Transportation Analysis

McDonough Commerce Center II
DRI #2776

Henry County / City of McDonough, Georgia

Report Prepared:

February 2018

Prepared for:

Ridgeline Property Group

Prepared by:

Kimley-Horn and Associates, Inc.
11720 Amber Park Drive, Suite 600
Alpharetta, GA 30009
Project #015054001

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *McDonough Commerce Center II* development located in Henry County, Georgia, to be annexed into the City of McDonough. The approximate 81.17-acre site is located approximately 2,000 feet south of the SR 42 at SR 155 intersection and is bordered by SR 42 to the west. The proposed development will be an industrial warehouse facility with approximately 728,000 SF of warehousing space.

The project is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 500,000 SF of an Industrial development. The DRI trigger for this development is the submittal of the Annexation and Re-Zoning Application with the City of McDonough on December 15, 2017, combined with the proposed development exceeding 500,000 gross square feet for industrial developments within a developing suburbs area. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on January 16, 2018 by the City of McDonough.

According to GRTA's Procedures and Principles for GRTA Development of Regional Impact Review, the proposed DRI complies with the Expedited Review Criteria in **Section 3-102, Part B – Limited Trip Generation**, which states:

> *…the land uses within the proposed DRI are such that the amount of trips generated by the development is likely to have minimal impact on the road network.*
>
> 1. *No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,*
> 2. ***More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis****; or,*
> 3. *The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.*

The present zoning classification of the project site is Residential Agricultural (RA). The proposed zoning classification is Light Manufacturing (M-1). The proposed project is expected to be completed by 2019. The proposed development will consist of the following land uses and densities:

Warehouse: 728,000 SF

Capacity analyses were performed throughout the study network for the Existing 2018 conditions, the Projected 2019 No-Build conditions, and the Projected 2019 Build conditions.

- Existing 2018 conditions represent traffic volumes that were collected in January 2018 by performing AM and PM peak hour turning movement counts.
- Projected 2019 No-Build conditions represent the existing traffic volumes grown for one (1) year at 3.0 percent per year throughout the study network.
- Projected 2019 Build conditions represent the Projected 2019 No-Build conditions with the addition of the project trips that are anticipated to be generated by the proposed *McDonough Commerce Center II* development.

Based on the Existing 2018 conditions (present conditions; i.e. excludes background traffic growth and the estimated project trips from the McDonough Commerce Center II DRI), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

Based on the Projected 2019 No-Build conditions (includes background traffic growth but excludes the McDonough Commerce Center II project traffic), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

Based on the Projected 2019 Build conditions (includes both background traffic growth and the McDonough Commerce Center II project traffic, plus the site access driveways), all study intersections are projected to operate within the acceptable level-of-service (LOS) standard of D.

The following site-access improvements are recommended to serve the traffic associated with the *McDonough Commerce Center II* development:

- Intersection #4: SR 42 at Proposed Driveway 1
    - Along SR 42, construct one (1) southbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
    - Along SR 42, construct one (1) northbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
    - On the site, construct one (1) westbound shared left/right-turn lane exiting the site onto SR 42 and one (1) ingress lane entering the site.
- Intersection #5: SR 42 at Proposed Driveway 2
    - Along SR 42, construct one (1) southbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
    - Along SR 42, construct one (1) northbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
    - On the site, construct one (1) westbound shared left/right-turn lane exiting the site onto SR 42 and one (1) ingress lane entering the site.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of the proposed *McDonough Commerce Center II* development located in Henry County, Georgia, to be annexed into the City of McDonough. The approximate 81.17-acre site is located approximately 2,000 feet south of the SR 42 at SR 155 intersection and is bordered by SR 42 to the west.

The proposed development will be an industrial warehouse facility with approximately 728,000 SF of warehousing space. The project will exceed 500,000 square feet for industrial developments within a developing suburbs area; therefore, the proposed development is a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review.

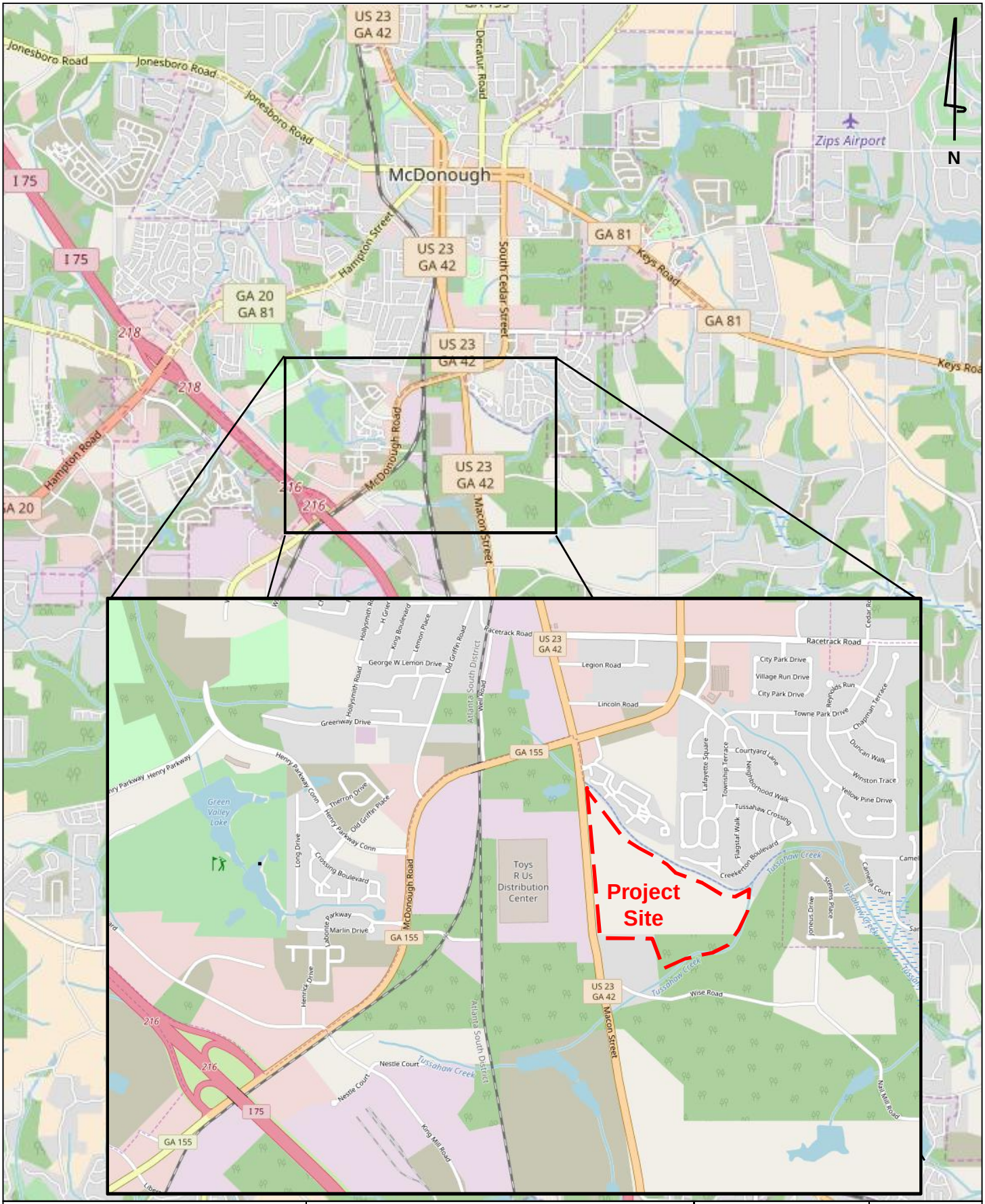
According to GRTA's Procedures and Principles for GRTA Development of Regional Impact Review, the proposed DRI complies with the Expedited Review Criteria in **Section 3-102, Part B – Limited Trip Generation**, which states:

> *…the land uses within the proposed DRI are such that the amount of trips generated by the development is likely to have minimal impact on the road network.*
>
> 1. *No more than one thousand (1,000) gross daily trips generated by the DRI based on a trip generation memorandum; or,*
> 2. ***More than one thousand (1,000) but no more than three thousand (3,000) gross daily trips will be generated by the DRI, based on a trip generation memorandum and requires the submittal of an Access Analysis****; or,*
> 3. *The proposed DRI is projected to generate no more than one hundred (100) gross PM peak hour weekday trips based on a trip generation memorandum.*

Figure 1 provides the site location of proposed *McDonough Commerce Center II* development, and **Figure 2** and **Figure 3** provide an aerial view of the project site and surrounding area. Field review photographs taken within the vicinity of the study network are located in the site photo log in **Appendix A**. The Henry County Future Land Use Map and ARC's *PLAN 2040 Unified Growth Policy Map* are included in **Appendix B**.

The proposed project is expected to be completed by 2019, and this analysis will consider the full build-out of the proposed site in 2019. A summary of the proposed land-use and density is provided below in **Table 1**.

Table 1: Proposed Land Uses	
Warehouse/Distribution Center	728,000 SF (new construction)



Kimley»Horn	***McDonough Commerce Center II*** ***DRI #2776*** ***Transportation Analysis***	**Site Location Map**	**Figure 1** **Page 4**

Kimley»Horn	*McDonough Commerce Center II* *DRI #2776* *Transportation Analysis*	Site Aerial (zoomed out)	Figure 2
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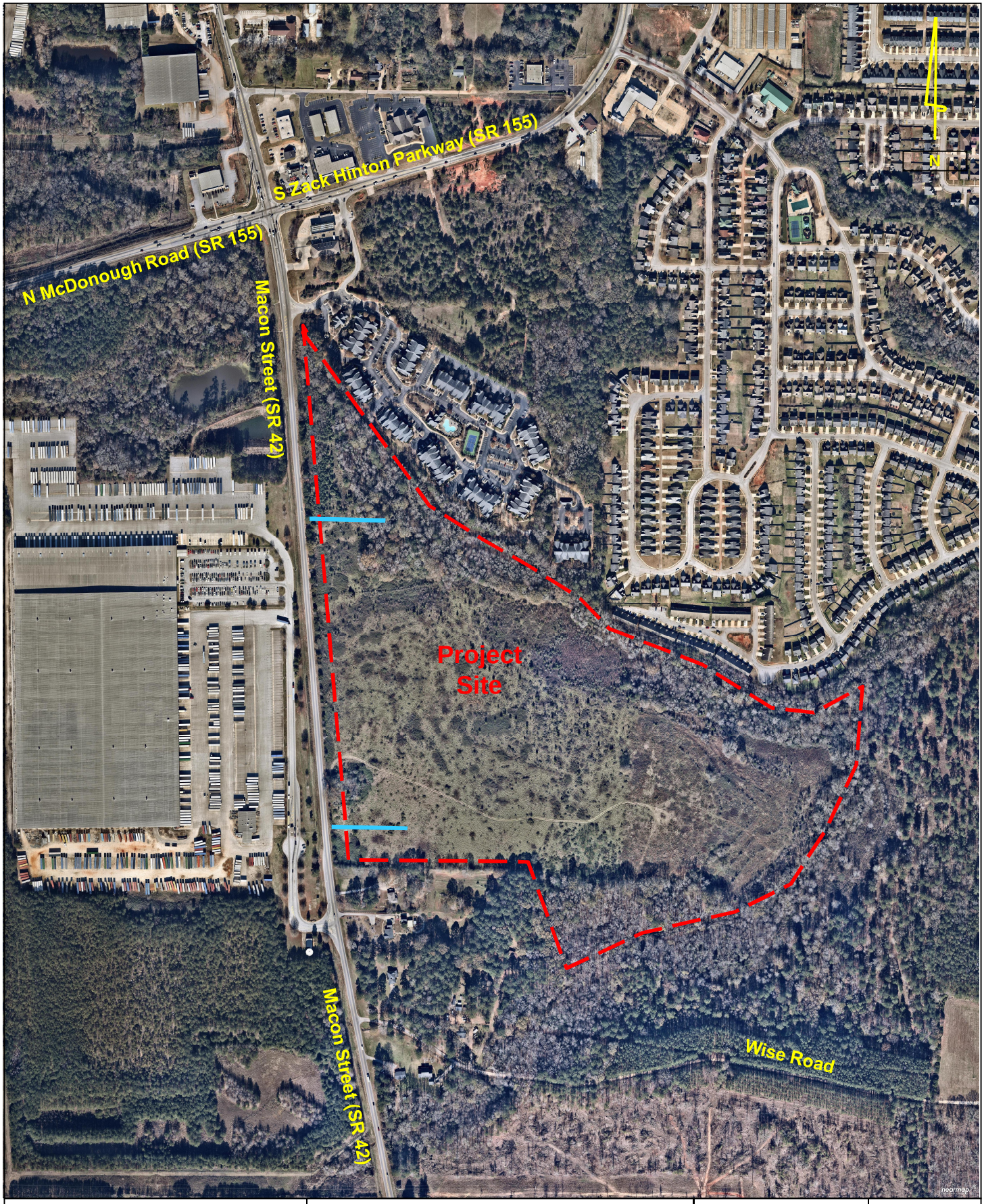


Kimley»Horn	*McDonough Commerce Center II* *DRI #2776* *Transportation Analysis*	Site Aerial (zoomed in)	Figure 3
			Page 6

1.2 Site Plan Review

The proposed development is located on an approximately 81.17-acre site in Henry County, Georgia, to be annexed into the City of McDonough. The project site is bordered by SR 42. The proposed development will be an industrial warehouse facility with approximately 728,000 SF of warehousing space. The project will include one (1) new warehouse building. The property is currently undeveloped. A reference of the proposed site plan is provided in **Appendix C**. A full-sized site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the review package.

1.3 Site Access

As currently envisioned, the proposed development will be served by two (2) stop-controlled full-movement driveways along SR 42. SR 42 is a two-lane, undivided, minor arterial with a posted speed limit of 55 mph. The closest major intersection south of the site is King Mill Road, which is a two-lane, undivided, local road with a posted speed limit of 45 mph. The closest intersection north of the site is SR 155, which is a two-lane, undivided, principal arterial with a posted speed limit of 45 MPH. A summary of the proposed site access point follows:

1. Proposed Driveway 1 – a proposed full-movement driveway located on SR 42 approximately 2,000 feet south of the intersection of SR 42 at SR 155. Proposed Driveway 1 is proposed as a side-street stop-controlled full-movement driveway.
2. Proposed Driveway 2 – a proposed full-movement driveway located on SR 42 approximately 1,000 feet south of Proposed Driveway 1, and approximately 350' north of an existing driveway across SR 42. Proposed Driveway 2 is proposed as a side-street stop controlled full-movement driveway.

The proposed site access point provides vehicular access to the entire development. Internal private roadways throughout the site provide access to all buildings and parking facilities. See referenced site plan in **Appendix C** for a visual representation of vehicular access and circulation throughout the proposed development. The site driveways and internal roadways provide access to all parking on the site. Parking will be provided throughout the development as follows:

Employee parking required:	150
Employee parking provided:	311
Trailer parking required:	14
Trailer parking provided:	210

1.4 Bicycle and Pedestrian Facilities

Pedestrian facilities (sidewalks) currently do not exist along the project site frontage. There are no bicycle or pedestrian projects programmed in the vicinity of the project site that will be completed prior to the buildout of the *McDonough Commerce Center II* development. According to the DRI site plan, no bicycle or pedestrian facilities are proposed.

1.5 Transit Facilities

There are no direct transit routes located within the vicinity of the project site, and therefore, there were no alternative mode reductions taken.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Growth Rate

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates as well as trips anticipated from nearby or adjacent other projects. Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 3.0 percent per year background traffic growth rate was used for all roadways. This background growth rate was used to account for other proposed development activity in the area.

2.2 Traffic Data Collection

Weekday peak hour turning movement counts were collected on Thursday, January 25, 2018 at the study intersections during the AM and PM peak periods. Peak hours for all intersections are shown in **Table 2**.

Table 2: Peak Hour Summary

Intersection	AM Peak Hour	PM Peak Hour
1. SR 42 at King Mill Road	7:15 AM-8:15 AM	4:30 PM-5:30 PM
2. SR 42 at SR 155	7:30 AM-8:30 AM	4:45 PM-5:45 PM
3. SR 155 at King Mill Road	7:15 AM-8:15 AM	4:45 PM-5:45 PM

The collected peak hour turning movement traffic counts are available upon request.

2.3 Detailed Intersection Analysis

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels-of-service, LOS A through LOS F, with A being the best and F being the worst. Level-of-service analyses were conducted at all intersections within the study network using *Synchro Professional, Version 9.0*. All intersection signal timings were optimized using *Synchro Professional, Version 9.0*.

Levels-of-service for signalized intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

Levels-of-service for unsignalized intersections, with stop control on the minor street only, are reported for the side street approaches and the major street left-turn movements. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delays in turning onto a major roadway.

3.0 STUDY NETWORK

3.1 Gross Trip Generation

Traffic for the proposed land uses and densities were calculated using methodology contained in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition*. Gross trips generated are displayed below in **Table 3**.

Table 3: Gross Trip Generation

Land Use (Intensity)	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
Warehousing (728,000 SF)	*150*	598	598	87	26	31	84

3.2 Trip Distribution

The directional distribution and assignment of new project trips was based on the project land uses, a review of the land use densities and road facilities in the area, engineering judgment, and methodology discussions with the Georgia Regional Transportation Authority (GRTA), Atlanta Regional Commission (ARC), Henry County, and the City of McDonough. See *Section 5.0 Trip Distribution and Assignment* for more information.

3.3 Level-of-Service Standards

For the purposes of this traffic analysis, a level-of-service standard of D was assumed for all intersections and segments within the study network.

3.4 Study Network Determination

A general study area was determined based on a review of land uses and population densities in the area as well as a review of peak hour traffic counts and engineering judgement. The study area was agreed upon during methodology discussions with GRTA, ARC, Henry County, and the City of McDonough, and includes the following three (3) existing intersections described in **Table 4**. The study network under build-out conditions also includes all the proposed site driveways.

The study network includes three (3) signalized intersections as noted in **Table 4**. The study intersections are shown in **Figure 4**.

Table 4: Intersection Control Summary

Intersection	Control
1. SR 42 at King Mill Road	Signal
2. SR 42 at SR 155	Signal
3. SR 155 at King Mill Road	Signal

Each of the listed intersections was analyzed for the Existing 2018 conditions, the Projected 2019 No-Build conditions, and the Projected 2019 Build conditions. The Projected 2019 No-Build conditions represent the existing traffic volumes grown for one (1) year at 3.0 percent per year throughout the study network.

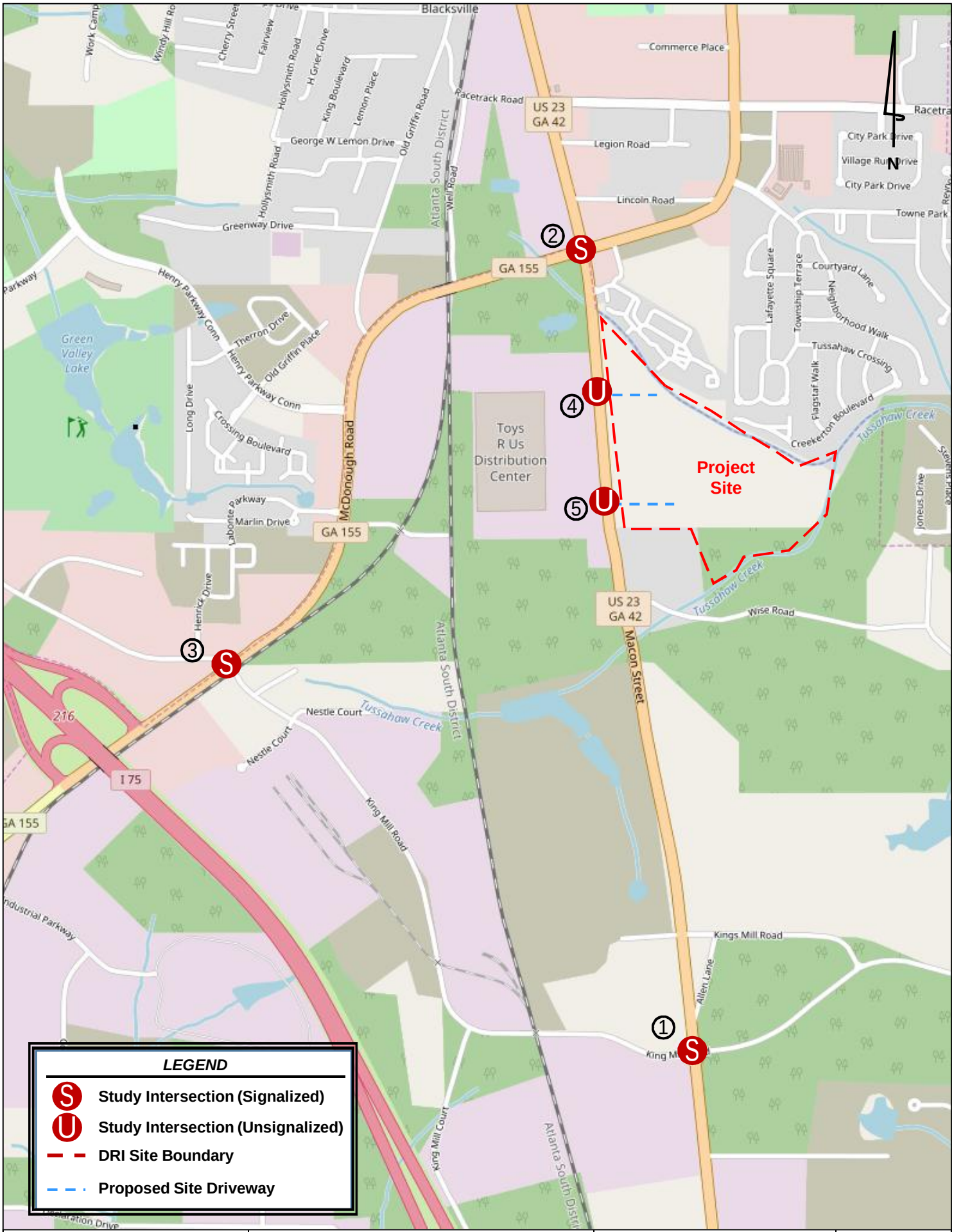
The Projected 2019 Build conditions add the project trips associated with the *McDonough Commerce Center II* development to the Projected 2019 No-Build conditions.

3.5 Existing Roadway Facilities

Roadway classification descriptions and estimated Annual Average Daily Traffic (AADT) for the entire study area are provided in **Table 5** (bolded roadway runs adjacent to the site).

Table 5: Roadway Classifications

Roadway	No. of Lanes	Posted Speed Limit (MPH)	Average Daily Traffic (ADT)	Functional Classification
SR 42	**2**	**55**	**11,400**	**Minor Arterial**
SR 155	2	45	19,900	Principal Arterial
King Mill Road	2	45	*None Collected*	Local Road



Kimley»Horn	*McDonough Commerce Center II* **DRI # 2776** **Transportation Analysis**	**Study Intersections**	**Figure 4** **Page 11**

4.0 TRIP GENERATION

As stated previously, gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available. Trip generation for this proposed development is calculated based upon the following land use: Warehousing (ITE 150).

The total (net) trips generated and analyzed in this report are listed in **Table 6**.

Table 6: Net New Trip Generation

	Daily Traffic			AM Peak Hour		PM Peak Hour	
	Total	**Enter**	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Employee (Car) Trips	896	448	448	65	19	23	63
Heavy Vehicle (Truck) Trips	300	150	150	22	7	8	21
Total Trips	**1,196**	**598**	**598**	**87**	**26**	**31**	**84**

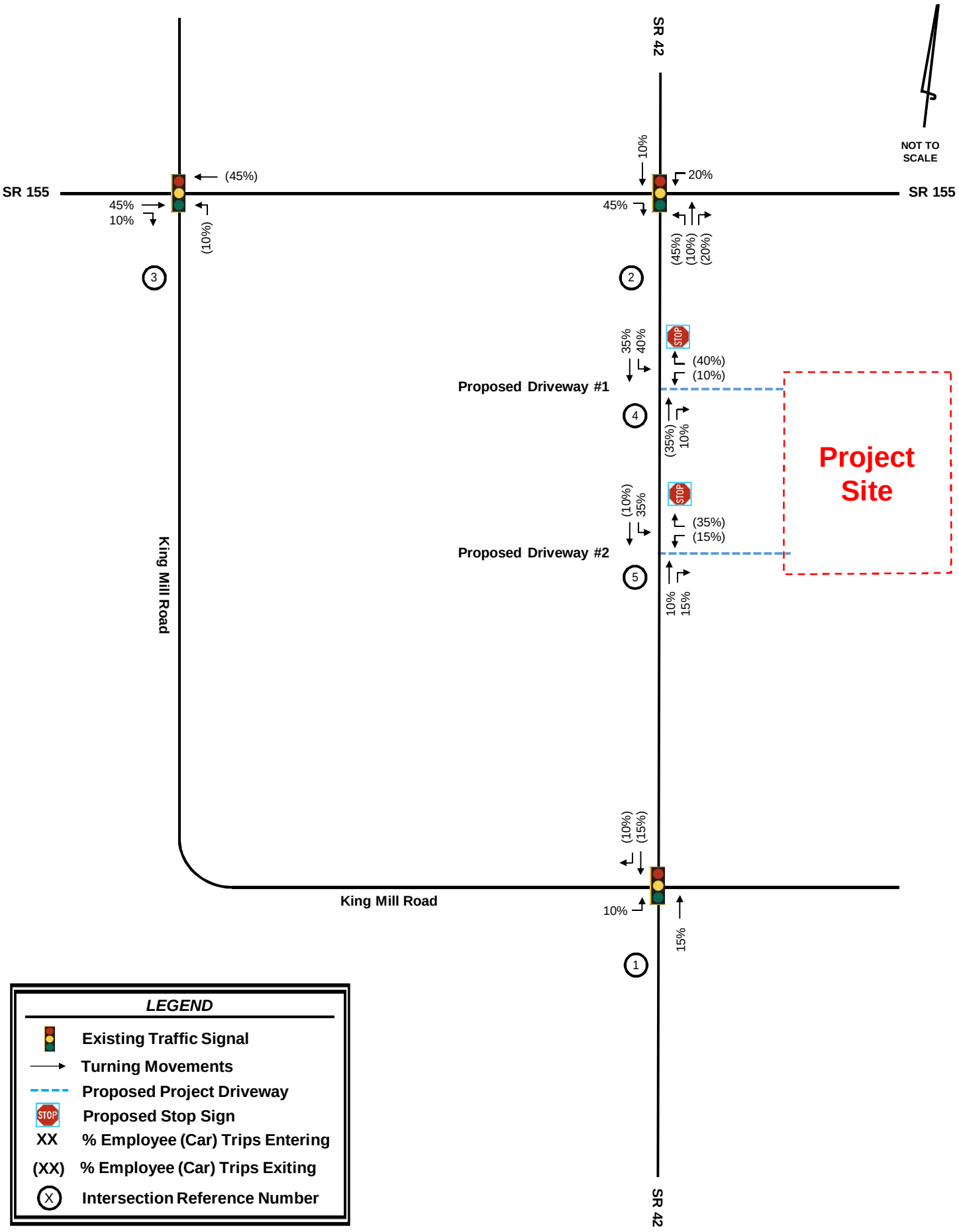
A more detailed trip generation analysis summary table is provided in **Appendix D**.

5.0 TRIP DISTRIBUTION AND ASSIGNMENT

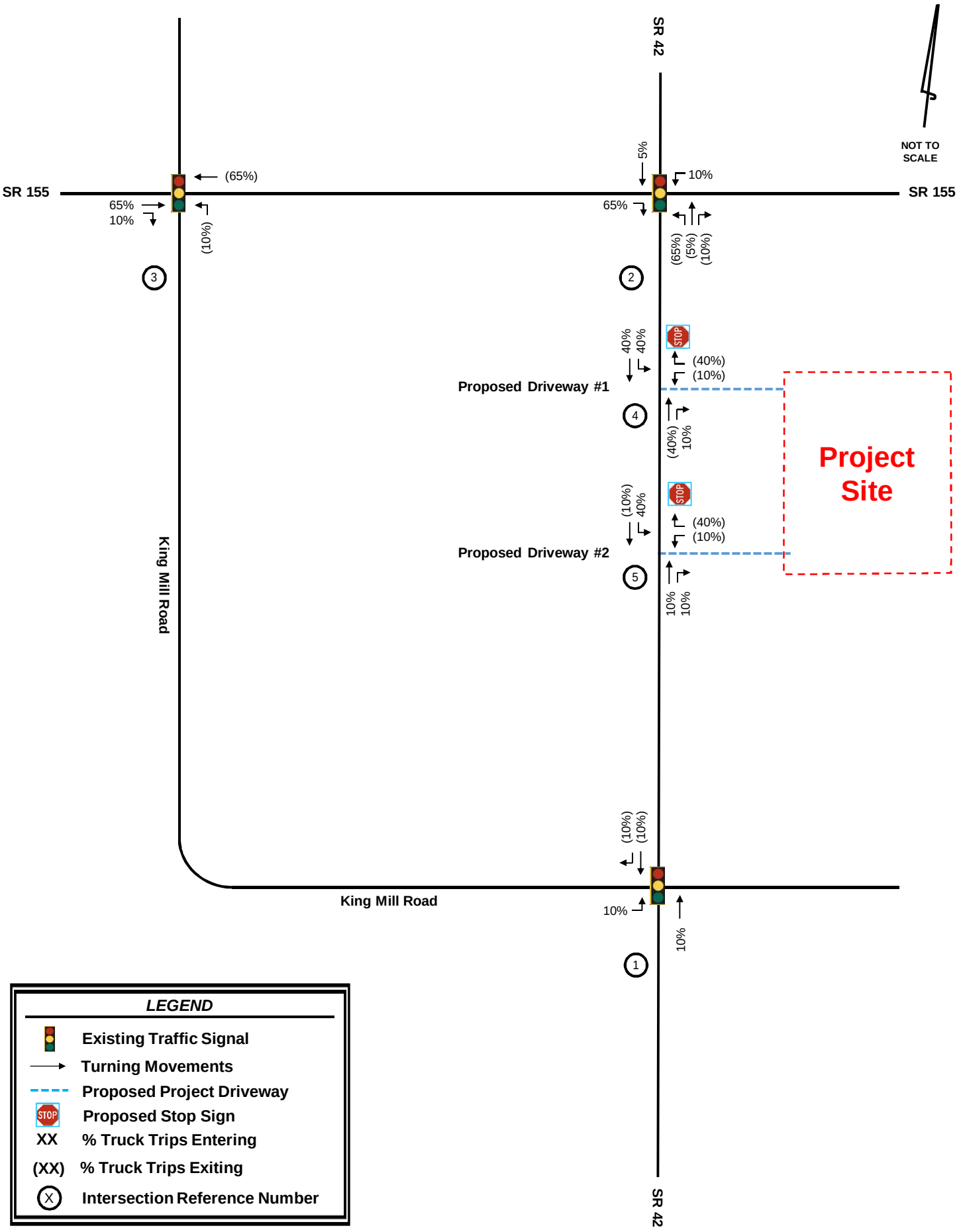
New trips were distributed onto the roadway network using the percentages developed as described in *Section 3.2* of this report, and as agreed to during methodology discussions with GRTA, ARC, Henry County Staff, and the City of McDonough.

Figure 5A and **Figure 5B** display the anticipated distribution and assignment of employee (car) trips and truck trips throughout the study roadway network. These trip assignment percentages were applied to the net new trips expected to be generated by the development, and the volumes were assigned to the roadway network. The combined peak hour project trips by turning movement throughout the study network, anticipated to be generated by the proposed *McDonough Commerce Center II* development, are shown on **Figure 6**.

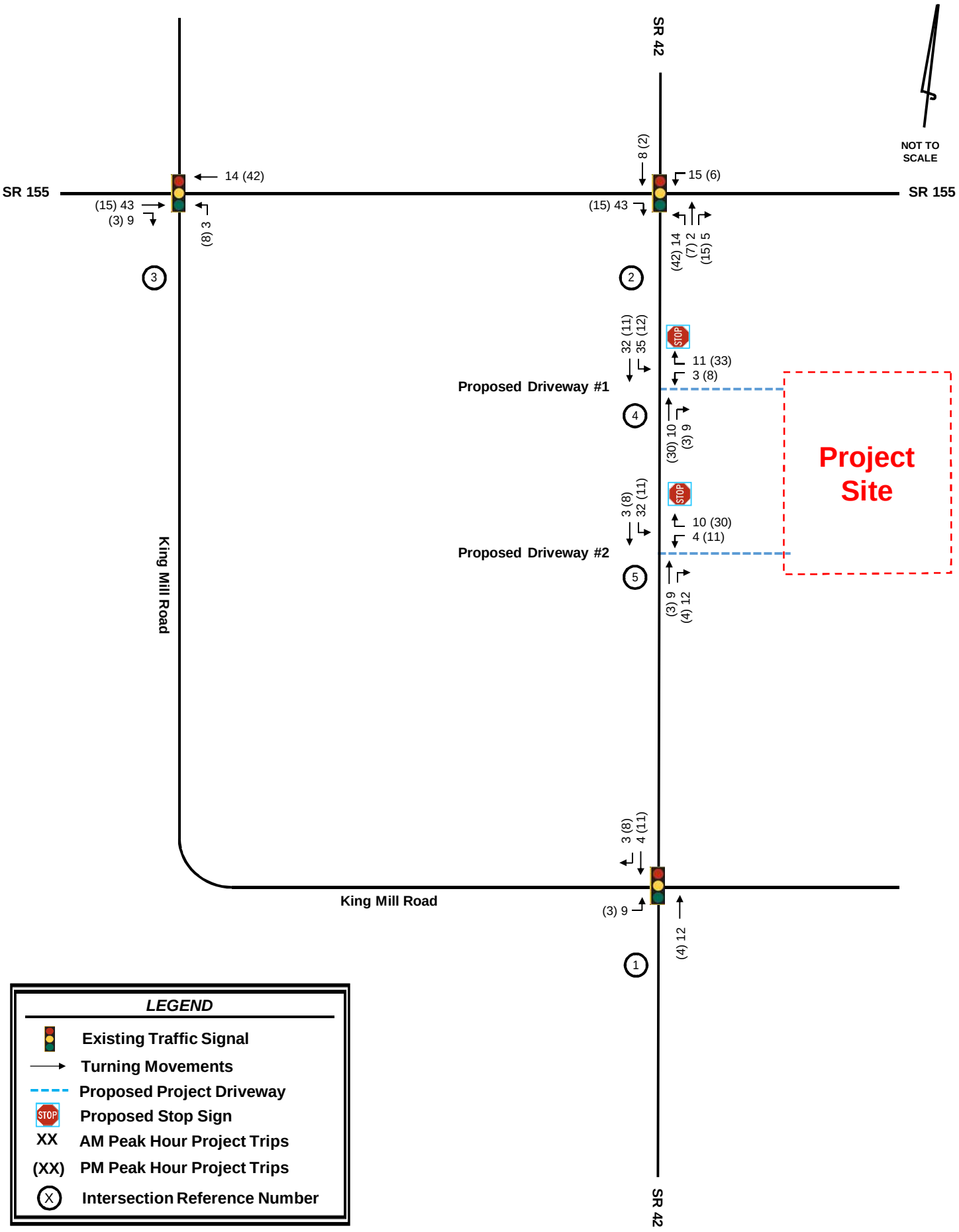
Detailed intersection volume worksheets are provided in **Appendix E**.



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Employee (Car) Trip Distribution and Assignment	Figure 5A Page 13



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Heavy Vehicle (Truck) Trip Distribution and Assignment	Figure 5B Page 14



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Project Trips	Figure 6 Page 15

6.0 TRAFFIC ANALYSIS

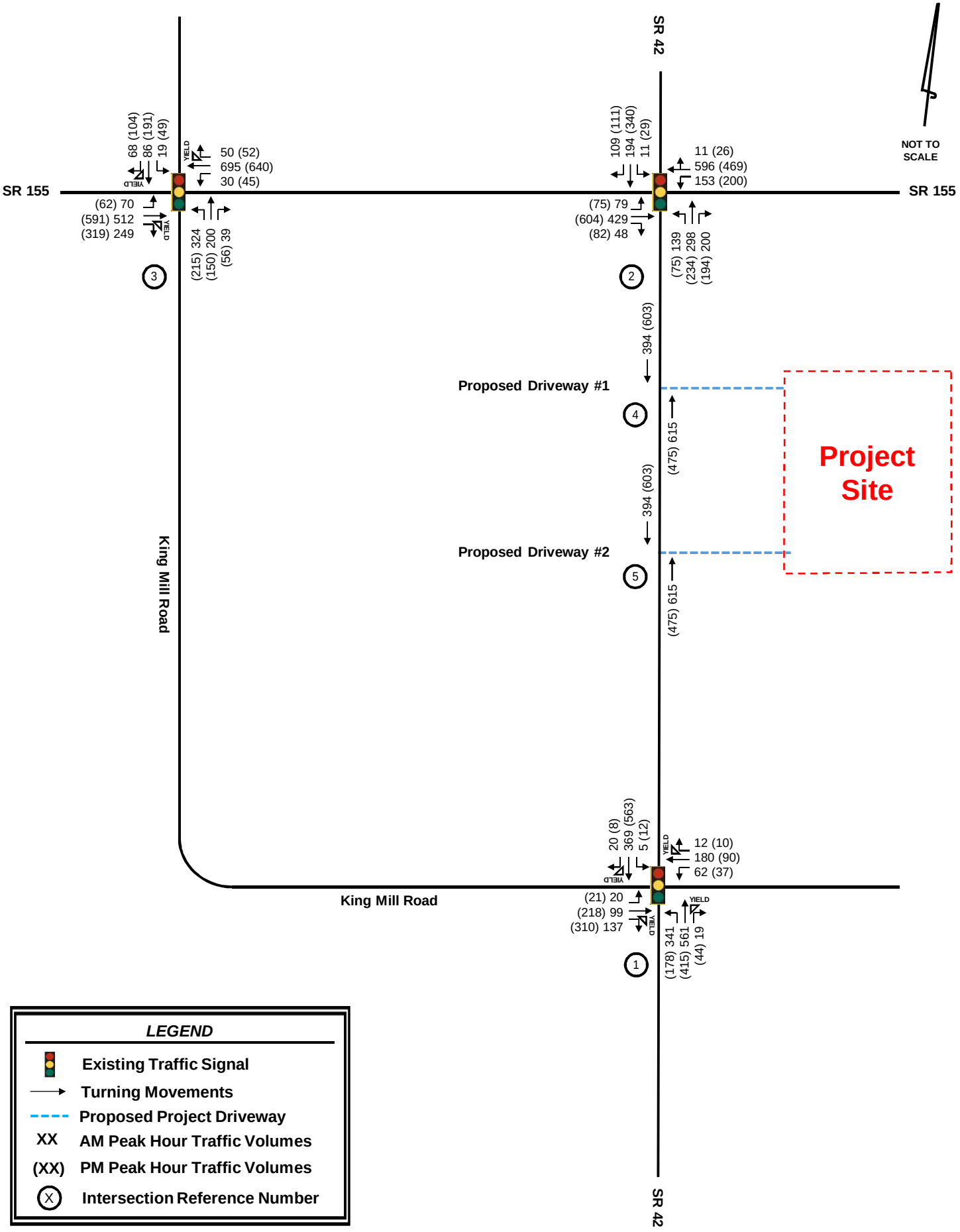
6.1 Existing 2018 Conditions

The observed existing peak hour traffic volumes were entered into *Synchro 9.0,* and capacity analyses were performed for the AM and PM peak hours. The existing peak hour traffic volumes are displayed in **Figure 7**, and the results of the capacity analyses for the Existing 2018 conditions are shown in **Table 7**. Detailed *Synchro* analysis reports are available upon request.

Table 7: Existing 2018 Intersection Levels-of-Service
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. SR 42 at King Mill Road	Signal	Overall	D	B (15.7)	B (17.7)
2. SR 42 at SR 155	Signal	Overall	D	D (46.7)	D (47.5)
3. SR 155 at King Mill Road	Signal	Overall	D	D (44.5)	D (45.4)

As shown in **Table 7**, all study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Existing 2018 conditions. Therefore, there are no recommended improvements for the Existing 2018 scenario.



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Existing 2018 Conditions	Figure 7
			Page 17

6.2 Projected 2019 No-Build Conditions

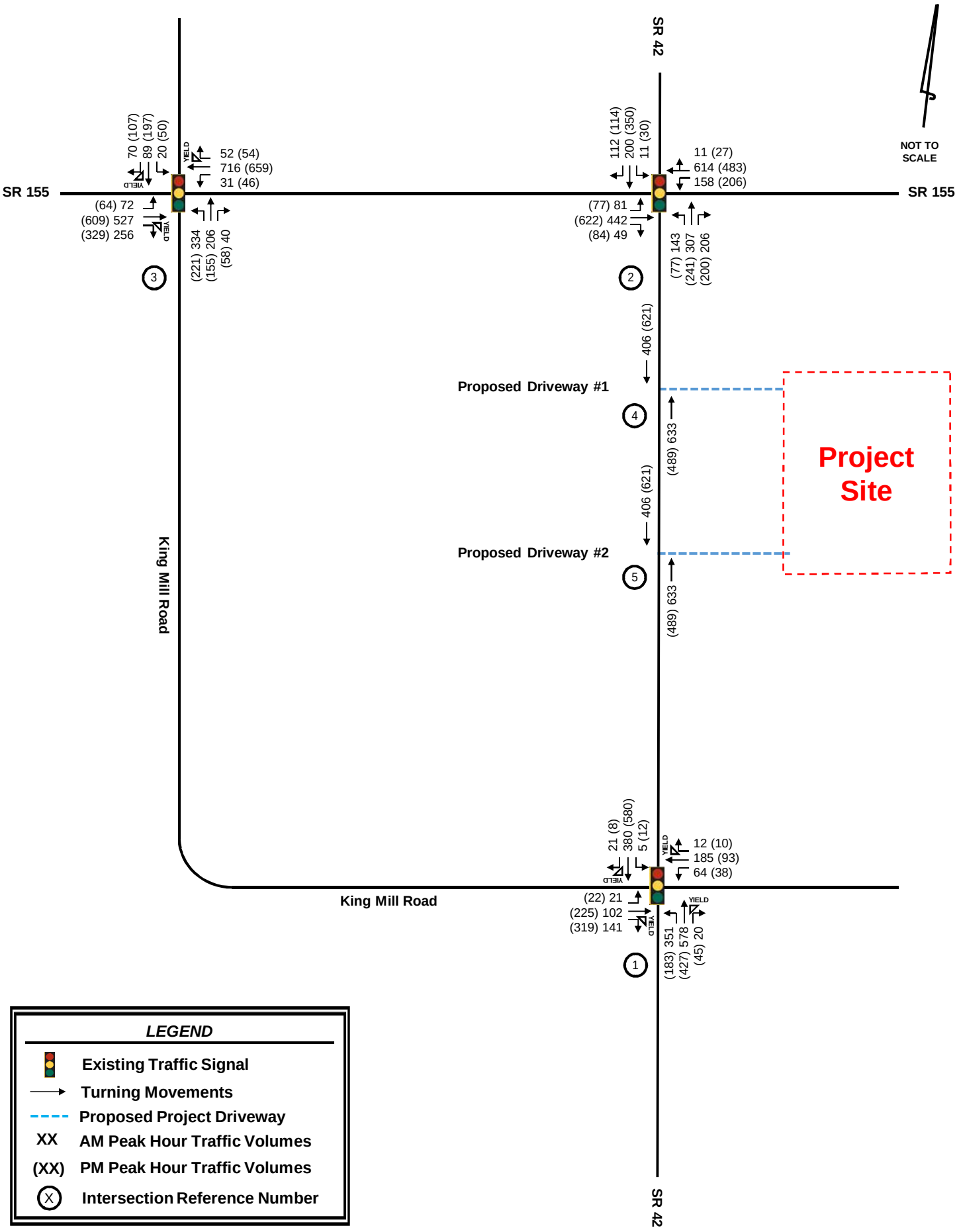
To account for growth in the vicinity of the proposed development, the existing traffic volumes were increased for one (1) year at 3.0 percent per year throughout the study network. These volumes were entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2019 No-Build conditions were analyzed using existing roadway geometry and existing intersection control types.

The intersection laneage and traffic volumes for the Projected 2019 No-Build conditions are shown in **Figure 8**. The results of the capacity analyses for the Projected 2019 No-Build are shown in **Table 8**. Detailed *Synchro* analysis reports are available upon request.

Table 8: Projected 2019 No-Build Intersection Levels-of-Service
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. SR 42 at King Mill Road	Signal	Overall	D	B (16.1)	B (18.4)
2. SR 42 at SR 155	Signal	Overall	D	D (47.5)	D (48.6)
3. SR 155 at King Mill Road	Signal	Overall	D	D (45.6)	D (45.5)

As shown in **Table 8**, all signalized study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2019 No-Build traffic conditions. Therefore, there are no recommended improvements for the Projected 2019 No-Build scenario.



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Projected 2019 No-Build Conditions	Figure 8 Page 19

6.3 Projected 2019 Build Conditions

The traffic associated with the proposed *McDonough Commerce Center II* development was added to the Projected 2019 No-Build volumes. These volumes were then entered into *Synchro 9.0*, and capacity analyses were performed. The Projected 2019 Build conditions were analyzed using the existing roadway geometry, existing intersection control types, and proposed site driveways as shown in the DRI site plan.

The intersection laneage and traffic volumes used for the Projected 2019 Build conditions are shown in **Figure 9**. The results of the capacity analyses for the Projected 2019 Build conditions are shown in **Table 9**. Detailed *Synchro* analysis reports are available upon request.

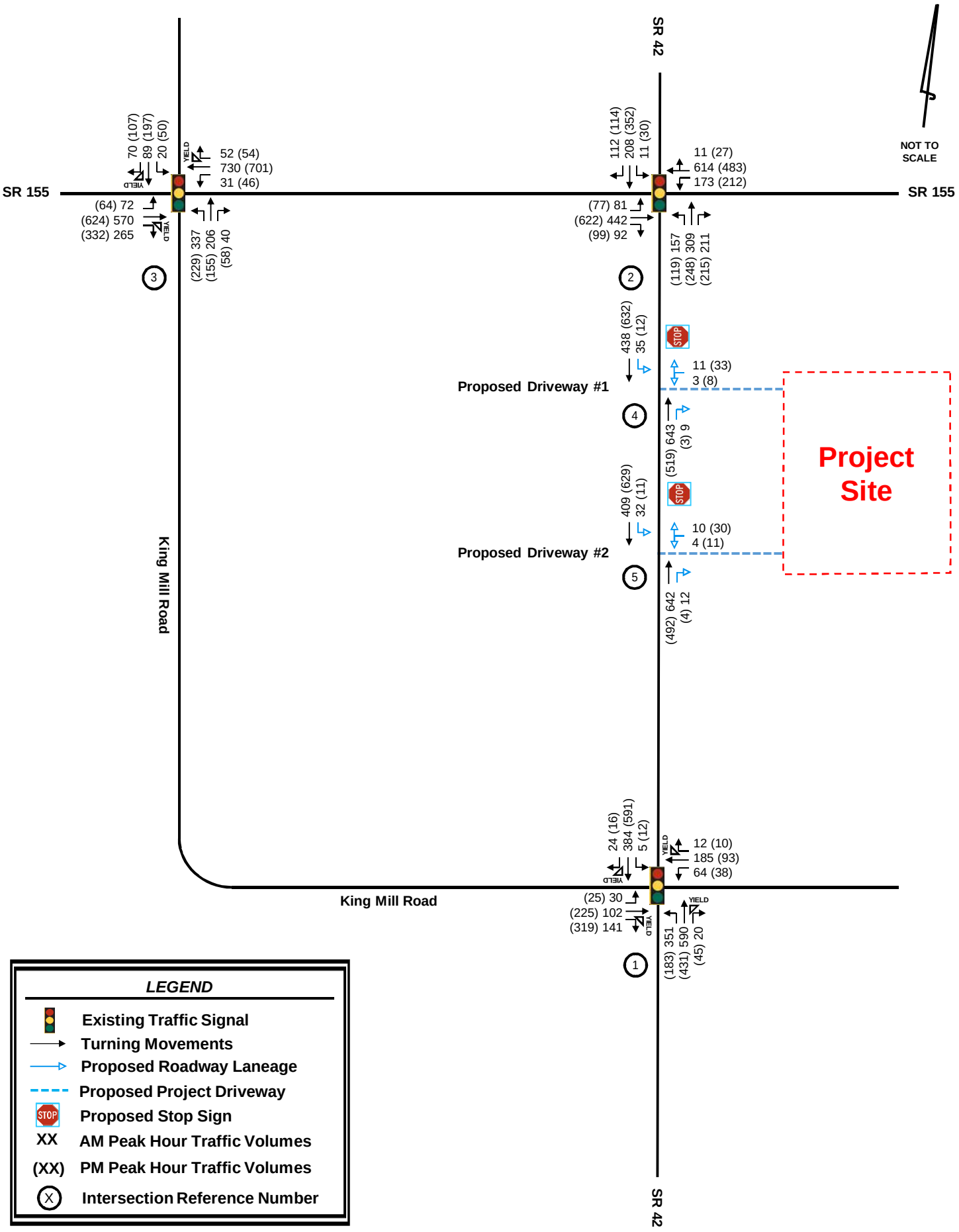
Table 9: Projected 2019 Build Intersection Levels-of-Service
LOS (delay in seconds)

Intersection	Control	Approach/ Movement	LOS Std.	AM Peak Hour	PM Peak Hour
1. SR 42 at King Mill Road	Signal	Overall	D	B (16.6)	B (18.5)
2. SR 42 at SR 155	Signal	Overall	D	D (48.6)	D (51.9)
3. SR 155 at King Mill Road	Signal	Overall	D	D (46.2)	D (46.9)
4. SR 42 at Proposed Driveway 1	Side-Street Stop-Control	WB Approach	D	C (17.6)	C (16.8)
		SB Left		A (9.7)	A (9.0)
5. SR 42 at Proposed Driveway 2	Side-Street Stop-Control	WB Approach	D	C (15.3)	B (14.4)
		SB Left		A (9.8)	A (9.0)

As shown in **Table 9**, all study intersections currently operate at or above their acceptable overall level-of-service standard during the AM and PM peak hours for the Projected 2019 Build traffic conditions.

Based on the Projected 2019 Build conditions, the following site access improvements are recommended:

- Intersection #4: SR 42 at Proposed Driveway 1
  - Along SR 42, construct one (1) southbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along SR 42, construct one (1) northbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) westbound shared left/right-turn lane exiting the site onto SR 42 and one (1) ingress lane entering the site.
- Intersection #5: SR 42 at Proposed Driveway 2
  - Along SR 42, construct one (1) southbound left-turn lane with 310 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - Along SR 42, construct one (1) northbound right-turn lane with 250 feet of storage and 100 feet of taper per GDOT minimum design requirements for a 55 MPH road.
  - On the site, construct one (1) westbound shared left/right-turn lane exiting the site onto SR 42 and one (1) ingress lane entering the site.



Kimley»Horn	*McDonough Commerce Center II* DRI # 2776 Transportation Analysis	Projected 2019 Build Conditions	Figure 9 Page 21

7.0 INGRESS/EGRESS ANALYSIS

Vehicular access to the *McDonough Commerce Center II* development is proposed at two (2) locations. The site driveway location is discussed in Section 1.3. Driveway 1 and Driveway 2 are both proposed to be stop-controlled full-movement driveways under the Projected 2019 Build conditions. The proposed site driveway provides vehicular access to the entire development. Internal private roadways throughout the site provide access throughout the project site.

Capacity analyses were performed for the proposed site driveway intersections (Intersection #4 and Intersection #5) using *Synchro 9.0*. The results of the capacity analyses for this intersection (LOS, delay, and recommended laneage) are reported in *Section 6.3* of this report. Based on the Projected 2019 Build conditions, the proposed site driveway intersection is anticipated to operate at an acceptable level-of-service, assuming implementation of the recommended laneage, signalization, and roadway improvements.

8.0 IDENTIFICATION OF PROGRAMMED PROJECTS

According to ARC's Transportation Improvement Program, the Regional Transportation Improvement Program, GDOT, City of Atlanta's programmed projects, and the GA STIP, the following projects are programmed or planned to be completed by the respective years within the vicinity of the proposed development. The identified projects are listed in **Table 10** below.

Table 10: Programmed Improvements

#	Year	Project ID	Project Description
1	2020	HE-118E	Construct a new 4-lane roadway linking SR 20/81 with SR 155 on the southwest side of McDonough
2	2030	AR-318	I-75 Commercial Vehicle Lanes (NB only) from I-475 to SR 155
3	2030	HE-113	Widen the section of SR-155 from I-75 SB to SR 81 from two lanes to four lanes
4	2040	AR-955	New I-75 interchange at Bethlehem Road

Fact sheets for projects 1-4 can be found in **Appendix F**.

9.0 INTERNAL CIRCULATION ANALYSIS

Internal roadways throughout the site provide vehicular access to all buildings and parking on the site. The proposed site driveway will provide access to buildings on the site. A detailed copy of the proposed site plan with internal site roadways is provided in **Appendix C** and a full-sized site plan is attached to the report.

APPENDIX A

Site Photo Log

Kimley»Horn
11720 Amber Park Drive
Suite 600
Alpharetta, GA 30009

Ridgeline Property Group

Photograph Sheet

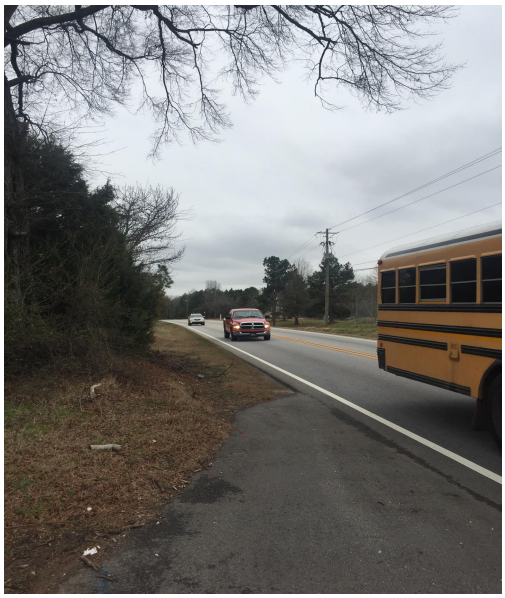
KHA Job No.: 015054001
KHA Rep.: HDF
Date: February 12th, 2018
Page: 1 of 3

Site Name: McDonough Commerce Center II DRI #2776

Photo No. 1

Comments:
Looking west from Proposed Site Driveway #1

Photo No. 2



Comments:
Looking south from Proposed Site Driveway #1

Kimley»Horn
11720 Amber Park Drive
Suite 600
Alpharetta, GA 30009

Ridgeline Property Group

Photograph Sheet

KHA Job No.: 015054001
KHA Rep.: HDF
Date: February 12th, 2018
Page: 2 of 3

Site Name: McDonough Commerce Center II DRI #2776

Photo No. 3

Comments:
Looking north from Proposed Site Driveway #1

Photo No. 4

Comments:
Looking west from Proposed Site Driveway #2

Kimley»Horn
11720 Amber Park Drive
Suite 600
Alpharetta, GA 30009

Ridgeline Property Group

Photograph Sheet

KHA Job No.: 015054001
KHA Rep.: HDF
Date: February 12th, 2018
Page: 3 of 3

Site Name: McDonough Commerce Center II DRI #2776

Photo No. 5

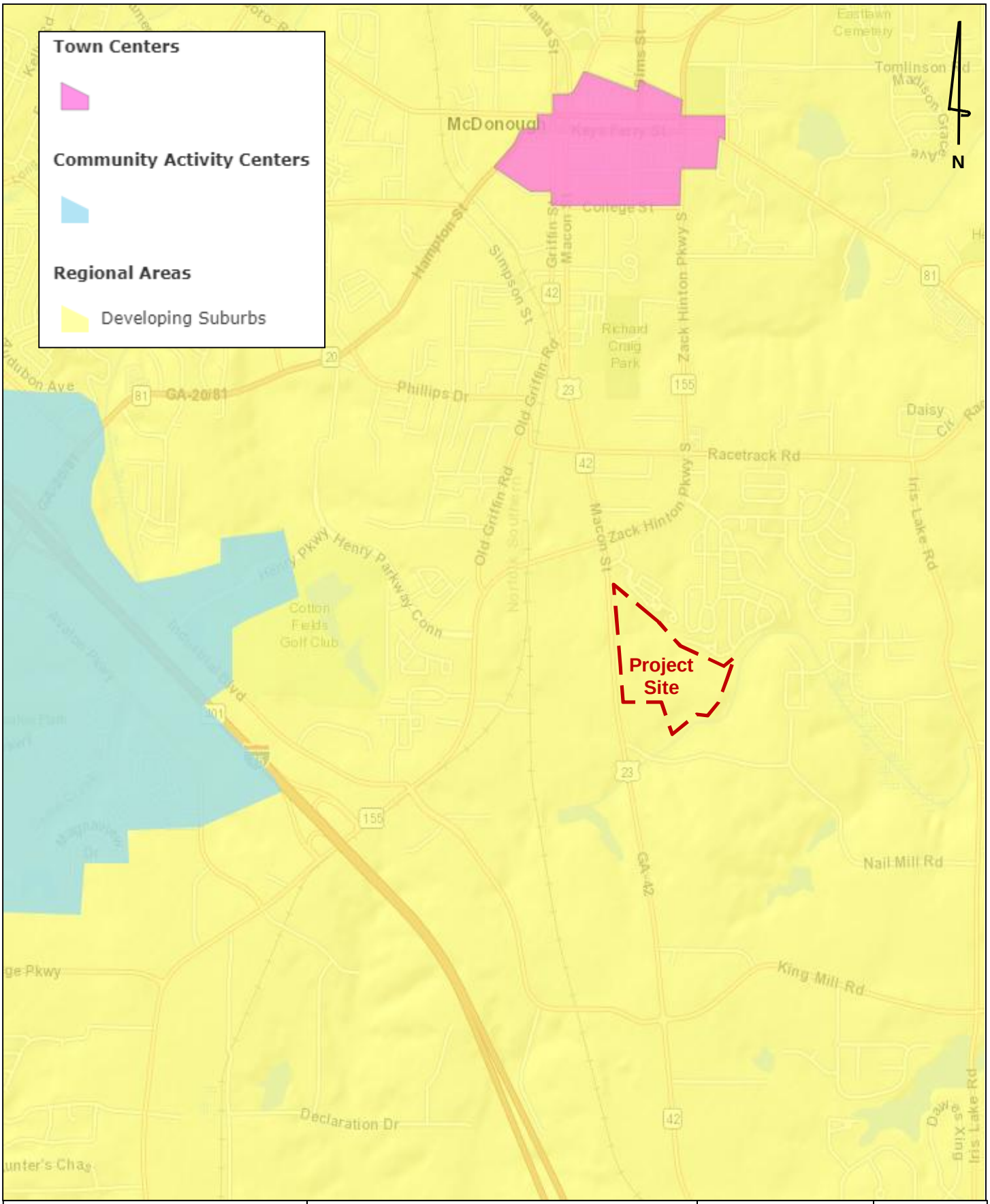
Comments:
Looking south from Proposed Site Driveway #2

Photo No. 6

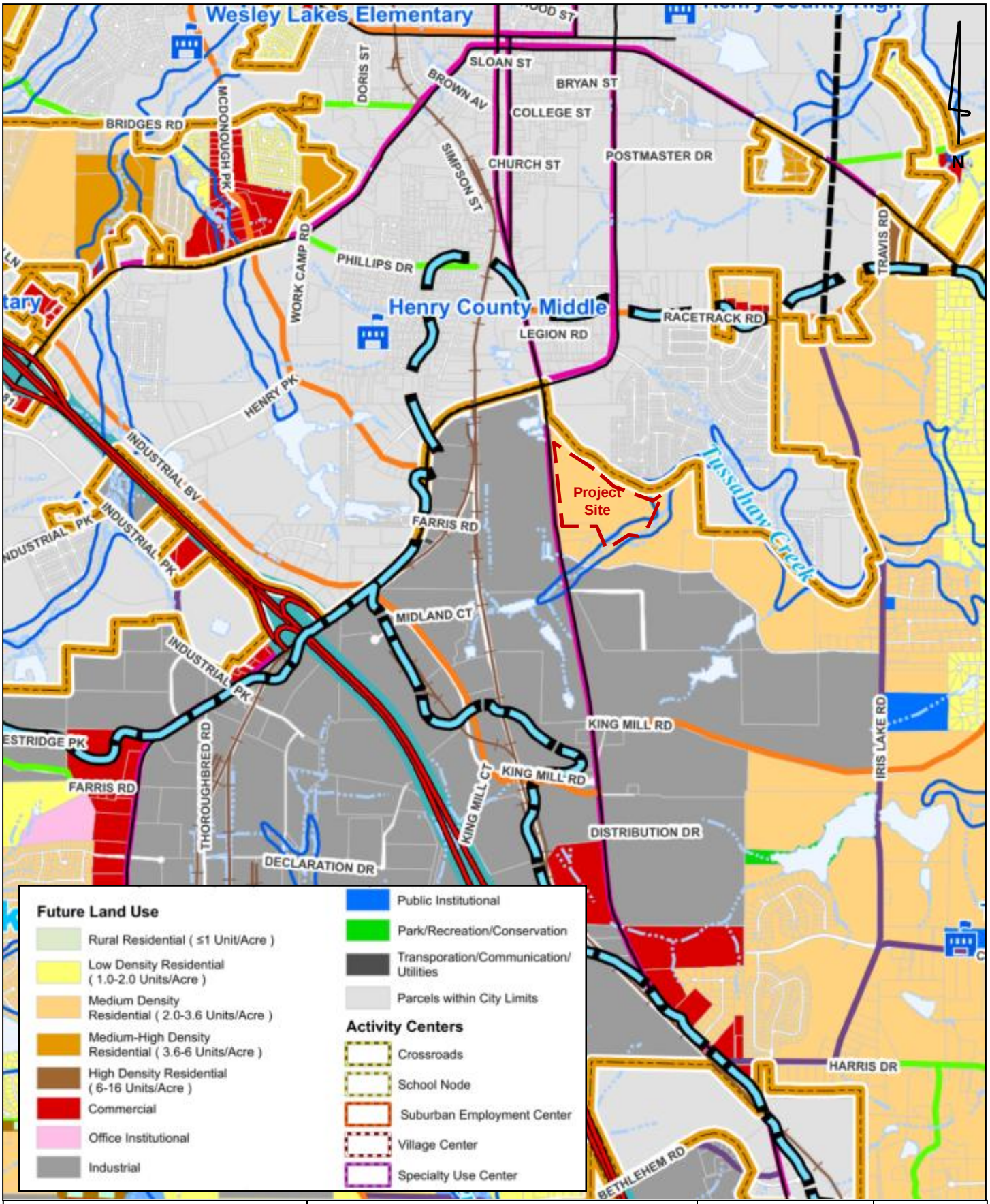
Comments:
Looking north from Proposed Site Driveway #2

APPENDIX B

Land Use and Zoning Maps



Kimley»Horn	*McDonough Commerce Center II* *DRI #2776* *Transportation Analysis*	ARC Unified Growth Policy Map	Appendix B



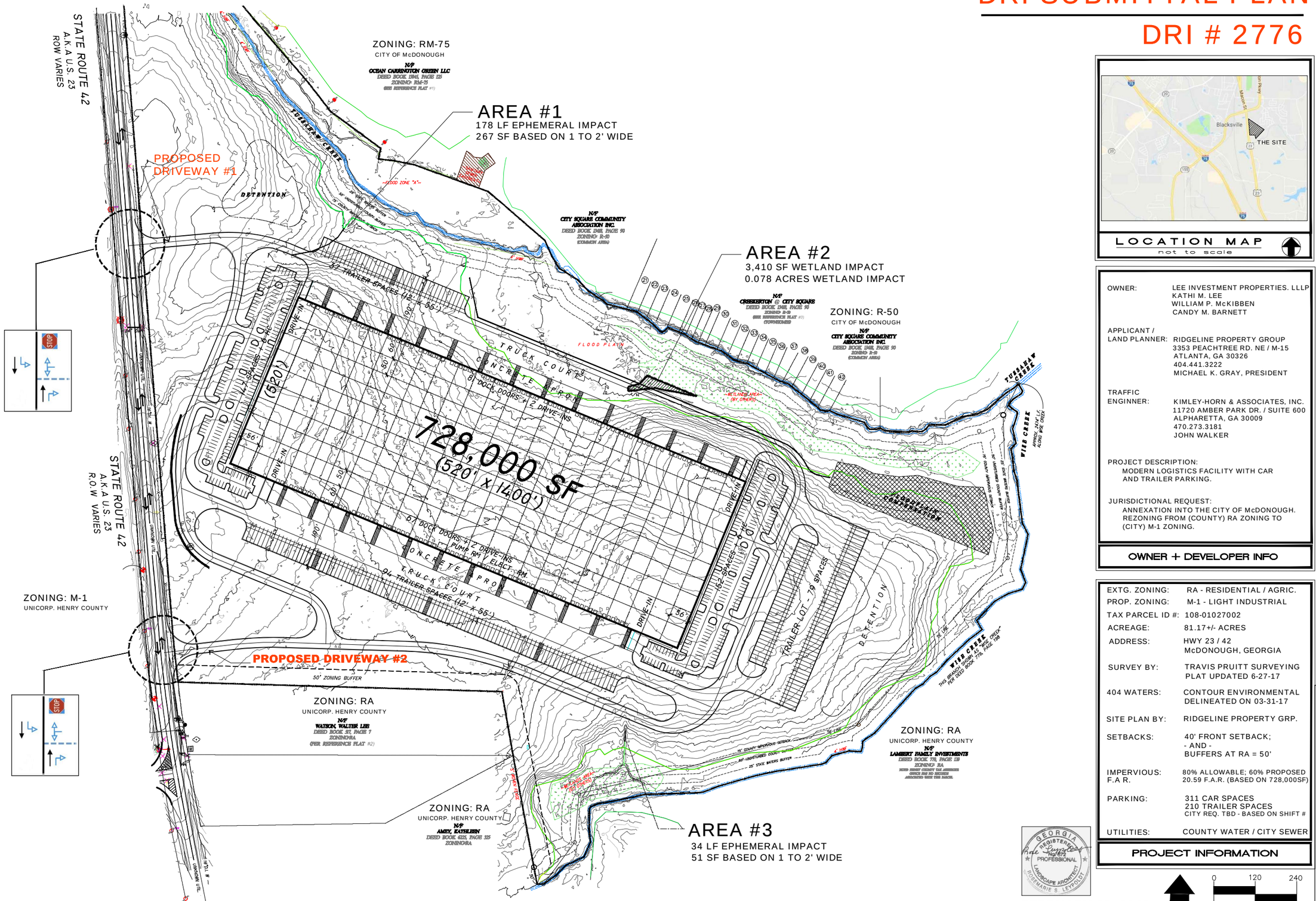
Kimley»Horn	*McDonough Commerce Center II* *DRI #2776* *Transportation Analysis*	**Henry County Future Land Use Map**	**Appendix B**

APPENDIX C

Proposed Site Plan

DRI SUBMITTAL PLAN

DRI # 2776



THIS PLAN IS A CONCEPTUAL REPRESENTATION OF THE PROPOSED SITE DEVELOPMENT. FINAL LAYOUT CONTINGENT UPON ELEVATIONS, DETENTION and JURISDICTIONAL PERMITTING.

BASE DATA FIELD RUN BY TRAVIS PRUITT SURVEYING.

OWNER:	LEE INVESTMENT PROPERTIES. LLLP KATHI M. LEE WILLIAM P. McKIBBEN CANDY M. BARNETT
APPLICANT / LAND PLANNER:	RIDGELINE PROPERTY GROUP 3353 PEACHTREE RD. NE / M-15 ATLANTA, GA 30326 404.441.3222 MICHAEL K. GRAY, PRESIDENT
TRAFFIC ENGINNER:	KIMLEY-HORN & ASSOCIATES, INC. 11720 AMBER PARK DR. / SUITE 600 ALPHARETTA, GA 30009 470.273.3181 JOHN WALKER
PROJECT DESCRIPTION:	MODERN LOGISTICS FACILITY WITH CAR AND TRAILER PARKING.
JURISDICTIONAL REQUEST:	ANNEXATION INTO THE CITY OF McDONOUGH. REZONING FROM (COUNTY) RA ZONING TO (CITY) M-1 ZONING.

OWNER + DEVELOPER INFO

EXTG. ZONING:	RA - RESIDENTIAL / AGRIC.
PROP. ZONING:	M-1 - LIGHT INDUSTRIAL
TAX PARCEL ID #:	108-01027002
ACREAGE:	81.17+/- ACRES
ADDRESS:	HWY 23 / 42 McDONOUGH, GEORGIA
SURVEY BY:	TRAVIS PRUITT SURVEYING PLAT UPDATED 6-27-17
404 WATERS:	CONTOUR ENVIRONMENTAL DELINEATED ON 03-31-17
SITE PLAN BY:	RIDGELINE PROPERTY GRP.
SETBACKS:	40' FRONT SETBACK; - AND - BUFFERS AT RA = 50'
IMPERVIOUS: F.A.R.	80% ALLOWABLE; 60% PROPOSED 20.59 F.A.R. (BASED ON 728,000SF)
PARKING:	311 CAR SPACES 210 TRAILER SPACES CITY REQ. TBD - BASED ON SHIFT #
UTILITIES:	COUNTY WATER / CITY SEWER

PROJECT INFORMATION

GEORGIA REGISTERED Professional LANDSCAPE ARCHITECT ROSEMARIE S. LEIPOLDT

FEBRUARY 22, 2018

NORTH

0 120 240

SCALE: 1" = 120'

McDONOUGH COMMERCE CTR. II

McDONOUGH (UNINCORP. HENRY CO.), GEORGIA

DRI #2776

RIDGELINE PROPERTY GROUP

404.800.7979 WWW.RIDGELINEPG.COM

APPENDIX D

Trip Generation Analysis

Trip Generation Analysis (10th Ed.)
McDonough Commerce Center II DRI #2776
Henry County / City of McDonough, GA

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Site Traffic								
150 Warehousing	728,000 s.f.	1,196	113	87	26	115	31	84
Gross Trips		**1,196**	**113**	**87**	**26**	**115**	**31**	**84**
Truck Trips (25% Warehousing Trips)		300	28	22	7	29	8	21
Mixed-Use Reductions		*0*				*0*	*0*	*0*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Truck Trips		300	28	22	7	29	8	21
Car Trips (75% Warehousing Trips)		896	85	65	19	86	23	63
Mixed-Use Reductions		*0*				*0*	*0*	*0*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Car Trips		896	85	65	19	86	23	63
Mixed-Use Reductions - TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Alternative Mode Reductions - TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*
New Trips		**1,196**	**113**	**87**	**26**	**115**	**31**	**84**
Driveway Volumes		**1,196**	**113**	**87**	**26**	**115**	**31**	**84**

k:\alp_tpto\015054001 mcdonough commerce center #2 - mckibben tract dri - mcdonough - henry county - jan 2018\dri phase ii - traffic study\analysis\[mcc_analysis.xls]trip generation

APPENDIX E

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Intersection #1: SR 42 @ King Mill Road
AM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			King Mill Road Eastbound			King Mill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	341	561	19	5	369	20	20	99	137	62	180	12
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	9	19	1	0	14	2	3	5	8	2	2	0
Heavy Vehicle %	3%	3%	5%	2%	4%	10%	15%	5%	6%	3%	2%	2%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	341	561	19	5	369	20	20	99	137	62	180	12
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	351	578	20	5	380	21	21	102	141	64	185	12
2019 No-Build Heavy Vehicle %	3%	3%	5%	2%	4%	10%	15%	5%	6%	3%	2%	2%
Project Trips (Future Development Only)												
Trip Distribution IN		10%					10%					
Trip Distribution OUT					10%	10%						
Truck Trips	0	2	0	0	1	1	2	0	0	0	0	0
Trip Distribution IN		15%					10%					
Trip Distribution OUT					15%	10%						
Car Trips	0	10	0	0	3	2	7	0	0	0	0	0
Total Project Trips	0	12	0	0	4	3	9	0	0	0	0	0
2019 Buildout Total	351	590	20	5	384	24	30	102	141	64	185	12
2019 Build Heavy Vehicle %	3%	4%	5%	2%	4%	13%	17%	5%	6%	3%	2%	2%

PM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			King Mill Road Eastbound			King Mill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	178	415	44	12	563	8	21	218	310	37	90	10
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	12	4	2	7	3	2	4	4	9	3	3	2
Heavy Vehicle %	7%	2%	5%	58%	2%	25%	19%	2%	3%	8%	3%	20%
Peak Hour Factor		0.95			0.95			0.95			0.95	
Adjustment												
Adjusted 2018 Volumes	178	415	44	12	563	8	21	218	310	37	90	10
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	183	427	45	12	580	8	22	225	319	38	93	10
2019 No-Build Heavy Vehicle %	7%	2%	5%	60%	2%	26%	19%	2%	3%	8%	3%	21%
Project Trips (Future Development Only)												
Trip Distribution IN		10%					10%					
Trip Distribution OUT					10%	10%						
Truck Trips	0	1	0	0	2	2	1	0	0	0	0	0
Trip Distribution IN		15%					10%					
Trip Distribution OUT					15%	10%						
Car Trips	0	3	0	0	9	6	2	0	0	0	0	0
Total Project Trips	0	4	0	0	11	8	3	0	0	0	0	0
2019 Buildout Total	183	431	45	12	591	16	25	225	319	38	93	10
2019 Build Heavy Vehicle %	7%	2%	5%	60%	2%	25%	20%	2%	3%	8%	3%	21%

INTERSECTION VOLUME DEVELOPMENT

Intersection #2: SR 155 @ SR 42
AM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			SR 155 Eastbound			SR 155 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	139	298	200	11	194	109	79	429	48	153	596	11
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	5	2	16	0	2	2	2	21	6	7	15	0
Heavy Vehicle %	4%	2%	8%	2%	2%	2%	3%	5%	13%	5%	3%	2%
Peak Hour Factor		0.88			0.88			0.88			0.88	
Adjustment												
Adjusted 2018 Volumes	139	298	200	11	194	109	79	429	48	153	596	11
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	143	307	206	11	200	112	81	442	49	158	614	11
2019 No-Build Heavy Vehicle %	4%	2%	8%	2%	2%	2%	3%	5%	13%	5%	3%	2%
Project Trips (Future Development Only)												
Trip Distribution IN					5%				65%	10%		
Trip Distribution OUT	65%	5%	10%									
Truck Trips	5	0	1	0	1	0	0	0	14	2	0	0
Trip Distribution IN					10%				45%	20%		
Trip Distribution OUT	45%	10%	20%									
Car Trips	9	2	4	0	7	0	0	0	29	13	0	0
Total Project Trips	14	2	5	0	8	0	0	0	43	15	0	0
2019 Buildout Total	157	309	211	11	208	112	81	442	92	173	614	11
2019 Build Heavy Vehicle %	6%	2%	8%	2%	2%	2%	3%	5%	22%	5%	3%	2%

PM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			SR 155 Eastbound			SR 155 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	75	234	194	29	340	111	75	604	82	200	469	26
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	9	5	2	0	11	4	0	19	2	3	14	1
Heavy Vehicle %	12%	2%	2%	2%	3%	4%	2%	3%	2%	2%	3%	4%
Peak Hour Factor		0.99			0.99			0.99			0.99	
Adjustment												
Adjusted 2018 Volumes	75	234	194	29	340	111	75	604	82	200	469	26
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	77	241	200	30	350	114	77	622	84	206	483	27
2019 No-Build Heavy Vehicle %	12%	2%	2%	2%	3%	4%	2%	3%	2%	2%	3%	4%
Project Trips (Future Development Only)												
Trip Distribution IN					5%				65%	10%		
Trip Distribution OUT	65%	5%	10%									
Truck Trips	14	1	2	0	0	0	0	0	5	1	0	0
Trip Distribution IN					10%				45%	20%		
Trip Distribution OUT	45%	10%	20%									
Car Trips	28	6	13	0	2	0	0	0	10	5	0	0
Total Project Trips	42	7	15	0	2	0	0	0	15	6	0	0
2019 Buildout Total	119	248	215	30	352	114	77	622	99	212	483	27
2019 Build Heavy Vehicle %	20%	2%	3%	2%	3%	4%	2%	3%	7%	2%	3%	4%

INTERSECTION VOLUME DEVELOPMENT

Intersection #3: SR 155 @ King Mill Road
AM PEAK HOUR

Description	King Mill Road Northbound			King Mill Road Southbound			SR 155 Eastbound			SR 155 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	324	200	39	19	86	68	70	512	249	30	695	50
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	37	4	5	0	2	0	0	23	49	5	24	2
Heavy Vehicle %	11%	2%	13%	2%	2%	2%	2%	4%	20%	17%	3%	4%
Peak Hour Factor		0.96			0.96			0.96			0.96	
Adjustment												
Adjusted 2018 Volumes	324	200	39	19	86	68	70	512	249	30	695	50
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	334	206	40	20	89	70	72	527	256	31	716	52
2019 No-Build Heavy Vehicle %	11%	2%	13%	2%	2%	2%	2%	4%	20%	17%	3%	4%
Project Trips (Future Development Only)												
Trip Distribution IN								65%	10%			
Trip Distribution OUT	10%										65%	
Truck Trips	1	0	0	0	0	0	0	14	2	0	5	0
Trip Distribution IN								45%	10%			
Trip Distribution OUT	10%										45%	
Car Trips	2	0	0	0	0	0	0	29	7	0	9	0
Total Project Trips	3	0	0	0	0	0	0	43	9	0	14	0
2019 Buildout Total	337	206	40	20	89	70	72	570	265	31	730	52
2019 Build Heavy Vehicle %	12%	2%	13%	2%	2%	2%	2%	7%	20%	17%	4%	4%

PM PEAK HOUR

Description	King Mill Road Northbound			King Mill Road Southbound			SR 155 Eastbound			SR 155 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes	215	150	56	49	191	104	62	591	319	45	640	52
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	42	1	0	0	2	2	2	30	37	2	33	0
Heavy Vehicle %	20%	2%	2%	2%	2%	2%	3%	5%	12%	4%	5%	2%
Peak Hour Factor		0.95			0.95			0.95			0.95	
Adjustment												
Adjusted 2018 Volumes	215	150	56	49	191	104	62	591	319	45	640	52
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	221	155	58	50	197	107	64	609	329	46	659	54
2019 No-Build Heavy Vehicle %	20%	2%	2%	2%	2%	2%	3%	5%	12%	4%	5%	2%
Project Trips (Future Development Only)												
Trip Distribution IN								65%	10%			
Trip Distribution OUT	10%										65%	
Truck Trips	2	0	0	0	0	0	0	5	1	0	14	0
Trip Distribution IN								45%	10%			
Trip Distribution OUT	10%										45%	
Car Trips	6	0	0	0	0	0	0	10	2	0	28	0
Total Project Trips	8	0	0	0	0	0	0	15	3	0	42	0
2019 Buildout Total	229	155	58	50	197	107	64	624	332	46	701	54
2019 Build Heavy Vehicle %	20%	2%	2%	2%	2%	2%	3%	6%	12%	4%	7%	2%

INTERSECTION VOLUME DEVELOPMENT

Intersection #4: SR 42 @ Proposed Driveway 1

AM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			Eastbound			Proposed Driveway 1 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		615			394							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		22			15							
Heavy Vehicle %	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	615	0	0	394	0	0	0	0	0	0	0
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	0	633	0	0	406	0	0	0	0	0	0	0
2019 No-Build Heavy Vehicle %	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN			10%	40%	40%							
Trip Distribution OUT		40%								10%		40%
Truck Trips	0	3	2	9	9	0	0	0	0	1	0	3
Trip Distribution IN			10%	40%	35%							
Trip Distribution OUT		35%								10%		40%
Car Trips	0	7	7	26	23	0	0	0	0	2	0	8
Total Project Trips	0	10	9	35	32	0	0	0	0	3	0	11
2019 Buildout Total	0	643	9	35	438	0	0	0	0	3	0	11
2019 Build Heavy Vehicle %	0%	4%	22%	26%	6%	0%	0%	0%	0%	33%	0%	27%

PM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			Eastbound			Proposed Driveway 1 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		475			603							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		13			14							
Heavy Vehicle %	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	475	0	0	603	0	0	0	0	0	0	0
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	0	489	0	0	621	0	0	0	0	0	0	0
2019 No-Build Heavy Vehicle %	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN			10%	40%	40%							
Trip Distribution OUT		40%								10%		40%
Truck Trips	0	8	1	3	3	0	0	0	0	2	0	8
Trip Distribution IN			10%	40%	35%							
Trip Distribution OUT		35%								10%		40%
Car Trips	0	22	2	9	8	0	0	0	0	6	0	25
Total Project Trips	0	30	3	12	11	0	0	0	0	8	0	33
2019 Buildout Total	0	519	3	12	632	0	0	0	0	8	0	33
2019 Build Heavy Vehicle %	0%	4%	33%	25%	3%	0%	0%	0%	0%	25%	0%	24%

INTERSECTION VOLUME DEVELOPMENT

Intersection #5: SR 42 @ Proposed Driveway 2

AM PEAK HOUR

Description	SR 42 Northbound			SR 42 Southbound			Eastbound			Proposed Driveway 2 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		615			394							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		22			15							
Heavy Vehicle %	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	615	0	0	394	0	0	0	0	0	0	0
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	0	633	0	0	406	0	0	0	0	0	0	0
2019 No-Build Heavy Vehicle %	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN		10%	10%	40%								
Trip Distribution OUT					10%					10%		40%
Truck Trips	0	2	2	9	1	0	0	0	0	1	0	3
Trip Distribution IN		10%	15%	35%								
Trip Distribution OUT					10%					15%		35%
Car Trips	0	7	10	23	2	0	0	0	0	3	0	7
Total Project Trips	0	9	12	32	3	0	0	0	0	4	0	10
2019 Buildout Total	0	642	12	32	409	0	0	0	0	4	0	10
2019 Build Heavy Vehicle %	0%	4%	17%	28%	4%	0%	0%	0%	0%	25%	0%	30%

PM PEAK HOUR

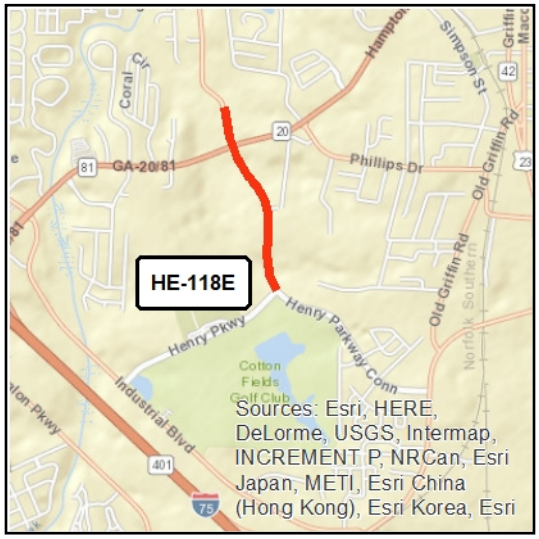
Description	SR 42 Northbound			SR 42 Southbound			Eastbound			Proposed Driveway 2 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2018 Traffic Volumes		475			603							
Pedestrians												
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles		13			14							
Heavy Vehicle %	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92			0.92			0.92			0.92	
Adjustment												
Adjusted 2018 Volumes	0	475	0	0	603	0	0	0	0	0	0	0
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
2019 Background Traffic	0	489	0	0	621	0	0	0	0	0	0	0
2019 No-Build Heavy Vehicle %	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Project Trips (Future Development Only)												
Trip Distribution IN		10%	10%	40%								
Trip Distribution OUT					10%					10%		40%
Truck Trips	0	1	1	3	2	0	0	0	0	2	0	8
Trip Distribution IN		10%	15%	35%								
Trip Distribution OUT					10%					15%		35%
Car Trips	0	2	3	8	6	0	0	0	0	9	0	22
Total Project Trips	0	3	4	11	8	0	0	0	0	11	0	30
2019 Buildout Total	0	492	4	11	629	0	0	0	0	11	0	30
2019 Build Heavy Vehicle %	0%	3%	25%	27%	3%	0%	0%	0%	0%	18%	0%	27%

Programmed Project Fact Sheets

HE-118E

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	MCDONOUGH PKWY EXTENSION (MCDONOUGH BYPASS): PHASE V - NEW ALIGNMENT FROM SR 20/81 (HAMPTON STREET) TO HENRY PARKWAY
GDOT Project No.	N/A
Federal ID No.	N/A
Status	Programmed
Service Type	Roadway / General Purpose Capacity
Sponsor	Henry County
Jurisdiction	Henry County
Analysis Level	In the Region's Air Quality Conformity Analysis



Existing Thru Lane	0	**LCI**		**Network Year**	2020
Planned Thru Lane	2	**Flex**		**Corridor Length**	0.6 miles

Detailed Description and Justification

This project involves constructing a new four-lane roadway linking SR 20/81 (Hampton Street) with SR 155 on the southwest side of McDonough.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	Local Jurisdiction/Municipality Funds	AUTH	2016	**$5,000,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$5,000,000~~
ALL	Local Jurisdiction/Municipality Funds		2018	**$5,000,000**	$0,000	$0,000	$0,000	$5,000,000
				$10,000,000	**$0,000**	**$0,000**	**$0,000**	**$10,000,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

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AR-318

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	I-75 COMMERCIAL VEHICLE LANES (NORTHBOUND DIRECTION ONLY) FROM I-475 TO SR 155
GDOT Project No.	0014203
Federal ID No.	
Status	Programmed
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Henry County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	0	**LCI**		**Network Year**	2030
Planned Thru Lane	2	**Flex**		**Corridor Length**	0 miles

Detailed Description and Justification

This project is part of the Governor's Major Mobility Investment Program. It proposes to add two new barrier-separated lanes to I-75 in the northbound direction, designated for commercial vehicles only. Tolling is not anticipated and the exact northern terminus will be determined during project development. I-75 between Atlanta and Macon serves as an important freight and motorist corridor that supports critical coastal port truck traffic and travelers from southern Georgia and Florida. As the percentage of truck traffic continues to grow, the increase in truck volume can and will accentuate operational differences, leading to less efficient traffic streams and increased delays. For example, compared to cars, trucks cannot accelerate as quickly on long grades. Providing a dedicated system of lanes separated from existing general purpose lanes is expected to enhance mobility both traffic streams.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Transportation Funding Act (HB 170)	AUTH	2017	**$977,865**	~~$0,000~~	~~$977,865~~	~~$0,000~~	~~$0,000~~
PE	National Highway Performance Program (NHPP)		2021	**$1,174,215**	$939,372	$234,843	$0,000	$0,000
PE	National Highway Performance Program (NHPP)		2022	**$3,430,363**	$2,744,290	$686,073	$0,000	$0,000
PE	National Highway Performance Program (NHPP)		2023	**$7,496,448**	$5,997,158	$1,499,290	$0,000	$0,000
PE	General Federal Aid 2024-2040		LR 2024-2030	**$4,241,772**	$3,393,418	$848,354	$0,000	$0,000
ROW	National Highway Performance Program (NHPP)		2018	**$1,034,524**	$827,619	$206,905	$0,000	$0,000
ROW	Repurposed Earmark		2018	**$1,120,226**	$896,181	$224,045	$0,000	$0,000
ROW	National Highway Performance Program (NHPP)		2023	**$4,486,216**	$3,588,973	$897,243	$0,000	$0,000
ROW	General Federal Aid 2024-2040		LR 2024-2030	**$4,603,179**	$3,682,543	$920,636	$0,000	$0,000
CST	General Federal Aid 2024-2040		LR 2024-2030	**$58,953,255**	$47,162,604	$11,790,651	$0,000	$0,000

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

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CST	General Federal Aid 2024-2040		LR 2031-2040	**$187,065,980**	$149,652,784	$37,413,196	$0,000	$0,000
CST	General Federal Aid 2041+		LR 2041+	**$449,182,311**	$359,345,849	$89,836,462	$0,000	$0,000
				$723,766,354	**$578,230,791**	**$145,535,563**	**$0,000**	**$0,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

HE-113

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	SR 155 WIDENING FROM I-75 SOUTH TO SR 81
GDOT Project No.	0007856
Federal ID No.	
Status	Programmed
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Henry County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	2	**LCI**		**Network Year**	2030
Planned Thru Lane	4	**Flex**		**Corridor Length**	3.2 miles

Detailed Description and Justification

This project involves adding one general purpose lane in each direction along SR 155 from I-75 South to SR 81.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
SCP	Transportation Funding Act (HB 170)	AUTH	2016	**$834,000**	~~$0,000~~	~~$834,000~~	~~$0,000~~	~~$0,000~~
PE	Transportation Funding Act (HB 170)	AUTH	2016	**$166,000**	~~$0,000~~	~~$166,000~~	~~$0,000~~	~~$0,000~~
ROW	Transportation Funding Act (HB 170)		2019	**$1,398,864**	$0,000	$1,398,864	$0,000	$0,000
UTL	Transportation Funding Act (HB 170)		2022	**$3,300,000**	$0,000	$3,300,000	$0,000	$0,000
CST	Transportation Funding Act (HB 170)		2022	**$36,121,215**	$0,000	$36,121,215	$0,000	$0,000
				$41,820,079	**$0,000**	**$41,820,079**	**$0,000**	**$0,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

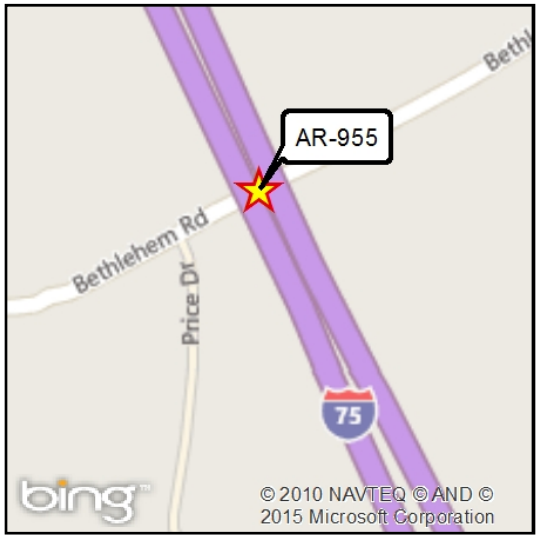
? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Report Generated: 09/19/2017

AR-955

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	I-75 SOUTH - NEW INTERCHANGE AT BETHLEHEM ROAD
GDOT Project No.	TBD
Federal ID No.	
Status	Long Range
Service Type	Roadway / Interchange Capacity
Sponsor	GDOT
Jurisdiction	Henry County
Analysis Level	In the Region's Air Quality Conformity Analysis



Existing Thru Lane	N/A	**LCI**		**Network Year**	2040
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	N/A miles

Detailed Description and Justification

New I-75 interchange intended to relieve freight congestion along the SR 155 and SR 42 industrial/distribution corridors.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	General Federal Aid 2024-2040		LR 2031-2040	**$25,000,000**	$20,000,000	$5,000,000	$0,000	$0,000
				$25,000,000	**$20,000,000**	**$5,000,000**	**$0,000**	**$0,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

Report Generated: 09/19/2017

Raw Traffic Count Data

Prepared by National Data & Surveying Services

SR 42 & King Mill Rd

Peak Hour Turning Movement Count

ID: 18-09048-003
City: McDonough

Day: Thursday
Date: 01/25/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:30 PM - 06:30 PM

SR 42 — SOUTHBOUND

AM	20	369	5	0	593
NOON	0	0	0	0	0
PM	8	563	12	0	446

King Mill Rd — EASTBOUND

AM	NOON	PM	
541	0	276	
0	0	0	0
20	0	21	1
99	0	218	1
137	0	310	1

CONTROL

Signalized

TEV	1825	0	1906
	AM	NOON	PM
PHF	0.92		0.95

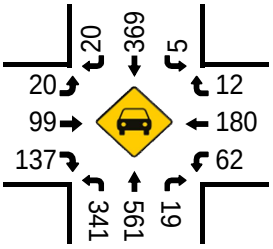
WESTBOUND — King Mill Rd

PM	NOON	AM	
10	0	12	1
90	0	180	1
37	0	62	1
0	0	0	0
274	0	123	

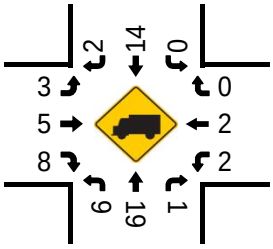
SR 42 — NORTHBOUND

PM	910	0	178	415	44
NOON	0	0	0	0	0
AM	568	0	341	561	19

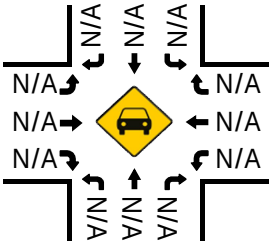
Total Vehicles (AM)



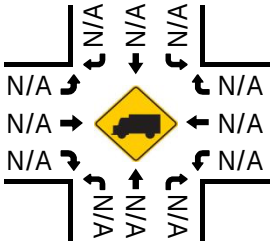
HT (AM)



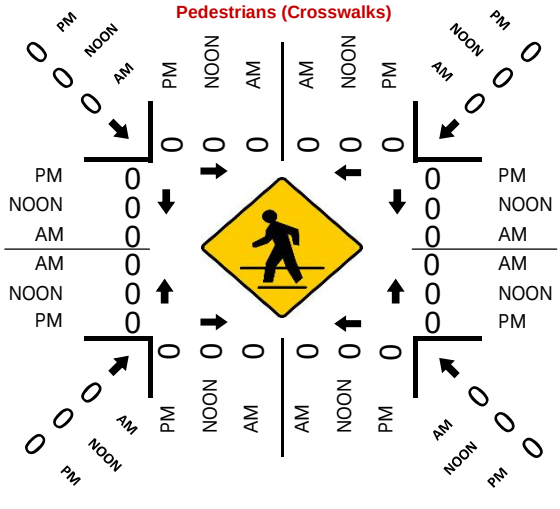
Total Vehicles (Noon)



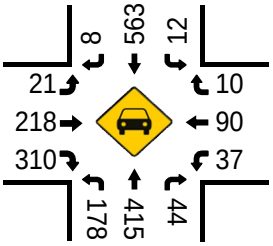
HT (NOON)



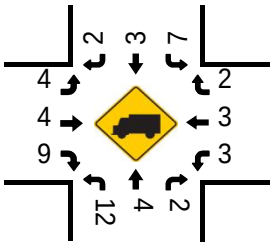
Pedestrians (Crosswalks)



Total Vehicles (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 42 & SR 155

Peak Hour Turning Movement Count

ID: 18-09048-002
City: McDonough

Day: Thursday
Date: 01/25/2018

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:30 PM - 06:30 PM

SR 42 — SOUTHBOUND

AM	109	194	11	0	388	AM
NOON	0	0	0	0	0	NOON
PM	111	340	29	0	335	PM

SR 155 — EASTBOUND

AM	NOON	PM	
844	0	655	
0	0	0	0
79	0	75	1
429	0	604	1
48	0	82	1
AM	NOON	PM	

SR 155 — WESTBOUND

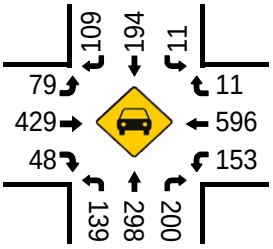
PM	NOON	AM	
26	0	11	0
469	0	596	1
200	0	153	1
0	0	0	0
827	0	640	
PM	NOON	AM	

SR 42 — NORTHBOUND

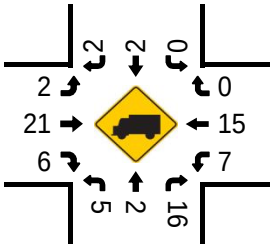
PM	622	0	75	234	194	PM
NOON	0	0	0	0	0	NOON
AM	395	0	139	298	200	AM

CONTROL			
Signalized			
TEV	2267 AM	0 NOON	2439 PM
PHF	0.88		0.99

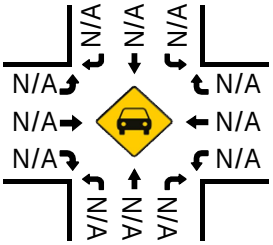
Total Vehicles (AM)



HT (AM)



Total Vehicles (Noon)



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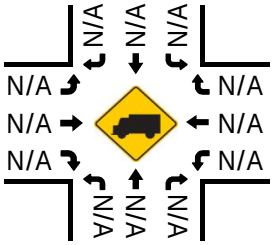
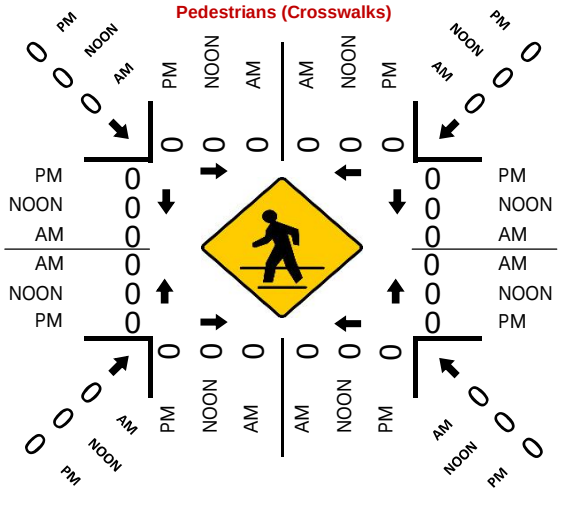
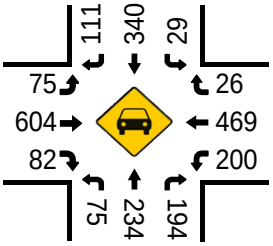


Pedestrians (Crosswalks)



Total Vehicles (PM)



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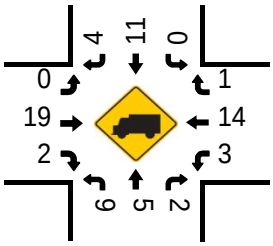


Prepared by National Data & Surveying Services

King Mill Rd & SR 155

Peak Hour Turning Movement Count

ID: 18-09048-001
City: McDonough

Day: Thursday
Date: 01/25/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:30 PM - 06:30 PM

SOUTHBOUND — King Mill Rd

AM	68	86	19	0	320	AM
NOON	0	0	0	0	0	NOON
PM	104	191	49	0	264	PM

EASTBOUND — SR 155

AM	NOON	PM		
1087	0	959	⇦	
0	0	0	↶	0
70	0	62	↱	1
512	0	591	→	1
249	0	319	↴	1
AM	NOON	PM		

WESTBOUND — SR 155

PM	NOON	AM		
52	0	50	↰	1
640	0	695	←	1
45	0	30	↰	1
0	0	0	↩	0
696	0	570	⇨	
PM	NOON	AM		

NORTHBOUND — King Mill Rd

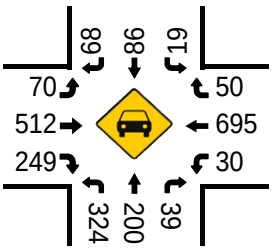
PM	555	0	215	150	56	PM
NOON	0	0	0	0	0	NOON
AM	365	0	324	200	39	AM

CONTROL

Signalized

TEV	2342 AM	0 NOON	2474 PM
PHF	0.96		0.95

Total Vehicles (AM)



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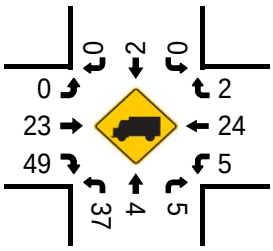
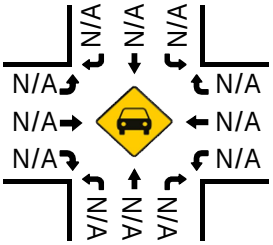
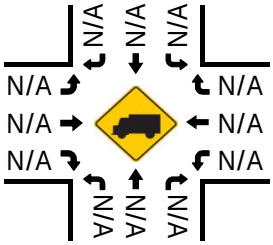


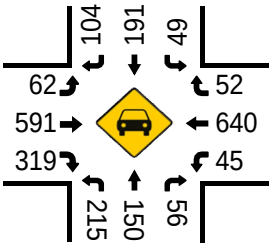
Total Vehicles (Noon)



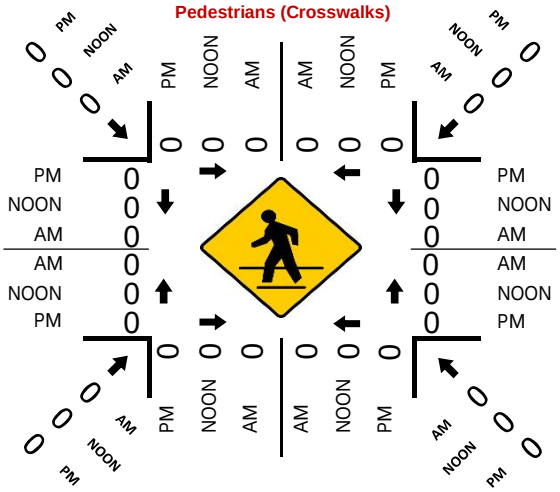
HT (NOON)



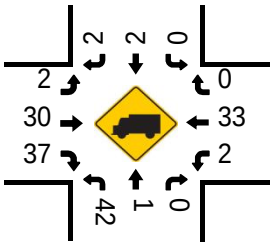
Total Vehicles (PM)



Pedestrians (Crosswalks)



HT (PM)



APPENDIX H

Synchro Capacity Analyses

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	99	137	62	180	12	341	561	19	5	369	20
Future Volume (veh/h)	20	99	137	62	180	12	341	561	19	5	369	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1652	1810	1792	1845	1863	1863	1845	1845	1810	1863	1827	1727
Adj Flow Rate, veh/h	22	108	11	67	196	1	371	610	14	5	401	15
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	5	6	3	2	2	3	3	5	2	4	10
Cap, veh/h	125	273	230	193	281	239	685	1329	1108	536	1316	1058
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.72	0.72	0.72	0.72	0.72
Sat Flow, veh/h	1047	1810	1524	1255	1863	1583	957	1845	1538	797	1827	1468
Grp Volume(v), veh/h	22	108	11	67	196	1	371	610	14	5	401	15
Grp Sat Flow(s),veh/h/ln	1047	1810	1524	1255	1863	1583	957	1845	1538	797	1827	1468
Q Serve(g_s), s	2.1	5.5	0.6	5.2	10.1	0.1	23.0	14.0	0.3	0.3	8.0	0.3
Cycle Q Clear(g_c), s	12.2	5.5	0.6	10.6	10.1	0.1	30.9	14.0	0.3	14.3	8.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	273	230	193	281	239	685	1329	1108	536	1316	1058
V/C Ratio(X)	0.18	0.39	0.05	0.35	0.70	0.00	0.54	0.46	0.01	0.01	0.30	0.01
Avail Cap(c_a), veh/h	525	965	812	673	993	844	685	1329	1108	536	1316	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	38.8	36.8	43.6	40.8	36.5	10.6	5.9	4.0	8.9	5.1	4.0
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.4	1.2	0.0	3.1	1.1	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.8	0.3	1.8	5.3	0.0	6.6	7.4	0.1	0.1	4.2	0.1
LnGrp Delay(d),s/veh	46.8	39.2	36.8	44.0	42.0	36.5	13.7	7.1	4.0	8.9	5.7	4.0
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h		141			264			995			421	
Approach Delay, s/veh		40.2			42.5			9.5			5.6	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		21.3		80.0		21.3
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		32.9		14.2		16.3		12.6
Green Ext Time (p_c), s		21.7		1.1		25.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	429	48	153	596	11	139	298	200	11	194	109
Future Volume (veh/h)	79	429	48	153	596	11	139	298	200	11	194	109
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1810	1681	1810	1845	1900	1827	1863	1759	1863	1863	1863
Adj Flow Rate, veh/h	90	488	33	174	677	12	158	339	26	12	220	1
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	5	13	5	3	3	4	2	8	2	2	2
Cap, veh/h	399	1130	893	525	1162	21	202	459	368	111	250	213
Arrive On Green	0.03	0.62	0.62	0.05	0.64	0.64	0.09	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1757	1810	1429	1723	1807	32	1740	1863	1495	1013	1863	1583
Grp Volume(v), veh/h	90	488	33	174	0	689	158	339	26	12	220	1
Grp Sat Flow(s),veh/h/ln	1757	1810	1429	1723	0	1839	1740	1863	1495	1013	1863	1583
Q Serve(g_s), s	4.3	31.9	2.0	8.5	0.0	49.2	17.7	38.6	3.1	2.5	26.7	0.1
Cycle Q Clear(g_c), s	4.3	31.9	2.0	8.5	0.0	49.2	17.7	38.6	3.1	15.4	26.7	0.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	1130	893	525	0	1183	202	459	368	111	250	213
V/C Ratio(X)	0.23	0.43	0.04	0.33	0.00	0.58	0.78	0.74	0.07	0.11	0.88	0.00
Avail Cap(c_a), veh/h	427	1130	893	565	0	1183	211	594	477	179	375	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	22.2	16.6	16.6	0.0	23.4	77.3	79.9	66.5	98.8	97.7	86.2
Incr Delay (d2), s/veh	0.1	1.2	0.1	0.1	0.0	2.1	13.7	2.8	0.1	0.3	13.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	16.2	0.8	4.0	0.0	25.6	9.2	20.2	1.3	0.7	14.7	0.1
LnGrp Delay(d),s/veh	19.8	23.4	16.7	16.7	0.0	25.5	91.0	82.7	66.5	99.1	110.9	86.2
LnGrp LOS	B	C	B	B		C	F	F	E	F	F	F
Approach Vol, veh/h		611			863			523			233	
Approach Delay, s/veh		22.5			23.7			84.4			110.2	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.3	154.3	25.7	37.6	16.6	150.1		63.4
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	10.0	127.6	21.0	46.3	16.0	121.6		73.3
Max Q Clear Time (g_c+I1), s	6.3	51.2	19.7	28.7	10.5	33.9		40.6
Green Ext Time (p_c), s	0.0	25.2	0.0	2.3	0.1	26.0		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	46.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	512	249	30	695	50	324	200	39	19	86	68
Future Volume (veh/h)	70	512	249	30	695	50	324	200	39	19	86	68
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1827	1583	1624	1845	1827	1712	1863	1681	1863	1863	1863
Adj Flow Rate, veh/h	73	533	174	31	724	31	338	208	10	20	90	2
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	4	20	17	3	4	11	2	13	2	2	2
Cap, veh/h	328	1206	889	366	1122	945	373	534	410	100	110	94
Arrive On Green	0.03	0.66	0.66	0.61	0.61	0.61	0.20	0.29	0.29	0.06	0.06	0.06
Sat Flow, veh/h	1774	1827	1346	644	1845	1553	1630	1863	1429	1158	1863	1583
Grp Volume(v), veh/h	73	533	174	31	724	31	338	208	10	20	90	2
Grp Sat Flow(s),veh/h/ln	1774	1827	1346	644	1845	1553	1630	1863	1429	1158	1863	1583
Q Serve(g_s), s	3.5	32.2	11.6	5.6	58.2	1.8	44.0	20.6	1.2	3.8	11.0	0.3
Cycle Q Clear(g_c), s	3.5	32.2	11.6	25.8	58.2	1.8	44.0	20.6	1.2	3.8	11.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	1206	889	366	1122	945	373	534	410	100	110	94
V/C Ratio(X)	0.22	0.44	0.20	0.08	0.65	0.03	0.91	0.39	0.02	0.20	0.82	0.02
Avail Cap(c_a), veh/h	328	1206	889	366	1122	945	442	666	511	133	164	139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	18.7	15.2	27.8	29.0	18.0	77.9	65.9	58.9	103.6	107.0	101.9
Incr Delay (d2), s/veh	0.1	1.2	0.5	0.5	2.9	0.1	18.3	0.2	0.0	0.4	11.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	16.7	4.4	1.0	30.5	0.8	21.7	10.7	0.5	1.2	6.0	0.1
LnGrp Delay(d),s/veh	24.2	19.9	15.7	28.3	31.9	18.1	96.3	66.0	58.9	103.9	118.0	102.0
LnGrp LOS	C	B	B	C	C	B	F	E	E	F	F	F
Approach Vol, veh/h		780			786			556			112	
Approach Delay, s/veh		19.4			31.2			84.3			115.2	
Approach LOS		B			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	11.9	146.1	52.3	19.6		158.1		71.9
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	6.0	123.6	56.0	20.2		135.6		82.2
Max Q Clear Time (g_c+I1), s	5.5	60.2	46.0	13.0		34.2		22.6
Green Ext Time (p_c), s	0.0	31.2	0.4	0.6		36.8		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	44.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	218	310	37	90	10	178	415	44	12	563	8
Future Volume (veh/h)	21	218	310	37	90	10	178	415	44	12	563	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1597	1863	1845	1759	1845	1583	1776	1863	1810	1203	1863	1520
Adj Flow Rate, veh/h	22	229	108	39	95	2	187	437	39	13	593	6
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	19	2	3	8	3	20	7	2	5	58	2	25
Cap, veh/h	224	344	289	137	340	248	495	1289	1065	421	1289	894
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1108	1863	1568	981	1845	1346	778	1863	1538	590	1863	1292
Grp Volume(v), veh/h	22	229	108	39	95	2	187	437	39	13	593	6
Grp Sat Flow(s),veh/h/ln	1108	1863	1568	981	1845	1346	778	1863	1538	590	1863	1292
Q Serve(g_s), s	1.8	12.1	6.4	4.1	4.7	0.1	15.1	10.0	0.8	1.0	15.2	0.2
Cycle Q Clear(g_c), s	6.5	12.1	6.4	16.1	4.7	0.1	30.2	10.0	0.8	10.9	15.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	344	289	137	340	248	495	1289	1065	421	1289	894
V/C Ratio(X)	0.10	0.67	0.37	0.28	0.28	0.01	0.38	0.34	0.04	0.03	0.46	0.01
Avail Cap(c_a), veh/h	587	954	803	459	944	689	495	1289	1065	421	1289	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	40.0	37.7	47.5	37.0	35.1	14.2	6.5	5.1	8.7	7.3	5.0
Incr Delay (d2), s/veh	0.1	0.8	0.3	0.4	0.2	0.0	2.2	0.7	0.1	0.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.2	2.8	1.1	2.4	0.0	3.5	5.4	0.4	0.2	8.2	0.1
LnGrp Delay(d),s/veh	39.8	40.8	38.0	47.9	37.1	35.1	16.3	7.2	5.2	8.9	8.5	5.0
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h		359			136			663			612	
Approach Delay, s/veh		39.9			40.2			9.7			8.5	
Approach LOS		D			D			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		25.5		80.0		25.5
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		32.2		14.1		17.2		18.1
Green Ext Time (p_c), s		20.0		1.4		22.9		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	604	82	200	469	26	75	234	194	29	340	111
Future Volume (veh/h)	75	604	82	200	469	26	75	234	194	29	340	111
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1863	1863	1844	1900	1696	1863	1863	1863	1845	1827
Adj Flow Rate, veh/h	76	610	52	202	474	25	76	236	43	29	343	25
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	3	2	2	3	3	12	2	2	2	3	4
Cap, veh/h	509	1100	944	432	1083	57	113	498	423	208	373	314
Arrive On Green	0.03	0.60	0.60	0.05	0.62	0.62	0.04	0.27	0.27	0.20	0.20	0.20
Sat Flow, veh/h	1774	1845	1583	1774	1736	92	1616	1863	1583	1096	1845	1553
Grp Volume(v), veh/h	76	610	52	202	0	499	76	236	43	29	343	25
Grp Sat Flow(s),veh/h/ln	1774	1845	1583	1774	0	1828	1616	1863	1583	1096	1845	1553
Q Serve(g_s), s	3.9	45.9	3.2	10.1	0.0	32.5	8.5	24.4	4.7	5.2	41.9	3.0
Cycle Q Clear(g_c), s	3.9	45.9	3.2	10.1	0.0	32.5	8.5	24.4	4.7	14.7	41.9	3.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	509	1100	944	432	0	1140	113	498	423	208	373	314
V/C Ratio(X)	0.15	0.55	0.06	0.47	0.00	0.44	0.67	0.47	0.10	0.14	0.92	0.08
Avail Cap(c_a), veh/h	510	1100	944	514	0	1140	113	634	539	288	508	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	28.0	19.4	21.9	0.0	22.4	72.5	70.7	63.5	83.2	89.9	74.4
Incr Delay (d2), s/veh	0.0	2.0	0.1	0.3	0.0	1.2	11.7	0.5	0.1	0.2	17.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	24.0	1.4	4.9	0.0	16.7	4.2	12.7	2.1	1.6	23.2	1.3
LnGrp Delay(d),s/veh	18.8	30.0	19.5	22.2	0.0	23.6	84.2	71.2	63.5	83.4	107.3	74.5
LnGrp LOS	B	C	B	C		C	F	E	E	F	F	E
Approach Vol, veh/h		738			701			355			397	
Approach Delay, s/veh		28.1			23.2			73.1			103.5	
Approach LOS		C			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	149.9	15.0	53.2	18.3	143.5		68.2
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	6.0	126.6	9.0	63.3	23.0	109.6		78.3
Max Q Clear Time (g_c+I1), s	5.9	34.5	10.5	43.9	12.1	47.9		26.4
Green Ext Time (p_c), s	0.0	23.5	0.0	2.6	0.2	21.6		2.8

Intersection Summary	
HCM 2010 Ctrl Delay	47.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	591	319	45	640	52	215	150	56	49	191	104
Future Volume (veh/h)	62	591	319	45	640	52	215	150	56	49	191	104
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1810	1696	1827	1810	1863	1583	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	65	622	214	47	674	32	226	158	15	52	201	17
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	5	12	4	5	2	20	2	2	2	2	2
Cap, veh/h	355	1200	956	344	1106	968	253	529	449	175	221	188
Arrive On Green	0.03	0.66	0.66	0.61	0.61	0.61	0.14	0.28	0.28	0.12	0.12	0.12
Sat Flow, veh/h	1757	1810	1442	642	1810	1583	1508	1863	1583	1207	1863	1583
Grp Volume(v), veh/h	65	622	214	47	674	32	226	158	15	52	201	17
Grp Sat Flow(s),veh/h/ln	1757	1810	1442	642	1810	1583	1508	1863	1583	1207	1863	1583
Q Serve(g_s), s	3.1	40.6	13.5	9.3	53.1	1.8	29.7	15.3	1.6	9.1	24.5	2.2
Cycle Q Clear(g_c), s	3.1	40.6	13.5	38.0	53.1	1.8	29.7	15.3	1.6	9.1	24.5	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	1200	956	344	1106	968	253	529	449	175	221	188
V/C Ratio(X)	0.18	0.52	0.22	0.14	0.61	0.03	0.89	0.30	0.03	0.30	0.91	0.09
Avail Cap(c_a), veh/h	554	1200	956	344	1106	968	306	640	544	204	267	227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.9	15.3	32.7	27.7	17.7	74.6	64.4	59.5	93.3	100.1	90.3
Incr Delay (d2), s/veh	0.1	1.6	0.5	0.8	2.5	0.1	21.5	0.1	0.0	0.3	26.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	20.7	5.5	1.7	27.2	0.8	13.9	7.9	0.7	3.1	14.3	1.0
LnGrp Delay(d),s/veh	22.3	21.5	15.9	33.5	30.2	17.8	96.1	64.6	59.6	93.7	126.6	90.3
LnGrp LOS	C	C	B	C	C	B	F	E	E	F	F	F
Approach Vol, veh/h		901			753			399			270	
Approach Delay, s/veh		20.2			29.9			82.2			118.0	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	11.9	146.8	37.9	33.3		158.7		71.3
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	32.0	100.8	40.0	33.0		138.8		79.0
Max Q Clear Time (g_c+I1), s	5.1	55.1	31.7	26.5		42.6		17.3
Green Ext Time (p_c), s	0.1	28.2	0.2	0.8		40.3		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	45.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	102	141	64	185	12	351	578	20	5	380	21
Future Volume (veh/h)	21	102	141	64	185	12	351	578	20	5	380	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1652	1810	1792	1845	1863	1863	1845	1845	1810	1863	1827	1727
Adj Flow Rate, veh/h	23	111	12	70	201	1	382	628	15	5	413	16
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	5	6	3	2	2	3	3	5	2	4	10
Cap, veh/h	126	280	236	195	288	245	671	1323	1104	519	1311	1053
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.72	0.72	0.72	0.72	0.72
Sat Flow, veh/h	1043	1810	1524	1251	1863	1583	946	1845	1538	784	1827	1468
Grp Volume(v), veh/h	23	111	12	70	201	1	382	628	15	5	413	16
Grp Sat Flow(s),veh/h/ln	1043	1810	1524	1251	1863	1583	946	1845	1538	784	1827	1468
Q Serve(g_s), s	2.2	5.6	0.7	5.4	10.4	0.1	25.2	14.8	0.3	0.3	8.4	0.3
Cycle Q Clear(g_c), s	12.6	5.6	0.7	11.1	10.4	0.1	33.6	14.8	0.3	15.1	8.4	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	280	236	195	288	245	671	1323	1104	519	1311	1053
V/C Ratio(X)	0.18	0.40	0.05	0.36	0.70	0.00	0.57	0.47	0.01	0.01	0.32	0.02
Avail Cap(c_a), veh/h	517	960	809	665	989	840	671	1323	1104	519	1311	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	38.7	36.6	43.7	40.7	36.4	11.4	6.2	4.1	9.4	5.2	4.1
Incr Delay (d2), s/veh	0.3	0.3	0.0	0.4	1.1	0.0	3.5	1.2	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.8	0.3	1.9	5.5	0.0	7.1	8.0	0.1	0.1	4.4	0.1
LnGrp Delay(d),s/veh	47.0	39.1	36.7	44.1	41.9	36.4	14.9	7.4	4.1	9.4	5.9	4.1
LnGrp LOS	D	D	D	D	D	D	B	A	A	A	A	A
Approach Vol, veh/h		146			272			1025			434	
Approach Delay, s/veh		40.1			42.4			10.1			5.9	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		21.7		80.0		21.7
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		35.6		14.6		17.1		13.1
Green Ext Time (p_c), s		21.8		1.2		26.8		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	442	49	158	614	11	143	307	206	11	200	112
Future Volume (veh/h)	81	442	49	158	614	11	143	307	206	11	200	112
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1810	1681	1810	1845	1900	1827	1863	1759	1863	1863	1863
Adj Flow Rate, veh/h	92	502	33	180	698	12	162	349	27	12	227	2
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	5	13	5	3	3	4	2	8	2	2	2
Cap, veh/h	379	1117	882	510	1152	20	205	469	377	111	258	219
Arrive On Green	0.03	0.62	0.62	0.05	0.64	0.64	0.09	0.25	0.25	0.14	0.14	0.14
Sat Flow, veh/h	1757	1810	1429	1723	1808	31	1740	1863	1495	1003	1863	1583
Grp Volume(v), veh/h	92	502	33	180	0	710	162	349	27	12	227	2
Grp Sat Flow(s),veh/h/ln	1757	1810	1429	1723	0	1840	1740	1863	1495	1003	1863	1583
Q Serve(g_s), s	4.5	33.8	2.1	8.9	0.0	52.5	18.1	39.7	3.2	2.6	27.5	0.3
Cycle Q Clear(g_c), s	4.5	33.8	2.1	8.9	0.0	52.5	18.1	39.7	3.2	16.1	27.5	0.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	1117	882	510	0	1171	205	469	377	111	258	219
V/C Ratio(X)	0.24	0.45	0.04	0.35	0.00	0.61	0.79	0.74	0.07	0.11	0.88	0.01
Avail Cap(c_a), veh/h	398	1117	882	562	0	1171	219	602	483	174	375	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	23.3	17.3	17.5	0.0	24.7	76.5	79.2	65.6	98.7	97.2	85.5
Incr Delay (d2), s/veh	0.1	1.3	0.1	0.2	0.0	2.3	13.6	3.0	0.1	0.3	14.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	17.3	0.8	4.2	0.0	27.4	9.5	20.8	1.3	0.7	15.2	0.1
LnGrp Delay(d),s/veh	21.1	24.6	17.3	17.6	0.0	27.0	90.1	82.2	65.6	99.0	111.4	85.5
LnGrp LOS	C	C	B	B		C	F	F	E	F	F	F
Approach Vol, veh/h		627			890			538			241	
Approach Delay, s/veh		23.7			25.1			83.7			110.6	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	152.9	26.1	38.5	17.0	148.3		64.6
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	9.0	127.6	22.0	46.3	18.0	118.6		74.3
Max Q Clear Time (g_c+I1), s	6.5	54.5	20.1	29.5	10.9	35.8		41.7
Green Ext Time (p_c), s	0.0	26.4	0.0	2.3	0.1	27.2		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	47.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	527	256	31	716	52	334	206	40	20	89	70
Future Volume (veh/h)	72	527	256	31	716	52	334	206	40	20	89	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1827	1583	1624	1845	1827	1712	1863	1681	1863	1863	1863
Adj Flow Rate, veh/h	75	549	177	32	746	32	348	215	10	21	93	2
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	4	20	17	3	4	11	2	13	2	2	2
Cap, veh/h	306	1194	879	350	1109	934	382	547	420	101	113	96
Arrive On Green	0.03	0.65	0.65	0.60	0.60	0.60	0.21	0.29	0.29	0.06	0.06	0.06
Sat Flow, veh/h	1774	1827	1346	632	1845	1553	1630	1863	1429	1151	1863	1583
Grp Volume(v), veh/h	75	549	177	32	746	32	348	215	10	21	93	2
Grp Sat Flow(s),veh/h/ln	1774	1827	1346	632	1845	1553	1630	1863	1429	1151	1863	1583
Q Serve(g_s), s	3.7	34.3	12.1	6.1	62.3	1.9	45.2	21.2	1.1	4.0	11.4	0.3
Cycle Q Clear(g_c), s	3.7	34.3	12.1	28.4	62.3	1.9	45.2	21.2	1.1	4.0	11.4	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	1194	879	350	1109	934	382	547	420	101	113	96
V/C Ratio(X)	0.25	0.46	0.20	0.09	0.67	0.03	0.91	0.39	0.02	0.21	0.82	0.02
Avail Cap(c_a), veh/h	306	1194	879	350	1109	934	449	674	517	132	164	139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	19.8	15.9	29.8	30.7	18.7	77.1	64.9	57.8	103.3	106.8	101.6
Incr Delay (d2), s/veh	0.2	1.3	0.5	0.5	3.3	0.1	19.1	0.2	0.0	0.4	13.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	17.7	4.6	1.1	32.7	0.8	22.3	11.0	0.5	1.3	6.3	0.1
LnGrp Delay(d),s/veh	26.1	21.0	16.4	30.3	33.9	18.7	96.2	65.0	57.8	103.7	119.8	101.6
LnGrp LOS	C	C	B	C	C	B	F	E	E	F	F	F
Approach Vol, veh/h		801			810			573			116	
Approach Delay, s/veh		20.5			33.2			83.9			116.5	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	12.0	144.5	53.6	20.0		156.5		73.5
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	6.0	122.6	57.0	20.2		134.6		83.2
Max Q Clear Time (g_c+I1), s	5.7	64.3	47.2	13.4		36.3		23.2
Green Ext Time (p_c), s	0.0	31.4	0.4	0.6		38.9		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	225	319	38	93	10	183	427	45	12	580	8
Future Volume (veh/h)	22	225	319	38	93	10	183	427	45	12	580	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1597	1863	1845	1759	1845	1570	1776	1863	1810	1188	1863	1508
Adj Flow Rate, veh/h	23	237	130	40	98	2	193	449	40	13	611	6
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	19	2	3	8	3	21	7	2	5	60	2	26
Cap, veh/h	229	356	299	137	352	255	476	1279	1056	406	1279	880
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1105	1863	1568	955	1845	1335	765	1863	1538	576	1863	1282
Grp Volume(v), veh/h	23	237	130	40	98	2	193	449	40	13	611	6
Grp Sat Flow(s),veh/h/ln	1105	1863	1568	955	1845	1335	765	1863	1538	576	1863	1282
Q Serve(g_s), s	1.9	12.5	7.8	4.3	4.8	0.1	16.7	10.6	0.9	1.0	16.2	0.2
Cycle Q Clear(g_c), s	6.8	12.5	7.8	16.8	4.8	0.1	33.0	10.6	0.9	11.6	16.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	356	299	137	352	255	476	1279	1056	406	1279	880
V/C Ratio(X)	0.10	0.67	0.43	0.29	0.28	0.01	0.41	0.35	0.04	0.03	0.48	0.01
Avail Cap(c_a), veh/h	579	946	797	440	937	678	476	1279	1056	406	1279	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	39.9	37.9	47.7	36.7	34.8	15.4	6.9	5.4	9.3	7.8	5.2
Incr Delay (d2), s/veh	0.1	0.8	0.4	0.4	0.2	0.0	2.6	0.8	0.1	0.1	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.5	3.4	1.1	2.5	0.0	3.8	5.6	0.4	0.2	8.8	0.1
LnGrp Delay(d),s/veh	39.7	40.7	38.3	48.1	36.9	34.8	18.0	7.6	5.4	9.4	9.0	5.3
LnGrp LOS	D	D	D	D	D	C	B	A	A	A	A	A
Approach Vol, veh/h		390			140			682			630	
Approach Delay, s/veh		39.8			40.1			10.4			9.0	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		26.3		80.0		26.3
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		35.0		14.5		18.2		18.8
Green Ext Time (p_c), s		20.1		1.4		23.8		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	622	84	206	483	27	77	241	200	30	350	114
Future Volume (veh/h)	77	622	84	206	483	27	77	241	200	30	350	114
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1863	1863	1844	1900	1696	1863	1863	1863	1845	1827
Adj Flow Rate, veh/h	78	628	54	208	488	26	78	243	45	30	354	28
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	3	2	2	3	3	12	2	2	2	3	4
Cap, veh/h	485	1075	923	409	1064	57	120	517	440	215	384	323
Arrive On Green	0.03	0.58	0.58	0.06	0.61	0.61	0.04	0.28	0.28	0.21	0.21	0.21
Sat Flow, veh/h	1774	1845	1583	1774	1735	92	1616	1863	1583	1087	1845	1553
Grp Volume(v), veh/h	78	628	54	208	0	514	78	243	45	30	354	28
Grp Sat Flow(s),veh/h/ln	1774	1845	1583	1774	0	1827	1616	1863	1583	1087	1845	1553
Q Serve(g_s), s	4.1	49.5	3.4	10.8	0.0	34.8	8.6	24.9	4.9	5.4	43.3	3.3
Cycle Q Clear(g_c), s	4.1	49.5	3.4	10.8	0.0	34.8	8.6	24.9	4.9	14.3	43.3	3.3
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	485	1075	923	409	0	1121	120	517	440	215	384	323
V/C Ratio(X)	0.16	0.58	0.06	0.51	0.00	0.46	0.65	0.47	0.10	0.14	0.92	0.09
Avail Cap(c_a), veh/h	485	1075	923	487	0	1121	120	642	546	288	508	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	30.3	20.7	24.1	0.0	23.9	71.0	69.0	61.8	81.6	89.2	73.4
Incr Delay (d2), s/veh	0.1	2.3	0.1	0.4	0.0	1.4	9.1	0.5	0.1	0.2	18.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	26.0	1.5	5.2	0.0	18.0	4.2	12.9	2.1	1.6	24.1	1.4
LnGrp Delay(d),s/veh	20.3	32.6	20.8	24.5	0.0	25.3	80.1	69.5	61.8	81.8	107.5	73.5
LnGrp LOS	C	C	C	C		C	F	E	E	F	F	E
Approach Vol, veh/h		760			722			366			412	
Approach Delay, s/veh		30.5			25.1			70.8			103.3	
Approach LOS		C			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	147.4	16.0	54.6	18.9	140.5		70.6
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	6.0	125.6	10.0	63.3	23.0	108.6		79.3
Max Q Clear Time (g_c+I1), s	6.1	36.8	10.6	45.3	12.8	51.5		26.9
Green Ext Time (p_c), s	0.0	24.8	0.0	2.6	0.2	22.2		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	48.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	609	329	46	659	54	221	155	58	50	197	107
Future Volume (veh/h)	64	609	329	46	659	54	221	155	58	50	197	107
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1810	1696	1827	1810	1863	1583	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	641	218	48	694	32	233	163	17	53	207	13
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	5	12	4	5	2	20	2	2	2	2	2
Cap, veh/h	333	1186	945	324	1092	955	259	543	462	179	230	196
Arrive On Green	0.03	0.66	0.66	0.60	0.60	0.60	0.14	0.29	0.29	0.12	0.12	0.12
Sat Flow, veh/h	1757	1810	1442	628	1810	1583	1508	1863	1583	1199	1863	1583
Grp Volume(v), veh/h	67	641	218	48	694	32	233	163	17	53	207	13
Grp Sat Flow(s),veh/h/ln	1757	1810	1442	628	1810	1583	1508	1863	1583	1199	1863	1583
Q Serve(g_s), s	3.3	43.5	14.1	10.2	56.8	1.9	30.5	15.6	1.8	9.3	25.2	1.7
Cycle Q Clear(g_c), s	3.3	43.5	14.1	41.7	56.8	1.9	30.5	15.6	1.8	9.3	25.2	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	1186	945	324	1092	955	259	543	462	179	230	196
V/C Ratio(X)	0.20	0.54	0.23	0.15	0.64	0.03	0.90	0.30	0.04	0.30	0.90	0.07
Avail Cap(c_a), veh/h	333	1186	945	324	1092	955	307	697	592	240	324	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	21.2	16.1	35.5	29.3	18.5	73.5	63.2	58.3	92.4	99.4	89.1
Incr Delay (d2), s/veh	0.1	1.8	0.6	1.0	2.8	0.1	22.7	0.1	0.0	0.3	17.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	22.3	5.8	1.8	29.2	0.8	14.3	8.1	0.8	3.1	14.1	0.7
LnGrp Delay(d),s/veh	24.1	22.9	16.7	36.5	32.2	18.5	96.3	63.3	58.3	92.8	116.5	89.1
LnGrp LOS	C	C	B	D	C	B	F	E	E	F	F	F
Approach Vol, veh/h		926			774			413			273	
Approach Delay, s/veh		21.6			31.9			81.7			110.6	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	11.9	145.0	38.7	34.4		156.9		73.1
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	6.0	119.8	40.0	40.0		131.8		86.0
Max Q Clear Time (g_c+I1), s	5.3	58.8	32.5	27.2		45.5		17.6
Green Ext Time (p_c), s	0.0	34.7	0.2	1.2		41.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	45.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	102	141	64	185	12	351	590	20	5	384	24
Future Volume (veh/h)	30	102	141	64	185	12	351	590	20	5	384	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1624	1810	1792	1845	1863	1863	1845	1827	1810	1863	1827	1681
Adj Flow Rate, veh/h	33	111	12	70	201	1	382	641	15	5	417	19
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	17	5	6	3	2	2	3	4	5	2	4	13
Cap, veh/h	134	296	249	206	305	259	657	1297	1092	498	1297	1015
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1025	1810	1524	1251	1863	1583	940	1827	1538	774	1827	1429
Grp Volume(v), veh/h	33	111	12	70	201	1	382	641	15	5	417	19
Grp Sat Flow(s),veh/h/ln	1025	1810	1524	1251	1863	1583	940	1827	1538	774	1827	1429
Q Serve(g_s), s	3.2	5.6	0.7	5.4	10.4	0.1	26.5	16.1	0.3	0.3	8.8	0.4
Cycle Q Clear(g_c), s	13.6	5.6	0.7	11.1	10.4	0.1	35.3	16.1	0.3	16.4	8.8	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	296	249	206	305	259	657	1297	1092	498	1297	1015
V/C Ratio(X)	0.25	0.38	0.05	0.34	0.66	0.00	0.58	0.49	0.01	0.01	0.32	0.02
Avail Cap(c_a), veh/h	505	950	800	659	978	832	657	1297	1092	498	1297	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	38.3	36.3	43.2	40.3	36.0	12.2	6.7	4.4	10.3	5.6	4.4
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	0.9	0.0	3.7	1.3	0.0	0.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.8	0.3	1.9	5.4	0.0	7.5	8.5	0.1	0.1	4.6	0.2
LnGrp Delay(d),s/veh	47.1	38.6	36.3	43.6	41.2	36.0	16.0	8.0	4.4	10.4	6.3	4.4
LnGrp LOS	D	D	D	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		156			272			1038			441	
Approach Delay, s/veh		40.2			41.8			10.9			6.2	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		22.8		80.0		22.8
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		37.3		15.6		18.4		13.1
Green Ext Time (p_c), s		21.5		1.2		27.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	442	92	173	614	11	157	309	211	11	208	112
Future Volume (veh/h)	81	442	92	173	614	11	157	309	211	11	208	112
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1810	1557	1810	1845	1900	1792	1863	1759	1863	1863	1863
Adj Flow Rate, veh/h	92	502	62	197	698	12	178	351	29	12	236	2
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	5	22	5	3	3	6	2	8	2	2	2
Cap, veh/h	363	1082	791	487	1125	19	217	495	397	126	267	227
Arrive On Green	0.03	0.60	0.60	0.05	0.62	0.62	0.10	0.27	0.27	0.14	0.14	0.14
Sat Flow, veh/h	1757	1810	1324	1723	1808	31	1707	1863	1495	999	1863	1583
Grp Volume(v), veh/h	92	502	62	197	0	710	178	351	29	12	236	2
Grp Sat Flow(s),veh/h/ln	1757	1810	1324	1723	0	1840	1707	1863	1495	999	1863	1583
Q Serve(g_s), s	4.7	35.5	4.5	10.1	0.0	54.6	20.1	39.2	3.3	2.5	28.6	0.2
Cycle Q Clear(g_c), s	4.7	35.5	4.5	10.1	0.0	54.6	20.1	39.2	3.3	13.6	28.6	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	1082	791	487	0	1144	217	495	397	126	267	227
V/C Ratio(X)	0.25	0.46	0.08	0.40	0.00	0.62	0.82	0.71	0.07	0.09	0.89	0.01
Avail Cap(c_a), veh/h	380	1082	791	544	0	1144	237	626	503	184	375	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	25.7	19.5	19.1	0.0	26.8	75.0	76.4	63.2	95.3	96.7	84.6
Incr Delay (d2), s/veh	0.1	1.4	0.2	0.2	0.0	2.5	17.1	2.4	0.1	0.3	15.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	18.1	1.7	4.8	0.0	28.6	10.5	20.6	1.4	0.7	15.9	0.1
LnGrp Delay(d),s/veh	23.0	27.2	19.7	19.3	0.0	29.3	92.0	78.8	63.3	95.6	112.2	84.6
LnGrp LOS	C	C	B	B		C	F	E	E	F	F	F
Approach Vol, veh/h		656			907			558			250	
Approach Delay, s/veh		25.9			27.1			82.2			111.2	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.7	149.5	28.2	39.6	18.3	143.9		67.8
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	9.0	124.6	25.0	46.3	20.0	113.6		77.3
Max Q Clear Time (g_c+I1), s	6.7	56.6	22.1	30.6	12.1	37.5		41.2
Green Ext Time (p_c), s	0.0	26.4	0.1	2.3	0.2	27.3		2.7

Intersection Summary	
HCM 2010 Ctrl Delay	48.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	570	265	31	730	52	337	206	40	20	89	70
Future Volume (veh/h)	72	570	265	31	730	52	337	206	40	20	89	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1776	1583	1624	1827	1827	1696	1863	1681	1863	1863	1863
Adj Flow Rate, veh/h	75	594	173	32	760	30	351	215	12	21	93	2
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	7	20	17	4	4	12	2	13	2	2	2
Cap, veh/h	289	1153	874	319	1091	927	385	555	426	102	115	98
Arrive On Green	0.03	0.65	0.65	0.60	0.60	0.60	0.21	0.30	0.30	0.06	0.06	0.06
Sat Flow, veh/h	1774	1776	1346	609	1827	1553	1616	1863	1429	1149	1863	1583
Grp Volume(v), veh/h	75	594	173	32	760	30	351	215	12	21	93	2
Grp Sat Flow(s),veh/h/ln	1774	1776	1346	609	1827	1553	1616	1863	1429	1149	1863	1583
Q Serve(g_s), s	3.7	40.6	11.9	6.7	66.0	1.8	45.9	21.1	1.4	4.0	11.3	0.3
Cycle Q Clear(g_c), s	3.7	40.6	11.9	35.3	66.0	1.8	45.9	21.1	1.4	4.0	11.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	289	1153	874	319	1091	927	385	555	426	102	115	98
V/C Ratio(X)	0.26	0.52	0.20	0.10	0.70	0.03	0.91	0.39	0.03	0.21	0.81	0.02
Avail Cap(c_a), veh/h	290	1153	874	319	1091	927	426	705	541	166	219	186
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	21.3	16.2	33.7	31.9	19.0	76.6	64.1	57.2	103.1	106.5	101.3
Incr Delay (d2), s/veh	0.2	1.6	0.5	0.6	3.7	0.1	21.3	0.2	0.0	0.4	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	20.3	4.5	1.2	34.5	0.8	22.8	10.9	0.5	1.3	6.0	0.1
LnGrp Delay(d),s/veh	27.7	22.9	16.7	34.4	35.6	19.1	97.9	64.3	57.2	103.4	111.5	101.4
LnGrp LOS	C	C	B	C	D	B	F	E	E	F	F	F
Approach Vol, veh/h		842			822			578			116	
Approach Delay, s/veh		22.1			35.0			84.5			109.8	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	12.0	143.6	54.2	20.2		155.5		74.5
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	6.0	118.8	54.0	27.0		130.8		87.0
Max Q Clear Time (g_c+I1), s	5.7	68.0	47.9	13.3		42.6		23.1
Green Ext Time (p_c), s	0.0	30.7	0.3	0.9		40.4		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	46.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	11	643	9	35	438
Future Vol, veh/h	3	11	643	9	35	438
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	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	33	27	4	22	26	6
Mvmt Flow	3	12	699	10	38	476

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1251	699	0	0	699	0
Stage 1	699	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.73	6.47	-	-	4.36	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.543	-	-	2.434	-
Pot Cap-1 Maneuver	165	400	-	-	796	-
Stage 1	441	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	157	400	-	-	796	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	495	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	300	796	-
HCM Lane V/C Ratio	-	-	0.051	0.048	-
HCM Control Delay (s)	-	-	17.6	9.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	10	642	12	32	409
Future Vol, veh/h	4	10	642	12	32	409
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	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	30	4	17	28	4
Mvmt Flow	4	11	698	13	35	445

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1212	698	0	0	698	0
Stage 1	698	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.65	6.5	-	-	4.38	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.57	-	-	2.452	-
Pot Cap-1 Maneuver	181	396	-	-	789	-
Stage 1	454	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	173	396	-	-	789	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	364	789	-
HCM Lane V/C Ratio	-	-	0.042	0.044	-
HCM Control Delay (s)	-	-	15.3	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	225	319	38	93	10	183	431	45	12	591	16
Future Volume (veh/h)	25	225	319	38	93	10	183	431	45	12	591	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1583	1863	1845	1759	1845	1570	1776	1863	1810	1188	1863	1520
Adj Flow Rate, veh/h	26	237	135	40	98	2	193	454	40	13	622	12
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	20	2	3	8	3	21	7	2	5	60	2	25
Cap, veh/h	228	356	300	137	353	255	466	1279	1056	403	1279	887
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1096	1863	1568	950	1845	1335	753	1863	1538	573	1863	1292
Grp Volume(v), veh/h	26	237	135	40	98	2	193	454	40	13	622	12
Grp Sat Flow(s),veh/h/ln	1096	1863	1568	950	1845	1335	753	1863	1538	573	1863	1292
Q Serve(g_s), s	2.2	12.5	8.1	4.3	4.8	0.1	17.2	10.7	0.9	1.0	16.7	0.3
Cycle Q Clear(g_c), s	7.0	12.5	8.1	16.9	4.8	0.1	33.9	10.7	0.9	11.8	16.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	356	300	137	353	255	466	1279	1056	403	1279	887
V/C Ratio(X)	0.11	0.67	0.45	0.29	0.28	0.01	0.41	0.35	0.04	0.03	0.49	0.01
Avail Cap(c_a), veh/h	575	946	796	438	937	678	466	1279	1056	403	1279	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	39.9	38.1	47.7	36.7	34.8	15.8	6.9	5.4	9.3	7.8	5.3
Incr Delay (d2), s/veh	0.1	0.8	0.4	0.4	0.2	0.0	2.7	0.8	0.1	0.1	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.5	3.6	1.1	2.5	0.0	3.9	5.7	0.4	0.2	8.9	0.1
LnGrp Delay(d),s/veh	39.8	40.7	38.5	48.1	36.9	34.8	18.5	7.7	5.4	9.5	9.2	5.3
LnGrp LOS	D	D	D	D	D	C	B	A	A	A	A	A
Approach Vol, veh/h		398			140			687			647	
Approach Delay, s/veh		39.9			40.1			10.6			9.1	
Approach LOS		D			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.0		26.3		80.0		26.3
Change Period (Y+Rc), s		7.0		6.0		7.0		6.0
Max Green Setting (Gmax), s		73.0		54.0		73.0		54.0
Max Q Clear Time (g_c+I1), s		35.9		14.5		18.7		18.9
Green Ext Time (p_c), s		20.2		1.5		24.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	622	99	212	483	27	119	248	215	30	352	114
Future Volume (veh/h)	77	622	99	212	483	27	119	248	215	30	352	114
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1776	1863	1844	1900	1583	1863	1845	1863	1845	1827
Adj Flow Rate, veh/h	78	628	63	214	488	26	120	251	48	30	356	28
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	3	7	2	3	3	20	2	3	2	3	4
Cap, veh/h	451	1015	830	379	1016	54	154	569	479	243	386	325
Arrive On Green	0.03	0.55	0.55	0.06	0.59	0.59	0.07	0.31	0.31	0.21	0.21	0.21
Sat Flow, veh/h	1774	1845	1509	1774	1735	92	1508	1863	1568	1076	1845	1553
Grp Volume(v), veh/h	78	628	63	214	0	514	120	251	48	30	356	28
Grp Sat Flow(s),veh/h/ln	1774	1845	1509	1774	0	1827	1508	1863	1568	1076	1845	1553
Q Serve(g_s), s	4.5	53.4	4.5	12.0	0.0	37.3	14.2	24.9	5.0	5.3	43.5	3.3
Cycle Q Clear(g_c), s	4.5	53.4	4.5	12.0	0.0	37.3	14.2	24.9	5.0	8.0	43.5	3.3
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	451	1015	830	379	0	1070	154	569	479	243	386	325
V/C Ratio(X)	0.17	0.62	0.08	0.57	0.00	0.48	0.78	0.44	0.10	0.12	0.92	0.09
Avail Cap(c_a), veh/h	451	1015	830	447	0	1070	160	683	575	305	492	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	35.3	24.3	28.2	0.0	27.5	68.5	64.1	57.2	76.2	89.2	73.3
Incr Delay (d2), s/veh	0.1	2.8	0.2	0.5	0.0	1.5	18.8	0.4	0.1	0.2	19.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	28.0	1.9	5.9	0.0	19.3	6.7	12.9	2.2	1.6	24.3	1.4
LnGrp Delay(d),s/veh	23.7	38.1	24.5	28.7	0.0	29.0	87.3	64.6	57.3	76.4	108.7	73.4
LnGrp LOS	C	D	C	C		C	F	E	E	E	F	E
Approach Vol, veh/h		769			728			419			414	
Approach Delay, s/veh		35.6			28.9			70.2			104.0	
Approach LOS		D			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	141.1	22.2	54.8	20.2	132.9		76.9
Change Period (Y+Rc), s	6.0	6.4	6.0	6.7	6.0	6.4		6.7
Max Green Setting (Gmax), s	6.0	120.6	17.0	61.3	23.0	103.6		84.3
Max Q Clear Time (g_c+I1), s	6.5	39.3	16.2	45.5	14.0	55.4		26.9
Green Ext Time (p_c), s	0.0	24.6	0.0	2.6	0.2	21.0		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	624	332	46	701	54	229	155	58	50	197	107
Future Volume (veh/h)	64	624	332	46	701	54	229	155	58	50	197	107
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1792	1696	1827	1776	1863	1583	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	657	216	48	738	32	241	163	40	53	207	10
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	6	12	4	7	2	20	2	2	2	2	2
Cap, veh/h	293	1166	938	309	1063	948	266	552	469	177	230	196
Arrive On Green	0.03	0.65	0.65	0.60	0.60	0.60	0.15	0.30	0.30	0.12	0.12	0.12
Sat Flow, veh/h	1757	1792	1442	620	1776	1583	1508	1863	1583	1174	1863	1583
Grp Volume(v), veh/h	67	657	216	48	738	32	241	163	40	53	207	10
Grp Sat Flow(s),veh/h/ln	1757	1792	1442	620	1776	1583	1508	1863	1583	1174	1863	1583
Q Serve(g_s), s	3.3	46.5	14.2	10.6	65.6	1.9	31.5	15.5	4.2	9.5	25.2	1.3
Cycle Q Clear(g_c), s	3.3	46.5	14.2	45.2	65.6	1.9	31.5	15.5	4.2	9.5	25.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	293	1166	938	309	1063	948	266	552	469	177	230	196
V/C Ratio(X)	0.23	0.56	0.23	0.16	0.69	0.03	0.90	0.30	0.09	0.30	0.90	0.05
Avail Cap(c_a), veh/h	293	1166	938	309	1063	948	307	697	592	236	324	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	22.2	16.5	37.9	31.7	18.9	73.1	62.4	58.4	92.5	99.4	88.9
Incr Delay (d2), s/veh	0.1	2.0	0.6	1.1	3.7	0.1	24.6	0.1	0.0	0.4	17.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	23.6	5.8	1.9	33.3	0.8	14.9	8.0	1.8	3.1	14.1	0.6
LnGrp Delay(d),s/veh	27.3	24.1	17.1	39.0	35.4	19.0	97.7	62.5	58.4	92.8	116.3	88.9
LnGrp LOS	C	C	B	D	D	B	F	E	E	F	F	F
Approach Vol, veh/h		940			818			444			270	
Approach Delay, s/veh		22.7			35.0			81.2			110.7	
Approach LOS		C			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	11.9	143.9	39.7	34.4		155.8		74.2
Change Period (Y+Rc), s	6.0	6.2	6.0	6.0		6.2		6.0
Max Green Setting (Gmax), s	6.0	119.8	40.0	40.0		131.8		86.0
Max Q Clear Time (g_c+I1), s	5.3	67.6	33.5	27.2		48.5		17.5
Green Ext Time (p_c), s	0.0	33.5	0.2	1.2		43.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	46.9
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	33	519	3	12	632
Future Vol, veh/h	8	33	519	3	12	632
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	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	24	4	33	25	3
Mvmt Flow	9	36	564	3	13	687

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1277	564	0	0	564	0
Stage 1	564	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Critical Hdwy	6.65	6.44	-	-	4.35	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.516	-	-	2.425	-
Pot Cap-1 Maneuver	165	486	-	-	903	-
Stage 1	526	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	163	486	-	-	903	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	350	903	-
HCM Lane V/C Ratio	-	-	0.127	0.014	-
HCM Control Delay (s)	-	-	16.8	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	30	492	4	11	629
Future Vol, veh/h	11	30	492	4	11	629
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	-	-	250	310	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	18	27	3	25	27	3
Mvmt Flow	12	33	535	4	12	684

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1243	535	0	0	535	0
Stage 1	535	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Critical Hdwy	6.58	6.47	-	-	4.37	-
Critical Hdwy Stg 1	5.58	-	-	-	-	-
Critical Hdwy Stg 2	5.58	-	-	-	-	-
Follow-up Hdwy	3.662	3.543	-	-	2.443	-
Pot Cap-1 Maneuver	179	500	-	-	918	-
Stage 1	556	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	500	-	-	918	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	454	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	428	918	-
HCM Lane V/C Ratio	-	-	0.104	0.013	-
HCM Control Delay (s)	-	-	14.4	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-