

TRAFFIC IMPACT STUDY

FOR

Bells Ferry Road Residential Development

Kennesaw, GA

Prepared For:

Jim Chapman Communities, Inc.
2700 Cumberland Parkway
Suite 130
Atlanta, GA 30339-4089

Prepared by:



2470 Sandy Plains Rd
Marietta, Georgia 30066

May 8, 2018

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
INTRODUCTION	1
PROJECT DESCRIPTION	2
EXISTING TRAFFIC CONDITIONS	2
Roadway Conditions	2
Existing Traffic Patterns	3
Level of Service Methodology	5
Existing Conditions Level of Service.....	6
FUTURE CONDITONS - WITHOUT PROPOSED DEVELOPMENT (NO BUILD).....	6
Historical Growth Rates.....	6
Future No Build Traffic Volumes.....	7
Future No Build Level of Service	7
PROPOSED DEVELOPMENT	9
Trip Generation	9
Trip Distribution and Assignment.....	9
FUTURE CONDITONS - WITH PROPOSED DEVELOPMENT (BUILD).....	11
Future Build Traffic Volumes	11
Future Build Level of Service.....	11
Intersection Control Evaluation.....	13
CONCLUSIONS AND RECOMMENDATIONS.....	13

LIST OF TABLES

Table 1: Level of Service for Unsignalized Intersections 5
Table 2: Level of Service for Signalized Intersections 6
Table 3: Existing Year 2018 - Level of Service 6
Table 4: Historical Growth Rate 7
Table 5: Future No Build - Level of Service 7
Table 6: Trip Generation 9
Table 7: Future Build – Level of Service.....11
Table 8: Level of Service Comparison.....13

LIST OF FIGURES

Figure 1: Location Map 1
Figure 2: Aerial View of Study Area..... 3
Figure 3: Existing TMC..... 4
Figure 4: No Build TMC..... 8
Figure 5: Trip Distribution and Assignment.....10
Figure 6: Build TMC12

APPENDICIES

- Appendix A: Site Development Plan
- Appendix B: Traffic Count Summary Sheets
- Appendix C: Synchro Reports

EXECUTIVE SUMMARY

This traffic impact study focuses on Bells Ferry Road, the study intersections, and the effect the proposed development will have on the key intersections. Bells Ferry Road between North Booth Road and Heck Road typically serves over 15,000 vehicles per day.

The proposed Bells Ferry Road residential development features a similar land use to the land uses in surrounding area. This analysis provides guidance on how the nearby intersections will operate once the development's generated trips are added to Bells Ferry Road.

Site generate traffic was added to the future traffic volumes to determine if the nearby intersections will continue to operate acceptably in the future with the added site traffic volumes. The site driveway is expected to experience significant delays and is not expected to operate acceptably in the PM peak period due to the lack of gaps on Bells Ferry Road.

Due to the undesirable levels of service at the site driveway with a conventional intersection control, the intersection was evaluated as a High-T. By implementing a High-T, the conflict between northbound through traffic and left turning site traffic would be eliminated by the restriction method between the two northbound receiving lanes.

The site driveway intersection would also be a great candidate for a High-T since the location is the widening point of Bells Ferry Road. Instead of having a merging southbound lane, the right-most lane could be designed as a drop / auxiliary lane. Since the northbound lane expands into two northbound lanes, northbound traffic prior to the intersection could be restricted to the existing lane which would allow for a dedicated receiving lane for the left turning vehicles. Weaving can be allowed once it is safe.

The proposed residential development does not negatively impact the study intersections as the operations will remain at acceptable levels of service. The proposed site driveway in the PM peak period under a conventional intersection control can operate acceptably with the implementation of a High--T.

This report's findings indicate that the existing roadway network will continue to operate within the same parameters after the proposed development has been built. Based on capacity, Bells Ferry Road is capable of receiving the added traffic. For operations, the nearby intersections are capable of absorbing the development's impacts without significant negative results to delay. Based on operations and safety, it is this study's recommendation to implement a High-T as the site's intersection with Bells Ferry Road.

INTRODUCTION

Southeastern Engineering Inc. (SEI) has conducted a traffic impact study for Jim Chapman Communities to determine the traffic impacts expected from the construction of a proposed residential development on Bells Ferry Road in Kennesaw, Georgia. The development is expected to be completed by 2022. The proposed development will be located on Bels Ferry Road between Heck Road and North Booth Road, as shown in **Figure 1**.



Figure 1: Location Map

Peak hour traffic projections were analyzed using the methodologies contained in the Highway Capacity Manual, 6th Edition (HCM) by the Transportation Research Board. Based on traffic volumes and results of the capacity analysis, recommendations for the required lane geometry and traffic control were developed for the study area. The following paragraphs summarize the results of this analysis.

PROJECT DESCRIPTION

The majority of the proposed project site is currently undeveloped. The proposed development has a total of 178 senior adult living (55+) homes. The site is located west side of Bells Ferry between North Booth Road and Heck Road. One entrance/exit will be located on Bells Ferry Road. The proposed site plan can be found in **Appendix A**.

EXISTING TRAFFIC CONDITIONS

Primarily, this traffic impact study focuses on Bells Ferry Road, the study intersections, and the effect the proposed development will have on the key intersections. Capacity analyses and level of service evaluations of the study area intersections were conducted for the existing condition and future condition with and without the proposed development. These analyses were used to determine potential improvements as recommended to mitigate any traffic issues resulting from traffic impact caused by the proposed development.

Roadway Conditions

The roadway network was examined to evaluate the existing roadway conditions adjacent to the proposed site. An aerial of the study area can be seen in **Figure 2**.

Bells Ferry Road

The proposed site will have one access point on Bells Ferry Road. Bells Ferry Road is functionally classified as a two-lane / four-lane urban minor arterial. It has posted speed limit of 45 mph near the site location. Near the site entrance, Bells Ferry Road widens from two lanes to four lanes. No sidewalks, curb and gutter, and little to no shoulder can be found near the project site. The closest traffic signal is located at the intersection of Bells Ferry Road and North Booth Road, which is around 800 feet south of the site's proposed driveway.

I-575 N & S Ramps

The north and south ramps are spaced around 850 feet apart. I-575 is a bypass of I-75 meant to provide a limited access route for Cherokee County residents as well for some Cobb County residents. Both ramp intersections are signalized.

North Booth Road & Heck Road

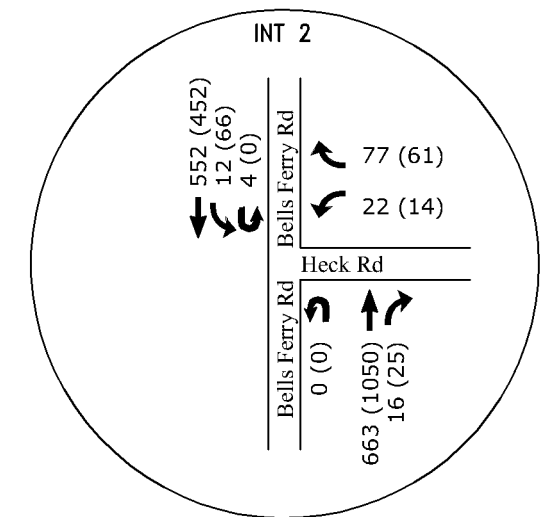
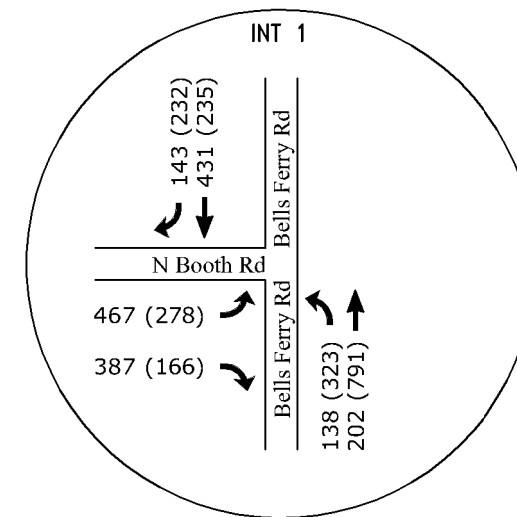
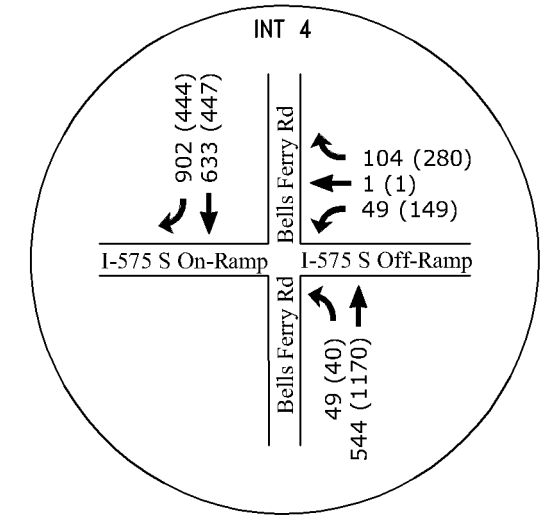
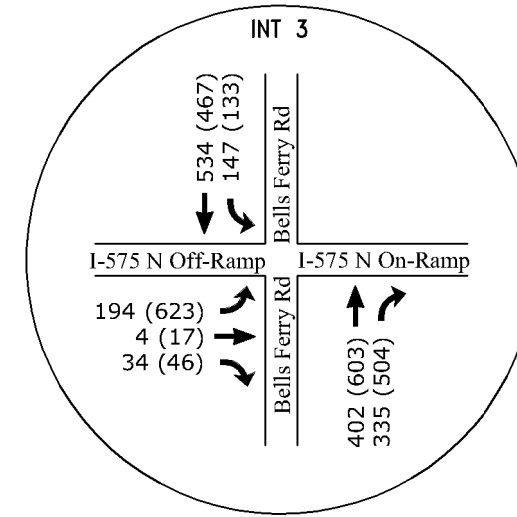
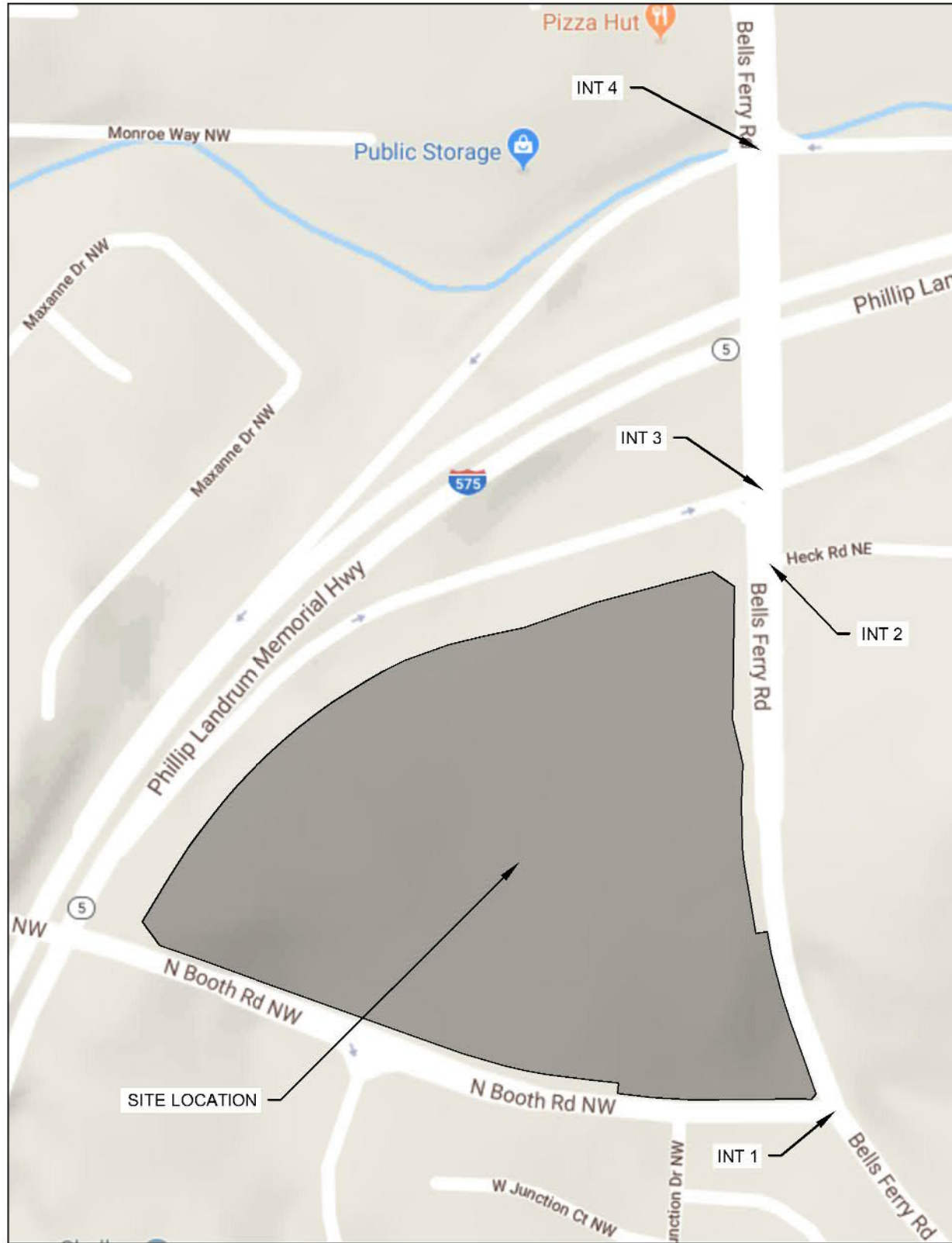
North Booth Road and Heck Road are both classified as urban local roads. Heck Road serves residential traffic while North Booth Road serves residential and institutional traffic from the nearby elementary school and middle school. Heck Road posted at 25 mph while North Booth Road is posted at 35 mph. North Booth Road also features sidewalk, as well as curb and gutter, on the south-side.



Figure 2: Aerial View of Study Area

Existing Traffic Patterns

Bells Ferry Road between North Booth Road and Heck Road typically serves over 15,000 vehicles per day. The traffic at this location has a northbound directional-bias which is most evident during the PM peak hours when nearly 70% of the traffic is heading northbound. A large percentage of traffic travels northbound to reach I-575 and to access the nearby communities. AM and PM peak hour volumes at the study intersections are shown in **Figure 3**. The collected traffic counts were used to analyze existing and future conditions within the study area, as well as to determine the distribution and assignment of the trips generated by the site. The traffic data count sheets are included in **Appendix B**.



Legend: AM (PM)

DRAWING NAME: I:\CUSTOMERS\PROJECTS\731 Jim Chapman Pine Homes, LLC\731-18-038 Bells Ferry\Traffic\DWG\Figures.dwg
PLOT DATE: TIME: May 04, 2018 9:47 AM
PRINTED BY: DANIEL PINO-CHAVARRA

PROPERTY AND EX. R/W LINE		STORM LINE	
REQUIRED R/W LINE		TELEPHONE LINE	
CONSTRUCTION LIMITS		OH POWER LINE	
PERMANENT EASEMENT FOR MAINTENANCE		UG POWER LINE	
TEMPORARY EASEMENT FOR CONSTRUCTION		WATER LINE	
EASEMENT FOR CONSTRUCTION OF DRIVEWAYS		FIBER OPTIC LINE	
PERMANENT DRAINAGE EASEMENT		GAS LINE	
		SANITARY SEWER LINE	
		LIGHTING CONDUIT	
		RETAINING WALL	
		LIMIT OF DISTURBANCE	

FIGURE 3



EXISTING (2018) PEAK HOUR VOLUMES

REVISION DATES	

DATE:	
BELLS FERRY RESIDENTIAL DEVELOPMENT	
SHEET NO.	

Level of Service Methodology

Intersection capacity analyses were performed using the methodology outlined in the Highway Capacity Manual, 6th Edition (HCM). This methodology is the industry standard for the evaluation of intersection capacity and delay. In order to facilitate the analysis, the computer software Synchro was used. This software conforms to the methodology of the HCM.

An analysis of existing peak hour traffic conditions was performed to determine the level of service (LOS) at the study intersections. LOS for an intersection is based on vehicular delay at the intersection and is a typical measure of effectiveness used to evaluate intersection operations. The HCM provides ranges of delay for each LOS definition, spanning from very minimal delays (LOS A) to high delays (LOS F). LOS F is considered unacceptable for most drivers.

For unsignalized intersections where side streets or minor streets are controlled by a stop sign, the criterion for evaluating traffic operations is the LOS for the controlled turning movements at the intersection. Methodology from the HCM to determine the delay and LOS for these turning movements is based on the following input data:

- Intersection geometry
- Lane configuration
- Turning movement volumes

For the signalized intersections, Synchro software was used to determine LOS, based on the following input data:

- Intersection geometry
- Lane configuration
- Turning movement volumes
- Existing traffic signal timing

For this study, a signal was only analyzed in the future condition.

Table 1 and **Table 2** below indicate the relationship between delay and level of service for unsignalized and signalized intersections.

Table 1: Level of Service for Unsignalized Intersections

Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Table 2: Level of Service for Signalized Intersections

Level of Service	Control Delay Per Vehicle (sec)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Existing Conditions Level of Service

Synchro 10 was used to estimate LOS under existing and future conditions using the HCM methodology. The results of the existing intersection capacity analyses are summarized in **Table 3** and the detailed results can be seen in **Appendix C**. Under existing conditions, all 4 intersections operate acceptably.

Table 3: Existing Year 2018 - Level of Service

Intersection	Type of Control	Overall or Approach	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Bells Ferry Rd & N Booth Rd	Signal	Overall	36 (D)	29 (C)
Bells Ferry Rd & Heck Rd	Side Street Stop	Westbound	16 (C)	25 (C)
Bells Ferry Rd & I-575 North	Signal	Overall	18 (B)	29 (C)
Bells Ferry Rd & I-575 South	Signal	Overall	9 (A)	31 (C)

FUTURE CONDITONS - WITHOUT PROPOSED DEVELOPMENT (NO BUILD)

In order to assess the true impact of the development, the future traffic conditions without the proposed development (No Build) were analyzed.

Historical Growth Rates

To estimate future traffic volumes, the existing traffic volumes were increased to account for background traffic growth not related directly to the proposed development. In order to determine this average annual growth factor, four nearby Georgia Department of Transportation (GDOT) count stations were analyzed. The five-year, ten-year, and fifteen-year historical traffic trends are shown in **Table 4**.

Table 4: Historical Growth Rate

Station	Location	5-Year Growth Rate	10-Year Growth Rate	15-Year Growth Rate
670905	Bells Ferry Rd north of I-575 South	N/A	9.4%	0.3%
067r157	I-575 North off-ramp	1.6%	-1.8%	-1.7%
067r158	I-575 North on-ramp	7.6%	2.4%	-2.7%
670885	Chastain Rd west of Bells Ferry Rd	1.9%	2.4%	-0.7%
5-Year, 10-Year, and 15-Year Averages		3.7%	3.1%	-1.2%
Weighted Average		2.2%		

Future No Build Traffic Volumes

The future (2022) traffic volumes were determined by applying the annual exponential growth rate over 4 years to the existing background traffic volumes. The future traffic volumes with the background traffic are shown in **Figure 4**. Due to the expected growth in the area, daily traffic volumes on Bells Ferry Rd are to rise to over 17,000 vehicles.

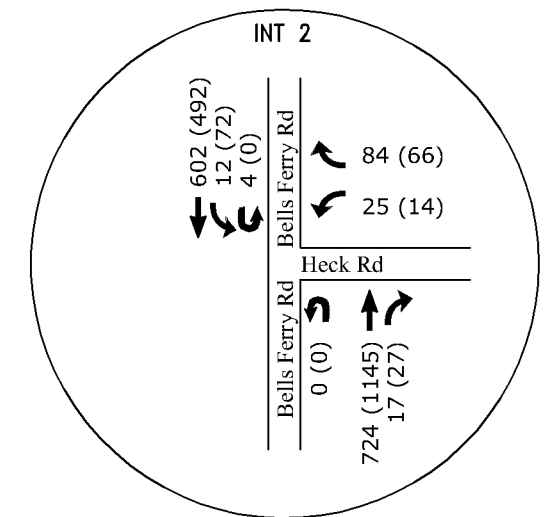
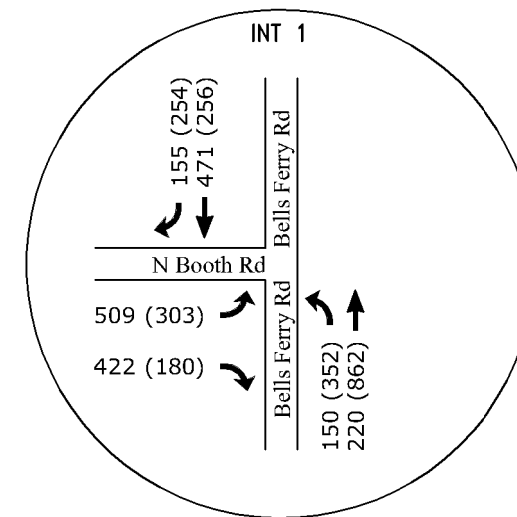
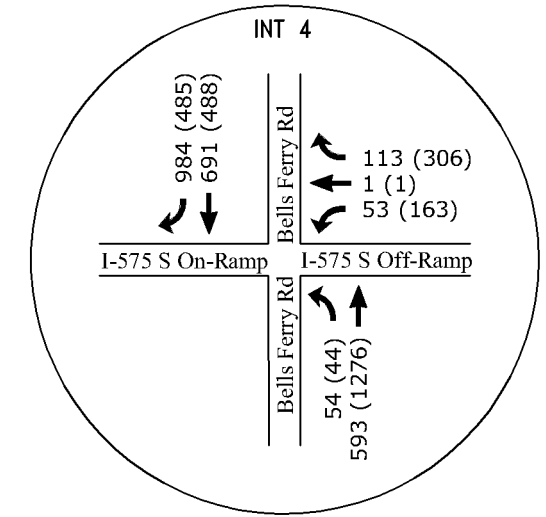
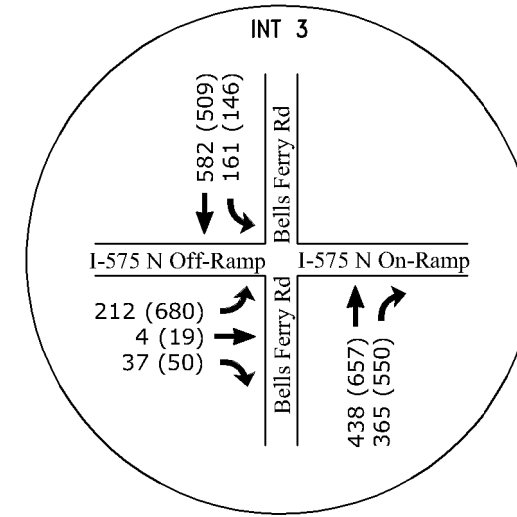
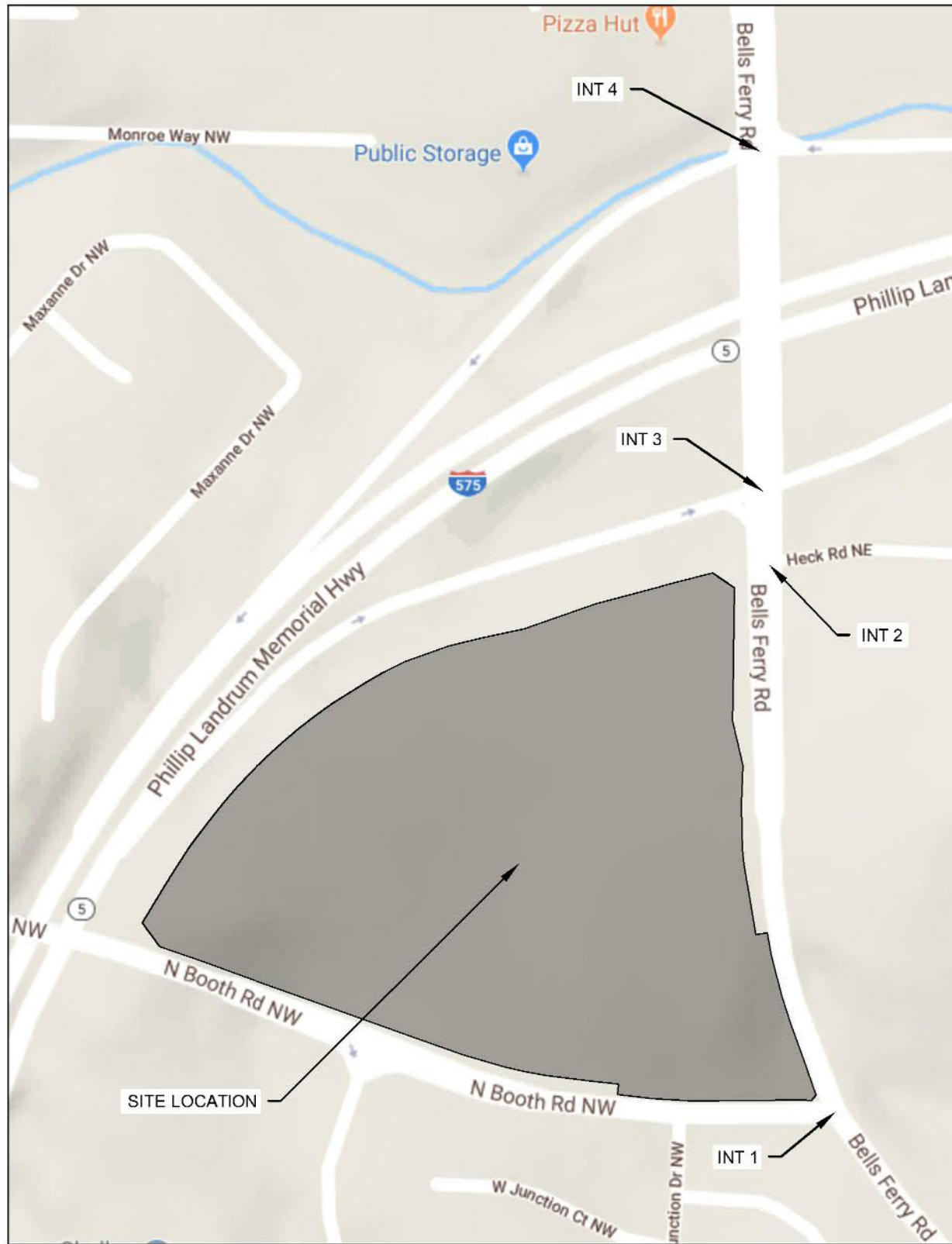
Future No Build Level of Service

The level of service for the future No Build condition was determined using the same methods as discussed previously in the Existing Conditions Level of Service section. Intersection capacity analyses were performed for the existing roadway geometry and future traffic volumes shown in **Figure 4**.

The results of the intersection capacity analysis for the future No Build year are summarized in **Table 5**, and the detailed results can be seen in **Appendix C**. Under no build conditions, the four study intersections on Bells Ferry Road are expected to operate at an acceptable LOS during the AM and PM peak hours.

Table 5: Future No Build - Level of Service

Intersection	Type of Control	Overall or Approach	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Bells Ferry Rd & N Booth Rd	Signal	Overall	41 (D)	37 (D)
Bells Ferry Rd & Heck Rd	Side Street Stop	Westbound	17 (C)	30 (D)
Bells Ferry Rd & I-575 North	Signal	Overall	18 (B)	30 (C)
Bells Ferry Rd & I-575 South	Signal	Overall	10 (A)	33 (C)



Legend: AM (PM)

DRAWING NAME: I:\CUSTOMERS\PROJECTS\731 Jim Chapman Pine Homes, LLC\731-18-038 Bells Ferry\Traffic\DWG\Figures.dwg
PLOT DATE: TIME: May 04, 2018 9:48 AM
PRINTED BY: DANIEL PINO-CHAVARRA

PROPERTY AND EX. R/W LINE		STORM LINE	
REQUIRED R/W LINE		TELEPHONE LINE	
CONSTRUCTION LIMITS		OH POWER LINE	
PERMANENT EASEMENT FOR MAINTENANCE		UG POWER LINE	
TEMPORARY EASEMENT FOR CONSTRUCTION		WATER LINE	
EASEMENT FOR CONSTRUCTION OF DRIVEWAYS		FIBER OPTIC LINE	
PERMANENT DRAINAGE EASEMENT		GAS LINE	
		SANITARY SEWER LINE	
		LIGHTING CONDUIT	
		RETAINING WALL	
		LIMIT OF DISTURBANCE	

FIGURE 4



NO BUILD (2022) PEAK HOUR VOLUMES

REVISION DATES	

DATE:	
BELLS FERRY RESIDENTIAL DEVELOPMENT	
SHEET NO.	

PROPOSED DEVELOPMENT

The proposed development is a residential site with 178 senior adult living (55+) homes in Cobb County by the full build out year of 2022. The entire development was analyzed as occurring under one phase of construction. The trips generated by the site are expected to impact the four study intersections.

Trip Generation

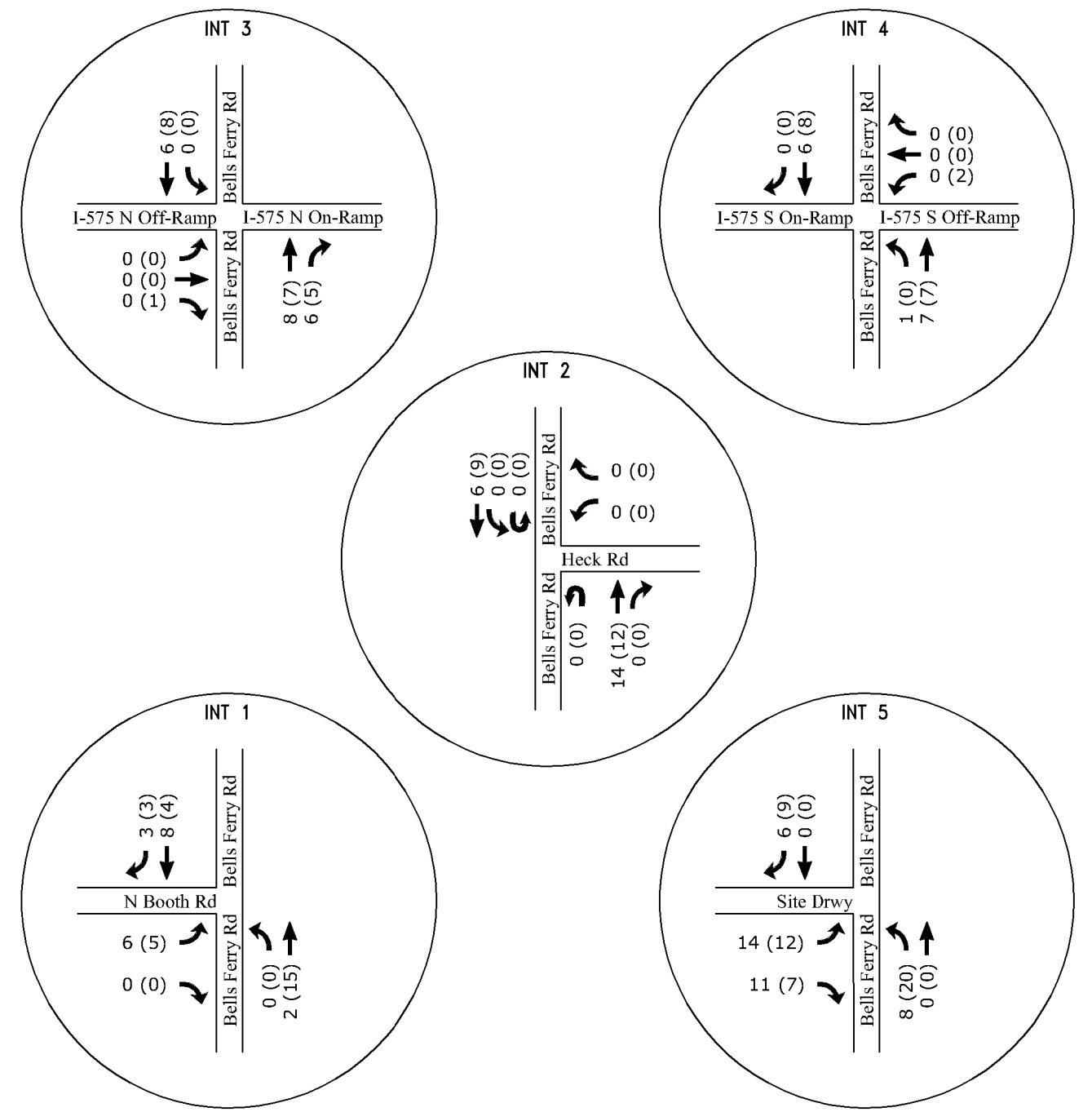
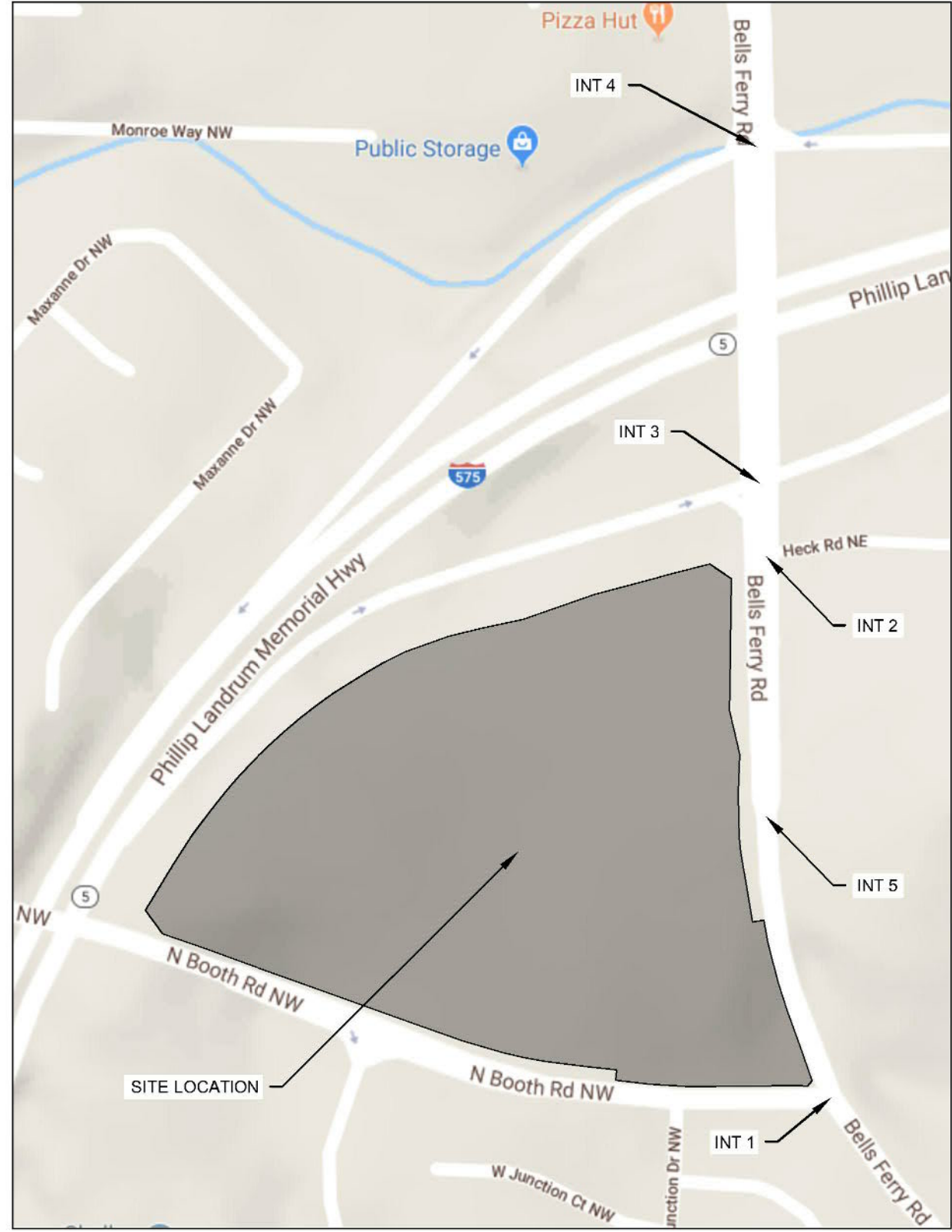
The expected number of gross trips for this development was determined using Trip Generation software. The process estimates trips generated by the proposed land use in accordance with the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition, 2012. Due to the nature of the proposed development, no internal capture or pass-by trips will be present. The trip generation summary can be seen in **Table 6** below.

Table 6: Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour			Daily Traffic		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Senior Adult Living	178	14	25	39	29	19	48	328	327	655
Volume Added to Adjacent Streets	-	14	25	39	29	19	48	328	327	655

Trip Distribution and Assignment

The trip distribution for the proposed development has been determined based on the existing traffic flow patterns experienced in the area as both the site and surrounding land use are primarily residential. The site-generated traffic was assigned to the study intersections according to the expected trip distribution. These traffic volumes are shown in **Figure 5**.



Legend: AM (PM)

DRAWING NAME: I:\CUSTOMERS\PROJECTS\731 Jim Chapman Pine Homes, LLC\731-18-038 Bells Ferry\Traffic\DWG\051 Figures.dwg
PLOT DATE: TIME: May 08, 2018 4:01 PM
PRINTED BY: DANIEL PINO-CHAMORRA

PROPERTY AND EX. R/W LINE		STORM LINE	
REQUIRED R/W LINE		TELEPHONE LINE	
CONSTRUCTION LIMITS		OH POWER LINE	
PERMANENT EASEMENT FOR MAINTENANCE		UG POWER LINE	
TEMPORARY EASEMENT FOR CONSTRUCTION		WATER LINE	
EASEMENT FOR CONSTRUCTION OF DRIVEWAYS		FIBER OPTIC LINE	
PERMANENT DRAINAGE EASEMENT		GAS LINE	
		SANITARY SEWER LINE	
		LIGHTING CONDUIT	
		RETAINING WALL	
		LIMIT OF DISTURBANCE	

FIGURE 5

SOUTHEASTERN ENGINEERING, INC.
2470 Sandy Plains Road
Marietta, Georgia 30066
Tel: 770-321-3936
www.seengineering.com

SITE GENERATED PEAK HOUR VOLUMES

REVISION DATES	

DATE: _____

BELLS FERRY RESIDENTIAL DEVELOPMENT

SHEET NO. _____

FUTURE CONDITONS - WITH PROPOSED DEVELOPMENT (BUILD)

Future Build Traffic Volumes

The future volumes were determined by adding the site-generated traffic estimated for the proposed development to the no build traffic volumes. The future build (2022) traffic patterns are shown in **Figure 6**.

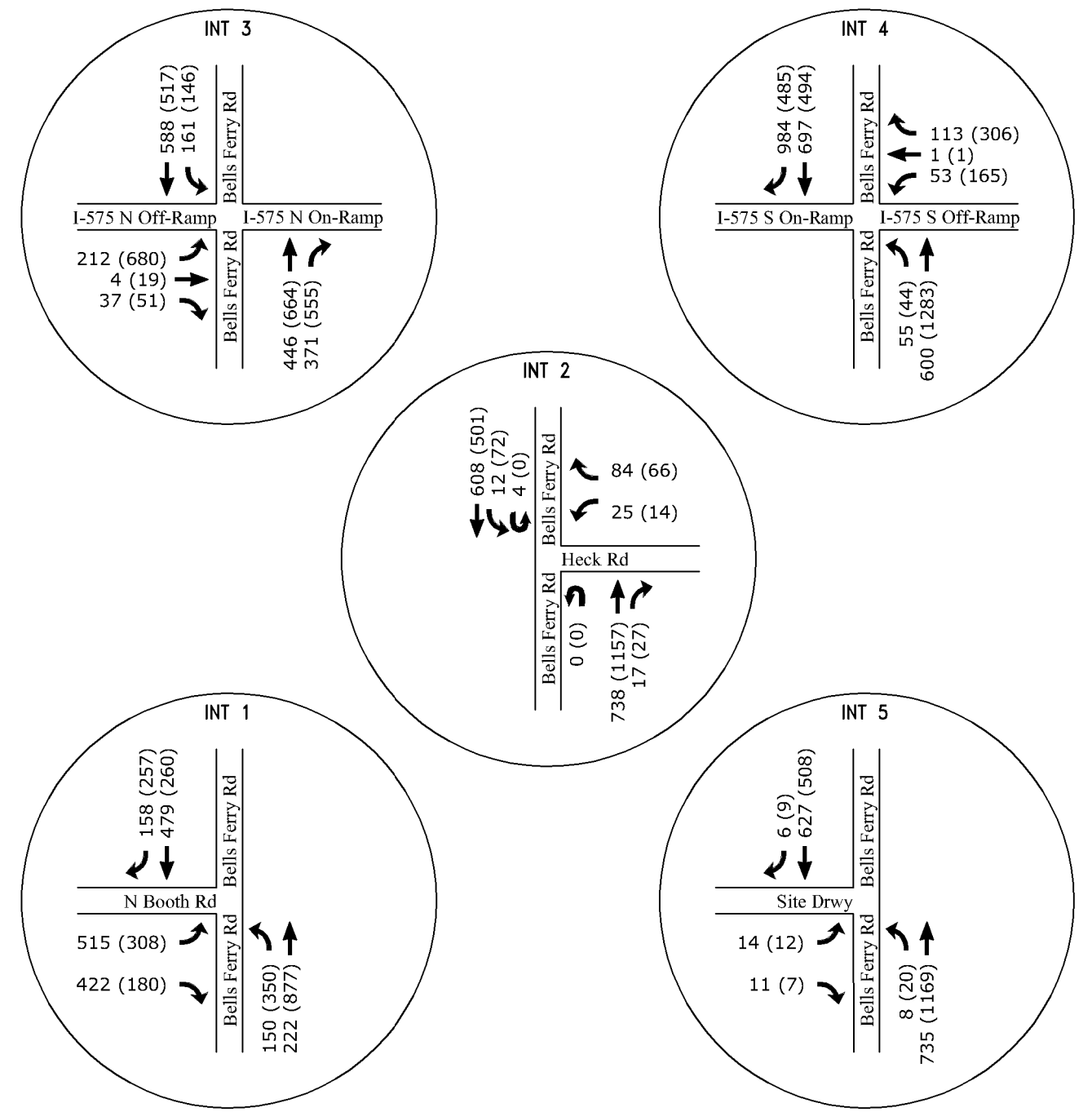
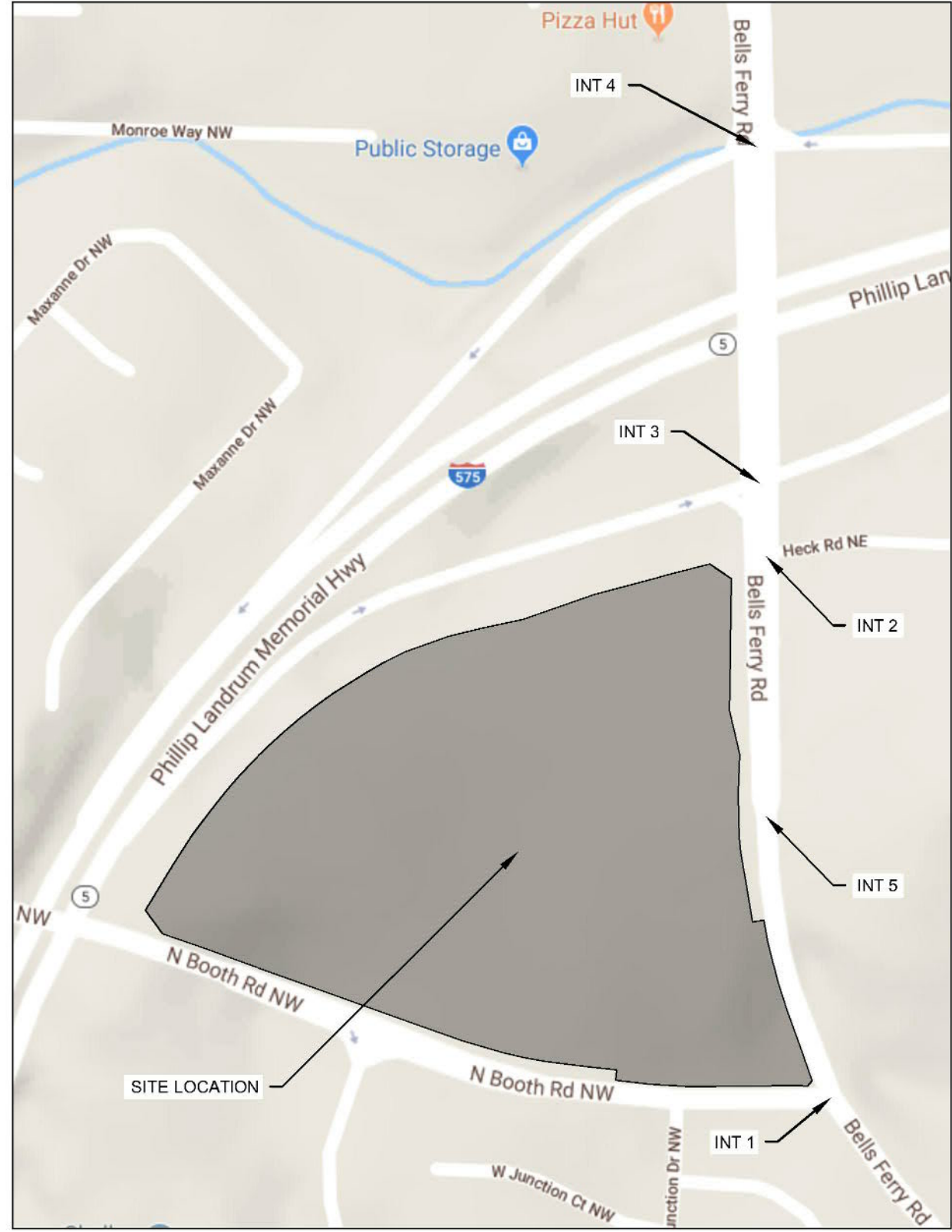
Future Build Level of Service

The level of service for the future condition with the proposed development was determined using the same methods as discussed previously in the Existing Condition-Level of Service section. Intersection capacity analyses were performed on calculated future traffic volumes with the proposed development. The results of the intersection capacity analysis for the future year with the development are summarized in **Table 7** and the detailed results can be seen in **Appendix C**. A Level of Service rating of D or above is considered acceptable for appropriate intersection operations.

Table 7: Future Build – Level of Service

Intersection	Type of Control	Overall or Approach	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Bells Ferry Rd & N Booth Rd	Signal	Overall	47 (D)	32 (C)
Bells Ferry Rd & Site Driveway	Side Street Stop	Eastbound	26 (D)	42 (E)
Bells Ferry Rd & Heck Rd	Side Street Stop	Westbound	17 (C)	31 (D)
Bells Ferry Rd & I-575 North	Signal	Overall	18 (B)	29 (C)
Bells Ferry Rd & I-575 South	Signal	Overall	9 (A)	32 (C)

The results of the LOS analysis show that Bells Ferry at the Site Driveway is the only intersection that does not operate acceptably under the build condition, and it is specifically during the PM peak period. The large delays coming out of the development are due to the high volume of vehicles heading north on Bells Ferry Road, therefore limiting the number of gaps available for left turning vehicles. The rest of the intersections continue to operate acceptably during the build scenario.



Legend: AM (PM)

DRAWING NAME: I:\CUSTOMERS\PROJECTS\731 Jim Chapman Pine Homes, LLC\731-18-038 Bells Ferry\Traffic\DWG\051\Figures.dwg
 PLOT DATE: TIME: May 08, 2018 6:02 PM
 PRINTED BY: DANIEL PINO-CHAMORRA

PROPERTY AND EX. R/W LINE		STORM LINE	
REQUIRED R/W LINE		TELEPHONE LINE	
CONSTRUCTION LIMITS		OH POWER LINE	
PERMANENT EASEMENT FOR MAINTENANCE		UG POWER LINE	
TEMPORARY EASEMENT FOR CONSTRUCTION		WATER LINE	
EASEMENT FOR CONSTRUCTION OF DRIVEWAYS		FIBER OPTIC LINE	
PERMANENT DRAINAGE EASEMENT		GAS LINE	
		SANITARY SEWER LINE	
		LIGHTING CONDUIT	
		RETAINING WALL	
		LIMIT OF DISTURBANCE	

FIGURE 6



BUILD (2022) PEAK HOUR VOLUMES

REVISION DATES	

DATE: _____

BELLS FERRY RESIDENTIAL DEVELOPMENT

SHEET NO. _____

Intersection Control Evaluation

Since a conventional intersection control does not provide desired levels of service at the site driveway, an alternate intersection control was evaluated. Since auxiliary lanes to the site would be implemented, modifying the conventional intersection control into a High-T would allow for acceptable levels of service for the site driveway. A High-T is the unsignalized equivalent of a Continuous Green-T. They both function by maintaining a through movement as free-flow, in this case the northbound through movement, while also providing a protected receiving lane for the side street left turning vehicles, in this case the eastbound left movement. By removing the eastbound left and northbound through conflict at the intersection, the gaps available to the side street left turning vehicles increases. Since the intersection's delay is based on the worst approach delay, then this would allow the proposed intersection to operate acceptably. The levels of service comparison between the conventional intersection and the High-T are summarized in **Table 8**. Detailed results can be found in **Appendix C**.

Table 8: Level of Service Comparison

Intersection	Type of Control	Overall or Approach	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)
Bells Ferry Rd & Site Driveway	Side Street Stop	Eastbound	26 (D)	42 (E)
Bells Ferry Rd & Site Driveway	High-T	Eastbound	14 (B)	12 (B)

CONCLUSIONS AND RECOMMENDATIONS

The proposed Bells Ferry Road residential development features a similar land use to the land uses in surrounding area. This analysis provides guidance on how the nearby intersections will operate once the development's generated trips are added to Bells Ferry Road.

Site generate traffic was added to the future traffic volumes to determine if the nearby intersections will continue to operate acceptably in the future with the added site traffic volumes. The site driveway is expected to experience significant delays and is not expected to operate acceptably in the PM peak period due to the lack of gaps on Bells Ferry Road.

Due to the undesirable levels of service at the site driveway with a conventional intersection control, the intersection was evaluated as a High-T. By implementing a High-T, the conflict between northbound through traffic and left turning site traffic would be eliminated by the restriction method between the two northbound receiving lanes. The site driveway intersection would also be a great candidate for a High-T since the location is the widening point of Bells Ferry Road. Instead of having a merging southbound lane, the right-most lane could be designed as a drop / auxiliary lane. Since the northbound lane expands into two northbound lanes, northbound traffic prior to the intersection could be restricted to the existing lane which would allow for a dedicated receiving lane for the left turning vehicles. Weaving can be allowed once it is safe.

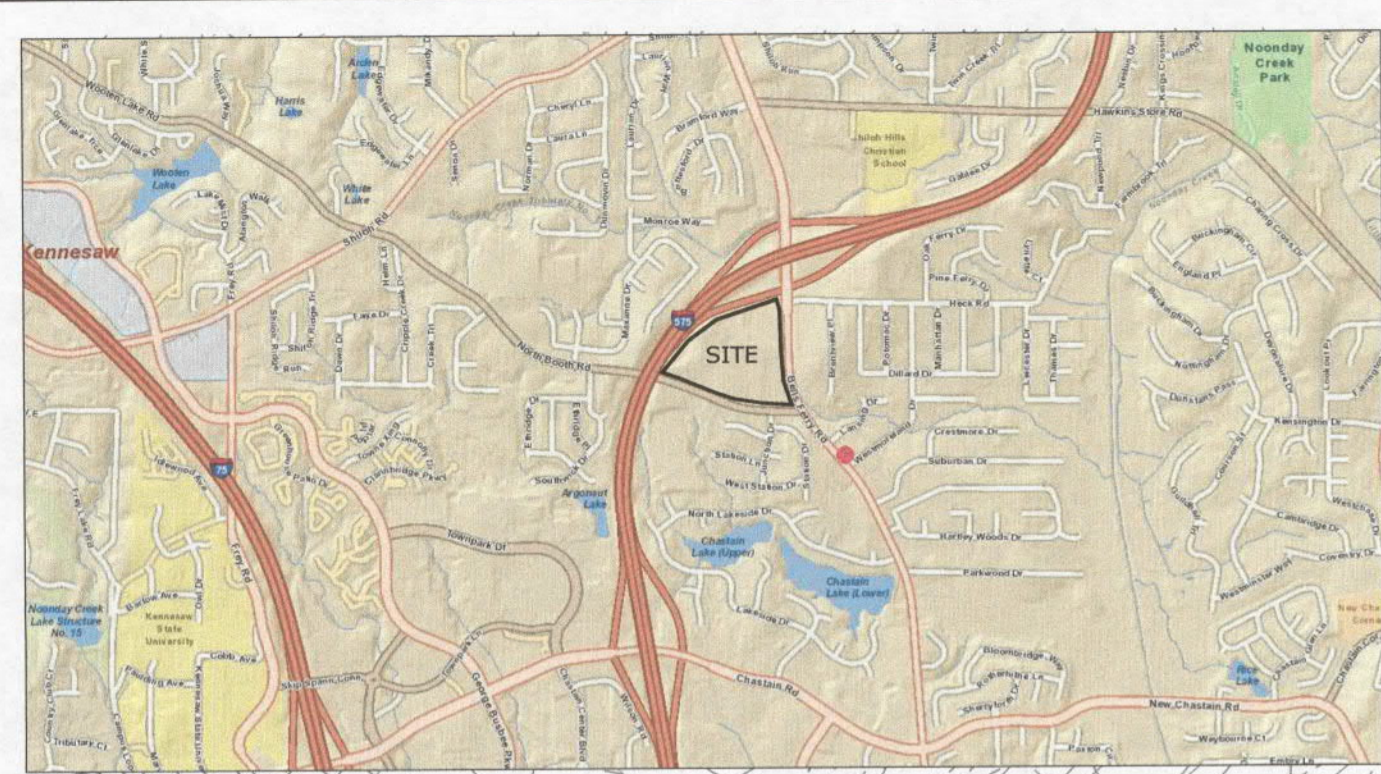
The proposed residential development does not negatively impact the study intersections as the operations will remain at acceptable levels of service. The proposed site driveway in the PM peak period under a conventional intersection control can operate acceptably with the implementation of a High-T.

Traffic Impact Study Appendices

- Appendix A
 - Site Development Plan
- Appendix B
 - Traffic Count Summary Sheets
- Appendix C
 - Existing Synchro Reports
 - No Build Synchro Reports
 - Future Synchro Reports
 - High-T Synchro Report

Appendix A
Site Development Plan

FILE NAME: I:\CUSTOMERS_PROJECTS\731 Jim Chapman Fine Homes, LLC\731-18-038 Bells Ferry\Recon\731-18-038 C_Site Plan 4 - 5' Isl.dwg PLOT STYLE: SEI-LAND-C.dwg PLOT DATE: 4/9/2018 USER: NATHAN ADRIAN



SITE DATA	
OWNER/DEVELOPER:	JIM CHAPMAN COMMUNITIES 2700 CUMBERLAND PARKWAY SUITE 130 ATLANTA, GA 30339-4089
ENGINEER/SURVEYOR:	SOUTHEASTERN ENGINEERING, INC. 2470 SANDY PLAINS ROAD MARIETTA, GA 30066 PHONE: 770.321.3936
BOUNDARY:	COBB COUNTY TAX PARCEL DATA
TOPOGRAPHY:	COBB COUNTY GIS DATA
PARCEL ID #s:	16028400020, 16028400010, 16028500010
SITE AREA:	35.8 AC.
NUMBER OF LOTS:	178
DENSITY:	178 LOTS / 35.8 ACRES = 4.97 UNITS PER ACRE
FLOOD INFO:	THIS SITE NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE PER FEMA FLOOD PANELS # 13067C0041H, DATED 3/4/2013.
PROPOSED ZONING:	RSL NON-SUPPORTIVE
DEVELOPMENT STANDARDS:	MAX. DENSITY: 5.0 UNITS PER ACRE EXTERIOR LANDSCAPE BUFFER: 10' MIN. BUILDING SETBACK ADJ PUBLIC ROAD: 20' MIN. SIDE SETBACK: 5' MIN. SETBACK BETWEEN STRUCTURES: 10' REAR SETBACK: 0' MAX IMPERVIOUS TOTAL SITE: 55%

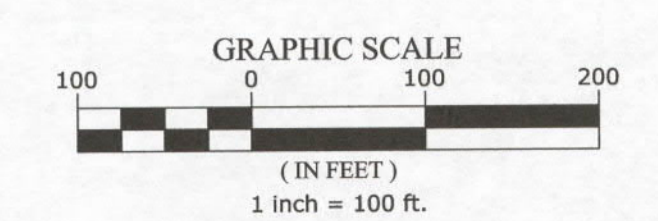
89 - 40' WIDE LOTS - 50%
89 - 50' WIDE LOTS - 50%

ZONING LEGAL DESCRIPTION


ALL THAT TRACT or parcel of land lying and being in Land Lots 284 and 285 of the 16th District, 2nd Section of Cobb County, Georgia and being more particularly described as follows:

BEGINNING at a point at the intersection of the Westerly variable right-of-way of Bells Ferry Road and the Northerly right-of-way of North Booth Road; THENCE proceeding along said right-of-way of North Booth Road; THENCE along a curve to the left an arc length of 543.48 feet (said curve having a radius of 4186.40 feet and a chord bearing of SOUTH 88 DEGREES 02 MINUTES 39 SECONDS EAST a distance of 543.10 feet) to a point; THENCE along a reverse curve to the right an arc length of 543.48 feet (said curve having a radius of 4186.40 feet and a chord bearing of NORTH 88 DEGREES 02 MINUTES 39 SECONDS WEST and a chord distance of 543.10 feet) to a point; THENCE proceeding NORTH 05 DEGREES 52 MINUTES 29 SECONDS EAST a distance of 42.20 feet to a point; THENCE proceeding NORTH 83 DEGREES 57 MINUTES 50 SECONDS WEST a distance of 85.74 feet to a point; THENCE along a curve to the right an arc length of 385.27 feet (said curve having a radius of 1373.87 feet and a chord bearing of NORTH 76 DEGREES 12 MINUTES 16 SECONDS WEST and a chord distance of 384.01 feet) to a point; THENCE proceeding NORTH 68 DEGREES 09 MINUTES 50 SECONDS WEST a distance of 599.77 feet to a point; THENCE along a curve to the right an arc length of 171.24 feet (said curve having a radius of 2758.00 feet and a chord bearing of NORTH 69 DEGREES 56 MINUTES 25 SECONDS WEST and a chord distance of 171.21 feet) to a point; THENCE proceeding NORTH 51 DEGREES 38 MINUTES 21 SECONDS WEST a distance of 76.78 feet to a point on the Southeastly variable right-of-way of Interstate No. 575; THENCE along a curve to the right an arc length of 338.30 feet (said curve having a radius of 1055.66 feet and a chord bearing of NORTH 33 DEGREES 19 MINUTES 39 SECONDS EAST and a chord distance of 336.85 feet) to a point; THENCE proceeding NORTH 42 DEGREES 29 MINUTES 06 SECONDS EAST a distance of 221.93 feet to a point; THENCE along a curve to the right an arc length of 573.18 feet (said curve having a radius of 1097.43 feet and a chord bearing of NORTH 57 DEGREES 28 MINUTES 10 SECONDS EAST and a chord distance of 566.69 feet) to a point; THENCE proceeding NORTH 76 DEGREES 59 MINUTES 00 SECONDS EAST a distance of 152.44 feet to a point; THENCE proceeding NORTH 70 DEGREES 42 MINUTES 03 SECONDS EAST a distance of 199.80 feet to a point; THENCE proceeding NORTH 73 DEGREES 15 MINUTES 00 SECONDS EAST a distance of 341.48 feet to a point; THENCE proceeding SOUTH 51 DEGREES 24 MINUTES 14 SECONDS EAST a distance of 73.06 feet to a point on the aforesaid right-of-way of Bells Ferry Road; THENCE proceeding SOUTH 02 DEGREES 39 MINUTES 12 SECONDS EAST a distance of 346.57 feet to a point; THENCE proceeding SOUTH 12 DEGREES 06 MINUTES 43 SECONDS EAST a distance of 152.29 feet to a point; THENCE proceeding SOUTH 01 DEGREES 49 MINUTES 40 SECONDS WEST a distance of 46.13 feet to a point; THENCE proceeding SOUTH 01 DEGREES 32 MINUTES 55 SECONDS EAST a distance of 209.76 feet to a point; THENCE proceeding SOUTH 00 DEGREES 22 MINUTES 52 SECONDS EAST a distance of 21.51 feet to a point; THENCE along a curve to the left an arc length of 173.10 feet (said curve having a radius of 1083.32 feet and a chord bearing of SOUTH 05 DEGREES 29 MINUTES 00 SECONDS EAST and a chord distance of 172.92 feet) to a point; THENCE proceeding NORTH 78 DEGREES 47 MINUTES 36 SECONDS EAST a distance of 30.06 feet to a point; THENCE along a curve to the left an arc length of 478.83 feet (said curve having a radius of 1438.50 feet and a chord bearing of SOUTH 17 DEGREES 21 MINUTES 10 SECONDS EAST and a chord distance of 476.62 feet) to a point to a point and POINT OF BEGINNING.

Said parcel contains 35.80 acres more or less.



THE UTILITIES SHOWN HEREON ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IT IS THE OWNER/DEVELOPER'S RESPONSIBILITY TO VERIFY EXISTING UTILITY CAPACITY PRIOR TO INITIATING DESIGN. THE ENGINEER MAKES NO GUARANTEES, NEITHER EXPRESSED OR IMPLIED, REGARDING EXISTING UTILITY LOCATION, CAPACITY OR CONDITION.



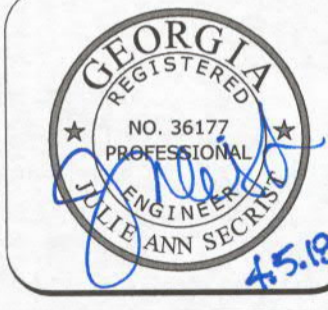
SOUTHEASTERN ENGINEERING, INC.
2470 Sandy Plains Road, Marietta, Georgia 30066
Tel: 770-321-3936
www.seiengineering.com

DATE	ISSUED DESCRIPTION

JIM CHAPMAN COMMUNITIES
2700 CUMBERLAND PARKWAY SUITE 130
ATLANTA, GA 30339
24 HOUR CONTACT INFORMATION

RSL SITE PLAN


PROJECT LOCATED AT:
BELLS FERRY RD @ N. BOOTH ROAD
UNINCORPORATED
COBB COUNTY, GEORGIA



ISSUED FOR:
REVIEW

Project No.: 731-18-038
Designed By: NRA
Issue Date: 4/5/2018

1



Know what's below.

731-18-038

Appendix B
Traffic Count Summary Sheets

VOLUME

Bells Ferry Rd NW Bet. N Booth Rd NW & Heck Rd NE

Day: Tuesday
Date: 4/24/2018

City: Kennesaw
Project #: GA18_9199_001

DAILY TOTALS					NB	SB	EB	WB	Total
					8,992	0	0	0	8,992

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	17	0			17	12:00	120	0			120
00:15	10	0			10	12:15	124	0			124
00:30	11	0			11	12:30	120	0			120
00:45	5	43	0		5 43	12:45	114	478	0		114 478
01:00	6	0			6	13:00	97	0			97
01:15	5	0			5	13:15	124	0			124
01:30	7	0			7	13:30	142	0			142
01:45	0	18	0		0 18	13:45	133	496	0		133 496
02:00	3	0			3	14:00	108	0			108
02:15	6	0			6	14:15	124	0			124
02:30	5	0			5	14:30	146	0			146
02:45	5	19	0		5 19	14:45	126	504	0		126 504
03:00	4	0			4	15:00	140	0			140
03:15	4	0			4	15:15	182	0			182
03:30	4	0			4	15:30	179	0			179
03:45	6	18	0		6 18	15:45	192	693	0		192 693
04:00	4	0			4	16:00	223	0			223
04:15	9	0			9	16:15	266	0			266
04:30	8	0			8	16:30	289	0			289
04:45	5	26	0		5 26	16:45	248	1026	0		248 1026
05:00	10	0			10	17:00	305	0			305
05:15	21	0			21	17:15	313	0			313
05:30	33	0			33	17:30	270	0			270
05:45	27	91	0		27 91	17:45	254	1142	0		254 1142
06:00	55	0			55	18:00	214	0			214
06:15	53	0			53	18:15	196	0			196
06:30	74	0			74	18:30	165	0			165
06:45	89	271	0		89 271	18:45	142	717	0		142 717
07:00	110	0			110	19:00	129	0			129
07:15	164	0			164	19:15	112	0			112
07:30	185	0			185	19:30	106	0			106
07:45	188	647	0		188 647	19:45	102	449	0		102 449
08:00	152	0			152	20:00	78	0			78
08:15	131	0			131	20:15	90	0			90
08:30	122	0			122	20:30	61	0			61
08:45	113	518	0		113 518	20:45	58	287	0		58 287
09:00	113	0			113	21:00	66	0			66
09:15	99	0			99	21:15	57	0			57
09:30	100	0			100	21:30	56	0			56
09:45	92	404	0		92 404	21:45	54	233	0		54 233
10:00	89	0			89	22:00	47	0			47
10:15	79	0			79	22:15	38	0			38
10:30	80	0			80	22:30	26	0			26
10:45	83	331	0		83 331	22:45	20	131	0		20 131
11:00	92	0			92	23:00	18	0			18
11:15	88	0			88	23:15	23	0			23
11:30	99	0			99	23:30	19	0			19
11:45	101	380	0		101 380	23:45	10	70	0		10 70
TOTALS	2766				2766	TOTALS	6226				6226
SPLIT %	100.0%				30.8%	SPLIT %	100.0%				69.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					8,992	0	0	0	8,992

AM Peak Hour	07:15				07:15	PM Peak Hour	16:30				16:30
AM Pk Volume	689				689	PM Pk Volume	1155				1155
PK Hr Factor	0.916				0.916	PK Hr Factor	0.923				0.923
7 - 9 Volume	1165	0	0	0	1165	4 - 6 Volume	2168	0	0	0	2168
7 - 9 Peak Hour	07:15				07:15	4 - 6 Peak Hour	16:30				16:30
7 - 9 Pk Volume	689	0	0	0	689	4 - 6 Pk Volume	1155	0	0	0	1155
PK Hr Factor	0.916	0.000	0.000	0.000	0.916	PK Hr Factor	0.923	0.000	0.000	0.000	0.923

VOLUME

Bells Ferry Rd NW Bet. N Booth Rd NW & Heck Rd NE

Day: Tuesday
Date: 4/24/2018

City: Kennesaw
Project #: GA18_9199_001

DAILY TOTALS					SB Lt	SB Rt	EB	WB	Total
					4,878	1,758	0	0	6,636

AM Period	SB Lt	SB Rt	EB	WB	TOTAL	PM Period	SB Lt	SB Rt	EB	WB	TOTAL	
00:00	9	8			17	12:00	54	33			87	
00:15	3	4			7	12:15	60	19			79	
00:30	3	3			6	12:30	61	34			95	
00:45	4	19	3	18	7	12:45	59	234	15	101	74	335
01:00	2	1			3	13:00	69	35			104	
01:15	5	1			6	13:15	56	28			84	
01:30	5	2			7	13:30	71	25			96	
01:45	1	13	1	5	2	13:45	71	267	25	113	96	380
02:00	0	2			2	14:00	53	19			72	
02:15	2	1			3	14:15	58	22			80	
02:30	1	0			1	14:30	51	28			79	
02:45	3	6	1	4	4	14:45	47	209	23	92	70	301
03:00	1	0			1	15:00	61	18			79	
03:15	1	0			1	15:15	72	30			102	
03:30	4	1			5	15:30	62	29			91	
03:45	3	9	0	1	3	15:45	72	267	30	107	102	374
04:00	5	0			5	16:00	76	23			99	
04:15	5	1			6	16:15	73	34			107	
04:30	1	2			3	16:30	67	29			96	
04:45	8	19	1	4	9	16:45	71	287	33	119	104	406
05:00	9	3			12	17:00	76	32			108	
05:15	24	3			27	17:15	103	38			141	
05:30	25	3			28	17:30	95	35			130	
05:45	40	98	12	21	52	17:45	89	363	35	140	124	503
06:00	76	8			84	18:00	80	37			117	
06:15	109	11			120	18:15	74	32			106	
06:30	121	22			143	18:30	79	34			113	
06:45	145	451	24	65	169	18:45	80	313	34	137	114	450
07:00	147	36			183	19:00	65	29			94	
07:15	113	23			136	19:15	59	30			89	
07:30	126	25			151	19:30	52	21			73	
07:45	103	489	34	118	137	19:45	52	228	28	108	80	336
08:00	145	28			173	20:00	42	15			57	
08:15	119	30			149	20:15	40	21			61	
08:30	101	39			140	20:30	48	25			73	
08:45	115	480	44	141	159	20:45	35	165	19	80	54	245
09:00	77	17			94	21:00	45	20			65	
09:15	74	22			96	21:15	34	17			51	
09:30	59	26			85	21:30	40	17			57	
09:45	61	271	18	83	79	21:45	31	150	17	71	48	221
10:00	57	22			79	22:00	24	21			45	
10:15	53	21			74	22:15	29	11			40	
10:30	54	18			72	22:30	15	9			24	
10:45	57	221	21	82	78	22:45	14	82	9	50	23	132
11:00	45	22			67	23:00	14	7			21	
11:15	49	14			63	23:15	12	10			22	
11:30	47	16			63	23:30	6	8			14	
11:45	54	195	16	68	70	23:45	10	42	5	30	15	72
TOTALS	2271	610			2881	TOTALS	2607	1148			3755	
SPLIT %	78.8%	21.2%			43.4%	SPLIT %	69.4%	30.6%			56.6%	

DAILY TOTALS					SB Lt	SB Rt	EB	WB	Total
					4,878	1,758	0	0	6,636

AM Peak Hour	06:45	08:00		06:45	PM Peak Hour	17:15	17:15		17:15		
AM Pk Volume	531	141		639	PM Pk Volume	367	145		512		
PK Hr Factor	0.903	0.801		0.873	PK Hr Factor	0.891	0.954		0.908		
7 - 9 Volume	969	259	0	0	1228	4 - 6 Volume	650	259	0	0	909
7 - 9 Peak Hour	07:30	08:00		08:00	4 - 6 Peak Hour	17:00	17:00				17:00
7 - 9 Pk Volume	493	141	0	0	621	Volume	363	140	0	0	503
PK Hr Factor	0.850	0.801	0.000	0.000	0.897	PK Hr Factor	0.881	0.921	0.000	0.000	0.892

Project ID: 18-09198-004
 Location: Bells Ferry Rd NW & I-575 SB Ramp
 City: Kennesaw

Day: Tuesday
 Date: 04/24/2018

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					I-575 SB Ramp Eastbound					I-575 SB Ramp Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
7:00 AM	13	84	0	0	97	0	161	188	0	349	0	0	0	0	0	20	0	25	0	45	491
7:15 AM	20	132	0	0	152	0	140	237	0	377	0	0	0	0	0	11	0	23	0	34	563
7:30 AM	11	129	0	0	140	0	169	214	0	383	0	0	0	0	0	10	0	30	0	40	563
7:45 AM	9	168	0	0	177	0	150	242	0	392	0	0	0	0	0	12	0	26	0	38	607
Total	53	513	0	0	566	0	620	881	0	1501	0	0	0	0	0	53	0	104	0	157	2224
8:00 AM	9	115	0	0	124	0	174	209	0	383	0	0	0	0	0	16	1	25	0	42	549
8:15 AM	8	94	0	0	102	0	162	208	0	370	0	0	0	0	0	17	0	25	0	42	514
8:30 AM	5	116	0	0	121	0	142	181	0	323	0	0	0	0	0	13	0	32	0	45	489
8:45 AM	13	95	0	0	108	0	153	173	0	326	0	0	0	0	0	11	0	48	0	59	493
Total	35	420	0	0	455	0	631	771	0	1402	0	0	0	0	0	57	1	130	0	188	2045
BREAK																					
4:00 PM	6	294	0	0	300	0	107	93	0	200	0	0	0	0	0	22	0	60	0	82	582
4:15 PM	9	287	0	0	296	0	106	106	0	212	0	0	0	0	0	33	0	72	0	105	613
4:30 PM	15	305	0	0	320	0	103	83	0	186	0	0	0	0	0	21	0	66	0	87	593
4:45 PM	4	268	0	0	272	0	103	96	0	199	0	0	0	0	0	28	0	58	0	86	557
Total	34	1154	0	0	1188	0	419	378	0	797	0	0	0	0	0	104	0	256	0	360	2345
5:00 PM	8	302	0	0	310	0	109	116	0	225	0	0	0	0	0	28	1	74	0	103	638
5:15 PM	10	296	0	0	306	0	111	120	0	231	0	0	0	0	0	53	0	84	0	137	674
5:30 PM	11	284	0	0	295	0	122	102	0	224	0	0	0	0	0	33	0	66	0	99	618
5:45 PM	11	288	0	0	299	0	105	106	0	211	0	0	0	0	0	35	0	56	0	91	601
Total	40	1170	0	0	1210	0	447	444	0	891	0	0	0	0	0	149	1	280	0	430	2531
Grand Total	162	3257	0	0	3419	0	2117	2474	0	4591	0	0	0	0	0	363	2	770	0	1135	9145
Apprch %	4.7	95.3	0.0	0.0	0.0	0.0	46.1	53.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.2	67.8	0.0	0.0	
Total %	1.8	35.6	0.0	0.0	37.4	0.0	23.1	27.1	0.0	50.2	0.0	0.0	0.0	0.0	0.0	4.0	0.0	8.4	0.0	12.4	
Cars, PU, Vans	162	3257	0	0	3419	0	2117	2474	0	4591	0	0	0	0	0	363	2	770	0	1135	9145
% Cars, PU, Vans	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0

Project ID: 18-09198-004
 Location: Bells Ferry Rd NW & I-575 SB Ramp
 City: Kennesaw

PEAK HOURS

Day: Tuesday
 Date: 04/24/2018

AM

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					I-575 SB Ramp Eastbound					I-575 SB Ramp Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	20	132	0	0	152	0	140	237	0	377	0	0	0	0	0	11	0	23	0	34	563
7:30 AM	11	129	0	0	140	0	169	214	0	383	0	0	0	0	0	10	0	30	0	40	563
7:45 AM	9	168	0	0	177	0	150	242	0	392	0	0	0	0	0	12	0	26	0	38	607
8:00 AM	9	115	0	0	124	0	174	209	0	383	0	0	0	0	0	16	1	25	0	42	549
Total Volume	49	544	0	0	593	0	633	902	0	1535	0	0	0	0	0	49	1	104	0	154	2282
% App. Total	8.3	91.7	0.0	0.0	100	0.0	41.2	58.8	0.0	100	0.0	0.0	0.0	0.0	0.0	31.8	0.6	67.5	0.0	100	
PHF	0.838					0.979										0.917					0.940
Cars, PU, Vans	49	544	0	0	593	0	633	902	0	1535	0	0	0	0	0	49	1	104	0	154	2282
% Cars, PU, Vans	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0

PM

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					I-575 SB Ramp Eastbound					I-575 SB Ramp Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	8	302	0	0	310	0	109	116	0	225	0	0	0	0	0	28	1	74	0	103	638
5:15 PM	10	296	0	0	306	0	111	120	0	231	0	0	0	0	0	53	0	84	0	137	674
5:30 PM	11	284	0	0	295	0	122	102	0	224	0	0	0	0	0	33	0	66	0	99	618
5:45 PM	11	288	0	0	299	0	105	106	0	211	0	0	0	0	0	35	0	56	0	91	601
Total Volume	40	1170	0	0	1210	0	447	444	0	891	0	0	0	0	0	149	1	280	0	430	2531
% App. Total	3.3	96.7	0.0	0.0	100	0.0	50.2	49.8	0.0	100	0.0	0.0	0.0	0.0	0.0	34.7	0.2	65.1	0.0	100	
PHF	0.976					0.964										0.785					0.939
Cars, PU, Vans	40	1170	0	0	1210	0	447	444	0	891	0	0	0	0	0	149	1	280	0	430	2531
% Cars, PU, Vans	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0

Project ID: 18-09198-002
 Location: Bells Ferry Rd NW & Heck Rd NE
 City: Kennesaw

Day: Tuesday
 Date: 04/24/2018

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					Heck Rd NE Eastbound					Heck Rd NE Westbound					Int. Total			
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total				
7:00 AM	0	106	1	0	0	107	1	165	0	0	0	166	0	0	0	0	0	9	0	16	0	0	25	298
7:15 AM	0	151	6	0	0	157	1	121	0	1	0	123	0	0	0	0	0	6	0	22	0	0	28	308
7:30 AM	0	183	3	0	0	186	2	141	0	0	0	143	0	0	0	0	0	6	0	16	0	0	22	351
7:45 AM	0	182	4	0	0	186	5	126	0	2	0	133	0	0	0	0	0	8	0	21	0	0	29	348
Total	0	622	14	0	0	636	9	553	0	3	0	565	0	0	0	0	0	29	0	75	0	0	104	1305
8:00 AM	0	147	3	0	0	150	4	164	0	1	0	169	0	0	0	0	0	2	0	18	0	0	20	339
8:15 AM	0	127	1	0	0	128	4	140	0	1	0	145	0	0	0	0	0	5	0	8	0	0	13	286
8:30 AM	0	119	1	1	0	121	8	116	0	0	0	124	0	0	0	0	0	9	0	11	0	0	20	265
8:45 AM	0	111	1	0	0	112	6	138	0	0	0	144	0	0	0	0	0	7	0	11	0	0	18	274
Total	0	504	6	1	0	511	22	558	0	2	0	582	0	0	0	0	0	23	0	48	0	0	71	1164
BREAK																								
4:00 PM	0	203	5	0	0	208	20	88	0	0	0	108	0	0	0	0	0	5	0	16	0	0	21	337
4:15 PM	0	239	9	0	0	248	11	98	0	0	0	109	0	0	0	0	0	4	0	11	0	0	15	372
4:30 PM	0	265	9	1	0	275	16	87	0	0	0	103	0	0	0	0	0	2	0	10	0	0	12	390
4:45 PM	0	230	7	0	0	237	15	94	0	1	0	110	0	0	0	0	0	1	0	5	0	0	6	353
Total	0	937	30	1	0	968	62	367	0	1	0	430	0	0	0	0	0	12	0	42	0	0	54	1452
5:00 PM	0	285	5	0	0	290	10	98	0	0	0	108	0	0	0	0	0	4	0	16	0	0	20	418
5:15 PM	0	284	7	0	0	291	18	126	0	0	0	144	0	0	0	0	0	4	0	13	0	0	17	452
5:30 PM	0	245	8	0	0	253	23	115	0	0	0	138	0	0	0	0	0	2	0	18	0	0	20	411
5:45 PM	0	236	5	0	0	241	15	113	0	0	0	128	0	0	0	0	0	4	0	14	0	0	18	387
Total	0	1050	25	0	0	1075	66	452	0	0	0	518	0	0	0	0	0	14	0	61	0	0	75	1668
Grand Total	0	3113	75	2	0	3190	159	1930	0	6	0	2095	0	0	0	0	0	78	0	226	0	0	304	5589
Apprch %	0.0	97.6	2.4	0.1	0.0		7.6	92.1	0.0	0.3	0.0		0.0	0.0	0.0	0.0	0.0	25.7	0.0	74.3	0.0	0.0		
Total %	0.0	55.7	1.3	0.0	0.0	57.1	2.8	34.5	0.0	0.1	0.0	37.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0	4.0	0.0	0.0	5.4	
Cars, PU, Vans	0	3113	75	2	0	3190	159	1930	0	0	0	2095	0	0	0	0	0	78	0	226	0	0	304	5589
% Cars, PU, Vans	0.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0

Project ID: 18-09198-002
 Location: Bells Ferry Rd NW & Heck Rd NE
 City: Kennesaw

Day: Tuesday
 Date: 04/24/2018

PEAK HOURS

AM

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					Heck Rd NE Eastbound					Heck Rd NE Westbound					Int. Total		
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total			
Peak Hour Analysis from 07:00 AM to 09:00 AM																							
Peak Hour for Entire Intersection Begins at 07:15 AM																							
7:15 AM	0	151	6	0	157	1	121	0	1	123	0	0	0	0	0	6	0	22	0	28			308
7:30 AM	0	183	3	0	186	2	141	0	0	143	0	0	0	0	0	6	0	16	0	22			351
7:45 AM	0	182	4	0	186	5	126	0	2	133	0	0	0	0	0	8	0	21	0	29			348
8:00 AM	0	147	3	0	150	4	164	0	1	169	0	0	0	0	0	2	0	18	0	20			339
Total Volume	0	663	16	0	679	12	552	0	4	568	0	0	0	0	0	22	0	77	0	99			1346
% App. Total	0.0	97.6	2.4	0.0	100	2.1	97.2	0.0	0.7	100	0.0	0.0	0.0	0.0	0.0	22.2	0.0	77.8	0.0	100			
PHF	0.913					0.840										0.853					0.959		
Cars, PU, Vans	0	663	16	0	679	12	552	0	4	568	0	0	0	0	0	22	0	77	0	99			1346
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0			100.0

PM

Start Time	Bells Ferry Rd NW Northbound					Bells Ferry Rd NW Southbound					Heck Rd NE Eastbound					Heck Rd NE Westbound					Int. Total		
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total			
Peak Hour Analysis from 04:00 PM to 06:00 PM																							
Peak Hour for Entire Intersection Begins at 05:00 PM																							
5:00 PM	0	285	5	0	290	10	98	0	0	108	0	0	0	0	0	4	0	16	0	20			418
5:15 PM	0	284	7	0	291	18	126	0	0	144	0	0	0	0	0	4	0	13	0	17			452
5:30 PM	0	245	8	0	253	23	115	0	0	138	0	0	0	0	0	2	0	18	0	20			411
5:45 PM	0	236	5	0	241	15	113	0	0	128	0	0	0	0	0	4	0	14	0	18			387
Total Volume	0	1050	25	0	1075	66	452	0	0	518	0	0	0	0	0	14	0	61	0	75			1668
% App. Total	0.0	97.7	2.3	0.0	100	12.7	87.3	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	18.7	0.0	81.3	0.0	100			
PHF	0.924					0.899										0.938					0.923		
Cars, PU, Vans	0	1050	25	0	1075	66	452	0	0	518	0	0	0	0	0	14	0	61	0	75			1668
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0			100.0

Appendix C
Existing Synchro Reports

Lanes, Volumes, Timings
12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	467	387	138	202	431	143
Future Volume (vph)	467	387	138	202	431	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.966	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1799	0
Flt Permitted	0.950		0.113			
Satd. Flow (perm)	1770	1583	210	1863	1799	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		382			19	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	1049	
Travel Time (s)	35.6			19.7	15.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	525	435	155	227	484	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	525	435	155	227	645	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	15.0	80.0	65.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

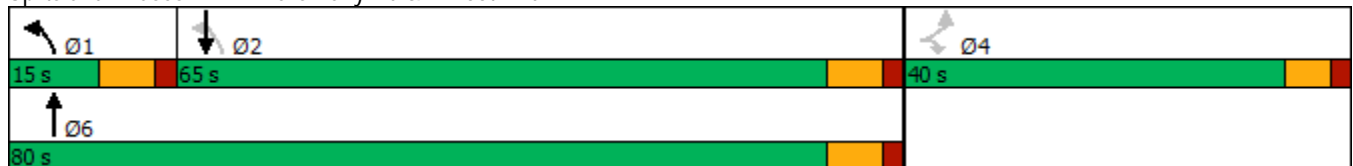


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	33.3%	33.3%	12.5%	66.7%	54.2%	
Maximum Green (s)	34.0	34.0	8.0	73.0	58.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effect Green (s)	34.4	34.4	45.8	52.9	37.9	
Actuated g/C Ratio	0.34	0.34	0.46	0.53	0.38	
v/c Ratio	0.87	0.55	0.71	0.23	0.94	
Control Delay	49.3	8.1	34.7	12.9	50.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.3	8.1	34.7	12.9	50.5	
LOS	D	A	C	B	D	
Approach Delay	30.6			21.7	50.5	
Approach LOS	C			C	D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	100.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	35.4
Intersection LOS:	D
Intersection Capacity Utilization:	81.6%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
9: Bells Ferry Rd & Heck Rd

05/01/2018

Intersection							
Int Delay, s/veh	1.2						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	Y		↑↑			Y	↑↑
Traffic Vol, veh/h	22	77	663	16	4	12	552
Future Vol, veh/h	22	77	663	16	4	12	552
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	23	80	691	17	4	13	575

Major/Minor	Minor1	Major1	Major2				
Conflicting Flow All	1022	354	0	0	707	708	0
Stage 1	700	-	-	-	-	-	-
Stage 2	322	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	232	642	-	-	511	887	-
Stage 1	454	-	-	-	-	-	-
Stage 2	707	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	226	642	-	-	714	714	-
Mov Cap-2 Maneuver	226	-	-	-	-	-	-
Stage 1	443	-	-	-	-	-	-
Stage 2	707	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	456	714
HCM Lane V/C Ratio	-	-	0.226	0.023
HCM Control Delay (s)	-	-	15.2	10.2
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.9	0.1

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	4	34	0	0	0	0	402	335	147	534	0
Future Volume (vph)	194	4	34	0	0	0	0	402	335	147	534	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955							0.850			
Flt Protected	0.950	0.968								0.950		
Satd. Flow (prot)	1681	1636	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.968								0.497		
Satd. Flow (perm)	1681	1636	0	0	0	0	0	3539	1583	926	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10							360			
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1689			1105			201				879
Travel Time (s)		32.9			21.5			3.0				13.3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	209	4	37	0	0	0	0	432	360	158	574	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	127	123	0	0	0	0	0	432	360	158	574	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	25.0	25.0						140.0	140.0	15.0	155.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

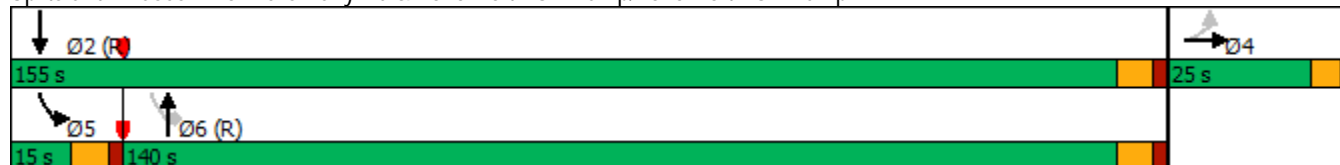


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.9%	13.9%						77.8%	77.8%	8.3%	86.1%	
Maximum Green (s)	19.0	19.0						133.0	133.0	8.0	148.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effect Green (s)	19.1	19.1						125.0	125.0	140.9	147.9	
Actuated g/C Ratio	0.11	0.11						0.69	0.69	0.78	0.82	
v/c Ratio	0.71	0.68						0.18	0.30	0.20	0.20	
Control Delay	98.5	88.4						10.8	1.8	4.3	2.9	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	98.5	88.4						10.8	1.8	4.3	2.9	
LOS	F	F						B	A	A	A	
Approach Delay		93.5						6.7			3.2	
Approach LOS		F						A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 17.5
 Intersection LOS: B
 Intersection Capacity Utilization 91.7%
 ICU Level of Service F
 Analysis Period (min) 15

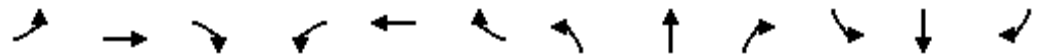
Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

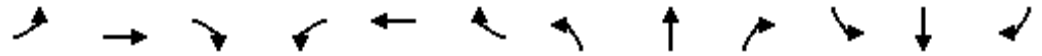


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↕	↕			↕	↕
Traffic Volume (vph)	0	0	0	49	1	104	49	544	0	0	633	902
Future Volume (vph)	0	0	0	49	1	104	49	544	0	0	633	902
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.909							0.850
Flt Protected					0.984		0.950					
Satd. Flow (prot)	0	0	0	0	1666	0	1770	3539	0	0	3539	1583
Flt Permitted					0.984		0.392					
Satd. Flow (perm)	0	0	0	0	1666	0	730	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45							960
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	52	1	111	52	579	0	0	673	960
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	164	0	52	579	0	0	673	960
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		40	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				20.0	20.0		160.0	160.0			160.0	160.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

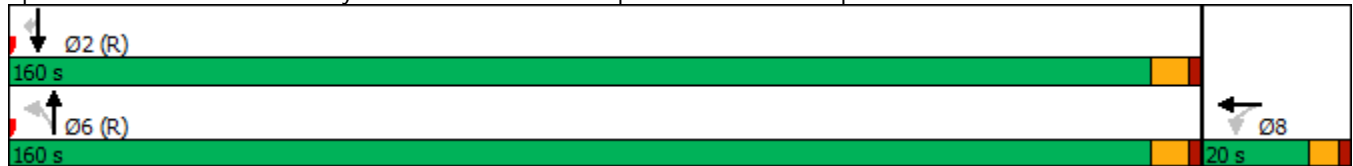


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				11.1%	11.1%		88.9%	88.9%			88.9%	88.9%
Maximum Green (s)				14.0	14.0		153.0	153.0			153.0	153.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					21.3		145.7	145.7			145.7	145.7
Actuated g/C Ratio					0.12		0.81	0.81			0.81	0.81
v/c Ratio					0.69		0.09	0.20			0.23	0.66
Control Delay					70.0		6.7	6.8			4.5	2.6
Queue Delay					0.0		0.0	0.0			0.0	0.0
Total Delay					70.0		6.7	6.8			4.5	2.6
LOS					E		A	A			A	A
Approach Delay					70.0			6.8			3.4	
Approach LOS					E			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 8.8 Intersection LOS: A
 Intersection Capacity Utilization 91.7% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Lanes, Volumes, Timings
12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	278	166	323	791	235	232
Future Volume (vph)	278	166	323	791	235	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.933	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1738	0
Flt Permitted	0.950		0.320			
Satd. Flow (perm)	1770	1583	596	1863	1738	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		162			46	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	1049	
Travel Time (s)	35.6			19.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	302	180	351	860	255	252
Shared Lane Traffic (%)						
Lane Group Flow (vph)	302	180	351	860	507	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	30.0	140.0	110.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

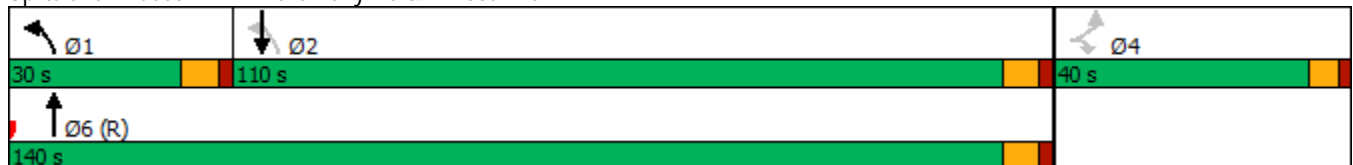


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	22.2%	22.2%	16.7%	77.8%	61.1%	
Maximum Green (s)	34.0	34.0	23.0	133.0	103.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	Min	
Act Effect Green (s)	37.3	37.3	122.7	129.7	88.1	
Actuated g/C Ratio	0.21	0.21	0.68	0.72	0.49	
v/c Ratio	0.83	0.39	0.56	0.64	0.58	
Control Delay	86.3	12.5	13.4	16.7	32.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	86.3	12.5	13.4	16.7	32.2	
LOS	F	B	B	B	C	
Approach Delay	58.7			15.7	32.2	
Approach LOS	E			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	0 (0%), Referenced to phase 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	29.0
Intersection LOS:	C
Intersection Capacity Utilization	76.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
9: Bells Ferry Rd & Heck Rd

05/02/2018

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	14	61	1050	25	66	452
Future Vol, veh/h	14	61	1050	25	66	452
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	-	-	-	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	15	66	1141	27	72	491

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1545	584	0	0	1168
Stage 1	1155	-	-	-	-
Stage 2	390	-	-	-	-
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	105	455	-	-	594
Stage 1	262	-	-	-	-
Stage 2	653	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	92	455	-	-	594
Mov Cap-2 Maneuver	92	-	-	-	-
Stage 1	230	-	-	-	-
Stage 2	653	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.8	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	262	594
HCM Lane V/C Ratio	-	-	0.311	0.121
HCM Control Delay (s)	-	-	24.8	11.9
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	1.3	0.4

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

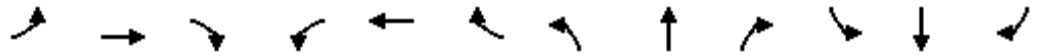


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	623	17	46	0	0	0	0	603	504	133	467	0
Future Volume (vph)	623	17	46	0	0	0	0	603	504	133	467	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980							0.850			
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1667	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.961								0.365		
Satd. Flow (perm)	1681	1667	0	0	0	0	0	3539	1583	680	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4							531			
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1689			1105			201				879
Travel Time (s)		32.9			21.5			3.0				13.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	656	18	48	0	0	0	0	635	531	140	492	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	361	361	0	0	0	0	0	635	531	140	492	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	45.0	45.0						115.0	115.0	20.0	135.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

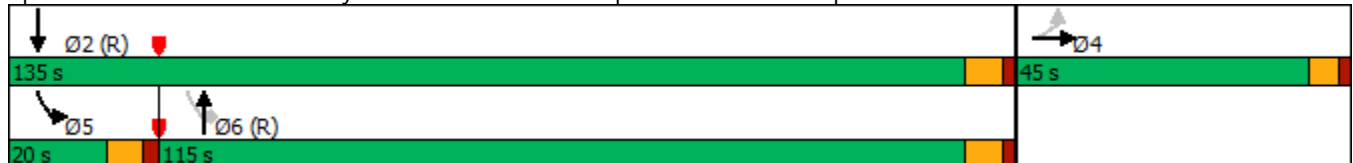


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.0%	25.0%						63.9%	63.9%	11.1%	75.0%	
Maximum Green (s)	39.0	39.0						108.0	108.0	13.0	128.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effct Green (s)	47.9	47.9						100.6	100.6	112.1	119.1	
Actuated g/C Ratio	0.27	0.27						0.56	0.56	0.62	0.66	
v/c Ratio	0.81	0.81						0.32	0.47	0.28	0.21	
Control Delay	76.2	75.7						18.5	2.6	10.7	9.0	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	76.2	75.7						18.5	2.6	10.7	9.0	
LOS	E	E						B	A	B	A	
Approach Delay		76.0						11.2			9.4	
Approach LOS		E						B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 29.3
 Intersection LOS: C
 Intersection Capacity Utilization 79.7%
 ICU Level of Service D
 Analysis Period (min) 15

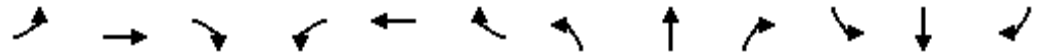
Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

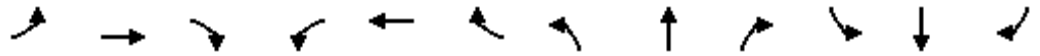


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↕	↕			↕	↕
Traffic Volume (vph)	0	0	0	149	1	280	40	1170	0	0	447	444
Future Volume (vph)	0	0	0	149	1	280	40	1170	0	0	447	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.912							0.850
Flt Protected					0.983		0.950					
Satd. Flow (prot)	0	0	0	0	1670	0	1770	3539	0	0	3539	1583
Flt Permitted					0.983		0.449					
Satd. Flow (perm)	0	0	0	0	1670	0	836	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					43							472
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	159	1	298	43	1245	0	0	476	472
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	458	0	43	1245	0	0	476	472
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		20	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				30.0	30.0		150.0	150.0			150.0	150.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

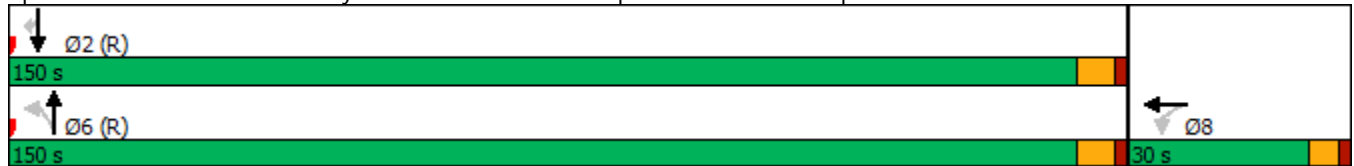


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				16.7%	16.7%		83.3%	83.3%			83.3%	83.3%
Maximum Green (s)				24.0	24.0		143.0	143.0			143.0	143.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					69.3		97.7	97.7			97.7	97.7
Actuated g/C Ratio					0.38		0.54	0.54			0.54	0.54
v/c Ratio					0.68		0.09	0.65			0.25	0.44
Control Delay					49.9		23.1	38.8			21.4	2.4
Queue Delay					0.0		0.0	0.1			0.0	0.0
Total Delay					49.9		23.1	38.9			21.4	2.4
LOS					D		C	D			C	A
Approach Delay					49.9			38.4			11.9	
Approach LOS					D			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 31.0 Intersection LOS: C
 Intersection Capacity Utilization 79.7% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Appendix C
No Build Synchro Reports

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	509	422	150	220	471	155
Future Volume (vph)	509	422	150	220	471	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.967	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1801	0
Flt Permitted	0.950		0.103			
Satd. Flow (perm)	1770	1583	192	1863	1801	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		363			19	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	1049	
Travel Time (s)	35.6			19.7	15.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	572	474	169	247	529	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	572	474	169	247	703	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	15.0	80.0	65.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

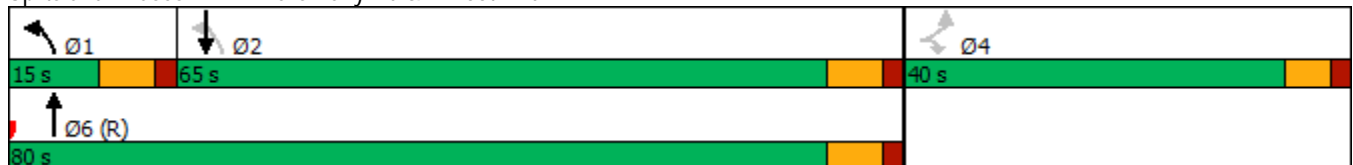


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	33.3%	33.3%	12.5%	66.7%	54.2%	
Maximum Green (s)	34.0	34.0	8.0	73.0	58.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	Min	
Act Effect Green (s)	41.4	41.4	58.6	65.6	50.6	
Actuated g/C Ratio	0.34	0.34	0.49	0.55	0.42	
v/c Ratio	0.94	0.61	0.85	0.24	0.91	
Control Delay	63.7	12.2	55.4	14.0	48.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.7	12.2	55.4	14.0	48.4	
LOS	E	B	E	B	D	
Approach Delay	40.4			30.8	48.4	
Approach LOS	D			C	D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 41.1
 Intersection LOS: D
 Intersection Capacity Utilization 87.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
 9: Bells Ferry Rd & Heck Rd

05/01/2018

Intersection							
Int Delay, s/veh	1.4						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	Y		↑↑			↑	↑↑
Traffic Vol, veh/h	25	84	724	17	4	12	602
Future Vol, veh/h	25	84	724	17	4	12	602
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	26	88	754	18	4	13	627

Major/Minor	Minor1	Major1	Major2				
Conflicting Flow All	1111	386	0	0	772	772	0
Stage 1	763	-	-	-	-	-	-
Stage 2	348	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	203	612	-	-	465	839	-
Stage 1	421	-	-	-	-	-	-
Stage 2	686	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	198	612	-	-	659	659	-
Mov Cap-2 Maneuver	198	-	-	-	-	-	-
Stage 1	410	-	-	-	-	-	-
Stage 2	686	-	-	-	-	-	-

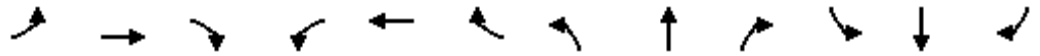
Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	414	659
HCM Lane V/C Ratio	-	-	0.274	0.025
HCM Control Delay (s)	-	-	16.9	10.6
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	1.1	0.1

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

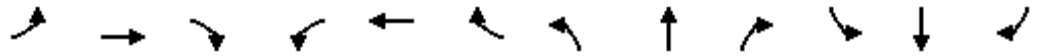


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	4	37	0	0	0	0	438	365	161	582	0
Future Volume (vph)	212	4	37	0	0	0	0	438	365	161	582	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955							0.850			
Flt Protected	0.950	0.968								0.950		
Satd. Flow (prot)	1681	1636	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.968								0.473		
Satd. Flow (perm)	1681	1636	0	0	0	0	0	3539	1583	881	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10							392			
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1689			1105			201			879	
Travel Time (s)		32.9			21.5			3.0			13.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	228	4	40	0	0	0	0	471	392	173	626	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	139	133	0	0	0	0	0	471	392	173	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	25.0	25.0						140.0	140.0	15.0	155.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

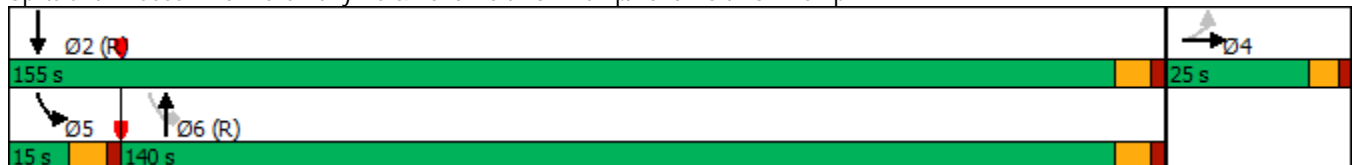


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.9%	13.9%						77.8%	77.8%	8.3%	86.1%	
Maximum Green (s)	19.0	19.0						133.0	133.0	8.0	148.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effct Green (s)	20.7	20.7						121.6	121.6	139.3	146.3	
Actuated g/C Ratio	0.12	0.12						0.68	0.68	0.77	0.81	
v/c Ratio	0.72	0.68						0.20	0.33	0.22	0.22	
Control Delay	96.8	87.1						12.3	2.0	4.4	3.3	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	96.8	87.1						12.3	2.0	4.4	3.3	
LOS	F	F						B	A	A	A	
Approach Delay		92.1						7.6			3.6	
Approach LOS		F						A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 97.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

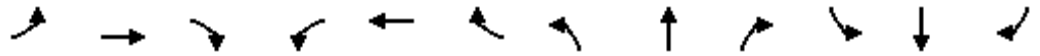


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔		↗	↕			↕	↗
Traffic Volume (vph)	0	0	0	53	1	113	54	593	0	0	691	984
Future Volume (vph)	0	0	0	53	1	113	54	593	0	0	691	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.908							0.850
Flt Protected					0.984		0.950					
Satd. Flow (prot)	0	0	0	0	1664	0	1770	3539	0	0	3539	1583
Flt Permitted					0.984		0.364					
Satd. Flow (perm)	0	0	0	0	1664	0	678	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					46							1047
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	56	1	120	57	631	0	0	735	1047
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	177	0	57	631	0	0	735	1047
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		20	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				20.0	20.0		160.0	160.0			160.0	160.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

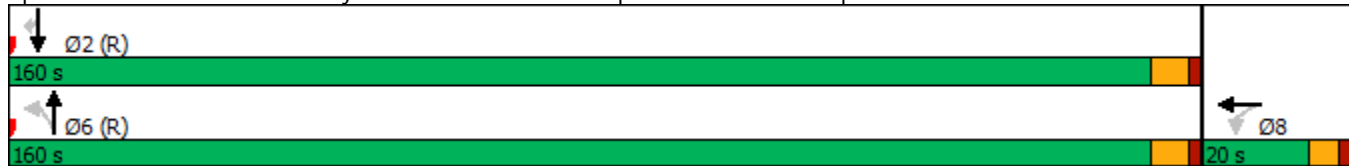


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				11.1%	11.1%		88.9%	88.9%			88.9%	88.9%
Maximum Green (s)				14.0	14.0		153.0	153.0			153.0	153.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					24.6		142.4	142.4			142.4	142.4
Actuated g/C Ratio					0.14		0.79	0.79			0.79	0.79
v/c Ratio					0.66		0.11	0.23			0.26	0.71
Control Delay					66.6		8.5	8.6			5.3	3.3
Queue Delay					0.0		0.0	0.0			0.0	0.0
Total Delay					66.6		8.5	8.6			5.3	3.3
LOS					E		A	A			A	A
Approach Delay					66.6			8.6			4.1	
Approach LOS					E			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization:	97.5%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	303	180	352	862	256	254
Future Volume (vph)	303	180	352	862	256	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.933	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1738	0
Flt Permitted	0.950		0.156			
Satd. Flow (perm)	1770	1583	291	1863	1738	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		162			46	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	1049	
Travel Time (s)	35.6			19.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	329	196	383	937	278	276
Shared Lane Traffic (%)						
Lane Group Flow (vph)	329	196	383	937	554	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	30.0	140.0	110.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

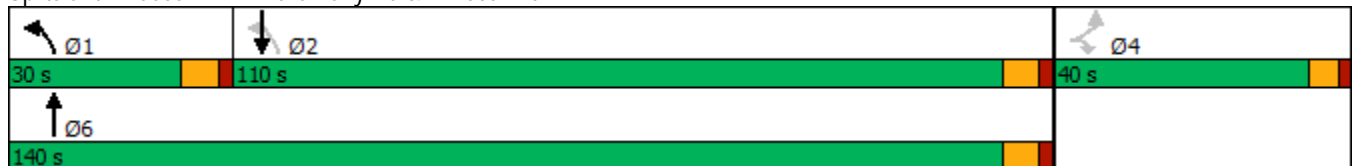


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	22.2%	22.2%	16.7%	77.8%	61.1%	
Maximum Green (s)	34.0	34.0	23.0	133.0	103.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effect Green (s)	29.2	29.2	53.3	60.4	34.8	
Actuated g/C Ratio	0.28	0.28	0.52	0.59	0.34	
v/c Ratio	0.66	0.35	0.93	0.86	0.90	
Control Delay	42.0	10.3	54.3	26.9	48.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.0	10.3	54.3	26.9	48.4	
LOS	D	B	D	C	D	
Approach Delay	30.2			34.8	48.4	
Approach LOS	C			C	D	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	103
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	37.0
Intersection LOS:	D
Intersection Capacity Utilization:	82.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
 9: Bells Ferry Rd & Heck Rd

05/01/2018

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		Y	↑↑
Traffic Vol, veh/h	14	66	1145	27	72	492
Future Vol, veh/h	14	66	1145	27	72	492
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	-	-	-	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	15	72	1245	29	78	535

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1684	637	0	0	1274
Stage 1	1260	-	-	-	-
Stage 2	424	-	-	-	-
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	85	420	-	-	541
Stage 1	230	-	-	-	-
Stage 2	628	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	73	420	-	-	541
Mov Cap-2 Maneuver	73	-	-	-	-
Stage 1	197	-	-	-	-
Stage 2	628	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	229	541
HCM Lane V/C Ratio	-	-	0.38	0.145
HCM Control Delay (s)	-	-	30	12.8
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1.7	0.5

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

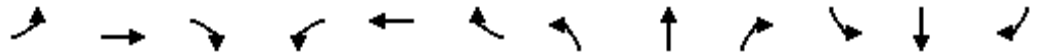


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	680	19	50	0	0	0	0	657	550	146	509	0
Future Volume (vph)	680	19	50	0	0	0	0	657	550	146	509	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980							0.850			
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1667	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.961								0.324		
Satd. Flow (perm)	1681	1667	0	0	0	0	0	3539	1583	604	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4							579			
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1689			1105			201				879
Travel Time (s)		32.9			21.5			3.0				13.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	716	20	53	0	0	0	0	692	579	154	536	0
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	394	395	0	0	0	0	0	692	579	154	536	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	45.0	45.0						115.0	115.0	20.0	135.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

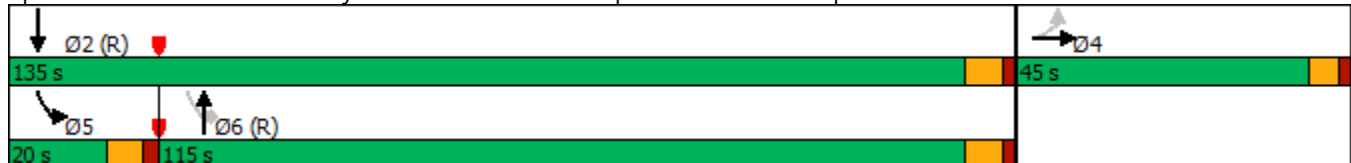


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.0%	25.0%						63.9%	63.9%	11.1%	75.0%	
Maximum Green (s)	39.0	39.0						108.0	108.0	13.0	128.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effect Green (s)	55.7	55.7						91.9	91.9	104.3	111.3	
Actuated g/C Ratio	0.31	0.31						0.51	0.51	0.58	0.62	
v/c Ratio	0.76	0.76						0.38	0.53	0.36	0.24	
Control Delay	67.1	66.9						27.7	3.6	14.1	11.3	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	67.1	66.9						27.7	3.6	14.1	11.3	
LOS	E	E						C	A	B	B	
Approach Delay		67.0						16.7			11.9	
Approach LOS		E						B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	30.0
Intersection LOS:	C
Intersection Capacity Utilization	84.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

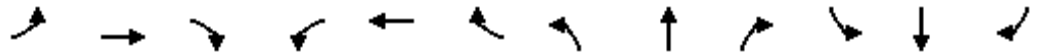


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↗	↕↕			↕↕	↗
Traffic Volume (vph)	0	0	0	163	1	306	44	1276	0	0	488	485
Future Volume (vph)	0	0	0	163	1	306	44	1276	0	0	488	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.912							0.850
Flt Protected					0.983		0.950					
Satd. Flow (prot)	0	0	0	0	1670	0	1770	3539	0	0	3539	1583
Flt Permitted					0.983		0.417					
Satd. Flow (perm)	0	0	0	0	1670	0	777	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					43							516
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	173	1	326	47	1357	0	0	519	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	500	0	47	1357	0	0	519	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		20	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				30.0	30.0		150.0	150.0			150.0	150.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

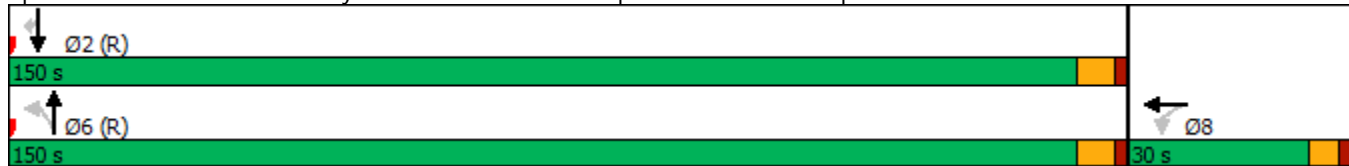


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				16.7%	16.7%		83.3%	83.3%			83.3%	83.3%
Maximum Green (s)				24.0	24.0		143.0	143.0			143.0	143.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					74.2		92.8	92.8			92.8	92.8
Actuated g/C Ratio					0.41		0.52	0.52			0.52	0.52
v/c Ratio					0.70		0.12	0.74			0.28	0.48
Control Delay					47.6		25.1	41.4			24.6	2.8
Queue Delay					0.0		0.0	0.0			0.0	0.0
Total Delay					47.6		25.1	41.5			24.6	2.8
LOS					D		C	D			C	A
Approach Delay					47.6			40.9			13.8	
Approach LOS					D			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 32.5 Intersection LOS: C
 Intersection Capacity Utilization 84.6% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Appendix C
Future Synchro Reports

Lanes, Volumes, Timings
12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	515	422	150	222	479	158
Future Volume (vph)	515	422	150	222	479	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			100
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.966	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1799	0
Flt Permitted	0.950		0.092			
Satd. Flow (perm)	1770	1583	171	1863	1799	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		357			19	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	850	
Travel Time (s)	35.6			19.7	12.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	579	474	169	249	538	178
Shared Lane Traffic (%)						
Lane Group Flow (vph)	579	474	169	249	716	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	15.0	80.0	65.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

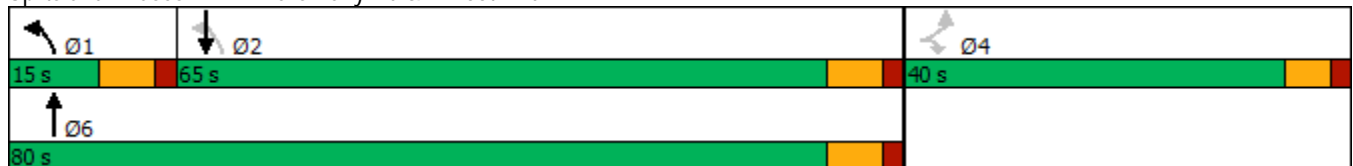


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	33.3%	33.3%	12.5%	66.7%	54.2%	
Maximum Green (s)	34.0	34.0	8.0	73.0	58.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effect Green (s)	34.4	34.4	51.6	58.7	43.7	
Actuated g/C Ratio	0.32	0.32	0.49	0.55	0.41	
v/c Ratio	1.01	0.63	0.83	0.24	0.95	
Control Delay	78.7	12.9	53.7	12.4	52.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.7	12.9	53.7	12.4	52.7	
LOS	E	B	D	B	D	
Approach Delay	49.1			29.1	52.7	
Approach LOS	D			C	D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	106.2
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	46.5
Intersection LOS:	D
Intersection Capacity Utilization:	88.3%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
 13: Bells Ferry Rd & Site Drwy

05/08/2018

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	14	11	8	735	627	6
Future Vol, veh/h	14	11	8	735	627	6
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	160	-	-	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	15	12	9	799	682	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1499	682	689	0	-	0
Stage 1	682	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	135	450	905	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	134	450	905	-	-	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.6	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	905	-	134	450	-	-
HCM Lane V/C Ratio	0.01	-	0.114	0.027	-	-
HCM Control Delay (s)	9	-	35.3	13.2	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	-	-

HCM 6th TWSC
9: Bells Ferry Rd & Heck Rd

05/08/2018

Intersection							
Int Delay, s/veh	1.4						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	25	84	738	17	4	12	608
Future Vol, veh/h	25	84	738	17	4	12	608
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	26	88	769	18	4	13	633

Major/Minor	Minor1	Major1	Major2				
Conflicting Flow All	1129	394	0	0	786	787	0
Stage 1	778	-	-	-	-	-	-
Stage 2	351	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	198	605	-	-	455	828	-
Stage 1	413	-	-	-	-	-	-
Stage 2	684	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	193	605	-	-	648	648	-
Mov Cap-2 Maneuver	193	-	-	-	-	-	-
Stage 1	402	-	-	-	-	-	-
Stage 2	684	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	406	648
HCM Lane V/C Ratio	-	-	0.28	0.026
HCM Control Delay (s)	-	-	17.3	10.7
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	1.1	0.1

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

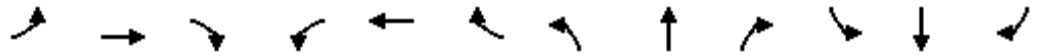


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	4	37	0	0	0	0	446	371	161	588	0
Future Volume (vph)	212	4	37	0	0	0	0	446	371	161	588	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955							0.850			
Flt Protected	0.950	0.968								0.950		
Satd. Flow (prot)	1681	1636	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.968								0.468		
Satd. Flow (perm)	1681	1636	0	0	0	0	0	3539	1583	872	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10							399			
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1689			1105			201				879
Travel Time (s)		32.9			21.5			3.0				13.3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	228	4	40	0	0	0	0	480	399	173	632	0
Shared Lane Traffic (%)	39%											
Lane Group Flow (vph)	139	133	0	0	0	0	0	480	399	173	632	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	25.0	25.0						140.0	140.0	15.0	155.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018

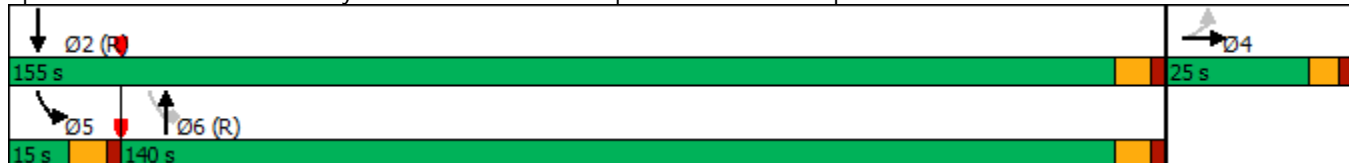


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.9%	13.9%						77.8%	77.8%	8.3%	86.1%	
Maximum Green (s)	19.0	19.0						133.0	133.0	8.0	148.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effect Green (s)	20.7	20.7						121.5	121.5	139.3	146.3	
Actuated g/C Ratio	0.12	0.12						0.68	0.68	0.77	0.81	
v/c Ratio	0.72	0.68						0.20	0.33	0.23	0.22	
Control Delay	96.8	87.1						12.4	2.0	4.4	3.3	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	96.8	87.1						12.4	2.0	4.4	3.3	
LOS	F	F						B	A	A	A	
Approach Delay		92.1						7.6			3.6	
Approach LOS		F						A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	17.7
Intersection LOS:	B
Intersection Capacity Utilization	97.5%
ICU Level of Service	F
Analysis Period (min)	15

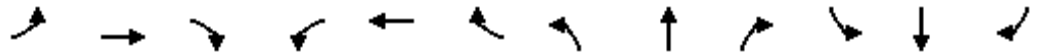
Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

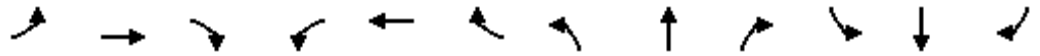


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↗	↕			↕	↗
Traffic Volume (vph)	0	0	0	53	1	113	55	600	0	0	697	984
Future Volume (vph)	0	0	0	53	1	113	55	600	0	0	697	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.908							0.850
Flt Protected					0.984		0.950					
Satd. Flow (prot)	0	0	0	0	1664	0	1770	3539	0	0	3539	1583
Flt Permitted					0.984		0.361					
Satd. Flow (perm)	0	0	0	0	1664	0	672	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					46							1047
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	56	1	120	59	638	0	0	741	1047
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	177	0	59	638	0	0	741	1047
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		20	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				20.0	20.0		160.0	160.0			160.0	160.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

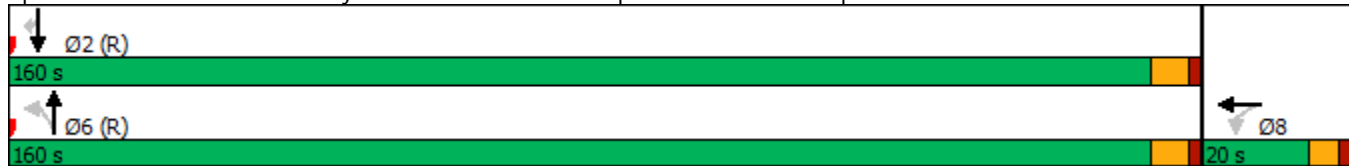


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				11.1%	11.1%		88.9%	88.9%			88.9%	88.9%
Maximum Green (s)				14.0	14.0		153.0	153.0			153.0	153.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					24.6		142.4	142.4			142.4	142.4
Actuated g/C Ratio					0.14		0.79	0.79			0.79	0.79
v/c Ratio					0.66		0.11	0.23			0.26	0.71
Control Delay					66.6		8.4	8.5			5.3	3.3
Queue Delay					0.0		0.0	0.0			0.0	0.0
Total Delay					66.6		8.4	8.5			5.3	3.3
LOS					E		A	A			A	A
Approach Delay					66.6			8.5			4.1	
Approach LOS					E			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 9.4 Intersection LOS: A
 Intersection Capacity Utilization 97.5% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Lanes, Volumes, Timings
12: Bells Ferry Rd & N Booth Rd

05/14/2018



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	308	180	352	877	260	257
Future Volume (vph)	308	180	352	877	260	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			100
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.933	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1738	0
Flt Permitted	0.950		0.271			
Satd. Flow (perm)	1770	1583	505	1863	1738	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		159			46	
Link Speed (mph)	35			45	45	
Link Distance (ft)	1829			1298	843	
Travel Time (s)	35.6			19.7	12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	335	196	383	953	283	279
Shared Lane Traffic (%)						
Lane Group Flow (vph)	335	196	383	953	562	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	0	0	0	336	336	
Trailing Detector (ft)	0	0	0	330	330	
Detector 1 Position(ft)	0	0	0	330	330	
Detector 1 Size(ft)	40	40	40	6	6	
Detector 1 Type	Call	Call	Call	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	D.P+P	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	6	2	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	12.0	12.0	
Minimum Split (s)	10.0	10.0	11.0	19.0	19.0	
Total Split (s)	40.0	40.0	30.0	140.0	110.0	

Lanes, Volumes, Timings
 12: Bells Ferry Rd & N Booth Rd

05/14/2018

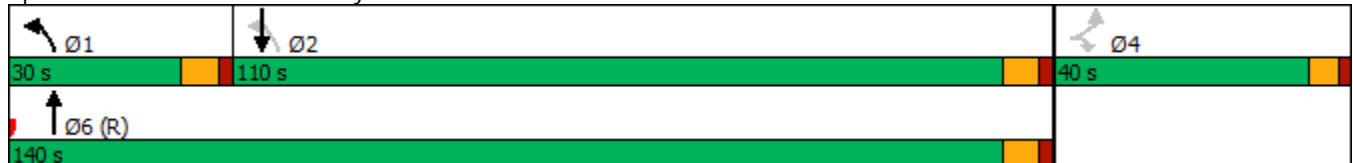


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (%)	22.2%	22.2%	16.7%	77.8%	61.1%	
Maximum Green (s)	34.0	34.0	23.0	133.0	103.0	
Yellow Time (s)	4.0	4.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	7.0	7.0	7.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	Min	
Act Effect Green (s)	40.8	40.8	119.2	126.2	87.3	
Actuated g/C Ratio	0.23	0.23	0.66	0.70	0.48	
v/c Ratio	0.84	0.41	0.69	0.73	0.65	
Control Delay	83.6	16.3	18.9	20.5	36.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	83.6	16.3	18.9	20.5	36.0	
LOS	F	B	B	C	D	
Approach Delay	58.8			20.0	36.0	
Approach LOS	E			C	D	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	0 (0%), Referenced to phase 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	32.2
Intersection LOS:	C
Intersection Capacity Utilization	82.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 12: Bells Ferry Rd & N Booth Rd



HCM 6th TWSC
 13: Bells Ferry Rd & Site Drwy

05/08/2018

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	12	7	20	1169	508	9
Future Vol, veh/h	12	7	20	1169	508	9
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	160	-	-	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	13	8	22	1271	552	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1867	552	562	0	-	0
Stage 1	552	-	-	-	-	-
Stage 2	1315	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	80	533	1009	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	78	533	1009	-	-	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	251	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.4	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1009	-	78	533	-	-
HCM Lane V/C Ratio	0.022	-	0.167	0.014	-	-
HCM Control Delay (s)	8.6	-	60.2	11.9	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0	-	-

HCM 6th TWSC
 9: Bells Ferry Rd & Heck Rd

05/08/2018

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓		↔	↑↑
Traffic Vol, veh/h	14	66	1157	27	72	501
Future Vol, veh/h	14	66	1157	27	72	501
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	-	-	-	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	15	72	1258	29	78	545

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1702	644	0	0	1287	0
Stage 1	1273	-	-	-	-	-
Stage 2	429	-	-	-	-	-
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	83	416	-	-	535	-
Stage 1	227	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	71	416	-	-	535	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	194	-	-	-	-	-
Stage 2	624	-	-	-	-	-

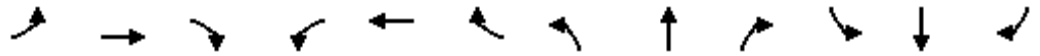
Approach	WB	NB	SB
HCM Control Delay, s	30.7	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	225	535
HCM Lane V/C Ratio	-	-	0.386	0.146
HCM Control Delay (s)	-	-	30.7	12.9
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1.7	0.5

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	680	19	51	0	0	0	0	664	555	146	517	0
Future Volume (vph)	680	19	51	0	0	0	0	664	555	146	517	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	160		0
Storage Lanes	1		0	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.979							0.850			
Flt Protected	0.950	0.961								0.950		
Satd. Flow (prot)	1681	1665	0	0	0	0	0	3539	1583	1770	3539	0
Flt Permitted	0.950	0.961								0.318		
Satd. Flow (perm)	1681	1665	0	0	0	0	0	3539	1583	592	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4							584			
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1689			1105			201			879	
Travel Time (s)		32.9			21.5			3.0			13.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	716	20	54	0	0	0	0	699	584	154	544	0
Shared Lane Traffic (%)	44%											
Lane Group Flow (vph)	401	389	0	0	0	0	0	699	584	154	544	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1	0	1	1	
Detector Template												
Leading Detector (ft)	0	0						336	0	0	336	
Trailing Detector (ft)	0	0						330	0	0	330	
Detector 1 Position(ft)	0	0						330	0	0	330	
Detector 1 Size(ft)	40	40						6	20	40	6	
Detector 1 Type	Call	Call						Cl+Ex	Cl+Ex	Call	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Perm	NA						NA	Perm	D.P+P	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4								6	6		
Detector Phase	4	4						6	6	5	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						12.0	12.0	4.0	12.0	
Minimum Split (s)	10.0	10.0						19.0	19.0	11.0	19.0	
Total Split (s)	45.0	45.0						115.0	115.0	20.0	135.0	

Lanes, Volumes, Timings

6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp

05/14/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.0%	25.0%						63.9%	63.9%	11.1%	75.0%	
Maximum Green (s)	39.0	39.0						108.0	108.0	13.0	128.0	
Yellow Time (s)	4.0	4.0						5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0						2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0						7.0	7.0	7.0	7.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	None	None						C-Min	C-Min	None	C-Min	
Act Effect Green (s)	56.9	56.9						90.8	90.8	103.1	110.1	
Actuated g/C Ratio	0.32	0.32						0.50	0.50	0.57	0.61	
v/c Ratio	0.76	0.74						0.39	0.54	0.37	0.25	
Control Delay	66.2	64.4						26.1	4.6	14.6	11.7	
Queue Delay	0.0	0.0						0.0	0.0	0.0	0.0	
Total Delay	66.2	64.4						26.1	4.6	14.6	11.7	
LOS	E	E						C	A	B	B	
Approach Delay		65.3						16.3			12.3	
Approach LOS		E						B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 29.3
 Intersection Capacity Utilization 84.7%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 6: Bells Ferry Rd & I-575 North Off-Ramp/I-575 North On-Ramp



Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

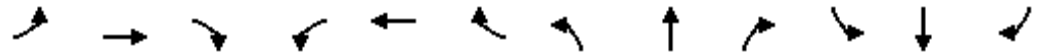


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↗	↕			↕	↗
Traffic Volume (vph)	0	0	0	165	1	306	44	1283	0	0	494	485
Future Volume (vph)	0	0	0	165	1	306	44	1283	0	0	494	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					0.913							0.850
Flt Protected					0.983		0.950					
Satd. Flow (prot)	0	0	0	0	1672	0	1770	3539	0	0	3539	1583
Flt Permitted					0.983		0.413					
Satd. Flow (perm)	0	0	0	0	1672	0	769	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					43							516
Link Speed (mph)		35			35			45				45
Link Distance (ft)		1460			1010			879				527
Travel Time (s)		28.4			19.7			13.3				8.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	176	1	326	47	1365	0	0	526	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	503	0	47	1365	0	0	526	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1		0	1			1	0
Detector Template				Left								
Leading Detector (ft)				20	0		0	336			336	0
Trailing Detector (ft)				0	0		0	330			330	0
Detector 1 Position(ft)				0	0		0	330			330	0
Detector 1 Size(ft)				20	40		20	6			6	20
Detector 1 Type				Cl+Ex	Call		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			6			2	
Permitted Phases				8			6					2
Detector Phase				8	8		6	6			2	2
Switch Phase												
Minimum Initial (s)				4.0	4.0		12.0	12.0			12.0	12.0
Minimum Split (s)				10.0	10.0		19.0	19.0			19.0	19.0
Total Split (s)				30.0	30.0		150.0	150.0			150.0	150.0

Lanes, Volumes, Timings

3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp

05/14/2018

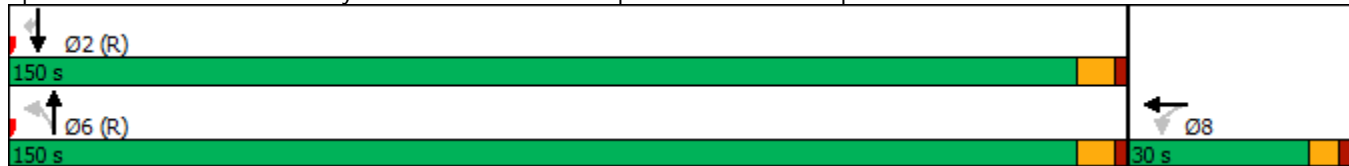


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				16.7%	16.7%		83.3%	83.3%			83.3%	83.3%
Maximum Green (s)				24.0	24.0		143.0	143.0			143.0	143.0
Yellow Time (s)				4.0	4.0		5.0	5.0			5.0	5.0
All-Red Time (s)				2.0	2.0		2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)					6.0		7.0	7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Recall Mode				None	None		C-Min	C-Min			C-Min	C-Min
Act Effect Green (s)					74.6		92.4	92.4			92.4	92.4
Actuated g/C Ratio					0.41		0.51	0.51			0.51	0.51
v/c Ratio					0.70		0.12	0.75			0.29	0.49
Control Delay					47.4		24.7	40.6			24.9	2.9
Queue Delay					0.0		0.0	0.0			0.0	0.0
Total Delay					47.4		24.7	40.7			24.9	2.9
LOS					D		C	D			C	A
Approach Delay					47.4			40.1			14.0	
Approach LOS					D			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 32.1 Intersection LOS: C
 Intersection Capacity Utilization 84.7% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Bells Ferry Rd & I-575 South On-Ramp/I-575 South Off-Ramp



Appendix C
High-T Synchro Report

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↵	↵	↵		↶	↵
Traffic Vol, veh/h	14	11	8	0	627	6
Future Vol, veh/h	14	11	8	0	627	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Yield	Yield	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	16979	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	12	9	0	682	7

Major/Minor	Minor2		Major2	
Conflicting Flow All	682	682	-	0
Stage 1	682	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.42	6.22	-	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-
Pot Cap-1 Maneuver	415	450	-	-
Stage 1	502	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	415	450	-	-
Mov Cap-2 Maneuver	415	-	-	-
Stage 1	502	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	13.6	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	415	450	-	-
HCM Lane V/C Ratio	0.037	0.027	-	-
HCM Control Delay (s)	14	13.2	-	-
HCM Lane LOS	B	B	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-

HCM 6th TWSC
 17: Bells Ferry Rd & Site Drwy

05/08/2018

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘		↗	↗
Traffic Vol, veh/h	12	7	20	0	508	9
Future Vol, veh/h	12	7	20	0	508	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Yield	Yield	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	16979	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	22	0	552	10

Major/Minor	Minor2		Major2	
Conflicting Flow All	552	552	-	0
Stage 1	552	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.42	6.22	-	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-
Pot Cap-1 Maneuver	495	533	-	-
Stage 1	577	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	495	533	-	-
Mov Cap-2 Maneuver	495	-	-	-
Stage 1	577	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	495	533	-	-
HCM Lane V/C Ratio	0.026	0.014	-	-
HCM Control Delay (s)	12.5	11.9	-	-
HCM Lane LOS	B	B	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-