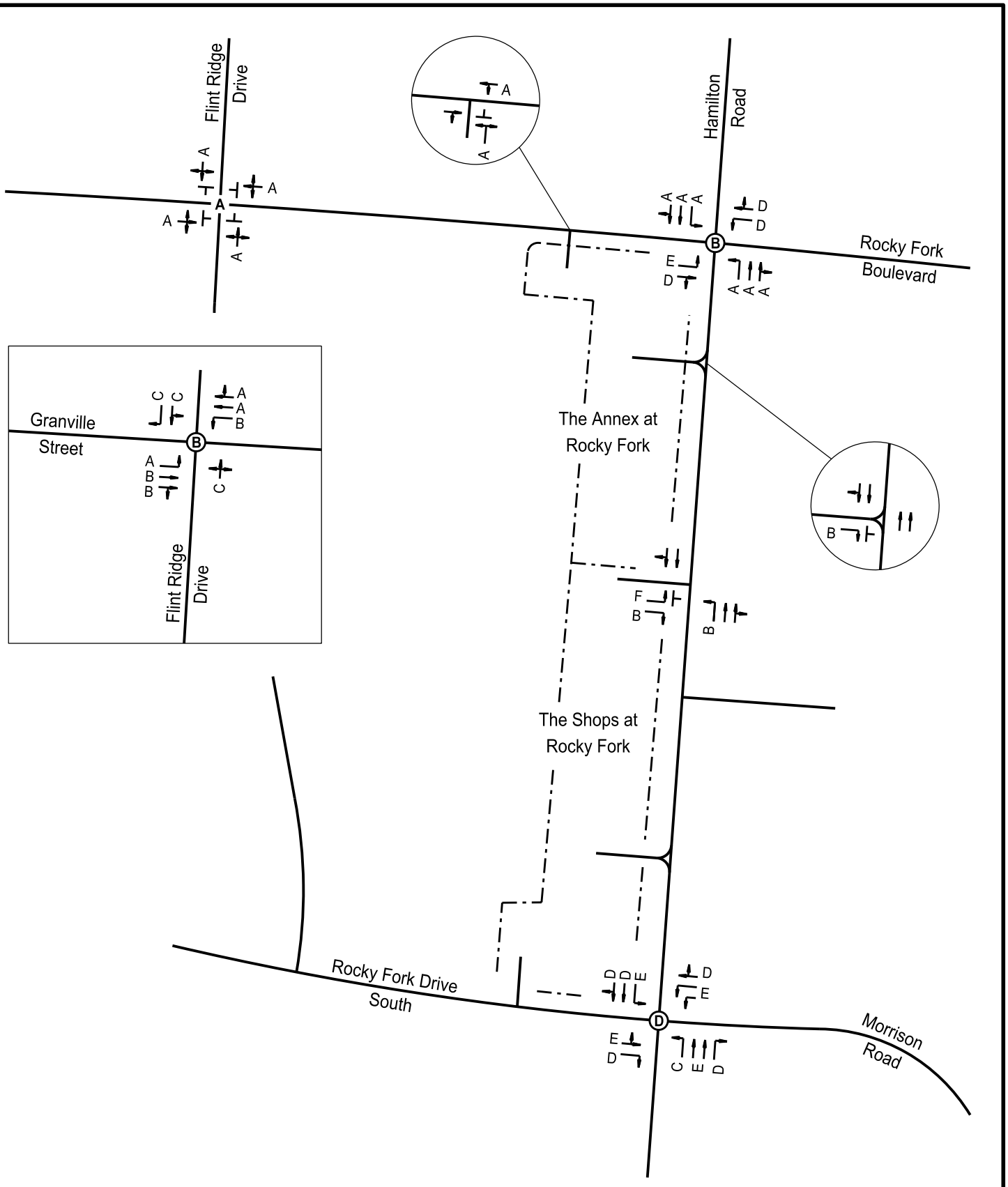
SCALE: N.T.S.			



N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2016 BUILD LEVELS OF SERVICE PM PEAK HOUR	FIGURE 32 DATE 1/23/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			

Design Year (2036) Results

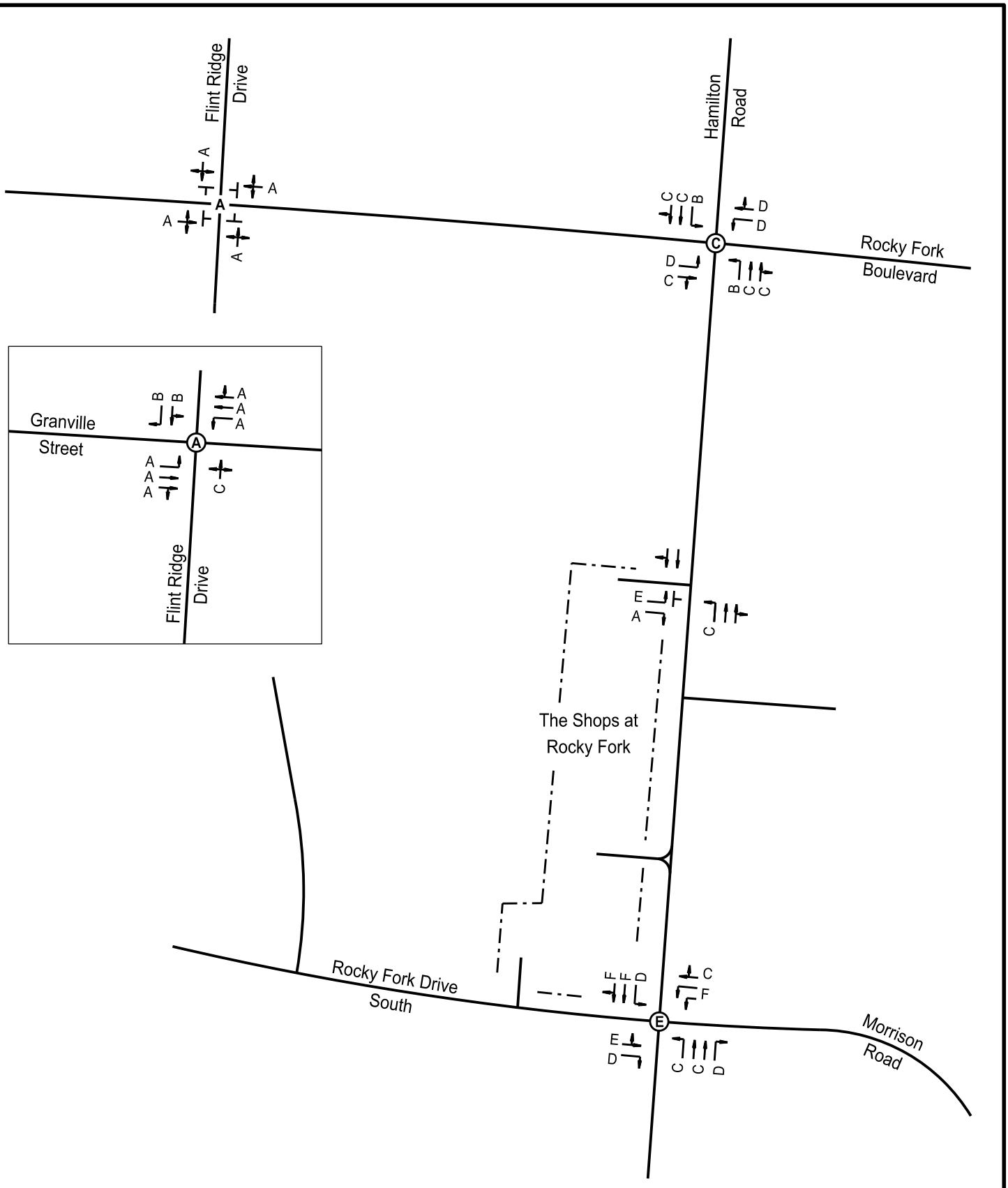
The Synchro outputs for 2036 conditions are contained in Appendix H. Existing cycle lengths were retained while phase splits and offsets were optimized. The cycle length and phase splits for the signal at Granville and Flint Ridge was optimized. The timing data used to obtain these results is also found in Appendix H.

2036 “no build” levels of service are illustrated in Figures 33 – 35. Most intersections continue to operate at acceptable levels of service in the design year. However, the intersection of Hamilton Road and Morrison Road/Rocky Fork Drive South does not meet operating requirements in the AM or PM peak hours. In the AM, the projected westbound left turn volume is nearly 960 vehicles per hour. Both the westbound left turn movement and the southbound through movement are over capacity and operate at LOS F. The intersection level of service is E in the AM peak hour.

In the PM peak hour, the westbound left turn, northbound through, and southbound left turn movements all operate above their capacity and have a level of service of F. The intersection level of service is E; with an intersection delay of 79.6 sec/veh, this is just below the threshold for a level of service F (80.0 sec/veh).

2036 “build” levels of service are shown in Figures 36 – 38. In the AM and midday peak hours, the traffic generated by the Annex at Rocky Fork has little impact on any study intersections. Intersection levels of service are the same as for the “no build” condition. The same is generally true for the PM peak hour, except at the intersection of Hamilton Road and Morrison Road/Rocky Fork Drive South. The increase in traffic is just enough to push the intersection delay over the threshold to a level of service F at 83.2 sec/veh. The southbound approach also degrades from level of service D to E. Given that the intersection nearly operates at LOS F in the “no build” condition and that the site traffic accounts for a mere 1.1% of the total entering volume, no improvements are recommended to mitigate this impact. The amount of improvements needed to bring the intersection back to “no build” conditions would be disproportionally large in comparison to the amount of site traffic using the intersection.

Proposed site access points continue to operate at above average levels of service in 2036. The eastbound left turn movement from the full access driveway (that is being constructed as part of the Shops at Rocky Fork) will operate at LOS F due to the delay incurred while waiting for an acceptable gap in through traffic. Again, vehicles may instead exit onto Rocky Fork Drives North and turn left at the signal. If this is the case, there is additional capacity available at the intersection of Hamilton and Rocky Fork Boulevard/Rocky Fork Drive North.



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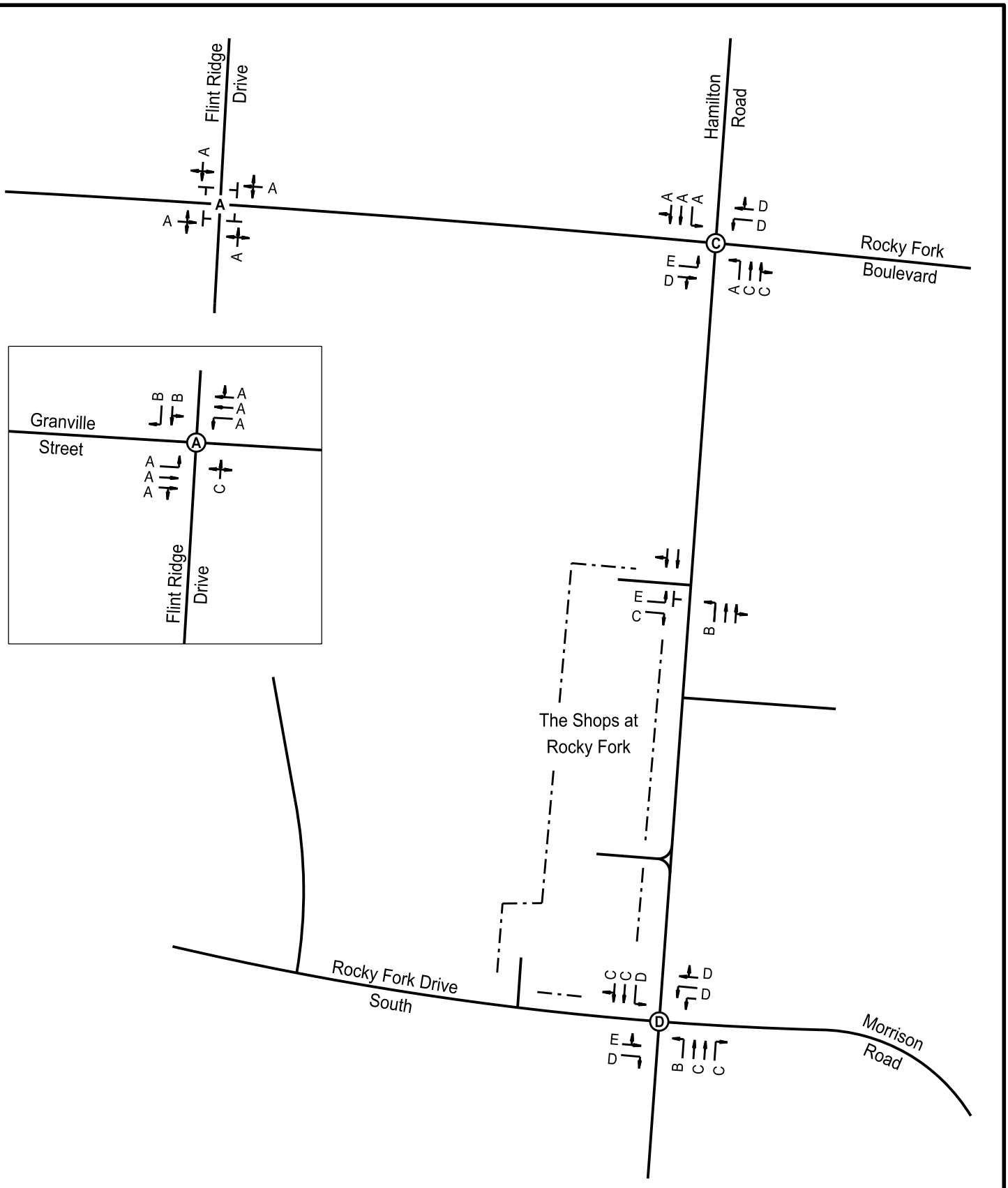

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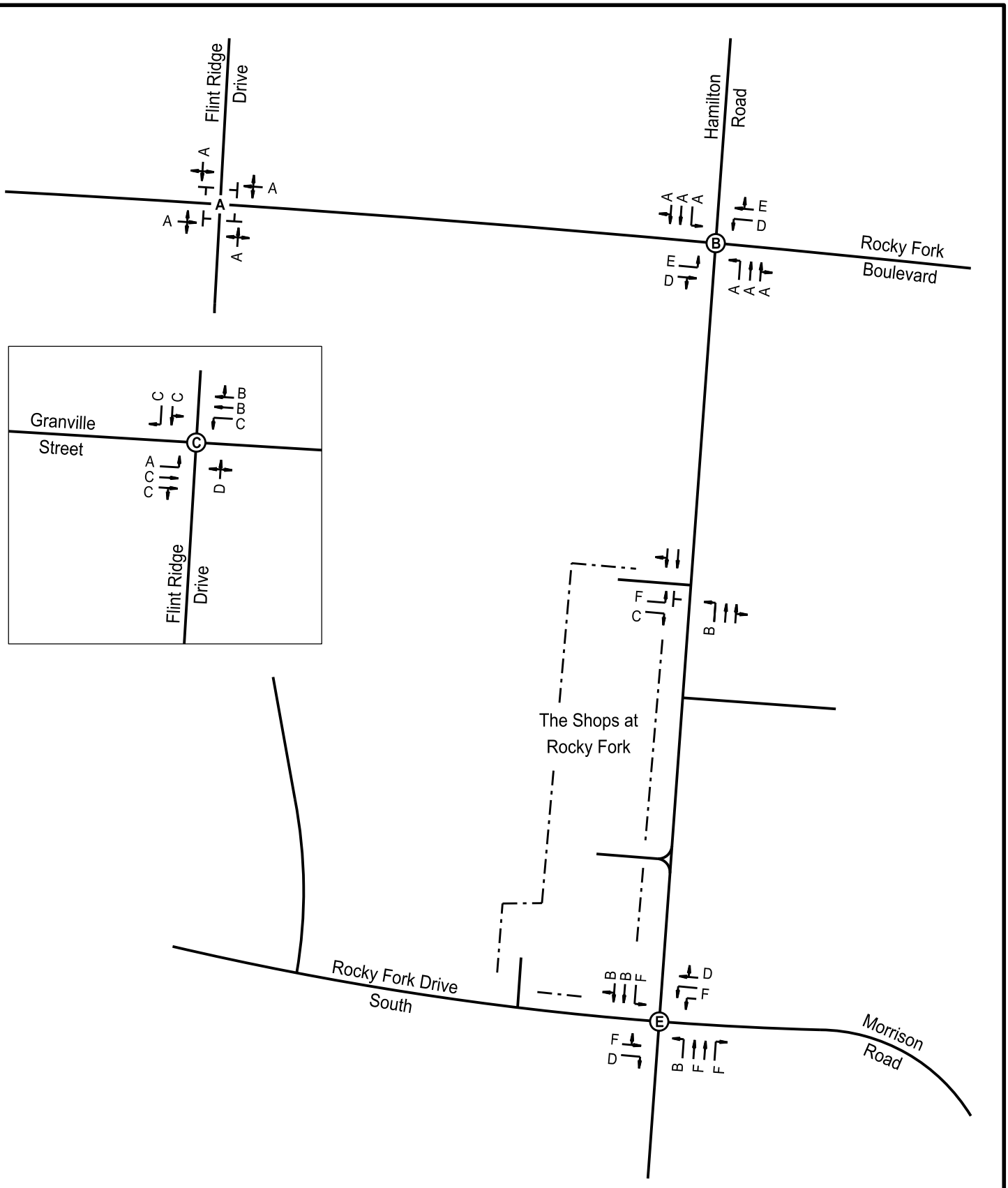

N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 NO BUILD LEVELS OF SERVICE PM PEAK HOUR	FIGURE 35 DATE 1/23/15 D.B. AMC C.B. MIM REV.
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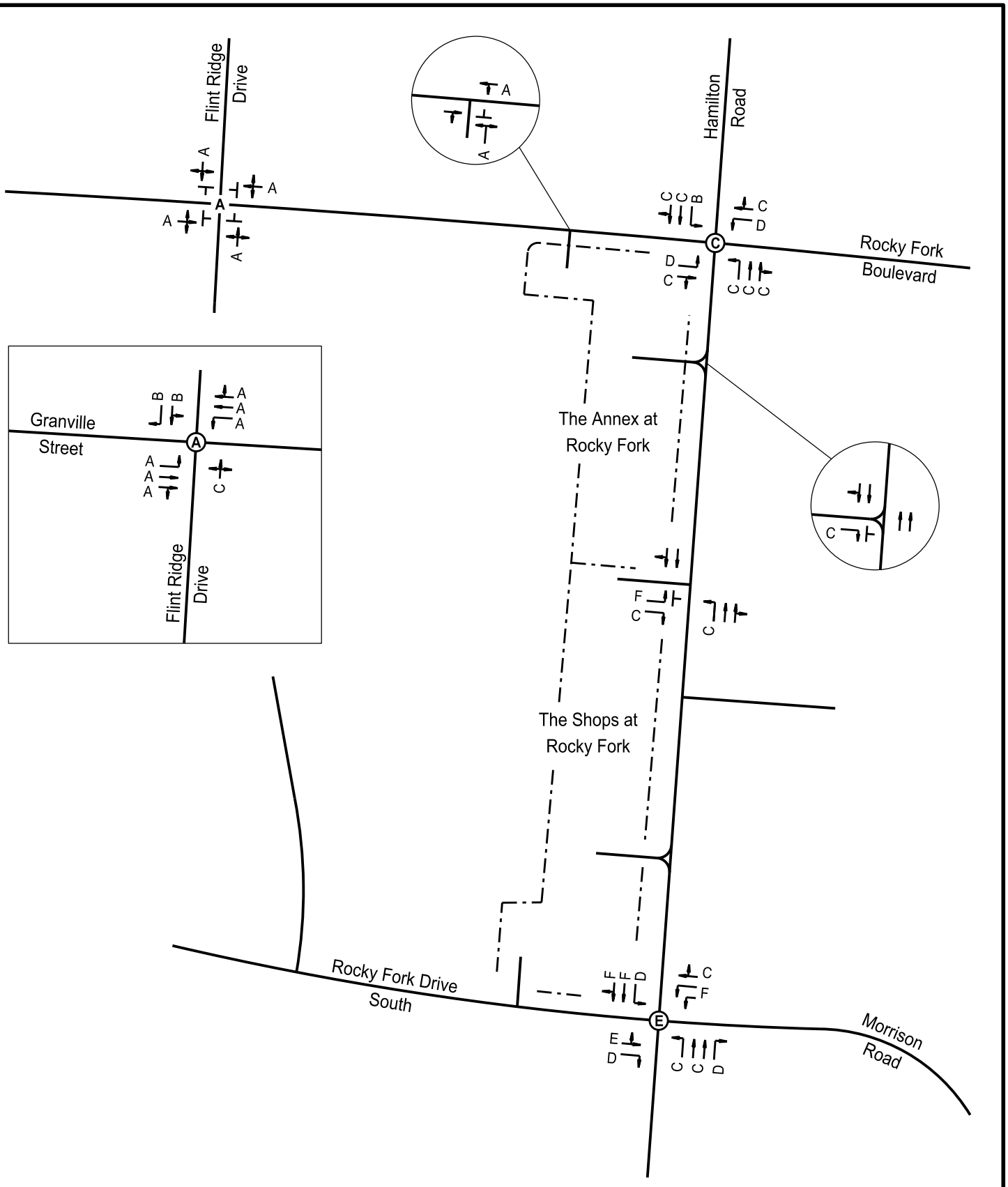

N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 BUILD LEVELS OF SERVICE AM PEAK HOUR	FIGURE 36 DATE 1/23/15 D.B. AMC C.B. MIM REV.
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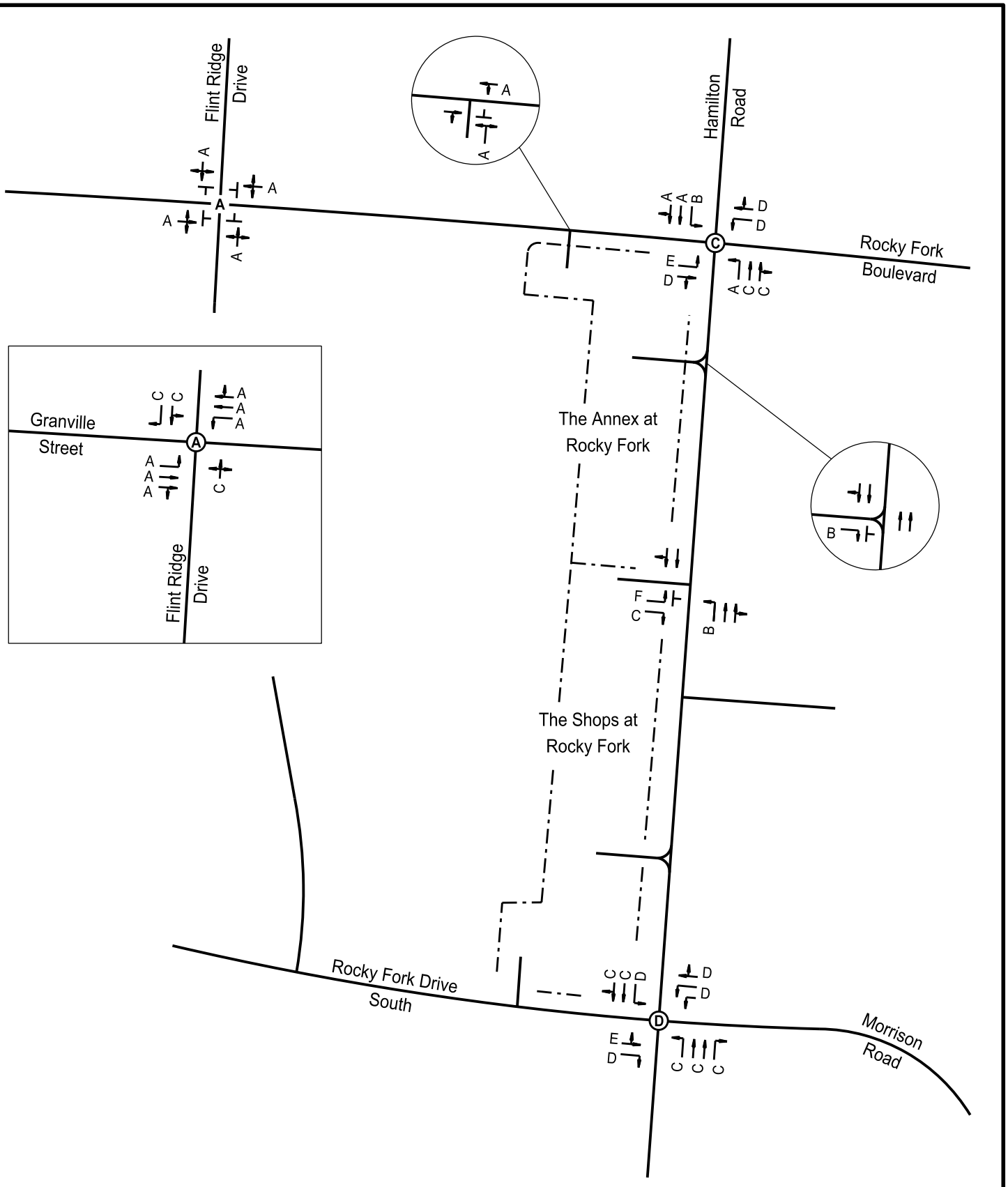

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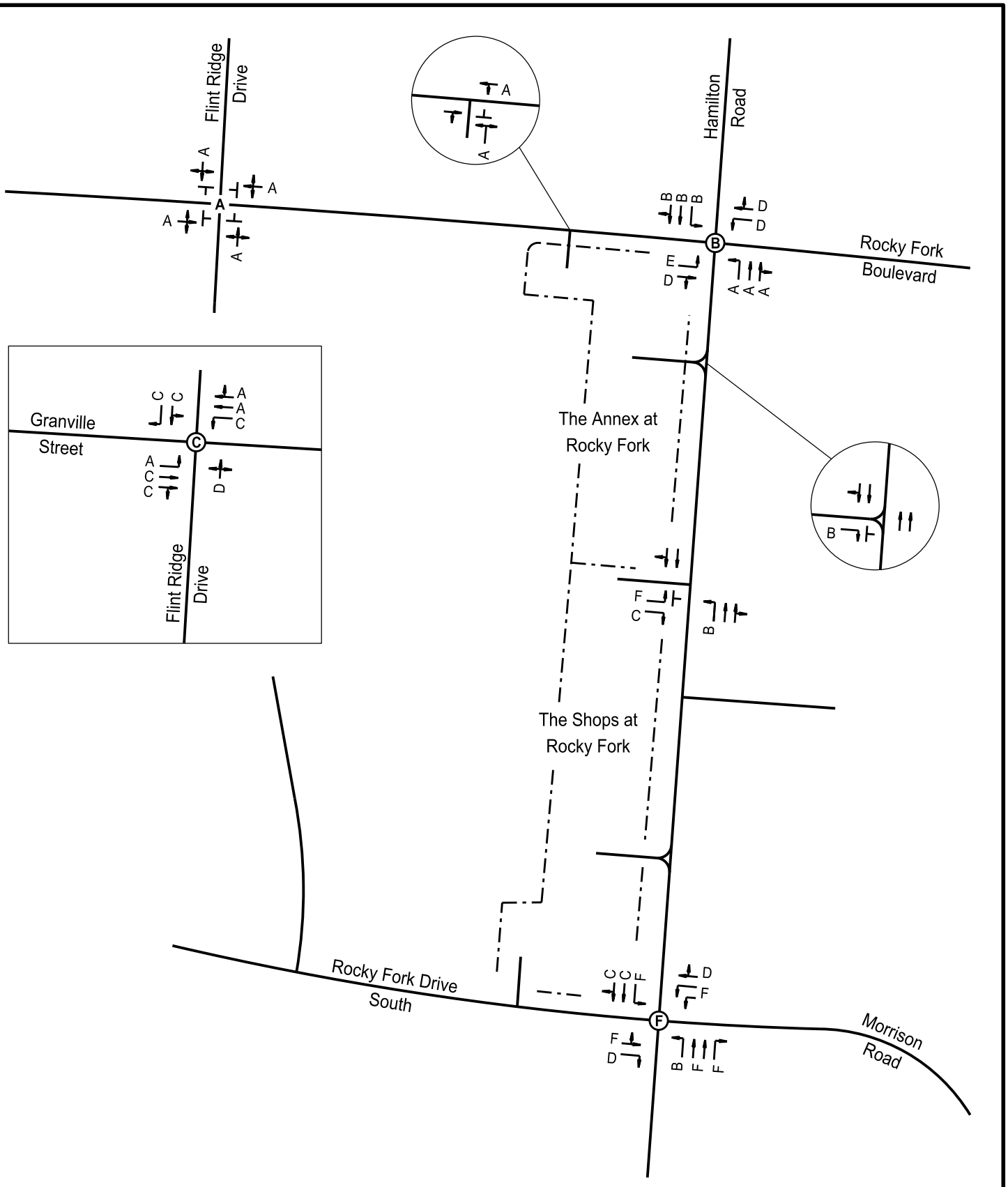


N	Trans Associates Transportation Solutions for Today and Tomorrow 941 Chatham Lane, Suite 319 Columbus, OH, 43221 / (614) 459-7930	PROJECT NO. GALZAD - 14296 PROJECT: THE ANNEX AT ROCKY FORK TITLE: 2036 BUILD LEVELS OF SERVICE PM PEAK HOUR	FIGURE 38 DATE 1/23/15 D.B. AMC C.B. MIM REV.
SCALE: N.T.S.			

Queuing Analyses

Queuing analyses were performed to identify potential blocking issues at the full access driveway on Rocky Fork Drive North and to determine turn lane length requirements. Queues were estimated using (1) SimTraffic queuing analysis and (2) ODOT L&D Manual procedures. The results of these queuing analyses are contained in Appendix I.

At the intersection of Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North, the eastbound and northbound approaches were of interest. Queuing analysis results for this intersection are summarized in Table 5. There will be roughly 200' of storage available for the eastbound approach of Rocky Fork Drive North between the proposed full access driveway and Hamilton Road. It is imperative that queues on the eastbound approach of the signal not back up past the full access driveway and inhibit westbound left turns into the site. This scenario could result in westbound queues on Rocky Fork Drive North backing up to the signal. However, both SimTraffic and ODOT L&D results show that this should not be an issue as queues on the eastbound signal approach will typically be well below 200'. According to simulation, eastbound queues may block the full access driveway only 2% of the time during the AM and midday peak hours and for 5% of the PM peak hour.

Table 4. Queuing Analysis Results, Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North

Lane	Existing Storage Length (ft)	Condition	SimTraffic*		ODOT L&D		Recommended Storage Length (ft)
			Required Storage Length (ft)	Through Queue Backup (ft)	Required Storage Length (ft)	Through Queue Backup (ft)	
Eastbound Left	100	No Build	61	99	100	150	150
		Build	97	116	150	150	150
Westbound Left	255	No Build	292	243	375	375	375
		Build	296	334	375	375	375
Northbound Left	100	No Build	79	363	50	945	100 (Existing)
		Build	87	191	100	945	100 (Existing)
Southbound Left	355	No Build	211	373	325	750	355 (Existing)
		Build	217	428	325	750	355 (Existing)

*95th Percentile Queues

Based on the results in Table 5, consideration should be given to increasing the eastbound left turn lane storage from 100' to 150' for "no build" conditions due to through queue backup. An eastbound left turn lane length of 150' is also recommended for "build" conditions. Consideration may be given to increasing westbound left turn lane length for "no build" conditions, which would require 375' of storage. Site generated traffic does not increase the storage requirement of the westbound left turn lane. The existing northbound and southbound left turn lane storage is sufficient for "no build" and "build" conditions.

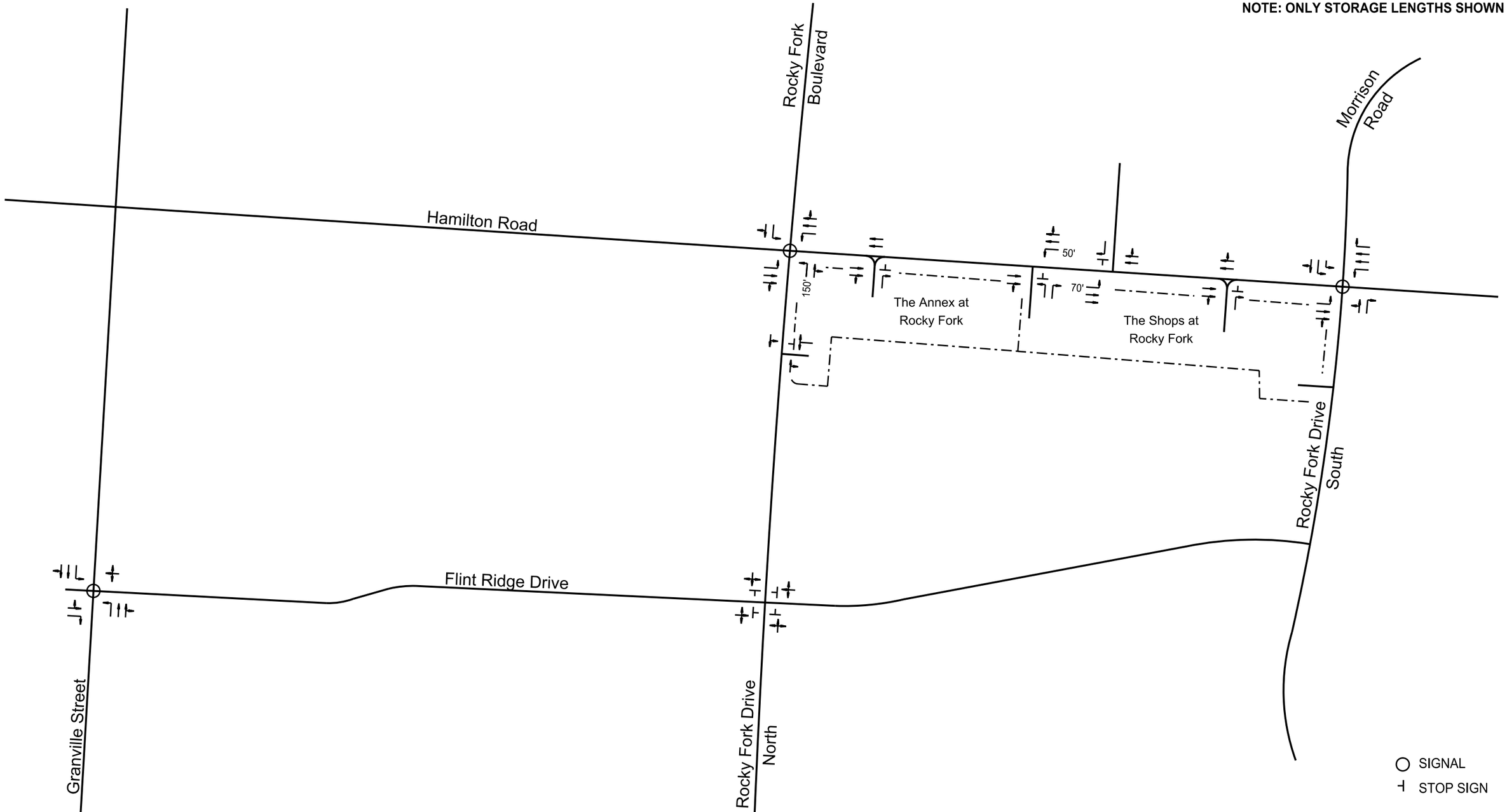
It is recognized that the available storage between the existing driveway on the east side of Hamilton Road and the full access driveway being constructed with the Shops at Rocky Fork is less than desirable. After discussions with representatives from the City of Gahanna, it was suggested that the southbound left turn lane be provided 70' of storage while the northbound left turn lane be provided 50' of storage as part of the construction of the Shops at Rocky Fork. These recommended storage lengths have maximized the available storage between the two driveways and therefore cannot be increased.

This issue may be further exacerbated in the “build” condition with additional traffic being added to the northbound left turn movement into the full access driveway serving the Shops at Rocky Fork. Queuing analyses were performed to identify whether or not left turn queues could potentially backup into adjacent through lanes. In the AM peak hour, the southbound through movement is heaviest and thus southbound left turn queues into the existing full access driveway were of interest. In this case, it was found that the left turn queue is contained within the 70-foot storage bay a majority of the time. However, the southbound through queues from the signal at Hamilton Road and Morrison Road/Rocky Fork Drive South may backup past both driveways and inhibit left turns.

In the PM peak hour, the primary direction of travel is northbound. Queues in the northbound left turn lane are again mostly contained within the provided 50-foot storage bay. The northbound left turn lane will on average be filled less than 10% of the time. These results show that while it is a possibility, left turn queue spillback will likely have a minimal effect on through traffic. However, this condition should be continuously monitored as traffic continues to grow on Hamilton Road.

Based on the results of these queuing analyses, the recommended “build”/”build plus” lane usages and traffic control are illustrated in Figure 39.

NOTE: ONLY STORAGE LENGTHS SHOWN



SCALE: N.T.S.

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941 Chatham Lane, Suite 319
Columbus, OH, 43221 / (614) 459-7930

PROJECT NO. GALZAD - 14296

PROJECT: THE ANNEX AT ROCKY FORK

TITLE: RECOMMENDED BUILD LANE USAGES AND TRAFFIC CONTROL

FIGURE 39

DATE 1/19/15
D.B. AMC
C.B. MIM
REV.

Conclusions and Recommendations

Based on the results of “no build” and “build” analyses, the likely impacts of the newly generated traffic from the proposed Annex at Rocky Fork were determined. The results showed that the new traffic into and out of the development has minimal impact on the study intersections or the adjacent neighborhood.

The study concludes that at its peak an additional 16 vehicles may drive through the neighborhood. This is on average an additional vehicle approximately every 3.5 to 4 minutes or less than a 10% increase of traffic for the design year. Additionally, previous studies concluded that the drive time from Granville Road to the Shops at Rocky Fork via Slate Ridge was greater than the drive time via Hamilton Road.

The only notable “build” impact was found at the signalized intersection of Hamilton Road and Morrison/Rocky Fork Drive South for 2036 PM peak hour conditions. The increase in traffic is just enough to push the intersection level of service from E to F. However, the intersection nearly operates at LOS F in the “no build” condition and the site traffic accounts for a mere 1.1% of the total entering volume. The amount of improvements needed to bring the intersection back to “no build” conditions would be disproportionally large in comparison to the amount of site traffic using the intersection. As such, no improvements are recommended to mitigate this impact.

Simulation and queuing analyses were performed and they show that the prospective location of the full access driveway on Rocky Fork Drive North is not likely to be blocked due to eastbound queues at the signalized intersection. There is roughly 200’ of storage available between the signalized intersection and site driveway, and queuing analyses showed that this is adequate to prevent blocking of the driveway. Turn lane length requirements at the intersection of Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North were also identified. Based on this, the following improvements are recommended:

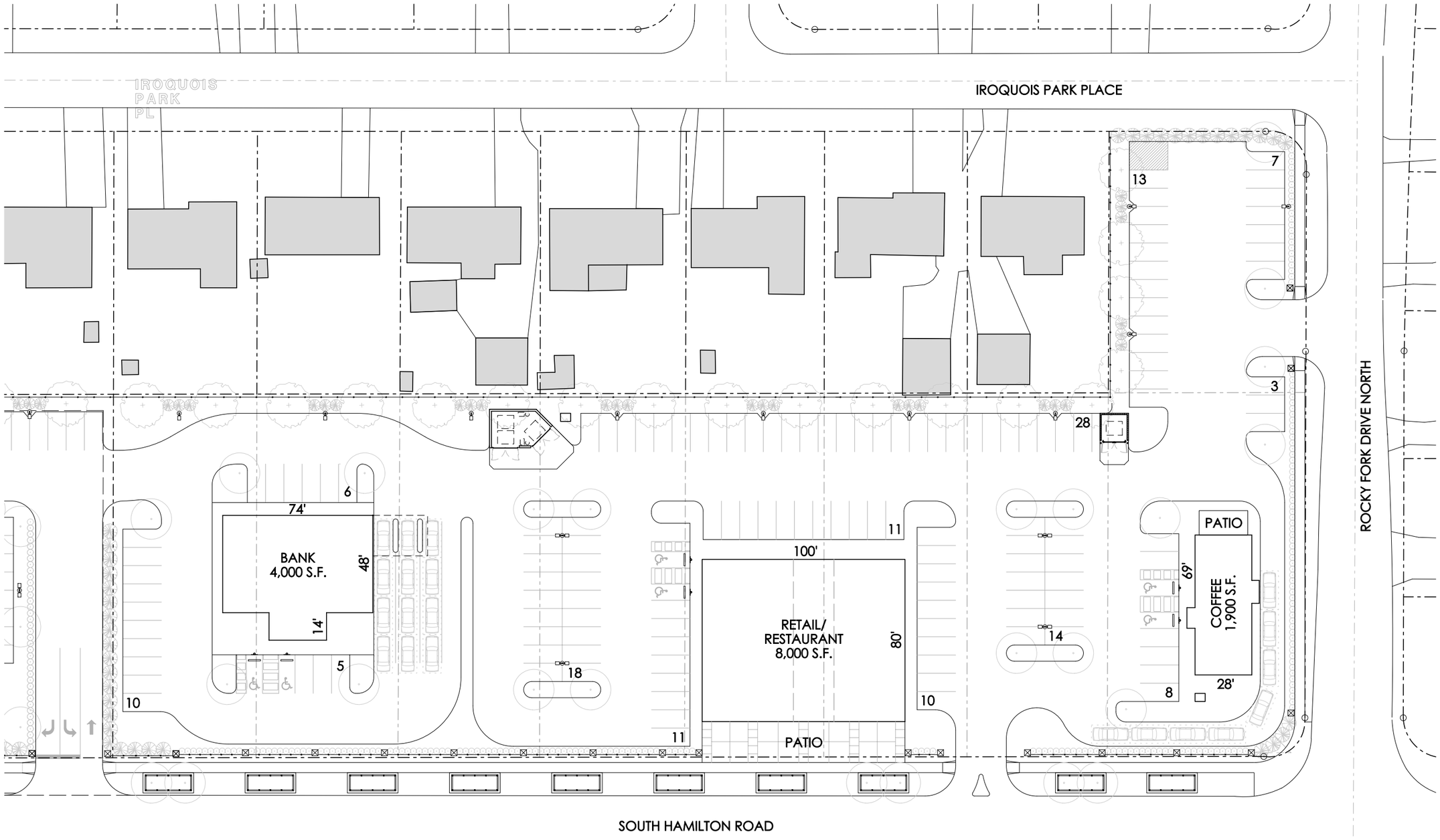
Hamilton Road and Rocky Fork Boulevard/Rocky Fork Drive North Improvements:

- Increase eastbound left turn lane storage from 100’ to 150’

Based upon the results of this traffic study, it can be concluded that the subject site can be developed as proposed and that traffic generated by the development can be accommodated safely and efficiently.

Appendices

Appendix A. Site Plan Information



A CONCEPTUAL SITE PLAN

SCALE: 1" = 50'-0"

0 50 100 200

BEAN

J CARTER BEAN ARCHITECT
4400 NORTH HIGH STREET
SUITE 401 • COLUMBUS
OHIO • 43214
TEL 614 262 0660
FAX 614 262 2329

THE ANNEX AT ROCKY FORK

SOUTH HAMILTON ROAD
GAHANNA, OHIO 43230

FOR

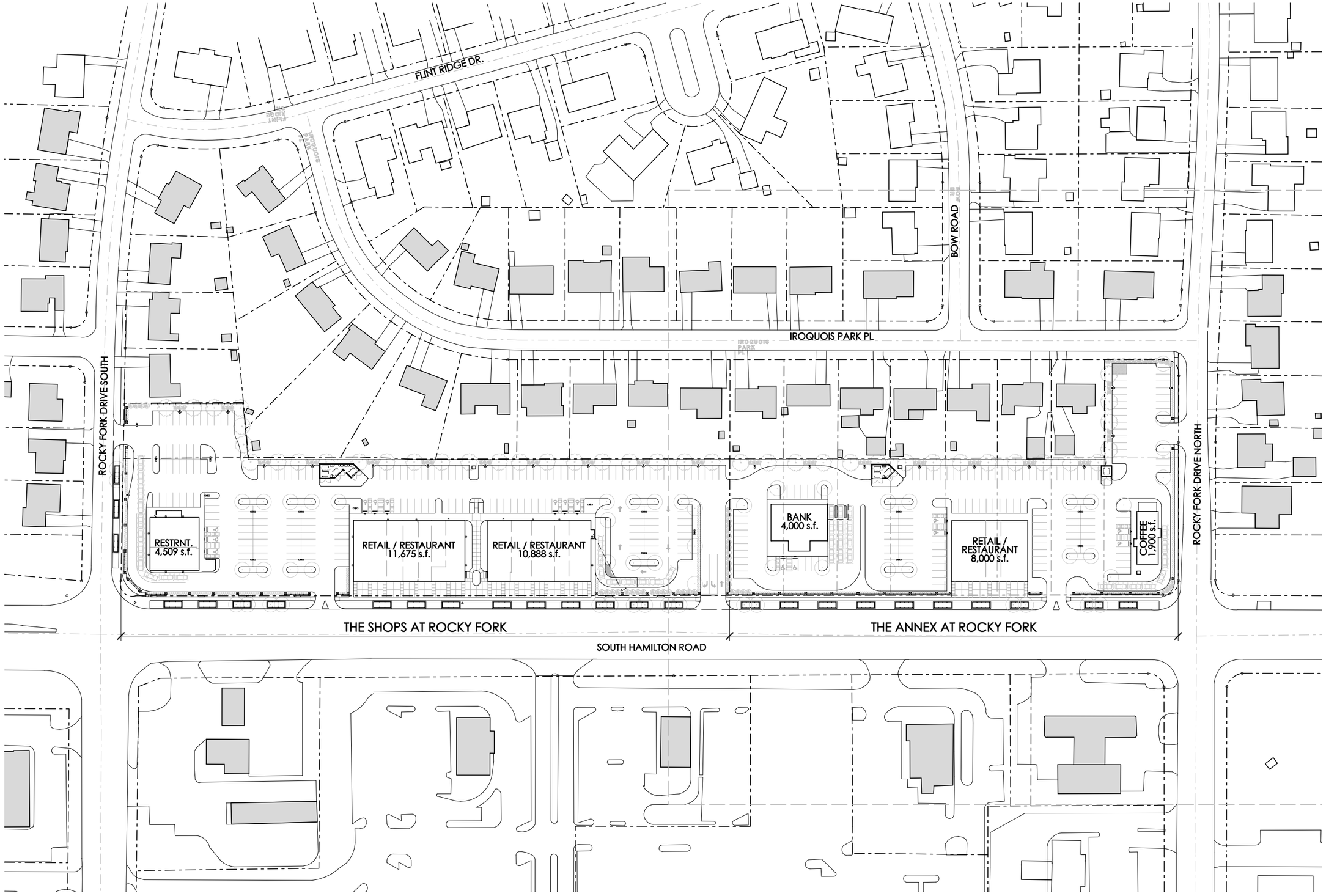
GALLAS ZADEH DEVELOPMENT
575 WEST FIRST AVENUE, SUITE 100
COLUMBUS, OHIO 43215

ISSUE	REVISION	DATE
PRELIMINARY		OCT. 13, 2014
		OCT. 14, 2014
		OCT. 15, 2014
		OCT. 16, 2014
		NOV. 12, 2014
		DEC. 10, 2014
		JAN. 13, 2015
		JAN. 30, 2015

CONCEPTUAL SITE PLAN

BEAN# 00000.00

SD-1.1
K



A MASTER PLAN- THE SHOPS AT ROCKY FORK & THE ANNEX

SCALE: N.T.S.

BEAN

J CARTER BEAN ARCHITECT
4400 NORTH HIGH STREET
SUITE 401 • COLUMBUS
OHIO • 43214

TEL 614 262 BEAN
FAX 614 262 2329

THE SHOPS AT ROCKY FORK AND THE ANNEX

SOUTH HAMILTON ROAD
GAHANNA, OHIO 43230

FOR

GALLAS ZADEH DEVELOPMENT
575 WEST FIRST AVENUE, SUITE 100
COLUMBUS, OHIO 43215

ISSUE	REVISION	DATE
PRELIMINARY		JAN. 13, 2015
		JAN. 14, 2015
		JAN. 21, 2015
		JAN. 28, 2015
		JAN. 29, 2015
		JAN. 30, 2015

MASTER PLAN

BEAN# 00000.00

MP-6

Appendix B. Existing Signal Timing Data

Hamilton-Rocky Fork Blvd Signal Timing Information

Timing Plans

PLANID	S1	S2	S4	S5	S6	S8	CL	OFF	LD	REF	CLR
1	15	55	30	15	55	30	100	62	15	26+	0
2	15	57	38	15	57	38	110	12	15	26+	0
6	15	45	30	15	45	30	90	65	15	26+	0
8	15	63	42	15	63	42	120	100	15	26+	0

Phasing Data

RECORDNAME	D1	D2	D4	D5	D6	D8
BRP	111	112	212	121	122	222
MinGreen	5	20	5	5	20	5
MaxGreen	25	70	40	25	70	40
MinSplit	5	20	5	5	20	5
MaxExtension	0	0	5	0	0	0
VehExt	3	5	3.7	3	5	3.7
Yellow	3	3	3	3	3	3
AllRed	1	1	1	1	1	1
DualEntry	0	1	1	0	1	1
Recall	0	1	0	0	1	0
Walk	0	7	7	0	7	7
DontWalk	0	18	23	0	18	23

Hamilton-Morrison Signal Timing Information

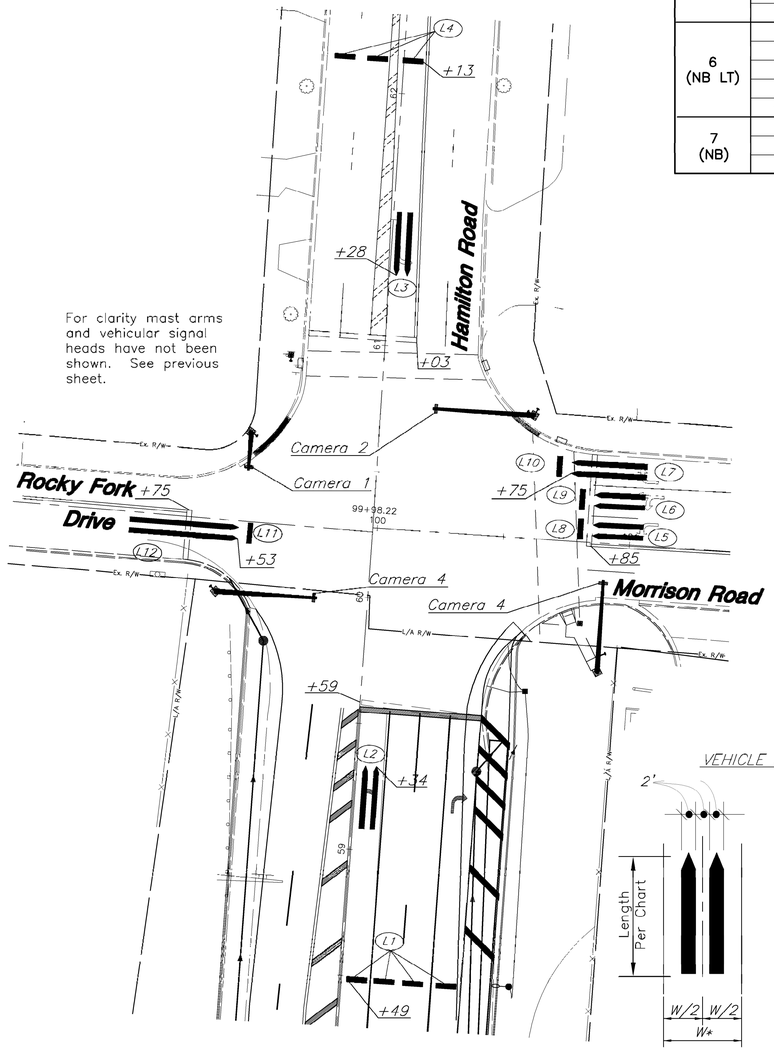
Phases	Patterns				MTWRF		SAT		SUN	
	1	***2***	***6***	***8***	**TOD**	**Pattern**	**TOD**	**Pattern**	**TOD**	**Pattern**
1	18	22	14	18	*0:00*	*Free*	*0:00*	*Free*	*0:00*	*Free*
2	41	40	32	60	*6:30*	*2*	*7:00*	*1*	*8:00*	*1*
3	24	32	27	30	*9:00*	*1*	*22:00*	*Free*	*22:00*	*Free*
4	17	16	17	12	*11:20*	*8*				
5	12	12	14	13	*20:30*	*6*				
6	47	50	32	65	*22:00*	*Free*				
7	17	16	17	12						
8	24	32	27	30						
	100	110	90	120						

Timing Data By Phase

	1	2	3	4	5	6	7	8
min	8	15	8	8	8	15	8	8
walk		7						7
clear		23						22
ext.	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
max1	26	55	40	20	20	55	20	40
yel	3.0	4.5	3.0	3.0	3.0	4.5	3.0	3.0
red	1.0	1.5	2.0	1.8	1.0	1.5	1.8	2.0
	12.0	***36.0***	***13.0***	***12.8***	***12.0***	***21.0***	***12.8***	***34.0***

VIDEO DETECTION HOOK-UP CHART

Detector	Camera	Symbol	Phase	Size	Count	Presence	Directionality	Delay
L1	2	▬	ø2	4 @ 2' x 8'	X		Disabled	0 Sec
L2	2	▬▬	ø5	2 @ 25' x 2'		X	Enabled	2 Sec
L3	4	▬▬	ø1	2 @ 25' x 2'		X	Enabled	2 Sec
L4	4	▬	ø6	3 @ 2' x 8'	X		Disabled	0 Sec
L5	1	▬▬	ø3	2 @ 20' x 2'		X	Enabled	2 Sec
L6	1	▬▬	ø3	2 @ 20' x 2'		X	Enabled	0 Sec
L7	1	▬▬	ø8	2 @ 30' x 2'		X	Enabled	10 Sec
L8	1	▬	ø3	2' x 8'	X		Enabled	0 Sec
L9	1	▬	ø3	2' x 8'	X		Disabled	0 Sec
L10	1	▬	ø8	2' x 8'	X		Disabled	10 Sec
L11	3	▬	ø4	2' x 8'	X		Disabled	0 Sec
L12	3	▬▬	ø4	2 @ 40' x 2'		X	Enabled	2 Sec

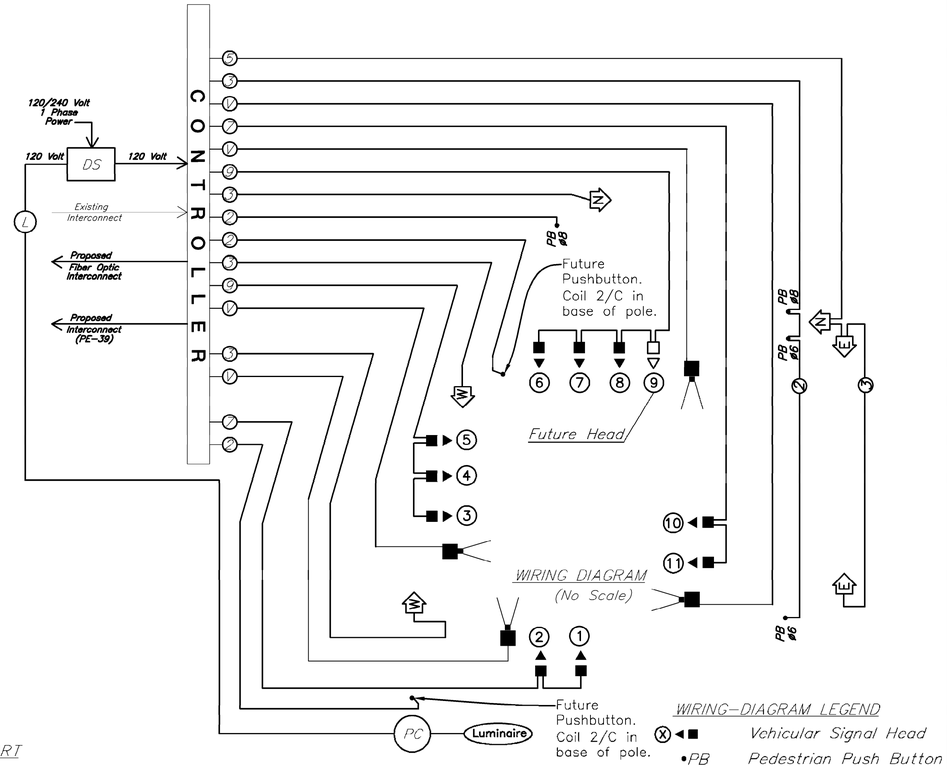


For clarity mast arms and vehicular signal heads have not been shown. See previous sheet.

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (SB LT)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
	~~Y~~	ø1 Y	
	~~G~~	ø1 G	
2 (SB)	R	ø6 R	Y
	Y	ø6 Y	
	G	ø6 G	
3 (WB LT)	R	ø8 R	R
	~~Y~~	ø3 Y	
	~~G~~	ø3 G	
4 (WB)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
	~~G~~	ø3 G	
5 (WB RT)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
	~~Y~~	ø1 Y	
	~~G~~	ø1 G	
6 (NB LT)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
	~~Y~~	ø5 Y	
	~~G~~	ø5 G	
7 (NB)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
FUTURE 8 (NB)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
8 (NB RT)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
	~~Y~~	ø3 Y	
	~~G~~	ø3 G	
FUTURE 9 (NB RT)	R	ø2 R	Y
	Y	ø2 Y	
	G	ø2 G	
	~~Y~~	ø3 Y	
	~~G~~	ø3 G	
10 (EB LT)	R	ø4 R	R
	Y	ø4 Y	
	G	ø4 G	
	~~G~~	ø7 G	
11 (EB)	R	ø4 R	R
	Y	ø4 Y	
	G	ø4 G	
E	WALK	G ø2-W	OFF
	DON'T WALK	R ø2-DW	
W	WALK	G ø6-W	OFF
	DON'T WALK	R ø6-DW	
N	WALK	G ø8-W	OFF
	DON'T WALK	R ø8-DW	



TIMING CHART

PHASE	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
MOVEMENT	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB
MIN INITIAL								
PASS TIME								
MAX GRN 1								
MAX GRN 2								
MAX GRN 3								
YELLOW								
RED CLR								
WALK								
PED CLR		18				14		19
PED RECALL								
VEH RECALL						ON		
MEMORY								

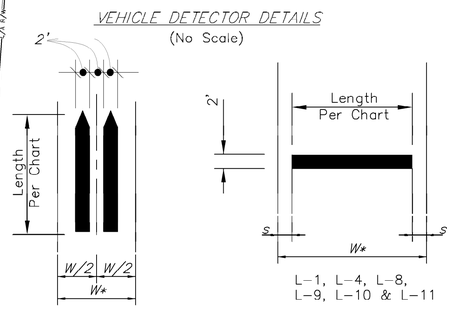
All timings shall remain as existing, except as noted above.

WIRING-DIAGRAM LEGEND

- Vehicular Signal Head
- PB — Pedestrian Push Button
- E — Pedestrian Signal Head
- Video Detection Camera
- V — 6 PR # 19 AWG (Video Detection Cable)
- PC — Photo Cell
- DS — Disconnect Switch
- L — 2-#8 AWG, 600Volt, Distribution Cable

VEHICLE DETECTOR DETAILS

(No Scale)

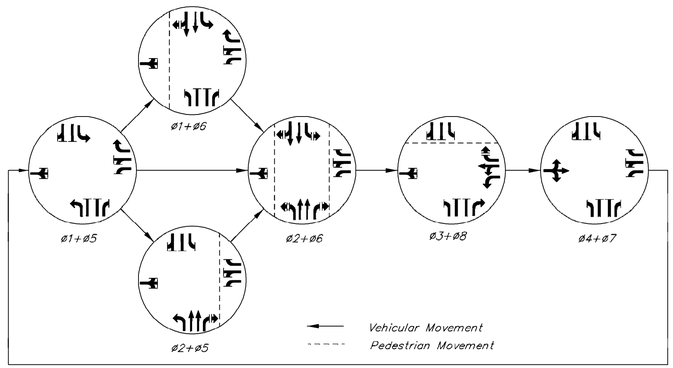


L-2, L-3, L-5, L-6, L-7, & L-12

L-1, L-4, L-8, L-9, L-10 & L-11

* Lane Width. Does not include Width of Curb and Gutter.

S = Space on each side of detector shall be equal.



EXISTING PHASING DIAGRAM

HORIZ. SCALE 30 0 15 30

CALCULATED EPP CHECKED JDS

HAMILTON ROAD @ MORRISON ROAD
TRAFFIC SIGNAL WIRING DETAILS / DETECTOR DETAILS

FRA-270-37.04

98
136

Appendix C. Traffic Count Data

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: cool, clear
Other:

File Name : Hamilton-Morrison AM-noon
Site Code : 13362
Start Date : 11/19/2013
Page No : 1

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					MORRISON ROAD Westbound					HAMILTON ROAD Northbound					ROCKY FORK DRIVE SOUTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	4	308	37	1	349	48	3	213	0	264	94	193	9	0	296	30	5	4	0	39	1	948	949
07:30 AM	4	315	46	0	365	42	4	221	0	267	135	189	10	0	334	33	9	7	0	49	0	1015	1015
07:45 AM	8	274	59	0	341	35	12	200	0	247	150	169	20	0	339	44	12	8	0	64	0	991	991
Total	16	897	142	1	1055	125	19	634	0	778	379	551	39	0	969	107	26	19	0	152	1	2954	2955
08:00 AM	5	292	43	0	340	30	5	169	0	204	131	167	6	0	304	42	10	13	0	65	0	913	913
*** BREAK ***																							
Total	5	292	43	0	340	30	5	169	0	204	131	167	6	0	304	42	10	13	0	65	0	913	913
*** BREAK ***																							
12:00 PM	0	120	63	2	183	76	3	126	0	205	70	168	7	0	245	10	8	4	0	22	2	655	657
12:15 PM	2	142	53	0	197	52	5	113	0	170	109	149	7	0	265	9	6	2	0	17	0	649	649
12:30 PM	0	139	53	1	192	70	1	145	0	216	76	170	8	0	254	10	7	6	0	23	1	685	686
12:45 PM	3	141	66	1	210	56	4	139	0	199	90	158	7	0	255	9	11	2	0	22	1	686	687
Total	5	542	235	4	782	254	13	523	0	790	345	645	29	0	1019	38	32	14	0	84	4	2675	2679
Grand Total	26	1731	420	5	2177	409	37	1326	0	1772	855	1363	74	0	2292	187	68	46	0	301	5	6542	6547
Apprch %	1.2	79.5	19.3			23.1	2.1	74.8			37.3	59.5	3.2			62.1	22.6	15.3					
Total %	0.4	26.5	6.4		33.3	6.3	0.6	20.3		27.1	13.1	20.8	1.1		35	2.9	1	0.7		4.6	0.1	99.9	
Passenger	26	1726	417		2174	403	37	1305		1745	839	1355	74		2268	187	68	46		301	0	0	6488
% Passenger	100	99.7	99.3	100	99.6	98.5	100	98.4	0	98.5	98.1	99.4	100	0	99	100	100	100	0	100	0	0	99.1
HV	0	5	3		8	6	0	21		27	16	8	0		24	0	0	0		0	0	0	59
% HV	0	0.3	0.7	0	0.4	1.5	0	1.6	0	1.5	1.9	0.6	0	0	1	0	0	0	0	0	0	0	0.9

	HAMILTON ROAD Southbound				MORRISON ROAD Westbound				HAMILTON ROAD Northbound				ROCKY FORK DRIVE SOUTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 10:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	4	308	37	349	**48**	3	213	264	94	**193**	9	296	30	5	4	39	948
07:30 AM	4	**315**	46	**365**	42	4	**221**	**267**	135	189	10	334	33	9	7	49	**1015**
07:45 AM	**8**	274	**59**	341	35	**12**	200	247	**150**	169	**20**	**339**	**44**	**12**	8	64	991
08:00 AM	5	292	43	340	30	5	169	204	131	167	6	304	42	10	**13**	**65**	913
Total Volume	21	1189	185	1395	155	24	803	982	510	718	45	1273	149	36	32	217	3867
% App. Total	1.5	85.2	13.3		15.8	2.4	81.8		40.1	56.4	3.5		68.7	16.6	14.7		
PHF	.656	.944	.784	.955	.807	.500	.908	.919	.850	.930	.563	.939	.847	.750	.615	.835	.952

Trans Associates Engineering Consultants, Inc.
941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Hamilton-Morrison AM-noon
Site Code : 13362
Start Date : 11/19/2013
Page No : 2

	HAMILTON ROAD Southbound				MORRISON ROAD Westbound				HAMILTON ROAD Northbound				ROCKY FORK DRIVE SOUTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 10:30 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	120	63	183	**76**	3	126	205	70	168	7	245	**10**	8	4	22	655
12:15 PM	2	**142**	53	197	52	**5**	113	170	**109**	149	7	**265**	9	6	2	17	649
12:30 PM	0	139	53	192	70	1	**145**	**216**	76	**170**	**8**	254	10	7	**6**	**23**	685
12:45 PM	**3**	141	**66**	**210**	56	4	139	199	90	158	7	255	9	**11**	2	22	**686**
Total Volume	5	542	235	782	254	13	523	790	345	645	29	1019	38	32	14	84	2675
% App. Total	0.6	69.3	30.1		32.2	1.6	66.2		33.9	63.3	2.8		45.2	38.1	16.7		
PHF	.417	.954	.890	.931	.836	.650	.902	.914	.791	.949	.906	.961	.950	.727	.583	.913	.975

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: cool, clear
Other:

File Name : Hamilton-Morrison PM
Site Code : 13362
Start Date : 11/18/2013
Page No : 1

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					MORRISON ROAD Westbound					HAMILTON ROAD Northbound					ROCKY FORK DRIVE SOUTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	2	181	30	0	213	54	6	180	0	240	172	307	19	0	498	16	15	8	0	39	0	990	990
04:45 PM	0	178	37	2	215	54	6	166	1	226	152	336	17	0	505	13	12	11	4	36	7	982	989
Total	2	359	67	2	428	108	12	346	1	466	324	643	36	0	1003	29	27	19	4	75	7	1972	1979
05:00 PM	1	169	33	0	203	46	4	185	0	235	172	306	15	0	493	7	11	9	0	27	0	958	958
05:15 PM	3	200	52	2	255	73	7	175	0	255	186	377	37	2	600	14	8	4	0	26	4	1136	1140
05:30 PM	1	164	50	1	215	70	7	176	0	253	164	311	23	0	498	15	9	14	0	38	1	1004	1005
Grand Total	7	892	202	5	1101	297	30	882	1	1209	846	1637	111	2	2594	65	55	46	4	166	12	5070	5082
Apprch %	0.6	81	18.3			24.6	2.5	73			32.6	63.1	4.3			39.2	33.1	27.7					
Total %	0.1	17.6	4		21.7	5.9	0.6	17.4		23.8	16.7	32.3	2.2		51.2	1.3	1.1	0.9		3.3	0.2	99.8	
Passenger	7	890	202		1104	296	30	877		1204	841	1636	110		2589	65	55	46		170	0	0	5067
% Passenger	100	99.8	100	100	99.8	99.7	100	99.4	100	99.5	99.4	99.9	99.1	100	99.7	100	100	100	100	100	0	0	99.7
HV	0	2	0		2	1	0	5		6	5	1	1		7	0	0	0		0	0	0	15
% HV	0	0.2	0	0	0.2	0.3	0	0.6	0	0.5	0.6	0.1	0.9	0	0.3	0	0	0	0	0	0	0	0.3

	HAMILTON ROAD Southbound				MORRISON ROAD Westbound				HAMILTON ROAD Northbound				ROCKY FORK DRIVE SOUTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	178	37	215	54	6	166	226	152	336	17	505	13	**12**	11	36	982
05:00 PM	1	169	33	203	46	4	**185**	235	172	306	15	493	7	11	9	27	958
05:15 PM	**3**	**200**	**52**	**255**	**73**	**7**	175	**255**	**186**	**377**	**37**	**600**	14	8	4	26	**1136**
05:30 PM	1	164	50	215	70	7	176	253	164	311	23	498	**15**	9	**14**	**38**	1004
Total Volume	5	711	172	888	243	24	702	969	674	1330	92	2096	49	40	38	127	4080
% App. Total	0.6	80.1	19.4		25.1	2.5	72.4		32.2	63.5	4.4		38.6	31.5	29.9		
PHF	.417	.889	.827	.871	.832	.857	.949	.950	.906	.882	.622	.873	.817	.833	.679	.836	.898

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: sunny, cold
Other:

File Name : Hamilton-Rocky Fork South-AM
Site Code : 14296
Start Date : 12/30/2014
Page No : 1

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					MORRISON ROAD Westbound					HAMILTON ROAD Northbound					ROCKY FORK SOUTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	172	20	0	194	10	2	114	0	126	45	102	5	0	152	16	2	1	0	19	0	491	491
07:15 AM	1	199	25	0	225	17	0	140	0	157	75	108	6	0	189	9	3	1	0	13	0	584	584
07:30 AM	3	190	39	0	232	21	1	127	0	149	75	122	9	0	206	32	2	1	0	35	0	622	622
07:45 AM	3	197	44	0	244	30	1	118	0	149	136	131	4	0	271	23	6	2	0	31	0	695	695
Total	9	758	128	0	895	78	4	499	0	581	331	463	24	0	818	80	13	5	0	98	0	2392	2392
08:00 AM	0	178	45	0	223	20	1	118	0	139	96	135	5	0	236	17	3	1	0	21	0	619	619
08:15 AM	3	174	27	0	204	29	1	96	0	126	80	136	4	0	220	11	6	2	0	19	0	569	569
08:30 AM	0	206	38	0	244	26	2	143	0	171	58	121	12	0	191	21	3	3	0	27	0	633	633
08:45 AM	4	174	35	0	213	38	0	113	0	151	102	144	4	0	250	10	1	3	0	14	0	628	628
Total	7	732	145	0	884	113	4	470	0	587	336	536	25	0	897	59	13	9	0	81	0	2449	2449
*** BREAK ***																							
11:00 AM	2	139	30	0	171	43	3	97	0	143	61	160	7	0	228	8	1	2	0	11	0	553	553
11:15 AM	3	131	39	2	173	35	0	118	2	153	83	146	6	0	235	8	2	0	0	10	4	571	575
11:30 AM	2	141	30	1	173	72	4	121	0	197	71	144	7	4	222	11	4	2	0	17	5	609	614
11:45 AM	1	157	59	0	217	59	6	115	1	180	85	209	7	0	301	10	7	3	0	20	1	718	719
Total	8	568	158	3	734	209	13	451	3	673	300	659	27	4	986	37	14	7	0	58	10	2451	2461
12:00 PM	6	126	49	0	181	67	4	169	2	240	64	165	8	0	237	3	8	1	0	12	2	670	672
12:15 PM	1	185	62	0	248	54	3	115	0	172	73	180	8	0	261	17	5	3	0	25	0	706	706
12:30 PM	3	148	56	0	207	67	4	128	0	199	86	183	8	0	277	11	8	4	0	23	0	706	706
12:45 PM	1	163	63	1	227	42	2	144	0	188	81	210	3	0	294	10	7	5	0	22	1	731	732
Total	11	622	230	1	863	230	13	556	2	799	304	738	27	0	1069	41	28	13	0	82	3	2813	2816
Grand Total	35	2680	661	4	3376	630	34	1976	5	2640	1271	2396	103	4	3770	217	68	34	0	319	13	10105	10118
Apprch %	1	79.4	19.6			23.9	1.3	74.8			33.7	63.6	2.7			68	21.3	10.7					
Total %	0.3	26.5	6.5		33.4	6.2	0.3	19.6		26.1	12.6	23.7	1		37.3	2.1	0.7	0.3		3.2	0.1	99.9	
Passenger	35	2664	655		3358	622	34	1953		2614	1237	2380	101		3722	217	68	34		319	0	0	10013
% Passenger	100	99.4	99.1	100	99.3	98.7	100	98.8	100	98.8	97.3	99.3	98.1	100	98.6	100	100	100	0	100	0	0	99
HV	0	16	6		22	8	0	23		31	34	16	2		52	0	0	0		0	0	0	105
% HV	0	0.6	0.9	0	0.7	1.3	0	1.2	0	1.2	2.7	0.7	1.9	0	1.4	0	0	0	0	0	0	0	1

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Hamilton-Rocky Fork South-AM
Site Code : 14296
Start Date : 12/30/2014

	HAMILTON ROAD Southbound				MORRISON ROAD Westbound				HAMILTON ROAD Northbound				ROCKY FORK SOUTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	**199**	25	225	17	0	**140**	**157**	75	108	6	189	9	3	1	13	584
07:30 AM	**3**	190	39	232	21	**1**	127	149	75	122	**9**	206	**32**	2	1	**35**	622
07:45 AM	3	197	44	**244**	**30**	1	118	149	**136**	131	4	**271**	23	**6**	**2**	31	**695**
08:00 AM	0	178	**45**	223	20	1	118	139	96	**135**	5	236	17	3	1	21	619
Total Volume	7	764	153	924	88	3	503	594	382	496	24	902	81	14	5	100	2520
% App. Total	0.8	82.7	16.6		14.8	0.5	84.7		42.4	55	2.7		81	14	5		
PHF	.583	.960	.850	.947	.733	.750	.898	.946	.702	.919	.667	.832	.633	.583	.625	.714	.906
Peak Hour Analysis From 10:15 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	**6**	126	49	181	**67**	**4**	**169**	**240**	64	165	**8**	237	3	**8**	1	12	670
12:15 PM	1	**185**	62	**248**	54	3	115	172	73	180	8	261	**17**	5	3	**25**	706
12:30 PM	3	148	56	207	67	4	128	199	**86**	183	8	277	11	8	4	23	706
12:45 PM	1	163	**63**	227	42	2	144	188	81	**210**	3	**294**	10	7	**5**	22	**731**
Total Volume	11	622	230	863	230	13	556	799	304	738	27	1069	41	28	13	82	2813
% App. Total	1.3	72.1	26.7		28.8	1.6	69.6		28.4	69	2.5		50	34.1	15.9		
PHF	.458	.841	.913	.870	.858	.813	.822	.832	.884	.879	.844	.909	.603	.875	.650	.820	.962

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: Cloudy, cold
Other:

File Name : Hamilton-Rocky Fork South-PM
Site Code : 14296
Start Date : 12/29/2014

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					MORRISON ROAD Westbound					HAMILTON ROAD Northbound					ROCKY FORK SOUTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	4	146	20	0	170	45	4	151	0	200	113	232	13	0	358	11	9	6	0	26	0	754	754
04:15 PM	2	172	37	0	211	49	4	99	0	152	127	269	12	0	408	12	4	3	0	19	0	790	790
04:30 PM	1	132	40	0	173	48	1	165	0	214	95	216	19	0	330	9	12	1	0	22	0	739	739
04:45 PM	2	195	37	0	234	39	15	120	0	174	162	306	14	0	482	11	4	3	0	18	0	908	908
Total	9	645	134	0	788	181	24	535	0	740	497	1023	58	0	1578	43	29	13	0	85	0	3191	3191
05:00 PM	2	152	33	0	187	60	3	195	1	258	136	245	21	0	402	7	3	5	0	15	1	862	863
05:15 PM	2	199	34	0	235	59	3	143	1	205	154	309	18	0	481	4	7	3	0	14	1	935	936
05:30 PM	2	141	36	0	179	60	2	153	0	215	130	254	18	0	402	12	5	5	0	22	0	818	818
05:45 PM	0	151	31	2	182	39	1	106	0	146	115	315	27	0	457	9	6	3	0	18	2	803	805
Total	6	643	134	2	783	218	9	597	2	824	535	1123	84	0	1742	32	21	16	0	69	4	3418	3422
Grand Total	15	1288	268	2	1571	399	33	1132	2	1564	1032	2146	142	0	3320	75	50	29	0	154	4	6609	6613
Apprch %	1	82	17.1			25.5	2.1	72.4			31.1	64.6	4.3			48.7	32.5	18.8					
Total %	0.2	19.5	4.1		23.8	6	0.5	17.1		23.7	15.6	32.5	2.1		50.2	1.1	0.8	0.4		2.3	0.1	99.9	
Passenger	15	1287	268		1572	399	33	1122		1556	1023	2143	141		3307	75	50	28		153	0	0	6588
% Passenger	100	99.9	100	100	99.9	100	100	99.1	100	99.4	99.1	99.9	99.3	0	99.6	100	100	96.6	0	99.4	0	0	99.6
HV	0	1	0		1	0	0	10		10	9	3	1		13	0	0	1		1	0	0	25
% HV	0	0.1	0	0	0.1	0	0	0.9	0	0.6	0.9	0.1	0.7	0	0.4	0	0	3.4	0	0.6	0	0	0.4

	HAMILTON ROAD Southbound				MORRISON ROAD Westbound				HAMILTON ROAD Northbound				ROCKY FORK SOUTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	195	**37**	234	39	**15**	120	174	**162**	306	14	**482**	11	4	3	18	908
05:00 PM	2	152	33	187	**60**	3	**195**	**258**	136	245	**21**	402	7	3	**5**	15	862
05:15 PM	2	**199**	34	**235**	59	3	143	205	154	**309**	18	481	4	**7**	3	14	**935**
05:30 PM	2	141	36	179	60	2	153	215	130	254	18	402	**12**	5	5	**22**	818
Total Volume	8	687	140	835	218	23	611	852	582	1114	71	1767	34	19	16	69	3523
% App. Total	1	82.3	16.8		25.6	2.7	71.7		32.9	63	4		49.3	27.5	23.2		
PHF	1.00	.863	.946	.888	.908	.383	.783	.826	.898	.901	.845	.916	.708	.679	.800	.784	.942

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: cool, clear
Other: NO LEFT TURN WB out of Drive

File Name : Hamilton Rd- Drive
Site Code : 13362
Start Date : 11/14/2013
Page No : 1

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound				DRIVEWAY north of MORRISON Westbound				HAMILTON ROAD Northbound						
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	292	11	0	303	13	1	0	14	21	153	0	174	0	491	491
07:15 AM	321	17	0	338	21	0	0	21	16	188	0	204	0	563	563
07:30 AM	373	14	0	387	20	1	0	21	25	212	0	237	0	645	645
07:45 AM	321	25	0	346	24	2	0	26	39	188	0	227	0	599	599
Total	1307	67	0	1374	78	4	0	82	101	741	0	842	0	2298	2298
08:00 AM	331	29	0	360	16	1	0	17	23	163	0	186	0	563	563
08:15 AM	318	25	0	343	17	0	0	17	22	165	0	187	0	547	547
08:30 AM	275	21	0	296	12	1	0	13	24	175	0	199	0	508	508
08:45 AM	230	16	0	246	20	1	0	21	20	176	0	196	0	463	463
Total	1154	91	0	1245	65	3	0	68	89	679	0	768	0	2081	2081
09:00 AM	2	0	0	2	0	0	0	0	0	2	0	2	0	4	4
09:15 AM	7	0	0	7	0	0	0	0	0	2	0	2	0	9	9
09:30 AM	2	0	0	2	0	0	0	0	0	2	0	2	0	4	4
09:45 AM	2	0	0	2	0	0	0	0	0	1	0	1	0	3	3
Total	13	0	0	13	0	0	0	0	0	7	0	7	0	20	20
*** BREAK ***															
11:00 AM	190	15	0	205	26	1	2	27	23	184	0	207	2	439	441
11:15 AM	188	23	0	211	29	0	2	29	32	195	0	227	2	467	469
11:30 AM	178	21	0	199	26	3	0	29	26	203	0	229	0	457	457
11:45 AM	197	26	0	223	38	2	0	40	29	205	0	234	0	497	497
Total	753	85	0	838	119	6	4	125	110	787	0	897	4	1860	1864
12:00 PM	234	22	0	256	39	0	0	39	40	228	0	268	0	563	563
12:15 PM	220	27	0	247	41	2	0	43	40	206	0	246	0	536	536
12:30 PM	217	17	0	234	41	0	0	41	41	208	0	249	0	524	524
12:45 PM	220	24	0	244	42	1	2	43	28	194	0	222	2	509	511
Total	891	90	0	981	163	3	2	166	149	836	0	985	2	2132	2134
*** BREAK ***															
04:00 PM	199	23	0	222	43	1	0	44	42	285	0	327	0	593	593
04:15 PM	243	17	0	260	33	2	1	35	48	322	0	370	1	665	666
04:30 PM	206	13	0	219	42	0	0	42	48	337	0	385	0	646	646
04:45 PM	217	15	0	232	37	0	0	37	48	363	0	411	0	680	680
Total	865	68	0	933	155	3	1	158	186	1307	0	1493	1	2584	2585
05:00 PM	227	24	0	251	57	2	0	59	49	320	0	369	0	679	679

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Hamilton Rd- Drive
Site Code : 13362
Start Date : 11/14/2013
Page No : 2

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound				DRIVEWAY north of MORRISON Westbound				HAMILTON ROAD Northbound						
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:15 PM	235	20	0	255	49	0	0	49	57	352	0	409	0	713	713
05:30 PM	205	21	0	226	46	1	0	47	50	368	0	418	0	691	691
05:45 PM	202	17	0	219	34	1	0	35	38	333	0	371	0	625	625
Total	869	82	0	951	186	4	0	190	194	1373	0	1567	0	2708	2708
Grand Total	5852	483	0	6335	766	23	7	789	829	5730	0	6559	7	13683	13690
Apprch %	92.4	7.6			97.1	2.9			12.6	87.4					
Total %	42.8	3.5		46.3	5.6	0.2		5.8	6.1	41.9		47.9	0.1	99.9	
Passenger	5817	481		6298	765	21		793	827	5698		6525	0	0	13616
% Passenger	99.4	99.6	0	99.4	99.9	91.3	100	99.6	99.8	99.4	0	99.5	0	0	99.5
HV	35	2		37	1	2		3	2	32		34	0	0	74
% HV	0.6	0.4	0	0.6	0.1	8.7	0	0.4	0.2	0.6	0	0.5	0	0	0.5

	HAMILTON ROAD Southbound			DRIVEWAY north of MORRISON Westbound			HAMILTON ROAD Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	321	17	338	21	0	21	16	188	204	563
07:30 AM	**373**	14	**387**	20	1	21	25	**212**	**237**	**645**
07:45 AM	321	25	346	**24**	**2**	**26**	**39**	188	227	599
08:00 AM	331	**29**	360	16	1	17	23	163	186	563
Total Volume	1346	85	1431	81	4	85	103	751	854	2370
% App. Total	94.1	5.9		95.3	4.7		12.1	87.9		
PHF	.902	.733	.924	.844	.500	.817	.660	.886	.901	.919
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	**234**	22	**256**	39	0	39	40	**228**	**268**	**563**
12:15 PM	220	**27**	247	41	**2**	**43**	40	206	246	536
12:30 PM	217	17	234	41	0	41	**41**	208	249	524
12:45 PM	220	24	244	**42**	1	43	28	194	222	509
Total Volume	891	90	981	163	3	166	149	836	985	2132
% App. Total	90.8	9.2		98.2	1.8		15.1	84.9		
PHF	.952	.833	.958	.970	.375	.965	.909	.917	.919	.947

Trans Associates Engineering Consultants, Inc.
941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Hamilton Rd- Drive
Site Code : 13362
Start Date : 11/14/2013
Page No : 3

	HAMILTON ROAD Southbound			DRIVEWAY north of MORRISON Westbound			HAMILTON ROAD Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	217	15	232	37	0	37	48	363	411	680
05:00 PM	227	**24**	251	**57**	**2**	**59**	49	320	369	679
05:15 PM	**235**	20	**255**	49	0	49	**57**	352	409	**713**
05:30 PM	205	21	226	46	1	47	50	**368**	**418**	691
Total Volume	884	80	964	189	3	192	204	1403	1607	2763
% App. Total	91.7	8.3		98.4	1.6		12.7	87.3		
PHF	.940	.833	.945	.829	.375	.814	.895	.953	.961	.969

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: very cold
Other:

File Name : Hamilton-Rocky Fork North
Site Code : 14296
Start Date : 1/7/2015
Page No : 1

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					ROCKY FORK DRIVE NORTH Westbound					HAMILTON ROAD Northbound					ROCKY FORK DRIVE NORTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	198	20	1	219	62	5	41	0	108	9	149	1	0	159	4	6	19	0	29	1	515	516
07:15 AM	4	224	47	0	275	103	3	77	0	183	13	152	16	0	181	7	16	17	0	40	0	679	679
07:30 AM	2	298	31	0	331	59	3	88	2	150	9	169	8	0	186	8	9	8	0	25	2	692	694
07:45 AM	4	290	28	0	322	83	6	86	0	175	10	148	2	0	160	3	7	6	0	16	0	673	673
Total	11	1010	126	1	1147	307	17	292	2	616	41	618	27	0	686	22	38	50	0	110	3	2559	2562
08:00 AM	1	306	33	0	340	31	8	59	0	98	9	153	4	0	166	3	8	2	0	13	0	617	617
08:15 AM	0	260	22	0	282	43	1	58	0	102	7	115	6	0	128	4	4	7	0	15	0	527	527
08:30 AM	1	260	28	0	289	27	5	55	0	87	14	141	5	0	160	2	3	1	0	6	0	542	542
08:45 AM	1	211	20	0	232	22	3	38	0	63	4	137	6	0	147	4	6	3	0	13	0	455	455
Total	3	1037	103	0	1143	123	17	210	0	350	34	546	21	0	601	13	21	13	0	47	0	2141	2141
*** BREAK ***																							
11:00 AM	0	129	36	1	165	28	0	22	6	50	9	134	4	0	147	2	6	4	1	12	8	374	382
11:15 AM	3	143	23	1	169	28	4	16	25	48	6	165	8	0	179	5	4	2	0	11	26	407	433
11:30 AM	1	133	35	0	169	24	3	31	2	58	4	153	0	0	157	4	8	3	0	15	2	399	401
11:45 AM	2	147	38	1	187	36	4	18	1	58	8	200	4	0	212	3	4	4	0	11	2	468	470
Total	6	552	132	3	690	116	11	87	34	214	27	652	16	0	695	14	22	13	1	49	38	1648	1686
12:00 PM	2	154	34	0	190	38	1	18	23	57	7	162	8	0	177	5	6	2	0	13	23	437	460
12:15 PM	3	168	43	1	214	34	8	21	4	63	8	190	6	0	204	6	5	3	0	14	5	495	500
12:30 PM	2	193	33	0	228	23	3	27	0	53	12	172	4	0	188	2	7	2	0	11	0	480	480
12:45 PM	1	174	39	0	214	30	2	30	6	62	9	152	3	0	164	2	8	3	0	13	6	453	459
Total	8	689	149	1	846	125	14	96	33	235	36	676	21	0	733	15	26	10	0	51	34	1865	1899
*** BREAK ***																							
04:00 PM	4	183	64	0	251	36	7	30	0	73	14	238	12	0	264	4	7	6	0	17	0	605	605
04:15 PM	2	161	46	1	209	41	3	24	0	68	16	307	7	2	330	3	12	4	0	19	3	626	629
04:30 PM	1	174	57	0	232	50	5	27	0	82	16	276	9	0	301	5	11	3	0	19	0	634	634
04:45 PM	3	168	46	0	217	31	5	33	0	69	14	334	8	0	356	4	15	2	0	21	0	663	663
Total	10	686	213	1	909	158	20	114	0	292	60	1155	36	2	1251	16	45	15	0	76	3	2528	2531
05:00 PM	5	178	67	0	250	54	5	36	0	95	20	292	5	0	317	3	17	4	0	24	0	686	686
05:15 PM	5	159	54	0	218	42	12	36	0	90	17	339	10	0	366	3	9	3	0	15	0	689	689
05:30 PM	6	160	63	0	229	51	13	27	0	91	23	302	6	1	331	5	8	7	0	20	1	671	672
05:45 PM	0	154	46	0	200	30	14	30	0	74	32	306	3	0	341	4	7	3	0	14	0	629	629
Total	16	651	230	0	897	177	44	129	0	350	92	1239	24	1	1355	15	41	17	0	73	1	2675	2676
Grand Total	54	4625	953	6	5632	1006	123	928	69	2057	290	4886	145	3	5321	95	193	118	1	406	79	13416	13495
Apprch %	1	82.1	16.9			48.9	6	45.1			5.5	91.8	2.7			23.4	47.5	29.1					
Total %	0.4	34.5	7.1		42	7.5	0.9	6.9		15.3	2.2	36.4	1.1		39.7	0.7	1.4	0.9		3	0.6	99.4	
Passenger	54	4598	947		5605	1002	123	923		2117	285	4872	145		5305	95	193	118		407	0	0	13434
% Passenger	100	99.4	99.4	100	99.4	99.6	100	99.5	100	99.6	98.3	99.7	100	100	99.6	100	100	100	100	100	0	0	99.5

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Hamilton-Rocky Fork North
Site Code : 14296
Start Date : 1/7/2015
Page No : 2

Groups Printed- Passenger - HV

	HAMILTON ROAD Southbound					ROCKY FORK DRIVE NORTH Westbound					HAMILTON ROAD Northbound					ROCKY FORK DRIVE NORTH Eastbound							
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
HV	0	27	6		33	4	0	5		9	5	14	0		19	0	0	0		0	0	0	61
% HV	0	0.6	0.6	0	0.6	0.4	0	0.5	0	0.4	1.7	0.3	0	0	0.4	0	0	0	0	0	0	0	0.5

	HAMILTON ROAD Southbound				ROCKY FORK DRIVE NORTH Westbound				HAMILTON ROAD Northbound				ROCKY FORK DRIVE NORTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**4**	224	**47**	275	**103**	3	77	**183**	**13**	152	**16**	181	7	**16**	**17**	**40**	679
07:30 AM	2	298	31	331	59	3	**88**	150	9	**169**	8	**186**	**8**	9	8	25	**692**
07:45 AM	4	290	28	322	83	6	86	175	10	148	2	160	3	7	6	16	673
08:00 AM	1	**306**	33	**340**	31	**8**	59	98	9	153	4	166	3	8	2	13	617
Total Volume	11	1118	139	1268	276	20	310	606	41	622	30	693	21	40	33	94	2661
% App. Total	0.9	88.2	11		45.5	3.3	51.2		5.9	89.8	4.3		22.3	42.6	35.1		
PHF	.688	.913	.739	.932	.670	.625	.881	.828	.788	.920	.469	.931	.656	.625	.485	.588	.961
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	2	147	38	187	36	4	18	58	8	**200**	4	**212**	3	4	**4**	11	468
12:00 PM	2	154	34	190	**38**	1	18	57	7	162	**8**	177	5	6	2	13	437
12:15 PM	**3**	168	**43**	214	34	**8**	21	**63**	8	190	6	204	**6**	5	3	**14**	**495**
12:30 PM	2	**193**	33	**228**	23	3	**27**	53	**12**	172	4	188	2	**7**	2	11	480
Total Volume	9	662	148	819	131	16	84	231	35	724	22	781	16	22	11	49	1880
% App. Total	1.1	80.8	18.1		56.7	6.9	36.4		4.5	92.7	2.8		32.7	44.9	22.4		
PHF	.750	.858	.860	.898	.862	.500	.778	.917	.729	.905	.688	.921	.667	.786	.688	.875	.949
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	3	168	46	217	31	5	33	69	14	334	8	356	4	15	2	21	663
05:00 PM	5	**178**	**67**	**250**	**54**	5	**36**	**95**	20	292	5	317	3	**17**	4	**24**	686
05:15 PM	5	159	54	218	42	12	36	90	17	**339**	**10**	**366**	3	9	3	15	**689**
05:30 PM	**6**	160	63	229	51	**13**	27	91	**23**	302	6	331	**5**	8	**7**	20	671
Total Volume	19	665	230	914	178	35	132	345	74	1267	29	1370	15	49	16	80	2709
% App. Total	2.1	72.8	25.2		51.6	10.1	38.3		5.4	92.5	2.1		18.8	61.2	20		
PHF	.792	.934	.858	.914	.824	.673	.917	.908	.804	.934	.725	.936	.750	.721	.571	.833	.983

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: cold
Other:

File Name : Rocky Fork North-Flint Ridge-AM
Site Code : 14296
Start Date : 1/13/2015

Groups Printed- Passenger - HV

	FLINT RIDGE DRIVE Southbound					ROCKY FORK NORTH Westbound					FLINT RIDGE DRIVE Northbound					ROCKY FORK NORTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	4	12	24	0	40	3	1	1	0	5	0	1	0	0	1	0	7	2	0	9	0	55	55
07:15 AM	3	21	30	0	54	12	2	1	0	15	2	5	0	0	7	0	7	6	0	13	0	89	89
07:30 AM	0	22	13	0	35	9	4	2	0	15	0	6	1	2	7	1	2	3	0	6	2	63	65
07:45 AM	2	27	6	0	35	10	2	2	0	14	0	8	0	0	8	0	3	2	0	5	0	62	62
Total	9	82	73	0	164	34	9	6	0	49	2	20	1	2	23	1	19	13	0	33	2	269	271
08:00 AM	0	18	11	0	29	4	0	1	0	5	0	2	0	0	2	0	0	1	0	1	0	37	37
08:15 AM	0	15	10	0	25	8	1	1	0	10	1	8	0	1	9	1	6	1	0	8	1	52	53
08:30 AM	5	12	2	1	19	4	3	0	0	7	1	1	0	0	2	0	4	4	0	8	1	36	37
08:45 AM	2	22	3	0	27	3	1	4	0	8	2	5	0	0	7	0	3	1	0	4	0	46	46
Total	7	67	26	1	100	19	5	6	0	30	4	16	0	1	20	1	13	7	0	21	2	171	173
Grand Total	16	149	99	1	264	53	14	12	0	79	6	36	1	3	43	2	32	20	0	54	4	440	444
Apprch %	6.1	56.4	37.5			67.1	17.7	15.2			14	83.7	2.3			3.7	59.3	37					
Total %	3.6	33.9	22.5		60	12	3.2	2.7		18	1.4	8.2	0.2		9.8	0.5	7.3	4.5		12.3	0.9	99.1	
Passenger	16	149	99		265	53	14	12		79	6	36	1		46	2	31	20		53	0	0	443
% Passenger	100	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100	96.9	100	0	98.1	0	0	99.8
HV	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0		1	0	0	1
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.1	0	0	1.9	0	0	0.2

	FLINT RIDGE DRIVE Southbound				ROCKY FORK NORTH Westbound				FLINT RIDGE DRIVE Northbound				ROCKY FORK NORTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**4**	12	24	40	3	1	1	5	0	1	0	1	0	**7**	2	9	55
07:15 AM	3	21	**30**	**54**	**12**	2	1	**15**	**2**	5	0	7	0	7	**6**	**13**	**89**
07:30 AM	0	22	13	35	9	**4**	**2**	15	0	6	**1**	7	**1**	2	3	6	63
07:45 AM	2	**27**	6	35	10	2	2	14	0	**8**	0	**8**	0	3	2	5	62
Total Volume	9	82	73	164	34	9	6	49	2	20	1	23	1	19	13	33	269
% App. Total	5.5	50	44.5		69.4	18.4	12.2		8.7	87	4.3		3	57.6	39.4		
PHF	.563	.759	.608	.759	.708	.563	.750	.817	.250	.625	.250	.719	.250	.679	.542	.635	.756

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: cold-scattered snow
Other:

File Name : Rocky Fork North-Flint Ridge-Noon-PM
Site Code : 14296
Start Date : 1/12/2015
Page No : 1

Groups Printed- Passenger - HV

	FLINT RIDGE DRIVE Southbound					ROCKY FORK DRIVE NORTH Westbound					FLINT RIDGE DRIVE Northbound					ROCKY FORK DRIVE NORTH Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	7	6	0	13	9	2	1	0	12	0	4	0	0	4	0	2	1	0	3	0	32	32
11:15 AM	2	7	11	0	20	7	4	0	0	11	1	9	0	0	10	2	1	4	0	7	0	48	48
11:30 AM	3	8	7	0	18	5	2	0	0	7	2	5	1	0	8	0	0	1	0	1	0	34	34
11:45 AM	2	9	8	0	19	7	2	0	0	9	1	6	0	0	7	0	5	2	0	7	0	42	42
Total	7	31	32	0	70	28	10	1	0	39	4	24	1	0	29	2	8	8	0	18	0	156	156
12:00 PM	6	12	10	0	28	14	2	0	2	16	3	6	1	0	10	1	2	1	0	4	2	58	60
12:15 PM	1	5	9	0	15	10	2	0	0	12	1	4	0	0	5	0	1	1	0	2	0	34	34
12:30 PM	0	12	8	0	20	5	1	3	0	9	0	3	0	0	3	0	3	3	0	6	0	38	38
12:45 PM	0	11	7	0	18	6	2	2	0	10	1	5	0	0	6	0	1	0	0	1	0	35	35
Total	7	40	34	0	81	35	7	5	2	47	5	18	1	0	24	1	7	5	0	13	2	165	167
*** BREAK ***																							
04:00 PM	5	8	7	0	20	12	1	2	0	15	1	10	0	0	11	0	5	4	0	9	0	55	55
04:15 PM	3	13	11	1	27	7	2	1	0	10	0	13	1	0	14	0	3	1	1	4	2	55	57
04:30 PM	1	7	16	0	24	8	5	2	0	15	0	13	0	0	13	0	3	2	0	5	0	57	57
04:45 PM	2	14	15	0	31	12	4	3	0	19	1	13	0	0	14	1	4	3	0	8	0	72	72
Total	11	42	49	1	102	39	12	8	0	59	2	49	1	0	52	1	15	10	1	26	2	239	241
05:00 PM	5	20	8	0	33	15	7	2	0	24	0	8	0	0	8	0	2	0	0	2	0	67	67
05:15 PM	5	8	16	0	29	19	9	1	0	29	0	9	0	0	9	0	2	3	0	5	0	72	72
05:30 PM	7	10	9	0	26	13	3	0	0	16	2	17	1	0	20	1	5	2	1	8	1	70	71
05:45 PM	2	12	9	0	23	16	7	0	0	23	0	15	0	0	15	1	3	2	0	6	0	67	67
Total	19	50	42	0	111	63	26	3	0	92	2	49	1	0	52	2	12	7	1	21	1	276	277
Grand Total	44	163	157	1	364	165	55	17	2	237	13	140	4	0	157	6	42	30	2	78	5	836	841
Apprch %	12.1	44.8	43.1			69.6	23.2	7.2			8.3	89.2	2.5			7.7	53.8	38.5					
Total %	5.3	19.5	18.8		43.5	19.7	6.6	2		28.3	1.6	16.7	0.5		18.8	0.7	5	3.6		9.3	0.6	99.4	
Passenger	44	163	157		365	165	55	17		239	13	140	4		157	5	42	29		78	0	0	839
% Passenger	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	83.3	100	96.7	100	97.5	0	0	99.8
HV	0	0	0		0	0	0	0		0	0	0	0		0	1	0	1		2	0	0	2
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7	0	3.3	0	2.5	0	0	0.2

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Rocky Fork North-Flint Ridge-Noon-PM
Site Code : 14296
Start Date : 1/12/2015
Page No : 2

	FLINT RIDGE DRIVE Southbound				ROCKY FORK DRIVE NORTH Westbound				FLINT RIDGE DRIVE Northbound				ROCKY FORK DRIVE NORTH Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 02:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	2	7	**11**	20	7	**4**	0	11	1	**9**	0	**10**	**2**	1	**4**	**7**	48
11:30 AM	3	8	7	18	5	2	0	7	2	5	**1**	8	0	0	1	1	34
11:45 AM	2	9	8	19	7	2	0	9	1	6	0	7	0	**5**	2	7	42
12:00 PM	**6**	**12**	10	**28**	**14**	2	0	**16**	**3**	6	1	10	1	2	1	4	**58**
Total Volume	13	36	36	85	33	10	0	43	7	26	2	35	3	8	8	19	182
% App. Total	15.3	42.4	42.4		76.7	23.3	0		20	74.3	5.7		15.8	42.1	42.1		
PHF	.542	.750	.818	.759	.589	.625	.000	.672	.583	.722	.500	.875	.375	.400	.500	.679	.784
Peak Hour Analysis From 02:45 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	2	14	15	31	12	4	**3**	19	1	13	0	14	**1**	4	**3**	**8**	**72**
05:00 PM	5	**20**	8	**33**	15	7	2	24	0	8	0	8	0	2	0	2	67
05:15 PM	5	8	**16**	29	**19**	**9**	1	**29**	0	9	0	9	0	2	3	5	72
05:30 PM	**7**	10	9	26	13	3	0	16	**2**	**17**	**1**	**20**	1	**5**	2	8	70
Total Volume	19	52	48	119	59	23	6	88	3	47	1	51	2	13	8	23	281
% App. Total	16	43.7	40.3		67	26.1	6.8		5.9	92.2	2		8.7	56.5	34.8		
PHF	.679	.650	.750	.902	.776	.639	.500	.759	.375	.691	.250	.638	.500	.650	.667	.719	.976

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: gray, drizzly
Other:

File Name : Granville-Flint RidgeAM
Site Code : 00000000
Start Date : 12/23/2014

Groups Printed- Passenger - HV

	GAHANNA BRANCH LIBRARY Southbound					GRANVILLE ROAD Westbound					FLINT RIDGE DRIVE Northbound					GRANVILLE ROAD Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	1	0	2	1	167	0	0	168	2	0	1	0	3	7	43	1	0	51	0	224	224
07:15 AM	0	0	1	0	1	0	155	0	0	155	2	0	16	0	18	8	69	1	0	78	0	252	252
07:30 AM	0	0	0	4	0	0	132	0	0	132	1	0	12	0	13	11	68	0	0	79	4	224	228
07:45 AM	2	0	1	0	3	3	161	0	0	164	5	1	9	0	15	19	78	3	0	100	0	282	282
Total	2	1	3	4	6	4	615	0	0	619	10	1	38	0	49	45	258	5	0	308	4	982	986
08:00 AM	1	1	2	1	4	4	148	2	1	154	2	0	12	0	14	11	85	1	0	97	2	269	271
08:15 AM	4	0	1	1	5	2	153	3	0	158	2	0	6	0	8	13	73	2	0	88	1	259	260
08:30 AM	3	0	2	0	5	5	163	2	0	170	5	0	8	0	13	12	100	1	0	113	0	301	301
08:45 AM	2	0	3	0	5	5	160	1	0	166	0	0	9	0	9	13	116	8	0	137	0	317	317
Total	10	1	8	2	19	16	624	8	1	648	9	0	35	0	44	49	374	12	0	435	3	1146	1149
*** BREAK ***																							
11:00 AM	11	1	8	0	20	17	162	2	0	181	2	1	10	2	13	11	161	10	0	182	2	396	398
11:15 AM	14	1	6	0	21	6	187	1	0	194	1	1	10	2	12	12	166	9	0	187	2	414	416
11:30 AM	12	0	12	0	24	9	165	2	0	176	4	3	23	0	30	14	163	15	0	192	0	422	422
11:45 AM	13	1	10	0	24	11	167	1	0	179	3	3	6	0	12	15	185	10	0	210	0	425	425
Total	50	3	36	0	89	43	681	6	0	730	10	8	49	4	67	52	675	44	0	771	4	1657	1661
12:00 PM	11	2	12	0	25	7	206	3	0	216	8	1	20	0	29	17	192	5	0	214	0	484	484
12:15 PM	10	0	9	1	19	14	197	1	0	212	3	0	11	0	14	17	212	8	0	237	1	482	483
12:30 PM	11	0	13	0	24	14	193	4	0	211	1	0	14	0	15	18	227	11	0	256	0	506	506
12:45 PM	5	0	8	0	13	7	198	5	2	210	3	1	20	0	24	16	218	9	0	243	2	490	492
Total	37	2	42	1	81	42	794	13	2	849	15	2	65	0	82	68	849	33	0	950	3	1962	1965
Grand Total	99	7	89	7	195	105	2714	27	3	2846	44	11	187	4	242	214	2156	94	0	2464	14	5747	5761
Apprch %	50.8	3.6	45.6			3.7	95.4	0.9			18.2	4.5	77.3			8.7	87.5	3.8					
Total %	1.7	0.1	1.5		3.4	1.8	47.2	0.5		49.5	0.8	0.2	3.3		4.2	3.7	37.5	1.6		42.9	0.2	99.8	
Passenger	99	7	89		202	105	2705	26		2839	42	10	186		242	214	2145	94		2453	0	0	5736
% Passenger	100	100	100	100	100	100	99.7	96.3	100	99.6	95.5	90.9	99.5	100	98.4	100	99.5	100	0	99.6	0	0	99.6
HV	0	0	0		0	0	9	1		10	2	1	1		4	0	11	0		11	0	0	25
% HV	0	0	0	0	0	0	0.3	3.7	0	0.4	4.5	9.1	0.5	0	1.6	0	0.5	0	0	0.4	0	0	0.4

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

File Name : Granville-Flint RidgeAM
Site Code : 00000000
Start Date : 12/23/2014

	GAHANNA BRANCH LIBRARY Southbound				GRANVILLE ROAD Westbound				FLINT RIDGE DRIVE Northbound				GRANVILLE ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	**1**	2	4	4	148	2	154	2	0	**12**	**14**	11	85	1	97	269
08:15 AM	**4**	0	1	**5**	2	153	**3**	158	2	0	6	8	**13**	73	2	88	259
08:30 AM	3	0	2	5	**5**	**163**	2	**170**	**5**	0	8	13	12	100	1	113	301
08:45 AM	2	0	**3**	5	5	160	1	166	0	0	9	9	13	**116**	**8**	**137**	**317**
Total Volume	10	1	8	19	16	624	8	648	9	0	35	44	49	374	12	435	1146
% App. Total	52.6	5.3	42.1		2.5	96.3	1.2		20.5	0	79.5		11.3	86	2.8		
PHF	.625	.250	.667	.950	.800	.957	.667	.953	.450	.000	.729	.786	.942	.806	.375	.794	.904
Peak Hour Analysis From 10:15 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	**11**	**2**	12	**25**	7	**206**	3	**216**	**8**	**1**	**20**	**29**	17	192	5	214	484
12:15 PM	10	0	9	19	**14**	197	1	212	3	0	11	14	17	212	8	237	482
12:30 PM	11	0	**13**	24	14	193	4	211	1	0	14	15	**18**	**227**	**11**	**256**	**506**
12:45 PM	5	0	8	13	7	198	**5**	210	3	1	20	24	16	218	9	243	490
Total Volume	37	2	42	81	42	794	13	849	15	2	65	82	68	849	33	950	1962
% App. Total	45.7	2.5	51.9		4.9	93.5	1.5		18.3	2.4	79.3		7.2	89.4	3.5		
PHF	.841	.250	.808	.810	.750	.964	.650	.983	.469	.500	.813	.707	.944	.935	.750	.928	.969

Trans Associates Engineering Consultants, Inc.

941 Chatham Lane, Suite 319
Columbus, OH 43221
Phone : (614) 459-7930

Counter: 4265
Counted by: LDH
Weather: gray, drizzly
Other:

File Name : Granville-Flint RidgePM
Site Code : 00000000
Start Date : 12/22/2014
Page No : 1

Groups Printed- Passenger - HV

	GAHANNA BRANCH LIBRARY Southbound					GRANVILLE ROAD Westbound					FLINT RIDGE DRIVE Northbound					GRANVILLE ROAD Eastbound							
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	7	2	7	0	16	7	184	2	0	193	4	1	14	1	19	21	283	7	0	311	1	539	540
04:15 PM	12	0	11	0	23	11	169	2	0	182	2	2	22	1	26	13	310	9	0	332	1	563	564
04:30 PM	9	1	9	0	19	13	195	5	0	213	5	2	14	4	21	23	329	10	0	362	4	615	619
04:45 PM	10	0	17	0	27	16	167	4	5	187	3	1	24	0	28	27	327	14	0	368	5	610	615
Total	38	3	44	0	85	47	715	13	5	775	14	6	74	6	94	84	1249	40	0	1373	11	2327	2338
05:00 PM	12	0	16	0	28	13	216	9	1	238	5	1	19	0	25	26	329	8	0	363	1	654	655
05:15 PM	12	5	11	0	28	12	167	7	0	186	7	2	34	1	43	16	279	6	0	301	1	558	559
05:30 PM	6	0	6	0	12	11	165	3	0	179	4	0	28	0	32	26	311	7	0	344	0	567	567
05:45 PM	16	0	11	0	27	12	176	0	0	188	5	3	24	0	32	20	266	12	0	298	0	545	545
Total	46	5	44	0	95	48	724	19	1	791	21	6	105	1	132	88	1185	33	0	1306	2	2324	2326
Grand Total	84	8	88	0	180	95	1439	32	6	1566	35	12	179	7	226	172	2434	73	0	2679	13	4651	4664
Apprch %	46.7	4.4	48.9			6.1	91.9	2			15.5	5.3	79.2			6.4	90.9	2.7					
Total %	1.8	0.2	1.9		3.9	2	30.9	0.7		33.7	0.8	0.3	3.8		4.9	3.7	52.3	1.6		57.6	0.3	99.7	
Passenger	84	8	88		180	95	1437	32		1570	35	12	179		233	172	2433	73		2678	0	0	4661
% Passenger	100	100	100	0	100	100	99.9	100	100	99.9	100	100	100	100	100	100	100	100	0	100	0	0	99.9
HV	0	0	0		0	0	2	0		2	0	0	0		0	0	1	0		1	0	0	3
% HV	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1

	GAHANNA BRANCH LIBRARY Southbound				GRANVILLE ROAD Westbound				FLINT RIDGE DRIVE Northbound				GRANVILLE ROAD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**12**	0	11	23	11	169	2	182	2	**2**	22	26	13	310	9	332	563
04:30 PM	9	**1**	9	19	13	195	5	213	**5**	2	14	21	23	**329**	10	362	615
04:45 PM	10	0	**17**	27	**16**	167	4	187	3	1	**24**	**28**	**27**	327	**14**	**368**	610
05:00 PM	12	0	16	**28**	13	**216**	**9**	**238**	5	1	19	25	26	329	8	363	**654**
Total Volume	43	1	53	97	53	747	20	820	15	6	79	100	89	1295	41	1425	2442
% App. Total	44.3	1	54.6		6.5	91.1	2.4		15	6	79		6.2	90.9	2.9		
PHF	.896	.250	.779	.866	.828	.865	.556	.861	.750	.750	.823	.893	.824	.984	.732	.968	.933

Appendix D. City of Gahanna Growth Rate Approval

Angela Coates

From: Robert Priestas <Robert.Priestas@gahanna.gov>
Sent: Wednesday, December 31, 2014 4:54 PM
To: Angela Coates
Subject: RE: Annex at Rocky Fork

Angela,

I was hoping to send you all the information in one email, but I cannot access our traffic signal system right now. I hope to be able to get the timing to you on Friday.

The 1% growth rate is acceptable.

Please let me know if you have any questions.

Thanks,

Rob

ROBERT S. PRIESTAS, P.E.
City Engineer

CITY OF GAHANNA

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From: Angela Coates [mailto:CoatesA@transassoccol.com]
Sent: Tuesday, December 30, 2014 1:56 PM
To: Robert Priestas
Subject: Annex at Rocky Fork

Robert,

I am working on the traffic study for the proposed Annex at Rocky Fork development and was hoping you could provide some assistance.

We had been advised to use a 1% linear annual growth rate for the Shops at Rocky Fork development to the south. Should we also apply a 1% growth rate for this study?

Also, could you provide any information on the existing signal phasing/timing at the intersection of Hamilton Road and Rocky Fork North?

Thanks for your help.

Appendix E. Trip Generation and Assignments

Vehicular Traffic Generated by Tim Hortons
1,953 sf

Hour Beginning	Entering Vehicle-Trips (Same for Exiting Vehicle Trips)				Diurnal Distribution
	Eat-in Take-out	Drive-Through	Total	ITE Value 1/	
5 AM	1	23	24		2.9%
6	10	55	65		7.8%
7	18	76	94	108	11.3%
8	15	75	90		10.8%
9	19	50	69		8.3%
10	11	38	49		5.9%
11	10	26	36		4.3%
12 N	10	23	33		4.0%
1 PM	5	21	26		3.1%
2	6	21	27		3.2%
3	4	18	22		2.6%
4	3	16	19		2.3%
5	4	18	22	42	2.6%
6	5	14	19		2.3%
7	4	10	14		1.7%
Daily			832		100%

1/ ITE Land-use Code 937, coffee/donut shop with drive-through window

Tim Hortons provided hourly data for a Tuesday, Wednesday, and Thursday at three facilities in Columbus, Ohio.

VEHICLE-TRIP GENERATION – DIURNAL DISTRIBUTIONS

LAND-USE: Retail/Shopping Center (X = 1,000 sf gross leasable area)

Hour of Day	Percent of Entering Volume	Percent of Exiting Volumes	Parking Demand (factor)
6 - 7 AM	0.2	0.1	
7 - 8	0.5	0.4	
8 - 9	2.9	1.8	
9 - 10	6.8	2.4	
10 - 11	7.5	3.7	
11 - 12 N	8.6	5.9	
12 - 1 PM	9.5	7.9	
1 - 2	8.7	8.2	
2 - 3	7.9	8.8	
3 - 4	7.7	8.9	
4 - 5	8.2	9.1	
5 - 6	8.3	9.5	
6 - 7	7.8	7.7	
7 - 8	8.4	7.0	
8 - 9	4.7	7.7	
9 - 10 PM	1.8	9.1	
10 PM – 6 AM	0.5	1.8	
24-Hours	100.0	100.0	
Daily Trip Generation	21.48X	21.48X	

Hourly percentages for majority of hours taken from ITE Trip Generation Manual

VEHICLE-TRIP GENERATION – DIURNAL DISTRIBUTIONS

LAND-USE: **High-Turnover Sit-Down Restaurant (Weekday)**

Hour of Day	Percent of Entering Volume	Percent of Exiting Volumes
6 - 7 AM	4.0	0.1
7 - 8	7.6	3.1
8 - 9	9.4	8.7
9 - 10	1.0	6.5
10 - 11	2.5	2.4
11 - 12 N	7.3	2.0
12 - 1 PM	6.1	8.7
1 - 2	4.1	5.4
2 - 3	2.2	3.2
3 - 4	4.0	4.1
4 - 5	6.7	4.5
5 - 6	9.7	5.7
6 - 7	10.5	6.7
7 - 8	7.5	11.0
8 - 9	6.6	9.2
9 - 10 PM	5.8	8.9
10 PM – 6 AM	5.0	9.8
24-Hours	100.0	100.0

VEHICLE-TRIP GENERATION – DIURNAL DISTRIBUTIONS

LAND-USE: Drive-in Bank (X = Number of Drive-in Lanes)

Hour of Day	Percent of Entering Volume	Percent of Exiting Volumes	Parking Demand (factor)
6 - 7 AM	0.1	0.1	
7 - 8	0.1	0.1	
8 - 9	1.0	1.0	
9 - 10	7.9	5.7	
10 - 11	6.3	6.8	
11 - 12 N	17.3	13.6	
12 - 1 PM	20.3	21.1	
1 - 2	6.6	6.9	
2 - 3	6.3	6.8	
3 - 4	6.4	6.8	
4 - 5	6.3	6.8	
5 - 6	19.1	20.0	
6 - 7	1.9	3.9	
7 - 8	0.2	0.2	
8 - 9	0.1	0.1	
9 - 10 PM	0.1	0.1	
10 PM – 6 AM			
24-Hours	100.0	100.0	
Daily Trip Generation	69.63X	69.63X	

Trip Generation Data

Land Use	Independent Variable	Weekday AM Peak Hour					Weekday Midday Peak Hour					Weekday PM Peak Hour				
		Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary
937 - Coffee/Donut Shop with Drive-Through Window	1,900 sf				49%	51%				20%	80%				50%	50%
		Total		178	87	91	Total		64	13	51	Total		42	21	21
		Entering	51%	91	45	46	Entering	50%	32	6	26	Entering	50%	21	11	10
		Exiting	49%	87	42	45	Exiting	50%	32	7	25	Exiting	50%	21	10	11
826 - Specialty Retail Center	4,400 sf	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary
					0%	100%				0%	100%				0%	100%
		Total		0	0	0	Total		31	0	31	Total		32	0	32
		Entering	50%	0	0	0	Entering	52%	16	0	16	Entering	44%	14	0	14
		Exiting	50%	0	0	0	Exiting	48%	15	0	15	Exiting	56%	18	0	18
932 - High-Turnover (Sit Down) Restaurant	3,600 sf	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary
					0%	100%				20%	80%				43%	57%
		Total		0	0	0	Total		34	7	27	Total		35	15	20
		Entering		0	0	0	Entering	38%	13	3	10	Entering	60%	21	9	12
		Exiting	100%	0	0	0	Exiting	62%	21	4	17	Exiting	40%	14	6	8
912 - Drive-in Bank	4,000 sf	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary
					29%	71%				26%	74%				35%	65%
		Total		48	14	34	Total		104	27	77	Total		98	34	64
		Entering	57%	27	8	19	Entering	50%	52	14	38	Entering	50%	49	17	32
		Exiting	43%	21	6	15	Exiting	50%	52	13	39	Exiting	50%	49	17	32
Total		Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary	Directional Distribution		Total	Pass-By	Primary
					45%	55%				20%	80%				34%	66%
		Total		226	101	125	Total		233	47	186	Total		207	70	137
		Entering	52%	118	53	65	Entering	48%	113	23	90	Entering	51%	105	37	68
		Exiting	48%	108	48	60	Exiting	52%	120	24	96	Exiting	49%	102	33	69

The Annex at Rocy Fork
AM Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

Weekday AM Peak Hour

Intersection	Lane Group	Background Traffic Volumes		Shops at Rocky Fork Volumes	No Build Traffic Volumes		Coffee Shop		Retail/Restaurant		Bank		Total Site Generated Traffic	Build Traffic Volumes	
							Primary	Pass-By	Primary	Pass-By	Primary	Pass-By			
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	Trips	Trips	Trips	Trips	Trips	Trips		Opening Year (2016)	Design Year (2036)
Flint Ridge Drive @ Granville Road	EBL	4	4	0	4	4	0	0	0	0	0	0	0	4	4
	EBT	452	542	3	455	545	5	0	0	0	2	0	7	462	552
	EBR	118	118	0	118	118	2	0	0	0	1	0	3	121	121
	WBL	5	5	0	5	5	0	0	0	0	0	0	0	5	5
	WBT	897	1076	3	900	1079	5	0	0	0	2	0	7	907	1086
	WBR	7	7	0	7	7	0	0	0	0	0	0	0	7	7
	NBL	118	118	0	118	118	2	0	0	0	1	0	3	121	121
	NBT	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	NBR	24	24	0	24	24	0	0	0	0	0	0	0	24	24
	SBL	4	4	0	4	4	0	0	0	0	0	0	0	4	4
	SBT	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	SBR	3	3	0	3	3	0	0	0	0	0	0	0	3	3
Flint Ridge Drive @ Rocky Fork North	EBL	12	12	0	12	12	0	0	0	0	0	0	0	12	12
	EBT	12	12	0	12	12	0	0	0	0	0	0	0	12	12
	EBR	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	WBL	6	6	0	6	6	0	0	0	0	0	0	0	6	6
	WBT	8	8	0	8	8	0	0	0	0	0	0	0	8	8
	WBR	35	35	0	35	35	4	1	0	0	2	0	7	42	42
	NBL	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	NBT	21	21	0	21	21	0	0	0	0	0	0	0	21	21
	NBR	2	2	0	2	2	0	0	0	0	0	0	0	2	2
	SBL	60	60	0	60	60	4	0	0	0	2	0	6	66	66
	SBT	88	88	0	88	88	0	0	0	0	0	0	0	88	88
	SBR	5	5	0	5	5	0	0	0	0	0	0	0	5	5
Rocky Fork North @ Annex (Full Access)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	94	94	0	94	94	0	-2	0	0	1	0	-1	93	93
	EBR	0	0		0	0	4	2	0	0	1	0	7	7	7
	WBL	0	0		0	0	30	21	0	0	0	0	51	51	51
	WBT	61	61	0	61	61	0	0	0	0	0	0	0	61	61
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0	4	1	0	0	2	0	7	7	7
	NBT	0	0		0	0		0		0		0	0	0	0
	NBR	0	0		0	0	27	23	0	0	5	2	57	57	57
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	0	0		0	0		0		0		0	0	0	0
	SBR	0	0		0	0		0		0		0	0	0	0
Rocky Fork North @ Hamilton Road	EBL	33	33	0	33	33	15	14	0	0	4	2	35	68	68
	EBT	40	40	0	40	40	7	2	0	0	1	0	10	50	50
	EBR	21	21	0	21	21	5	5	0	0	1	0	11	32	32
	WBL	310	310	2	312	312	1	0	0	0	3	0	4	316	316
	WBT	20	20	0	20	20	6	5	0	0	0	0	11	31	31
	WBR	276	276	0	276	276	0	-5	0	0	0	0	-5	271	271
	NBL	30	30	0	30	30	19	12	0	0	0	0	31	61	61
	NBT	622	797	9	631	806	0	-11	0	0	1	-3	-13	618	793
	NBR	41	41	1	42	42	0	-1	0	0	1	0	0	42	42
	SBL	139	139	0	139	139	0	-2	0	0	0	0	-2	137	137
	SBT	1118	1393	9	1127	1402	11	-2	0	0	6	0	15	1142	1417
	SBR	11	11	0	11	11	5	4	0	0	0	0	9	20	20
Hamilton Road @ Annex (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0	14	18	0	0	0	0	32	32	32
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	693	868	10	703	878	19	0	0	0	2	-3	18	721	896
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	1449	1724	11	1460	1735	5	-19	0	0	10	0	-4	1456	1731
	SBR	0	0		0	0	12	22	0	0	0	0	34	34	34

The Annex at Rocy Fork
AM Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

Weekday AM Peak Hour

Intersection	Lane Group	Background Traffic Volumes		Shops at Rocky Fork Volumes	No Build Traffic Volumes		Coffee Shop		Retail/Restaurant		Bank		Total Site Generated Traffic	Build Traffic Volumes	
							Primary	Pass-By	Primary	Pass-By	Primary	Pass-By			
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	Trips	Trips	Trips	Trips	Trips	Trips		Opening Year (2016)	Design Year (2036)
Hamilton Road @ Shops (Full Access)	EBL	0	0	1	1	1	0	0	0	0	2	0	2	3	3
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	0	0	0	0	0	0	0	6	4	10	10	10
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0	1	1	1	0	0	0	0	8	3	11	12	12
	NBT	883	1058	9	892	1067	19	0	0	0	0	-3	16	908	1083
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	1480	1755	10	1490	1765	19	-1	0	0	0	-5	13	1503	1778
	SBR	0	0	1	1	1	0	0	0	0	10	5	15	16	16
Hamilton Road @ Existing Drive	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0		0		0		0	0	0	0
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	81	81	0	81	81	0	0	0	0	0	0	0	81	81
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	802	977	10	812	987	19	0	0	0	8	0	27	839	1014
	NBR	103	103	0	103	103	0	0	0	0	0	0	0	103	103
	SBL	85	85	0	85	85	0	0	0	0	0	0	0	85	85
	SBT	1395	1670	10	1405	1680	19	-1	0	0	6	-1	23	1428	1703
	SBR	0	0		0	0		0		0		0	0	0	0
Hamilton Road @ Shops (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	13	13	13	0	0	0	0	0	0	0	13	13
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	905	1080	10	915	1090	19	0	0	0	8	0	27	942	1117
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	1395	1670	-4	1391	1666	19	-1	0	0	6	-1	23	1414	1689
	SBR	0	0	14	14	14	0	0	0	0	0	0	0	14	14
Hamilton Road @ MorrisonRoad/Rocky Fork South	EBL	32	32	14	46	46	0	0	0	0	0	0	0	46	46
	EBT	36	36	6	42	42	0	0	0	0	0	0	0	42	42
	EBR	149	149	10	159	159	0	0	0	0	0	0	0	159	159
	WBL	803	964	-6	797	958	0	0	0	0	0	0	0	797	958
	WBT	24	24	13	37	37	0	0	0	0	0	0	0	37	37
	WBR	155	186	0	155	186	5	0	0	0	2	0	7	162	193
	NBL	45	45	13	58	58	0	0	0	0	0	0	0	58	58
	NBT	718	862	-4	714	858	14	0	0	0	6	0	20	734	878
	NBR	510	612	0	510	612	0	0	0	0	0	0	0	510	612
	SBL	185	222	0	185	222	5	0	0	0	2	0	7	192	229
	SBT	1189	1427	3	1192	1430	14	-1	0	0	4	-1	16	1208	1446
	SBR	21	21	6	27	27	0	0	0	0	0	0	0	27	27

The Annex at Rocy Fork
Midday Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

Intersection	Lane Group	Weekday Midday Peak Hour											
		Background Traffic Volumes		Shops at Rocky Fork Volumes	No Build Traffic Volumes		Coffee Shop		Retail/Restaurant		Bank		Total Site Generated Traffic	Build Traffic Volumes	
							Primary	Pass-By	Primary	Pass-By	Primary	Pass-By			
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	Trips	Trips	Trips	Trips	Trips	Trips		Opening Year (2016)	Design Year (2036)
Flint Ridge Drive @ Granville Road	EBL	33	33	0	33	33	0	0	0	0	0	0	0	33	33
	EBT	849	1019	29	878	1048	3	0	3	0	4	0	10	888	1058
	EBR	68	68	0	68	68	1	0	1	0	2	0	4	72	72
	WBL	13	13	0	13	13	0	0	0	0	0	0	0	13	13
	WBT	794	953	29	823	982	3	0	4	0	4	0	11	834	993
	WBR	42	42	0	42	42	0	0	0	0	0	0	0	42	42
	NBL	65	65	0	65	65	1	0	1	0	2	0	4	69	69
	NBT	2	2	0	2	2	0	0	0	0	0	0	0	2	2
	NBR	15	15	0	15	15	0	0	0	0	0	0	0	15	15
	SBL	42	42	0	42	42	0	0	0	0	0	0	0	42	42
	SBT	2	2	0	2	2	0	0	0	0	0	0	0	2	2
	SBR	37	37	0	37	37	0	0	0	0	0	0	0	37	37
Flint Ridge Drive @ Rocky Fork North	EBL	5	5	0	5	5	0	0	0	0	0	0	0	5	5
	EBT	7	7	0	7	7	0	0	0	0	0	0	0	7	7
	EBR	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	WBL	5	5	0	5	5	0	0	0	0	0	0	0	5	5
	WBT	7	7	0	7	7	0	0	0	0	0	0	0	7	7
	WBR	35	35	0	35	35	2	0	3	0	4	0	9	44	44
	NBL	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	NBT	18	18	0	18	18	0	0	0	0	0	0	0	18	18
	NBR	5	5	0	5	5	0	0	0	0	0	0	0	5	5
	SBL	34	34	0	34	34	2	0	2	0	3	0	7	41	41
	SBT	40	40	0	40	40	0	0	0	0	0	0	0	40	40
	SBR	7	7	0	7	7	0	0	0	0	0	0	0	7	7
Rocky Fork North @ Annex (Full Access)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	51	51	0	51	51	0	0	0	0	1	0	1	52	52
	EBR	0	0		0	0	2	0	2	0	2	0	6	6	6
	WBL	0	0		0	0	17	3	8	0	1	0	29	29	29
	WBT	43	43	0	43	43	0	0	0	0	0	0	0	43	43
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0	2	0	3	0	4	0	9	9	9
	NBT	0	0		0	0		0		0		0	0	0	0
	NBR	0	0		0	0	15	5	15	2	14	5	56	56	56
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	0	0		0	0		0		0		0	0	0	0
	SBR	0	0		0	0		0		0		0	0	0	0
Rocky Fork North @ Hamilton Road	EBL	10	10	0	10	10	8	3	10	2	10	5	38	48	48
	EBT	26	26	0	26	26	4	1	5	0	4	0	14	40	40
	EBR	15	15	0	15	15	3	1	0	0	1	0	5	20	20
	WBL	96	96	10	106	106	1	0	1	0	5	0	7	113	113
	WBT	14	14	0	14	14	3	0	3	0	1	0	7	21	21
	WBR	125	125	0	125	125	0	0	0	0	0	0	0	125	125
	NBL	21	21	0	21	21	11	2	4	0	0	0	17	38	38
	NBT	676	856	76	752	932	0	-2	1	-1	3	-6	-5	747	927
	NBR	36	36	4	40	40	0	0	0	0	2	0	2	42	42
	SBL	149	149	0	149	149	0	0	0	0	0	0	0	149	149
	SBT	689	844	74	763	918	6	-1	8	0	13	0	26	789	944
	SBR	8	8	0	8	8	3	1	1	0	0	0	5	13	13
Hamilton Road @ Annex (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0	8	2	9	2	0	0	21	21	21
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	733	913	80	813	993	11	0	5	-1	5	-6	14	827	1007
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	800	955	84	884	1039	3	-3	1	-2	19	0	18	902	1057
	SBR	0	0		0	0	7	3	8	2	0	0	20	20	20

The Annex at Rocy Fork
Midday Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

		Weekday Midday Peak Hour													
Intersection	**Lane Group**	**Background Traffic Volumes**		**Shops at Rocky Fork Volumes**	**No Build Traffic Volumes**		**Coffee Shop**		**Retail/Restaurant**		**Bank**		**Total Site Generated Traffic**	**Build Traffic Volumes**	
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	**Primary Trips**	**Pass-By Trips**	**Primary Trips**	**Pass-By Trips**	**Primary Trips**	**Pass-By Trips**		Opening Year (2016)	Design Year (2036)
Hamilton Road @ Shops (Full Access)	EBL	0	0	81	81	81	0	0	1	0	5	1	7	88	88
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	82	82	82	0	0	4	0	16	7	27	109	109
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0	58	58	58	0	0	7	1	16	7	31	89	89
	NBT	927	1107	-1	926	1106	11	0	4	-1	0	-7	7	933	1113
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	872	1027	23	895	1050	11	-1	9	0	0	-7	12	907	1062
	SBR	0	0	61	61	61	0	0	1	0	19	7	27	88	88
Hamilton Road @ Existing Drive	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0		0		0		0	0	0	0
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	163	163	0	163	163	0	0	0	0	0	0	0	163	163
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	764	944	57	821	1001	11	0	11	0	16	0	38	859	1039
	NBR	149	149	0	149	149	0	0	0	0	0	0	0	149	149
	SBL	90	90	0	90	90	0	0	0	0	0	0	0	90	90
	SBT	782	937	105	887	1042	11	-1	13	0	16	0	39	926	1081
	SBR	0	0		0	0		0		0		0	0	0	0
Hamilton Road @ Shops (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	46	46	46	0	0	0	0	0	0	0	46	46
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	913	1093	57	970	1150	11	0	11	0	16	0	38	1008	1188
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	782	937	64	846	1001	11	-1	13	0	16	0	39	885	1040
	SBR	0	0	41	41	41	0	0	0	0	0	0	0	41	41
Hamilton Road @ MorrisonRoad/Rocky Fork South	EBL	14	14	20	34	34	0	0	0	0	0	0	0	34	34
	EBT	32	32	9	41	41	0	0	0	0	0	0	0	41	41
	EBR	38	38	10	48	48	0	0	0	0	0	0	0	48	48
	WBL	523	628	0	523	628	0	0	0	0	0	0	0	523	628
	WBT	13	13	34	47	47	0	0	0	0	0	0	0	47	47
	WBR	254	305	22	276	327	3	0	3	0	4	0	10	286	337
	NBL	29	29	57	86	86	0	0	0	0	0	0	0	86	86
	NBT	645	774	15	660	789	8	0	8	0	12	0	28	688	817
	NBR	345	414	0	345	414	0	0	0	0	0	0	0	345	414
	SBL	235	282	44	279	326	3	0	3	0	4	0	10	289	336
	SBT	542	650	59	601	709	8	-1	10	0	12	0	29	630	738
	SBR	5	5	7	12	12	0	0	0	0	0	0	0	12	12

The Annex at Rocky Fork
PM Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

Intersection	Lane Group	Weekday PM Peak Hour											
		Background Traffic Volumes		Shops at Rocky Fork Volumes	No Build Traffic Volumes		Coffee Shop		Retail/Restaurant		Bank		Total Site Generated Traffic	Build Traffic Volumes	
							Primary	Pass-By	Primary	Pass-By	Primary	Pass-By			
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	Trips	Trips	Trips	Trips	Trips	Trips		Opening Year (2016)	Design Year (2036)
Flint Ridge Drive @ Granville Road	EBL	35	35	0	35	35	0	0	0	0	0	0	0	35	35
	EBT	1428	1714	14	1442	1728	1	0	3	0	4	0	8	1450	1736
	EBR	144	144	0	144	144	0	0	1	0	1	0	2	146	146
	WBL	35	35	0	35	35	0	0	0	0	0	0	0	35	35
	WBT	819	983	14	833	997	1	0	3	0	4	0	8	841	1005
	WBR	52	52	0	52	52	0	0	0	0	0	0	0	52	52
	NBL	159	159	0	159	159	0	0	1	0	1	0	2	161	161
	NBT	4	4	0	4	4	0	0	0	0	0	0	0	4	4
	NBR	29	29	0	29	29	0	0	0	0	0	0	0	29	29
	SBL	50	50	0	50	50	0	0	0	0	0	0	0	50	50
	SBT	5	5	0	5	5	0	0	0	0	0	0	0	5	5
	SBR	40	40	0	40	40	0	0	0	0	0	0	0	40	40
Flint Ridge Drive @ Rocky Fork North	EBL	8	8	0	8	8	0	0	0	0	0	0	0	8	8
	EBT	13	13	0	13	13	0	0	0	0	0	0	0	13	13
	EBR	2	2	0	2	2	0	0	0	0	0	0	0	2	2
	WBL	6	6	0	6	6	0	0	0	0	0	0	0	6	6
	WBT	23	23	0	23	23	0	0	0	0	0	0	0	23	23
	WBR	59	59	0	59	59	1	0	2	0	3	0	6	65	65
	NBL	1	1	0	1	1	0	0	0	0	0	0	0	1	1
	NBT	47	47	0	47	47	0	0	0	0	0	0	0	47	47
	NBR	3	3	0	3	3	0	0	0	0	0	0	0	3	3
	SBL	48	48	0	48	48	1	0	2	0	3	0	6	54	54
	SBT	52	52	0	52	52	0	0	0	0	0	0	0	52	52
	SBR	19	19	0	19	19	0	0	0	0	0	0	0	19	19
Rocky Fork North @ Annex (Full Access)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	80	80	0	80	80	0	0	0	0	1	-1	0	80	80
	EBR	0	0		0	0	1	0	2	0	2	1	6	6	6
	WBL	0	0		0	0	7	7	8	3	1	0	26	26	26
	WBT	83	83	0	83	83	0	0	0	0	0	0	0	83	83
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0	1	0	2	0	3	0	6	6	6
	NBT	0	0		0	0		0		0		0	0	0	0
	NBR	0	0		0	0	7	7	12	3	11	8	48	48	48
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	0	0		0	0		0		0		0	0	0	0
	SBR	0	0		0	0		0		0		0	0	0	0
Rocky Fork North @ Hamilton Road	EBL	16	16	0	16	16	4	5	8	3	8	7	35	51	51
	EBT	49	49	0	49	49	2	1	4	0	3	0	10	59	59
	EBR	15	15	0	15	15	1	1	0	0	1	0	3	18	18
	WBL	132	132	7	139	139	0	0	1	0	4	0	5	144	144
	WBT	35	35	0	35	35	2	1	3	0	1	0	7	42	42
	WBR	178	178	0	178	178	0	-1	0	0	0	0	-1	177	177
	NBL	29	29	0	29	29	4	5	4	3	0	0	16	45	45
	NBT	1267	1582	36	1303	1618	0	-5	1	-5	3	-6	-12	1291	1606
	NBR	74	74	2	76	76	0	0	0	0	2	-1	1	77	77
	SBL	230	230	0	230	230	0	-1	0	0	0	0	-1	229	229
	SBT	665	841	35	700	876	2	0	8	0	11	0	21	721	897
	SBR	19	19	0	19	19	1	1	1	0	0	0	3	22	22
Hamilton Road @ Annex (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0	3	3	8	2	0	0	16	16	16
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	1370	1685	38	1408	1723	4	0	5	-2	5	-7	5	1413	1728
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	812	988	42	854	1030	1	-3	1	-3	16	0	12	866	1042
	SBR	0	0		0	0	2	4	8	3	0	0	17	17	17

The Annex at Rocky Fork
PM Peak Hour Trip Assignments

Annual Growth Factor (%)	1.0%
Current Year	2014
Opening Year	2016
Design Year	2036

Intersection	Lane Group	Weekday PM Peak Hour													
		Background Traffic Volumes		Shops at Rocky Fork Volumes	No Build Traffic Volumes		Coffee Shop		Retail/Restaurant		Bank		Total Site Generated Traffic	Build Traffic Volumes	
							Primary	Pass-By	Primary	Pass-By	Primary	Pass-By			
		Opening Year (2016)	Design Year (2036)		Opening Year (2016)	Design Year (2036)	Trips	Trips	Trips	Trips	Trips	Trips		Opening Year (2016)	Design Year (2036)
Hamilton Road @ Shops (Full Access)	EBL	0	0	53	53	53	0	0	1	1	5	3	10	63	63
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	55	55	55	0	0	3	0	13	6	22	77	77
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0	40	40	40	0	0	7	3	13	10	33	73	73
	NBT	1596	1911	-15	1581	1896	4	0	4	-3	0	-10	-5	1576	1891
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	968	1144	8	976	1152	4	0	8	-1	0	-6	5	981	1157
	SBR	0	0	34	34	34	0	0	1	0	16	6	23	57	57
Hamilton Road @ Existing Drive	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0		0	0		0		0		0	0	0	0
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	189	189	0	189	189	0	0	0	0	0	0	0	189	189
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	1407	1722	25	1432	1747	4	0	11	0	13	0	28	1460	1775
	NBR	204	204	0	204	204	0	0	0	0	0	0	0	204	204
	SBL	80	80	0	80	80	0	0	0	0	0	0	0	80	80
	SBT	888	1064	63	951	1127	4	0	11	-1	13	0	27	978	1154
	SBR	0	0		0	0		0		0		0	0	0	0
Hamilton Road @ Shops (RiRo)	EBL	0	0		0	0		0		0		0	0	0	0
	EBT	0	0		0	0		0		0		0	0	0	0
	EBR	0	0	25	25	25	0	0	0	0	0	0	0	25	25
	WBL	0	0		0	0		0		0		0	0	0	0
	WBT	0	0		0	0		0		0		0	0	0	0
	WBR	0	0		0	0		0		0		0	0	0	0
	NBL	0	0		0	0		0		0		0	0	0	0
	NBT	1611	1926	25	1636	1951	4	0	11	0	13	0	28	1664	1979
	NBR	0	0		0	0		0		0		0	0	0	0
	SBL	0	0		0	0		0		0		0	0	0	0
	SBT	888	1064	41	929	1105	4	0	11	-1	13	0	27	956	1132
	SBR	0	0	22	22	22	0	0	0	0	0	0	0	22	22
Hamilton Road @ MorrisonRoad/Rocky Fork South	EBL	38	38	11	49	49	0	0	0	0	0	0	0	49	49
	EBT	40	40	5	45	45	0	0	0	0	0	0	0	45	45
	EBR	49	49	5	54	54	0	0	0	0	0	0	0	54	54
	WBL	702	842	0	702	842	0	0	0	0	0	0	0	702	842
	WBT	24	24	18	42	42	0	0	0	0	0	0	0	42	42
	WBR	243	292	11	254	303	1	0	3	0	3	0	7	261	310
	NBL	92	92	46	138	138	0	0	0	0	0	0	0	138	138
	NBT	1330	1596	3	1333	1599	3	0	8	0	10	0	21	1354	1620
	NBR	674	809	-13	661	796	0	0	0	0	0	0	0	661	796
	SBL	172	206	32	204	238	1	0	3	-1	3	0	6	210	244
	SBT	711	853	31	742	884	3	0	8	0	10	0	21	763	905
	SBR	5	5	3	8	8	0	0	0	0	0	0	0	8	8

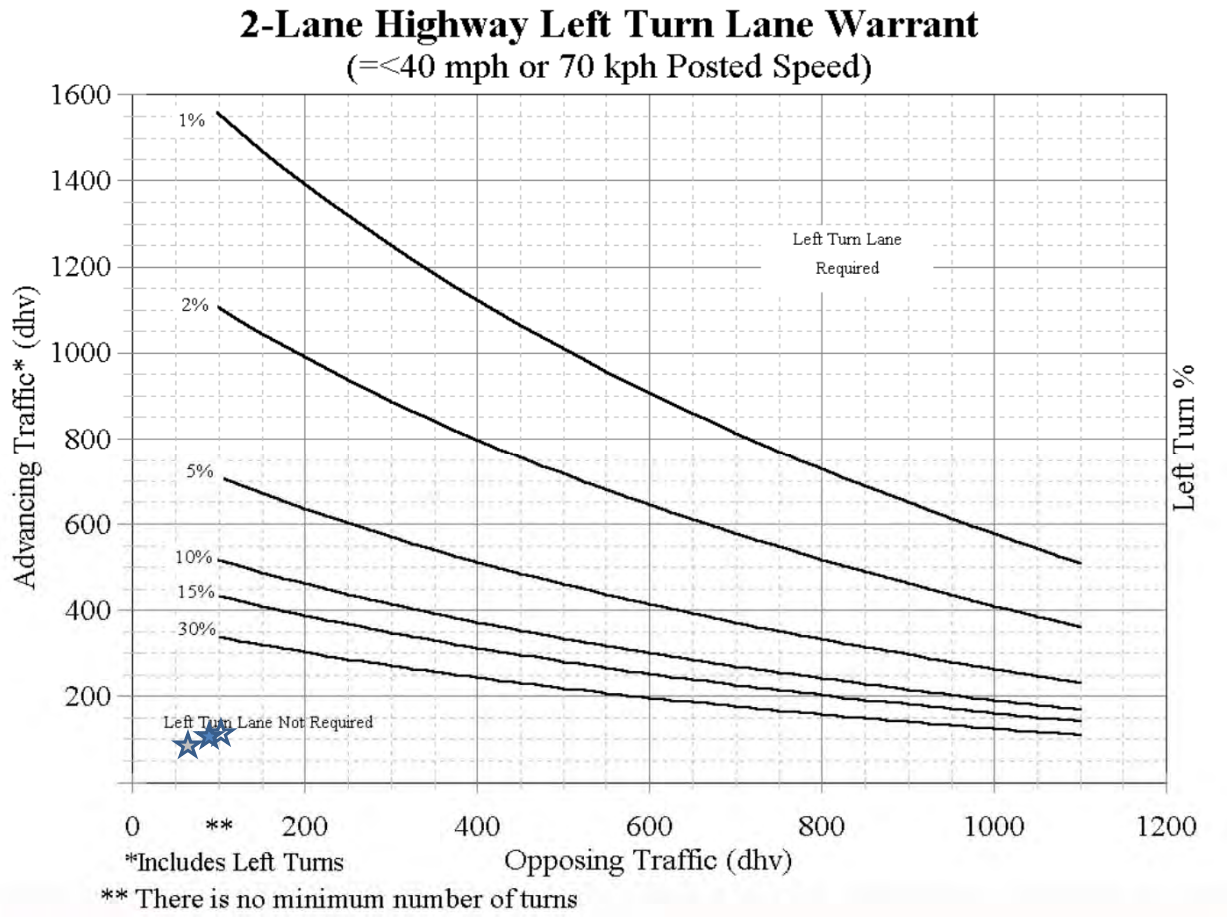
Appendix F. Turn Lane Warrants

LEFT TURN LANE WARRANT WORKSHEET

Intersection	Rocky Fork Drive North @ Full Access	*Approach*	WB
Project Name	The Annex at Rocky Fork	*Year Analyzed*	2036
Project #	GALZAD - 14296	*Condition*	Build
Analyst	AMC - Trans Associates		

	AM	Midday	PM
Advancing Traffic	**112**	**72**	**109**
Opposing Traffic	**100**	**58**	**86**
Left Turn %	**46%**	**40%**	**24%**
Warrant Met?	**NO**	**NO**	**NO**

General Information:



Source: ODOT Location & Design Manual -Volume I (January 2006)
401-5aE

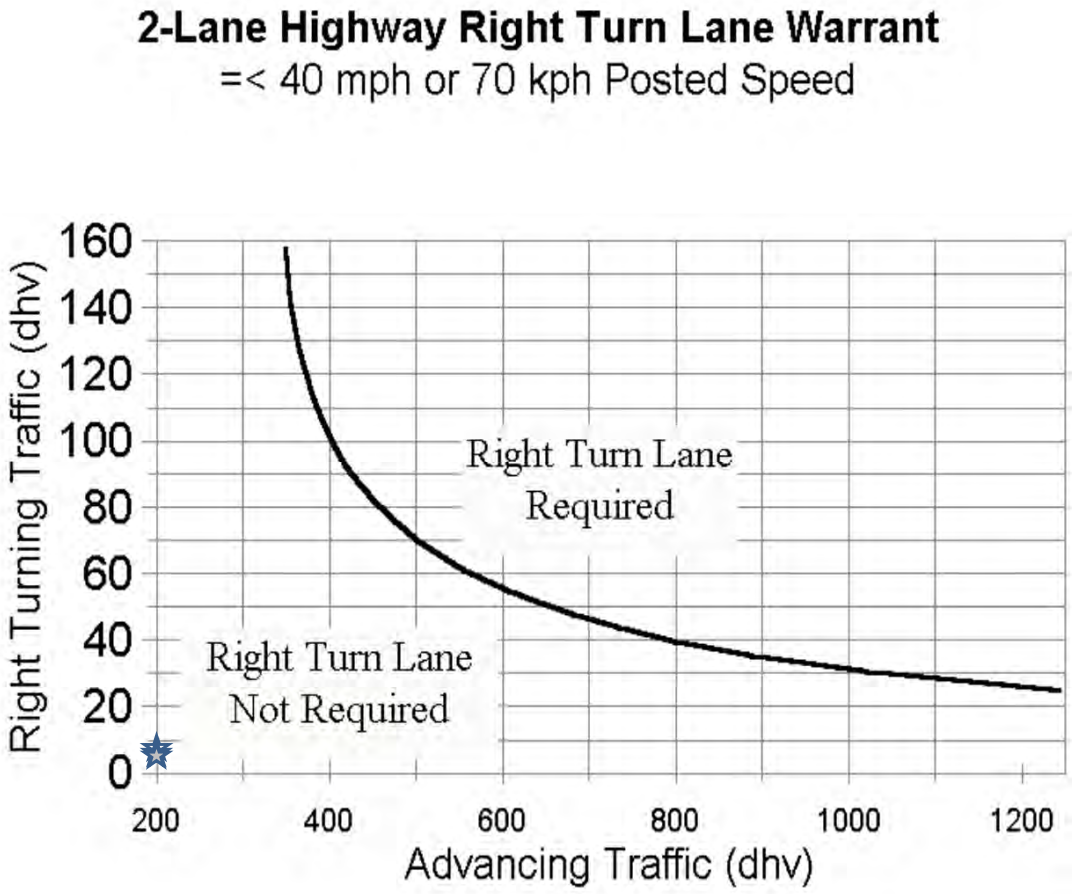
2/18/2015

RIGHT TURN LANE WARRANT WORKSHEET

Intersection	Rocky Fork Drive North @ Full Access	*Approach*	EB
Project Name	The Annex at Rocky Fork	*Year Analyzed*	2036
Project #	GALZAD - 14296	*Condition*	Build
Analyst	AMC - Trans Associates		

	AM	Midday	PM
Right Turning traffic	7	6	6
Advancing Traffic	100	58	86
Warrant Met?	**NO**	**NO**	**NO**

General Information:



Source: ODOT Location & Design Manual -Volume I (January 2006)
401-6aE

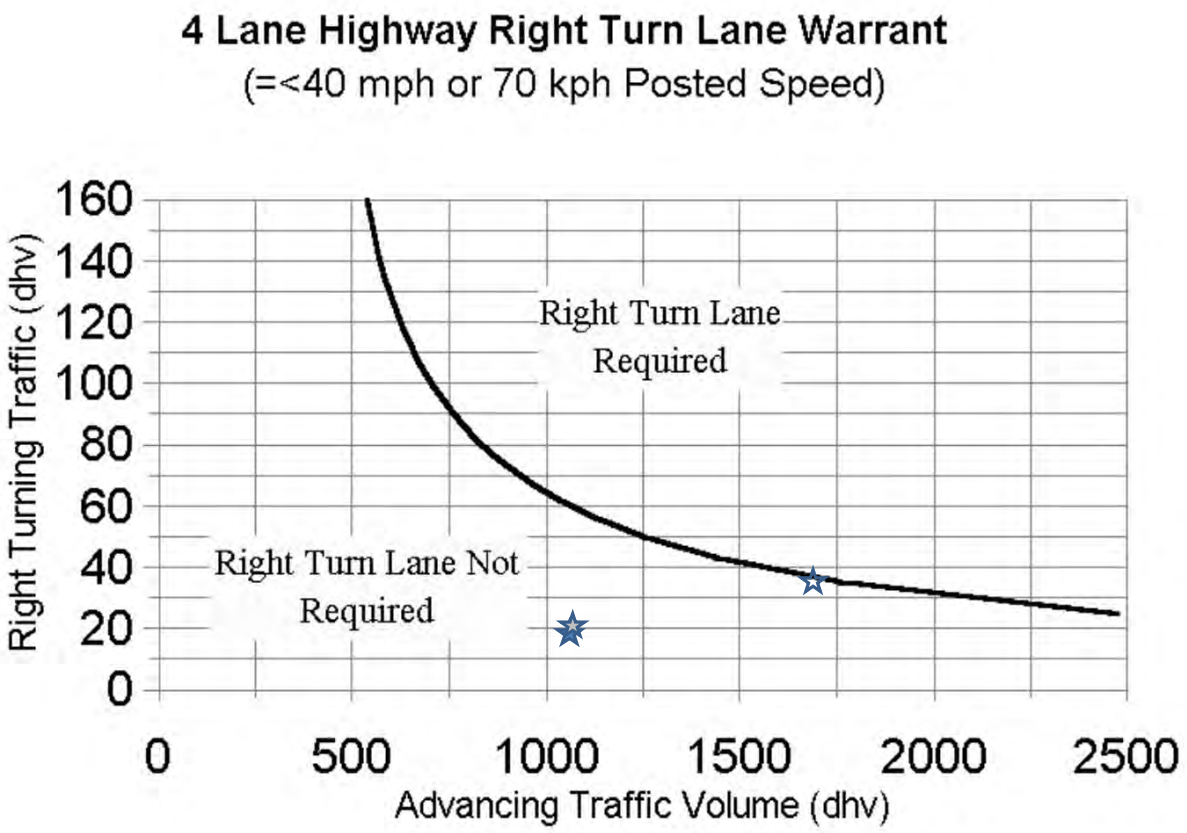
2/18/2015

RIGHT TURN LANE WARRANT WORKSHEET

Project Name	The Annex at Rocky Fork	*Approach*	SB
Project #	GALZAD - 14296	*Year Analyzed*	2036
Compiled By:	AMC - Trans Associates	*Condition*	Build
Intersection	Hamilton Road @ Annex RiRo		

	AM	Midday	PM
Right Turning traffic	34	20	17
Advancing Traffic	1,731	1,057	1,042
Warrant Met?	NO	NO	NO

General Information:



Source: ODOT Location & Design Manual -Volume I (January 2006)
401-6cE

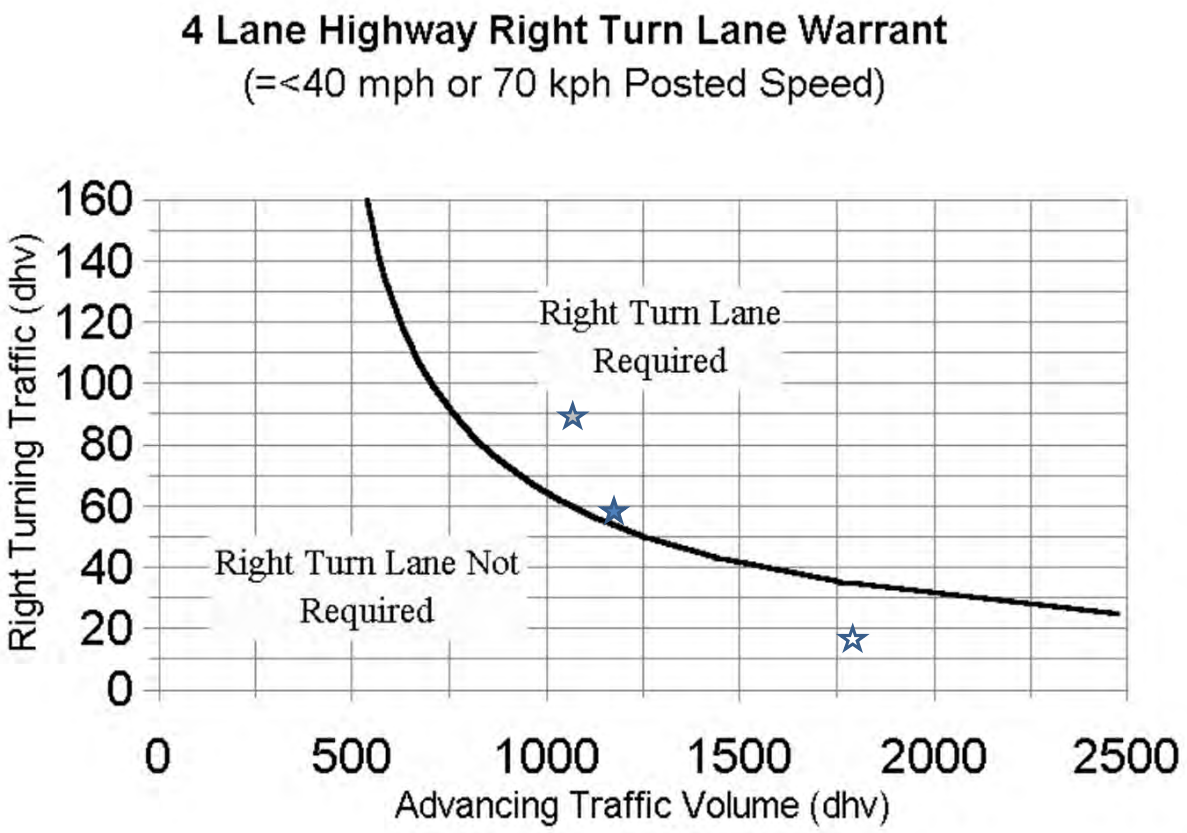
2/18/2015

RIGHT TURN LANE WARRANT WORKSHEET

Project Name	The Annex at Rocky Fork	*Approach*	SB
Project #	GALZAD - 14296	*Year Analyzed*	2036
Compiled By:	AMC - Trans Associates	*Condition*	Build
Intersection	Hamilton Road @ Shops Full Access		

	AM	Midday	PM
Right Turning traffic	16	88	57
Advancing Traffic	1,778	1,062	1,157
Warrant Met?	NO	YES	YES

General Information:



Source: ODOT Location & Design Manual -Volume I (January 2006)
401-6cE

2/18/2015

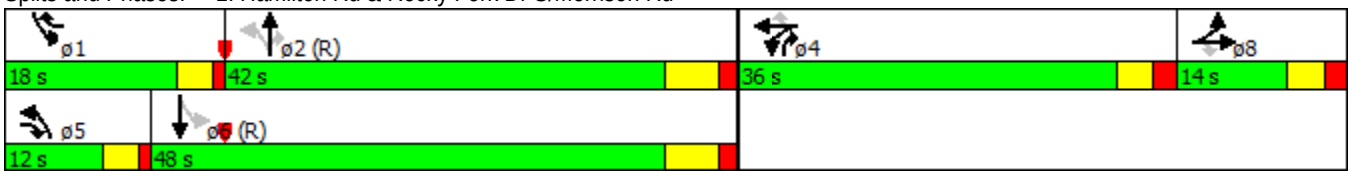
Appendix G. 2016 Capacity Analysis Results

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	42	159	797	37	155	58	714	510	185	1192
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	14.0	12.0	36.0	36.0	18.0	12.0	42.0	36.0	18.0	48.0
Total Split (%)	12.7%	10.9%	32.7%	32.7%	16.4%	10.9%	38.2%	32.7%	16.4%	43.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.8	21.8	31.0	31.0	43.9	48.3	38.3	75.3	55.2	42.2
Actuated g/C Ratio	0.08	0.20	0.28	0.28	0.40	0.44	0.35	0.68	0.50	0.38
v/c Ratio	0.66	0.42	0.95	0.96	0.24	0.32	0.63	0.51	0.60	0.98
Control Delay	71.3	16.9	70.7	71.9	4.1	18.9	33.2	10.9	19.3	51.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	16.9	70.7	71.9	4.1	18.9	33.2	10.9	19.3	51.3
LOS	E	B	E	E	A	B	C	B	B	D
Approach Delay	36.4			60.8			23.7			47.0
Approach LOS	D			E			C			D

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 42.2 Intersection LOS: D
Intersection Capacity Utilization 82.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	42	159	797	37	155	58	714	510	185	1192	27
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	50	46	173	895	0	168	63	776	554	201	1296	29
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	77	71	268	967	0	529	199	1332	725	303	1422	32
Arrive On Green	0.08	0.08	0.08	0.27	0.00	0.27	0.06	0.38	0.38	0.09	0.40	0.40
Sat Flow, veh/h	946	870	1578	3548	0	1582	1774	3539	1583	1774	3539	79
Grp Volume(v), veh/h	96	0	173	895	0	168	63	776	554	201	648	677
Grp Sat Flow(s),veh/h/ln	1815	0	1578	1774	0	1582	1774	1770	1583	1774	1770	1849
Q Serve(g_s), s	5.6	0.0	9.0	27.0	0.0	8.7	2.3	19.3	32.1	7.4	38.0	38.1
Cycle Q Clear(g_c), s	5.6	0.0	9.0	27.0	0.0	8.7	2.3	19.3	32.1	7.4	38.0	38.1
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	149	0	268	967	0	529	199	1332	725	303	711	743
V/C Ratio(X)	0.65	0.00	0.65	0.93	0.00	0.32	0.32	0.58	0.76	0.66	0.91	0.91
Avail Cap(c_a), veh/h	149	0	268	1000	0	544	217	1332	725	374	711	743
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	42.6	38.9	0.0	27.2	24.7	27.4	24.8	20.9	31.1	31.1
Incr Delay (d2), s/veh	9.3	0.0	5.3	13.7	0.0	0.3	0.9	1.9	7.5	3.1	17.9	17.4
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	3.2	0.0	5.3	15.0	0.0	3.8	1.2	9.7	17.7	3.8	22.1	23.0
LnGrp Delay(d),s/veh	58.3	0.0	47.9	52.6	0.0	27.6	25.6	29.3	32.3	24.1	49.0	48.5
LnGrp LOS	E		D	D		C	C	C	C	C	D	D
Approach Vol, veh/h		269			1063			1393			1526	
Approach Delay, s/veh		51.6			48.7			30.3			45.5	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	47.4		35.0	10.8	50.2		14.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	14.0	36.0		31.0	8.0	42.0		9.0
Max Q Clear Time (g_c+I1), s	9.4	34.1		29.0	4.3	40.1		11.0
Green Ext Time (p_c), s	0.2	1.8		1.0	0.0	1.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	81	812	103	85	1405
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	-	-	70	-
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	88	883	112	92	1527

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1887	497	0	0	995	0
Stage 1	939	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	62	519	-	-	691	-
Stage 1	341	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	54	519	-	-	691	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	292	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	691	-
HCM Lane V/C Ratio	-	-	0.17	0.134	-
HCM Control Delay (s)	-	-	13.3	11	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	0	1	892	1490	1
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	50	-	-	-
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	0	1	970	1620	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2107	810	1621	0	-	0
Stage 1	1620	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	44	323	398	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	44	323	398	-	-	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	147	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.5	0	0
HCM LOS	E		

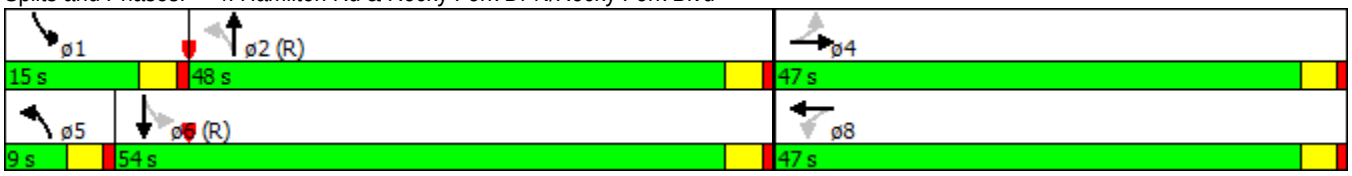
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	398	-	119	-	-	-
HCM Lane V/C Ratio	0.003	-	0.009	-	-	-
HCM Control Delay (s)	14.1	-	35.5	0	-	-
HCM Lane LOS	B	-	E	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	33	40	312	20	30	631	139	1127
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	47.0	47.0	47.0	47.0	9.0	48.0	15.0	54.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	8.2%	43.6%	13.6%	49.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	35.1	35.1	35.1	35.1	59.4	53.5	66.7	60.8
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.54	0.49	0.61	0.55
v/c Ratio	0.17	0.11	0.80	0.47	0.15	0.43	0.36	0.63
Control Delay	25.9	16.7	47.9	9.0	7.9	14.6	13.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	16.7	47.9	9.0	7.9	14.6	13.3	21.2
LOS	C	B	D	A	A	B	B	C
Approach Delay		19.9		29.0		14.3		20.3
Approach LOS		B		C		B		C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 47 (43%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 20.7 Intersection LOS: C
Intersection Capacity Utilization 71.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	40	21	312	20	276	30	631	42	139	1127	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	43	23	339	22	300	33	686	46	151	1225	12
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	225	368	197	458	35	480	252	1720	115	406	1940	19
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.01	0.17	0.17	0.06	0.54	0.54
Sat Flow, veh/h	1053	1143	612	1330	109	1490	1774	3366	226	1774	3591	35
Grp Volume(v), veh/h	36	0	66	339	0	322	33	360	372	151	604	633
Grp Sat Flow(s),veh/h/ln	1053	0	1755	1330	0	1600	1774	1770	1822	1774	1770	1856
Q Serve(g_s), s	3.3	0.0	2.9	26.5	0.0	18.8	1.0	20.0	20.0	4.3	26.2	26.2
Cycle Q Clear(g_c), s	22.1	0.0	2.9	29.4	0.0	18.8	1.0	20.0	20.0	4.3	26.2	26.2
Prop In Lane	1.00		0.35	1.00		0.93	1.00		0.12	1.00		0.02
Lane Grp Cap(c), veh/h	225	0	565	458	0	515	252	904	931	406	956	1003
V/C Ratio(X)	0.16	0.00	0.12	0.74	0.00	0.63	0.13	0.40	0.40	0.37	0.63	0.63
Avail Cap(c_a), veh/h	297	0	686	550	0	625	281	904	931	480	956	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	26.3	36.6	0.0	31.7	14.8	30.7	30.7	13.2	17.7	17.7
Incr Delay (d2), s/veh	0.4	0.0	0.1	4.8	0.0	1.7	0.2	1.3	1.3	0.6	3.2	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	1.0	0.0	1.4	10.3	0.0	8.6	0.5	10.1	10.4	2.1	13.6	14.2
LnGrp Delay(d),s/veh	41.5	0.0	26.4	41.4	0.0	33.4	15.0	32.0	31.9	13.8	20.8	20.7
LnGrp LOS	D		C	D		C	B	C	C	B	C	C
Approach Vol, veh/h		102			661			765			1388	
Approach Delay, s/veh		31.7			37.5			31.2			20.0	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	60.2		39.4	7.2	63.4		39.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	11.0	44.0		43.0	5.0	50.0		43.0
Max Q Clear Time (g_c+I1), s	6.3	22.0		24.1	3.0	28.2		31.4
Green Ext Time (p_c), s	0.1	19.1		5.1	0.0	18.9		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	12	12	1	0	6	8	35	0	1	21	2	0	60	88	5
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	13	1	0	7	9	38	0	1	23	2	0	65	96	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

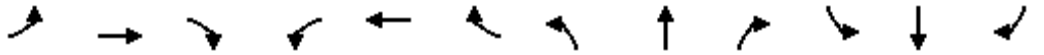
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.2	7.4	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	48%	12%	39%
Vol Thru, %	88%	48%	16%	58%
Vol Right, %	8%	4%	71%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	25	49	153
LT Vol	1	12	6	60
Through Vol	21	12	8	88
RT Vol	2	1	35	5
Lane Flow Rate	26	27	53	166
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.034	0.059	0.192
Departure Headway (Hd)	4.159	4.491	3.99	4.151
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	849	802	903	860
Service Time	2.241	2.493	1.991	2.2
HCM Lane V/C Ratio	0.031	0.034	0.059	0.193
HCM Control Delay	7.4	7.7	7.2	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.7

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	4	456	5	901	118	1	4	1	3
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	47.0	9.0	47.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	10.0%	52.2%	10.0%	52.2%	37.8%	37.8%	37.8%	37.8%	37.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	27.6	26.9	27.6	26.9		11.2		11.2	11.2
Actuated g/C Ratio	0.58	0.56	0.58	0.56		0.23		0.23	0.23
v/c Ratio	0.01	0.32	0.01	0.50		0.47		0.01	0.01
Control Delay	5.0	6.7	5.0	8.5		20.0		15.8	0.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	5.0	6.7	5.0	8.5		20.0		15.8	0.0
LOS	A	A	A	A		B		B	A
Approach Delay		6.6		8.5		20.0		9.9	
Approach LOS		A		A		B		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 47.8	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 8.8	Intersection LOS: A
Intersection Capacity Utilization 47.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	456	118	5	901	7	118	1	24	4	1	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	4	496	128	5	979	8	128	1	26	4	1	3
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	404	1553	399	549	2010	16	332	5	37	340	69	240
Arrive On Green	0.01	0.56	0.56	0.01	0.56	0.56	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	2787	715	1774	3598	29	1163	35	241	1232	453	1580
Grp Volume(v), veh/h	4	314	310	5	482	505	155	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1770	1733	1774	1770	1857	1439	0	0	1685	0	1580
Q Serve(g_s), s	0.0	4.0	4.1	0.1	7.0	7.0	4.2	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	4.0	4.1	0.1	7.0	7.0	4.3	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.41	1.00		0.02	0.83		0.17	0.80		1.00
Lane Grp Cap(c), veh/h	404	986	966	549	989	1038	374	0	0	409	0	240
V/C Ratio(X)	0.01	0.32	0.32	0.01	0.49	0.49	0.41	0.00	0.00	0.01	0.00	0.01
Avail Cap(c_a), veh/h	604	1803	1765	748	1803	1892	1175	0	0	1221	0	1123
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	1.00
Uniform Delay (d), s/veh	4.6	5.0	5.0	4.2	5.6	5.6	17.0	0.0	0.0	15.2	0.0	15.2
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.7	0.0	0.0	0.0	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	0.0	2.0	1.9	0.0	3.4	3.6	1.8	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	4.6	5.2	5.2	4.2	6.0	6.0	17.7	0.0	0.0	15.2	0.0	15.2
LnGrp LOS	A	A	A	A	A	A	B			B		B
Approach Vol, veh/h		628			992			155			8	
Approach Delay, s/veh		5.2			6.0			17.7			15.2	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	27.5		10.4	4.2	27.6		10.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	43.0		30.0	5.0	43.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	6.1		2.1	2.0	9.0		6.3
Green Ext Time (p_c), s	0.0	15.1		1.0	0.0	14.6		0.9

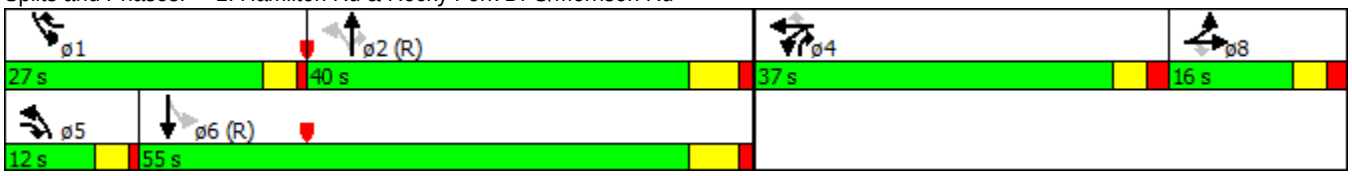
Intersection Summary	
HCM 2010 Ctrl Delay	6.8
HCM 2010 LOS	A

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	41	48	523	47	276	86	660	345	279	601
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	16.0	12.0	37.0	37.0	27.0	12.0	40.0	37.0	27.0	55.0
Total Split (%)	13.3%	10.0%	30.8%	30.8%	22.5%	10.0%	33.3%	30.8%	22.5%	45.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	9.9	20.4	28.8	28.8	47.7	56.1	46.0	80.8	69.9	55.8
Actuated g/C Ratio	0.08	0.17	0.24	0.24	0.40	0.47	0.38	0.67	0.58	0.46
v/c Ratio	0.54	0.14	0.76	0.77	0.41	0.22	0.53	0.35	0.66	0.41
Control Delay	66.4	0.9	55.0	55.1	6.5	16.1	33.5	11.1	28.8	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	0.9	55.0	55.1	6.5	16.1	33.5	11.1	28.8	20.3
LOS	E	A	D	E	A	B	C	B	C	C
Approach Delay	41.0			39.2			25.0			22.9
Approach LOS	D			D			C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 29.1 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	41	48	523	47	276	86	660	345	279	601	12
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	37	45	52	604	0	300	93	717	375	303	653	13
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	54	66	269	743	0	431	426	1602	821	408	1754	35
Arrive On Green	0.07	0.07	0.07	0.21	0.00	0.21	0.06	0.45	0.45	0.03	0.16	0.16
Sat Flow, veh/h	822	1000	1555	3548	0	1574	1774	3539	1583	1774	3549	71
Grp Volume(v), veh/h	82	0	52	604	0	300	93	717	375	303	325	341
Grp Sat Flow(s),veh/h/ln	1822	0	1555	1774	0	1574	1774	1770	1583	1774	1770	1850
Q Serve(g_s), s	5.3	0.0	3.4	19.5	0.0	20.5	3.2	16.7	17.9	10.0	19.7	19.7
Cycle Q Clear(g_c), s	5.3	0.0	3.4	19.5	0.0	20.5	3.2	16.7	17.9	10.0	19.7	19.7
Prop In Lane	0.45		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	120	0	269	743	0	431	426	1602	821	408	875	915
V/C Ratio(X)	0.68	0.00	0.19	0.81	0.00	0.70	0.22	0.45	0.46	0.74	0.37	0.37
Avail Cap(c_a), veh/h	167	0	309	946	0	521	432	1602	821	561	875	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	42.6	45.2	0.0	39.2	15.8	22.5	18.2	18.3	33.6	33.6
Incr Delay (d2), s/veh	6.7	0.0	0.3	4.3	0.0	3.2	0.3	0.9	1.8	3.4	1.2	1.2
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	2.9	0.0	1.5	10.0	0.0	9.3	1.6	8.4	9.3	5.2	10.0	10.4
LnGrp Delay(d),s/veh	61.5	0.0	43.0	49.5	0.0	42.3	16.1	23.5	20.1	21.7	34.8	34.8
LnGrp LOS	E		D	D		D	B	C	C	C	C	C
Approach Vol, veh/h		134			904			1185			969	
Approach Delay, s/veh		54.3			47.1			21.8			30.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.6	60.3		30.1	11.6	65.3		12.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	23.0	34.0		32.0	8.0	49.0		11.0
Max Q Clear Time (g_c+I1), s	12.0	19.9		22.5	5.2	21.7		7.3
Green Ext Time (p_c), s	0.7	8.4		2.6	0.0	12.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	163	821	149	90	887
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	70	-
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	177	892	162	98	964

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1651	529	0	0	1054	0
Stage 1	973	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	89	494	-	-	656	-
Stage 1	327	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	76	493	-	-	655	-
Mov Cap-2 Maneuver	198	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	493	655	-
HCM Lane V/C Ratio	-	-	0.359	0.149	-
HCM Control Delay (s)	-	-	16.3	11.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.6	0.5	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	81	82	58	926	895	61
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	50	-	-	-
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	88	89	63	1007	973	66

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1635	520	1039	0	-	0
Stage 1	1006	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	92	501	665	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 83	501	665	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	665	-	205	501	-	-
HCM Lane V/C Ratio	0.095	-	0.429	0.178	-	-
HCM Control Delay (s)	11	-	35.2	13.7	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2	0.6	-	-

Notes

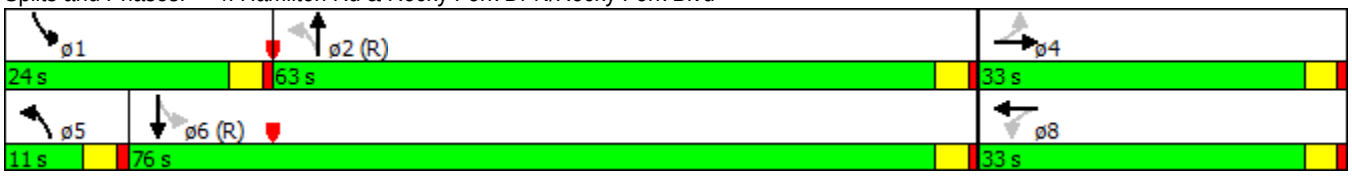
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	26	106	14	21	752	149	763
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	33.0	33.0	33.0	33.0	11.0	63.0	24.0	76.0
Total Split (%)	27.5%	27.5%	27.5%	27.5%	9.2%	52.5%	20.0%	63.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	16.3	16.3	16.3	16.3	89.4	83.5	95.2	89.7
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.74	0.70	0.79	0.75
v/c Ratio	0.10	0.17	0.63	0.45	0.04	0.35	0.32	0.32
Control Delay	44.3	32.0	63.0	13.8	2.6	4.8	5.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	32.0	63.0	13.8	2.6	4.8	5.0	6.5
LOS	D	C	E	B	A	A	A	A
Approach Delay		34.5		35.1		4.7		6.3
Approach LOS		C		D		A		A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 25 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 9.8 Intersection LOS: A
Intersection Capacity Utilization 53.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	26	15	106	14	125	21	752	40	149	763	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99		0.98	0.99		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	28	16	115	15	136	23	817	43	162	829	9
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	117	151	86	214	22	196	531	2464	130	501	2660	29
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.01	0.48	0.48	0.04	0.74	0.74
Sat Flow, veh/h	1230	1113	636	1354	159	1445	1774	3416	180	1774	3586	39
Grp Volume(v), veh/h	11	0	44	115	0	151	23	423	437	162	409	429
Grp Sat Flow(s),veh/h/ln	1230	0	1749	1354	0	1604	1774	1770	1826	1774	1770	1855
Q Serve(g_s), s	1.0	0.0	2.7	9.9	0.0	10.8	0.4	17.7	17.7	2.8	9.3	9.3
Cycle Q Clear(g_c), s	11.8	0.0	2.7	12.5	0.0	10.8	0.4	17.7	17.7	2.8	9.3	9.3
Prop In Lane	1.00		0.36	1.00		0.90	1.00		0.10	1.00		0.02
Lane Grp Cap(c), veh/h	117	0	238	214	0	218	531	1277	1317	501	1313	1376
V/C Ratio(X)	0.09	0.00	0.19	0.54	0.00	0.69	0.04	0.33	0.33	0.32	0.31	0.31
Avail Cap(c_a), veh/h	247	0	423	357	0	388	594	1277	1317	721	1313	1376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	0.0	46.0	51.5	0.0	49.5	4.2	13.2	13.2	5.4	5.2	5.2
Incr Delay (d2), s/veh	0.4	0.0	0.5	2.7	0.0	5.0	0.0	0.7	0.7	0.4	0.6	0.6
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	0.4	0.0	1.3	3.9	0.0	5.1	0.2	8.9	9.2	1.4	4.8	5.0
LnGrp Delay(d),s/veh	55.5	0.0	46.4	54.2	0.0	54.5	4.3	13.9	13.9	5.8	5.8	5.8
LnGrp LOS	E		D	D		D	A	B	B	A	A	A
Approach Vol, veh/h		55			266			883			1000	
Approach Delay, s/veh		48.3			54.4			13.6			5.8	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	90.6		20.3	6.7	93.0		20.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	20.0	59.0		29.0	7.0	72.0		29.0
Max Q Clear Time (g_c+I1), s	4.8	19.7		13.8	2.4	11.3		14.5
Green Ext Time (p_c), s	0.4	27.0		1.8	0.0	35.6		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	7	1	0	5	7	35	0	1	18	5	0	34	40	7
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	8	1	0	5	8	38	0	1	20	5	0	37	43	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

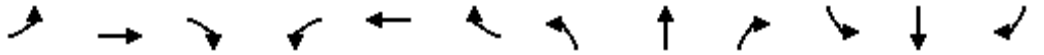
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7	7.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	11%	42%
Vol Thru, %	75%	54%	15%	49%
Vol Right, %	21%	8%	74%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	13	47	81
LT Vol	1	5	5	34
Through Vol	18	7	7	40
RT Vol	5	1	35	7
Lane Flow Rate	26	14	51	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0.016	0.053	0.1
Departure Headway (Hd)	3.997	4.201	3.716	4.099
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	892	845	955	874
Service Time	2.038	2.263	1.773	2.126
HCM Lane V/C Ratio	0.029	0.017	0.053	0.101
HCM Control Delay	7.2	7.3	7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.3

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	33	879	13	825	65	2	42	2	37
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	48.0	9.0	48.0	33.0	33.0	33.0	33.0	33.0
Total Split (%)	10.0%	53.3%	10.0%	53.3%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	30.7	32.3	30.0	30.8		8.9		8.7	8.7
Actuated g/C Ratio	0.71	0.75	0.70	0.71		0.21		0.20	0.20
v/c Ratio	0.07	0.39	0.03	0.38		0.31		0.16	0.11
Control Delay	3.7	5.5	3.7	6.6		18.9		19.0	5.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	3.7	5.5	3.7	6.6		18.9		19.0	5.0
LOS	A	A	A	A		B		B	A
Approach Delay		5.4		6.6		18.9		12.6	
Approach LOS		A		A		B		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 43.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 6.8	Intersection LOS: A
Intersection Capacity Utilization 46.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	879	68	13	825	42	65	2	15	42	2	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	36	955	74	14	897	46	71	2	16	46	2	40
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	476	2017	156	423	2001	103	251	19	30	341	12	205
Arrive On Green	0.04	0.61	0.61	0.02	0.58	0.58	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3329	258	1774	3426	176	908	143	230	1512	91	1576
Grp Volume(v), veh/h	36	508	521	14	463	480	89	0	0	48	0	40
Grp Sat Flow(s),veh/h/ln	1774	1770	1817	1774	1770	1832	1282	0	0	1603	0	1576
Q Serve(g_s), s	0.4	7.7	7.7	0.2	7.2	7.2	2.3	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	0.4	7.7	7.7	0.2	7.2	7.2	3.4	0.0	0.0	1.2	0.0	1.1
Prop In Lane	1.00		0.14	1.00		0.10	0.80		0.18	0.96		1.00
Lane Grp Cap(c), veh/h	476	1072	1101	423	1033	1070	300	0	0	353	0	205
V/C Ratio(X)	0.08	0.47	0.47	0.03	0.45	0.45	0.30	0.00	0.00	0.14	0.00	0.20
Avail Cap(c_a), veh/h	588	1599	1641	574	1599	1655	950	0	0	1005	0	938
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	1.00
Uniform Delay (d), s/veh	4.1	5.3	5.3	4.4	5.7	5.7	20.1	0.0	0.0	18.9	0.0	18.9
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	0.3	0.3	0.5	0.0	0.0	0.2	0.0	0.5
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	0.2	3.8	3.9	0.1	3.6	3.7	1.2	0.0	0.0	0.6	0.0	0.5
LnGrp Delay(d),s/veh	4.2	5.6	5.6	4.4	6.0	6.0	20.6	0.0	0.0	19.1	0.0	19.4
LnGrp LOS	A	A	A	A	A	A	C			B		B
Approach Vol, veh/h		1065			957			89			88	
Approach Delay, s/veh		5.6			6.0			20.6			19.2	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	33.5		10.3	5.9	32.4		10.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	44.0		29.0	5.0	44.0		29.0
Max Q Clear Time (g_c+I1), s	2.2	9.7		3.2	2.4	9.2		5.4
Green Ext Time (p_c), s	0.0	19.1		0.9	0.0	19.3		0.9

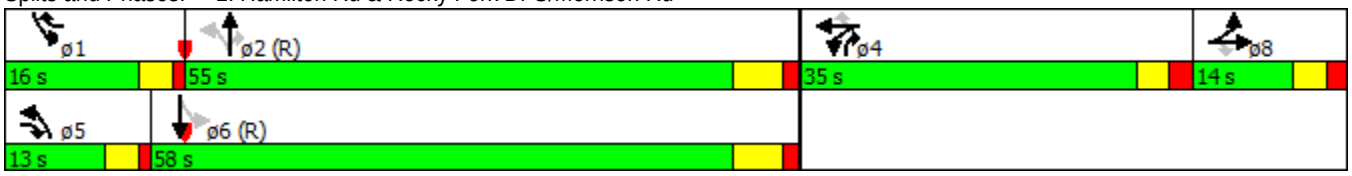
Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

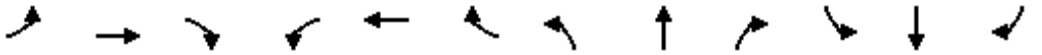
Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	45	54	702	42	254	138	1333	661	204	742
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	14.0	13.0	35.0	35.0	16.0	13.0	55.0	35.0	16.0	58.0
Total Split (%)	11.7%	10.8%	29.2%	29.2%	13.3%	10.8%	45.8%	29.2%	13.3%	48.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.8	18.6	30.0	30.0	43.1	59.9	49.1	80.1	66.4	52.4
Actuated g/C Ratio	0.07	0.16	0.25	0.25	0.36	0.50	0.41	0.67	0.55	0.44
v/c Ratio	0.76	0.19	0.96	0.96	0.45	0.45	1.00	0.69	0.92	0.53
Control Delay	88.3	7.9	80.4	79.3	16.2	17.5	59.7	13.7	72.6	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	7.9	80.4	79.3	16.2	17.5	59.7	13.7	72.6	22.8
LOS	F	A	F	E	B	B	E	B	E	C
Approach Delay	58.8			63.6			42.7			33.4
Approach LOS	E			E			D			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 46.1 Intersection LOS: D
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	45	54	702	42	254	138	1333	661	204	742	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	53	49	59	796	0	276	150	1449	718	222	807	9
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	68	63	270	862	0	487	341	1482	773	240	1622	18
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.07	0.42	0.42	0.03	0.15	0.15
Sat Flow, veh/h	943	872	1550	3548	0	1574	1774	3539	1576	1774	3585	40
Grp Volume(v), veh/h	102	0	59	796	0	276	150	1449	718	222	398	418
Grp Sat Flow(s),veh/h/ln	1816	0	1550	1774	0	1574	1774	1770	1576	1774	1770	1856
Q Serve(g_s), s	6.6	0.0	3.9	26.3	0.0	17.6	5.7	48.4	50.2	10.7	24.8	24.8
Cycle Q Clear(g_c), s	6.6	0.0	3.9	26.3	0.0	17.6	5.7	48.4	50.2	10.7	24.8	24.8
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	130	0	270	862	0	487	341	1482	773	240	801	840
V/C Ratio(X)	0.78	0.00	0.22	0.92	0.00	0.57	0.44	0.98	0.93	0.92	0.50	0.50
Avail Cap(c_a), veh/h	136	0	275	887	0	498	357	1482	773	240	801	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	42.8	44.3	0.0	34.7	19.7	34.3	28.4	40.1	38.5	38.5
Incr Delay (d2), s/veh	24.2	0.0	0.4	14.8	0.0	1.4	0.9	18.6	19.0	38.0	2.2	2.1
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	4.2	0.0	1.7	14.6	0.0	7.9	2.8	27.4	27.8	9.9	12.7	13.3
LnGrp Delay(d),s/veh	79.0	0.0	43.2	59.2	0.0	36.2	20.6	53.0	47.3	78.1	40.7	40.6
LnGrp LOS	E		D	E		D	C	D	D	E	D	D
Approach Vol, veh/h		161			1072			2317			1038	
Approach Delay, s/veh		65.8			53.3			49.1			48.7	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	56.2		34.1	11.9	60.3		13.6
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	12.0	49.0		30.0	9.0	52.0		9.0
Max Q Clear Time (g_c+I1), s	12.7	52.2		28.3	7.7	26.8		8.6
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	20.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	189	1432	204	80	951
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	-	-	70	-
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	205	1557	222	87	1034

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2358	889	0	0	1778	0
Stage 1	1667	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	30	286	-	-	346	-
Stage 1	139	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	22	286	-	-	346	-
Mov Cap-2 Maneuver	98	-	-	-	-	-
Stage 1	139	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44.1	0	1.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	286	346	-
HCM Lane V/C Ratio	-	-	0.718	0.251	-
HCM Control Delay (s)	-	-	44.1	18.9	-
HCM Lane LOS	-	-	E	C	-
HCM 95th %tile Q(veh)	-	-	5.1	1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	53	55	40	1581	976	34
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	50	-	-	-
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	58	60	43	1718	1061	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2025	549	1098	0	-	0
Stage 1	1079	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 50	480	631	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 47	480	631	-	-	-
Mov Cap-2 Maneuver	159	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	315	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	631	-	159	480	-	-
HCM Lane V/C Ratio	0.069	-	0.362	0.125	-	-
HCM Control Delay (s)	11.1	-	40	13.6	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	0.4	-	-

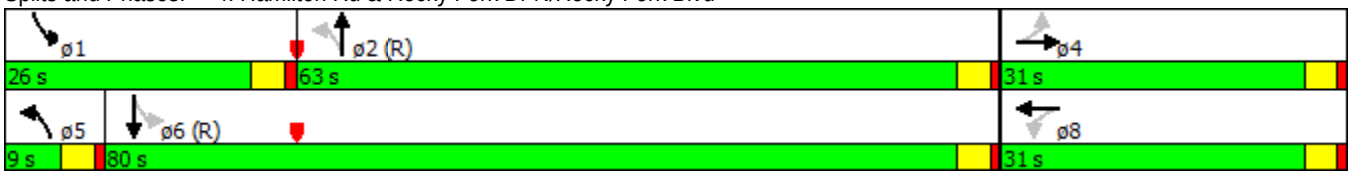
Notes

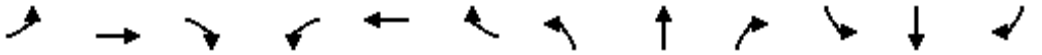
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	49	139	35	29	1303	230	700
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	9.0	63.0	26.0	80.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	7.5%	52.5%	21.7%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.6	19.6	19.6	19.6	77.1	71.4	92.4	86.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.64	0.60	0.77	0.72
v/c Ratio	0.20	0.23	0.70	0.54	0.07	0.72	0.71	0.31
Control Delay	46.4	35.7	63.3	14.2	2.9	8.4	32.0	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	35.7	63.3	14.2	2.9	8.4	32.0	7.5
LOS	D	D	E	B	A	A	C	A
Approach Delay		37.8		33.6		8.3		13.5
Approach LOS		D		C		A		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 17 (14%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	49	15	139	35	178	29	1303	76	230	700	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	53	16	151	38	193	32	1416	83	250	761	21
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	112	250	75	257	48	246	525	2219	130	403	2431	67
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	1.00	1.00	0.07	0.69	0.69
Sat Flow, veh/h	1144	1374	415	1325	267	1354	1774	3399	199	1774	3518	97
Grp Volume(v), veh/h	17	0	69	151	0	231	32	735	764	250	383	399
Grp Sat Flow(s),veh/h/ln	1144	0	1789	1325	0	1621	1774	1770	1828	1774	1770	1846
Q Serve(g_s), s	1.7	0.0	3.9	13.1	0.0	16.3	0.7	0.0	0.0	5.2	10.2	10.2
Cycle Q Clear(g_c), s	18.0	0.0	3.9	17.1	0.0	16.3	0.7	0.0	0.0	5.2	10.2	10.2
Prop In Lane	1.00		0.23	1.00		0.84	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	112	0	325	257	0	295	525	1156	1194	403	1223	1275
V/C Ratio(X)	0.15	0.00	0.21	0.59	0.00	0.78	0.06	0.64	0.64	0.62	0.31	0.31
Avail Cap(c_a), veh/h	162	0	402	315	0	365	551	1156	1194	613	1223	1275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	0.0	41.8	49.0	0.0	46.8	6.2	0.0	0.0	5.0	7.3	7.3
Incr Delay (d2), s/veh	0.8	0.0	0.4	2.7	0.0	9.5	0.0	2.7	2.6	1.6	0.7	0.6
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	0.6	0.0	2.0	5.0	0.0	8.1	0.3	0.9	0.9	2.7	5.2	5.4
LnGrp Delay(d),s/veh	56.2	0.0	42.2	51.8	0.0	56.3	6.3	2.7	2.6	6.5	8.0	8.0
LnGrp LOS	E		D	D		E	A	A	A	A	A	A
Approach Vol, veh/h		86			382			1531			1032	
Approach Delay, s/veh		45.0			54.5			2.7			7.6	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	82.4		25.8	7.3	86.9		25.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	22.0	59.0		27.0	5.0	76.0		27.0
Max Q Clear Time (g_c+I1), s	7.2	2.0		20.0	2.7	12.2		19.1
Green Ext Time (p_c), s	0.6	48.1		1.8	0.0	52.8		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	8	13	2	0	6	23	59	0	1	47	3	0	48	52	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	14	2	0	7	25	64	0	1	51	3	0	52	57	21
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	35%	7%	40%
Vol Thru, %	92%	57%	26%	44%
Vol Right, %	6%	9%	67%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	23	88	119
LT Vol	1	8	6	48
Through Vol	47	13	23	52
RT Vol	3	2	59	19
Lane Flow Rate	55	25	96	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.031	0.106	0.15
Departure Headway (Hd)	4.212	4.463	3.987	4.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	838	807	904	850
Service Time	2.303	2.465	1.988	2.243
HCM Lane V/C Ratio	0.066	0.031	0.106	0.152
HCM Control Delay	7.6	7.6	7.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.4	0.5

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	35	1442	35	834	159	4	50	5	40
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	50.0	9.0	50.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	55.6%	10.0%	55.6%	34.4%	34.4%	34.4%	34.4%	34.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	47.8	45.1	47.8	45.1		16.8		16.8	16.8
Actuated g/C Ratio	0.64	0.60	0.64	0.60		0.22		0.22	0.22
v/c Ratio	0.10	0.82	0.18	0.46		0.69		0.19	0.11
Control Delay	6.2	18.7	7.5	10.8		38.9		26.1	4.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	6.2	18.7	7.5	10.8		38.9		26.1	4.6
LOS	A	B	A	B		D		C	A
Approach Delay		18.5		10.7		38.9		17.0	
Approach LOS		B		B		D		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 75	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 69.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	1442	144	35	834	52	159	4	29	50	5	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		0.99	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	38	1567	157	38	907	57	173	4	32	54	5	43
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	406	1891	188	210	1967	124	310	13	43	400	33	355
Arrive On Green	0.04	0.58	0.58	0.04	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3252	323	1774	3382	213	992	60	190	1371	147	1571
Grp Volume(v), veh/h	38	845	879	38	475	489	209	0	0	59	0	43
Grp Sat Flow(s),veh/h/ln	1774	1770	1805	1774	1770	1825	1241	0	0	1518	0	1571
Q Serve(g_s), s	0.6	29.4	30.5	0.6	11.8	11.8	10.4	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.6	29.4	30.5	0.6	11.8	11.8	12.7	0.0	0.0	2.3	0.0	1.7
Prop In Lane	1.00		0.18	1.00		0.12	0.83		0.15	0.92		1.00
Lane Grp Cap(c), veh/h	406	1029	1050	210	1029	1061	366	0	0	433	0	355
V/C Ratio(X)	0.09	0.82	0.84	0.18	0.46	0.46	0.57	0.00	0.00	0.14	0.00	0.12
Avail Cap(c_a), veh/h	457	1058	1080	261	1058	1091	539	0	0	607	0	551
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	1.00
Uniform Delay (d), s/veh	6.7	12.9	13.1	12.7	9.2	9.2	28.7	0.0	0.0	23.9	0.0	23.7
Incr Delay (d2), s/veh	0.1	5.2	5.8	0.4	0.3	0.3	1.4	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	15.6	16.6	0.4	5.8	5.9	4.3	0.0	0.0	1.0	0.0	0.7
LnGrp Delay(d),s/veh	6.8	18.1	18.9	13.2	9.5	9.5	30.1	0.0	0.0	24.0	0.0	23.8
LnGrp LOS	A	B	B	B	A	A	C			C		C
Approach Vol, veh/h		1762			1002			209			102	
Approach Delay, s/veh		18.2			9.7			30.1			23.9	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	48.7		21.4	6.8	48.7		21.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	46.0		27.0	5.0	46.0		27.0
Max Q Clear Time (g_c+I1), s	2.6	32.5		4.3	2.6	13.8		14.7
Green Ext Time (p_c), s	0.0	12.2		1.8	0.0	26.3		1.4

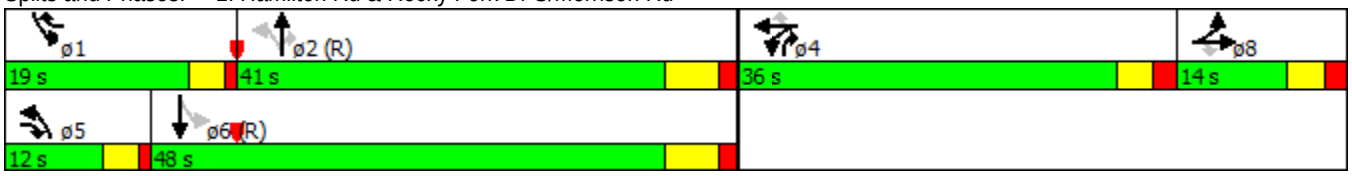
Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	42	159	797	37	162	58	734	510	192	1208
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	14.0	12.0	36.0	36.0	19.0	12.0	41.0	36.0	19.0	48.0
Total Split (%)	12.7%	10.9%	32.7%	32.7%	17.3%	10.9%	37.3%	32.7%	17.3%	43.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.8	21.8	31.0	31.0	44.4	47.8	37.8	74.8	55.3	42.2
Actuated g/C Ratio	0.08	0.20	0.28	0.28	0.40	0.43	0.34	0.68	0.50	0.38
v/c Ratio	0.66	0.42	0.95	0.96	0.25	0.32	0.66	0.51	0.63	0.99
Control Delay	71.3	16.9	70.7	71.9	4.5	18.9	34.2	11.2	19.4	52.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	16.9	70.7	71.9	4.5	18.9	34.2	11.2	19.4	52.4
LOS	E	B	E	E	A	B	C	B	B	D
Approach Delay	36.4			60.4			24.5			47.9
Approach LOS	D			E			C			D

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 42.7 Intersection LOS: D
Intersection Capacity Utilization 83.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	42	159	797	37	162	58	734	510	192	1208	27
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	50	46	173	895	0	176	63	798	554	209	1313	29
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	77	71	273	967	0	529	195	1321	720	303	1422	31
Arrive On Green	0.08	0.08	0.08	0.27	0.00	0.27	0.06	0.37	0.37	0.09	0.40	0.40
Sat Flow, veh/h	946	870	1578	3548	0	1582	1774	3539	1583	1774	3540	78
Grp Volume(v), veh/h	96	0	173	895	0	176	63	798	554	209	656	686
Grp Sat Flow(s),veh/h/ln	1815	0	1578	1774	0	1582	1774	1770	1583	1774	1770	1849
Q Serve(g_s), s	5.6	0.0	9.0	27.0	0.0	9.2	2.3	20.1	32.3	7.7	38.8	38.8
Cycle Q Clear(g_c), s	5.6	0.0	9.0	27.0	0.0	9.2	2.3	20.1	32.3	7.7	38.8	38.8
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	149	0	273	967	0	529	195	1321	720	303	711	743
V/C Ratio(X)	0.65	0.00	0.63	0.93	0.00	0.33	0.32	0.60	0.77	0.69	0.92	0.92
Avail Cap(c_a), veh/h	149	0	273	1000	0	544	214	1321	720	384	711	743
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	0.0	42.3	38.9	0.0	27.4	25.0	27.9	25.1	21.5	31.3	31.3
Incr Delay (d2), s/veh	9.3	0.0	4.8	13.7	0.0	0.4	0.9	2.1	7.7	3.7	19.4	18.9
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	3.2	0.0	5.3	15.0	0.0	4.1	1.2	10.1	17.7	4.0	22.8	23.7
LnGrp Delay(d),s/veh	58.3	0.0	47.1	52.6	0.0	27.8	26.0	30.0	32.9	25.2	50.7	50.2
LnGrp LOS	E		D	D		C	C	C	C	C	D	D
Approach Vol, veh/h		269			1071			1415			1551	
Approach Delay, s/veh		51.1			48.5			30.9			47.1	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	47.0		35.0	10.8	50.2		14.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	15.0	35.0		31.0	8.0	42.0		9.0
Max Q Clear Time (g_c+I1), s	9.7	34.3		29.0	4.3	40.8		11.0
Green Ext Time (p_c), s	0.3	0.7		1.0	0.0	1.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.4
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	81	839	103	85	1428
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	-	-	70	-
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	88	912	112	92	1552

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1929	512	0	0	1024	0
Stage 1	968	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	58	507	-	-	674	-
Stage 1	329	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	507	-	-	674	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	329	-	-	-	-	-
Stage 2	287	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	507	674	-
HCM Lane V/C Ratio	-	-	0.174	0.137	-
HCM Control Delay (s)	-	-	13.6	11.2	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	10	12	908	1503	16
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	50	-	-	-
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	3	11	13	987	1634	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2162	826	1651	0	-	0
Stage 1	1642	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	40	315	387	-	-	-
Stage 1	143	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	39	315	387	-	-	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	143	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0.2	0
HCM LOS	C		

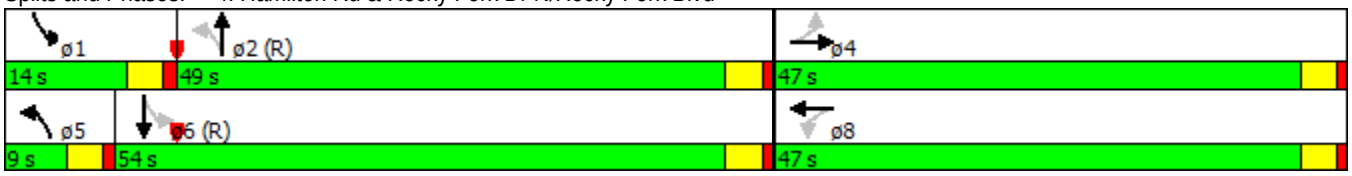
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	387	-	114	315	-	-
HCM Lane V/C Ratio	0.034	-	0.029	0.035	-	-
HCM Control Delay (s)	14.6	-	37.5	16.8	-	-
HCM Lane LOS	B	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

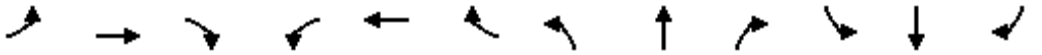
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	68	50	316	31	61	618	137	1142
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	47.0	47.0	47.0	47.0	9.0	49.0	14.0	54.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	8.2%	44.5%	12.7%	49.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	35.7	35.7	35.7	35.7	59.2	53.1	65.5	58.1
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.54	0.48	0.60	0.53
v/c Ratio	0.34	0.15	0.81	0.48	0.31	0.42	0.36	0.68
Control Delay	30.6	15.3	48.9	9.9	12.6	13.8	13.6	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	15.3	48.9	9.9	12.6	13.8	13.6	23.4
LOS	C	B	D	A	B	B	B	C
Approach Delay		22.2		29.8		13.7		22.4
Approach LOS		C		C		B		C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 44 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 21.8 Intersection LOS: C
Intersection Capacity Utilization 72.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	68	50	32	316	31	271	61	618	42	137	1142	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	74	54	35	343	34	295	66	672	46	149	1241	22
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	242	358	232	460	56	488	246	1657	113	400	1825	32
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.16	0.16	0.06	0.51	0.51
Sat Flow, veh/h	1047	1057	685	1303	166	1442	1774	3361	230	1774	3558	63
Grp Volume(v), veh/h	74	0	89	343	0	329	66	354	364	149	617	646
Grp Sat Flow(s),veh/h/ln	1047	0	1742	1303	0	1608	1774	1770	1822	1774	1770	1851
Q Serve(g_s), s	7.0	0.0	3.9	27.4	0.0	18.7	2.0	19.7	19.7	4.5	28.7	28.7
Cycle Q Clear(g_c), s	25.7	0.0	3.9	31.3	0.0	18.7	2.0	19.7	19.7	4.5	28.7	28.7
Prop In Lane	1.00		0.39	1.00		0.90	1.00		0.13	1.00		0.03
Lane Grp Cap(c), veh/h	242	0	590	460	0	545	246	872	898	400	908	950
V/C Ratio(X)	0.31	0.00	0.15	0.75	0.00	0.60	0.27	0.41	0.41	0.37	0.68	0.68
Avail Cap(c_a), veh/h	297	0	681	528	0	629	256	872	898	456	908	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	25.4	36.3	0.0	30.3	16.7	31.6	31.6	14.2	20.0	20.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	5.4	0.0	1.6	0.6	1.4	1.4	0.6	4.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.9	10.5	0.0	8.6	1.0	10.0	10.3	2.2	14.9	15.6
LnGrp Delay(d),s/veh	41.8	0.0	25.5	41.7	0.0	31.8	17.3	33.0	33.0	14.8	24.1	24.0
LnGrp LOS	D		C	D		C	B	C	C	B	C	C
Approach Vol, veh/h		163			672			784			1412	
Approach Delay, s/veh		32.9			36.9			31.7			23.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.5	58.2		41.2	8.3	60.4		41.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	45.0		43.0	5.0	50.0		43.0
Max Q Clear Time (g_c+I1), s	6.5	21.7		27.7	4.0	30.7		33.3
Green Ext Time (p_c), s	0.1	20.1		5.1	0.0	17.0		3.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	12	12	1	0	6	8	42	0	1	21	2	0	66	88	5
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	13	1	0	7	9	46	0	1	23	2	0	72	96	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

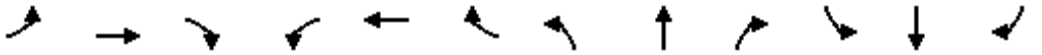
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.3	7.4	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	48%	11%	42%
Vol Thru, %	88%	48%	14%	55%
Vol Right, %	8%	4%	75%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	25	56	159
LT Vol	1	12	6	66
Through Vol	21	12	8	88
RT Vol	2	1	42	5
Lane Flow Rate	26	27	61	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.034	0.067	0.2
Departure Headway (Hd)	4.178	4.514	3.981	4.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	798	905	855
Service Time	2.264	2.516	1.982	2.221
HCM Lane V/C Ratio	0.031	0.034	0.067	0.202
HCM Control Delay	7.4	7.7	7.3	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.7

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	4	462	5	907	121	1	4	1	3
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	47.0	9.0	47.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	10.0%	52.2%	10.0%	52.2%	37.8%	37.8%	37.8%	37.8%	37.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	27.7	27.1	27.7	27.1		11.5		11.5	11.5
Actuated g/C Ratio	0.57	0.56	0.57	0.56		0.24		0.24	0.24
v/c Ratio	0.01	0.33	0.01	0.50		0.47		0.01	0.01
Control Delay	5.0	6.8	5.0	8.6		20.2		15.8	0.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	5.0	6.8	5.0	8.6		20.2		15.8	0.0
LOS	A	A	A	A		C		B	A
Approach Delay		6.7		8.6		20.2		9.9	
Approach LOS		A		A		C		A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 48.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 48.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	462	121	5	907	7	121	1	24	4	1	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	4	502	132	5	986	8	132	1	26	4	1	3
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	399	1548	405	542	2011	16	335	6	37	343	70	245
Arrive On Green	0.01	0.56	0.56	0.01	0.56	0.56	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1774	2775	726	1774	3598	29	1168	36	235	1236	449	1580
Grp Volume(v), veh/h	4	319	315	5	485	509	159	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1770	1731	1774	1770	1857	1439	0	0	1685	0	1580
Q Serve(g_s), s	0.0	4.2	4.2	0.1	7.1	7.1	4.4	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	4.2	4.2	0.1	7.1	7.1	4.5	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.42	1.00		0.02	0.83		0.16	0.80		1.00
Lane Grp Cap(c), veh/h	399	987	965	542	989	1038	377	0	0	413	0	245
V/C Ratio(X)	0.01	0.32	0.33	0.01	0.49	0.49	0.42	0.00	0.00	0.01	0.00	0.01
Avail Cap(c_a), veh/h	597	1778	1739	738	1778	1866	1159	0	0	1205	0	1108
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	1.00
Uniform Delay (d), s/veh	4.7	5.1	5.1	4.3	5.7	5.7	17.2	0.0	0.0	15.3	0.0	15.3
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.7	0.0	0.0	0.0	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	0.0	2.0	2.1	0.0	3.5	3.6	1.8	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	4.7	5.3	5.3	4.3	6.1	6.1	17.9	0.0	0.0	15.3	0.0	15.3
LnGrp LOS	A	A	A	A	A	A	B			B		B
Approach Vol, veh/h		638			999			159			8	
Approach Delay, s/veh		5.3			6.1			17.9			15.3	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	27.9		10.6	4.2	27.9		10.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	43.0		30.0	5.0	43.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	6.2		2.1	2.0	9.1		6.5
Green Ext Time (p_c), s	0.0	15.3		1.0	0.0	14.8		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	32	0	721	1456	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	35	0	784	1583	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1975	791	1583	0	-	0
Stage 1	1583	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	54	332	411	-	-	0
Stage 1	154	-	-	-	-	0
Stage 2	652	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	54	332	411	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	154	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	411	-	332	-
HCM Lane V/C Ratio	-	-	0.105	-
HCM Control Delay (s)	0	-	17.1	-
HCM Lane LOS	A	-	C	-
HCM 95th %tile Q(veh)	0	-	0.3	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	93	7	51	61	7	57
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	101	8	55	66	8	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	109	0	282	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1481	-	708	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1481	-	680	949
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	9.3
HCM LOS			A

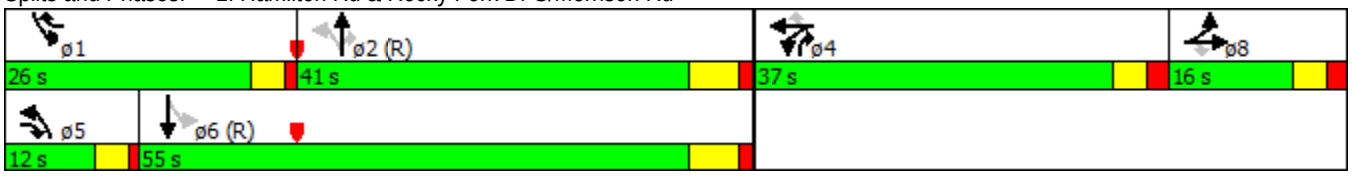
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	910	-	-	1481	-
HCM Lane V/C Ratio	0.076	-	-	0.037	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	41	48	523	47	286	86	688	345	289	630
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	16.0	12.0	37.0	37.0	26.0	12.0	41.0	37.0	26.0	55.0
Total Split (%)	13.3%	10.0%	30.8%	30.8%	21.7%	10.0%	34.2%	30.8%	21.7%	45.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	9.9	20.4	28.6	28.6	48.3	55.4	45.3	80.0	70.0	55.9
Actuated g/C Ratio	0.08	0.17	0.24	0.24	0.40	0.46	0.38	0.67	0.58	0.47
v/c Ratio	0.54	0.14	0.77	0.77	0.42	0.23	0.56	0.36	0.69	0.42
Control Delay	66.4	0.9	55.4	55.6	7.0	16.2	34.4	11.4	32.1	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	0.9	55.4	55.6	7.0	16.2	34.4	11.4	32.1	20.4
LOS	E	A	E	E	A	B	C	B	C	C
Approach Delay	41.0			39.3			25.9			24.1
Approach LOS	D			D			C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 29.7 — Intersection LOS: C
Intersection Capacity Utilization 69.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	41	48	523	47	286	86	688	345	289	630	12
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	37	45	52	604	0	311	93	748	375	314	685	13
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	54	66	276	763	0	440	408	1566	805	401	1736	33
Arrive On Green	0.07	0.07	0.07	0.22	0.00	0.22	0.06	0.44	0.44	0.04	0.16	0.16
Sat Flow, veh/h	822	1000	1555	3548	0	1575	1774	3539	1583	1774	3553	67
Grp Volume(v), veh/h	82	0	52	604	0	311	93	748	375	314	341	357
Grp Sat Flow(s),veh/h/ln	1822	0	1555	1774	0	1575	1774	1770	1583	1774	1770	1851
Q Serve(g_s), s	5.3	0.0	3.4	19.3	0.0	21.3	3.3	17.9	18.3	10.5	20.7	20.7
Cycle Q Clear(g_c), s	5.3	0.0	3.4	19.3	0.0	21.3	3.3	17.9	18.3	10.5	20.7	20.7
Prop In Lane	0.45		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	120	0	276	763	0	440	408	1566	805	401	865	904
V/C Ratio(X)	0.68	0.00	0.19	0.79	0.00	0.71	0.23	0.48	0.47	0.78	0.39	0.39
Avail Cap(c_a), veh/h	167	0	316	946	0	521	413	1566	805	532	865	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	42.2	44.5	0.0	38.9	16.5	23.7	19.0	20.0	34.4	34.4
Incr Delay (d2), s/veh	6.7	0.0	0.3	3.7	0.0	3.6	0.3	1.0	1.9	5.5	1.3	1.3
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	2.9	0.0	1.5	9.9	0.0	9.7	1.6	9.0	9.5	5.8	10.5	11.0
LnGrp Delay(d),s/veh	61.5	0.0	42.5	48.3	0.0	42.4	16.8	24.7	20.9	25.5	35.8	35.7
LnGrp LOS	E		D	D		D	B	C	C	C	D	D
Approach Vol, veh/h		134			915			1216			1012	
Approach Delay, s/veh		54.1			46.3			22.9			32.6	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.2	59.1		30.8	11.6	64.6		12.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	22.0	35.0		32.0	8.0	49.0		11.0
Max Q Clear Time (g_c+I1), s	12.5	20.3		23.3	5.3	22.7		7.3
Green Ext Time (p_c), s	0.7	9.0		2.5	0.0	12.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	163	859	149	90	926
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	70	-
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	177	934	162	98	1007

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1714	550	0	0	1096	0
Stage 1	1015	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	81	479	-	-	633	-
Stage 1	311	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	68	478	-	-	632	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	478	632	-
HCM Lane V/C Ratio	-	-	0.371	0.155	-
HCM Control Delay (s)	-	-	16.9	11.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	88	109	89	933	907	88
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	50	-	-	-
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	96	118	97	1014	986	96

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1735	541	1082	0	-	0
Stage 1	1034	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 79	485	640	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 67	485	640	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	384	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.7	1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	640	-	185	485	-	-
HCM Lane V/C Ratio	0.151	-	0.517	0.244	-	-
HCM Control Delay (s)	11.6	-	43.6	14.8	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.5	-	2.6	1	-	-

Notes

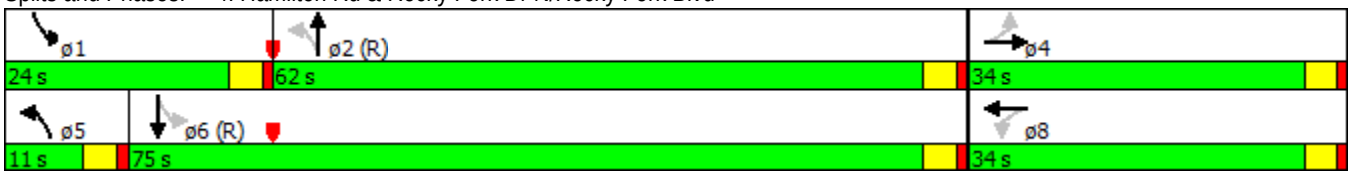
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	48	40	113	21	38	747	149	789
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	11.0	62.0	24.0	75.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	9.2%	51.7%	20.0%	62.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	17.2	17.2	17.2	17.2	88.7	82.6	93.6	86.6
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.74	0.69	0.78	0.72
v/c Ratio	0.46	0.24	0.65	0.46	0.08	0.36	0.33	0.34
Control Delay	58.1	33.3	63.2	14.6	2.9	5.1	5.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	33.3	63.2	14.6	2.9	5.1	5.3	7.6
LOS	E	C	E	B	A	A	A	A
Approach Delay		44.3		35.8		5.0		7.3
Approach LOS		D		D		A		A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 26 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 11.7 Intersection LOS: B
Intersection Capacity Utilization 56.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	40	20	113	21	125	38	747	42	149	789	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99		0.98	0.99		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	43	22	123	23	136	41	812	46	162	858	14
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	151	193	98	238	39	229	498	2340	133	483	2505	41
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.46	0.46	0.05	0.70	0.70
Sat Flow, veh/h	1221	1162	595	1329	234	1382	1774	3400	193	1774	3562	58
Grp Volume(v), veh/h	52	0	65	123	0	159	41	423	435	162	426	446
Grp Sat Flow(s),veh/h/ln	1221	0	1757	1329	0	1616	1774	1770	1823	1774	1770	1851
Q Serve(g_s), s	4.9	0.0	3.8	10.6	0.0	10.9	0.8	18.4	18.4	3.2	11.3	11.3
Cycle Q Clear(g_c), s	15.9	0.0	3.8	14.4	0.0	10.9	0.8	18.4	18.4	3.2	11.3	11.3
Prop In Lane	1.00		0.34	1.00		0.86	1.00		0.11	1.00		0.03
Lane Grp Cap(c), veh/h	151	0	291	238	0	268	498	1218	1255	483	1245	1302
V/C Ratio(X)	0.34	0.00	0.22	0.52	0.00	0.59	0.08	0.35	0.35	0.34	0.34	0.34
Avail Cap(c_a), veh/h	254	0	439	350	0	404	546	1218	1255	697	1245	1302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	0.0	43.4	49.6	0.0	46.3	5.3	15.0	15.0	6.5	7.0	7.0
Incr Delay (d2), s/veh	1.7	0.0	0.5	2.2	0.0	2.7	0.1	0.8	0.8	0.4	0.8	0.7
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	1.7	0.0	1.9	4.0	0.0	5.1	0.4	9.2	9.5	1.6	5.7	6.0
LnGrp Delay(d),s/veh	55.4	0.0	43.9	51.9	0.0	49.0	5.4	15.8	15.8	7.0	7.7	7.7
LnGrp LOS	E		D	D		D	A	B	B	A	A	A
Approach Vol, veh/h		117			282			899			1034	
Approach Delay, s/veh		49.0			50.3			15.3			7.6	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	86.6		23.9	7.7	88.4		23.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	20.0	58.0		30.0	7.0	71.0		30.0
Max Q Clear Time (g_c+I1), s	5.2	20.4		17.9	2.8	13.3		16.4
Green Ext Time (p_c), s	0.3	26.7		2.0	0.0	35.4		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	7	1	0	5	7	44	0	1	18	5	0	41	40	7
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	8	1	0	5	8	48	0	1	20	5	0	45	43	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

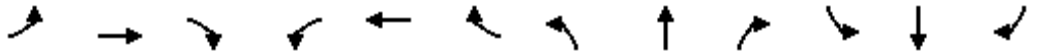
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7	7.2	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	9%	47%
Vol Thru, %	75%	54%	12%	45%
Vol Right, %	21%	8%	79%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	13	56	88
LT Vol	1	5	5	41
Through Vol	18	7	7	40
RT Vol	5	1	44	7
Lane Flow Rate	26	14	61	96
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0.017	0.063	0.11
Departure Headway (Hd)	4.021	4.223	3.701	4.13
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	839	957	867
Service Time	2.069	2.292	1.765	2.161
HCM Lane V/C Ratio	0.029	0.017	0.064	0.111
HCM Control Delay	7.2	7.4	7	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.4

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	33	888	13	834	69	2	42	2	37
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	49.0	9.0	49.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	10.0%	54.4%	10.0%	54.4%	35.6%	35.6%	35.6%	35.6%	35.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	31.0	32.7	30.3	31.2		9.1		8.9	8.9
Actuated g/C Ratio	0.71	0.75	0.69	0.72		0.21		0.20	0.20
v/c Ratio	0.07	0.40	0.03	0.38		0.32		0.16	0.11
Control Delay	3.8	5.6	3.8	6.7		19.4		19.2	4.9
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	3.8	5.6	3.8	6.7		19.4		19.2	4.9
LOS	A	A	A	A		B		B	A
Approach Delay		5.5		6.7		19.4		12.7	
Approach LOS		A		A		B		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 43.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 46.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	888	72	13	834	42	69	2	15	42	2	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	36	965	78	14	907	46	75	2	16	46	2	40
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	471	2017	163	417	2010	102	254	18	29	344	12	210
Arrive On Green	0.04	0.61	0.61	0.02	0.59	0.59	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3317	268	1774	3428	174	923	132	219	1518	90	1576
Grp Volume(v), veh/h	36	515	528	14	468	485	93	0	0	48	0	40
Grp Sat Flow(s),veh/h/ln	1774	1770	1815	1774	1770	1832	1274	0	0	1608	0	1576
Q Serve(g_s), s	0.4	8.0	8.0	0.2	7.4	7.4	2.5	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	0.4	8.0	8.0	0.2	7.4	7.4	3.7	0.0	0.0	1.2	0.0	1.1
Prop In Lane	1.00		0.15	1.00		0.09	0.81		0.17	0.96		1.00
Lane Grp Cap(c), veh/h	471	1076	1104	417	1038	1074	300	0	0	356	0	210
V/C Ratio(X)	0.08	0.48	0.48	0.03	0.45	0.45	0.31	0.00	0.00	0.13	0.00	0.19
Avail Cap(c_a), veh/h	579	1598	1639	563	1598	1654	899	0	0	956	0	886
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	1.00
Uniform Delay (d), s/veh	4.1	5.4	5.4	4.4	5.8	5.8	20.5	0.0	0.0	19.2	0.0	19.2
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	0.3	0.3	0.6	0.0	0.0	0.2	0.0	0.4
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	0.2	4.0	4.1	0.1	3.6	3.7	1.2	0.0	0.0	0.6	0.0	0.5
LnGrp Delay(d),s/veh	4.2	5.7	5.7	4.5	6.1	6.1	21.0	0.0	0.0	19.4	0.0	19.6
LnGrp LOS	A	A	A	A	A	A	C			B		B
Approach Vol, veh/h		1079			967			93			88	
Approach Delay, s/veh		5.7			6.1			21.0			19.5	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	34.3		10.6	6.0	33.2		10.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	45.0		28.0	5.0	45.0		28.0
Max Q Clear Time (g_c+I1), s	2.2	10.0		3.2	2.4	9.4		5.7
Green Ext Time (p_c), s	0.0	19.6		0.9	0.0	19.8		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	21	0	827	902	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	23	0	899	980	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1429	490	980	0	-	0
Stage 1	980	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	126	524	700	-	-	0
Stage 1	324	-	-	-	-	0
Stage 2	610	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	126	524	700	-	-	-
Mov Cap-2 Maneuver	243	-	-	-	-	-
Stage 1	324	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	700	-	524	-
HCM Lane V/C Ratio	-	-	0.044	-
HCM Control Delay (s)	0	-	12.2	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	52	6	29	43	9	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
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	57	7	32	47	10	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	63	0	170	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	110	-
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	-	-	1540	-	820	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1540	-	803	1005
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	896	-

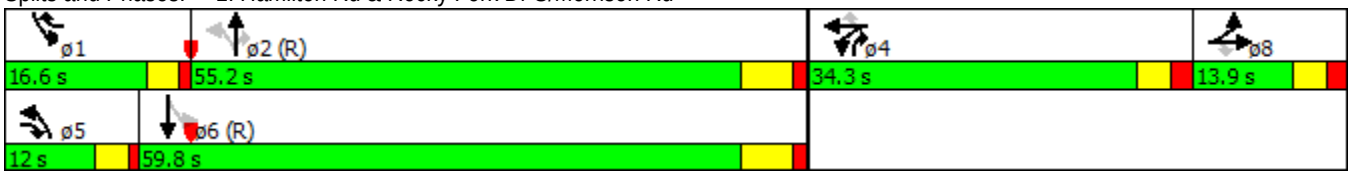
Approach	EB	WB	NB
HCM Control Delay, s	0	3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	971	-	-	1540	-
HCM Lane V/C Ratio	0.073	-	-	0.02	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	45	54	702	42	261	138	1354	661	210	763
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	13.9	12.0	34.3	34.3	16.6	12.0	55.2	34.3	16.6	59.8
Total Split (%)	11.6%	10.0%	28.6%	28.6%	13.8%	10.0%	46.0%	28.6%	13.8%	49.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.8	17.8	29.3	29.3	42.8	59.4	49.4	79.7	67.9	53.9
Actuated g/C Ratio	0.07	0.15	0.24	0.24	0.36	0.50	0.41	0.66	0.57	0.45
v/c Ratio	0.77	0.18	0.99	0.98	0.47	0.46	1.01	0.69	0.92	0.53
Control Delay	89.8	1.8	86.6	85.3	16.8	17.7	61.8	14.1	70.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	1.8	86.6	85.3	16.8	17.7	61.8	14.1	70.7	21.8
LOS	F	A	F	F	B	B	E	B	E	C
Approach Delay	57.6			68.0			44.3			32.3
Approach LOS	E			E			D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 47.6	Intersection LOS: D
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	45	54	702	42	261	138	1354	661	210	763	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	53	49	59	796	0	284	150	1472	718	228	829	9
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	68	63	277	853	0	483	336	1473	769	246	1632	18
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.07	0.42	0.42	0.03	0.15	0.15
Sat Flow, veh/h	943	872	1550	3548	0	1573	1774	3539	1576	1774	3586	39
Grp Volume(v), veh/h	102	0	59	796	0	284	150	1472	718	228	409	429
Grp Sat Flow(s),veh/h/ln	1816	0	1550	1774	0	1573	1774	1770	1576	1774	1770	1856
Q Serve(g_s), s	6.6	0.0	3.9	26.4	0.0	18.3	5.7	49.9	49.9	11.3	25.5	25.5
Cycle Q Clear(g_c), s	6.6	0.0	3.9	26.4	0.0	18.3	5.7	49.9	49.9	11.3	25.5	25.5
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	130	0	277	853	0	483	336	1473	769	246	805	844
V/C Ratio(X)	0.78	0.00	0.21	0.93	0.00	0.59	0.45	1.00	0.93	0.93	0.51	0.51
Avail Cap(c_a), veh/h	135	0	281	866	0	489	337	1473	769	246	805	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	42.3	44.6	0.0	35.2	19.9	35.0	28.5	41.2	38.6	38.6
Incr Delay (d2), s/veh	24.7	0.0	0.4	16.6	0.0	1.8	0.9	23.3	19.7	37.7	2.3	2.2
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	4.2	0.0	1.7	14.9	0.0	8.2	2.8	29.1	28.0	10.1	13.0	13.6
LnGrp Delay(d),s/veh	79.5	0.0	42.7	61.2	0.0	37.0	20.8	58.3	48.3	78.9	40.9	40.8
LnGrp LOS	E		D	E		D	C	E	D	E	D	D
Approach Vol, veh/h		161			1080			2340			1066	
Approach Delay, s/veh		66.0			54.8			52.8			49.0	
Approach LOS		E			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.6	55.9		33.9	11.9	60.6		13.6
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	12.6	49.2		29.3	8.0	53.8		8.9
Max Q Clear Time (g_c+I1), s	13.3	51.9		28.4	7.7	27.5		8.6
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	21.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.9
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	189	1460	204	80	978
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	-	-	70	-
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	205	1587	222	87	1063

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2403	904	0	0	1809	0
Stage 1	1698	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	28	280	-	-	336	-
Stage 1	133	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	21	280	-	-	336	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	133	-	-	-	-	-
Stage 2	334	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	46.5	0	1.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	280	336	-
HCM Lane V/C Ratio	-	-	0.734	0.259	-
HCM Control Delay (s)	-	-	46.5	19.4	-
HCM Lane LOS	-	-	E	C	-
HCM 95th %tile Q(veh)	-	-	5.3	1	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	63	77	73	1576	981	57
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	50	-	-	-
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	68	84	79	1713	1066	62

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2112	564	1128	0	-	0
Stage 1	1097	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 44	469	615	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 38	469	615	-	-	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	271	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	615	-	143	469	-	-
HCM Lane V/C Ratio	0.129	-	0.479	0.178	-	-
HCM Control Delay (s)	11.7	-	51.4	14.3	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0.4	-	2.2	0.6	-	-

Notes

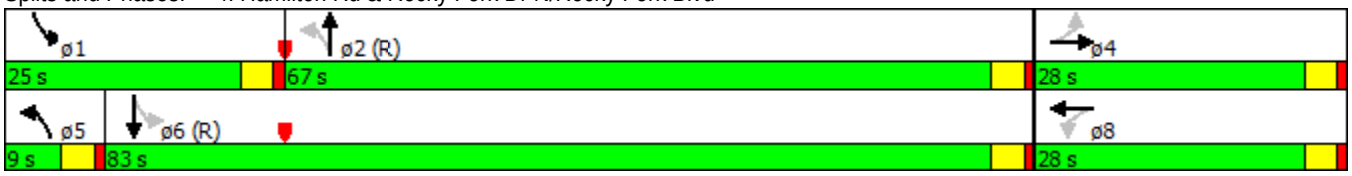
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

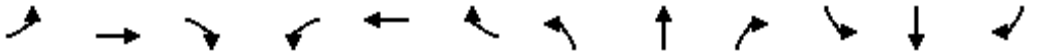
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	51	59	144	42	45	1291	229	721
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	28.0	28.0	28.0	28.0	9.0	67.0	25.0	83.0
Total Split (%)	23.3%	23.3%	23.3%	23.3%	7.5%	55.8%	20.8%	69.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.9	19.9	19.9	19.9	76.9	71.3	92.1	84.5
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.64	0.59	0.77	0.70
v/c Ratio	0.68	0.27	0.76	0.59	0.11	0.71	0.71	0.33
Control Delay	84.1	38.2	70.3	22.0	3.0	8.4	31.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.1	38.2	70.3	22.0	3.0	8.4	31.7	8.0
LOS	F	D	E	C	A	A	C	A
Approach Delay		56.4		41.2		8.2		13.6
Approach LOS		E		D		A		B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 16.3 Intersection LOS: B
Intersection Capacity Utilization 81.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	59	18	144	42	177	45	1291	77	229	721	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	55	64	20	157	46	192	49	1403	84	249	784	24
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	132	272	85	270	63	263	503	2146	128	403	2337	72
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.07	1.00	1.00	0.07	0.67	0.67
Sat Flow, veh/h	1137	1361	425	1307	315	1314	1774	3394	203	1774	3506	107
Grp Volume(v), veh/h	55	0	84	157	0	238	49	730	757	249	396	412
Grp Sat Flow(s),veh/h/ln	1137	0	1787	1307	0	1629	1774	1770	1827	1774	1770	1844
Q Serve(g_s), s	5.7	0.0	4.7	13.8	0.0	16.4	1.1	0.0	0.0	5.6	11.5	11.5
Cycle Q Clear(g_c), s	22.1	0.0	4.7	18.5	0.0	16.4	1.1	0.0	0.0	5.6	11.5	11.5
Prop In Lane	1.00		0.24	1.00		0.81	1.00		0.11	1.00		0.06
Lane Grp Cap(c), veh/h	132	0	357	270	0	326	503	1119	1155	403	1179	1229
V/C Ratio(X)	0.42	0.00	0.24	0.58	0.00	0.73	0.10	0.65	0.66	0.62	0.34	0.34
Avail Cap(c_a), veh/h	132	0	357	270	0	326	517	1119	1155	594	1179	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	0.0	40.3	48.1	0.0	45.0	6.9	0.0	0.0	5.7	8.6	8.6
Incr Delay (d2), s/veh	2.7	0.0	0.4	3.6	0.0	8.6	0.1	3.0	2.9	1.5	0.8	0.7
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	1.9	0.0	2.4	5.2	0.0	8.2	0.6	0.9	0.9	2.9	5.9	6.1
LnGrp Delay(d),s/veh	58.1	0.0	40.7	51.7	0.0	53.5	7.0	3.0	2.9	7.2	9.4	9.3
LnGrp LOS	E		D	D		D	A	A	A	A	A	A
Approach Vol, veh/h		139			395			1536			1057	
Approach Delay, s/veh		47.6			52.8			3.1			8.8	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	79.9		28.0	8.0	84.0		28.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	21.0	63.0		24.0	5.0	79.0		24.0
Max Q Clear Time (g_c+I1), s	7.6	2.0		24.1	3.1	13.5		20.5
Green Ext Time (p_c), s	0.6	51.1		0.0	0.0	54.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	8	13	2	0	6	23	65	0	1	47	3	0	54	52	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	14	2	0	7	25	71	0	1	51	3	0	59	57	21
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

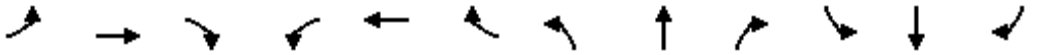
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	35%	6%	43%
Vol Thru, %	92%	57%	24%	42%
Vol Right, %	6%	9%	69%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	23	94	125
LT Vol	1	8	6	54
Through Vol	47	13	23	52
RT Vol	3	2	65	19
Lane Flow Rate	55	25	102	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.031	0.113	0.158
Departure Headway (Hd)	4.23	4.485	3.989	4.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	833	803	904	845
Service Time	2.324	2.488	1.989	2.268
HCM Lane V/C Ratio	0.066	0.031	0.113	0.161
HCM Control Delay	7.6	7.6	7.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.4	0.6

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	35	1450	35	841	161	4	50	5	40
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	50.0	9.0	50.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	55.6%	10.0%	55.6%	34.4%	34.4%	34.4%	34.4%	34.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	47.9	45.2	47.9	45.2		16.9		16.9	16.9
Actuated g/C Ratio	0.64	0.60	0.64	0.60		0.22		0.22	0.22
v/c Ratio	0.10	0.83	0.18	0.46		0.70		0.19	0.11
Control Delay	6.3	19.0	7.6	10.9		39.1		26.0	4.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	6.3	19.0	7.6	10.9		39.1		26.0	4.6
LOS	A	B	A	B		D		C	A
Approach Delay		18.8		10.7		39.1		17.0	
Approach LOS		B		B		D		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 75.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	1450	146	35	841	52	161	4	29	50	5	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		0.99	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	38	1576	159	38	914	57	175	4	32	54	5	43
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	403	1889	189	207	1966	123	311	13	43	402	33	357
Arrive On Green	0.04	0.58	0.58	0.04	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3250	325	1774	3384	211	995	59	188	1374	147	1571
Grp Volume(v), veh/h	38	851	884	38	478	493	211	0	0	59	0	43
Grp Sat Flow(s),veh/h/ln	1774	1770	1805	1774	1770	1825	1242	0	0	1521	0	1571
Q Serve(g_s), s	0.6	29.9	31.1	0.6	12.0	12.0	10.5	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.6	29.9	31.1	0.6	12.0	12.0	12.8	0.0	0.0	2.3	0.0	1.7
Prop In Lane	1.00		0.18	1.00		0.12	0.83		0.15	0.92		1.00
Lane Grp Cap(c), veh/h	403	1028	1049	207	1028	1061	368	0	0	435	0	357
V/C Ratio(X)	0.09	0.83	0.84	0.18	0.46	0.46	0.57	0.00	0.00	0.14	0.00	0.12
Avail Cap(c_a), veh/h	454	1055	1076	258	1055	1088	537	0	0	605	0	549
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	1.00
Uniform Delay (d), s/veh	6.8	13.0	13.3	13.0	9.3	9.3	28.7	0.0	0.0	23.9	0.0	23.7
Incr Delay (d2), s/veh	0.1	5.5	6.1	0.4	0.3	0.3	1.4	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	16.0	17.0	0.4	5.9	6.1	4.4	0.0	0.0	1.0	0.0	0.7
LnGrp Delay(d),s/veh	6.9	18.5	19.4	13.4	9.6	9.6	30.2	0.0	0.0	24.1	0.0	23.8
LnGrp LOS	A	B	B	B	A	A	C			C		C
Approach Vol, veh/h		1773			1009			211			102	
Approach Delay, s/veh		18.7			9.7			30.2			24.0	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.8	48.8		21.6	6.8	48.8		21.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	46.0		27.0	5.0	46.0		27.0
Max Q Clear Time (g_c+I1), s	2.6	33.1		4.3	2.6	14.0		14.8
Green Ext Time (p_c), s	0.0	11.8		1.8	0.0	26.4		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	16	0	1413	866	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	17	0	1536	941	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1709	471	941	0	-	0
Stage 1	941	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	82	539	724	-	-	0
Stage 1	340	-	-	-	-	0
Stage 2	418	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	82	539	724	-	-	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	340	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	724	-	539	-
HCM Lane V/C Ratio	-	-	0.032	-
HCM Control Delay (s)	0	-	11.9	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	80	6	26	83	6	48
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	87	7	28	90	7	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	93	0	237	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	147	-
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	-	-	1501	-	751	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	736	968
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	935	-	-	1501	-
HCM Lane V/C Ratio	0.063	-	-	0.019	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Appendix H. 2036 Capacity Analysis Results

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	42	159	958	37	186	58	858	612	222	1430
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	13.0	12.0	35.0	35.0	16.0	12.0	46.0	35.0	16.0	50.0
Total Split (%)	11.8%	10.9%	31.8%	31.8%	14.5%	10.9%	41.8%	31.8%	14.5%	45.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.0	21.0	30.0	30.0	42.7	50.3	40.3	76.3	57.7	44.0
Actuated g/C Ratio	0.07	0.19	0.27	0.27	0.39	0.46	0.37	0.69	0.52	0.40
v/c Ratio	0.73	0.47	1.18	1.17	0.30	0.32	0.72	0.61	0.81	1.12
Control Delay	80.3	26.0	138.7	135.0	8.1	17.7	33.9	11.9	30.3	94.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	26.0	138.7	135.0	8.1	17.7	33.9	11.9	30.3	94.1
LOS	F	C	F	F	A	B	C	B	C	F
Approach Delay	45.4			116.6			24.5			85.7
Approach LOS	D			F			C			F

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 71.2 Intersection LOS: E
Intersection Capacity Utilization 93.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	42	159	958	37	186	58	858	612	222	1430	27
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	50	46	173	1070	0	202	63	933	665	241	1554	29
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	69	63	271	968	0	530	176	1323	707	288	1459	27
Arrive On Green	0.07	0.07	0.07	0.27	0.00	0.27	0.06	0.37	0.37	0.10	0.41	0.41
Sat Flow, veh/h	946	870	1577	3548	0	1582	1774	3539	1583	1774	3554	66
Grp Volume(v), veh/h	96	0	173	1070	0	202	63	933	665	241	773	810
Grp Sat Flow(s),veh/h/ln	1815	0	1577	1774	0	1582	1774	1770	1583	1774	1770	1851
Q Serve(g_s), s	5.7	0.0	8.0	30.0	0.0	10.7	2.3	24.7	41.1	8.8	45.2	45.2
Cycle Q Clear(g_c), s	5.7	0.0	8.0	30.0	0.0	10.7	2.3	24.7	41.1	8.8	45.2	45.2
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	132	0	271	968	0	530	176	1323	707	288	727	760
V/C Ratio(X)	0.73	0.00	0.64	1.11	0.00	0.38	0.36	0.71	0.94	0.84	1.06	1.07
Avail Cap(c_a), veh/h	132	0	271	968	0	530	194	1323	707	306	727	760
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	0.0	42.4	40.0	0.0	27.9	25.8	29.3	28.2	23.3	32.4	32.4
Incr Delay (d2), s/veh	18.1	0.0	4.9	62.4	0.0	0.5	1.2	3.2	22.1	17.1	51.5	51.7
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	3.5	0.0	5.3	23.0	0.0	4.7	1.2	12.6	24.5	5.6	32.4	33.9
LnGrp Delay(d),s/veh	68.0	0.0	47.3	102.4	0.0	28.3	27.1	32.5	50.3	40.5	84.0	84.1
LnGrp LOS	E		D	F		C	C	C	D	D	F	F
Approach Vol, veh/h		269			1272			1661			1824	
Approach Delay, s/veh		54.7			90.7			39.4			78.3	
Approach LOS		D			F			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.9	47.1		35.0	10.8	51.2		13.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	12.0	40.0		30.0	8.0	44.0		8.0
Max Q Clear Time (g_c+I1), s	10.8	43.1		32.0	4.3	47.2		10.0
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.3
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	81	987	103	85	1680
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	-	-	70	-
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	88	1073	112	92	1826

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2227	592	0	0	1185	0
Stage 1	1129	-	-	-	-	-
Stage 2	1098	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	37	449	-	-	585	-
Stage 1	271	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	31	449	-	-	585	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	271	-	-	-	-	-
Stage 2	237	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	449	585	-
HCM Lane V/C Ratio	-	-	0.196	0.158	-
HCM Control Delay (s)	-	-	15	12.3	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	0	1	1067	1765	1
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	50	-	-	-
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	0	1	1160	1918	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2501	960	1920	0	-	0
Stage 1	1919	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	24	257	304	-	-	-
Stage 1	101	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	24	257	304	-	-	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	101	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.9	0	0
HCM LOS	E		

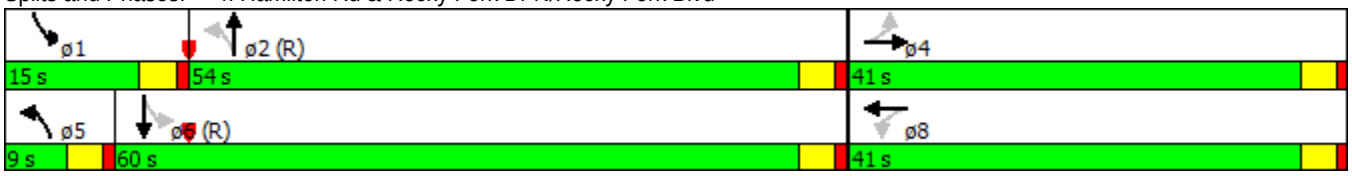
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	304	-	83	-	-	-
HCM Lane V/C Ratio	0.004	-	0.013	-	-	-
HCM Control Delay (s)	16.9	-	48.9	0	-	-
HCM Lane LOS	C	-	E	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-	-

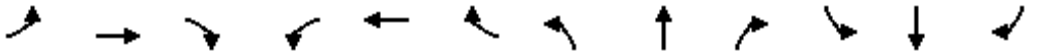
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	33	40	312	20	30	806	139	1402
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	41.0	41.0	41.0	41.0	9.0	54.0	15.0	60.0
Total Split (%)	37.3%	37.3%	37.3%	37.3%	8.2%	49.1%	13.6%	54.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	33.2	33.2	33.2	33.2	61.0	55.6	68.8	63.3
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.55	0.51	0.63	0.58
v/c Ratio	0.18	0.12	0.85	0.51	0.20	0.52	0.43	0.76
Control Delay	29.2	18.5	55.3	13.4	11.0	14.7	13.1	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	18.5	55.3	13.4	11.0	14.7	13.1	22.6
LOS	C	B	E	B	B	B	B	C
Approach Delay		22.3		34.9		14.6		21.7
Approach LOS		C		C		B		C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 44 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 22.3 Intersection LOS: C
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	40	21	312	20	276	30	806	42	139	1402	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	43	23	339	22	300	33	876	46	151	1524	12
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	210	355	190	443	34	463	191	1790	94	343	1985	16
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.01	0.17	0.17	0.06	0.55	0.55
Sat Flow, veh/h	1053	1143	612	1330	109	1490	1774	3421	180	1774	3599	28
Grp Volume(v), veh/h	36	0	66	339	0	322	33	453	469	151	749	787
Grp Sat Flow(s),veh/h/ln	1053	0	1755	1330	0	1600	1774	1770	1831	1774	1770	1858
Q Serve(g_s), s	3.4	0.0	3.0	27.0	0.0	19.1	0.9	25.5	25.5	4.2	36.2	36.3
Cycle Q Clear(g_c), s	22.5	0.0	3.0	29.9	0.0	19.1	0.9	25.5	25.5	4.2	36.2	36.3
Prop In Lane	1.00		0.35	1.00		0.93	1.00		0.10	1.00		0.02
Lane Grp Cap(c), veh/h	210	0	545	443	0	497	191	926	958	343	976	1025
V/C Ratio(X)	0.17	0.00	0.12	0.77	0.00	0.65	0.17	0.49	0.49	0.44	0.77	0.77
Avail Cap(c_a), veh/h	237	0	590	477	0	538	221	926	958	419	976	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	27.2	37.9	0.0	32.7	17.1	32.2	32.2	14.4	19.2	19.2
Incr Delay (d2), s/veh	0.5	0.0	0.1	7.3	0.0	2.8	0.4	1.8	1.8	0.9	5.8	5.5
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	1.0	0.0	1.4	10.8	0.0	8.8	0.5	13.0	13.4	2.1	19.0	19.9
LnGrp Delay(d),s/veh	42.9	0.0	27.3	45.1	0.0	35.5	17.5	34.1	34.0	15.3	24.9	24.7
LnGrp LOS	D		C	D		D	B	C	C	B	C	C
Approach Vol, veh/h		102			661			955			1687	
Approach Delay, s/veh		32.8			40.4			33.5			24.0	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	61.6		38.2	7.2	64.7		38.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	11.0	50.0		37.0	5.0	56.0		37.0
Max Q Clear Time (g_c+I1), s	6.2	27.5		24.5	2.9	38.3		31.9
Green Ext Time (p_c), s	0.1	21.3		4.2	0.0	17.0		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	30.1
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	12	12	1	0	6	8	35	0	1	21	2	0	60	88	5
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	13	1	0	7	9	38	0	1	23	2	0	65	96	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

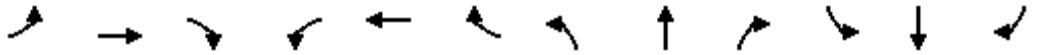
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.2	7.4	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	48%	12%	39%
Vol Thru, %	88%	48%	16%	58%
Vol Right, %	8%	4%	71%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	25	49	153
LT Vol	1	12	6	60
Through Vol	21	12	8	88
RT Vol	2	1	35	5
Lane Flow Rate	26	27	53	166
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.034	0.059	0.192
Departure Headway (Hd)	4.159	4.491	3.99	4.151
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	849	802	903	860
Service Time	2.241	2.493	1.991	2.2
HCM Lane V/C Ratio	0.031	0.034	0.059	0.193
HCM Control Delay	7.4	7.7	7.2	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.7

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	4	546	5	1080	118	1	4	1	3
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	49.0	9.0	49.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	10.0%	54.4%	10.0%	54.4%	35.6%	35.6%	35.6%	35.6%	35.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	32.0	31.3	32.0	31.3		11.9		11.9	11.9
Actuated g/C Ratio	0.60	0.59	0.60	0.59		0.22		0.22	0.22
v/c Ratio	0.01	0.35	0.01	0.57		0.49		0.01	0.01
Control Delay	4.8	6.6	4.6	8.9		23.5		19.4	0.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	4.8	6.6	4.6	8.9		23.5		19.4	0.0
LOS	A	A	A	A		C		B	A
Approach Delay		6.6		8.9		23.5		12.1	
Approach LOS		A		A		C		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 53	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 52.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	546	118	5	1080	7	118	1	24	4	1	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	4	593	128	5	1174	8	128	1	26	4	1	3
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	349	1741	375	520	2171	15	306	6	36	315	65	235
Arrive On Green	0.01	0.60	0.60	0.01	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	2896	623	1774	3603	25	1158	41	242	1231	434	1580
Grp Volume(v), veh/h	4	362	359	5	577	605	155	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1770	1750	1774	1770	1858	1441	0	0	1666	0	1580
Q Serve(g_s), s	0.0	5.1	5.1	0.1	9.5	9.5	4.9	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	5.1	5.1	0.1	9.5	9.5	5.0	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.36	1.00		0.01	0.83		0.17	0.80		1.00
Lane Grp Cap(c), veh/h	349	1064	1052	520	1066	1120	348	0	0	379	0	235
V/C Ratio(X)	0.01	0.34	0.34	0.01	0.54	0.54	0.45	0.00	0.00	0.01	0.00	0.01
Avail Cap(c_a), veh/h	519	1614	1596	688	1614	1695	948	0	0	987	0	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	4.9	4.9	4.1	5.8	5.8	20.0	0.0	0.0	17.9	0.0	17.9
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.9	0.0	0.0	0.0	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	0.0	2.5	2.5	0.0	4.6	4.8	2.1	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	4.7	5.1	5.1	4.1	6.2	6.2	20.9	0.0	0.0	17.9	0.0	17.9
LnGrp LOS	A	A	A	A	A	A	C			B		B
Approach Vol, veh/h		725			1187			155			8	
Approach Delay, s/veh		5.1			6.2			20.9			17.9	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	33.7		11.3	4.3	33.7		11.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	45.0		28.0	5.0	45.0		28.0
Max Q Clear Time (g_c+I1), s	2.1	7.1		2.1	2.0	11.5		7.0
Green Ext Time (p_c), s	0.0	19.4		0.9	0.0	18.2		0.9

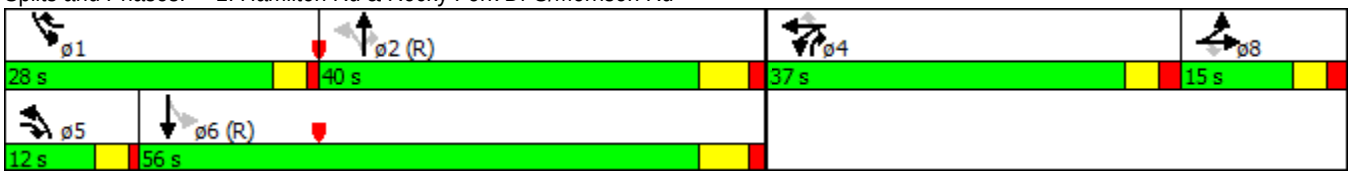
Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	41	48	628	47	327	86	789	414	326	709
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	15.0	12.0	37.0	37.0	28.0	12.0	40.0	37.0	28.0	56.0
Total Split (%)	12.5%	10.0%	30.8%	30.8%	23.3%	10.0%	33.3%	30.8%	23.3%	46.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	9.4	19.8	30.9	30.9	54.2	50.0	40.0	77.0	68.3	54.3
Actuated g/C Ratio	0.08	0.16	0.26	0.26	0.45	0.42	0.33	0.64	0.57	0.45
v/c Ratio	0.58	0.15	0.85	0.84	0.45	0.27	0.73	0.44	0.83	0.49
Control Delay	69.7	0.9	61.4	59.5	8.9	17.3	41.6	13.8	44.5	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	0.9	61.4	59.5	8.9	17.3	41.6	13.8	44.5	28.9
LOS	E	A	E	E	A	B	D	B	D	C
Approach Delay	43.0			43.6			31.0			33.7
Approach LOS	D			D			C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 35.9 Intersection LOS: D
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	41	48	628	47	327	86	789	414	326	709	12
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	37	45	52	719	0	355	93	858	450	354	771	13
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	54	66	323	846	0	477	373	1379	721	389	1657	28
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.06	0.39	0.39	0.09	0.31	0.31
Sat Flow, veh/h	822	1000	1555	3548	0	1575	1774	3539	1583	1774	3562	60
Grp Volume(v), veh/h	82	0	52	719	0	355	93	858	450	354	383	401
Grp Sat Flow(s),veh/h/ln	1822	0	1555	1774	0	1575	1774	1770	1583	1774	1770	1852
Q Serve(g_s), s	5.3	0.0	3.3	23.2	0.0	24.4	3.6	23.4	25.9	14.0	20.9	20.9
Cycle Q Clear(g_c), s	5.3	0.0	3.3	23.2	0.0	24.4	3.6	23.4	25.9	14.0	20.9	20.9
Prop In Lane	0.45		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	120	0	323	846	0	477	373	1379	721	389	823	862
V/C Ratio(X)	0.68	0.00	0.16	0.85	0.00	0.74	0.25	0.62	0.62	0.91	0.47	0.47
Avail Cap(c_a), veh/h	152	0	350	946	0	521	378	1379	721	496	823	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	39.2	43.6	0.0	37.7	19.6	29.5	24.9	25.9	29.3	29.3
Incr Delay (d2), s/veh	8.5	0.0	0.2	6.8	0.0	5.3	0.3	2.1	4.0	18.0	1.9	1.8
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	2.9	0.0	1.4	12.2	0.0	11.3	1.8	11.8	13.6	13.5	10.6	11.1
LnGrp Delay(d),s/veh	63.3	0.0	39.4	50.4	0.0	43.0	20.0	31.6	28.9	44.0	31.2	31.1
LnGrp LOS	E		D	D		D	B	C	C	D	C	C
Approach Vol, veh/h		134			1074			1401			1138	
Approach Delay, s/veh		54.1			48.0			30.0			35.1	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.7	52.7		33.6	11.6	61.8		12.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	24.0	34.0		32.0	8.0	50.0		10.0
Max Q Clear Time (g_c+I1), s	16.0	27.9		26.4	5.6	22.9		7.3
Green Ext Time (p_c), s	0.7	4.9		2.3	0.0	15.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	163	1001	149	90	1042
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	70	-
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	177	1088	162	98	1133

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1931	627	0	0	1250	0
Stage 1	1169	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	58	426	-	-	553	-
Stage 1	258	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	48	425	-	-	552	-
Mov Cap-2 Maneuver	156	-	-	-	-	-
Stage 1	258	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	425	552	-
HCM Lane V/C Ratio	-	-	0.417	0.177	-
HCM Control Delay (s)	-	-	19.4	12.9	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	2	0.6	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	81	82	58	1106	1050	61
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	50	-	-	-
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	88	89	63	1202	1141	66

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1901	604	1208	0	-	0
Stage 1	1174	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 61	441	573	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 54	441	573	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	391	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.2	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	573	-	165	441	-	-
HCM Lane V/C Ratio	0.11	-	0.534	0.202	-	-
HCM Control Delay (s)	12.1	-	49.4	15.2	-	-
HCM Lane LOS	B	-	E	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2.7	0.7	-	-

Notes

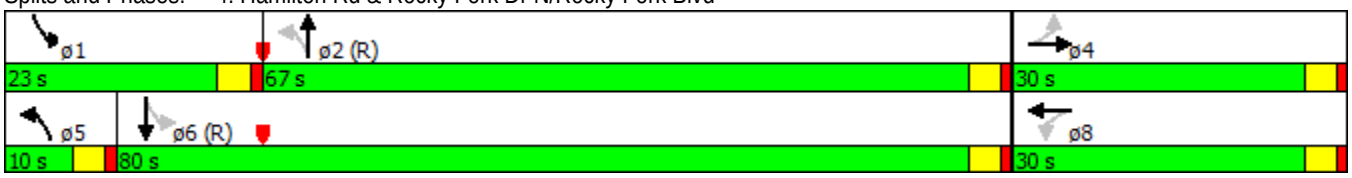
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	26	106	14	21	932	149	918
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	30.0	30.0	30.0	30.0	10.0	67.0	23.0	80.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	8.3%	55.8%	19.2%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	16.3	16.3	16.3	16.3	89.1	83.3	95.4	89.7
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.74	0.69	0.80	0.75
v/c Ratio	0.10	0.17	0.63	0.45	0.05	0.43	0.39	0.38
Control Delay	44.3	32.1	63.1	13.8	1.9	4.3	5.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	32.1	63.1	13.8	1.9	4.3	5.9	7.0
LOS	D	C	E	B	A	A	A	A
Approach Delay		34.5		35.1		4.3		6.8
Approach LOS		C		D		A		A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	26	15	106	14	125	21	932	40	149	918	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99		0.98	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	28	16	115	15	136	23	1013	43	162	998	9
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	115	149	85	212	21	194	457	2499	106	388	2671	24
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.01	0.24	0.24	0.04	0.74	0.74
Sat Flow, veh/h	1230	1113	636	1354	159	1445	1774	3456	147	1774	3593	32
Grp Volume(v), veh/h	11	0	44	115	0	151	23	519	537	162	491	516
Grp Sat Flow(s),veh/h/ln	1230	0	1749	1354	0	1604	1774	1770	1833	1774	1770	1856
Q Serve(g_s), s	1.0	0.0	2.7	9.9	0.0	10.8	0.4	29.6	29.7	2.8	11.8	11.8
Cycle Q Clear(g_c), s	11.8	0.0	2.7	12.6	0.0	10.8	0.4	29.6	29.7	2.8	11.8	11.8
Prop In Lane	1.00		0.36	1.00		0.90	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	115	0	235	212	0	215	457	1280	1325	388	1316	1380
V/C Ratio(X)	0.10	0.00	0.19	0.54	0.00	0.70	0.05	0.41	0.41	0.42	0.37	0.37
Avail Cap(c_a), veh/h	216	0	379	323	0	348	506	1280	1325	593	1316	1380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	0.0	46.1	51.7	0.0	49.6	4.4	23.9	23.9	8.9	5.5	5.5
Incr Delay (d2), s/veh	0.5	0.0	0.5	2.8	0.0	5.3	0.0	1.0	0.9	0.7	0.8	0.8
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	0.4	0.0	1.3	3.9	0.0	5.1	0.2	14.9	15.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	55.8	0.0	46.6	54.5	0.0	54.9	4.4	24.9	24.9	9.7	6.3	6.2
LnGrp LOS	E		D	D		D	A	C	C	A	A	A
Approach Vol, veh/h		55			266			1079			1169	
Approach Delay, s/veh		48.4			54.7			24.4			6.7	
Approach LOS		D			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	90.8		20.1	6.7	93.2		20.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	19.0	63.0		26.0	6.0	76.0		26.0
Max Q Clear Time (g_c+I1), s	4.8	31.7		13.8	2.4	13.8		14.6
Green Ext Time (p_c), s	0.3	26.5		1.6	0.0	46.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	7	1	0	5	7	35	0	1	18	5	0	34	40	7
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	8	1	0	5	8	38	0	1	20	5	0	37	43	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

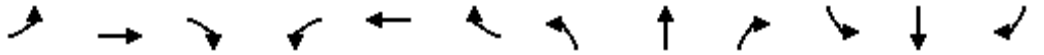
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7	7.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	11%	42%
Vol Thru, %	75%	54%	15%	49%
Vol Right, %	21%	8%	74%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	13	47	81
LT Vol	1	5	5	34
Through Vol	18	7	7	40
RT Vol	5	1	35	7
Lane Flow Rate	26	14	51	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0.016	0.053	0.1
Departure Headway (Hd)	3.997	4.201	3.716	4.099
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	892	845	955	874
Service Time	2.038	2.263	1.773	2.126
HCM Lane V/C Ratio	0.029	0.017	0.053	0.101
HCM Control Delay	7.2	7.3	7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.2	0.3

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	33	1049	13	984	65	2	42	2	37
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	50.0	9.0	50.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	55.6%	10.0%	55.6%	34.4%	34.4%	34.4%	34.4%	34.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	34.3	34.7	33.6	33.1		8.9		8.9	8.9
Actuated g/C Ratio	0.69	0.69	0.67	0.66		0.18		0.18	0.18
v/c Ratio	0.09	0.50	0.04	0.48		0.36		0.19	0.12
Control Delay	3.6	6.3	3.4	7.3		23.6		23.5	5.5
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	3.6	6.3	3.4	7.3		23.6		23.5	5.5
LOS	A	A	A	A		C		C	A
Approach Delay		6.3		7.3		23.6		15.3	
Approach LOS		A		A		C		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 50	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 7.6	Intersection LOS: A
Intersection Capacity Utilization 49.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	1049	68	13	984	42	65	2	15	42	2	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	36	1140	74	14	1070	46	71	2	16	46	2	40
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	423	2169	141	369	2150	92	229	16	29	319	11	200
Arrive On Green	0.04	0.64	0.64	0.02	0.62	0.62	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3375	219	1774	3457	149	903	130	226	1525	89	1576
Grp Volume(v), veh/h	36	597	617	14	548	568	89	0	0	48	0	40
Grp Sat Flow(s),veh/h/ln	1774	1770	1824	1774	1770	1836	1259	0	0	1614	0	1576
Q Serve(g_s), s	0.4	10.3	10.3	0.2	9.6	9.6	2.7	0.0	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s	0.4	10.3	10.3	0.2	9.6	9.6	4.1	0.0	0.0	1.4	0.0	1.3
Prop In Lane	1.00		0.12	1.00		0.08	0.80		0.18	0.96		1.00
Lane Grp Cap(c), veh/h	423	1137	1172	369	1101	1142	275	0	0	330	0	200
V/C Ratio(X)	0.09	0.53	0.53	0.04	0.50	0.50	0.32	0.00	0.00	0.15	0.00	0.20
Avail Cap(c_a), veh/h	512	1443	1487	496	1443	1497	766	0	0	822	0	754
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	1.00
Uniform Delay (d), s/veh	4.2	5.4	5.4	4.5	5.8	5.8	23.5	0.0	0.0	22.1	0.0	22.0
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.0	0.3	0.3	0.7	0.0	0.0	0.2	0.0	0.5
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	0.2	4.9	5.3	0.1	4.7	4.8	1.4	0.0	0.0	0.7	0.0	0.6
LnGrp Delay(d),s/veh	4.3	5.8	5.8	4.5	6.2	6.2	24.2	0.0	0.0	22.3	0.0	22.5
LnGrp LOS	A	A	A	A	A	A	C			C		C
Approach Vol, veh/h		1250			1130			89			88	
Approach Delay, s/veh		5.8			6.2			24.2			22.4	
Approach LOS		A			A			C			C	

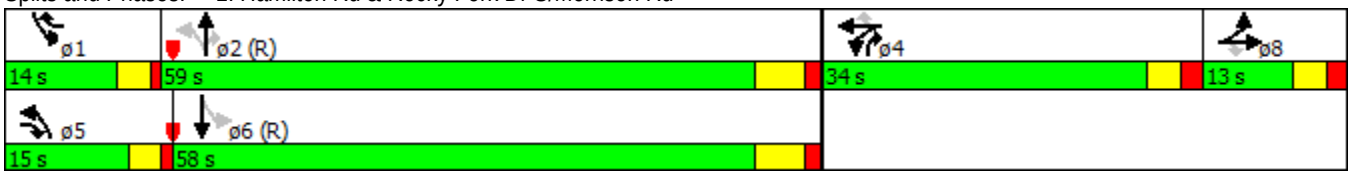
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	40.3		11.2	6.2	39.1		11.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	46.0		27.0	5.0	46.0		27.0
Max Q Clear Time (g_c+I1), s	2.2	12.3		3.4	2.4	11.6		6.1
Green Ext Time (p_c), s	0.0	23.2		0.9	0.0	23.5		0.9

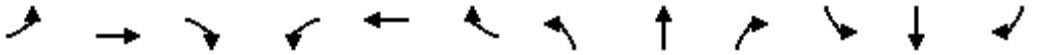
Intersection Summary	
HCM 2010 Ctrl Delay	7.2
HCM 2010 LOS	A

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	45	54	842	42	303	138	1599	796	238	884
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	13.0	15.0	34.0	34.0	14.0	15.0	59.0	34.0	14.0	58.0
Total Split (%)	10.8%	12.5%	28.3%	28.3%	11.7%	12.5%	49.2%	28.3%	11.7%	48.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.0	18.8	29.0	29.0	40.0	64.8	53.0	83.0	65.2	53.2
Actuated g/C Ratio	0.07	0.16	0.24	0.24	0.33	0.54	0.44	0.69	0.54	0.44
v/c Ratio	0.84	0.19	1.17	1.19	0.58	0.50	1.11	0.80	1.23	0.62
Control Delay	103.6	7.8	141.5	146.2	21.4	18.0	92.5	16.9	166.7	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.6	7.8	141.5	146.2	21.4	18.0	92.5	16.9	166.7	23.3
LOS	F	A	F	F	C	B	F	B	F	C
Approach Delay	68.5			112.6			64.7			53.5
Approach LOS	E			F			E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 73.7	Intersection LOS: E
Intersection Capacity Utilization 101.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	45	54	842	42	303	138	1599	796	238	884	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	53	49	59	948	0	329	150	1738	865	259	961	9
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	63	58	235	857	0	485	349	1563	802	208	1648	15
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.07	0.44	0.44	0.11	0.61	0.61
Sat Flow, veh/h	943	872	1548	3548	0	1574	1774	3539	1576	1774	3593	34
Grp Volume(v), veh/h	102	0	59	948	0	329	150	1738	865	259	473	497
Grp Sat Flow(s),veh/h/ln	1816	0	1548	1774	0	1574	1774	1770	1576	1774	1770	1857
Q Serve(g_s), s	6.7	0.0	4.0	29.0	0.0	22.0	5.5	53.0	53.0	10.0	19.4	19.4
Cycle Q Clear(g_c), s	6.7	0.0	4.0	29.0	0.0	22.0	5.5	53.0	53.0	10.0	19.4	19.4
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	121	0	235	857	0	485	349	1563	802	208	812	852
V/C Ratio(X)	0.84	0.00	0.25	1.11	0.00	0.68	0.43	1.11	1.08	1.25	0.58	0.58
Avail Cap(c_a), veh/h	121	0	235	857	0	485	394	1563	802	208	812	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	45.1	45.5	0.0	36.3	17.6	33.5	27.5	35.5	16.4	16.4
Incr Delay (d2), s/veh	38.8	0.0	0.6	63.9	0.0	3.8	0.8	59.9	55.3	144.4	3.1	2.9
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	4.6	0.0	1.8	21.8	0.0	10.0	2.7	38.9	38.8	15.2	10.0	10.5
LnGrp Delay(d),s/veh	94.2	0.0	45.6	109.4	0.0	40.1	18.4	93.4	82.8	179.9	19.5	19.4
LnGrp LOS	F		D	F		D	B	F	F	F	B	B
Approach Vol, veh/h		161			1277			2753			1229	
Approach Delay, s/veh		76.4			91.5			86.0			53.2	
Approach LOS		E			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	59.0		34.0	11.9	61.1		13.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	10.0	53.0		29.0	11.0	52.0		8.0
Max Q Clear Time (g_c+I1), s	12.0	55.0		31.0	7.5	21.4		8.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	27.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	79.6
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	189	1747	204	80	1127
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	-	-	70	-
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	205	1899	222	87	1225

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2796	1060	0	0	2121	0
Stage 1	2010	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	15	220	-	-	254	-
Stage 1	90	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	10	220	-	-	254	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	90	-	-	-	-	-
Stage 2	270	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	90.7	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	220	254	-
HCM Lane V/C Ratio	-	-	0.934	0.342	-
HCM Control Delay (s)	-	-	90.7	26.4	-
HCM Lane LOS	-	-	F	D	-
HCM 95th %tile Q(veh)	-	-	7.9	1.5	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	53	55	40	1896	1152	34
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	50	-	-	-
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	58	60	43	2061	1252	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2388	645	1289	0	-	0
Stage 1	1271	-	-	-	-	-
Stage 2	1117	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 28	415	534	-	-	-
Stage 1	227	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 26	415	534	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	227	-	-	-	-	-
Stage 2	253	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.7	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	534	-	121	415	-	-
HCM Lane V/C Ratio	0.081	-	0.476	0.144	-	-
HCM Control Delay (s)	12.3	-	59.2	15.1	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	0.5	-	-

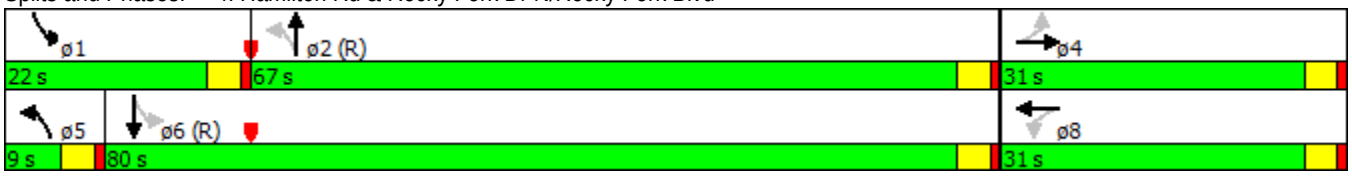
Notes

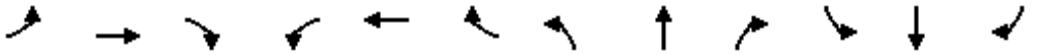
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	49	139	35	29	1618	230	876
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	9.0	67.0	22.0	80.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	7.5%	55.8%	18.3%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.6	19.6	19.6	19.6	77.7	72.0	92.4	86.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.65	0.60	0.77	0.72
v/c Ratio	0.20	0.23	0.70	0.54	0.08	0.87	0.82	0.38
Control Delay	46.4	35.7	63.3	14.2	4.2	13.8	53.7	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	35.7	63.3	14.2	4.2	13.8	53.7	8.2
LOS	D	D	E	B	A	B	D	A
Approach Delay		37.8		33.6		13.6		17.5
Approach LOS		D		C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 11 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	49	15	139	35	178	29	1618	76	230	876	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	53	16	151	38	193	32	1759	83	250	952	21
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	112	250	75	257	48	246	441	2250	106	338	2446	54
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	1.00	1.00	0.06	0.69	0.69
Sat Flow, veh/h	1144	1374	415	1325	267	1354	1774	3442	161	1774	3540	78
Grp Volume(v), veh/h	17	0	69	151	0	231	32	899	943	250	476	497
Grp Sat Flow(s),veh/h/ln	1144	0	1789	1325	0	1621	1774	1770	1834	1774	1770	1849
Q Serve(g_s), s	1.7	0.0	3.9	13.1	0.0	16.3	0.7	0.0	0.0	5.2	13.6	13.6
Cycle Q Clear(g_c), s	18.0	0.0	3.9	17.1	0.0	16.3	0.7	0.0	0.0	5.2	13.6	13.6
Prop In Lane	1.00		0.23	1.00		0.84	1.00		0.09	1.00		0.04
Lane Grp Cap(c), veh/h	112	0	325	257	0	295	441	1157	1199	338	1223	1277
V/C Ratio(X)	0.15	0.00	0.21	0.59	0.00	0.78	0.07	0.78	0.79	0.74	0.39	0.39
Avail Cap(c_a), veh/h	162	0	402	315	0	365	466	1157	1199	490	1223	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	0.0	41.8	49.0	0.0	46.8	6.4	0.0	0.0	6.2	7.8	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.4	2.7	0.0	9.5	0.1	5.2	5.2	3.4	0.9	0.9
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	0.6	0.0	2.0	5.0	0.0	8.1	0.3	1.7	1.7	5.9	6.9	7.2
LnGrp Delay(d),s/veh	56.2	0.0	42.2	51.8	0.0	56.3	6.5	5.2	5.2	9.6	8.8	8.7
LnGrp LOS	E		D	D		E	A	A	A	A	A	A
Approach Vol, veh/h		86			382			1874			1223	
Approach Delay, s/veh		45.0			54.5			5.2			8.9	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.7	82.4		25.8	7.3	86.9		25.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	18.0	63.0		27.0	5.0	76.0		27.0
Max Q Clear Time (g_c+I1), s	7.2	2.0		20.0	2.7	15.6		19.1
Green Ext Time (p_c), s	0.5	57.7		1.8	0.0	57.1		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	8	13	2	0	6	23	59	0	1	47	3	0	48	52	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	14	2	0	7	25	64	0	1	51	3	0	52	57	21
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

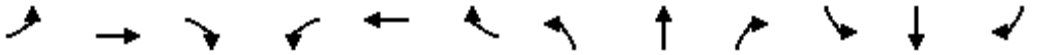
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	35%	7%	40%
Vol Thru, %	92%	57%	26%	44%
Vol Right, %	6%	9%	67%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	23	88	119
LT Vol	1	8	6	48
Through Vol	47	13	23	52
RT Vol	3	2	59	19
Lane Flow Rate	55	25	96	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.031	0.106	0.15
Departure Headway (Hd)	4.212	4.463	3.987	4.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	838	807	904	850
Service Time	2.303	2.465	1.988	2.243
HCM Lane V/C Ratio	0.066	0.031	0.106	0.152
HCM Control Delay	7.6	7.6	7.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.4	0.5

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	35	1728	35	998	159	4	50	5	40
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	60.0	9.0	60.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	9.0%	60.0%	9.0%	60.0%	31.0%	31.0%	31.0%	31.0%	31.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	59.5	56.8	59.5	56.8		18.3		18.3	18.3
Actuated g/C Ratio	0.67	0.64	0.67	0.64		0.21		0.21	0.21
v/c Ratio	0.12	0.90	0.21	0.50		0.75		0.20	0.12
Control Delay	6.2	23.4	8.1	10.9		48.5		30.8	6.5
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	6.2	23.4	8.1	10.9		48.5		30.8	6.5
LOS	A	C	A	B		D		C	A
Approach Delay		23.1		10.8		48.5		20.5	
Approach LOS		C		B		D		C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 88.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	1728	144	35	998	52	159	4	29	50	5	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		0.99	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	38	1878	157	38	1085	57	173	4	32	54	5	43
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	353	2036	168	159	2104	110	288	9	41	378	32	344
Arrive On Green	0.03	0.61	0.61	0.03	0.61	0.61	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	3311	273	1774	3421	180	984	43	186	1380	145	1570
Grp Volume(v), veh/h	38	991	1044	38	561	581	209	0	0	59	0	43
Grp Sat Flow(s),veh/h/ln	1774	1770	1814	1774	1770	1831	1213	0	0	1525	0	1570
Q Serve(g_s), s	0.7	44.5	47.3	0.7	16.2	16.2	12.7	0.0	0.0	0.0	0.0	2.0
Cycle Q Clear(g_c), s	0.7	44.5	47.3	0.7	16.2	16.2	15.5	0.0	0.0	2.8	0.0	2.0
Prop In Lane	1.00		0.15	1.00		0.10	0.83		0.15	0.92		1.00
Lane Grp Cap(c), veh/h	353	1088	1116	159	1088	1126	338	0	0	410	0	344
V/C Ratio(X)	0.11	0.91	0.94	0.24	0.52	0.52	0.62	0.00	0.00	0.14	0.00	0.13
Avail Cap(c_a), veh/h	391	1091	1119	196	1091	1129	446	0	0	519	0	467
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	1.00
Uniform Delay (d), s/veh	7.3	15.3	15.8	20.7	9.9	9.9	34.8	0.0	0.0	28.8	0.0	28.5
Incr Delay (d2), s/veh	0.1	11.3	14.1	0.8	0.4	0.4	1.8	0.0	0.0	0.2	0.0	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	0.4	24.9	27.8	0.6	7.9	8.2	5.2	0.0	0.0	1.2	0.0	0.9
LnGrp Delay(d),s/veh	7.4	26.6	29.9	21.5	10.3	10.3	36.7	0.0	0.0	28.9	0.0	28.6
LnGrp LOS	A	C	C	C	B	B	D			C		C
Approach Vol, veh/h		2073			1180			209			102	
Approach Delay, s/veh		27.9			10.6			36.7			28.8	
Approach LOS		C			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	59.8		23.9	7.1	59.8		23.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	56.0		27.0	5.0	56.0		27.0
Max Q Clear Time (g_c+I1), s	2.7	49.3		4.8	2.7	18.2		17.5
Green Ext Time (p_c), s	0.0	6.5		1.8	0.0	34.1		1.2

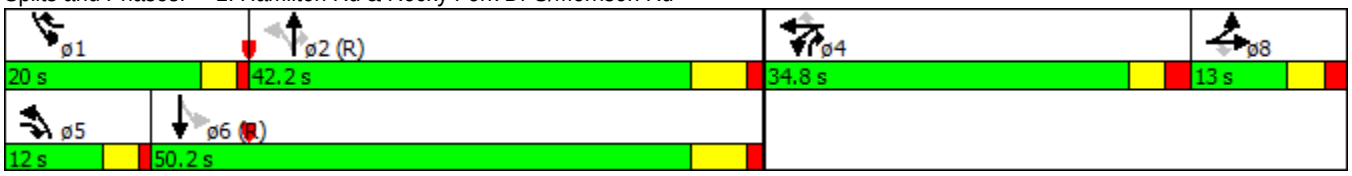
Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	42	159	958	37	193	58	878	612	229	1446
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	13.0	12.0	34.8	34.8	20.0	12.0	42.2	34.8	20.0	50.2
Total Split (%)	11.8%	10.9%	31.6%	31.6%	18.2%	10.9%	38.4%	31.6%	18.2%	45.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.0	21.0	29.8	29.8	45.1	47.9	37.9	73.7	57.8	44.2
Actuated g/C Ratio	0.07	0.19	0.27	0.27	0.41	0.44	0.34	0.67	0.53	0.40
v/c Ratio	0.73	0.43	1.19	1.18	0.30	0.32	0.78	0.63	0.79	1.13
Control Delay	80.3	17.5	141.8	138.0	7.7	18.2	38.3	14.0	28.1	96.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	17.5	141.8	138.0	7.7	18.2	38.3	14.0	28.1	96.1
LOS	F	B	F	F	A	B	D	B	C	F
Approach Delay	39.9			118.4			27.9			86.9
Approach LOS	D			F			C			F

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 72.9 — Intersection LOS: E
Intersection Capacity Utilization 94.2% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	42	159	958	37	193	58	878	612	229	1446	27
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	50	46	173	1070	0	210	63	954	665	249	1572	29
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	69	63	279	961	0	527	176	1312	702	293	1466	27
Arrive On Green	0.07	0.07	0.07	0.27	0.00	0.27	0.06	0.37	0.37	0.10	0.41	0.41
Sat Flow, veh/h	946	870	1577	3548	0	1582	1774	3539	1583	1774	3555	66
Grp Volume(v), veh/h	96	0	173	1070	0	210	63	954	665	249	781	820
Grp Sat Flow(s),veh/h/ln	1815	0	1577	1774	0	1582	1774	1770	1583	1774	1770	1851
Q Serve(g_s), s	5.7	0.0	8.0	29.8	0.0	11.2	2.3	25.5	40.8	9.1	45.4	45.4
Cycle Q Clear(g_c), s	5.7	0.0	8.0	29.8	0.0	11.2	2.3	25.5	40.8	9.1	45.4	45.4
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	132	0	279	961	0	527	176	1312	702	293	730	763
V/C Ratio(X)	0.73	0.00	0.62	1.11	0.00	0.40	0.36	0.73	0.95	0.85	1.07	1.07
Avail Cap(c_a), veh/h	132	0	279	961	0	527	194	1312	702	367	730	763
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	0.0	41.9	40.1	0.0	28.2	25.9	29.8	28.4	23.5	32.3	32.3
Incr Delay (d2), s/veh	18.1	0.0	4.2	65.3	0.0	0.5	1.2	3.6	23.2	14.4	53.9	54.1
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	3.5	0.0	5.2	23.3	0.0	5.0	1.2	13.1	24.7	5.6	33.0	34.6
LnGrp Delay(d),s/veh	68.0	0.0	46.0	105.4	0.0	28.7	27.1	33.4	51.6	37.8	86.2	86.4
LnGrp LOS	E		D	F		C	C	C	D	D	F	F
Approach Vol, veh/h		269			1280			1682			1850	
Approach Delay, s/veh		53.9			92.8			40.3			79.8	
Approach LOS		D			F			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.4	46.8		34.8	10.8	51.4		13.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	16.0	36.2		29.8	8.0	44.2		8.0
Max Q Clear Time (g_c+I1), s	11.1	42.8		31.8	4.3	47.4		10.0
Green Ext Time (p_c), s	0.3	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	68.6
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	81	1014	103	85	1703
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	-	-	70	-
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	88	1102	112	92	1851

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2268	607	0	0	1214	0
Stage 1	1158	-	-	-	-	-
Stage 2	1110	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	34	439	-	-	570	-
Stage 1	261	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	29	439	-	-	570	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	232	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	439	570	-
HCM Lane V/C Ratio	-	-	0.201	0.162	-
HCM Control Delay (s)	-	-	15.2	12.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	10	12	1083	1778	16
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	50	-	-	-
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	3	11	13	1177	1933	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2556	975	1950	0	-	0
Stage 1	1941	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	22	251	296	-	-	-
Stage 1	98	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	21	251	296	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	98	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.5	0.2	0
HCM LOS	D		

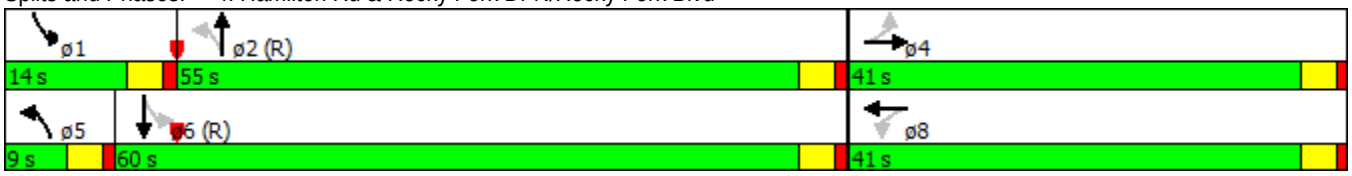
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	296	-	79	251	-	-
HCM Lane V/C Ratio	0.044	-	0.041	0.043	-	-
HCM Control Delay (s)	17.7	-	52.5	20	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

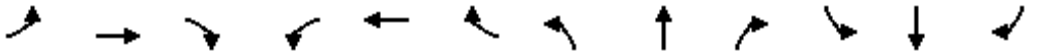
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	68	50	316	31	61	793	137	1417
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	41.0	41.0	41.0	41.0	9.0	55.0	14.0	60.0
Total Split (%)	37.3%	37.3%	37.3%	37.3%	8.2%	50.0%	12.7%	54.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	33.7	33.7	33.7	33.7	60.8	55.4	67.8	60.8
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.55	0.50	0.62	0.55
v/c Ratio	0.38	0.16	0.86	0.52	0.43	0.51	0.42	0.80
Control Delay	34.9	17.9	57.0	14.5	30.0	12.9	13.3	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	17.9	57.0	14.5	30.0	12.9	13.3	25.3
LOS	C	B	E	B	C	B	B	C
Approach Delay		25.6		36.2		14.1		24.2
Approach LOS		C		D		B		C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 40 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	68	50	32	316	31	271	61	793	42	137	1417	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	74	54	35	343	34	295	66	862	46	149	1540	22
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	222	342	222	439	54	466	191	1740	93	340	1886	27
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.01	0.17	0.17	0.06	0.53	0.53
Sat Flow, veh/h	1047	1057	685	1303	166	1442	1774	3417	182	1774	3572	51
Grp Volume(v), veh/h	74	0	89	343	0	329	66	446	462	149	762	800
Grp Sat Flow(s),veh/h/ln	1047	0	1742	1303	0	1608	1774	1770	1830	1774	1770	1854
Q Serve(g_s), s	7.1	0.0	4.0	28.0	0.0	19.1	1.9	25.2	25.2	4.4	39.3	39.4
Cycle Q Clear(g_c), s	26.3	0.0	4.0	32.0	0.0	19.1	1.9	25.2	25.2	4.4	39.3	39.4
Prop In Lane	1.00		0.39	1.00		0.90	1.00		0.10	1.00		0.03
Lane Grp Cap(c), veh/h	222	0	563	439	0	520	191	901	932	340	934	979
V/C Ratio(X)	0.33	0.00	0.16	0.78	0.00	0.63	0.35	0.50	0.50	0.44	0.82	0.82
Avail Cap(c_a), veh/h	235	0	586	456	0	541	202	901	932	398	934	979
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	0.0	26.5	38.0	0.0	31.6	20.2	32.9	32.9	15.0	21.5	21.5
Incr Delay (d2), s/veh	1.1	0.0	0.2	8.6	0.0	2.5	1.1	1.9	1.9	0.9	7.8	7.5
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	2.1	0.0	2.0	11.2	0.0	8.9	1.0	12.9	13.3	2.2	21.1	22.0
LnGrp Delay(d),s/veh	43.9	0.0	26.7	46.6	0.0	34.2	21.2	34.9	34.8	15.9	29.3	29.1
LnGrp LOS	D		C	D		C	C	C	C	B	C	C
Approach Vol, veh/h		163			672			974			1711	
Approach Delay, s/veh		34.5			40.5			33.9			28.0	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	60.0		39.6	8.3	62.1		39.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	51.0		37.0	5.0	56.0		37.0
Max Q Clear Time (g_c+I1), s	6.4	27.2		28.3	3.9	41.4		34.0
Green Ext Time (p_c), s	0.1	22.5		3.7	0.0	14.1		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	12	12	1	0	6	8	42	0	1	21	2	0	66	88	5
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	13	1	0	7	9	46	0	1	23	2	0	72	96	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

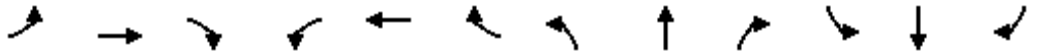
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.3	7.4	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	48%	11%	42%
Vol Thru, %	88%	48%	14%	55%
Vol Right, %	8%	4%	75%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	25	56	159
LT Vol	1	12	6	66
Through Vol	21	12	8	88
RT Vol	2	1	42	5
Lane Flow Rate	26	27	61	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.034	0.067	0.2
Departure Headway (Hd)	4.178	4.514	3.981	4.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	798	905	855
Service Time	2.264	2.516	1.982	2.221
HCM Lane V/C Ratio	0.031	0.034	0.067	0.202
HCM Control Delay	7.4	7.7	7.3	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.7

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	4	552	5	1086	121	1	4	1	3
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	49.0	9.0	49.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	10.0%	54.4%	10.0%	54.4%	35.6%	35.6%	35.6%	35.6%	35.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	32.2	31.5	32.2	31.5		12.2		12.2	12.2
Actuated g/C Ratio	0.60	0.59	0.60	0.59		0.23		0.23	0.23
v/c Ratio	0.01	0.36	0.01	0.57		0.49		0.01	0.01
Control Delay	4.8	6.7	4.8	9.0		23.8		19.4	0.0
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	4.8	6.7	4.8	9.0		23.8		19.4	0.0
LOS	A	A	A	A		C		B	A
Approach Delay		6.7		9.0		23.8		12.1	
Approach LOS		A		A		C		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 53.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 53.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	552	121	5	1086	7	121	1	24	4	1	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	4	600	132	5	1180	8	132	1	26	4	1	3
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	345	1733	380	513	2170	15	309	6	36	317	65	241
Arrive On Green	0.01	0.60	0.60	0.01	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	2884	633	1774	3603	24	1164	41	236	1228	429	1580
Grp Volume(v), veh/h	4	368	364	5	579	609	159	0	0	5	0	3
Grp Sat Flow(s),veh/h/ln	1774	1770	1748	1774	1770	1858	1440	0	0	1658	0	1580
Q Serve(g_s), s	0.0	5.2	5.3	0.1	9.7	9.7	5.1	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	5.2	5.3	0.1	9.7	9.7	5.2	0.0	0.0	0.1	0.0	0.1
Prop In Lane	1.00		0.36	1.00		0.01	0.83		0.16	0.80		1.00
Lane Grp Cap(c), veh/h	345	1063	1050	513	1066	1119	351	0	0	382	0	241
V/C Ratio(X)	0.01	0.35	0.35	0.01	0.54	0.54	0.45	0.00	0.00	0.01	0.00	0.01
Avail Cap(c_a), veh/h	513	1594	1575	679	1594	1674	936	0	0	975	0	886
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	1.00
Uniform Delay (d), s/veh	4.8	5.0	5.0	4.1	5.9	5.9	20.2	0.0	0.0	18.0	0.0	18.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.9	0.0	0.0	0.0	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	0.0	2.5	2.6	0.0	4.8	5.0	2.2	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	4.8	5.2	5.2	4.1	6.3	6.3	21.1	0.0	0.0	18.0	0.0	18.0
LnGrp LOS	A	A	A	A	A	A	C			B		B
Approach Vol, veh/h		736			1193			159			8	
Approach Delay, s/veh		5.2			6.3			21.1			18.0	
Approach LOS		A			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	34.0		11.6	4.3	34.1		11.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	45.0		28.0	5.0	45.0		28.0
Max Q Clear Time (g_c+I1), s	2.1	7.3		2.1	2.0	11.7		7.2
Green Ext Time (p_c), s	0.0	19.6		1.0	0.0	18.4		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	32	0	896	1731	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	35	0	974	1882	37

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2369	941	1882	0	-	0
Stage 1	1882	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	29	264	315	-	-	0
Stage 1	106	-	-	-	-	0
Stage 2	583	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	29	264	315	-	-	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	106	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	315	-	264	-
HCM Lane V/C Ratio	-	-	0.132	-
HCM Control Delay (s)	0	-	20.7	-
HCM Lane LOS	A	-	C	-
HCM 95th %tile Q(veh)	0	-	0.4	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	93	7	51	61	7	57
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	101	8	55	66	8	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	109	0	282	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1481	-	708	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1481	-	680	949
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	910	-	-	1481	-
HCM Lane V/C Ratio	0.076	-	-	0.037	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	41	48	628	47	337	86	817	414	336	738
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	15.0	12.0	36.0	36.0	28.0	12.0	41.0	36.0	28.0	57.0
Total Split (%)	12.5%	10.0%	30.0%	30.0%	23.3%	10.0%	34.2%	30.0%	23.3%	47.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	9.4	19.8	30.3	30.3	54.0	50.2	40.2	76.5	68.9	54.9
Actuated g/C Ratio	0.08	0.16	0.25	0.25	0.45	0.42	0.34	0.64	0.57	0.46
v/c Ratio	0.58	0.15	0.87	0.85	0.46	0.27	0.75	0.45	0.86	0.50
Control Delay	69.7	0.9	64.4	62.2	9.7	17.0	42.0	14.0	48.6	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	0.9	64.4	62.2	9.7	17.0	42.0	14.0	48.6	28.6
LOS	E	A	E	E	A	B	D	B	D	C
Approach Delay	43.0			45.5			31.6			34.7
Approach LOS	D			D			C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 79.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	41	48	628	47	337	86	817	414	336	738	12
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	37	45	52	719	0	366	93	888	450	365	802	13
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	54	66	346	853	0	481	360	1323	696	398	1651	27
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.06	0.37	0.37	0.10	0.31	0.31
Sat Flow, veh/h	822	1000	1576	3548	0	1581	1774	3539	1583	1774	3564	58
Grp Volume(v), veh/h	82	0	52	719	0	366	93	888	450	365	398	417
Grp Sat Flow(s),veh/h/ln	1822	0	1576	1774	0	1581	1774	1770	1583	1774	1770	1853
Q Serve(g_s), s	5.3	0.0	3.2	23.2	0.0	25.1	3.7	25.2	26.7	15.8	21.9	21.9
Cycle Q Clear(g_c), s	5.3	0.0	3.2	23.2	0.0	25.1	3.7	25.2	26.7	15.8	21.9	21.9
Prop In Lane	0.45		1.00	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	120	0	346	853	0	481	360	1323	696	398	820	858
V/C Ratio(X)	0.68	0.00	0.15	0.84	0.00	0.76	0.26	0.67	0.65	0.92	0.49	0.49
Avail Cap(c_a), veh/h	152	0	374	917	0	509	365	1323	696	482	820	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	37.8	43.4	0.0	37.8	20.6	31.4	26.3	29.1	29.8	29.8
Incr Delay (d2), s/veh	8.5	0.0	0.2	6.8	0.0	6.3	0.4	2.7	4.6	20.0	2.1	2.0
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	2.9	0.0	1.4	12.2	0.0	11.8	1.9	12.8	13.9	14.2	11.2	11.7
LnGrp Delay(d),s/veh	63.3	0.0	38.0	50.2	0.0	44.1	21.0	34.1	30.9	49.1	31.8	31.7
LnGrp LOS	E		D	D		D	C	C	C	D	C	C
Approach Vol, veh/h		134			1085			1431			1180	
Approach Delay, s/veh		53.5			48.1			32.3			37.1	
Approach LOS		D			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.4	50.8		33.9	11.6	61.6		12.9
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	24.0	35.0		31.0	8.0	51.0		10.0
Max Q Clear Time (g_c+I1), s	17.8	28.7		27.1	5.7	23.9		7.3
Green Ext Time (p_c), s	0.6	5.1		1.7	0.0	15.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	163	1039	149	90	1081
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	-	-	70	-
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	177	1129	162	98	1175

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1993	646	0	0	1291	0
Stage 1	1210	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	53	414	-	-	533	-
Stage 1	245	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	43	414	-	-	533	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	245	-	-	-	-	-
Stage 2	335	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	414	533	-
HCM Lane V/C Ratio	-	-	0.428	0.184	-
HCM Control Delay (s)	-	-	20	13.3	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	2.1	0.7	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	88	109	89	1113	1062	88
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	50	-	-	-
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	96	118	97	1210	1154	96

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2000	625	1250	0	-	0
Stage 1	1202	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 52	428	553	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 43	428	553	-	-	-
Mov Cap-2 Maneuver	149	-	-	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	333	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.1	1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	553	-	149	428	-	-
HCM Lane V/C Ratio	0.175	-	0.642	0.277	-	-
HCM Control Delay (s)	12.9	-	64.7	16.6	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.5	1.1	-	-

Notes

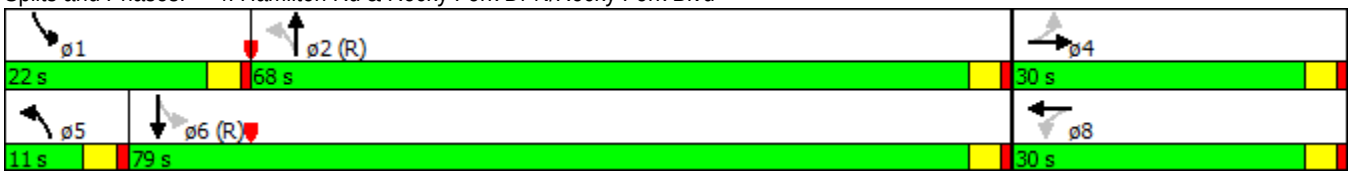
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	48	40	113	21	38	927	149	944
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	30.0	30.0	30.0	30.0	11.0	68.0	22.0	79.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	9.2%	56.7%	18.3%	65.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	17.1	17.1	17.1	17.1	88.5	82.4	93.9	86.6
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.74	0.69	0.78	0.72
v/c Ratio	0.46	0.24	0.65	0.46	0.10	0.44	0.39	0.41
Control Delay	58.5	33.3	63.3	14.6	2.2	4.5	6.3	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	33.3	63.3	14.6	2.2	4.5	6.3	8.2
LOS	E	C	E	B	A	A	A	A
Approach Delay		44.5		35.8		4.4		7.9
Approach LOS		D		D		A		A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 61.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	40	20	113	21	125	38	927	42	149	944	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	52	43	22	123	23	136	41	1008	46	162	1026	14
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	147	189	97	233	38	225	433	2386	109	377	2526	34
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.01	0.23	0.23	0.05	0.71	0.71
Sat Flow, veh/h	1222	1163	595	1331	234	1384	1774	3447	157	1774	3575	49
Grp Volume(v), veh/h	52	0	65	123	0	159	41	517	537	162	508	532
Grp Sat Flow(s),veh/h/ln	1222	0	1758	1331	0	1618	1774	1770	1835	1774	1770	1854
Q Serve(g_s), s	5.0	0.0	3.9	10.6	0.0	11.0	0.8	30.0	30.0	3.2	14.2	14.2
Cycle Q Clear(g_c), s	15.9	0.0	3.9	14.5	0.0	11.0	0.8	30.0	30.0	3.2	14.2	14.2
Prop In Lane	1.00		0.34	1.00		0.86	1.00		0.09	1.00		0.03
Lane Grp Cap(c), veh/h	147	0	285	233	0	263	433	1225	1270	377	1250	1310
V/C Ratio(X)	0.35	0.00	0.23	0.53	0.00	0.61	0.09	0.42	0.42	0.43	0.41	0.41
Avail Cap(c_a), veh/h	213	0	381	306	0	351	481	1225	1270	562	1250	1310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	0.0	43.7	50.0	0.0	46.7	5.5	25.8	25.8	9.9	7.2	7.2
Incr Delay (d2), s/veh	1.9	0.0	0.5	2.4	0.0	2.9	0.1	1.1	1.0	0.8	1.0	0.9
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	1.8	0.0	1.9	4.0	0.0	5.1	0.4	15.1	15.6	2.0	7.3	7.6
LnGrp Delay(d),s/veh	55.9	0.0	44.2	52.4	0.0	49.6	5.6	26.9	26.8	10.7	8.2	8.2
LnGrp LOS	E		D	D		D	A	C	C	B	A	A
Approach Vol, veh/h		117			282			1095			1202	
Approach Delay, s/veh		49.4			50.8			26.1			8.5	
Approach LOS		D			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	87.1		23.5	7.7	88.8		23.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	18.0	64.0		26.0	7.0	75.0		26.0
Max Q Clear Time (g_c+I1), s	5.2	32.0		17.9	2.8	16.2		16.5
Green Ext Time (p_c), s	0.3	27.3		1.6	0.0	44.8		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	7	1	0	5	7	44	0	1	18	5	0	41	40	7
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	8	1	0	5	8	48	0	1	20	5	0	45	43	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

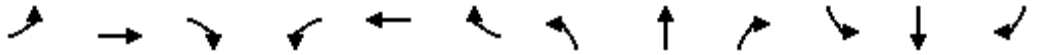
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7	7.2	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	9%	47%
Vol Thru, %	75%	54%	12%	45%
Vol Right, %	21%	8%	79%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	13	56	88
LT Vol	1	5	5	41
Through Vol	18	7	7	40
RT Vol	5	1	44	7
Lane Flow Rate	26	14	61	96
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0.017	0.063	0.11
Departure Headway (Hd)	4.021	4.223	3.701	4.13
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	839	957	867
Service Time	2.069	2.292	1.765	2.161
HCM Lane V/C Ratio	0.029	0.017	0.064	0.111
HCM Control Delay	7.2	7.4	7	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.4

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	33	1058	13	993	69	2	42	2	37
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	50.0	9.0	50.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	10.0%	55.6%	10.0%	55.6%	34.4%	34.4%	34.4%	34.4%	34.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	34.8	35.1	34.1	33.6		9.2		9.2	9.2
Actuated g/C Ratio	0.69	0.69	0.67	0.66		0.18		0.18	0.18
v/c Ratio	0.09	0.50	0.04	0.48		0.37		0.19	0.12
Control Delay	3.7	6.5	3.5	7.5		24.2		23.7	5.5
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	3.7	6.5	3.5	7.5		24.2		23.7	5.5
LOS	A	A	A	A		C		C	A
Approach Delay		6.4		7.4		24.2		15.4	
Approach LOS		A		A		C		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 50.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 7.8	Intersection LOS: A
Intersection Capacity Utilization 50.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	1058	72	13	993	42	69	2	15	42	2	37
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	36	1150	78	14	1079	46	75	2	16	46	2	40
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	421	2170	147	366	2159	92	229	16	27	317	11	199
Arrive On Green	0.04	0.65	0.65	0.02	0.62	0.62	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3363	228	1774	3458	147	908	125	215	1529	89	1580
Grp Volume(v), veh/h	36	605	623	14	552	573	93	0	0	48	0	40
Grp Sat Flow(s),veh/h/ln	1774	1770	1821	1774	1770	1836	1247	0	0	1618	0	1580
Q Serve(g_s), s	0.4	10.4	10.5	0.2	9.7	9.7	3.0	0.0	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s	0.4	10.4	10.5	0.2	9.7	9.7	4.4	0.0	0.0	1.4	0.0	1.3
Prop In Lane	1.00		0.13	1.00		0.08	0.81		0.17	0.96		1.00
Lane Grp Cap(c), veh/h	421	1142	1175	366	1105	1146	272	0	0	328	0	199
V/C Ratio(X)	0.09	0.53	0.53	0.04	0.50	0.50	0.34	0.00	0.00	0.15	0.00	0.20
Avail Cap(c_a), veh/h	510	1436	1478	491	1436	1490	762	0	0	819	0	752
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	1.00
Uniform Delay (d), s/veh	4.2	5.4	5.4	4.5	5.8	5.8	23.8	0.0	0.0	22.3	0.0	22.2
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.0	0.4	0.3	0.7	0.0	0.0	0.2	0.0	0.5
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	0.2	5.2	5.3	0.1	4.7	4.9	1.4	0.0	0.0	0.7	0.0	0.6
LnGrp Delay(d),s/veh	4.3	5.8	5.8	4.5	6.2	6.2	24.5	0.0	0.0	22.5	0.0	22.7
LnGrp LOS	A	A	A	A	A	A	C			C		C
Approach Vol, veh/h		1264			1139			93			88	
Approach Delay, s/veh		5.8			6.1			24.5			22.6	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	40.6		11.1	6.2	39.4		11.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	46.0		27.0	5.0	46.0		27.0
Max Q Clear Time (g_c+I1), s	2.2	12.5		3.4	2.4	11.7		6.4
Green Ext Time (p_c), s	0.0	23.4		0.9	0.0	23.7		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.2
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	21	0	1007	1057	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	23	0	1095	1149	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1696	574	1149	0	-	0
Stage 1	1149	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	84	462	604	-	-	0
Stage 1	264	-	-	-	-	0
Stage 2	544	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	84	462	604	-	-	-
Mov Cap-2 Maneuver	195	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	544	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	604	-	462	-
HCM Lane V/C Ratio	-	-	0.049	-
HCM Control Delay (s)	0	-	13.2	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0	-	0.2	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	52	6	29	43	9	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
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	57	7	32	47	10	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	63	0	170	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	110	-
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	-	-	1540	-	820	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1540	-	803	1005
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	896	-

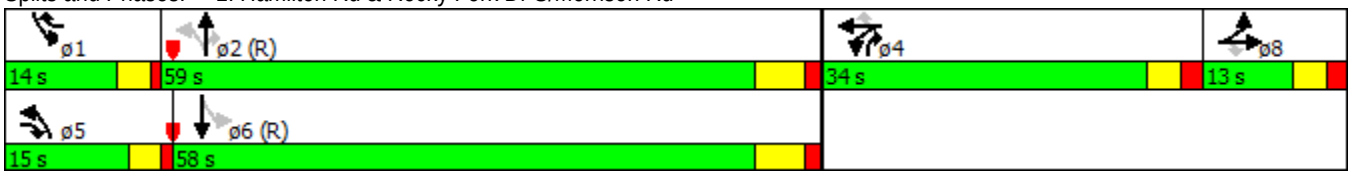
Approach	EB	WB	NB
HCM Control Delay, s	0	3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	971	-	-	1540	-
HCM Lane V/C Ratio	0.073	-	-	0.02	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	45	54	842	42	310	138	1620	796	244	905
Turn Type	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	8	5	4	4	1	5	2	4	1	6
Permitted Phases		8			4	2		2	6	
Detector Phase	8	5	4	4	1	5	2	4	1	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	15.0	8.0	8.0	15.0
Minimum Split (s)	13.0	12.0	13.0	13.0	12.0	12.0	21.0	13.0	12.0	27.0
Total Split (s)	13.0	15.0	34.0	34.0	14.0	15.0	59.0	34.0	14.0	58.0
Total Split (%)	10.8%	12.5%	28.3%	28.3%	11.7%	12.5%	49.2%	28.3%	11.7%	48.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.5	3.0	3.0	4.5
All-Red Time (s)	2.0	1.0	2.0	2.0	1.0	1.0	1.5	2.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	4.0	4.0	6.0	5.0	4.0	6.0
Lead/Lag		Lead			Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes			Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	8.0	22.8	29.0	29.0	40.0	64.8	53.0	88.0	65.2	53.2
Actuated g/C Ratio	0.07	0.19	0.24	0.24	0.33	0.54	0.44	0.73	0.54	0.44
v/c Ratio	0.84	0.16	1.17	1.19	0.59	0.51	1.13	0.75	1.26	0.63
Control Delay	103.6	7.4	141.5	146.2	21.8	18.4	98.3	14.5	176.2	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.6	7.4	141.5	146.2	21.8	18.4	98.3	14.5	176.2	23.5
LOS	F	A	F	F	C	B	F	B	F	C
Approach Delay	68.3			112.2			67.8			55.7
Approach LOS	E			F			E			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.26	
Intersection Signal Delay: 75.5	Intersection LOS: E
Intersection Capacity Utilization 101.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Hamilton Rd & Rocky Fork Dr S/Morrison Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	45	54	842	42	310	138	1620	796	244	905	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	53	49	59	948	0	337	150	1761	865	265	984	9
Adj No. of Lanes	0	1	1	2	0	1	1	2	1	1	2	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	63	58	237	857	0	487	321	1563	805	208	1649	15
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.07	0.44	0.44	0.08	0.46	0.46
Sat Flow, veh/h	943	872	1576	3548	0	1581	1774	3539	1583	1774	3594	33
Grp Volume(v), veh/h	102	0	59	948	0	337	150	1761	865	265	485	508
Grp Sat Flow(s),veh/h/ln	1816	0	1576	1774	0	1581	1774	1770	1583	1774	1770	1857
Q Serve(g_s), s	6.7	0.0	4.0	29.0	0.0	22.5	5.5	53.0	53.0	10.0	24.5	24.5
Cycle Q Clear(g_c), s	6.7	0.0	4.0	29.0	0.0	22.5	5.5	53.0	53.0	10.0	24.5	24.5
Prop In Lane	0.52		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	121	0	237	857	0	487	321	1563	805	208	812	852
V/C Ratio(X)	0.84	0.00	0.25	1.11	0.00	0.69	0.47	1.13	1.07	1.28	0.60	0.60
Avail Cap(c_a), veh/h	121	0	237	857	0	487	366	1563	805	208	812	852
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	45.0	45.5	0.0	36.5	18.7	33.5	27.5	37.1	24.2	24.2
Incr Delay (d2), s/veh	38.8	0.0	0.5	63.9	0.0	4.2	1.1	65.8	53.7	155.7	3.2	3.1
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	4.6	0.0	1.8	21.8	0.0	10.4	2.7	40.1	38.6	15.9	12.7	13.3
LnGrp Delay(d),s/veh	94.2	0.0	45.6	109.4	0.0	40.7	19.8	99.3	81.3	192.8	27.4	27.3
LnGrp LOS	F		D	F		D	B	F	F	F	C	C
Approach Vol, veh/h		161			1285			2776			1258	
Approach Delay, s/veh		76.4			91.4			89.4			62.2	
Approach LOS		E			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	59.0		34.0	11.9	61.1		13.0
Change Period (Y+Rc), s	4.0	6.0		5.0	4.0	6.0		5.0
Max Green Setting (Gmax), s	10.0	53.0		29.0	11.0	52.0		8.0
Max Q Clear Time (g_c+I1), s	12.0	55.0		31.0	7.5	26.5		8.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	23.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	83.2
HCM 2010 LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	189	1775	204	80	1154
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	-	-	70	-
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	205	1929	222	87	1254

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2841	1076	0	0	2151	0
Stage 1	2040	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	14	215	-	-	247	-
Stage 1	86	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	9	215	-	-	247	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	86	-	-	-	-	-
Stage 2	260	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	97.2	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	215	247	-
HCM Lane V/C Ratio	-	-	0.956	0.352	-
HCM Control Delay (s)	-	-	97.2	27.3	-
HCM Lane LOS	-	-	F	D	-
HCM 95th %tile Q(veh)	-	-	8.2	1.5	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	63	77	73	1891	1157	57
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	50	-	-	-
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	68	84	79	2055	1258	62

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2475	660	1320	0	-	0
Stage 1	1289	-	-	-	-	-
Stage 2	1186	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 25	406	519	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	406	519	-	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	214	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.9	0.5	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	519	-	109	406	-	-
HCM Lane V/C Ratio	0.153	-	0.628	0.206	-	-
HCM Control Delay (s)	13.2	-	82.2	16.2	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.5	-	3.1	0.8	-	-

Notes

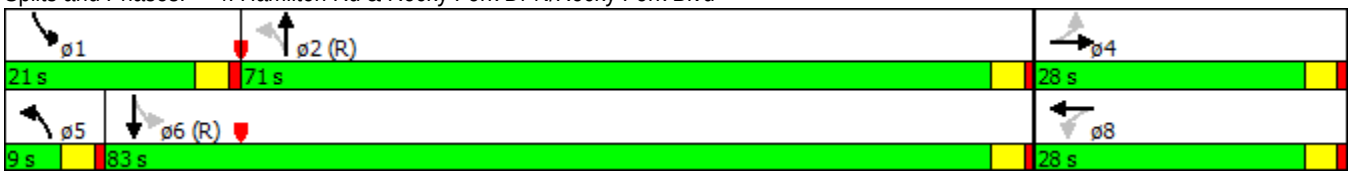
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

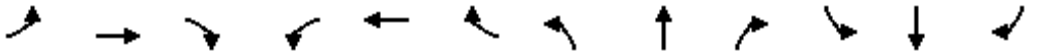
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	51	59	144	42	45	1606	229	897
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	20.0	5.0	20.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	24.0	9.0	24.0
Total Split (s)	28.0	28.0	28.0	28.0	9.0	71.0	21.0	83.0
Total Split (%)	23.3%	23.3%	23.3%	23.3%	7.5%	59.2%	17.5%	69.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	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	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.9	19.9	19.9	19.9	78.0	72.5	92.1	84.5
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.65	0.60	0.77	0.70
v/c Ratio	0.68	0.27	0.76	0.59	0.12	0.86	0.85	0.40
Control Delay	84.1	38.2	70.1	22.0	2.9	9.4	58.6	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.1	38.2	70.1	22.0	2.9	9.4	58.6	8.7
LOS	F	D	E	C	A	A	E	A
Approach Delay		56.4		41.1		9.2		18.7
Approach LOS		E		D		A		B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	59	18	144	42	177	45	1606	77	229	897	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	55	64	20	157	46	192	49	1746	84	249	975	24
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	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	132	272	85	270	63	263	422	2177	104	339	2353	58
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.07	1.00	1.00	0.07	0.67	0.67
Sat Flow, veh/h	1138	1362	426	1308	315	1315	1774	3439	164	1774	3530	87
Grp Volume(v), veh/h	55	0	84	157	0	238	49	893	937	249	489	510
Grp Sat Flow(s),veh/h/ln	1138	0	1788	1308	0	1631	1774	1770	1833	1774	1770	1847
Q Serve(g_s), s	5.7	0.0	4.7	13.7	0.0	16.4	1.1	0.0	0.0	5.6	15.3	15.3
Cycle Q Clear(g_c), s	22.1	0.0	4.7	18.5	0.0	16.4	1.1	0.0	0.0	5.6	15.3	15.3
Prop In Lane	1.00		0.24	1.00		0.81	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	132	0	358	270	0	326	422	1120	1161	339	1179	1231
V/C Ratio(X)	0.42	0.00	0.23	0.58	0.00	0.73	0.12	0.80	0.81	0.73	0.41	0.41
Avail Cap(c_a), veh/h	132	0	358	270	0	326	437	1120	1161	472	1179	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	0.0	40.3	48.0	0.0	45.0	7.2	0.0	0.0	6.5	9.2	9.2
Incr Delay (d2), s/veh	2.7	0.0	0.4	3.6	0.0	8.5	0.1	5.9	6.1	3.7	1.1	1.0
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	1.9	0.0	2.4	5.2	0.0	8.2	0.6	1.8	2.0	5.1	7.8	8.1
LnGrp Delay(d),s/veh	58.0	0.0	40.7	51.6	0.0	53.5	7.3	5.9	6.1	10.2	10.3	10.3
LnGrp LOS	E		D	D		D	A	A	A	B	B	B
Approach Vol, veh/h		139			395			1879			1248	
Approach Delay, s/veh		47.6			52.7			6.0			10.3	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	80.0		28.0	8.0	84.0		28.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	17.0	67.0		24.0	5.0	79.0		24.0
Max Q Clear Time (g_c+I1), s	7.6	2.0		24.1	3.1	17.3		20.5
Green Ext Time (p_c), s	0.5	61.3		0.0	0.0	58.4		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	8	13	2	0	6	23	65	0	1	47	3	0	54	52	19
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	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	9	14	2	0	7	25	71	0	1	51	3	0	59	57	21
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

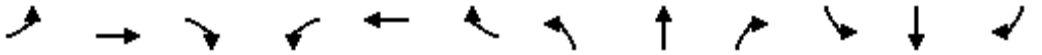
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	35%	6%	43%
Vol Thru, %	92%	57%	24%	42%
Vol Right, %	6%	9%	69%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	23	94	125
LT Vol	1	8	6	54
Through Vol	47	13	23	52
RT Vol	3	2	65	19
Lane Flow Rate	55	25	102	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.031	0.113	0.158
Departure Headway (Hd)	4.23	4.485	3.989	4.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	833	803	904	845
Service Time	2.324	2.488	1.989	2.268
HCM Lane V/C Ratio	0.066	0.031	0.113	0.161
HCM Control Delay	7.6	7.6	7.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.4	0.6

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	35	1736	35	1005	161	4	50	5	40
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	1	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	5.0	20.0	5.0	20.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	24.0	9.0	24.0	31.0	31.0	31.0	31.0	31.0
Total Split (s)	9.0	60.0	9.0	60.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	9.0%	60.0%	9.0%	60.0%	31.0%	31.0%	31.0%	31.0%	31.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	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
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	59.5	56.8	59.5	56.8		18.4		18.4	18.4
Actuated g/C Ratio	0.67	0.64	0.67	0.64		0.21		0.21	0.21
v/c Ratio	0.12	0.91	0.21	0.51		0.75		0.20	0.11
Control Delay	6.2	23.8	8.1	11.0		48.7		30.7	6.5
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	6.2	23.8	8.1	11.0		48.7		30.7	6.5
LOS	A	C	A	B		D		C	A
Approach Delay		23.5		10.9		48.7		20.5	
Approach LOS		C		B		D		C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 88.3	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Flint Ridge Dr/Library & Granville St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	1736	146	35	1005	52	161	4	29	50	5	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	38	1887	159	38	1092	57	175	4	32	54	5	43
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	1
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	356	2053	170	161	2123	111	282	8	39	372	31	335
Arrive On Green	0.03	0.62	0.62	0.03	0.62	0.62	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3308	275	1774	3421	179	986	36	183	1393	147	1581
Grp Volume(v), veh/h	38	997	1049	38	565	584	211	0	0	59	0	43
Grp Sat Flow(s),veh/h/ln	1774	1770	1813	1774	1770	1830	1205	0	0	1540	0	1581
Q Serve(g_s), s	0.7	44.0	46.9	0.7	16.0	16.0	12.9	0.0	0.0	0.0	0.0	2.0
Cycle Q Clear(g_c), s	0.7	44.0	46.9	0.7	16.0	16.0	15.7	0.0	0.0	2.7	0.0	2.0
Prop In Lane	1.00		0.15	1.00		0.10	0.83		0.15	0.92		1.00
Lane Grp Cap(c), veh/h	356	1098	1125	161	1098	1136	329	0	0	403	0	335
V/C Ratio(X)	0.11	0.91	0.93	0.24	0.51	0.51	0.64	0.00	0.00	0.15	0.00	0.13
Avail Cap(c_a), veh/h	394	1102	1129	199	1102	1139	451	0	0	526	0	475
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	1.00
Uniform Delay (d), s/veh	7.0	14.8	15.4	20.4	9.5	9.5	35.3	0.0	0.0	29.0	0.0	28.7
Incr Delay (d2), s/veh	0.1	10.9	13.6	0.7	0.4	0.4	2.1	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	24.6	27.3	0.6	7.8	8.1	5.2	0.0	0.0	1.2	0.0	0.9
LnGrp Delay(d),s/veh	7.2	25.7	29.0	21.2	9.9	9.9	37.4	0.0	0.0	29.2	0.0	28.9
LnGrp LOS	A	C	C	C	A	A	D			C		C
Approach Vol, veh/h		2084			1187			211			102	
Approach Delay, s/veh		27.0			10.3			37.4			29.0	
Approach LOS		C			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	59.8		23.1	7.1	59.8		23.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	56.0		27.0	5.0	56.0		27.0
Max Q Clear Time (g_c+I1), s	2.7	48.9		4.7	2.7	18.0		17.7
Green Ext Time (p_c), s	0.0	6.9		1.8	0.0	34.4		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	16	0	1728	1042	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
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	17	0	1878	1133	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2072	566	1133	0	-	0
Stage 1	1133	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	47	467	612	-	-	0
Stage 1	269	-	-	-	-	0
Stage 2	341	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	47	467	612	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	341	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	612	-	467	-
HCM Lane V/C Ratio	-	-	0.037	-
HCM Control Delay (s)	0	-	13	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	80	6	26	83	6	48
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	87	7	28	90	7	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	93	0	237	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	147	-
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	-	-	1501	-	751	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	736	968
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	935	-	-	1501	-
HCM Lane V/C Ratio	0.063	-	-	0.019	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Appendix I. Queuing Analysis Results

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name: The Annex at Rocky Fork
Project Number: GALZAD - 14296
Compiled By: AMC - Trans Associates

Intersection: Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Year & Peak Hour: 2036 AM
Condition: No Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	AM	AM	AM	AM

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	33	312	30	139
Approach Volume (vph)	94	608	878	1552
Turn Percentage	35%	51%	3%	9%
High or Low	HIGH	HIGH	LOW	LOW
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	110	110	110	110
Cycles/Hour	33	33	33	33
Average Number of Vehicles/Cycle	2	10	1	5
Storage Length (ft)	100	375	50	200

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	100	375	50	200
	Total	**150**	**425**	**100**	**250**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**100**	**375**	**50**	**200**
Required Turn Lane Length, including 50' taper (ft/lane) =	**150**	**425**	**100**	**250**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name:	The Annex at Rocky Fork	**Intersection:**	Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Project Number:	GALZAD - 14296	**Year & Peak Hour:**	2036 Midday
Compiled By:	AMC - Trans Associates	**Condition:**	No Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	Midday	Midday	Midday	Midday

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	10	106	21	149
Approach Volume (vph)	51	245	993	1075
Turn Percentage	20%	43%	2%	14%
High or Low	HIGH	HIGH	LOW	HIGH
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	1	4	1	5
Storage Length (ft)	50	175	50	200

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	50	175	50	200
	Total	**100**	**225**	**100**	**250**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**50**	**175**	**50**	**200**
Required Turn Lane Length, including 50' taper (ft/lane) =	**100**	**225**	**100**	**250**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name:	The Annex at Rocky Fork	**Intersection:**	Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Project Number:	GALZAD - 14296	**Year & Peak Hour:**	2036 PM
Compiled By:	AMC - Trans Associates	**Condition:**	No Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	PM	PM	PM	PM

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	16	139	29	230
Approach Volume (vph)	80	352	1723	1125
Turn Percentage	20%	39%	2%	20%
High or Low	HIGH	HIGH	LOW	HIGH
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	1	5	1	8
Storage Length (ft)	50	200	50	325

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	50	200	50	325
	Total	**100**	**250**	**100**	**375**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**50**	**200**	**50**	**325**
Required Turn Lane Length, including 50' taper (ft/lane) =	**100**	**250**	**100**	**375**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Through Lane Backup Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name: The Annex at Rocky Fork
Project Number: GALZAD - 14296
Compiled By: AMC - Trans Associates

Intersection: Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Year: 2036
Condition: No Build

General Information:

Approach	EB	WB	NB	SB
Number of Through Lanes	1	1	2	2

AM Peak Hour:

Through Volume (vph)	61	296	848	1413
Cycle Length (sec)	110	110	110	110
Cycles/Hour	33	33	33	33
Average Number of Vehicles/Cycle	2	10	26	44
Average Number of Vehicles/Cycle/Lane	2	10	13	22
Through Queue Backup (ft)	100	375	475	750

Midday Peak Hour:

Through Volume (vph)	41	139	972	926
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	2	5	33	31
Average Number of Vehicles/Cycle/Lane	2	5	17	16
Through Queue Backup (ft)	100	200	600	550

PM Peak Hour:

Through Volume (vph)	64	213	1694	895
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	3	8	57	30
Average Number of Vehicles/Cycle/Lane	3	8	29	15
Through Queue Backup (ft)	150	325	945	525

Through Queue Backup Length (ft/lane) =	**150**	**375**	**945**	**750**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	SB	SB	SB
Directions Served	R	TR	L	T	T
Maximum Queue (ft)	86	42	108	181	160
Average Queue (ft)	37	3	36	62	60
95th Queue (ft)	66	18	95	192	189
Link Distance (ft)	465	219		142	142
Upstream Blk Time (%)				7	8
Queuing Penalty (veh)				65	70
Storage Bay Dist (ft)			70		
Storage Blk Time (%)			2	11	
Queuing Penalty (veh)			14	9	

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	29	160	186
Average Queue (ft)	2	34	33
95th Queue (ft)	13	162	160
Link Distance (ft)	93	545	545
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	77	87	300	384	107	188	210	193	420	359
Average Queue (ft)	25	34	186	115	26	70	86	65	236	189
95th Queue (ft)	61	75	292	243	67	157	176	131	373	332
Link Distance (ft)		838		635		545	545		552	552
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		255		100			355		
Storage Blk Time (%)	0	0	3	1	0	2			1	
Queuing Penalty (veh)	0	0	10	2	1	1			1	

Zone Summary

Zone wide Queuing Penalty: 172

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	L	T
Maximum Queue (ft)	99	19	68	106	136
Average Queue (ft)	49	1	10	42	8
95th Queue (ft)	79	10	38	83	66
Link Distance (ft)	465	219	219		142
Upstream Blk Time (%)					0
Queuing Penalty (veh)					2
Storage Bay Dist (ft)				70	
Storage Blk Time (%)				3	0
Queuing Penalty (veh)				17	0

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	118	102	72	47	46	39	24
Average Queue (ft)	62	38	30	2	2	2	1
95th Queue (ft)	113	72	62	24	23	22	11
Link Distance (ft)	93	93		142	142	545	545
Upstream Blk Time (%)	12	1					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)			50				
Storage Blk Time (%)			3				
Queuing Penalty (veh)			19				

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	46	83	176	168	44	211	208	163	240	200
Average Queue (ft)	9	27	84	57	13	60	77	67	98	58
95th Queue (ft)	34	64	149	114	39	144	158	123	202	147
Link Distance (ft)		838		635		545	545		552	552
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		255		100			355		
Storage Blk Time (%)		1				2				
Queuing Penalty (veh)		0				0				

Zone Summary

Zone wide Queuing Penalty: 38

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	NB	SB	SB	SB
Directions Served	R	T	TR	L	T	T
Maximum Queue (ft)	159	33	55	105	157	27
Average Queue (ft)	75	1	12	52	18	1
95th Queue (ft)	128	17	41	91	92	19
Link Distance (ft)	465	219	219		141	141
Upstream Blk Time (%)					1	0
Queuing Penalty (veh)					3	0
Storage Bay Dist (ft)				70		
Storage Blk Time (%)				8	0	
Queuing Penalty (veh)				43	0	

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	96	72	47	64	20
Average Queue (ft)	51	30	20	2	1
95th Queue (ft)	98	60	47	35	9
Link Distance (ft)	93	93		545	545
Upstream Blk Time (%)	9	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)			1		
Queuing Penalty (veh)			6		

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	60	123	234	261	126	437	457	247	258	195
Average Queue (ft)	16	52	114	129	22	247	261	132	113	69
95th Queue (ft)	46	99	199	218	79	363	373	211	211	155
Link Distance (ft)		838		635		545	545		552	552
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		255		100			355		
Storage Blk Time (%)		2	0	1		33				
Queuing Penalty (veh)		0	0	1		9				

Zone Summary

Zone wide Queuing Penalty: 63

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name: The Annex at Rocky Fork
Project Number: GALZAD - 14296
Compiled By: AMC - Trans Associates

Intersection: Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Year & Peak Hour: 2036 AM
Condition: Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	AM	AM	AM	AM

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	68	316	61	137
Approach Volume (vph)	150	618	896	1574
Turn Percentage	45%	51%	7%	9%
High or Low	HIGH	HIGH	LOW	LOW
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	110	110	110	110
Cycles/Hour	33	33	33	33
Average Number of Vehicles/Cycle	3	10	2	5
Storage Length (ft)	150	375	100	200

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	150	375	100	200
	Total	**200**	**425**	**150**	**250**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**150**	**375**	**100**	**200**
Required Turn Lane Length, including 50' taper (ft/lane) =	**200**	**425**	**150**	**250**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name: The Annex at Rocky Fork
Project Number: GALZAD - 14296
Compiled By: AMC - Trans Associates

Intersection: Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Year & Peak Hour: 2036 Midday
Condition: Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	Midday	Midday	Midday	Midday

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	48	113	38	149
Approach Volume (vph)	108	259	1007	1106
Turn Percentage	44%	44%	4%	13%
High or Low	HIGH	HIGH	LOW	HIGH
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	2	4	2	5
Storage Length (ft)	100	175	100	200

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	100	175	100	200
	Total	**150**	**225**	**150**	**250**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**100**	**175**	**100**	**200**
Required Turn Lane Length, including 50' taper (ft/lane) =	**150**	**225**	**150**	**250**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name:	The Annex at Rocky Fork	**Intersection:**	Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Project Number:	GALZAD - 14296	**Year & Peak Hour:**	2036 PM
Compiled By:	AMC - Trans Associates	**Condition:**	Build

General Information:

Approach	EB	WB	NB	SB
Movement	Left	Left	Left	Left
Peak Hour	PM	PM	PM	PM

Type of Traffic Control

Signalized	YES	YES	YES	YES
Unsignalized Stopped Crossroad	NO	NO	NO	NO
Unsignalized Through Road	NO	NO	NO	NO

Design Parameters

Design Speed	25	25	35	35
Turn Volume (vph)	51	144	45	229
Approach Volume (vph)	128	363	1728	1148
Turn Percentage	40%	40%	3%	20%
High or Low	HIGH	HIGH	LOW	HIGH
Applicable Design Condition (A, B or C)	A	A	A	A
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	2	5	2	8
Storage Length (ft)	100	200	100	325

Design Method

Condition A (Storage Only)	***Taper***	50	50	50	50
	Storage	100	200	100	325
	Total	**150**	**250**	**150**	**375**
Condition B (High Speed Decel Only)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Total	**-**	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-	-
	Decel Length	-	-	-	-
	Storage	-	-	-	-
	Total	**-**	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**100**	**200**	**100**	**325**
Required Turn Lane Length, including 50' taper (ft/lane) =	**150**	**250**	**150**	**375**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Through Lane Backup Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name: The Annex at Rocky Fork
Project Number: GALZAD - 14296
Compiled By: AMC - Trans Associates

Intersection: Hamilton Road @ Rocky Fork Dr N/Rocky Fork Blvd
Year: 2036
Condition: Build

General Information:

Approach	EB	WB	NB	SB
Number of Through Lanes	1	1	2	2

AM Peak Hour:

Through Volume (vph)	82	302	835	1437
Cycle Length (sec)	110	110	110	110
Cycles/Hour	33	33	33	33
Average Number of Vehicles/Cycle	3	10	26	44
Average Number of Vehicles/Cycle/Lane	3	10	13	22
Through Queue Backup (ft)	150	375	475	750

Midday Peak Hour:

Through Volume (vph)	60	146	969	957
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	2	5	33	32
Average Number of Vehicles/Cycle/Lane	2	5	17	16
Through Queue Backup (ft)	100	200	600	550

PM Peak Hour:

Through Volume (vph)	77	219	1683	919
Cycle Length (sec)	120	120	120	120
Cycles/Hour	30	30	30	30
Average Number of Vehicles/Cycle	3	8	57	31
Average Number of Vehicles/Cycle/Lane	3	8	29	16
Through Queue Backup (ft)	150	325	945	550

Through Queue Backup Length (ft/lane) =	**150**	**375**	**945**	**750**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name:	The Annex at Rocky Fork	**Intersection:**	Hamilton Road @ Existing Drive
Project Number:	GALZAD - 14296	**Year:**	2036
Compiled By:	AMC - Trans Associates	**Condition:**	Build

General Information:

Approach	SB	SB	SB
Movement	Left	Left	Left
Peak Hour	AM	Midday	PM

Type of Traffic Control

Signalized	NO	NO	NO
Unsignalized Stopped Crossroad	NO	NO	NO
Unsignalized Through Road	YES	YES	YES

Design Parameters

Design Speed	35	35	35
Turn Volume (vph)	85	90	80
Approach Volume (vph)	1788	1171	1234
Turn Percentage	5%	8%	6%
High or Low	LOW	LOW	LOW
Applicable Design Condition (A, B or C)	A	A	A
Cycle Length (sec)	60	60	60
Cycles/Hour	60	60	60
Average Number of Vehicles/Cycle	2	2	2
Storage Length (ft)	100	100	100

Design Method

Condition A (Storage Only)	***Taper***	50	50	50
	Storage	100	100	100
	Total	**150**	**150**	**150**
Condition B (High Speed Decel Only)	***Taper***	-	-	-
	Decel Length	-	-	-
	Total	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-
	Decel Length	-	-	-
	Storage	-	-	-
	Total	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**100**	**100**	**100**
Required Turn Lane Length, including 50' taper (ft/lane) =	**150**	**150**	**150**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Turn Lane Length Computation Worksheet
(Based on ODOT's Location Design Manual)

Project Name:	The Annex at Rocky Fork	**Intersection:**	Hamilton Road @ Shops Full Access
Project Number:	GALZAD - 14296	**Year:**	2036
Compiled By:	AMC - Trans Associates	**Condition:**	Build

General Information:

Approach	NB	NB	NB
Movement	Left	Left	Left
Peak Hour	AM	Midday	PM

Type of Traffic Control

Signalized	NO	NO	NO
Unsignalized Stopped Crossroad	NO	NO	NO
Unsignalized Through Road	YES	YES	YES

Design Parameters

Design Speed	35	35	35
Turn Volume (vph)	12	89	73
Approach Volume (vph)	1095	1202	1964
Turn Percentage	1%	7%	4%
High or Low	LOW	LOW	LOW
Applicable Design Condition (A, B or C)	A	A	A
Cycle Length (sec)	60	60	60
Cycles/Hour	60	60	60
Average Number of Vehicles/Cycle	1	2	2
Storage Length (ft)	50	100	100

Design Method

Condition A (Storage Only)	***Taper***	50	50	50
	Storage	50	100	100
	Total	**100**	**150**	**150**
Condition B (High Speed Decel Only)	***Taper***	-	-	-
	Decel Length	-	-	-
	Total	**-**	**-**	**-**
Condition C (Moderate Speed Deceleration & Storage)	***Taper***	-	-	-
	Decel Length	-	-	-
	Storage	-	-	-
	Total	**-**	**-**	**-**

Required Storage and/or Decel Length (ft/lane) =	**50**	**100**	**100**
Required Turn Lane Length, including 50' taper (ft/lane) =	**100**	**150**	**150**

Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

Source: January 2006 ODOT L& D Manual-Volume I: 401 - 9E, 401 -10E

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	NB	SB	SB	SB
Directions Served	R	T	TR	L	T	T
Maximum Queue (ft)	83	16	33	106	200	195
Average Queue (ft)	36	1	3	36	61	61
95th Queue (ft)	65	11	18	92	196	193
Link Distance (ft)	465	218	218		140	140
Upstream Blk Time (%)					8	8
Queuing Penalty (veh)					67	71
Storage Bay Dist (ft)				70		
Storage Blk Time (%)				1	10	
Queuing Penalty (veh)				8	9	

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	27	52	38	236	236
Average Queue (ft)	3	12	9	38	36
95th Queue (ft)	18	41	31	179	174
Link Distance (ft)	93	93		392	392
Upstream Blk Time (%)				0	0
Queuing Penalty (veh)				1	1
Storage Bay Dist (ft)			50		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			2		

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	117	135	302	478	104	164	158	294	485	396
Average Queue (ft)	47	50	193	150	46	64	76	67	270	223
95th Queue (ft)	97	102	296	334	87	132	149	171	428	371
Link Distance (ft)		182		636	109	109	109		552	552
Upstream Blk Time (%)				0	0	1	2		0	
Queuing Penalty (veh)				0	1	3	7		0	
Storage Bay Dist (ft)	100		255					355		
Storage Blk Time (%)	2	2	5	0					2	
Queuing Penalty (veh)	2	1	14	1					3	

Intersection: 8: Hamilton Rd & Annex RiRo

Movement	EB	NB	NB	SB
Directions Served	R	T	T	TR
Maximum Queue (ft)	33	20	34	17
Average Queue (ft)	1	1	2	1
95th Queue (ft)	14	9	18	9
Link Distance (ft)	99	392	392	109
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Annex Full Access & Rocky Fork Dr N

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	44	59
Average Queue (ft)	6	29
95th Queue (ft)	28	52
Link Distance (ft)	182	62
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 190

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	NB	SB	SB
Directions Served	R	T	TR	L	T
Maximum Queue (ft)	137	20	63	96	109
Average Queue (ft)	58	1	8	42	9
95th Queue (ft)	103	13	34	77	58
Link Distance (ft)	465	219	219		141
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)				70	
Storage Blk Time (%)				2	0
Queuing Penalty (veh)				12	0

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	112	106	91	143	25	13	27
Average Queue (ft)	74	49	41	9	1	0	2
95th Queue (ft)	126	95	76	62	18	5	14
Link Distance (ft)	93	93		141	141	392	392
Upstream Blk Time (%)	32	2		0	0		
Queuing Penalty (veh)	0	0		1	0		
Storage Bay Dist (ft)			50				
Storage Blk Time (%)			9	0			
Queuing Penalty (veh)			49	0			

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	98	106	193	143	56	145	157	144	244	176
Average Queue (ft)	34	40	88	58	20	58	77	60	97	63
95th Queue (ft)	81	89	159	108	48	120	147	110	198	141
Link Distance (ft)		182		634	106	106	106		552	552
Upstream Blk Time (%)						1	3			
Queuing Penalty (veh)						3	10			
Storage Bay Dist (ft)	100		255					355		
Storage Blk Time (%)	1	2	0							
Queuing Penalty (veh)	1	1	0							

Intersection: 8: Hamilton Rd & Annex RiRo

Movement	EB	NB	NB
Directions Served	R	T	T
Maximum Queue (ft)	11	14	28
Average Queue (ft)	0	0	1
95th Queue (ft)	8	8	14
Link Distance (ft)	99	392	392
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Annex Full Access & Rocky Fork Dr N

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	34	62
Average Queue (ft)	2	29
95th Queue (ft)	17	54
Link Distance (ft)	182	62
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 77

Intersection: 2: Hamilton Rd & Existing Drive

Movement	WB	NB	NB	SB	SB	SB
Directions Served	R	T	TR	L	T	T
Maximum Queue (ft)	168	51	54	107	150	84
Average Queue (ft)	71	3	12	49	18	3
95th Queue (ft)	129	24	39	89	90	35
Link Distance (ft)	465	218	218		140	140
Upstream Blk Time (%)					0	0
Queuing Penalty (veh)					3	0
Storage Bay Dist (ft)				70		
Storage Blk Time (%)				10	0	
Queuing Penalty (veh)				58	0	

Intersection: 3: Hamilton Rd & Shops Full Access

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	108	89	71	76	16	24	19
Average Queue (ft)	66	39	33	3	1	1	1
95th Queue (ft)	115	72	62	28	11	13	10
Link Distance (ft)	93	93		140	140	392	392
Upstream Blk Time (%)	18	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (ft)			50				
Storage Blk Time (%)			3				
Queuing Penalty (veh)			32				

Intersection: 4: Hamilton Rd & Rocky Fork Dr N/Rocky Fork Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	115	154	211	260	52	186	180	246	247	217
Average Queue (ft)	43	58	104	126	22	160	165	125	114	80
95th Queue (ft)	87	116	184	223	50	191	184	217	204	166
Link Distance (ft)		182		634	106	106	106		552	552
Upstream Blk Time (%)		0				29	32			
Queuing Penalty (veh)		0				167	184			
Storage Bay Dist (ft)	100		255					355		
Storage Blk Time (%)	1	5		1						
Queuing Penalty (veh)	1	3		1						

Intersection: 8: Hamilton Rd & Annex RiRo

Movement	NB	NB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	263	272	8
Average Queue (ft)	77	94	0
95th Queue (ft)	190	206	5
Link Distance (ft)	392	392	106
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Annex Full Access & Rocky Fork Dr N

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	63
Average Queue (ft)	3	29
95th Queue (ft)	18	55
Link Distance (ft)	182	62
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 449