File #: 2019-4714 1/28/2020
File Status: Preliminary Item

Public Hearing: YES ☒ NO ☐ **Department:** Planning & Sustainability

SUBJECT:
COMMISSION DISTRICT(S): 5 & 7
Application of DR Horton c/o Battle Law, P.C. to rezone property from R-100 (Residential Medium Lot) District, C-1 (Local Commercial) District and RSM (Small Lot Residential Mix) District to RSM (Small Lot Residential Mix) District to develop 324 fee-simple townhomes at a density of 7.81 units per acre within the Greater Hidden Hills Overlay District, at 5702 & 5758 Covington Hwy, 5810 Covington Hwy, and 2650 Young Road.
PETITION NO: N12. Z-20-1243620 (2019-4714)

PROPOSED USE: 324 Fee-Simple Attached Townhomes

LOCATION: 5702 and 5758 Covington Highway; 5810 Covington Highway; 2650 Young Road,

PARCEL NO. : 16-026-02-001; 16-026-02-002; 16-026-02-018; 16-027-02-014

INFO. CONTACT: Marian Eisenberg

PHONE NUMBER: 404-371-4922

PURPOSE:
Application of DR Horton c/o Battle Law, P.C. to rezone property from R-100 (Residential Medium Lot) District, C-1 (Local Commercial) District and RSM (Small Lot Residential Mix) District to RSM (Small Lot Residential Mix) District to develop 324 fee-simple townhomes at a density of 7.81 units per acre within the Greater Hidden Hills Overlay District. The property is located on the north side of Covington Highway, at 5702 and 5758 Covington Highway, Stone Mountain, GA; and 5810 Covington Highway, Decatur, GA; and the east side of Young Road at 2650 Young Road, Stone Mountain, GA. The property has approximately 1,104 feet of frontage along the north side of Covington Highway and approximately 518 feet of frontage along the east side of Young Road and contains 42.1 acres.

RECOMMENDATION:
COMMUNITY COUNCIL: Approval with Conditions.

PLANNING COMMISSION: Full Cycle Deferral.

PLANNING STAFF: Deferral for 30 days.

STAFF ANALYSIS: The proposed rezoning request to the RSM (Residential Small Lot) District to allow for the development of 324 single family attached townhomes at a density of 7.81 units per acre is compatible with the surrounding and adjacent properties and complies with the RSM district standards. The request is compatible with the Commercial Redevelopment Corridor (CRC) Character Area and the Suburban (SUB) Character Area in the 2035 Comprehensive Land Use Plan and the following plan policies: to promote the redevelopment of declining commercial corridors and to improve the function and aesthetic appeal of more stable commercial corridors and encouraging new development to have increased connectivity and accessibility. The proposed development should be approved with the following recommended conditions. However, the applicant has requested a Deferral for 30 days.

PLANNING COMMISSION VOTE: Full Cycle Deferral 7-2-0. G. McCoy moved, A. Atkins seconded for a Full Cycle Deferral to allow time to review the traffic study. The motion passed 7-2-0. T. Snipes and L. Osler opposed.

COMMUNITY COUNCIL VOTE/RECOMMENDATION: Approval 8-0-1. Less than 30% of units allowed for rental units to be spread out throughout the development and pedestrian access to Covington Highway shall be provided to north end of development.

Recommended Conditions

Z-20-1243620

1. The development shall have a maximum of 324 attached fee-simple townhouse units. Conceptual layout of site plan and building design shall be subject to approval of the Director of Planning & Sustainability Department.
2. No more than one (1) curb cut on Young Road. Vehicular ingress and egress shall be subject to approval by the DeKalb County Department of Public Works, Transportation Division. The number and location of vehicular ingress and road improvements along Covington Highway shall be determined and subject to approval by Georgia Department of Transportation (GDOT).
3. Dedicate a minimum 40 feet of right of way from centerline of Young Road (or all public infrastructure on right of way – including street lights, whichever greater).
4. Professional engineer to verify that driveway on Young Road has required AASHTO sight distance prior to permitting.
5. Dedicate a minimum 50 feet of right of way from centerline of Covington Highway (or all public infrastructure on right of way – including street lights, whichever greater).
6. Provide a direct pedestrian connection from public right of ways to interior of the subject property to support transit.
7. No more than 20% of the housing units can be used as rental units. There shall be no concentration of rental units within one area of the development. Rental units shall be spread out over the entire development.
8. A mandatory homeowners' association shall be created and shall be governed by a declaration of covenants, conditions, and restrictions. The homeowner association shall be responsible for the maintenance of required transitional buffer, open space within the property, street lighting, amenity areas, pedestrian paths, private alleys and private drives.
9. Provide open space in compliance to Chapter 27-Article 5 of the DeKalb Code of Ordinances per conceptual site plan.
10. Building facades shall be constructed with at least three sides brick, stacked stone, or masonry stucco excluding architectural decorative features.
11. Townhouse units directly facing along Young Road and Covington Highway shall be rear loaded with garage entry.
12. All exterior lighting shall be screened from adjacent properties or shielded to minimize glare and keep light inside the development.
13. The approval of this rezoning application by the Board of Commissioners has no bearing on other approvals by the Zoning Board of Appeals or other authority, whose decision should be based on the merits of the application before said authority.

14. Private drives and alleys subject to the requirements of the DeKalb County Fire Marshall.
15. Final lot layout is subject to sketch plat approval in accordance with DeKalb County Ordinances, Chapter 27 (Zoning Code) & Chapter 14 (Land Development Code) before applying for a Land Disturbance Permit (LDP).

Michael Thurmond
Chief Executive Officer

DeKalb County Department of Planning & Sustainability

330 Ponce De Leon Avenue, Suite 300
Decatur, GA 30030
(404) 371-2155 / www.dekalbcountyga.gov/planning

Planning Commission Hearing Date: January 07, 2020, 6:30 P.M
Board of Commissioners Hearing Date: January 28, 2020, 6:30 P.M.

STAFF ANALYSIS

Case No.:	Z-20-1243620	**Agenda #:** N.12
Location/Address:	The north side of Covington Highway at 5702 and 5758 Covington Highway, Stone Mountain, GA and 5810 Covington Highway, Decatur, GA. The property also has frontage along the east side of Young Road at 2650 Young Road, Stone Mountain, GA. ne Mountain, GA.	**Commission District:** 5 **Super District:** 7
Parcel ID:	16-026-02-001, 16-026-02-002, 16-026-02-018, & 16-027-02-014	
Request:	To rezone property from R-100 (Residential Medium Lot) District, C-1 (Local Commercial) District and RSM (Small Lot Residential Mix) District to RSM (Small Lot Residential Mix) District to develop 324 fee simple townhomes at a density of 7.81 units per acre within the Greater Hidden Hills Overlay District.	
Property Owner/Applicant:	The Pierre Louisius Group, LLC; EPL Enterprises, Inc; Christ Fellowship of Stone Mountain, Inc./DR Horton, Inc.	
Applicant's Agent:	Battle Law, P.C.	
Acreage:	42.1 Acres	
Existing Land Use:	Our Shepherds Baptist Church on Young Road. The rest of the site is undeveloped with mature shrubbery, trees and vegetation.	
Surrounding Properties Adjacent Zoning:	North of the site on Young Road are single-family detached residences and Decatur Adventist Church on R-100 zoned property. Further east are residential uses along Covington Highway are Covington Glen Apartments and Scarbrough Square subdivision on property zoned RSM. West of the site is Park Stonehaven Apartments zoned Medium Density Residential-1 (MR-1). South of the site along Covington Highway is primarily zoned commercial and industrial. CITGO Gas Station and convenience plaza is zoned C-1. Across from the site is auto sales, auto towing and major auto repair. Southwest on Covington Highway is Parker and Son Screen & Glass Inc. These properties are zoned C-2 (General Commercial) District.	

Comprehensive Plan:	**Suburban (SUB) & Commercial Redevelopment Corridor (CRC)**	X	
		Consistent	**Inconsistent**

Proposed # of Residences: 324 Fee-Simple Attached Townhomes	**Existing Residences:** None
Proposed Lot Coverage: Max 70% per lot	**Existing Lot Coverage:** None

SUBJECT SITE & ZONING HISTORY

The subject property consists of approximately 42 acres at the northeast intersection of Covington Highway (a four-lane major arterial) and Young Road (a two-lane collector) within the Greater Hidden Hills Overlay District. It combines four contiguous parcels. The site has frontage on Young Road and Covington Highway. Our Shepherds Baptist Church is developed along the Young Road frontage. The majority of the site fronts along Covington Highway. It is heavily wooded with tall mature dense vegetation. A stream runs diagonally through the site. Property zoned R-100 (Residential Medium Lot) District was placed on the site with the adoption of the DeKalb County Zoning Ordinance in 1956. One parcel is zoned C-1 (Local Commercial)without conditions pursuant to Z-86-166. Another parcel is zoned C-1 pursuant to CZ-07-3918 with the following conditions: to prohibit barber shops, nail salons, wing-type restaurants, liquor stores, pawn shops or check cashing establishments. A portion of the site is zoned RSM pursuant to Z-7205.

ZONING ANALYSIS

The request is to rezone property from R-100 (Residential Medium Lot) District, C-1 (Local Commercial) District and RSM (Small Lot Residential Mix) District to RSM (Small Lot Residential Mix) District to develop 324 fee simple townhomes at a density of 7.81 units per acre within the Greater Hidden Hills Overlay District.

Per the DeKalb Zoning Ordinance, the purpose of the R-100 District is to provide for the protection of neighborhoods within the county where lots have a minimum area of 15,000 square feet and to provide for compatible infill developments in neighborhoods. The intent of the C-1 district is to provide local retail shopping and service areas for all County residents. The intent of the RSM district is to provide for the creation of residential neighborhoods that allow a mix of single-family attached and detached housing options.

Per the attached zoning map, the subject site abuts RSM zoned properties adjacent along the east and west property lines consistent with the proposed rezoning request. The proposed RSM district would allow a residential use compatible with existing zoned and developed residential properties east along Covington Highway. Further west of the site at the northwest intersection of Covington Highway and Young Road is Park Stonehaven Apartments zoned Medium Density Residential-1 (MR-1). East on Covington Highway are residential uses (Covington Glen Apartments and Scarbrough Square subdivision) on property zoned RSM. The proposed RSM district would serve as a transitional zoning district to R-100 residential zoned properties north of the site.

Of the total 42 acres, the 2035 Comprehensive Plan designates the future land use for approximately 31 acres within the Suburban (SUB) Character Area. The intent of the Suburban Character Area is to recognize those areas of the county that have developed in traditional suburban land use patterns while encouraging new development to have increased connectivity and accessibility. The proposed RSM district is a permitted zoning for the Suburban Character Area.

The 2035 Comprehensive Plan designates the future land use for the remaining 10+ acres in the Commercial Redevelopment Corridor (CRC) Character Area. The intent of the Commercial Redevelopment Corridor is to promote the redevelopment of declining commercial corridors. While the proposed rezoning from C-1 (Local Commercial) District to RSM (Small Lot Residential) would eliminate the opportunity for commercial development on this property, it would create density by adding housing units and provide more options for available housing to County residents.

Currently, the Greater Hidden Hills Overlay Map splits the subject site within two Tiers (Tier 1 -Commercial & Multi-Family for property fronting on Covington Highway) and (Residential Tier for property fronting on Young Road). To ensure that the Greater Hidden Hills Overlay District map reflect consistency with existing and proposed residential development in the area, Planning Staff has initiated a map change in the Tier designation for the subject site. Pursuant to Z-20-1243713, a request is being made to change Tier 1 on the subject site to the Residential Tier. This request will change all of the parcels on the north side of Covington Highway within land lots 16-026 and 16-027 from Tier 1 – Commercial & Multi-Family to the Residential Tier .

Impact Analysis

Section 27-7.3.5 of the DeKalb County Code states that the following standards and factors shall govern the review of all proposed amendments to the Official Zoning Map.

A. Whether the zoning proposal is in conformity with the policy and intent of the comprehensive plan:

The proposed rezoning to RSM (Residential Small Lot) District and the development of townhomes is compatible with the policy and intent of the Commercial Redevelopment Corridor (CRC) Character Area and the Suburban (SUB) Character Area in the 2035 Comprehensive Plan. The intent of the Commercial Redevelopment Corridor (CRC) Character Area is to promote the redevelopment of declining commercial corridors and to improve the function and aesthetic appeal of more stable commercial corridors. This request will improve the aesthetic appeal along Covington Highway. The intent of the Suburban (SUB) Character Area is to recognize those areas of the county that have developed in traditional suburban land use patterns while encouraging new development to have increased connectivity and accessibility. The proposed site plan for townhouse development depicts connectivity and accessibility for area residents along Covington Highway and Young Road.

B. Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties:

The proposed rezoning to the RSM (Small Lot Residential Mix) District for the development of 324 single family attached townhomes at a proposed density of 7.81 units per acres is suitable given the adjacent residential land uses. East of the site is Covington Glen apartments and single-family detached residences.R-100

C. Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned:

Per the submitted documentation, the site has marginal value as currently zoned R-100 and C-1. The creek in the middle of the site would result in less area for development for single-family residences. Development of the C-1 (Local Commercial) District zoned property is challenging due to the site distance issues and limitations with curb cuts along Covington Highway.

D. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property:

The rezoning request to the RSM (Small Lot Residential Mix) District should not adversely affect the use or usability of adjacent and/or nearby residential properties along Covington Highway and /or Young Road.

E. Whether there are other existing or changing conditions affecting the use and development of the property, which give supporting grounds for either approval or disapproval of the zoning proposal:

The primarily undeveloped site provides no economic use. The proposed rezoning to RSM to develop townhomes would provide economic value for to the site while providing another housing option in the area.

F. Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources:

The proposed rezoning will not adversely affect historic buildings, sites, districts or archaeological resources.

G. Whether the zoning proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools:

The zoning proposal to the RSM District to develop 324 residences would increase traffic along Covington Highway and Young Road. However, compliance to required road improvements from Georgia Department of Transportation (GDOT) and DeKalb County Department of Public Works, will mitigate traffic issues. Transportation requires pedestrian scale street lights, three-foot landscape strip and six-foot sidewalk. A review by the Georgia Department of Transportation will be needed long Covington Highway along with five-feet landscape strip, six-feet sidewalks, pedestrian scale street lights and a minimum of dedication of 50 feet from centerline. The increase in residential units will have an impact on area schools.

H. Whether the zoning proposal adversely impacts the environment or surrounding natural resources.

The rezoning proposal to the RSM district will not adversely impact the environment or surrounding natural resources.

Project Analysis

Per the revised site plan submitted December 17, 2019, the applicant proposes to build 324 fee simple attached single-family townhomes. The number of attached units in a row range from 8 units down to 3 attached units. All of the proposed units are front loaded (garages in the front) with a building footprint of 1,000 square feet. The applicant proposes a 3-story or 45 feet building height with a minimum heated floor area of 1,200 square feet per residence. Several pockets of enhanced open space are throughout the development as well as a master amenity active recreation area. Three stormwater detention facilities are proposed for the site. The revised site plan depicts a pedestrian foot bridge crossing that connects development over the creek for residents to have access to Covington Highway. The site plan depicts two points of access from Covington Highway and one access point from Young Road.

COMPLIANCE WITH DISTRICT STANDARDS

Per the chart below, the proposed RSM single-family attached townhomes can comply with minimum development standards of the RSM (Residential Small Lot) District per Table 2.2 of the DeKalb County Zoning Ordinance.

RSM STANDARD	REQUIREMENT	PROPOSED	COMPLIANCE
MIN. LOT WIDTH	25 ft	Not labeled on submitted site plan	To be determined. (TBD)
MIN. LOT AREA	1,000 sq. ft.	1,000 sq. ft.	YES
FRONT SETBACK	Min 20 ft.	20 ft	YES
INTERIOR LOT - SIDE	N/A	N/A	N/A
REAR	15 ft	15 ft	YES
DWELLING UNITS PER ACRE	4 – 8	7.81	YES
HEIGHT	3 stories or 45 ft	3 stories	YES
MIN. PARKING Article 6	Minimum 1.75 parking spaces per dwelling unit	2 spaces per dwelling unit plus guest parking. Total 1,047 spaces	YES
OPEN SPACE	Minimum 20% if site is > 5 acres. Site is 942.1 acres	35.7 %	YES
Linear Feet of Sidewalk	5-feet wide	5-feet wide along Covington Highway. Sidewalks exists on Young Road.	YES

Staff Recommendation: Deferral For 30 Days

The proposed rezoning request to the RSM (Residential Small Lot) District to allow for the development of 324 single family attached townhomes at a density of 7.81 units per acre is compatible with the surrounding and adjacent properties and complies with the RSM district standards. The request is compatible with the Commercial Redevelopment Corridor (CRC) Character Area and the Suburban (SUB) Character Area in the 2035 Comprehensive Land Use Plan and the following plan policies: to promote the redevelopment of declining commercial corridors and to improve the function and aesthetic appeal of more stable commercial corridors and encouraging new development to have increased connectivity and accessibility. The proposed development should be approved with the following recommended conditions. However, the applicant has requested a Deferral for 30 days.

1. The development shall have a maximum of 324 attached fee-simple townhouse units. Conceptual layout of site plan and building design shall be subject to approval of the Director of Planning & Sustainability Department.
2. No more than one (1) curb cut on Young Road. Vehicular ingress and egress shall be subject to approval by the DeKalb County Department of Public Works, Transportation Division. The number and location of vehicular ingress and road improvements along Covington Highway shall be determined and subject to approval by Georgia Department of Transportation (GDOT).
3. Dedicate a minimum 40 feet of right of way from centerline of Young Road (or all public infrastructure on right of way – including street lights, whichever greater).
4. Professional engineer to verify that driveway on Young Road has required AASHTO sight distance prior to permitting.
5. Dedicate a minimum 50 feet of right of way from centerline of Covington Highway (or all public infrastructure on right of way – including street lights, whichever greater).
6. Provide a direct pedestrian connection from public right of ways to interior of the subject property to support transit.
7. No more than 20% of the housing units can be used as rental units. There shall be no concentration of rental units within one area of the development. Rental units shall be spread out over the entire development.
8. A mandatory homeowners' association shall be created and shall be governed by a declaration of covenants, conditions, and restrictions. The homeowner association shall be responsible for the maintenance of required transitional buffer, open space within the property, street lighting, amenity areas, pedestrian paths, private alleys and private drives.
9. Provide open space in compliance to Chapter 27-Article 5 of the DeKalb Code of Ordinances per conceptual site plan.
10. Building facades shall be constructed with at least three sides brick, stacked stone, or masonry stucco excluding architectural decorative features.
11. Townhouse units directly facing along Young Road and Covington Highway shall be rear loaded with garage entry.
12. All exterior lighting shall be screened from adjacent properties or shielded to minimize glare and keep light inside the development.
13. The approval of this rezoning application by the Board of Commissioners has no bearing on other approvals by the Zoning Board of Appeals or other authority, whose decision should be based on the merits of the application before said authority.
14. Private drives and alleys subject to the requirements of the DeKalb County Fire Marshall.
15. Final lot layout is subject to sketch plat approval in accordance with DeKalb County Ordinances, Chapter 27 (Zoning Code) & Chapter 14 (Land Development Code) before applying for a Land Disturbance Permit (LDP).

Attachments

1. Department Comments
2. Division Comments

3. Application
4. Site Plan
5. Zoning Map
6. Land Use Map

NEXT STEPS

Following an approval of this zoning action, one or several of the following may be required:

- ✓ **Land Disturbance Permit** *(Required for of new building construction on non-residential properties, or land disturbance/improvement such as storm water detention, paving, digging, or landscaping.)*

- ✓ **Building Permit** *(New construction or renovation of a building (interior or exterior) may require full plan submittal or other documentation. zoning, site development, watershed and health department standards will be checked for compliance.)*

- ✓ **Certificate of Occupancy** *(Required prior to occupation of a commercial space and for use of property for any business type. The issuance follows the review of submitted plans if required based on the type occupancy.)*

- ✓ **Plat Approval** *(Required if any parcel is being subdivided, re-parceled, or combined. Issued "administratively"; no public hearing required.)*

- ✓ **Sketch Plat Approval** *(Required for the subdivision of property into three lots or more. Requires a public hearing by the Planning Commission.)*

- ✓ **Overlay Review** *(Required review of development and building plans for all new construction or exterior modification of building(s) located within a designated overlay district.)*

  Historic Preservation (Certificate of Appropriateness *required for any proposed changes to building exteriors or improvements to land when located within the Druid Hills or the Soapstone Geological Historic Districts. Historic Preservation Committee public hearing may be required.)*

- ✓ **Variance or Special Exception** *(Required seeking relief from any development standards of the Zoning Ordinance. A public hearing and action by the Board of Appeals are required for most variances.)*

- ✓ **Minor Modification** *(Required if there are any proposed minor changes to zoning conditions that were approved by the Board of Commissioners. The review is administrative if the changes are determined to be minor as described by Zoning Code.)*

- ✓ **Major Modification** *(Required submittal of a complete zoning application for a public hearing if there are any proposed changes to zoning conditions approved by the Board of Commissioner on a prior rezoning.)*

  Business License *(Required for any business or non-residential enterprise operating in Unincorporated DeKalb County, including in-home occupations).*

  Alcohol License *(Required permit to sell alcohol for consumption on-site or packaged for off-site consumption. Signed and sealed distance survey is required. Background checks will be performed.)*

Each of the approvals and permits listed above require submittal of application, fees and supporting documents. Please consult with the appropriate department/division.

CZ-20-1243620 5702 & 5758 Covington Highway /2650 Young Road

The entrance for the development on Covington Highway requires a permit from the state of

Georgia to work in the right of way. The 3 parcels shall be combined into 1, before LDP is issued. There is a creek traversing the project, the 75 feet stream buffer shall be maintained on both sides of the creek. No detention ponds shall be placed into the creek or the 75 feet buffer. All impervious water from the development shall be treated before it can be sent to the creek or stream.

TRANSPORTATION COMMENTS
January 2020 Zoning Cases

N1. No Comment

N2. Provide pedestrian connections from the apartments to the sidewalks on public right of way for each access point. Ensure that all access points have the required AASHTO sight distance. Landscaping may nee to be modified to obtain. If middle driveway on Rockbridge does not have exiting sight distance, eliminate access point. Submit sight distance calculation by a professional engineer at time of permitting. Add streetlighting at access points. Make sure driveway aprons meet current ADA requirements. See GDOT driveway detail.

N3. No comment.

N4. GDOT review and approval required prior to permitting. Provide a direct pedestrian path from the right of way to the subject building.

N5. Windy Hill Road is classified as a local residential road. Please see Section 14-190 for requirements to bring your side up to current standards. Widen 12 feet from centerline of road, dedicate 27.5 feet of right of way from centerline. 5-foot sidewalks, 6-foot landscape strip and pedestrian scale street lighting required. Fill in any gaps in sidewalk from subject property down to Tilson Road. Verify by a professional engineer that sight distance at the new road meets all applicable AASHTO standards.

N6. GDOT review and approval needed prior to permitting. Wilkinson Dr and Warren St are both local roads. Please see Section 14-190 for requirements to bring your side up to current standards. 24- foot wide road, header curb, dedicate 27.5 feet of right of way from centerline, 5-foot sidewalks, 6-foot landscape strip and pedestrian scale street lighting required. Provide direct pedestrian paths to destinations within the subject property. GDOT approval needed for driveway throat length off Memorial Drive.

N7. GDOT review an approval required for Candler Road (SR 155). Candler Road is classified as a major arterial. Falls within the I-20 Overlay District Tier 2. Follow infrastructure requirements of the overlay district. At a minimum- ROW dedication 50 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, Street trees, 4 foot bike lane, pedestrian scale street lights required. Glenwood is classified as a minor arterial. At a minimum-ROW dedication 40 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, pedestrian scale, 4- foot bike lane, street trees, street lights required. Glenhill is classified as a local residential. At a minimum- ROW dedication 27.5 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 5-foot sidewalk, 6- foot landscape strip, Street trees, pedestrian scale street lights required. If using Glenhill for access, the developer needs to add a left turn lane on Glenwood. Develop must extend the left turn lane on Glenwood at Candler to provide LT storage into the development. Traffic study required. Provide a direct pedestrian path from the public sidewalks on right of way to the destinations within the subject property to support transit. Professional engineer to verify sight distance at all access points per AASHTO guidelines- to be submitted with permitting.

N8. Only one access point on Houston Mill Road. Provide sidewalks to Lavista Road. Professional engineer to verify sight distance per AASHTO prior to permitting due to curves. Houston Mill is classified as a collector road. At a minimum- ROW dedication 17.5 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, Street trees, 4 foot bike lane, pedestrian scale street lights required. Provide a direct pedestrian connection from public right of ways to interior of the subject property to support walkability.

N9 & N10. Follow the infrastructure requirements in the overlay district. Redan Road is classified at a minor arterial. At a minimum-ROW dedication 40 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, pedestrian scale, 4- foot bike lane, street trees, street lights required. Access point right in/right out only due to location. Only one access point. Professional engineer to verify sight distance per AASHTO prior to permitting. Provide a direct pedestrian connection from public right of ways to interior of the subject property to support transit.

N11. Requires GDOT approval and permits prior to DeKalb permit submittal. Verify that you have the required number of driveways per # of units- Section 14-200(5). If not, Board variance required. Young Road is classified at a collector street. See overlay infrastructure standards. At a minimum-ROW dedication 40 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, pedestrian scale, 4- foot bike lane, street trees, street lights required.Covington Hwy is classified as a major arterial. See overlay infrastructure standards. At a minimum- ROW dedication 50 feet from centerline (or all public infrastructure on right of way- including street lights, which ever greater), 6-foot sidewalk, 10 foot landscape strip, Street trees, 4 foot bike lane, pedestrian scale street lights required. Traffic study to determine need to for left turn/right turn lanes on Young Road. Professional engineer to verify that driveway on Young Road has required AASHTO sight distance prior to permitting. Provide a direct pedestrian connection from public right of ways to interior of the subject property to support transit.

DEKALB COUNTY GOVERNMENT
PLANNING DEPARTMENT
DISTRIBUTION FORM

NOTE: PLEASE RETURN ALL COMMENTS VIA EMAIL OR FAX TO EXPEDITE THE PROCESS TO MICHELLE M ALEXANDER mmalexander@dekalbcountyga.gov OR JOHN REID JREID@DEKALBCOUNTYGA.GOV

COMMENTS FORM:
PUBLIC WORKS WATER AND SEWER

Case No.: Z-20-1243620

Parcel I.D. #: 16-026-02-001, 16-026-02-002, 16-026-02-018, 16-027-02-014

Address: 5702, 5758, & 5810 Covington Highway and 2650 Young Road

Stone Mountain, Georgia & Decatur, Georgia

WATER:

Size of existing water main: 6" CI, 16" CS, & 36" DI Water Main (adequate/inadequate)

Distance from property to nearest main: Adjacent to Property

Size of line required, if inadequate: N/A

UPGRADE OF 6" WL TO 8" WL WILL BE REQUIRED. MH

SEWER:

Outfall Servicing Project: Lower Snapfinger Creek Basin

Is sewer adjacent to property: Yes (X) No ( ) **If no, distance to nearest line:** _____

Water Treatment Facility: Snapfinger Creek WTF ( ) adequate ( ) inadequate

Sewage Capacity; * (MGPD) **Current Flow:** 21.77 (MGPD)

COMMENTS:

*** Please note that the sewer capacity has not been reviewed or approved for this project. A Sewer Capacity Request (SCR) must be completed and submitted for review. This can be a lengthy process and should be addressed early in the process.**
THIS AREA IS AFFECTED BY DOWNSTREAM ISSUES;
SEWER ACTION PLAN WILL MOST LIKELY BE REQ'D. MH

Signature: _____

DeKalb County School District
Development Review Comments

Analysis Date: 12/18/2019

Submitted to: DeKalb County

Case #: Z-20-1243620
Parcel #: 16-026-02-001/-002/-018/-014

Name of Development: 5702 Covington Hwy Townhomes
Location: 5702 Covington Hwy, Stone Mountain

Description: Proposed 324-unit fee-simple townhome development replacing.

Impact of Development: When fully constructed, this development would be expected to house 93 students: 21 at Panola Way ES, 17 at Miller Grove MS, 17 at Miller Grove HS, 35 at other DCSD schools, and 3 in private school. All three neighborhood schools have capacity for additional students.

Current Condition of Schools	Panola Way ES	Miller Grove MS	Miller Grove HS	Other DCSD Schools	Private Schools	Total
Capacity	850	1,127	1,830			
Portables	3	16	0			
Enrollment (Oct. 2019)	752	887	1,177			
Seats Available	98	240	653			
Utilization (%)	88.5%	78.7%	64.3%			
New students from development	21	17	17	35	3	93
New Enrollment	773	904	1,194			
New Seats Available	77	223	636			
New Utilization	90.9%	80.2%	65.2%			

Yield Rates	Attend Home School	Attend other DCSD School	Private School	Total
Elementary	0.066035	0.068187	0.003134	0.137356
Middle	0.052546	0.026386	0.002973	0.081905
High	0.053817	0.012075	0.002283	0.068174
Total	**0.1724**	**0.1066**	**0.0084**	**0.2874**

Student Calculations

Proposed Units	324
Unit Type	TH
Cluster	Miller Grove HS

Units x Yield	Attend Home School	Attend other DCSD School	Private School	Total
Elementary	21.40	22.09	1.02	44.51
Middle	17.02	8.55	0.96	26.53
High	17.44	3.91	0.74	22.09
Total	**55.86**	**34.55**	**2.72**	**93.13**

Anticipated Students	Attend Home School	Attend other DCSD School	Private School	Total
Panola Way ES	21	22	1	44
Miller Grove MS	17	9	1	27
Miller Grove HS	17	4	1	22
Total	**55**	**35**	**3**	**93**

DeKalb County Department of Planning & Sustainability

Michael L. Thurmond
Chief Executive Officer

Andrew A. Baker, AICP
Director

APPLICATION TO AMEND OFFICIAL ZONING MAP OF DEKALB COUNTY, GEORGIA

RECEIVED OCT 31 2019 By ______

Z/CZ No. 1243620

Filing Fee: ______

Date Received: ______ Application No.: ______

Applicant: DR Horton, Inc. E-Mail: mlb@battlelawpc.com

Applicant Mailing Address: c/o Battle Law, P.C., One West Court Sq., Suite 750, Decatur, GA 30030

Applicant Phone: 404-601-7616 Fax: 404-745-0045

****

Owner(s): See Exhibit "A" attached hereto E-Mail: ______
(If more than one owner, attach as Exhibit "A")

Owner's Mailing Address: ______

Owner(s) Phone: ______ Fax: ______

Address/Location of Subject Property: See Exhibit "A" attached hereto

District(s): ______ Land Lot(s): ______ Block: ______ Parcel(s: ______

Acreage: 42.1 Commission District(s): 5 & 7

Present Zoning Category: R-100 & C-1 & RSM Proposed Zoning Category: RSM

Present Land Use Category: SUB & CRC

****

PLEASE READ THE FOLLOWING BEFORE SIGNING

This form must be completed in its entirety before the Planning Department accepts it. It must include the attachments and filing fees identified on the attachments. An application, which lacks any of the required attachments, shall be determined as incomplete and shall not be accepted.

Disclosure of Campaign Contributions

In accordance with the Conflict of Interest in Zoning Act, O.C.G.A., Chapter 36-67A, the following questions must be answered:
Have you the applicant made $250 or more in campaign contributions to a local government official within two years immediately preceding the filling of this application? ______ Yes X No

If the answer is yes, you must file a disclosure report with the governing authority of DeKalb County showing:

1. The name and official position of the local government official to whom the campaign contribution was made.
2. The dollar amount and description of each campaign contribution made during the two years immediately preceding the filing of this application and the date of each such contribution.

The disclosure must be filed within 10 days after the application is first filed and must be submitted to the C.E.O. and the Board of Commissioners, DeKalb County, 1300 Commerce Drive, Decatur, Ga. 30030.

NOTARY

EXPIRATION DATE / SEAL

[Notary seal: ... NOTARY PUBLIC ... My Commission Expires Aug...]

D.R. Horton, Inc.
By: ______
SIGNATURE OF APPLICANT / DATE

Check One: Owner ______ Agent X

Battle Law, P.C.
Commercial Real Estate & Zoning
ONE WEST COURT SQUARE, SUITE 750
DECATUR, GA 30030

What is a Community Meeting?

Community meetings are designed to inform the surrounding communities of current rezoning, and special land use permit applications. It's an opportunity for the community to learn about the proposed projects, ask questions, present concerns, and make suggestions. We take this opportunity to encourage you to come out and participate. Owner? Renter? Doesn't matter. All are welcome.

For More Info Contact Janet Jennings at:
Phone: 404-601-7616 ext. 5
Fax: 404-745-0045
Email: jlj@battlelawpc.com

Rezoning to RSM for the development of a Townhome Community

Community Meeting
Tuesday, October 29, 2019
6:30 pm until 8:00 pm
Kerwin B. Lee Family Life Center
(Next to Berean Christian Church)
2197 Young Road
Stone Mountain, GA 30088

SUBJECT PROPERTY:
5758, 5702, & 5810 Covington Hwy

2650 Young Road

Decatur, GA 30030

SIGN IN SHEET
2650 Young Road
COMMUNITY MEETING
D R Horton - (Hidden Hills)
Tuesday, October 29, 2019 6:30 PM – 8:00 PM

Please print legibly

First Name	Last Name	Address	City, State	Zip Code	Phone Number	Email Address
PHYLLIS	FRIERSON	1538 HIDDEN HILLS PKWY	STONE MOUNTAIN	30088	678-357-5879	pfrierson928@att.net
Dawn	Foster	2013 Redwater Dr.	Decatur	30033	6/576 3405	dawfoste90@yahoo.com
Dawn	Brewer	1426 Crooked Tree Cir	Stone Mountain	30088	404 394-6494	dawnbrewer1311@gmail.com
Denise	Lewis	2413 Cove Lake Way	Lithonia	30058	—	lewisdg@msn.com
Renee	Thompson	4943 Forrest Run	Lithonia	30038		thompsonseamhead
ERICK	Louisius	5042 Rock Springs	LITHONIA	30038		Louisiose@bellsouth.net

SIGN IN SHEET
2650 Young Road
COMMUNITY MEETING
D R Horton - (Hidden Hills)

Tuesday, October 29, 2019 6:30 PM – 8:00 PM

Please print legibly

First Name	Last Name	Address	City, State	Zip Code	Phone Number	Email Address
Barbara	Anderson	5176 Scarbrough Trl	Ga St. Mt	30088	7-593-194	anderson barbara@bellsouth.net
Jocelyn	Brewer	4692 St. James Way	Decatur	30035	4-285-1963	Jbrewer.jb56@gmail.com
Faith	Graham	2058 Mallard Way	Lithonia	30058	4.210.8478	luckyg@mindspring.com
Jan	Costello	1813 S Hidden Hills	Stn Mtn	30088		jancostello@gmail.com
Kenneth	Saunders III	1558 Acorn Forest	St. Mtn	30088		kenst-2076@gmail.com

STATEMENT OF INTENT AND IMPACT ANALYSIS

and

Other Material Required by
DeKalb County Zoning Ordinance
for the
Application for Land Use Amendment

of

D.R. Horton, Inc.
c/o Battle Law, P.C.

for

42.1± acres of land located at
2650 Young Road
5702, 5758 & 5810 Covington Highway

Submitted for Applicant by:

Michèle L. Battle, Esq.
Battle Law, P.C.
One West Court Square, Suite 750
Decatur, Georgia 30030
Phone: (404) 601-7616
Fax: (404) 745-0045
Email: mlb@battlelawpc.com

I. STATEMENT OF INTENT

The Applicant, D.R. Horton, Inc., is seeking to acquire the following four parcels of land (collectively, the "Subject Property") for the development of 323 fee simple townhomes at a density of 7.67 units per acre:

Address	Tax Parcel No.	Land Use Designation	Zoning District	Hidden Hills Overlay District
2650 Young Rd	16 027 02 014	Suburban	R-100	Tier I/Residential
5702 Covington Hwy	16 026 02 001	Suburban	C-1	Tier I
5758 Covington Hwy	16 026 02 018	CRC*	C-1	Tier I
5810 Covington Hwy	16 026 02 002	CRC*	RSM	Tier I

*Commercial Redevelopment Corridor

The Subject Property is located within the Greater Hidden Hills Overlay District, within both Tiers 1 and the Residential District. The underlying zoning is R-100, C-1 and RSM. In order to development the proposed townhome community the Applicant is seeking to rezone the Subject Property from R-100, C-1, and RSM to RSM. Additionally, the Applicant will be seeking to change the portion of the Subject Property in Tier I to the Residential Tier.

This document is submitted both as a Statement of Intent regarding this Application, a preservation of the Applicant's constitutional rights, and the Impact Analysis of this Application as required by the DeKalb County Zoning Ordinance. A surveyed plat and conceptual site plan of the Subject Property controlled by the Applicant has been filed contemporaneously with the Application, along with other required materials.

II. IMPACT ANALYSIS

(a) Suitability of use: The proposed land use amendment and rezoning will permit uses that are suitable in view of the uses and developments adjacent and nearby the Subject

Property. The Subject Property is abutted to the North by property owned by Berean Christin Church, and by the South Atlantic Conference Association for Decatur Seventh Day Adventist. Immediately East of the Subject Property is the Covington Glen Apartment complex which was built in 1989. Industrial zoned properties abut the South side of Covington Highway across from the Subject Property. Finally, West of the Subject Property are undeveloped parcels at the intersection of Covington Highway and Young Road, The Parks at Stonehaven Apartments built in 1985 and the Hidden Point Apartments built in 1989. The proposed townhome development will provide for a suitable use adjacent to higher density residential uses East and West of the Subject Property and non-residential uses North and South of the Subject Property.

Covington Highway is a commercial node which will benefit greatly from the development of the Subject Property for townhome units. The viability of a commercial area is determined in large part by the number of roof tops in the area. The influx of new residential owners into the area shows the continued desirability of the area and will support new retailers and commercial business locating in the area to cater to the needs of this growing community.

(b) Effect on adjacent property: The proposed development will have a positive impact on the surrounding community, as it will support the continued recovery of the area from the 2007 economic downturn which devastated South DeKalb. The significant increase in the current value of the Subject Property will only benefit the surrounding properties which were built over 18 years ago and suffered significantly during the economic downturn. Additionally, the proposed development will allow for the continued development and resurgence of the Covington Highway corridor.

(c) Effect on public facilities: The Subject Property is in an area with public utility availability. The proposed rezoning will not cause excessive use of streets, transportation facilities, or utilities in the area. The Applicant will be installing sidewalks along Young Road and Covington Highway, which will support the continued improvement of the County's public right of ways. A traffic study is being submitted in connection with this Application, and the Applicant will seek to implement the traffic improvements recommended by the traffic study.

(d) Economic use of current zoning: Due to the topographic and environmental challenges of the Subject Property, it has marginal value as currently zoned R-100 and C-1. The creek traversing through the site along with the topo requires significant site work which would result in pushing the price points for any single-family product well beyond the market rate for single family homes in the area. Additionally, due to the lack of interest in the development of the Subject Property for single-family detached homes and commercial development, it is the Applicant's contention that the Subject Property is not viable or marketable for use as currently zoned R-100 and C-1. This is particularly the case with respect to the C-1 portion of the Subject Property, due to the site distance issues and limitations with curb cuts along Covington Highway, the C-1 portion of the Subject Property has not been attractive to the type of non-residential development desired by the surrounding community as set forth in the Tier I Overlay District. It is the Applicant's contention that this is due to the corner of Young Road and Covington Highway not being a natural commercial node, unlike the corner of Covington Highway and South Hairston, and the Corner of Covington Highway and Panola Road, between which the Subject Property lies. The naturally occurring commercial nodes at the intersections of major and

minor arterial roads are the locations where most retailers and commercials businesses naturally gravitate, due to the amount of traffic generated in these areas, as well as ease of access. Therefore, it is not surprising that there has been little to no interest in the development of retail and commercial uses on the Subject Property.

(e) Effect on historic building, sites, etc. The approval of this Application will not have any adverse impact on any historic buildings, sites, districts or archaeological resources in the area.

(f) Compatibility with Comprehensive Land Use Plan. The Subject Property has a land use designation of Commercial Redevelopment Corridor and Suburban both of which support the RSM zoning district. Furthermore, the Subject Property will support the following specific CRC policies as set forth in the DeKalb County 2035 Comprehensive Plan:

Streetscape—Create pedestrian scale communities that focus on the relationship between the street, buildings, streetscape improvements and people.

Density—Cluster high density development at nodes & along major corridors outside of established residential areas.

Aesthetics—Create and implement performance and aesthetic

TOD—Promote transit-oriented development. standards to improve visual appearance.

Tree Preservation—Establish tree preservation and landscaping standards.

Development—Focus development on parcels that abut or have access to the designated Commercial Redevelopment Corridor.

IV. CONCLUSION

For the foregoing reasons, the Applicant respectfully requests that the Land use Amendment Application at issue be approved. Please note that the Applicant's Notice of Constitutional Allegations and Preservation of Constitutional Rights have been submitted with this Application and are attached hereto and by this reference incorporated herein.

This 30th October, 2019.

Respectfully submitted,

Michèle L. Battle, Esq.
Attorney For Applicant

TRAFFIC IMPACT STUDY FOR

RESIDENTIAL DEVELOPMENT AT COVINGTON HWY & YOUNG ROAD

DATE:
November 6, 2019

LOCATION:
DeKalb County, Georgia

PREPARED FOR:
Planners and Engineers Collaborative

PREPARED BY:
NV5 Engineers and Consultants, Inc.

NV5
nv5.com

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A. Introduction

A new 324-unit townhome residential development is proposed on anapproximately 42-acre site near the northeast quadrant of Young Road and Covington Hwy in DeKalb County, Georgia. Two access points are planned for the site—one along Young Road and the other along Covington Hwy.

This traffic study analyzes the impact of new traffic added to the local roadways upon full occupancy of the townhomes in the year 2021.

This study includes analysis of the Existing, No-Build, and Build conditions at the following intersections:

1. Covington Hwy at S. Hairston Road
2. Covington Hwy at Young Road/Hidden Creek Drive
3. Covington Hwy at Miller Road
4. Young Road at Biffle Drive/ Meadowbrook Chase
5. Young Road at Panola road
6. Covington Hwy at Dwy 2
7. Young Road at Dwy 1

The report summarizes background and projected traffic at the study locations, analysis of traffic impacts including level of service (LOS) and conclusions and recommendations from the analysis.

Figure 1 depicts the study area (vicinity map) in DeKalb County. The study intersections listed above are depicted in Figure 2. A copy of the development site plan is included in the Appendix.

Figure 1. Vicinity Map

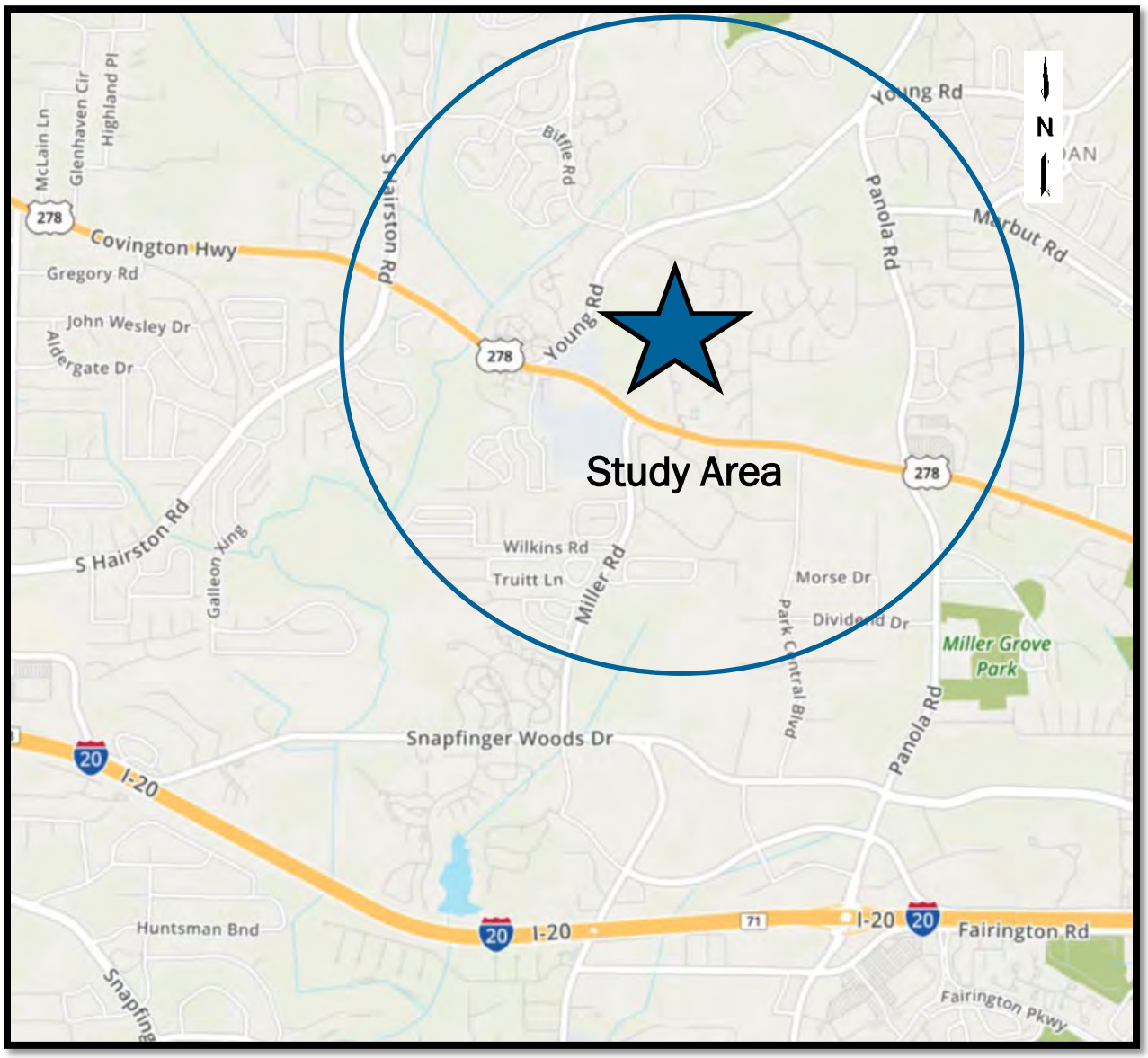
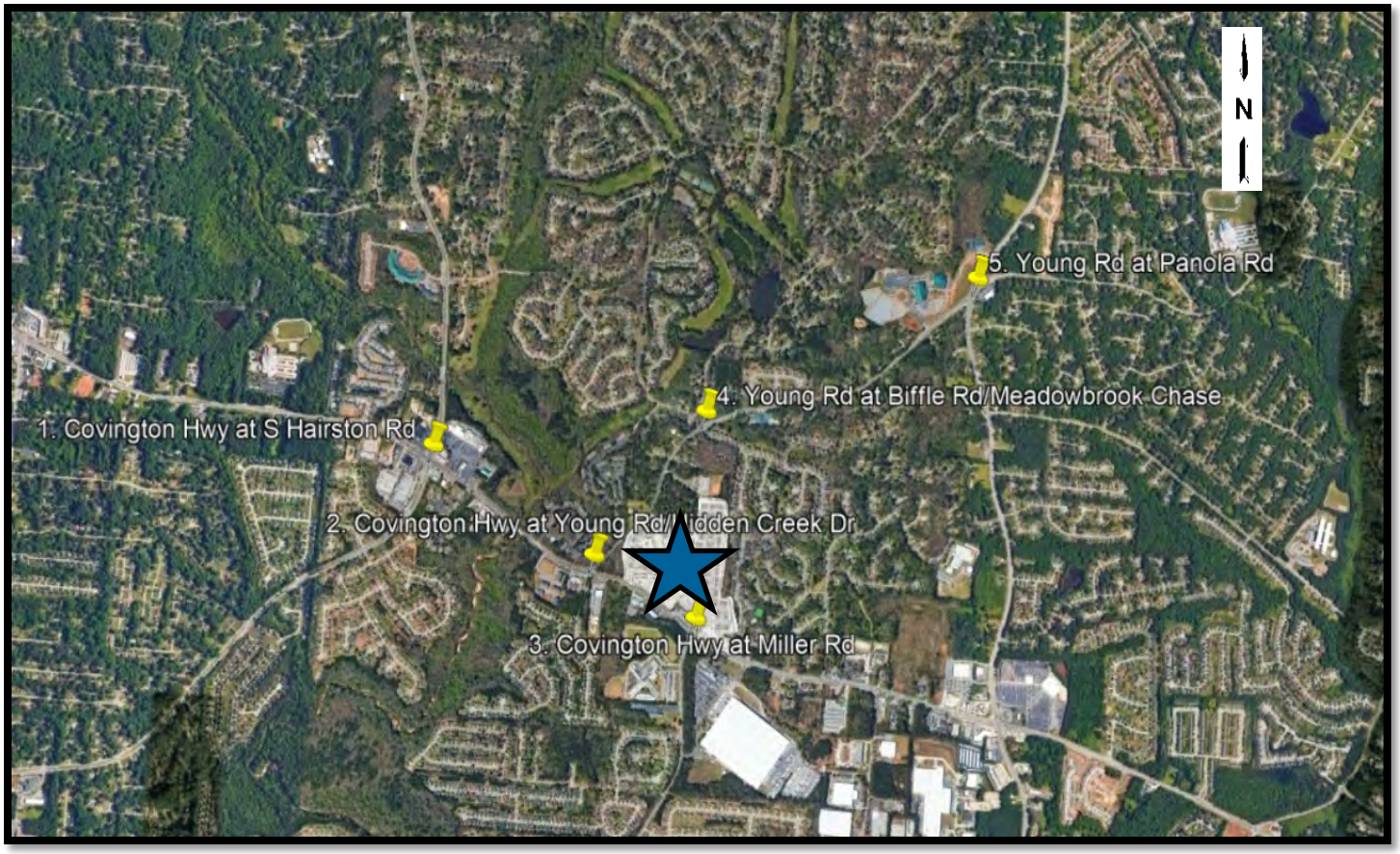


Figure 2. Site Location Aerial



B. Existing Conditions

B.1. Transportation Facilities

Covington Hwy (SR 12/US 278) is an east-west, four-lane undivided, minor arterial with some segments divided by a two-way-left-turn lane. The roadway has a posted speed of 45 MPH. Within the metro Atlanta area, the roadway provides access to I-285 (westward) and I-20 (eastward). The roadway extends into the downtown Atlanta corridor. Land uses along the roadway are residential and retail with access to some industrial. The roadway intersects Young Road, at a signalized intersection. One of two driveways for the development is proposed along this roadway.

S. Hairston Road is a 4-lane divided segment of roadway classified as a major arterial. it connects Wesley Chapel Road in the south to Rockbridge Road in the north and continues north beyond Rockbridge Road and continues as N. Hairston Road, eventually becoming a state route at Jimmy Carter Blvd. Near the subject development, the roadway provides access to residential and commercial land uses. The posted speed is 40 MPH.

Panola Road is a four-lane, divided, major arterial that traverses approximately eight miles from its intersection with Stone Mountain-Lithonia Road in the north to its intersection with Snapfinger Road in the south. Panola Road interchanges with I-20 less than two miles south of the site. The majority of the developments along Panola Road are residential, but there are some institutional land uses and commercial land uses located near major roadway intersections/interchanges. The posted speed is 45 MPH.

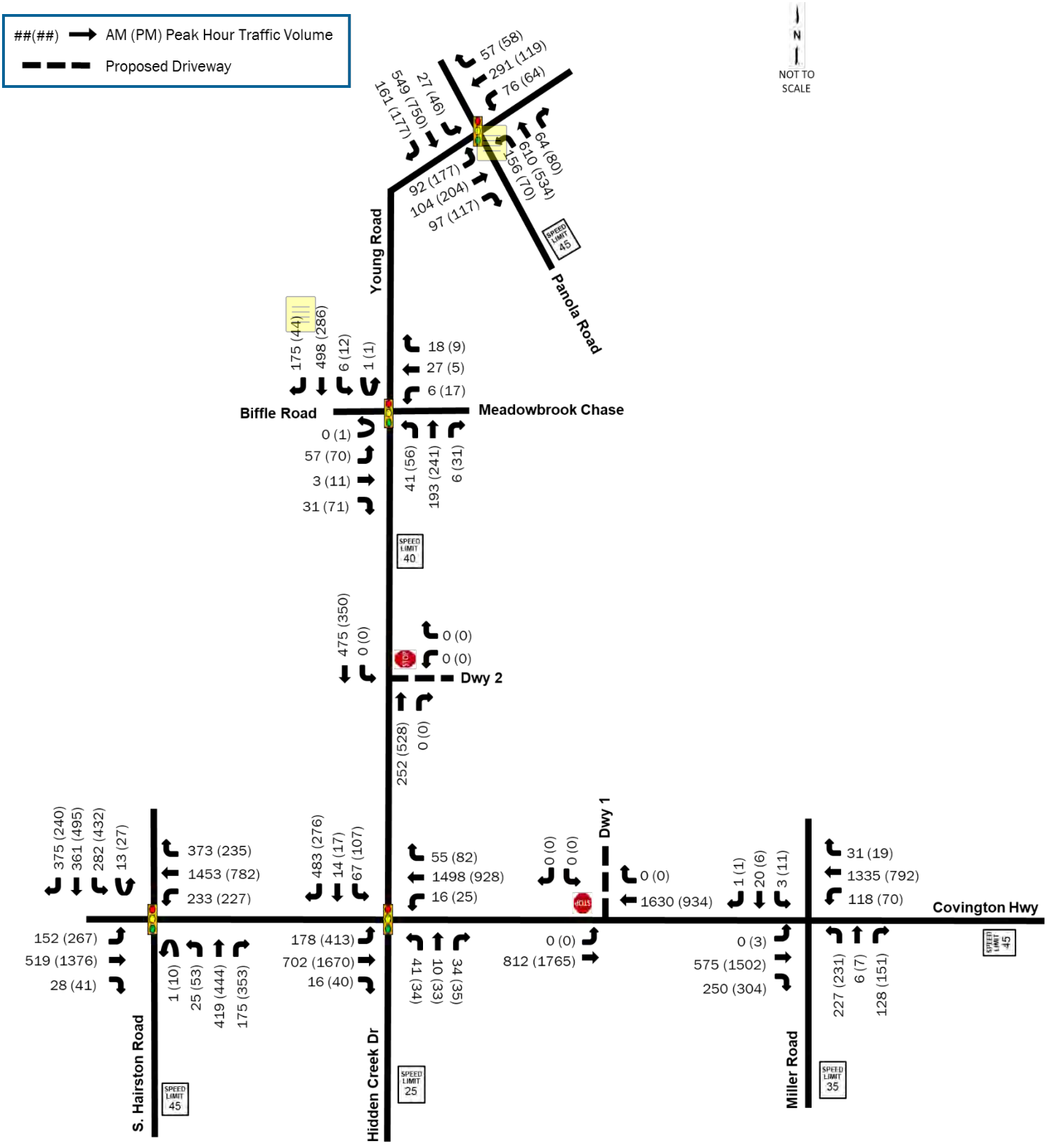
Young Road is a two-lane undivided roadway that spans approximately three miles from Redan Road in the north to Covington Hwy in the south. It is exclusively developed with residential and institutional land uses. The roadway has a posted speed of 40 MPH. One of the site driveways will access Young Road.

Miller Road is a connector roadway that intersects Covington Hwy in the north and Snapfinger Woods Drive in the south. It provides access to residential and institutional land uses and has a posted speed limit of 35 MPH.

B.2. Traffic Counts

Both turning movement counts (TMCs) and 24-hour bi-directional counts were collected on Tuesday, October 15, 2019 while schools were in session. The TMCs were collected at the intersections seen in Figure 2. The bi-directional counts were collected along Covington Hwy between Young Road and Miller Road and along Young Road between Covington Hwy and Biffle Road/Meadowbrook Chase. There are several schools within the study area for the site. These schools contribute to the AM peak hour traffic volumes.The peak hours for the intersections begin at 7:15 AM and 5:00 PM. Figure 3 depicts the existing volumes used in the analysis.

Figure 3: Existing Traffic Volumes



B.3. Existing Conditions Analysis

Existing conditions were analyzed using the traffic analysis software Synchro® 10,using the volumes presented in Figure 3.Average vehicular delays were calculated and reported as Levels of Service (LOS) and delay in seconds as defined by the Highway Capacity Manual (HCM). Signalized intersections were analyzed under optimized timing conditions. Synchro® output reports are included in the Appendix. The results of the existing capacity analysis are included in Table 1 .

Table 1: Existing Conditions Capacity Analysis

Intersection	Control	Movement	AM		PM	
			Delay (s)	LOS	Delay (s)	LOS
1. S. Hairston Road & Covington Hwy	Signal	EB	41.1	D	70.3	E
		WB	39.9	D	49.9	D
		NB	76.8	E	83.0	F
		SB	72.3	E	73.9	E
		Overall	49.9	D	67.9	E
2. Hidden Creek Drive/Young Road & Covington Hwy	Signal	EB	34.7	C	22.6	C
		WB	59.7	E	24.0	C
		NB	42.8	D	31.7	C
		SB	146.5	F	51.5	D
		Overall	67.8	E	26.4	C
3. Miller Road/ Gas Station Dwy & Covington Hwy	Signal	EB	26.3	C	32.7	C
		WB	27.2	C	19.9	B
		NB	39.1	D	52.2	D
		SB	35.6	D	46.7	D
		Overall	28.1	C	30.5	C
4. Young Road & Biffle Road/Meadowbrook Chase	Signal	EB	10.2	B	7.6	A
		WB	9.8	A	6.7	A
		NB	4.2	A	5.1	A
		SB	4.7	A	4.9	A
		Overall	5.3	A	5.5	A
5. Panola Road & Young Road	Signal	EB	30.2	C	32.6	C
		WB	28.9	C	37.8	D
		NB	14.5	B	15.6	B
		SB	17.5	B	18.1	B
		Overall	19.5	B	21.4	C

Long delays, with approaches operating at an LOS E or worse are experienced at the intersections of S. Hairston Road & Covington Hwy and Covington Hwy & Hidden Creek Drive/Young Road under the existing conditions. A queuing analysis for existing conditions, summarized in Table 2, shows queues along Covington Hwy as long as 40 vehicles*.

Table 2: Existing Conditions Queuing Analysis

Intersection	Control	Movement	AM		PM	
			95th% Queue (ft)	95% Queue (veh)	95th% Queue (ft)	95% Queue (veh)
1. S. Hairston Road & Covington Hwy	Signal	EBL	140	6	145	6
		EBT (1)	287	11	996	40
		EBT (2)	216	9	957	38
		EBR	-	-	251	10
		WBL	176	7	220	9
		WBT (1)	988	40	394	16
		WBT (2)	1001	40	363	15
		WBR	186	7	165	7
		NBL	26	1	129	5
		NBT (1)	294	12	219	9
		NBT (2)	268	11	197	8
		NBR	-	-	234	9
		SBL (1)	269	11	412	16
		SBL (2)	320	13	475	19
		SBT (1)	207	8	945	38
		SBT(2)	161	6	797	32
		SBR	216	9	47	2
2. Hidden Creek Drive/Young Road & Covington Hwy	Signal	EBL	166	7	185	7
		EBT (1)	228	9	191	8
		EBT (2)	192	8	211	8
		EBR	17	1	24	1
		WBL	489	20	58	2
		WBT (1)	552	22	246	10
		WBT/R	106	4	264	11
		NBL/T/R	439	18	96	4
		SBL/T	183	7	87	3
		SBR	112	4	112	4

3. Miller Road/ Gas Station Dwy & Covington Hwy	Signal	EBL	-	-	38	2
		EBT (1)	201	8	351	14
		EBT (2)	197	8	369	15
		EBR	77	3	263	11
		WBL	90	4	78	3
		WBT (1)	368	15	205	8
		WBT (2)	303	12	174	7
		WBR	34	1	23	1
		NBL	189	8	210	8
		NBL/T	240	10	252	10
		NBR	84	3	84	3
		SBL/T/R	28	1	44	2
4. Young Road & Biffle Road/Meadowbrook Chase	Signal	EBL/T/R	72	3	70	3
		WBL/T/R	46	2	40	2
		NBL	34	1	40	2
		NBL/R	68	3	44	2
		SB(U)L	-	-	18	1
		SBT	81	3	68	3
		SBR	33	1	15	1
5. Panola Road & Young Road	Signal	EBL	130	5	126	5
		EBT	116	5	149	6
		WBL	93	4	58	2
		WBT	144	6	108	4
		NBL	295	12	71	3
		NBT(1)	517	21	108	4
		NBT(2)	455	18	47	2
		NBR	-	-	4	0
		SBL	45	2	58	2
		SBT(1)	237	9	263	11
		SBT(2)	211	8	226	9
		SBR	85	3	67	3

* The 95th percentile in vehicles is estimated using an assumed vehicle length of 25 feet per the Highway Capacity Manual.

C. Future Conditions

C.1. Background Data Collection

The growth rate in the study area is based upon an analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT) and the anticipated completion of the project.. The project is expected to be built out in 2024. To account for growth, the collected traffic counts for this study were grown by 2.0% for five years. Figure 4 depicts the volumes resulting from the applied growth rate.

The intersection of Covington Hwy and Young Road has shown need for improvements over the years due to crash frequency and inadequate operational performance related to increases in traffic volumes.. Improvements underway at the intersection include separate left and right turn lanes on the northbound, westbound, and southbound approaches, roadway realignment, and upgraded signals. Per GDOT's online database, the contractor received notice to proceed in July 2019. The project is currently 17% complete and is expected to be completed in September of 2020*. The No-Build capacity analysis includes these improvements.

GDOT also has programmed a project for improvements to the S. Hairston Road and Covington Hwy intersection. That project will include dual left turn lanes on the eastbound and westbound approaches to the intersection. The project has a construction let date of May 2021. These proposed improvements were also incorporated in the no-build capacity analysis in this study.

Supporting documents for these projects are included in the Appendix.

C.2. Multi-Modal Use

The site is along the route for MARTA with bus stops for route 115 at the northeast corner of Young Road and Covington Hwy and in front of the gas station on the southwest corner of Young Road and Covington Hwy.

pedestrian facilities within the development have been integrated into the site plan to encourage use of non-vehicle transportation. Implementing these facilities will likely result in 5% of residents of the proposed townhome community would utilizing transit and/or biking or walking for some trips. To provide a conservative estimate of vehicular traffic, there was no reduction applied to the volumes used for analysis in this study.

*GDOT GeoPI Project Information, PROJ ID 0013174

C.3. No-Build Capacity Analysis (2024)

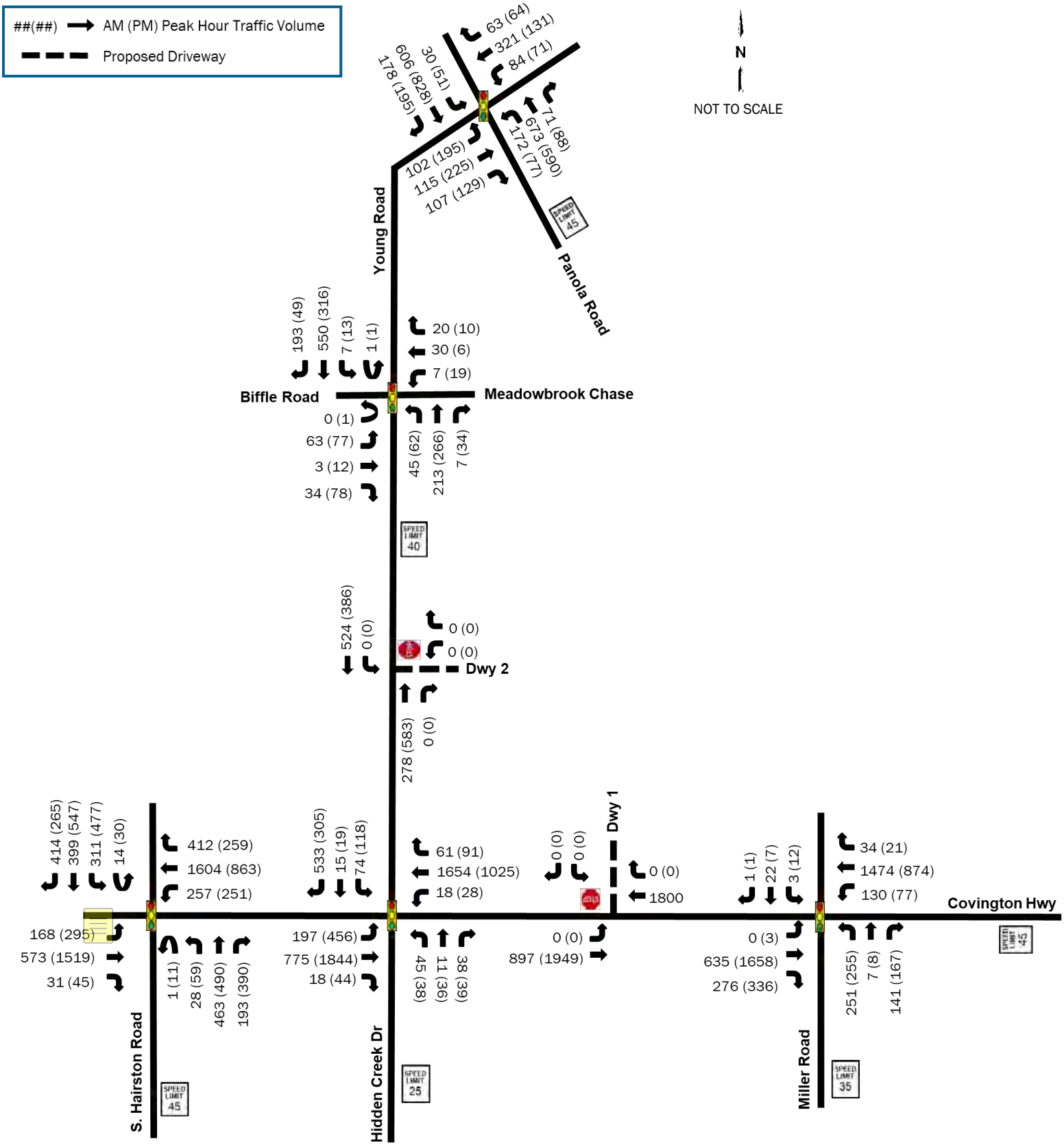
Table 3 summarizes the capacity analysis results for the No-Build Conditions, based on the volumes depicted in Figure 4.

Table 3: No Build Conditions Capacity Analysis

Intersection	Control	Movement	AM		PM	
			Delay (s)	LOS	Delay (s)	LOS
1. S. Hairston Road & Covington Hwy	Signal	EB	37.5	D	73.2	E
		WB	46.7	D	41.6	D
		NB	73.9	E	104.1	F
		SB	59.7	E	75.9	E
		Overall	50.4	D	68.4	E
2. Hidden Creek Drive/Young Road & Covington Hwy	Signal	EB	25.6	C	20.4	C
		WB	76.8	E	19.3	B
		NB	41.8	D	44.3	D
		SB	73.3	E	42.1	D
		Overall	60.2	E	23.3	C
3. Miller Road/ Gas Station Dwy & Covington Hwy	Signal	EB	22.3	C	57.3	E
		WB	24.4	C	21.7	C
		NB	40.4	D	49.9	D
		SB	36.2	D	44.2	D
		Overall	25.3	C	46.0	D
4. Young Road & Biffle Road/Meadowbrook Chase	Signal	EB	11.1	B	8.0	A
		WB	10.6	B	7.0	A
		NB	4.2	A	5.3	A
		SB	4.7	A	5.0	A
		Overall	5.4	A	5.7	A
5. Panola Road & Young Road	Signal	EB	32.0	C	34.4	C
		WB	33.3	C	40.2	D
		NB	16.5	B	16.9	B
		SB	19.4	B	19.8	B
		Overall	21.8	C	23.1	C

Adding turn lanes on three approaches at the intersection of Covington Hwy and Young Road (with permissive-overlap for right turns on the southbound approach), prevents the worsening of operations at the intersection as evidenced by the expected delays. The volume-to-capacity (V/C) ratios on the WB and SB are close to or over 1.0. This indicates that any additional traffic on those approaches will affect the levels of service greater than they would had the ratios been below 1.0. The WB and EB dual lefts added at the S. Hairston Road at Covington Hwy intersection also prevent worsening of operations at the intersection in future conditions. All other intersections maintain adequate operation in the no-build conditions.

Figure 4: No-Build Traffic Volumes



C.4. Project Trip Generation

Table 4 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017.

Table 4: Project Trip Generation

Land Use	Code	Project		Total	Inbound	Outbound
Multifamily Housing (Mid-Rise)	221	Dwelling Units (324)	Daily	1,764	882	882
			AM	108	28	80
			PM	137	84	53

C.5. Trip Distribution and Assignment

The distribution and assignment of project trips for the development is based on an evaluation of traffic patterns typical of residential in addition to traffic patterns within the area, alongside an analysis of the traffic counts. Approximately 70% of the newly generated trips are expected to utilize Dwy 1 at Young Road and 30% are expected to utilize Dwy 2 along Covington Hwy. An expected 45% of the generated trips will be distributed to/from the west via Covington Hwy with 5% distributed to/from the west via Biffle Road. An estimated 30% will be distributed to/from the east and south via Covington Hwy and Miller Road. The remaining 25% will be dispersed to/from the north via Young Road and Panola Road. The distribution also considers traffic patterns likely to occur due to the queues evidenced in the existing conditions. The driveway along Covington Hwy is analyzed as a right-in/right-out access point and the driveway along Young Road is analyzed as a full access driveway. The trip distribution is depicted in Figure 5, the project trips are depicted in Figure 6, and the No Build plus project trips (Build Volumes) are depicted in Figure 7.

Figure 5: Trip Distribution

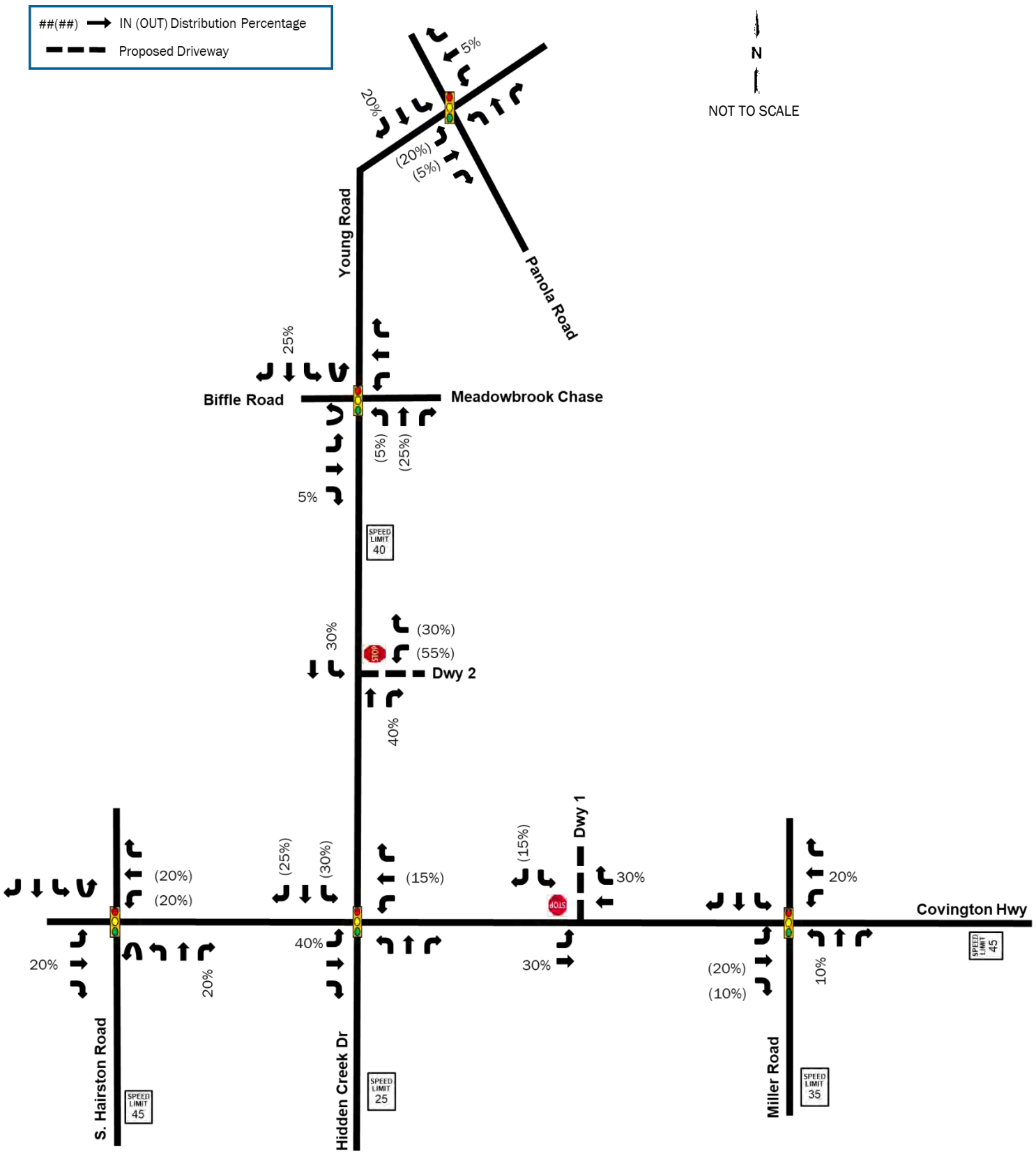


Figure 6: Project Development Trips

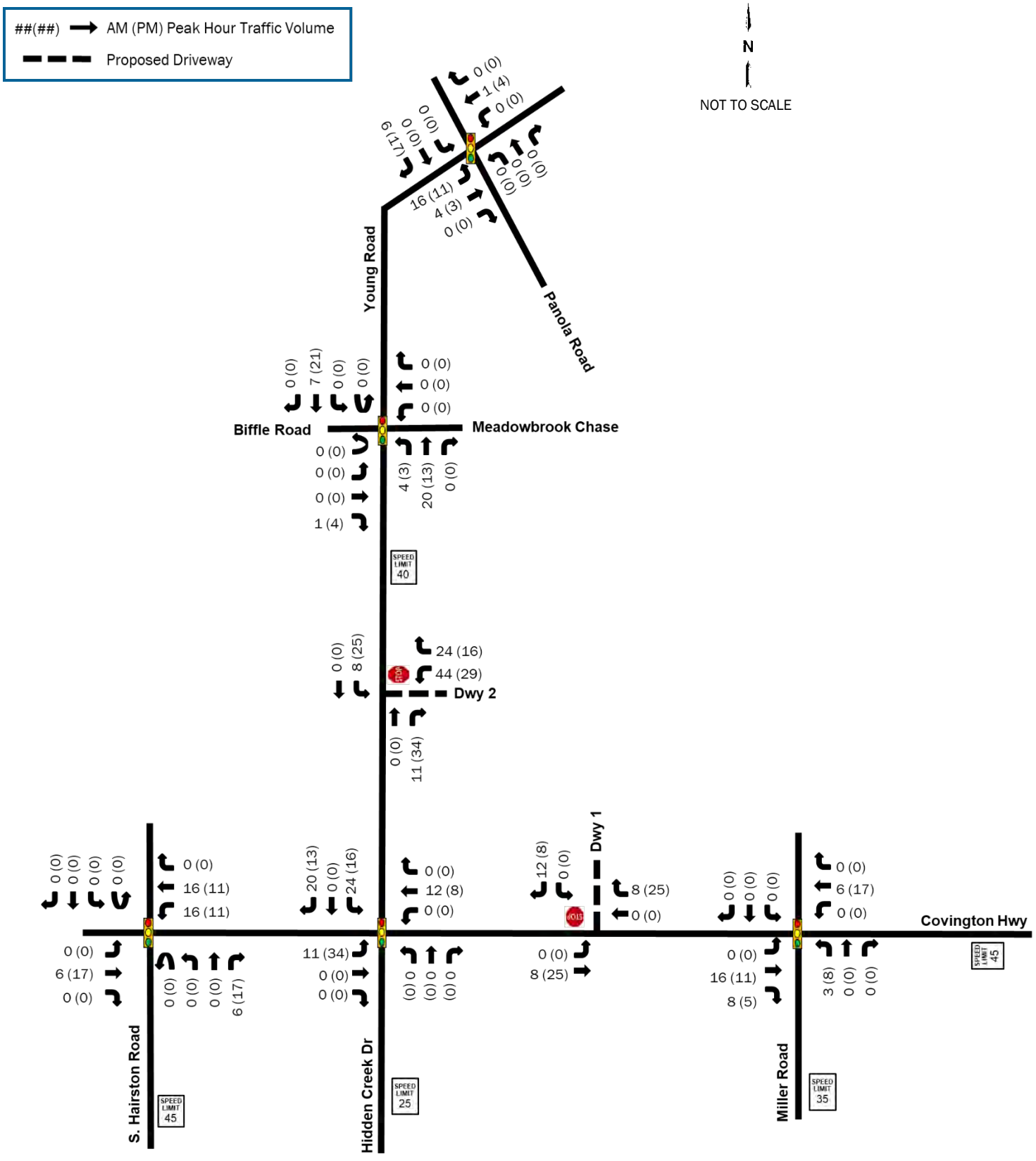
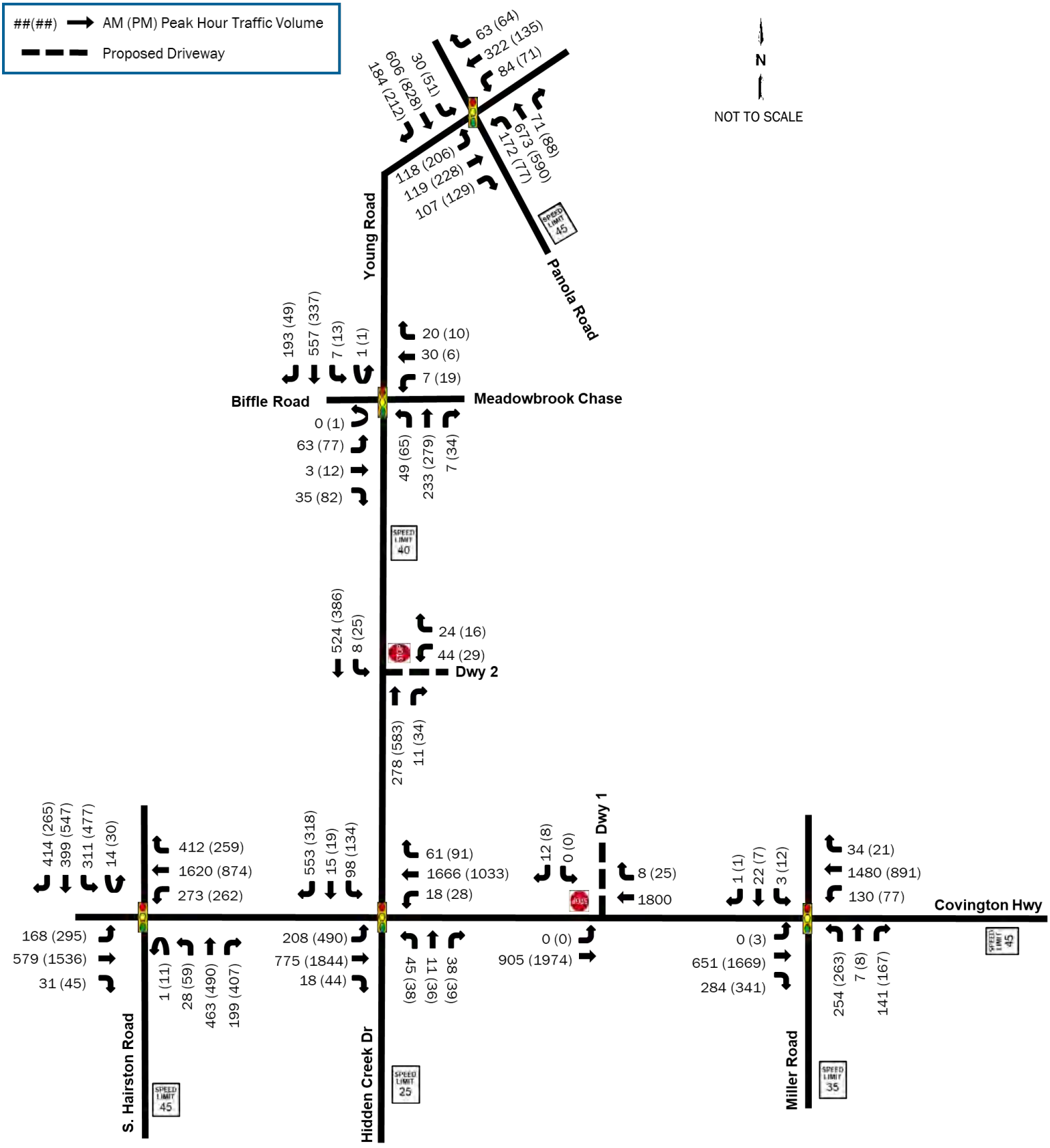


Figure 7: Build Traffic Volumes



C.6. Build Capacity Analysis (2024)

Table 5 shows the results of the capacity analysis performed utilizing the traffic volumes expected to be added to the network exclusively from the residential development. The volumes analyzed are depicted in Figure 7.

Table 5: Build Capacity Analysis

Intersection	Control	Movement	AM		PM	
			Delay (s)	LOS	Delay (s)	LOS
1. S. Hairston Road & Covington Hwy	Signal	EB	37.2	D	70.4	E
		WB	44.9	D	43.1	D
		NB	73.9	E	100.9	F
		SB	69.8	E	85.0	F
		Overall	51.0	D	69.2	E
2. Hidden Creek Drive/Young Road & Covington Hwy	Signal	EB	51.3	D	21.8	C
		WB	81.2	F	22.5	C
		NB	40.0	D	44.3	D
		SB	86.0	F	40.6	D
		Overall	72.3	E	24.8	C
3. Miller Road/ Gas Station Dwy & Covington Hwy	Signal	EB	22.4	C	59.1	E
		WB	24.5	C	21.9	C
		NB	40.6	D	50.2	D
		SB	36.3	D	44.2	D
		Overall	25.4	C	47.1	D
4. Young Road & Biffle Road/Meadowbrook Chase	Signal	EB	11.2	B	8.3	A
		WB	10.7	B	7.2	A
		NB	4.3	A	5.3	A
		SB	4.7	A	5.1	A
		Overall	5.5	A	5.8	A
5. Panola Road & Young Road	Signal	EB	33.2	C	35.1	D
		WB	33.9	C	40.5	D
		NB	17.2	B	17.3	B
		SB	20.2	C	20.4	C
		Overall	22.7	C	23.7	C
6. Covington Hwy at Dwy 2	Signal	EBL	-	-	-	-
		SB	20.3	C	12.9	B
7. Young Road at Dwy 1	Signal	SBL	7.9	A	9.0	A
		WBL	16.5	C	21.4	C

Per Table 5, the addition of the project traffic does not significantly impact the operation of the intersections. Under Build conditions, the V/C ratios at Young Road & Covington Hwy exceed 1.0 and thus further push the WB and SB approaches to an LOS F. Even so, the intersection maintains an overall LOS E. The additional driveways both perform adequately at an LOS C or better.

D. Conclusions

A new development of 324 townhomes is proposed for construction near the northeast corner of the intersection of Covington Hwy and Young Road. This study was conducted to analyze the effect of generated trips on the study network of roadways and intersections near the proposed development. The following are findings from the study:

- The residential development will generate approximately 1,764 trips per day with 28 entering and 80 exiting trips during the AM peak hour and 84 entering and 53 exiting trips during the PM peak hour (without accounting for transit trips).
- Due to the proximity of the site near transit, approximately 5% of residents are likely to use transit and/or other modes of transportation.
- In existing conditions:
  (1) The intersection of S. Hairston Road & Covington Hwy operates at an LOS E and has queues as long as 40 vehicles in the eastbound direction during the PM peak hour.
  (2) The intersection of Young Road and Covington Hwy operates at an LOS E with queues as long as 22 vehicles during the AM peak hour.
  (3) All other intersections operate satisfactorily in both the AM and PM peak hours
  (4) Plans are in place by GDOT to make improvements to the intersections of S. Hairston Road at Covington Hwy and Young Road at Covington Hwy.
- The project trips present no significant impacts on the operations of the study intersections, especially with the planned improvements by GDOT to the Covington Hwy intersections at S. Hairston Road and Young Road.
- GDOT is likely to limit the proposed driveway onto Covington Hwy to a right-in/right-out driveway and may recommend an Intersection Control Evaluation (ICE) be performed if a full access point is requested.
- Turn lanes at the driveways may be implemented at the jurisdiction's discretion although they are not necessary from a capacity standpoint.

APPENDIX

APPENDIX A –SITE PLAN

APPENDIX B –TRAFFIC COUNTS

APPENDIX C — LOS DESCRIPTIONS

APPENDIX D — SYNCHRO WORKSHEETS –EXISTING

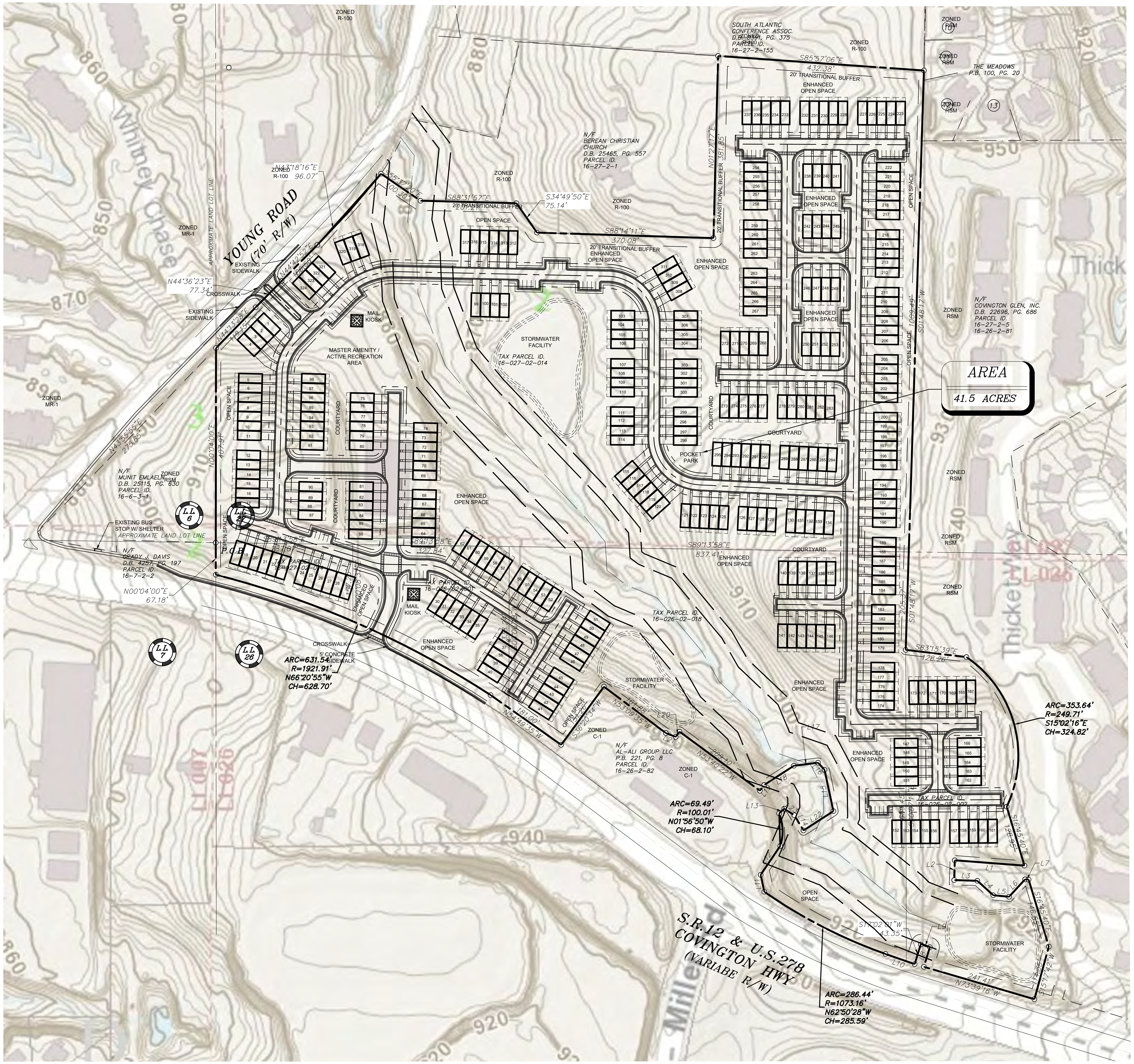
APPENDIX E — BACKGROUND DATA

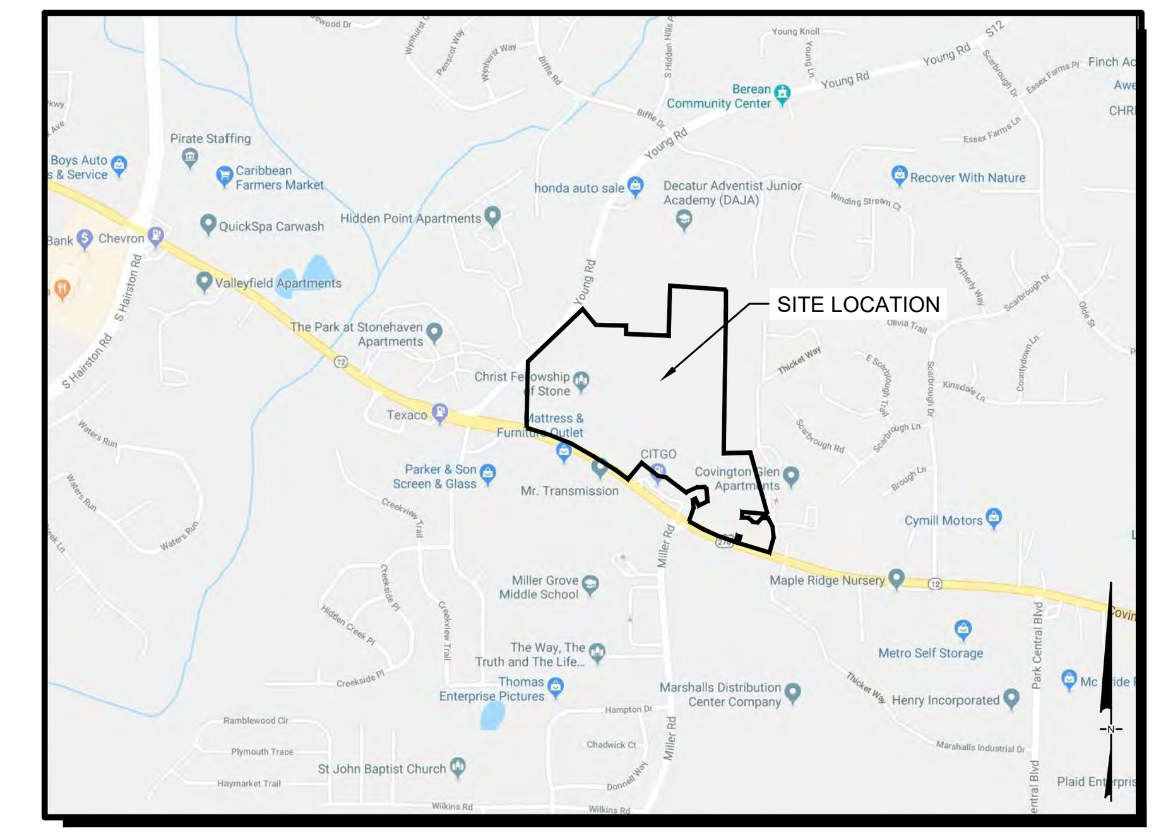
APPENDIX F — SYNCHRO WORKSHEETS –NO BUILD

APPENDIX G — SYNCHRO WORKSHEETS — BUILD

APPENDIX A

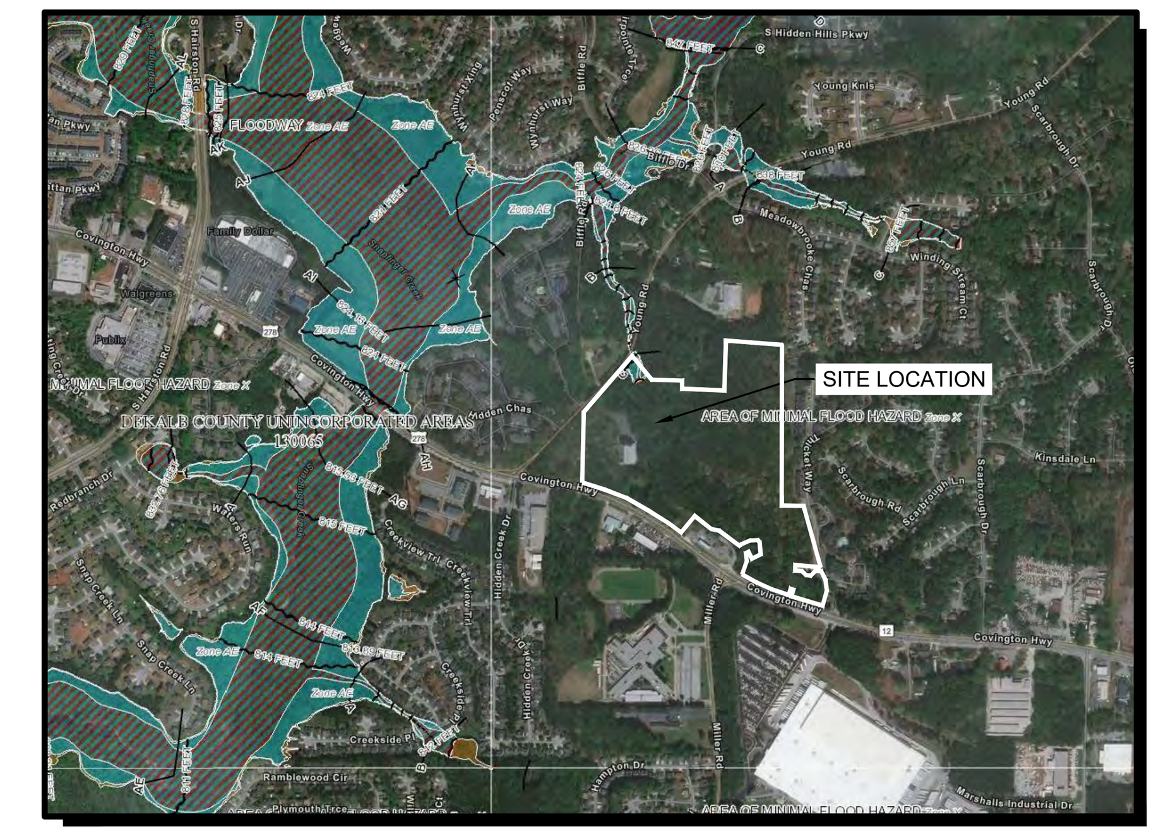
SITE PLAN





SITE LOCATION MAP

NOT TO SCALE



FEMA FIRM MAP

NOT TO SCALE

SITE DATA:	
SITE AREA	41.5 +/- ACRES
ZONING	
EXISTING ZONING	R-100 & R-100
PROPOSED ZONING	RSM, GREATER HIDDEN HILLS OVERLAY TEIR 1
ZONING JURISDICTION	DEKALB COUNTY, GEORGIA
USE CALCULATIONS	
TOTAL SITE AREA	41.5 +/- ACRES
SETBACK REQUIREMENTS	
FRONT SETBACK (ARTERIAL STREET/LOCAL)	20 FEET/ 10 FEET (RESIDENTIAL)
SIDE SETBACK (INTERIOR)	0 FEET (MIN. 10' BLDG. SEPARATION)
SIDE SETBACK (PUBLIC STREET CORNER)	20 FEET
REAR SETBACK	15 FEET (RESIDENTIAL)
DEVELOPMENT STANDARDS	
20' X 50' TOWNHOMES (FRONT LOADED)	324 UNITS
TOTAL SITE DENSITY PROVIDED	7.81 UPA
MAX. SITE DENISTY (RSM)	4 UPA (BASE) - 8 UPA (DENSITY BONUSES)
MAX. SITE DENSITY ALLOWED (TEIR 1)	30.0 UPA
MIN. BLDG. HEATED SF	1,200 SF
MAX. BLDG. HEIGHT (RESIDENTIAL)	3 STORIES OR 45 FEET
MAX. BLDG. HEIGHT (TEIR 1)	5 STORIES OR 70 FEET
OPEN SPACE CALCULATIONS	
MIN. OPEN SPACE REQUIRED	8.3 ACRES
(20% OF TOTAL SITE AREA)	(361,548 SF)
MIN. ENHANCED OPEN SPACE REQUIRED	14.53 ACRES (35 % OF TOTAL SITE AREA)
ENHANCED OPEN SPACE PROVIDED	*14.82 ACRES
*USED FOR SITE DENSITY BONUS	(645,559 SF / 35.7 % OF TOTAL SITE AREA)
PARKING REQUIREMENTS	
MIN. RESIDENTIAL PARKING SPACES REQ.	648 SPACES (2 SP/ DWELLING UNIT)
RESIDENTIAL PARKING PROVIDED	972 SPACES (1 GARAGE + 2 DRIVEWAY SP)
RESIDENTIAL GUEST PARKING PROVIDED	75 SPACES
TOTAL RESIDENTIAL PARKING PROVIDED	1,047 SPACES

20' x 50' TOWNHOME

24 HOUR CONTACT:
TIFFANY HOGAN
678-780-8526

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16th DISTRICT

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REVISIONS:

NO.	DATE	BY	DESCRIPTION

REZONING SITE PLAN

0 50 100 200 300

SCALE: 1" = 100'
DATE: FEB. 25 2019
PROJECT: 19046.00

THIS SEAL IS ONLY VALID IF COUNTER SIGNED AND DATED WITH AN ORIGINAL SIGNATURE.

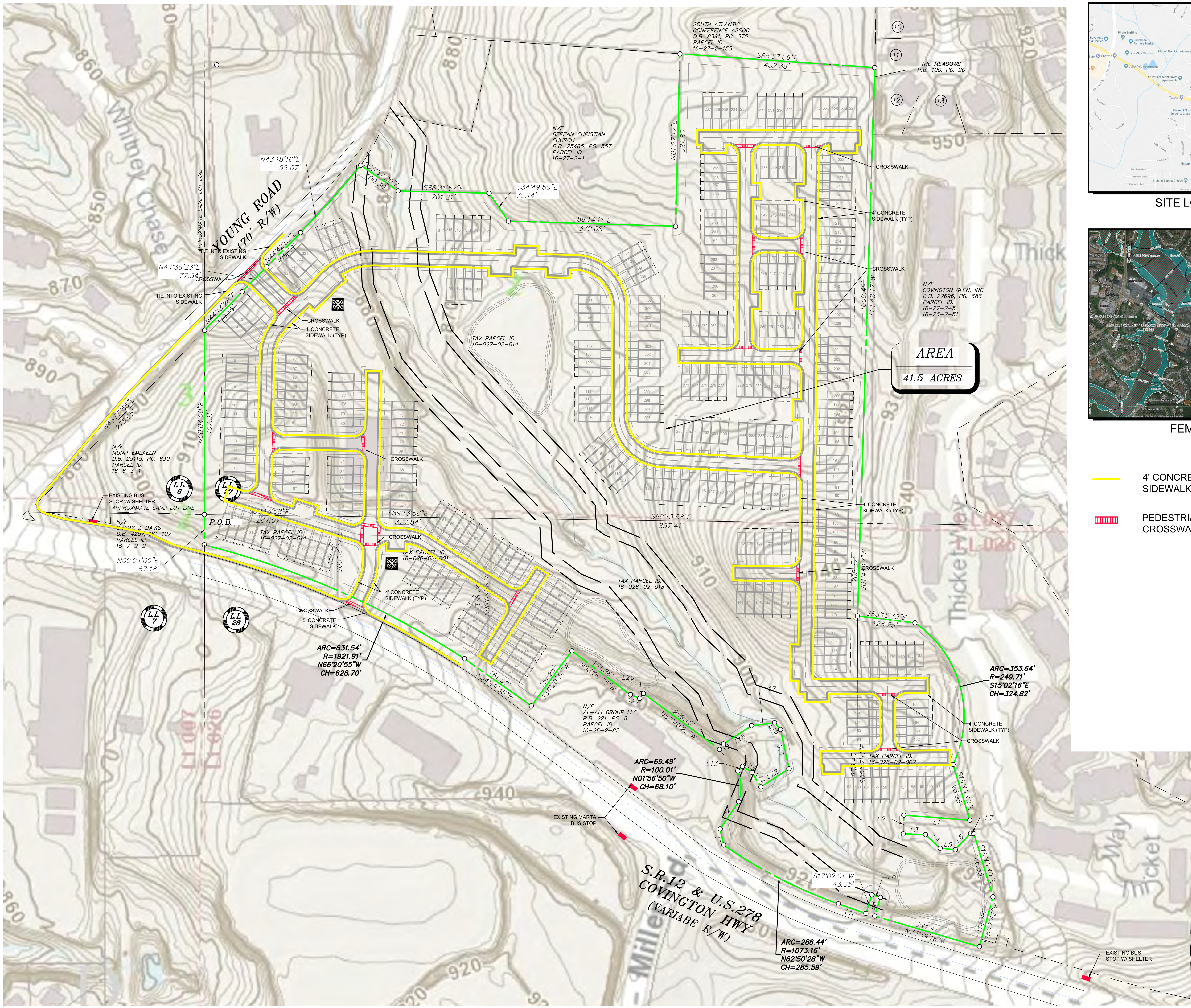
GEORGIA REGISTERED No. 34393 PROFESSIONAL ENGINEER KENNETH J WOOD

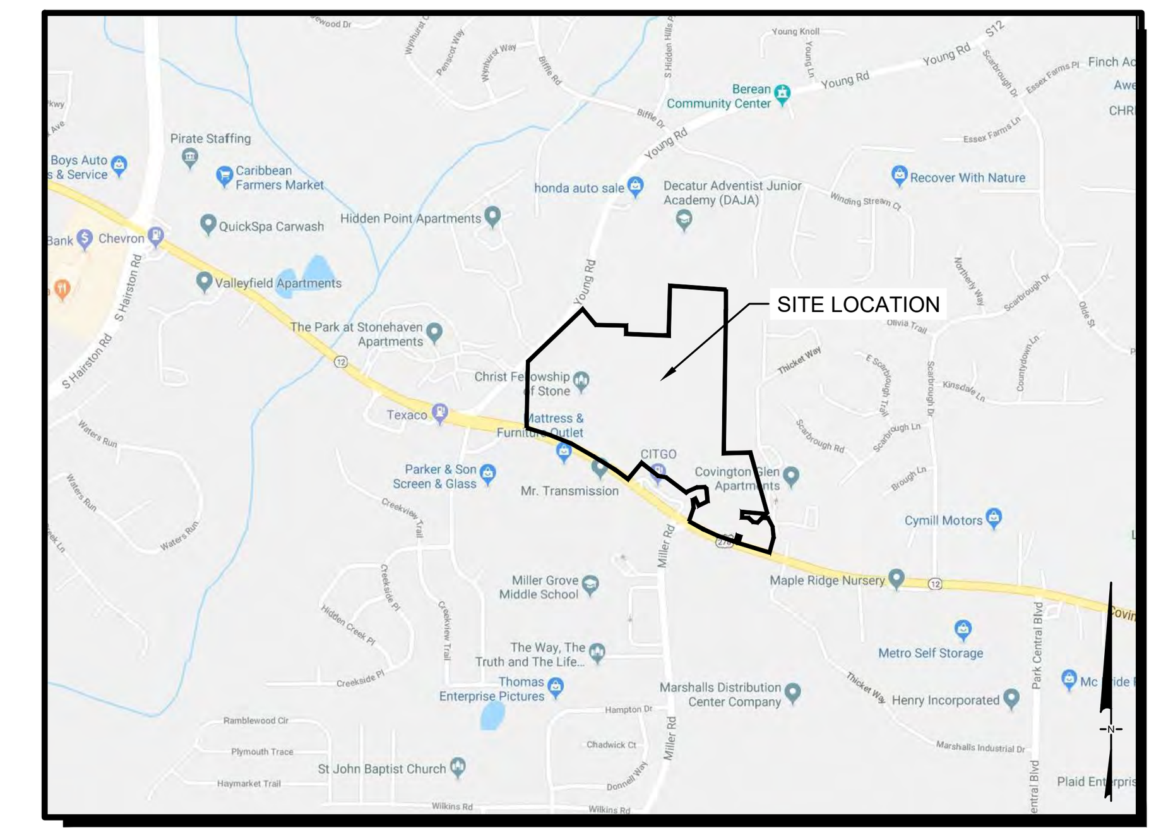
GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION # 0000059389 EXP. 10/28/2021

GRID NORTH
GEORGIA WEST ZONE

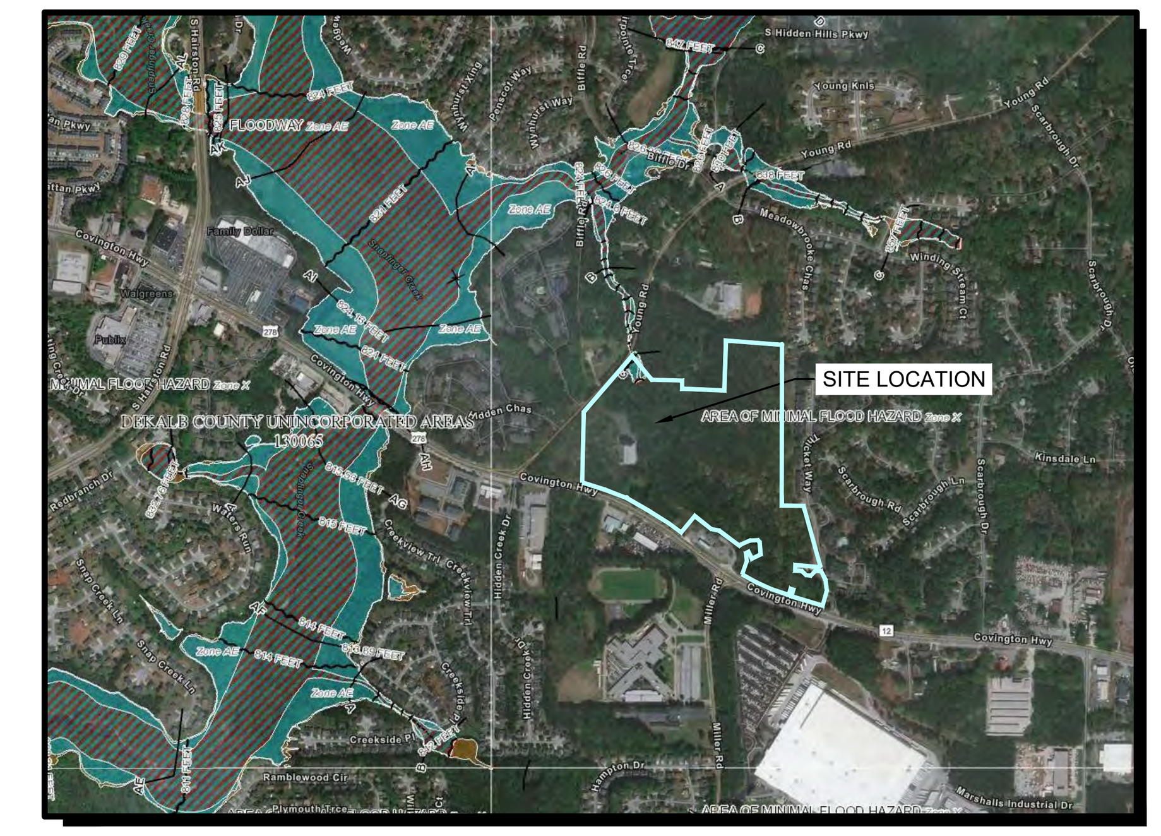
Z1
SHEET

J:\1904600\De\Concepts & Exhibits\Concepts\1904600-Site Zone-1.dwg - JonHoward - 10/29/2019 9:20 AM





SITE LOCATION MAP
NOT TO SCALE



FEMA FIRM MAP
NOT TO SCALE

4' CONCRETE SIDEWALK

PEDESTRIAN CROSSWALK

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REVISIONS:

NO.	DATE	BY	DESCRIPTION

MULTI-MODAL PLAN

0 50 100 200 300

SCALE: 1" = 100'
DATE: FEB. 25 2019
PROJECT: 19046.00

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GEORGIA REGISTERED No. 34393 PROFESSIONAL ENGINEER KENNETH J WOOD

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION # 0000059389 EXP. 10/28/2021

M1
SHEET

APPENDIX B

TRAFFIC COUNTS

Project ID: 19-09657-001
Location: S Hairston Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

Day: Tuesday
Date: 10/15/2019

Groups Printed - Cars, PU, Vans - Heavy Trucks

	S Hairston Rd Northbound						S Hairston Rd Southbound						US 278/SR 12/Covington Hwy Eastbound						US 278/SR 12/Covington Hwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	9	107	21	1	0	138	41	86	110	4	0	241	30	86	3	0	0	119	49	405	70	0	2	524	1022
7:15 AM	2	105	44	0	0	151	60	91	113	3	0	267	32	107	4	0	0	143	48	361	86	0	0	495	1056
7:30 AM	8	119	50	1	0	178	73	87	94	4	0	258	30	119	8	0	0	157	56	369	82	0	1	507	1100
7:45 AM	6	85	38	0	3	129	79	103	88	4	0	274	47	162	11	0	1	220	62	372	105	0	1	539	1162
Total	25	416	153	2	3	596	253	367	405	15	0	1040	139	474	26	0	1	639	215	1507	343	0	4	2065	4340
8:00 AM	9	110	43	0	0	162	70	80	80	2	1	232	43	131	5	0	0	179	67	351	100	0	0	518	1091
8:15 AM	10	108	48	2	0	168	74	82	102	2	0	260	33	118	4	0	0	155	49	307	73	0	1	429	1012
8:30 AM	13	85	34	1	1	133	55	62	72	2	0	191	38	124	9	0	0	171	47	233	60	0	1	340	835
8:45 AM	10	95	37	0	0	142	57	74	66	9	0	206	32	151	5	0	0	188	44	275	69	0	0	388	924
Total	42	398	162	3	1	605	256	298	320	15	1	889	146	524	23	0	0	693	207	1166	302	0	2	1675	3862
BREAK																									
4:00 PM	18	90	69	1	0	178	98	102	53	6	0	259	54	287	19	0	0	360	45	180	75	0	0	300	1097
4:15 PM	6	111	69	1	0	187	94	133	49	7	0	283	70	304	14	0	2	388	60	165	60	0	1	285	1143
4:30 PM	12	105	92	0	0	209	102	113	60	7	0	282	73	305	9	0	0	387	54	202	63	0	1	319	1197
4:45 PM	7	120	86	2	1	215	108	141	52	9	1	310	55	319	9	0	1	383	53	185	47	0	1	285	1193
Total	43	426	316	4	1	789	402	489	214	29	1	1134	252	1215	51	0	3	1518	212	732	245	0	3	1189	4630
5:00 PM	13	115	93	3	0	224	101	124	57	11	0	293	65	351	11	0	3	427	54	205	55	0	1	314	1258
5:15 PM	16	109	78	2	0	205	107	122	71	5	0	305	71	350	11	0	0	432	61	214	57	0	0	332	1274
5:30 PM	12	113	87	2	2	214	107	125	58	5	2	295	63	339	8	0	2	410	52	174	62	0	0	288	1207
5:45 PM	12	107	95	3	1	217	117	124	54	6	3	301	68	336	11	0	0	415	60	189	61	0	1	310	1243
Total	53	444	353	10	3	860	432	495	240	27	5	1194	267	1376	41	0	5	1684	227	782	235	0	2	1244	4982
Grand Total	163	1684	984	19	8	2850	1343	1649	1179	86	7	4257	804	3589	141	0	9	4534	861	4187	1125	0	11	6173	17814
Apprch %	5.7	59.1	34.5	0.7	0.3		31.5	38.7	27.7	2.0	0.2		17.7	79.2	3.1	0.0	0.2		13.9	67.8	18.2	0.0	0.2		
Total %	0.9	9.5	5.5	0.1	0.0	16.0	7.5	9.3	6.6	0.5	0.0	23.9	4.5	20.1	0.8	0.0	0.1	25.5	4.8	23.5	6.3	0.0	0.1	34.7	
Cars, PU, Vans	158	1657	963	19		2797	1305	1615	1148	85		4153	784	3496	138	0		4418	844	4057	1091	0		5992	17360
% Cars, PU, Vans	96.9	98.4	97.9	100.0		98.1	97.2	97.9	97.4	98.8		97.6	97.5	97.4	97.9	0.0		97.4	98.0	96.9	97.0	0.0		97.1	97.5
Heavy Trucks	5	27	21	0		53	38	34	31	1		104	20	93	3	0		116	17	130	34	0		181	454
%Heavy Trucks	3.1	1.6	2.1	0.0		1.9	2.8	2.1	2.6	1.2		2.4	2.5	2.6	2.1	0.0		2.6	2.0	3.1	3.0	0.0		2.9	2.5

Project ID: 19-09657-001
Location: S Hairston Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

PEAK HOURS

Day: Tuesday
Date: 10/15/2019

AM

	S Hairston Rd Northbound					S Hairston Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	2	105	44	0	151	60	91	113	3	267	32	107	4	0	143	48	361	86	0	495	1056
7:30 AM	8	119	50	1	178	73	87	94	4	258	30	119	8	0	157	56	369	82	0	507	1100
7:45 AM	6	85	38	0	129	79	103	88	4	274	47	162	11	0	220	62	372	105	0	539	1162
8:00 AM	9	110	43	0	162	70	80	80	2	232	43	131	5	0	179	67	351	100	0	518	1091
Total Volume	25	419	175	1	620	282	361	375	13	1031	152	519	28	0	699	233	1453	373	0	2059	4409
% App. Total	4.0	67.6	28.2	0.2	100	27.4	35.0	36.4	1.3	100	21.7	74.2	4.0	0.0	100	11.3	70.6	18.1	0.0	100	
PHF					0.871					0.941					0.794					0.955	0.949
Cars, PU, Vans	24	408	171	1	604	269	354	367	13	1003	145	501	28	0	674	226	1417	358	0	2001	4282
% Cars, PU, Vans	96.0	97.4	97.7	100.0	97.4	95.4	98.1	97.9	100.0	97.3	95.4	96.5	100.0	0.0	96.4	97.0	97.5	96.0	0.0	97.2	97.1
Heavy Trucks	1	11	4	0	16	13	7	8	0	28	7	18	0	0	25	7	36	15	0	58	127
%Heavy Trucks	4.0	2.6	2.3	0.0	2.6	4.6	1.9	2.1	0.0	2.7	4.6	3.5	0.0	0.0	3.6	3.0	2.5	4.0	0.0	2.8	2.9

PM

	S Hairston Rd Northbound					S Hairston Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	13	115	93	3	224	101	124	57	11	293	65	351	11	0	427	54	205	55	0	314	1258
5:15 PM	16	109	78	2	205	107	122	71	5	305	71	350	11	0	432	61	214	57	0	332	1274
5:30 PM	12	113	87	2	214	107	125	58	5	295	63	339	8	0	410	52	174	62	0	288	1207
5:45 PM	12	107	95	3	217	117	124	54	6	301	68	336	11	0	415	60	189	61	0	310	1243
Total Volume	53	444	353	10	860	432	495	240	27	1194	267	1376	41	0	1684	227	782	235	0	1244	4982
% App. Total	6.2	51.6	41.0	1.2	100	36.2	41.5	20.1	2.3	100	15.9	81.7	2.4	0.0	100	18.2	62.9	18.9	0.0	100	
PHF					0.960					0.979					0.975					0.937	0.978
Cars, PU, Vans	52	437	350	10	849	425	489	232	27	1173	265	1356	40	0	1661	226	765	234	0	1225	4908
% Cars, PU, Vans	98.1	98.4	99.2	100.0	98.7	98.4	98.8	96.7	100.0	98.2	99.3	98.5	97.6	0.0	98.6	99.6	97.8	99.6	0.0	98.5	98.5
Heavy Trucks	1	7	3	0	11	7	6	8	0	21	2	20	1	0	23	1	17	1	0	19	74
%Heavy Trucks	1.9	1.6	0.8	0.0	1.3	1.6	1.2	3.3	0.0	1.8	0.7	1.5	2.4	0.0	1.4	0.4	2.2	0.4	0.0	1.5	1.5

Project ID: 19-09657-002
Location: Young Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

Day: Tuesday
Date: 10/15/2019

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Young Rd Northbound						Young Rd Southbound						US 278/SR 12/Covington Hwy Eastbound						US 278/SR 12/Covington Hwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	10	4	8	0	1	22	6	3	102	0	0	111	33	104	0	0	0	137	3	341	12	0	1	356	626
7:15 AM	12	2	11	0	1	25	11	5	115	0	0	131	42	141	3	0	0	186	6	365	10	0	1	381	723
7:30 AM	12	5	4	0	0	21	22	5	117	0	0	144	47	163	7	0	1	217	5	358	17	0	0	380	762
7:45 AM	13	2	10	0	0	25	18	2	145	0	0	165	56	216	3	0	1	275	1	394	17	0	0	412	877
Total	47	13	33	0	2	93	57	15	479	0	0	551	178	624	13	0	2	815	15	1458	56	0	2	1529	2988
8:00 AM	4	1	9	0	1	14	16	2	106	0	0	124	33	182	3	0	1	218	4	381	11	0	1	396	752
8:15 AM	11	4	11	0	2	26	11	2	62	0	0	75	48	178	4	0	2	230	4	303	20	0	2	327	658
8:30 AM	7	3	5	0	2	15	14	3	81	0	0	98	38	200	4	0	2	242	2	254	15	0	2	271	626
8:45 AM	12	2	2	0	2	16	16	3	92	0	0	111	36	177	3	0	3	216	4	285	13	0	2	302	645
Total	34	10	27	0	7	71	57	10	341	0	0	408	155	737	14	0	8	906	14	1223	59	0	7	1296	2681
BREAK																									
4:00 PM	7	5	7	0	0	19	24	2	57	0	0	83	88	340	8	0	0	436	6	238	29	0	1	273	811
4:15 PM	6	4	6	0	0	16	24	5	58	0	0	87	81	377	9	0	1	467	8	240	24	0	0	272	842
4:30 PM	8	5	12	0	0	25	23	2	89	0	0	114	98	374	9	0	0	481	13	228	18	0	0	259	879
4:45 PM	6	5	13	0	2	24	19	3	72	0	0	94	91	399	11	0	0	501	7	223	27	0	1	257	876
Total	27	19	38	0	2	84	90	12	276	0	0	378	358	1490	37	0	1	1885	34	929	98	0	2	1061	3408
5:00 PM	10	8	6	0	0	24	34	8	62	0	1	104	101	418	8	0	0	527	8	237	21	0	1	266	921
5:15 PM	11	7	5	1	0	24	20	3	86	0	0	109	98	433	11	0	0	542	3	252	20	0	0	275	950
5:30 PM	5	8	13	0	0	26	32	4	59	0	0	95	113	409	13	0	0	535	7	213	16	0	0	236	892
5:45 PM	8	10	11	0	0	29	21	2	69	0	0	92	101	410	8	0	0	519	7	226	25	0	0	258	898
Total	34	33	35	1	0	103	107	17	276	0	1	400	413	1670	40	0	0	2123	25	928	82	0	1	1035	3661
Grand Total	142	75	133	1	11	351	311	54	1372	0	1	1737	1104	4521	104	0	11	5729	88	4538	295	0	12	4921	12738
Apprch %	40.5	21.4	37.9	0.3	3.1		17.9	3.1	79.0	0.0	0.1		19.3	78.9	1.8	0.0	0.2		1.8	92.2	6.0	0.0	0.2		
Total %	1.1	0.6	1.0	0.0	0.1	2.8	2.4	0.4	10.8	0.0	0.0	13.6	8.7	35.5	0.8	0.0	0.1	45.0	0.7	35.6	2.3	0.0	0.1	38.6	
Cars, PU, Vans	139	73	129	1		342	303	53	1336	0		1692	1088	4394	101	0		5583	85	4398	285	0		4768	12385
% Cars, PU, Vans	97.9	97.3	97.0	100.0		97.4	97.4	98.1	97.4	0.0		97.4	98.6	97.2	97.1	0.0		97.5	96.6	96.9	96.6	0.0		96.9	97.2
Heavy Trucks	3	2	4	0		9	8	1	36	0		45	16	127	3	0		146	3	140	10	0		153	353
%Heavy Trucks	2.1	2.7	3.0	0.0		2.6	2.6	1.9	2.6	0.0		2.6	1.4	2.8	2.9	0.0		2.5	3.4	3.1	3.4	0.0		3.1	2.8

Project ID: 19-09657-002
Location: Young Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

PEAK HOURS

Day: Tuesday
Date: 10/15/2019

AM

	Young Rd Northbound					Young Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	12	2	11	0	25	11	5	115	0	131	42	141	3	0	186	6	365	10	0	381	723
7:30 AM	12	5	4	0	21	22	5	117	0	144	47	163	7	0	217	5	358	17	0	380	762
7:45 AM	13	2	10	0	25	18	2	145	0	165	56	216	3	0	275	1	394	17	0	412	877
8:00 AM	4	1	9	0	14	16	2	106	0	124	33	182	3	0	218	4	381	11	0	396	752
Total Volume	41	10	34	0	85	67	14	483	0	564	178	702	16	0	896	16	1498	55	0	1569	3114
% App. Total	48.2	11.8	40.0	0.0	100	11.9	2.5	85.6	0.0	100	19.9	78.3	1.8	0.0	100	1.0	95.5	3.5	0.0	100	
PHF					0.850					0.855					0.815					0.952	0.888
Cars, PU, Vans	39	9	34	0	82	64	14	474	0	552	174	672	15	0	861	15	1449	52	0	1516	3011
% Cars, PU, Vans	95.1	90.0	100.0	0.0	96.5	95.5	100.0	98.1	0.0	97.9	97.8	95.7	93.8	0.0	96.1	93.8	96.7	94.5	0.0	96.6	96.7
Heavy Trucks	2	1	0	0	3	3	0	9	0	12	4	30	1	0	35	1	49	3	0	53	103
%Heavy Trucks	4.9	10.0	0.0	0.0	3.5	4.5	0.0	1.9	0.0	2.1	2.2	4.3	6.3	0.0	3.9	6.3	3.3	5.5	0.0	3.4	3.3

PM

	Young Rd Northbound					Young Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	10	8	6	0	24	34	8	62	0	104	101	418	8	0	527	8	237	21	0	266	921
5:15 PM	11	7	5	1	24	20	3	86	0	109	98	433	11	0	542	3	252	20	0	275	950
5:30 PM	5	8	13	0	26	32	4	59	0	95	113	409	13	0	535	7	213	16	0	236	892
5:45 PM	8	10	11	0	29	21	2	69	0	92	101	410	8	0	519	7	226	25	0	258	898
Total Volume	34	33	35	1	103	107	17	276	0	400	413	1670	40	0	2123	25	928	82	0	1035	3661
% App. Total	33.0	32.0	34.0	1.0	100	26.8	4.3	69.0	0.0	100	19.5	78.7	1.9	0.0	100	2.4	89.7	7.9	0.0	100	
PHF					0.888					0.917					0.979					0.941	0.963
Cars, PU, Vans	34	33	35	1	103	106	17	274	0	397	412	1644	40	0	2096	25	912	81	0	1018	3614
% Cars, PU, Vans	100.0	100.0	100.0	100.0	100.0	99.1	100.0	99.3	0.0	99.3	99.8	98.4	100.0	0.0	98.7	100.0	98.3	98.8	0.0	98.4	98.7
Heavy Trucks	0	0	0	0	0	1	0	2	0	3	1	26	0	0	27	0	16	1	0	17	47
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.7	0.0	0.8	0.2	1.6	0.0	0.0	1.3	0.0	1.7	1.2	0.0	1.6	1.3

Project ID: 19-09657-003
Location: Miller Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

Day: Tuesday
Date: 10/15/2019

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Miller Rd Northbound						Miller Rd Southbound						US 278/SR 12/Covington Hwy Eastbound						US 278/SR 12/Covington Hwy Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	44	0	27	0	0	71	1	1	0	0	0	2	0	73	36	0	0	109	33	322	4	0	0	359	541
7:15 AM	49	3	29	0	0	81	1	5	0	0	0	6	0	116	54	0	0	170	33	324	8	0	0	365	622
7:30 AM	55	1	42	0	0	98	1	4	0	0	1	5	0	129	66	0	0	195	37	342	4	0	0	383	681
7:45 AM	65	0	23	0	0	88	1	5	1	0	2	7	0	183	62	0	0	245	17	360	7	0	0	384	724
Total	213	4	121	0	0	338	4	15	1	0	3	20	0	501	218	0	0	719	120	1348	23	0	0	1491	2568
8:00 AM	58	2	34	0	0	94	0	6	0	0	2	6	0	147	68	0	9	215	31	329	12	0	0	372	687
8:15 AM	47	1	44	0	0	92	0	6	0	0	0	6	0	140	67	0	3	207	33	271	6	0	0	310	615
8:30 AM	58	1	34	0	0	93	1	2	0	0	0	3	2	145	55	0	1	202	30	227	4	0	0	261	559
8:45 AM	41	1	21	0	0	63	1	2	0	0	0	3	0	154	45	0	2	199	14	258	3	0	0	275	540
Total	204	5	133	0	0	342	2	16	0	0	2	18	2	586	235	0	15	823	108	1085	25	0	0	1218	2401
BREAK																									
4:00 PM	68	1	46	0	1	115	3	5	0	0	0	8	0	289	64	0	1	353	35	194	5	0	0	234	710
4:15 PM	64	3	48	0	0	115	3	2	0	0	0	5	1	340	74	0	0	415	31	205	9	0	0	245	780
4:30 PM	68	1	34	0	0	103	3	1	0	0	0	4	4	339	80	0	0	423	28	192	2	0	0	222	752
4:45 PM	45	2	51	0	1	98	4	3	0	0	2	7	3	352	71	0	1	426	26	201	9	0	0	236	767
Total	245	7	179	0	2	431	13	11	0	0	2	24	8	1320	289	0	2	1617	120	792	25	0	0	937	3009
5:00 PM	67	2	28	0	0	97	3	2	0	0	2	5	2	395	69	0	0	466	16	192	6	0	0	214	782
5:15 PM	44	1	39	0	1	84	4	1	1	0	1	6	0	379	73	0	0	452	12	228	4	0	0	244	786
5:30 PM	62	3	35	0	0	100	2	2	0	0	0	4	0	372	85	0	1	457	21	175	4	0	0	200	761
5:45 PM	58	1	49	0	1	108	2	1	0	0	0	3	1	356	77	0	0	434	21	197	5	0	1	223	768
Total	231	7	151	0	2	389	11	6	1	0	3	18	3	1502	304	0	1	1809	70	792	19	0	1	881	3097
Grand Total	893	23	584	0	4	1500	30	48	2	0	10	80	13	3909	1046	0	18	4968	418	4017	92	0	1	4527	11075
Apprch %	59.5	1.5	38.9	0.0	0.3		37.5	60.0	2.5	0.0	12.5		0.3	78.7	21.1	0.0	0.4		9.2	88.7	2.0	0.0	0.0		
Total %	8.1	0.2	5.3	0.0	0.0	13.5	0.3	0.4	0.0	0.0	0.1	0.7	0.1	35.3	9.4	0.0	0.2	44.9	3.8	36.3	0.8	0.0	0.0	40.9	
Cars, PU, Vans	862	23	542	0		1427	29	46	2	0		77	13	3795	1021	0		4829	396	3892	89	0		4377	10710
% Cars, PU, Vans	96.5	100.0	92.8	0.0		95.1	96.7	95.8	100.0	0.0		96.3	100.0	97.1	97.6	0.0		97.2	94.7	96.9	96.7	0.0		96.7	96.7
Heavy Trucks	31	0	42	0		73	1	2	0	0		3	0	114	25	0		139	22	125	3	0		150	365
%Heavy Trucks	3.5	0.0	7.2	0.0		4.9	3.3	4.2	0.0	0.0		3.8	0.0	2.9	2.4	0.0		2.8	5.3	3.1	3.3	0.0		3.3	3.3

Project ID: 19-09657-003
Location: Miller Rd & US 278/SR 12/Covington Hwy
City: Stone Mountain

PEAK HOURS

Day: Tuesday
Date: 10/15/2019

AM

	Miller Rd Northbound					Miller Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	49	3	29	0	81	1	5	0	0	6	0	116	54	0	170	33	324	8	0	365	622
7:30 AM	55	1	42	0	98	1	4	0	0	5	0	129	66	0	195	37	342	4	0	383	681
7:45 AM	65	0	23	0	88	1	5	1	0	7	0	183	62	0	245	17	360	7	0	384	724
8:00 AM	58	2	34	0	94	0	6	0	0	6	0	147	68	0	215	31	329	12	0	372	687
Total Volume	227	6	128	0	361	3	20	1	0	24	0	575	250	0	825	118	1355	31	0	1504	2714
% App. Total	62.9	1.7	35.5	0.0	100	12.5	83.3	4.2	0.0	100	0.0	69.7	30.3	0.0	100	7.8	90.1	2.1	0.0	100	
PHF					0.921					0.857					0.842					0.979	0.937
Cars, PU, Vans	217	6	122	0	345	3	18	1	0	22	0	547	245	0	792	112	1312	29	0	1453	2612
% Cars, PU, Vans	95.6	100.0	95.3	0.0	95.6	100.0	90.0	100.0	0.0	91.7	0.0	95.1	98.0	0.0	96.0	94.9	96.8	93.5	0.0	96.6	96.2
Heavy Trucks	10	0	6	0	16	0	2	0	0	2	0	28	5	0	33	6	43	2	0	51	102
%Heavy Trucks	4.4	0.0	4.7	0.0	4.4	0.0	10.0	0.0	0.0	8.3	0.0	4.9	2.0	0.0	4.0	5.1	3.2	6.5	0.0	3.4	3.8

PM

	Miller Rd Northbound					Miller Rd Southbound					US 278/SR 12/Covington Hwy Eastbound					US 278/SR 12/Covington Hwy Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	67	2	28	0	97	3	2	0	0	5	2	395	69	0	466	16	192	6	0	214	782
5:15 PM	44	1	39	0	84	4	1	1	0	6	0	379	73	0	452	12	228	4	0	244	786
5:30 PM	62	3	35	0	100	2	2	0	0	4	0	372	85	0	457	21	175	4	0	200	761
5:45 PM	58	1	49	0	108	2	1	0	0	3	1	356	77	0	434	21	197	5	0	223	768
Total Volume	231	7	151	0	389	11	6	1	0	18	3	1502	304	0	1809	70	792	19	0	881	3097
% App. Total	59.4	1.8	38.8	0.0	100	61.1	33.3	5.6	0.0	100	0.2	83.0	16.8	0.0	100	7.9	89.9	2.2	0.0	100	
PHF					0.900					0.750					0.970					0.903	0.985
Cars, PU, Vans	226	7	149	0	382	11	6	1	0	18	3	1475	302	0	1780	67	778	19	0	864	3044
% Cars, PU, Vans	97.8	100.0	98.7	0.0	98.2	100.0	100.0	100.0	0.0	100.0	100.0	98.2	99.3	0.0	98.4	95.7	98.2	100.0	0.0	98.1	98.3
Heavy Trucks	5	0	2	0	7	0	0	0	0	0	0	27	2	0	29	3	14	0	0	17	53
%Heavy Trucks	2.2	0.0	1.3	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.7	0.0	1.6	4.3	1.8	0.0	0.0	1.9	1.7

Project ID: 19-09657-004
Location: Young Rd & Biffle Dr/Meadowbrooke Chase
City: Stone Mountain

Day: Tuesday
Date: 10/15/2019

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Young Rd Northbound						Young Rd Southbound						Biffle Dr/Meadowbrooke Chase Eastbound						Biffle Dr/Meadowbrooke Chase Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	9	37	1	0	0	47	0	108	50	1	0	159	8	2	7	0	0	17	2	10	4	0	0	16	239
7:15 AM	9	44	2	0	0	55	3	127	37	0	0	167	15	0	5	0	0	20	1	8	3	0	1	12	254
7:30 AM	13	43	1	0	0	57	2	124	46	0	0	172	21	0	9	0	0	30	2	2	6	0	0	10	269
7:45 AM	10	69	2	0	0	81	1	139	42	0	0	182	13	1	10	0	0	24	1	7	5	0	1	13	300
Total	41	193	6	0	0	240	6	498	175	1	0	680	57	3	31	0	0	91	6	27	18	0	2	51	1062
8:00 AM	10	49	0	0	0	59	3	99	24	0	0	126	4	1	12	0	0	17	7	5	1	0	1	13	215
8:15 AM	15	57	2	0	0	74	1	85	20	0	0	106	6	0	10	0	0	16	1	2	1	0	0	4	200
8:30 AM	9	41	3	0	0	53	1	76	10	0	0	87	7	1	8	0	0	16	3	3	2	0	0	8	164
8:45 AM	9	41	1	0	0	51	2	91	8	0	0	101	4	0	11	0	0	15	2	2	1	0	0	5	172
Total	43	188	6	0	0	237	7	351	62	0	0	420	21	2	41	0	0	64	13	12	5	0	1	30	751
BREAK																									
4:00 PM	20	86	8	0	0	114	3	59	10	0	0	72	13	4	14	0	0	31	2	2	2	0	0	6	223
4:15 PM	16	88	5	0	0	109	5	76	10	0	0	91	10	4	15	0	0	29	4	1	1	0	0	6	235
4:30 PM	12	110	0	0	0	122	4	84	13	0	0	101	17	2	19	0	0	38	2	2	2	0	0	6	267
4:45 PM	17	81	3	0	0	101	3	71	11	0	1	85	23	1	12	0	0	36	1	1	1	0	1	3	225
Total	65	365	16	0	0	446	15	290	44	0	1	349	63	11	60	0	0	134	9	6	6	0	1	21	950
5:00 PM	10	108	7	0	0	125	3	75	10	1	0	89	13	0	19	0	1	32	2	2	3	0	0	7	253
5:15 PM	21	96	7	0	0	124	5	84	9	0	0	98	11	3	12	0	0	26	4	2	1	0	0	7	255
5:30 PM	9	117	7	0	0	133	0	66	10	0	0	76	23	5	19	0	0	47	5	0	1	0	0	6	262
5:45 PM	16	100	10	0	0	126	4	61	15	0	2	80	23	3	21	1	0	48	6	1	4	0	0	11	265
Total	56	421	31	0	0	508	12	286	44	1	2	343	70	11	71	1	1	153	17	5	9	0	0	31	1035
Grand Total	205	1167	59	0	0	1431	40	1425	325	2	3	1792	211	27	203	1	1	442	45	50	38	0	4	133	3798
Apprch %	14.3	81.6	4.1	0.0	0.0		2.2	79.5	18.1	0.1	0.2		47.7	6.1	45.9	0.2	0.2		33.8	37.6	28.6	0.0	3.0		
Total %	5.4	30.7	1.6	0.0	0.0	37.7	1.1	37.5	8.6	0.1	0.1	47.2	5.6	0.7	5.3	0.0	0.0	11.6	1.2	1.3	1.0	0.0	0.1	3.5	
Cars, PU, Vans	201	1147	56	0		1404	37	1388	318	2		1745	203	27	198	1		429	42	49	35	0		126	3704
% Cars, PU, Vans	98.0	98.3	94.9	0.0		98.1	92.5	97.4	97.8	100.0		97.4	96.2	100.0	97.5	100.0		97.1	93.3	98.0	92.1	0.0		94.7	97.5
Heavy Trucks	4	20	3	0		27	3	37	7	0		47	8	0	5	0		13	3	1	3	0		7	94
%Heavy Trucks	2.0	1.7	5.1	0.0		1.9	7.5	2.6	2.2	0.0		2.6	3.8	0.0	2.5	0.0		2.9	6.7	2.0	7.9	0.0		5.3	2.5

Project ID: 19-09657-004
Location: Young Rd & Biffle Dr/Meadowbrooke Chase
City: Stone Mountain

PEAK HOURS

Day: Tuesday
Date: 10/15/2019

AM

	Young Rd Northbound					Young Rd Southbound					Biffle Dr/Meadowbrooke Chase Eastbound					Biffle Dr/Meadowbrooke Chase Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	9	37	1	0	47	0	108	50	1	159	8	2	7	0	17	2	10	4	0	16	239
7:15 AM	9	44	2	0	55	3	127	37	0	167	15	0	5	0	20	1	8	3	0	12	254
7:30 AM	13	43	1	0	57	2	124	46	0	172	21	0	9	0	30	2	2	6	0	10	269
7:45 AM	10	69	2	0	81	1	139	42	0	182	13	1	10	0	24	1	7	5	0	13	300
Total Volume	41	193	6	0	240	6	498	175	1	680	57	3	31	0	91	6	27	18	0	51	1062
% App. Total	17.1	80.4	2.5	0.0	100	0.9	73.2	25.7	0.1	100	62.6	3.3	34.1	0.0	100	11.8	52.9	35.3	0.0	100	
PHF					0.741					0.934					0.758					0.797	0.885
Cars, PU, Vans	41	187	5	0	233	5	486	171	1	663	52	3	30	0	85	6	27	17	0	50	1031
% Cars, PU, Vans	100.0	96.9	83.3	0.0	97.1	83.3	97.6	97.7	100.0	97.5	91.2	100.0	96.8	0.0	93.4	100.0	100.0	94.4	0.0	98.0	97.1
Heavy Trucks	0	6	1	0	7	1	12	4	0	17	5	0	1	0	6	0	0	1	0	1	31
%Heavy Trucks	0.0	3.1	16.7	0.0	2.9	16.7	2.4	2.3	0.0	2.5	8.8	0.0	3.2	0.0	6.6	0.0	0.0	5.6	0.0	2.0	2.9

PM

	Young Rd Northbound					Young Rd Southbound					Biffle Dr/Meadowbrooke Chase Eastbound					Biffle Dr/Meadowbrooke Chase Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	10	108	7	0	125	3	75	10	1	89	13	0	19	0	32	2	2	3	0	7	253
5:15 PM	21	96	7	0	124	5	84	9	0	98	11	3	12	0	26	4	2	1	0	7	255
5:30 PM	9	117	7	0	133	0	66	10	0	76	23	5	19	0	47	5	0	1	0	6	262
5:45 PM	16	100	10	0	126	4	61	15	0	80	23	3	21	1	48	6	1	4	0	11	265
Total Volume	56	421	31	0	508	12	286	44	1	343	70	11	71	1	153	17	5	9	0	31	1035
% App. Total	11.0	82.9	6.1	0.0	100	3.5	83.4	12.8	0.3	100	45.8	7.2	46.4	0.7	100	54.8	16.1	29.0	0.0	100	
PHF					0.955					0.875					0.797					0.705	0.976
Cars, PU, Vans	56	419	31	0	506	12	283	44	1	340	70	11	71	1	153	16	5	9	0	30	1029
% Cars, PU, Vans	100.0	99.5	100.0	0.0	99.6	100.0	99.0	100.0	100.0	99.1	100.0	100.0	100.0	100.0	100.0	94.1	100.0	100.0	0.0	96.8	99.4
Heavy Trucks	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	6
%Heavy Trucks	0.0	0.5	0.0	0.0	0.4	0.0	1.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	3.2	0.6

Project ID: 19-09657-005
Location: Panola Rd & Young Rd
City: Stone Mountain

Day: Tuesday
Date: 10/15/2019

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Panola Rd Northbound						Panola Rd Southbound						Young Rd Eastbound						Young Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	23	159	6	0	0	188	10	90	9	0	0	109	11	23	13	0	0	47	3	74	8	1	0	86	430
7:15 AM	33	186	11	0	0	230	5	167	15	0	0	187	20	20	18	0	0	58	19	79	9	0	0	107	582
7:30 AM	36	155	16	0	0	207	5	122	60	0	0	187	27	27	28	0	0	82	21	89	16	0	0	126	602
7:45 AM	54	152	20	0	0	226	6	139	50	0	0	195	24	31	27	0	0	82	18	74	22	0	1	114	617
Total	146	652	53	0	0	851	26	518	134	0	0	678	82	101	86	0	0	269	61	316	55	1	1	433	2231
8:00 AM	33	117	17	0	0	167	11	121	36	0	0	168	21	26	24	0	0	71	18	49	10	0	0	77	483
8:15 AM	14	117	12	0	1	143	10	106	42	0	0	158	21	33	10	0	0	64	18	43	23	0	0	84	449
8:30 AM	15	124	12	0	0	151	10	106	33	0	0	149	24	14	8	0	0	46	20	38	18	0	0	76	422
8:45 AM	19	108	12	0	0	139	7	97	46	0	0	150	17	23	8	0	0	48	17	42	10	0	0	69	406
Total	81	466	53	0	1	600	38	430	157	0	0	625	83	96	50	0	0	229	73	172	61	0	0	306	1760
BREAK																									
4:00 PM	20	133	22	0	0	175	12	166	29	0	0	207	29	48	25	0	0	102	19	34	19	0	0	72	556
4:15 PM	19	112	23	0	0	154	12	154	40	0	0	206	44	39	22	0	0	105	18	31	20	0	0	69	534
4:30 PM	17	143	15	0	0	175	13	159	39	0	0	211	42	51	25	0	1	118	31	45	10	0	0	86	590
4:45 PM	21	130	19	0	0	170	17	167	45	0	0	229	29	47	17	0	0	93	21	23	14	0	1	58	550
Total	77	518	79	0	0	674	54	646	153	0	0	853	144	185	89	0	1	418	89	133	63	0	1	285	2230
5:00 PM	11	133	15	0	0	159	12	185	49	0	0	246	42	56	31	0	0	129	10	32	19	0	0	61	595
5:15 PM	17	138	24	0	0	179	10	194	53	0	0	257	44	54	18	0	0	116	14	41	9	0	0	64	616
5:30 PM	19	122	21	0	0	162	13	165	33	0	0	211	46	53	36	0	0	135	25	23	14	0	0	62	570
5:45 PM	23	141	20	0	0	184	11	206	42	0	0	259	45	41	32	0	0	118	15	23	16	0	0	54	615
Total	70	534	80	0	0	684	46	750	177	0	0	973	177	204	117	0	0	498	64	119	58	0	0	241	2396
Grand Total	374	2170	265	0	1	2809	164	2344	621	0	0	3129	486	586	342	0	1	1414	287	740	237	1	2	1265	8617
Apprch %	13.3	77.3	9.4	0.0	0.0		5.2	74.9	19.8	0.0	0.0		34.4	41.4	24.2	0.0	0.1		22.7	58.5	18.7	0.1	0.2		
Total %	4.3	25.2	3.1	0.0	0.0	32.6	1.9	27.2	7.2	0.0	0.0	36.3	5.6	6.8	4.0	0.0	0.0	16.4	3.3	8.6	2.8	0.0	0.0	14.7	
Cars, PU, Vans	359	2125	256	0		2740	157	2293	609	0		3059	480	576	328	0		1384	278	719	216	1		1214	8397
% Cars, PU, Vans	96.0	97.9	96.6	0.0		97.5	95.7	97.8	98.1	0.0		97.8	98.8	98.3	95.9	0.0		97.9	96.9	97.2	91.1	100.0		96.0	97.4
Heavy Trucks	15	45	9	0		69	7	51	12	0		70	6	10	14	0		30	9	21	21	0		51	220
%Heavy Trucks	4.0	2.1	3.4	0.0		2.5	4.3	2.2	1.9	0.0		2.2	1.2	1.7	4.1	0.0		2.1	3.1	2.8	8.9	0.0		4.0	2.6

Project ID: 19-09657-005
Location: Panola Rd & Young Rd
City: Stone Mountain

PEAK HOURS

Day: Tuesday
Date: 10/15/2019

AM

	Panola Rd Northbound					Panola Rd Southbound					Young Rd Eastbound					Young Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	33	186	11	0	230	5	167	15	0	187	20	20	18	0	58	19	79	9	0	107	582
7:30 AM	36	155	16	0	207	5	122	60	0	187	27	27	28	0	82	21	89	16	0	126	602
7:45 AM	54	152	20	0	226	6	139	50	0	195	24	31	27	0	82	18	74	22	0	114	617
8:00 AM	33	117	17	0	167	11	121	36	0	168	21	26	24	0	71	18	49	10	0	77	483
Total Volume	156	610	64	0	830	27	549	161	0	737	92	104	97	0	293	76	291	57	0	424	2284
% App. Total	18.8	73.5	7.7	0.0	100	3.7	74.5	21.8	0.0	100	31.4	35.5	33.1	0.0	100	17.9	68.6	13.4	0.0	100	
PHF					0.902					0.945					0.893					0.841	0.925
Cars, PU, Vans	150	594	63	0	807	26	532	157	0	715	90	101	91	0	282	72	285	52	0	409	2213
% Cars, PU, Vans	96.2	97.4	98.4	0.0	97.2	96.3	96.9	97.5	0.0	97.0	97.8	97.1	93.8	0.0	96.2	94.7	97.9	91.2	0.0	96.5	96.9
Heavy Trucks	6	16	1	0	23	1	17	4	0	22	2	3	6	0	11	4	6	5	0	15	71
%Heavy Trucks	3.8	2.6	1.6	0.0	2.8	3.7	3.1	2.5	0.0	3.0	2.2	2.9	6.2	0.0	3.8	5.3	2.1	8.8	0.0	3.5	3.1

PM

	Panola Rd Northbound					Panola Rd Southbound					Young Rd Eastbound					Young Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	11	133	15	0	159	12	185	49	0	246	42	56	31	0	129	10	32	19	0	61	595
5:15 PM	17	138	24	0	179	10	194	53	0	257	44	54	18	0	116	14	41	9	0	64	616
5:30 PM	19	122	21	0	162	13	165	33	0	211	46	53	36	0	135	25	23	14	0	62	570
5:45 PM	23	141	20	0	184	11	206	42	0	259	45	41	32	0	118	15	23	16	0	54	615
Total Volume	70	534	80	0	684	46	750	177	0	973	177	204	117	0	498	64	119	58	0	241	2396
% App. Total	10.2	78.1	11.7	0.0	100	4.7	77.1	18.2	0.0	100	35.5	41.0	23.5	0.0	100	26.6	49.4	24.1	0.0	100	
PHF					0.929					0.939					0.922					0.941	0.972
Cars, PU, Vans	70	526	80	0	676	45	743	176	0	964	177	202	117	0	496	64	117	57	0	238	2374
% Cars, PU, Vans	100.0	98.5	100.0	0.0	98.8	97.8	99.1	99.4	0.0	99.1	100.0	99.0	100.0	0.0	99.6	100.0	98.3	98.3	0.0	98.8	99.1
Heavy Trucks	0	8	0	0	8	1	7	1	0	9	0	2	0	0	2	0	2	1	0	3	22
%Heavy Trucks	0.0	1.5	0.0	0.0	1.2	2.2	0.9	0.6	0.0	0.9	0.0	1.0	0.0	0.0	0.4	0.0	1.7	1.7	0.0	1.2	0.9

Prepared by National Data & Surveying Services

VOLUME

Young Rd N/O Whitney Chase

Day: Tuesday
Date: 10/15/2019

City: Stone Mountain
Project #: GA19_9658_001

DAILY TOTALS	NB	SB	EB	WB	Total
	5,643	6,352	0	0	11,995

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	28		17				45		12:00	81		79				160	
00:15	38		15				53		12:15	56		80				136	
00:30	21		5				26		12:30	59		89				148	
00:45	20	107	13	50			33	157	12:45	59	255	92	340			151	595
01:00	15		5				20		13:00	78		95				173	
01:15	19		12				31		13:15	54		83				137	
01:30	16		4				20		13:30	54		99				153	
01:45	9	59	6	27			15	86	13:45	68	254	94	371			162	625
02:00	12		8				20		14:00	79		86				165	
02:15	10		10				20		14:15	71		70				141	
02:30	9		11				20		14:30	78		97				175	
02:45	10	41	7	36			17	77	14:45	84	312	71	324			155	636
03:00	9		5				14		15:00	106		76				182	
03:15	10		7				17		15:15	109		70				179	
03:30	5		16				21		15:30	104		98				202	
03:45	10	34	21	49			31	83	15:45	95	414	88	332			183	746
04:00	10		17				27		16:00	106		104				210	
04:15	5		23				28		16:15	111		90				201	
04:30	4		41				45		16:30	102		81				183	
04:45	5	24	41	122			46	146	16:45	108	427	92	367			200	794
05:00	12		40				52		17:00	128		84				212	
05:15	11		67				78		17:15	130		108				238	
05:30	16		74				90		17:30	133		77				210	
05:45	19	58	85	266			104	324	17:45	137	528	81	350			218	878
06:00	22		134				156		18:00	118		96				214	
06:15	35		143				178		18:15	115		93				208	
06:30	33		120				153		18:30	123		97				220	
06:45	36	126	107	504			143	630	18:45	118	474	78	364			196	838
07:00	46		122				168		19:00	117		80				197	
07:15	49		122				171		19:15	123		73				196	
07:30	70		113				183		19:30	103		67				170	
07:45	75	240	128	485			203	725	19:45	96	439	68	288			164	727
08:00	58		112				170		20:00	79		73				152	
08:15	67		124				191		20:15	104		49				153	
08:30	44		102				146		20:30	91		67				158	
08:45	47	216	114	452			161	668	20:45	92	366	80	269			172	635
09:00	49		77				126		21:00	78		59				137	
09:15	41		84				125		21:15	68		51				119	
09:30	44		70				114		21:30	70		38				108	
09:45	56	190	78	309			134	499	21:45	56	272	38	186			94	458
10:00	56		80				136		22:00	52		39				91	
10:15	44		62				106		22:15	49		39				88	
10:30	40		80				120		22:30	59		44				103	
10:45	50	190	74	296			124	486	22:45	57	217	27	149			84	366
11:00	58		85				143		23:00	50		19				69	
11:15	55		81				136		23:15	42		25				67	
11:30	60		89				149		23:30	44		13				57	
11:45	61	234	86	341			147	575	23:45	30	166	18	75			48	241
TOTALS		1519		2937				4456	TOTALS		4124		3415				7539
SPLIT %		34.1%		65.9%				37.1%	SPLIT %		54.7%		45.3%				62.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,643	6,352	0	0	11,995

AM Peak Hour	07:30	06:00			07:30	PM Peak Hour	17:00	15:30			17:15
AM Pk Volume	270	504			747	PM Pk Volume	528	380			880
Pk Hr Factor	0.900	0.881			0.920	Pk Hr Factor	0.964	0.913			0.924
7 - 9 Volume	456	937	0	0	1393	4 - 6 Volume	955	717	0	0	1672
7 - 9 Peak Hour	07:30	07:00			07:30	4 - 6 Peak Hour	17:00	16:00			17:00
7 - 9 Pk Volume	270	485	0	0	747	4 - 6 Pk Volume	528	367	0	0	878
Pk Hr Factor	0.900	0.947	0.000	0.000	0.920	Pk Hr Factor	0.964	0.882	0.000	0.000	0.922

Prepared by National Data & Surveying Services

VOLUME

US 278/SR 12/Covington Hwy W/O Miller Rd

Day: Tuesday
Date: 10/15/2019

City: Stone Mountain
Project #: GA19_9658_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	18,465	18,148	36,613

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			54		36		90		12:00			220		230		450	
00:15			63		34		97		12:15			230		209		439	
00:30			43		31		74		12:30			228		248		476	
00:45			35	195	21	122	56	317	12:45			242	920	208	895	450	1815
01:00			27		24		51		13:00			228		227		455	
01:15			35		24		59		13:15			275		253		528	
01:30			23		21		44		13:30			228		216		444	
01:45			19	104	26	95	45	199	13:45			239	970	225	921	464	1891
02:00			25		15		40		14:00			250		228		478	
02:15			32		82		114		14:15			266		238		504	
02:30			30		119		149		14:30			269		235		504	
02:45			21	108	29	245	50	353	14:45			300	1085	248	949	548	2034
03:00			12		20		32		15:00			320		237		557	
03:15			14		15		29		15:15			345		255		600	
03:30			23		36		59		15:30			413		308		721	
03:45			27	76	16	87	43	163	15:45			385	1463	299	1099	684	2562
04:00			26		32		58		16:00			400		255		655	
04:15			52		44		96		16:15			430		247		677	
04:30			93		53		146		16:30			382		256		638	
04:45			97	268	79	208	176	476	16:45			435	1647	267	1025	702	2672
05:00			31		81		112		17:00			424		223		647	
05:15			50		108		158		17:15			453		244		697	
05:30			63		184		247		17:30			423		229		652	
05:45			82	226	230	603	312	829	17:45			465	1765	238	934	703	2699
06:00			73		395		468		18:00			440		265		705	
06:15			113		452		565		18:15			452		241		693	
06:30			107		520		627		18:30			442		245		687	
06:45			120	413	367	1734	487	2147	18:45			404	1738	247	998	651	2736
07:00			123		371		494		19:00			377		215		592	
07:15			185		404		589		19:15			332		201		533	
07:30			218		400		618		19:30			302		184		486	
07:45			223	749	403	1578	626	2327	19:45			266	1277	188	788	454	2065
08:00			186		423		609		20:00			245		171		416	
08:15			189		351		540		20:15			228		185		413	
08:30			204		294		498		20:30			228		159		387	
08:45			195	774	322	1390	517	2164	20:45			207	908	131	646	338	1554
09:00			190		322		512		21:00			166		127		293	
09:15			190		247		437		21:15			186		143		329	
09:30			188		237		425		21:30			169		118		287	
09:45			167	735	259	1065	426	1800	21:45			137	658	107	495	244	1153
10:00			182		227		409		22:00			139		96		235	
10:15			180		202		382		22:15			146		109		255	
10:30			187		214		401		22:30			128		93		221	
10:45			187	736	177	820	364	1556	22:45			112	525	84	382	196	907
11:00			185		235		420		23:00			105		68		173	
11:15			188		217		405		23:15			93		65		158	
11:30			197		223		420		23:30			80		51		131	
11:45			241	811	201	876	442	1687	23:45			36	314	9	193	45	507
TOTALS				5195		8823		**14018**	**TOTALS**				13270		9325		**22595**
SPLIT %				37.1%		62.9%		**38.3%**	**SPLIT %**				58.7%		41.3%		**61.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	18,465	18,148	36,613

AM Peak Hour			11:45	06:00	**07:15**	**PM Peak Hour**			17:45	15:15	**17:45**
AM Pk Volume			919	1734	**2442**	**PM Pk Volume**			1799	1117	**2788**
Pk Hr Factor			0.953	0.834	**0.975**	**Pk Hr Factor**			0.967	0.907	**0.989**
7 - 9 Volume	0	0	1523	2968	**4491**	**4 - 6 Volume**	0	0	3412	1959	**5371**
7 - 9 Peak Hour			07:30	07:15	**07:15**	**4 - 6 Peak Hour**			17:00	16:00	**17:00**
7 - 9 Pk Volume	0	0	816	1630	**2442**	**4 - 6 Pk Volume**	0	0	1765	1025	**2699**
Pk Hr Factor	0.000	0.000	0.915	0.963	**0.975**	**Pk Hr Factor**	0.000	0.000	0.949	0.960	**0.960**

APPENDIX C

LOS DESCRIPTIONS

LOS DESCRIPTIONS

The table below describes the thresholds for Levels of Service (LOS) for signalized and unsignalized intersections. The Highway Capacity Manual, 6th Edition (HCM, 6th) defines these thresholds as a function of average vehicular control delay in seconds/vehicle (s/veh). Ideally, (often differing by jurisdiction) an LOS of D or better is considered acceptable at signalized intersections and an LOS of C or better at unsignalized intersections.

Average Delay (seconds/vehicle)		LOS
Signalized Intersections	Unsignalized Intersections	
≤ 10.0	≤ 10.0	A
> 10 - 20	> 10 - 15	B
> 20 - 35	> 15 - 25	C
> 35 - 55	> 25 - 35	D
> 55 - 80	> 35 - 50	E
> 80.0	> 80.0	F

APPENDIX D

SYNCHRO WORKSHEETS – EXISTING

HCM 6th Signalized Intersection Summary
1: S Hairston Road & Covington Hwy

11/06/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	519	28	233	1453	373	26	419	175	295	361	375
Future Volume (veh/h)	152	519	28	233	1453	373	26	419	175	295	361	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1657	1657	1657	1670	1670	1670	1670	1670	1670	1670	1670	1670
Adj Flow Rate, veh/h	160	546	29	245	1529	393	27	441	0	311	380	0
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, %	4	4	4	3	3	3	3	3	3	3	3	3
Cap, veh/h	156	1417	632	469	1560	696	39	476		309	715	
Arrive On Green	0.06	0.45	0.45	0.10	0.49	0.49	0.02	0.15	0.00	0.10	0.23	0.00
Sat Flow, veh/h	1578	3148	1404	1590	3173	1415	1590	3173	1415	3086	3173	1415
Grp Volume(v), veh/h	160	546	29	245	1529	393	27	441	0	311	380	0
Grp Sat Flow(s),veh/h/ln	1578	1574	1404	1590	1586	1415	1590	1586	1415	1543	1586	1415
Q Serve(g_s), s	7.0	13.8	1.4	9.7	56.7	23.5	2.0	16.5	0.0	12.0	12.6	0.0
Cycle Q Clear(g_c), s	7.0	13.8	1.4	9.7	56.7	23.5	2.0	16.5	0.0	12.0	12.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1417	632	469	1560	696	39	476		309	715	
V/C Ratio(X)	1.03	0.39	0.05	0.52	0.98	0.56	0.69	0.93		1.01	0.53	
Avail Cap(c_a), veh/h	156	1417	632	536	1560	696	66	476		309	715	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	21.9	18.5	15.2	29.9	21.5	58.0	50.3	0.0	54.0	40.9	0.0
Incr Delay (d2), s/veh	79.2	0.2	0.0	0.9	18.2	1.1	19.1	26.4	0.0	53.2	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	4.9	0.4	3.4	23.7	7.6	1.0	8.1	0.0	6.8	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.0	22.1	18.5	16.1	48.2	22.5	77.1	76.8	0.0	107.2	43.7	0.0
LnGrp LOS	F	C	B	B	D	C	E	E		F	D	
Approach Vol, veh/h		735			2167			468	A		691	A
Approach Delay, s/veh		41.1			39.9			76.8			72.3	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	60.0	9.0	33.0	13.0	65.0	18.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.0	49.0	5.0	25.0	7.0	59.0	12.0	18.0
Max Q Clear Time (g_c+I1), s	11.7	15.8	4.0	14.6	9.0	58.7	14.0	18.5
Green Ext Time (p_c), s	0.3	3.7	0.0	1.6	0.0	0.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.9
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	702	16	16	1498	55	41	10	34	67	14	483
Future Volume (veh/h)	178	702	16	16	1498	55	41	10	34	67	14	483
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	202	798	18	18	1702	62	47	11	39	76	16	549
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, %	4	4	4	3	3	3	4	4	4	2	2	2
Cap, veh/h	206	1986	886	375	1735	63	156	43	108	345	68	453
Arrive On Green	0.09	0.57	0.57	0.02	0.50	0.50	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1753	3497	1560	1767	3470	126	413	151	379	1042	239	1585
Grp Volume(v), veh/h	202	798	18	18	861	903	97	0	0	92	0	549
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1833	944	0	0	1281	0	1585
Q Serve(g_s), s	11.7	17.9	0.7	0.7	66.9	67.9	6.9	0.0	0.0	0.0	0.0	40.0
Cycle Q Clear(g_c), s	11.7	17.9	0.7	0.7	66.9	67.9	16.1	0.0	0.0	9.3	0.0	40.0
Prop In Lane	1.00		1.00	1.00		0.07	0.48		0.40	0.83		1.00
Lane Grp Cap(c), veh/h	206	1986	886	375	881	916	308	0	0	413	0	453
V/C Ratio(X)	0.98	0.40	0.02	0.05	0.98	0.99	0.32	0.00	0.00	0.22	0.00	1.21
Avail Cap(c_a), veh/h	206	1986	886	407	881	916	308	0	0	413	0	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.9	16.9	13.2	16.7	34.2	34.5	42.2	0.0	0.0	38.9	0.0	50.0
Incr Delay (d2), s/veh	57.5	0.6	0.0	0.1	25.3	26.3	0.6	0.0	0.0	0.3	0.0	114.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.0	0.3	0.3	32.9	35.0	2.9	0.0	0.0	2.5	0.0	30.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.4	17.6	13.3	16.7	59.5	60.8	42.8	0.0	0.0	39.2	0.0	164.5
LnGrp LOS	F	B	B	B	E	E	D	A	A	D	A	F
Approach Vol, veh/h		1018			1782			97			641	
Approach Delay, s/veh		34.7			59.7			42.8			146.5	
Approach LOS		C			E			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	85.5		46.0	18.0	76.0		46.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.6	77.0		40.0	12.0	70.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	19.9		42.0	13.7	69.9		18.1
Green Ext Time (p_c), s	0.0	6.0		0.0	0.0	0.1		0.6

Intersection Summary	
HCM 6th Ctrl Delay	67.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	575	250	118	1335	31	227	6	128	3	20	1
Future Volume (veh/h)	0	575	250	118	1335	31	227	6	128	3	20	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1781	1781	1781
Adj Flow Rate, veh/h	0	618	269	127	1435	33	248	0	0	3	22	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	8	8	8
Cap, veh/h	110	1234	550	308	1659	740	619	0		36	263	12
Arrive On Green	0.00	0.35	0.35	0.06	0.47	0.47	0.18	0.00	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1753	3497	1560	1767	3526	1572	3506	0	1560	203	1488	68
Grp Volume(v), veh/h	0	618	269	127	1435	33	248	0	0	26	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1572	1753	0	1560	1759	0	0
Q Serve(g_s), s	0.0	14.2	13.8	4.5	37.1	1.2	6.4	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.2	13.8	4.5	37.1	1.2	6.4	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.12		0.04
Lane Grp Cap(c), veh/h	110	1234	550	308	1659	740	619	0		311	0	0
V/C Ratio(X)	0.00	0.50	0.49	0.41	0.87	0.04	0.40	0.00		0.08	0.00	0.00
Avail Cap(c_a), veh/h	195	1852	826	308	1902	848	619	0		311	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	25.9	25.8	19.4	24.1	14.6	37.2	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.7	0.9	4.0	0.0	1.9	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.6	4.9	1.8	14.8	0.4	2.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.3	26.5	20.3	28.1	14.6	39.1	0.0	0.0	35.6	0.0	0.0
LnGrp LOS	A	C	C	C	C	B	D	A		D	A	A
Approach Vol, veh/h		887			1595			248	A		26	
Approach Delay, s/veh		26.3			27.2			39.1			35.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	42.0		24.0	0.0	54.0		24.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	6.0	54.0		18.0	5.0	55.0		18.0
Max Q Clear Time (g_c+I1), s	6.5	16.2		3.3	0.0	39.1		8.4
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	8.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	3	31	6	27	18	41	193	6	7	498	175
Future Volume (veh/h)	57	3	31	6	27	18	41	193	6	7	498	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	64	3	35	7	30	20	46	217	7	8	560	197
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	6	6	2	2	2	3	3	3	3	3	3
Cap, veh/h	361	6	68	184	131	82	492	898	29	788	932	790
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	923	43	505	153	974	609	702	1787	58	1148	1856	1572
Grp Volume(v), veh/h	102	0	0	57	0	0	46	0	224	8	560	197
Grp Sat Flow(s),veh/h/ln	1471	0	0	1737	0	0	702	0	1845	1148	1856	1572
Q Serve(g_s), s	0.8	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.7	0.1	5.3	1.8
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.7	0.0	0.0	6.6	0.0	1.7	1.8	5.3	1.8
Prop In Lane	0.63		0.34	0.12		0.35	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	434	0	0	397	0	0	492	0	926	788	932	790
V/C Ratio(X)	0.23	0.00	0.00	0.14	0.00	0.00	0.09	0.00	0.24	0.01	0.60	0.25
Avail Cap(c_a), veh/h	1513	0	0	1704	0	0	1799	0	4361	2924	4385	3716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	9.6	0.0	0.0	6.7	0.0	3.5	4.0	4.4	3.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	0.0	9.8	0.0	0.0	6.8	0.0	3.6	4.0	5.0	3.7
LnGrp LOS	B	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		102			57			270			765	
Approach Delay, s/veh		10.2			9.8			4.2			4.7	
Approach LOS		B			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	16.9	7.8	16.9	7.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	58.5	22.5	58.5	22.5
Max Q Clear Time (g_c+I1), s	8.6	3.5	7.3	2.7
Green Ext Time (p_c), s	1.7	0.5	5.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	104	97	76	291	57	156	610	64	27	549	161
Future Volume (veh/h)	92	104	97	76	291	57	156	610	64	27	549	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	99	112	0	82	313	0	168	656	69	29	590	173
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	3	3	3
Cap, veh/h	126	405		111	389		404	1317	588	348	1126	502
Arrive On Green	0.07	0.22	0.00	0.06	0.21	0.00	0.09	0.37	0.37	0.03	0.32	0.32
Sat Flow, veh/h	1753	1841	1560	1753	1841	1560	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	99	112	0	82	313	0	168	656	69	29	590	173
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	1841	1560	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	3.2	2.9	0.0	2.7	9.4	0.0	3.5	8.3	1.7	0.6	7.9	4.9
Cycle Q Clear(g_c), s	3.2	2.9	0.0	2.7	9.4	0.0	3.5	8.3	1.7	0.6	7.9	4.9
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	405		111	389		404	1317	588	348	1126	502
V/C Ratio(X)	0.79	0.28		0.74	0.80		0.42	0.50	0.12	0.08	0.52	0.34
Avail Cap(c_a), veh/h	167	579		160	572		404	1317	588	444	1126	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	18.8	0.0	26.7	21.7	0.0	11.7	14.0	11.9	12.6	16.1	15.1
Incr Delay (d2), s/veh	16.4	0.4	0.0	9.9	5.2	0.0	0.7	1.3	0.4	0.1	1.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.2	0.0	1.3	4.1	0.0	1.1	2.9	0.6	0.2	2.9	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	19.1	0.0	36.6	26.9	0.0	12.4	15.3	12.3	12.7	17.8	16.9
LnGrp LOS	D	B		D	C		B	B	B	B	B	B
Approach Vol, veh/h		211	A		395	A		893			792	
Approach Delay, s/veh		30.2			28.9			14.5			17.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	26.1	8.2	17.2	9.5	23.0	8.7	16.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	18.5	5.3	18.2	5.0	18.5	5.5	18.0
Max Q Clear Time (g_c+I1), s	2.6	10.3	4.7	4.9	5.5	9.9	5.2	11.4
Green Ext Time (p_c), s	0.0	2.7	0.0	0.4	0.0	2.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

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

Intersection: 1: S Hairston Road & Covington Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	T	R	L	T	T	L	L
Maximum Queue (ft)	119	282	203	179	906	939	135	27	267	236	251	309
Average Queue (ft)	108	201	151	102	564	593	112	8	186	131	202	235
95th Queue (ft)	140	287	216	176	988	1001	186	26	294	268	269	320
Link Distance (ft)		941	941		995	995			589	589		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	95			130			55	210			295	295
Storage Blk Time (%)	48	18	1	0	44	45	14		8	5		3
Queuing Penalty (veh)	124	27	0	1	103	169	103		2	8		5

Intersection: 1: S Hairston Road & Covington Hwy

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	201	164	172
Average Queue (ft)	149	124	90
95th Queue (ft)	207	161	216
Link Distance (ft)	696	696	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			292
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: HIdden Creek Drive/Young Road & Covington Hwy /Covington Hwy

Movement	EB	EB	EB	B26	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	T	L	T	TR	LTR	LT	R
Maximum Queue (ft)	146	188	200	1028	12	443	481	109	323	180
Average Queue (ft)	109	127	131	206	9	381	410	52	245	179
95th Queue (ft)	166	228	192	884	17	489	552	106	439	183
Link Distance (ft)		592	592	995		1153	1153	539		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	155				100					130
Storage Blk Time (%)	2	5				35				46
Queuing Penalty (veh)	8	9				6				37

Intersection: 3: Miller Road/Gas Station Dwy & Covington Hwy/Covington Hwy

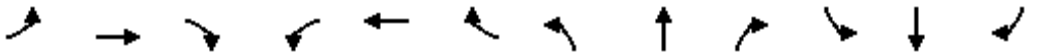
Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	T	T	R	L	T	T	R	L	LT	LTR
Maximum Queue (ft)	193	175	78	91	369	304	29	162	201	29
Average Queue (ft)	107	111	47	63	234	189	11	95	150	9
95th Queue (ft)	201	197	77	90	368	303	34	189	240	28
Link Distance (ft)	396	396			651	651			515	288
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			200	400			160	210		
Storage Blk Time (%)	13					8			0	
Queuing Penalty (veh)	0					2			1	

Intersection: 4: Young Road & Biffle Road/Meadowbrook Chase

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	T	R
Maximum Queue (ft)	70	44	37	73	77	24
Average Queue (ft)	50	23	20	22	62	14
95th Queue (ft)	72	46	34	68	81	33
Link Distance (ft)	710	680			471	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			180			90
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 5: Panola Road & Young Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	L	T	L	T	T	L	T	T	R
Maximum Queue (ft)	132	99	96	129	229	467	392	31	238	218	76
Average Queue (ft)	99	66	33	91	196	238	199	25	161	100	51
95th Queue (ft)	130	116	93	144	295	517	455	45	237	211	85
Link Distance (ft)		3802		651		975	975		1008	1008	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	152		186		205			275			500
Storage Blk Time (%)	0				63						
Queuing Penalty (veh)	0				192						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	1376	41	227	782	235	63	444	353	459	495	240
Future Volume (veh/h)	267	1376	41	227	782	235	63	444	353	459	495	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	275	1419	42	234	806	242	65	458	0	473	510	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	1333	594	207	1239	553	81	480		441	772	
Arrive On Green	0.12	0.42	0.42	0.09	0.39	0.39	0.05	0.15	0.00	0.14	0.24	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	1603	3198	1427	3110	3198	1427
Grp Volume(v), veh/h	275	1419	42	234	806	242	65	458	0	473	510	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1603	1599	1427	1555	1599	1427
Q Serve(g_s), s	12.2	50.0	2.1	11.0	24.8	15.0	4.8	17.0	0.0	17.0	17.3	0.0
Cycle Q Clear(g_c), s	12.2	50.0	2.1	11.0	24.8	15.0	4.8	17.0	0.0	17.0	17.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	341	1333	594	207	1239	553	81	480		441	772	
V/C Ratio(X)	0.81	1.06	0.07	1.13	0.65	0.44	0.81	0.95		1.07	0.66	
Avail Cap(c_a), veh/h	388	1333	594	207	1239	553	94	480		441	772	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.0	35.0	21.0	34.8	30.1	27.1	56.4	50.6	0.0	51.5	41.1	0.0
Incr Delay (d2), s/veh	10.6	43.9	0.0	102.1	1.2	0.5	34.6	31.2	0.0	63.9	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	26.3	0.7	9.9	9.3	5.1	2.7	8.8	0.0	10.4	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	78.9	21.1	136.9	31.3	27.7	91.0	81.8	0.0	115.4	45.5	0.0
LnGrp LOS	C	F	C	F	C	C	F	F		F	D	
Approach Vol, veh/h		1736			1282			523	A		983	A
Approach Delay, s/veh		70.3			49.9			83.0			79.2	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	56.0	12.0	35.0	20.5	52.5	23.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	50.0	7.0	28.0	18.0	43.0	17.0	18.0
Max Q Clear Time (g_c+I1), s	13.0	52.0	6.8	19.3	14.2	26.8	19.0	19.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.3	5.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.9
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	1670	40	25	928	82	34	33	35	107	17	276
Future Volume (veh/h)	413	1670	40	25	928	82	34	33	35	107	17	276
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	430	1740	42	26	967	85	35	34	36	111	18	288
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, %	1	1	1	1	1	1	2	2	2	2	2	2
Cap, veh/h	475	2021	901	172	1442	127	91	87	64	259	36	320
Arrive On Green	0.16	0.56	0.56	0.03	0.43	0.43	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1795	3582	1598	1795	3331	293	179	431	319	901	181	1585
Grp Volume(v), veh/h	430	1740	42	26	520	532	105	0	0	129	0	288
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1832	929	0	0	1082	0	1585
Q Serve(g_s), s	10.8	35.8	1.0	0.7	20.1	20.1	1.2	0.0	0.0	0.0	0.0	15.4
Cycle Q Clear(g_c), s	10.8	35.8	1.0	0.7	20.1	20.1	12.1	0.0	0.0	10.9	0.0	15.4
Prop In Lane	1.00		1.00	1.00		0.16	0.33		0.34	0.86		1.00
Lane Grp Cap(c), veh/h	475	2021	901	172	776	794	243	0	0	295	0	320
V/C Ratio(X)	0.90	0.86	0.05	0.15	0.67	0.67	0.43	0.00	0.00	0.44	0.00	0.90
Avail Cap(c_a), veh/h	626	2021	901	227	776	794	251	0	0	303	0	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	16.0	8.5	16.6	19.7	19.7	30.4	0.0	0.0	31.9	0.0	33.8
Incr Delay (d2), s/veh	13.9	5.1	0.1	0.4	4.6	4.5	1.2	0.0	0.0	1.0	0.0	26.1
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	5.2	13.2	0.3	0.3	8.4	8.6	1.9	0.0	0.0	2.5	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	21.1	8.6	17.0	24.2	24.1	31.7	0.0	0.0	32.9	0.0	59.9
LnGrp LOS	C	C	A	B	C	C	C	A	A	C	A	E
Approach Vol, veh/h		2212			1078			105			417	
Approach Delay, s/veh		22.6			24.0			31.7			51.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	55.0		23.5	19.7	43.6		23.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	5.6	49.0		18.0	21.0	33.0		18.0				
Max Q Clear Time (g_c+I1), s	12.7	37.8		17.4	12.8	22.1		14.1				
Green Ext Time (p_c), s	0.0	8.3		0.1	0.9	4.6		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1502	304	70	792	19	231	7	151	11	6	1
Future Volume (veh/h)	3	1502	304	70	792	19	231	7	151	11	6	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	3	1533	310	71	808	19	241	0	0	11	6	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	312	1717	766	146	1833	818	513	0		159	87	14
Arrive On Green	0.00	0.48	0.48	0.04	0.52	0.52	0.14	0.00	0.00	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3563	0	1585	1107	604	101
Grp Volume(v), veh/h	3	1533	310	71	808	19	241	0	0	18	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1585	1812	0	0
Q Serve(g_s), s	0.1	49.0	15.7	2.5	17.8	0.7	7.8	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	49.0	15.7	2.5	17.8	0.7	7.8	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.61		0.06
Lane Grp Cap(c), veh/h	312	1717	766	146	1833	818	513	0		261	0	0
V/C Ratio(X)	0.01	0.89	0.40	0.49	0.44	0.02	0.47	0.00		0.07	0.00	0.00
Avail Cap(c_a), veh/h	376	1849	825	152	1849	825	513	0		261	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.2	29.3	20.7	27.8	19.0	14.8	49.1	0.0	0.0	46.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.7	0.3	2.5	0.2	0.0	3.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.7	5.6	1.1	7.0	0.3	3.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	35.1	21.1	30.3	19.1	14.8	52.2	0.0	0.0	46.7	0.0	0.0
LnGrp LOS	B	D	C	C	B	B	D	A		D	A	A
Approach Vol, veh/h		1846			898			241	A		18	
Approach Delay, s/veh		32.7			19.9			52.2			46.7	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	66.4		24.0	6.5	70.5		24.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	65.0		18.0	5.0	65.0		18.0
Max Q Clear Time (g_c+I1), s	4.5	51.0		3.1	2.1	19.8		9.8
Green Ext Time (p_c), s	0.0	9.4		0.0	0.0	6.0		0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	11	71	17	5	9	56	241	31	13	286	44
Future Volume (veh/h)	71	11	71	17	5	9	56	241	31	13	286	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	72	11	72	17	5	9	57	246	32	13	292	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	3	3	3	1	1	1	1	1	1
Cap, veh/h	398	18	119	414	73	78	634	585	76	653	675	572
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	720	110	720	717	444	475	1052	1634	213	1110	1885	1598
Grp Volume(v), veh/h	155	0	0	31	0	0	57	0	278	13	292	45
Grp Sat Flow(s),veh/h/ln	1550	0	0	1637	0	0	1052	0	1847	1110	1885	1598
Q Serve(g_s), s	1.4	0.0	0.0	0.0	0.0	0.0	0.8	0.0	2.1	0.2	2.2	0.4
Cycle Q Clear(g_c), s	1.7	0.0	0.0	0.3	0.0	0.0	3.0	0.0	2.1	2.3	2.2	0.4
Prop In Lane	0.46		0.46	0.55		0.29	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	535	0	0	566	0	0	634	0	661	653	675	572
V/C Ratio(X)	0.29	0.00	0.00	0.05	0.00	0.00	0.09	0.00	0.42	0.02	0.43	0.08
Avail Cap(c_a), veh/h	3065	0	0	2970	0	0	2850	0	4552	2991	4647	3938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	6.7	0.0	0.0	5.8	0.0	4.6	5.5	4.6	4.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.4	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	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	0.0	0.0	6.7	0.0	0.0	5.8	0.0	5.0	5.5	5.0	4.1
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		155			31			335			350	
Approach Delay, s/veh		7.6			6.7			5.1			4.9	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	11.3	7.6	11.3	7.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	46.5	34.5	46.5	34.5
Max Q Clear Time (g_c+I1), s	5.0	3.7	4.3	2.3
Green Ext Time (p_c), s	1.9	0.9	2.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	204	117	64	119	58	70	534	80	46	750	177
Future Volume (veh/h)	177	204	117	64	119	58	70	534	80	46	750	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	182	210	0	66	123	0	72	551	82	47	773	182
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	228	324		92	182		324	1410	629	405	1371	611
Arrive On Green	0.13	0.17	0.00	0.05	0.10	0.00	0.05	0.39	0.39	0.04	0.38	0.38
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1795	3582	1598	1795	3582	1598
Grp Volume(v), veh/h	182	210	0	66	123	0	72	551	82	47	773	182
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1791	1598	1795	1791	1598
Q Serve(g_s), s	6.9	7.3	0.0	2.6	4.4	0.0	1.7	7.8	2.3	1.1	12.0	5.6
Cycle Q Clear(g_c), s	6.9	7.3	0.0	2.6	4.4	0.0	1.7	7.8	2.3	1.1	12.0	5.6
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	324		92	182		324	1410	629	405	1371	611
V/C Ratio(X)	0.80	0.65		0.71	0.68		0.22	0.39	0.13	0.12	0.56	0.30
Avail Cap(c_a), veh/h	407	695		204	481		355	1410	629	456	1371	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	27.2	0.0	33.0	30.8	0.0	12.8	15.3	13.7	12.3	17.1	15.2
Incr Delay (d2), s/veh	6.3	2.2	0.0	9.8	4.3	0.0	0.3	0.8	0.4	0.1	1.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	3.4	0.0	1.3	2.1	0.0	0.6	2.9	0.8	0.4	4.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	29.4	0.0	42.8	35.1	0.0	13.2	16.1	14.1	12.5	18.8	16.4
LnGrp LOS	D	C		D	D		B	B	B	B	B	B
Approach Vol, veh/h		392	A		189	A		705			1002	
Approach Delay, s/veh		32.6			37.8			15.6			18.1	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	33.8	9.6	18.1	9.8	33.0	15.0	12.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	27.0	8.0	26.0	5.0	27.0	16.0	18.0
Max Q Clear Time (g_c+I1), s	3.1	9.8	4.6	9.3	3.7	14.0	8.9	6.4
Green Ext Time (p_c), s	0.0	3.3	0.0	1.0	0.0	4.5	0.3	0.4

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

Notes

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

Intersection: 1: S Hairston Road & Covington Hwy

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	120	837	799	185	171	311	294	135	95	195	172	152
Average Queue (ft)	112	625	579	74	140	200	178	80	61	150	103	88
95th Queue (ft)	145	996	957	251	220	394	363	165	129	219	197	234
Link Distance (ft)		941	941			995	995			589	589	
Upstream Blk Time (%)		10	4									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	95			195	130			55	210			185
Storage Blk Time (%)	35	48	42		44	9	29	2		1	0	3
Queuing Penalty (veh)	244	127	17		170	19	69	9		0	2	7

Intersection: 1: S Hairston Road & Covington Hwy

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	353	412	714	644	26
Average Queue (ft)	331	387	552	377	5
95th Queue (ft)	412	475	945	797	47
Link Distance (ft)			696	696	
Upstream Blk Time (%)			47	0	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)	295	295			292
Storage Blk Time (%)	66	78			
Queuing Penalty (veh)	163	194			

Intersection: 2: HIdden Creek Drive/Young Road & Covington Hwy /Covington Hwy

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	LTR	LT	R
Maximum Queue (ft)	173	170	186	23	30	220	236	83	82	104
Average Queue (ft)	116	107	124	6	13	134	148	55	45	58
95th Queue (ft)	185	191	211	24	58	246	264	96	87	112
Link Distance (ft)		592	592			1153	1153	539	745	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	155			350	100					130
Storage Blk Time (%)	2	1				13			0	0
Queuing Penalty (veh)	19	3				3			0	0

Intersection: 3: Miller Road/Gas Station Dwy & Covington Hwy/Covington Hwy

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	LT	R	LTR
Maximum Queue (ft)	21	315	317	208	66	175	145	17	179	227	72	36
Average Queue (ft)	4	221	226	92	44	140	98	5	115	168	21	15
95th Queue (ft)	38	351	369	263	78	205	174	23	210	252	84	44
Link Distance (ft)		396	396			651	651			515		288
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			3									
Storage Bay Dist (ft)	75			200	400			160	210		230	
Storage Blk Time (%)		31	11				1		0	3		
Queuing Penalty (veh)		1	34				0		0	9		

Intersection: 4: Young Road & Biffle Road/Meadowbrook Chase

Movement	EB	WB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	TR	UL	T	R
Maximum Queue (ft)	62	31	34	36	12	59	12
Average Queue (ft)	40	15	13	11	5	28	2
95th Queue (ft)	70	40	40	44	18	68	15
Link Distance (ft)	710	680		644		471	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			180		130		90
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 5: Panola Road & Young Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	L	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	114	130	47	89	52	90	43	2	46	226	196	56
Average Queue (ft)	76	86	27	54	24	51	10	0	25	161	130	37
95th Queue (ft)	126	149	58	108	71	108	47	4	58	263	226	67
Link Distance (ft)		3802		651		975	975			1008	1008	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	152		186		205			155	275			500
Storage Blk Time (%)	0	1								1		
Queuing Penalty (veh)	0	4								1		

APPENDIX E

BACKGROUND DATA

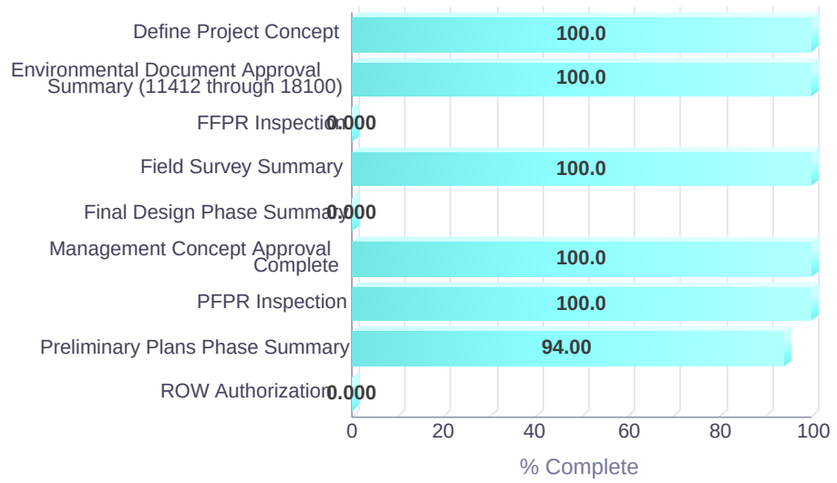
PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0013758	DeKalb	**SR 12 @ CR 5190/HAIRSTON ROAD**
Mgmt Let Date:	2021-05-15	This project proposes to construct dual left turn lanes with approximately 235 feet of storage capacity along SR 12/Covington Hwy. The addition of the dual lefts will improve the overall intersection level of service by reducing the overall intersection delay by approximately 27%. This is achieved by reducing the time allocated for the signal phase for the left turn movements along SR 12 therefore decreasing the overall cycle length.

PROJ NO:
MPO TIP#:
MPO: Atlanta TMA
PROJ LENGTH (MI): 0.40
TYPE WORK: Operational Improvement
LET RESPONSIBILITY: GDOT Let
BIKE PROVISIONS INCLUDED? N

SPONSOR: GDOT
PROJ MGR: Dodd, Shannon
DOT DIST: 7
CONG DIST: 004
HOUSE DIST: 090
SENATE DIST: 010, 055

Phase	FY Approved	Approved FY Estimate*	Fund	Phase Status
Construction	2021	$754,552.91	HB170	PRECST
Engineering	2016	$500,000.00	M240	AUTHORIZED
Utility	2021	$210,000.00	HB170	PRECST
Right of Way	2020	$146,000.00	HB170	PRECST



Activity	Actual Start Date	Actual Finish Date
FFPR Inspection		
Define Project Concept	2017-06-15	2017-10-24
Field Survey Summary	2018-07-03	2018-09-14
Environmental Document Approval Summary (11412 through 18100)	2018-07-05	2019-08-23
Final Design Phase Summary	2019-08-22	
ROW Authorization		
Preliminary Plans Phase Summary	2018-09-24	
Management Concept Approval Complete	2018-01-25	2018-01-25
PFPR Inspection	2019-09-12	2019-09-12

Right of Way Acquisition Information:
Preliminary Parcel Count: 12 **Total Parcel Count:** **Acquired by :** DOT

Milestone Dates

Effective Date: Nov-01-2019

2OH750 - OHMSHIV CONSTRUCTION, LLC

County: DEKALB

ContractID:	B1CBA1901487-0		
Description:	US 278/SR 12 (COVINGTON HWY) - INTERSECTION IMPROVEMENT		
Project#(s):	0013174		
PI Numbers(s):	0013174		
Source:	SITEMANAGER	**Let Date:**	May-17-2019

Material Certificate:		**Punch List to Contractor:**	
Punch List Complete:		**Closing Conference:**	
Time Charges Stopped:		**Contractor Sent Final Quantities:**	
Contractor Accepts Final Quantities:		**Date Accepted**	
Original Contract Completion Date:	Sep-30-2020	**Current Specified Completion Date:**	Sep-30-2020

If you have comments or suggestions concerning this report, please contact Michael Lankford from the Office of Construction. (404) 631-1971 mlankford@dot.ga.gov

10/10/2018
01014241

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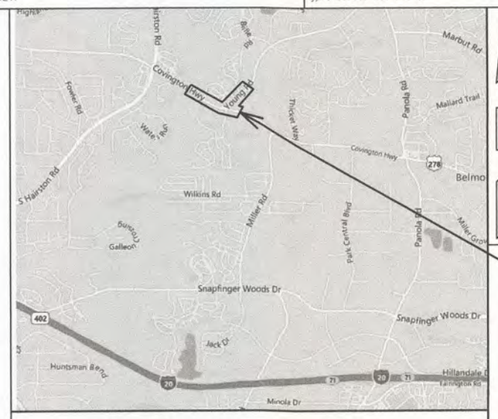
GRWCOV

GDOT | P. I. No. 0013174

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PLAN AND PROFILE OF PROPOSED
INTERSECTION IMPROVEMENT
SR 12/COVINGTON HWY
@ CR 700 YOUNG ROAD
FEDERAL AID PROJECT
DEKALB COUNTY

FEDERAL ROUTE * 278
STATE ROUTE * 12
P.I.NO. 0013174



PROJECT LOCATION

LOCATION SKETCH (N.T.S.)

DESIGN DATA:
TRAFFIC A.D.T.: 48600 (2019)
TRAFFIC A.D.T.: 65600 (2039)
TRAFFIC D.H.V.: 4665
DIRECTIONAL DIST: 61/39
% TRUCKS: 1.7%
24 HR TRUCKS %: 2.5%
SPEED DESIGN: 45 MPH (SR12) 40 (CR 700)

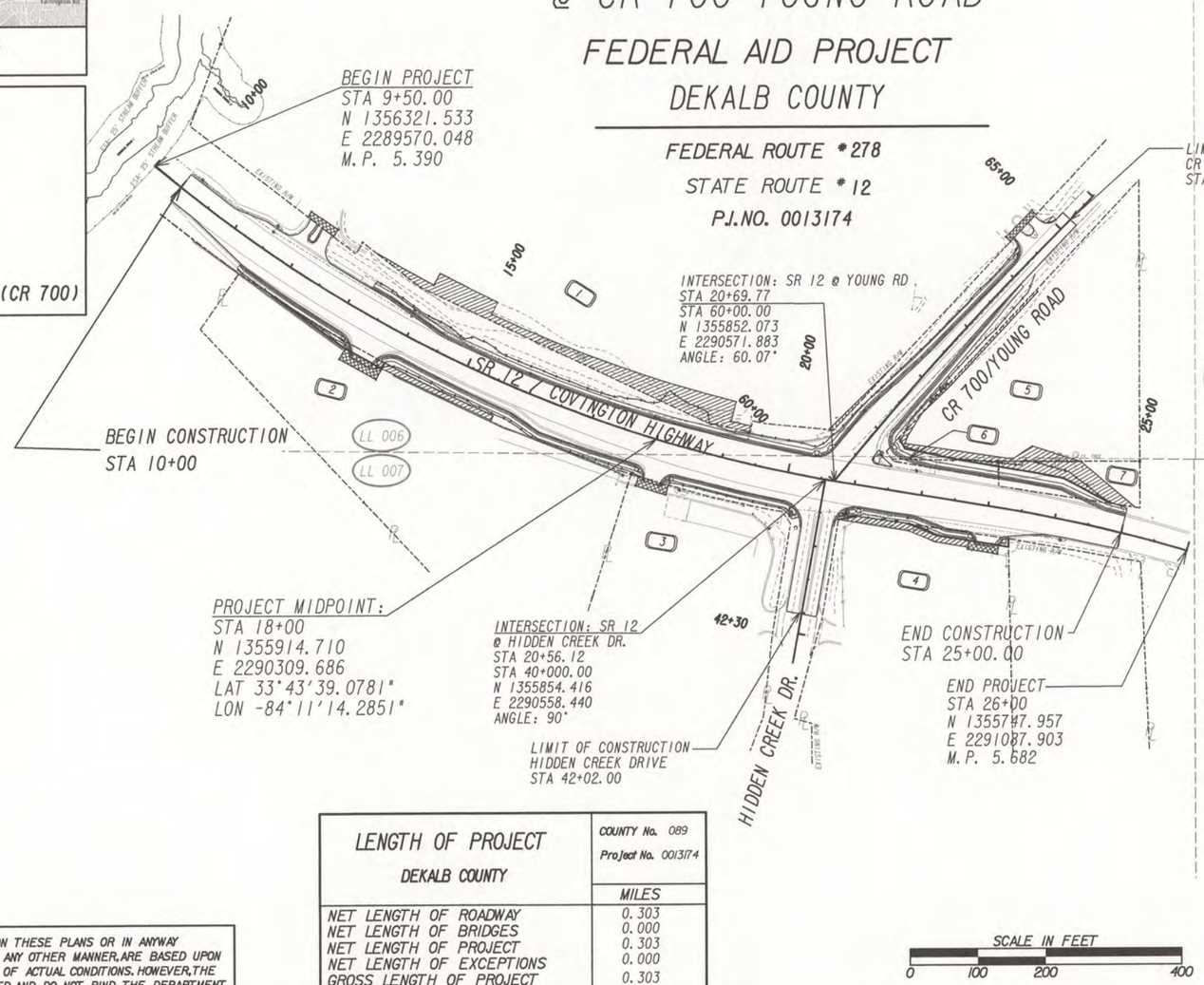
LOCATION & DESIGN
APPROVAL DATE: AUGUST 9, 2017

FUNCTIONAL CLASS:
URBAN MINOR ARTERIAL

THIS PROJECT IS 100% IN DEKALB COUNTY AND IS 100% IN CONG.DIST.NO.4.

PROJECT DESIGNATION: EXEMPT

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1984 (NAD 1983)/94 WEST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.



LENGTH OF PROJECT DEKALB COUNTY	COUNTY No. 089 Project No. 0013174
	MILES
NET LENGTH OF ROADWAY	0.303
NET LENGTH OF BRIDGES	0.000
NET LENGTH OF PROJECT	0.303
NET LENGTH OF EXCEPTIONS	0.000
GROSS LENGTH OF PROJECT	0.303

SCALE IN FEET
0 100 200 400

NOTE :
ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED, OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA", "STATE HIGHWAY DEPARTMENT", GEORGIA STATE HIGHWAY DEPARTMENT", "HIGHWAY DEPARTMENT", OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.

GEORGIA REGISTERED No. PE022529 PROFESSIONAL ENGINEER MARGARET B. PIRKLE
10-15-18

PREPARED BY: DANIEL ROCK
DESIGN

RECOMMENDED FOR SUBMISSION BY: Joseph Cavins
DISTRICT DESIGN ENGINEER

RECOMMENDED FOR APPROVAL BY: Kathleen A Zahul
DISTRICT ENGINEER

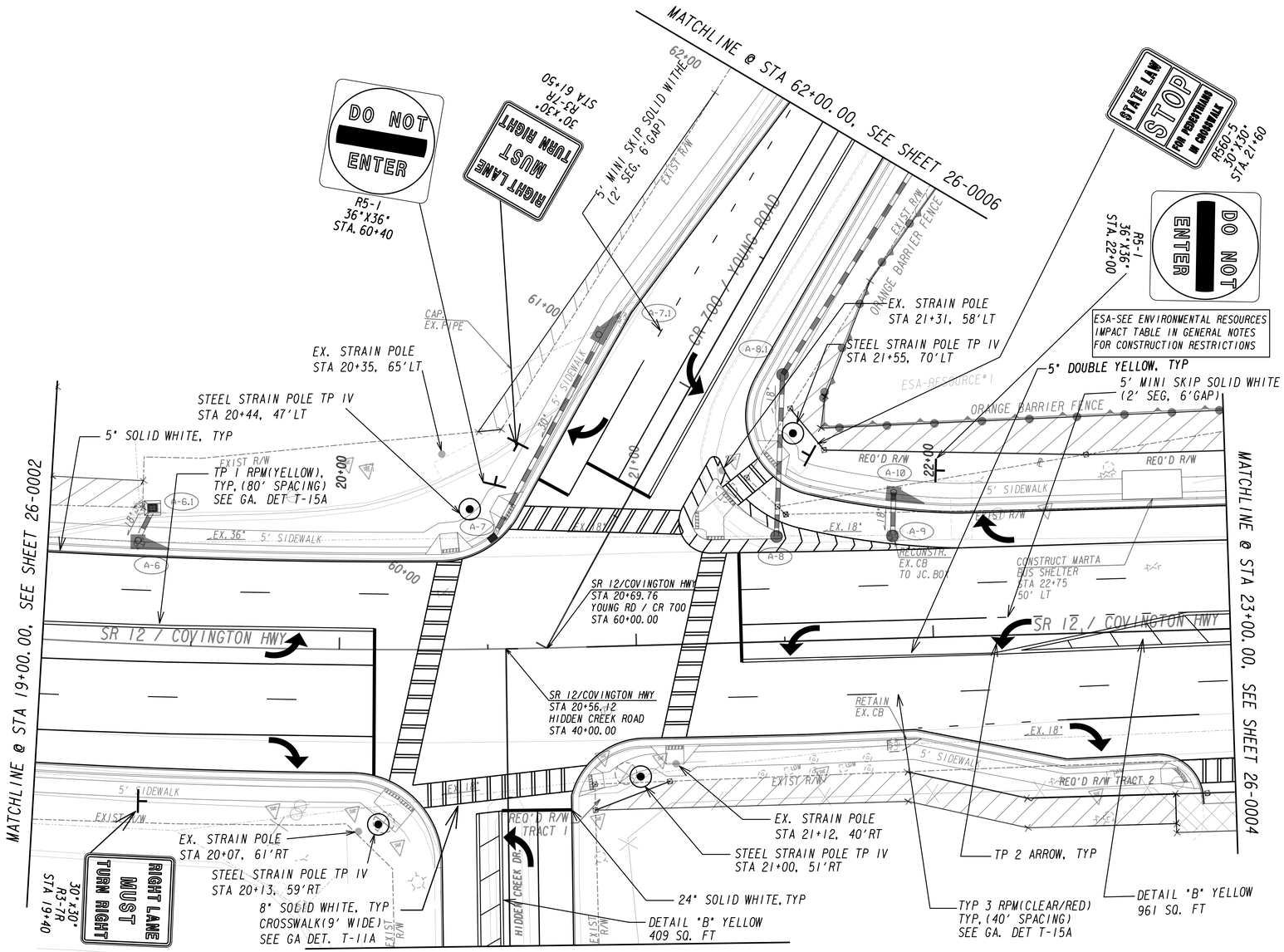
10-15-18 | Margaret B. Pirkle
DATE | CHIEF ENGINEER

PLANS COMPLETED 10-22-2018	
REVISIONS	
03-20-19	
04-03-19	

DRAWING No. 01-0001

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 102.04, 102.05, AND 104.03 OF THE SPECIFICATIONS.

DGN 09
07/31/2015



PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)

SCALE IN FEET
0 20 40 80

REVISION DATES

SIGNING AND MARKING PLANS
SR 12 @ CR 700

CHECKED:		DATE:		DRAWING No.
BACKCHECKED:		DATE:		26-0003
CORRECTED:		DATE:		
VERIFIED:		DATE:		

10/23/2015 GPLN

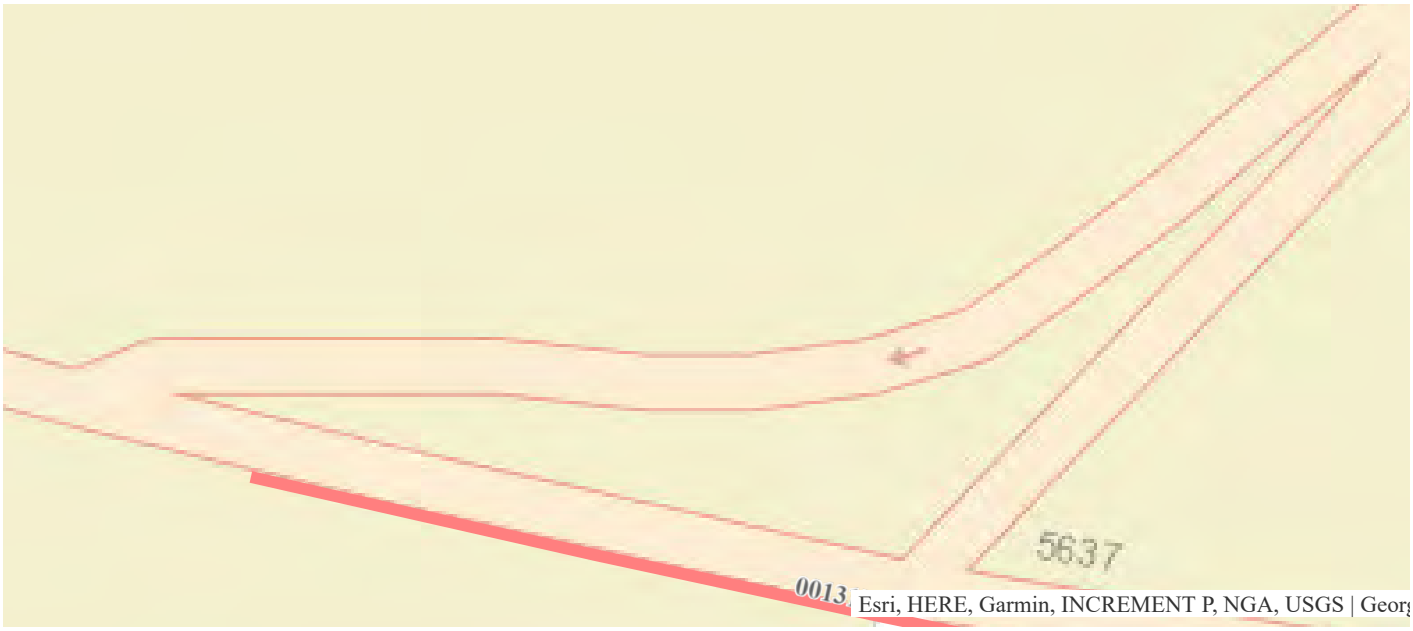
SR 12 @ CR 700/YOUNG ROAD

Project ID:	**0013174**	Notice to Proceed Date:	7/18/2019
Project Manager:	Olivia Gauntner	Construction Percent Complete:	16.43%
Office:	Program Delivery	Current Completion Date:	9/30/2020
County:	DeKalb	Work Completion Date:	
Congressional District:	004	Construction Contract Amount:	
State Senate District.:	010	Construction Contractor:	OHMSHIV CONSTRUCTION, LLC
State House District:	092	**Preconstruction Status Report**	
Project Type:	Safety	**Construction Status Report**	
Project Status:	Under Construction		
Right of Way Authorization:	10/12/2017	Contact Us	

Project Description:

The purpose of this project is to reduce crash frequency and severity while improving the operation of SR 12 at CR 700/Young Road by providing left and right turn lanes on both approaches to the Young Road (CR 700) intersection as recommended by the traffic engineering report. Based on a proposed 35% reduction of serious crashes, the Office of Traffic Operations recommends a safety improvement project to install left and right turn lanes at the listed intersection.

Activity	Program Year	Cost Estimate	Date of Last Estimate
PE (Preliminary Engineering)	2014	$290,000.00	
ROW (Right of Way)	2018	$400,000.00	
CST (Construction)	2019	$1,895,593.74	



Project Documents
Approved Concept Reports
0013174_L&D_AD_SEP2017.pdf
0013174_CR_SEP2016.pdf
0013174_L&D_AUG2017.pdf

Georgia Department of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308
(404) 631-1990 Main Office
Contact Us

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT

Project Type: Reconstruction/Rehabilitation
P.I. Number: 0013758
GDOT District: 7
County: DeKalb
Federal Route Number: N/A
State Route Number: 12
Project Number: N/A

This project proposes to construct dual left turn lanes with approximately 235 feet of storage capacity along SR 12/Covington Hwy. The addition of the dual lefts will improve the overall intersection level of service and reduce the overall intersection delay.

Submitted for approval:

Doug Tilt — 10/16/2017
Consultant: Doug Tilt, PE Arcadis U.S., Inc. — Date

Kimberly Nesbitt — 10.19.17
State Program Delivery Administrator — Date

GDOT Project Manager — 10/16/17
Date

Recommendation for approval:

ERIC DUFF*/EKP — 8/24/2017
State Environmental Administrator — Date

FOR CHRISTINA BARRY*/EKP — 9/8/2017
State Traffic Engineer — Date

☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

CINDY VANDYKE*/EKP — 8/30/2017
State Transportation Planning Administrator — Date

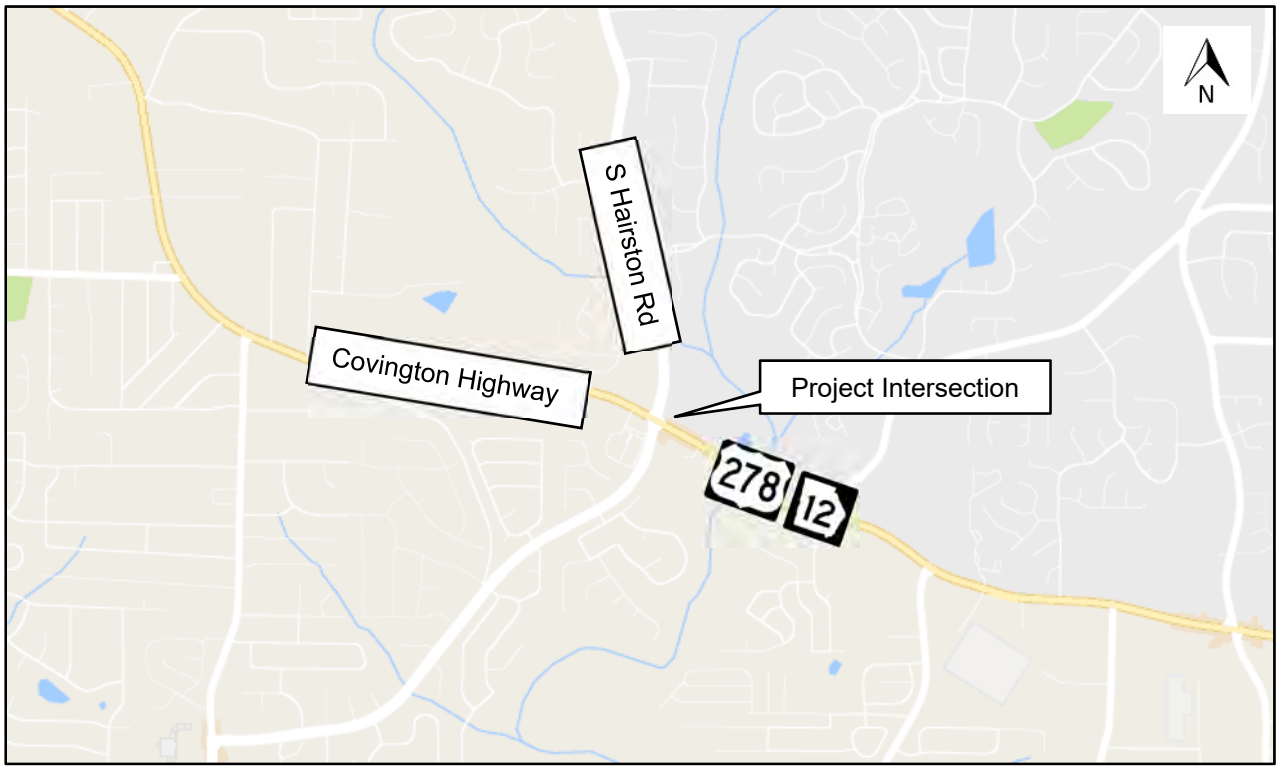
Approval:

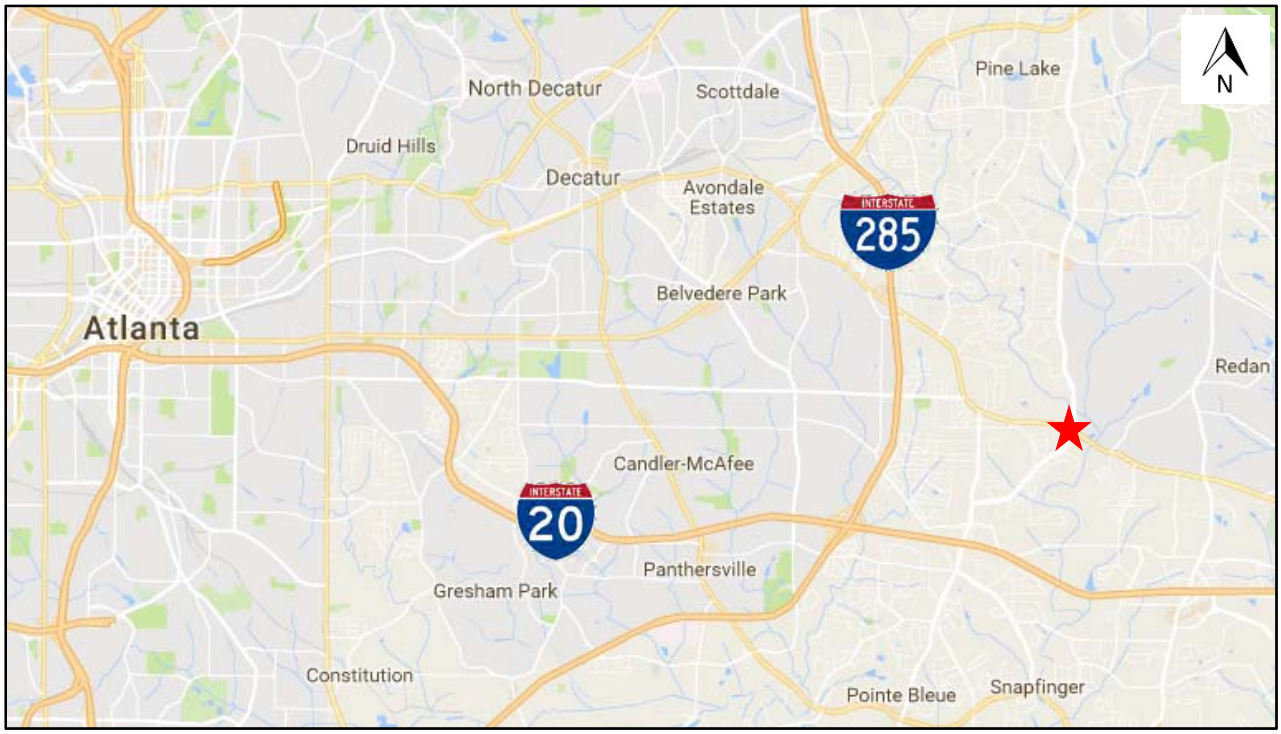
Concur: Hiral Patel — 11/9/2018
GDOT Director of Engineering — Date

Approve: Margaret B. Pirkle — 1/22/18
GDOT Chief Engineer — Date

*- RECOMMENDATION ON FILE

PROJECT LOCATION MAP





PLANNING & BACKGROUND DATA

Project Justification Statement: This Project Justification Statement was prepared by ARCADIS U.S., Inc., was approved by Georgia Department of Transportation (GDOT), and is on record at GDOT Office of Traffic Operations.

SR 12/Covington Hwy at CR 5190/S Hairston Rd in DeKalb County was identified for minor intersection improvements. The proposed project is to be included in the GDOT Operational Improvement Lump Sum Program from the Office of Traffic Operations. This proposed project was approved by the Statewide Operational Improvement Committee on July 8th, 2015. Voting members typically consist of the following people or their designee:

- Chief Engineer
- Director of Operations
- Director of Engineering
- State Traffic Engineer
- State Transportation Planning Administrator

SR 12/Covington Hwy in the project area is classified as an urban minor arterial that runs east/west. CR 5190/S Hairston Rd in the project area is classified as an urban principal arterial that runs north/south.

This project was proposed by GDOT Traffic Operations staff. Heavy eastbound and westbound left turning traffic volumes result in significant queues during the peak hours. The queues limit the through movement and reduce the capacity of the intersection.

Overall intersection delay at the intersection would be 86.2 seconds/vehicle (sec/veh) during the AM peak hour in the open year, 2020, and is expected to increase by nearly 420 percent by 2040. During the PM peak hour, the Intersection delay would be 129.4 sec/veh in 2020, and is expected to increase by 220 percent by 2040. Specifically, the westbound on SR 12 approach would suffer the most severe delay of 842.0 sec/veh in the design year, 2040 during the AM peak hour. Additional analysis can be found in the Synopsis Attachment.

Existing conditions: SR 12 at S Hairston Road is a signalized intersection.

SR 12/Covington Highway: SR 12/Covington Highway is a 4-lane roadway with two way left-turn lanes, curb and gutter, and 5-foot sidewalks. The width of existing through travel lanes along SR 12 is 12 feet. SR 12's eastbound and westbound approaches have two through lanes, one left turn lane, and one right turn lane. Both left-turn lanes stem from two way left-turn lanes.

CR 5190/S Hairston Road: CR 5190/S Hairston Road is a 4-lane road with, auxiliary lanes, curb and gutter, a raised median, and 5-foot sidewalks. The width of existing through travel lanes along Hairston Road is 12 feet. The S Hairston Road northbound approach has two through lanes, one left-turn lane, and one right-turn lane. The S Hairston Road southbound approach has two through lanes, two left-turn lanes, and one right-turn lane.

Other projects in the area: N/A

MPO: Atlanta TMA **TIP #:** *AR-106-2020*

Congressional District(s): 4

Federal Oversight: ☐PoDI ☒Exempt ☐State Funded ☐Other

Projected Traffic: AADT 24 HR T: 2.5%

SR 12/Covington Highway AADT:
Current Year (2017): 39,850 Open Year (2020): 41,150 Design Year (2040): 51,450
CR 5190/Hairston Road AADT:
Current Year (2017): 26,100 Open Year (2020): 26,950 Design Year (2040): 33,700

Traffic Projections Performed by: Arcadis U.S., Inc.
See Attachment 4 for the complete volume diagrams.

Date approved by the GDOT Office of Planning through Landon Perry in the GDOT Office of Traffic Operations: April 4, 2017

Functional Classification (Mainline): Urban Minor Arterial Street

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:
Warrants met: ☐None ☐Bicycle ☒Pedestrian ☒Transit

Pavement Evaluation and Recommendations
Initial Pavement Evaluation Summary Report Required? ☒No ☐Yes
Initial Pavement Type Selection Report Required? ☒No ☐Yes
Feasible Pavement Alternatives: ☒HMA ☐PCC ☐HMA & PCC

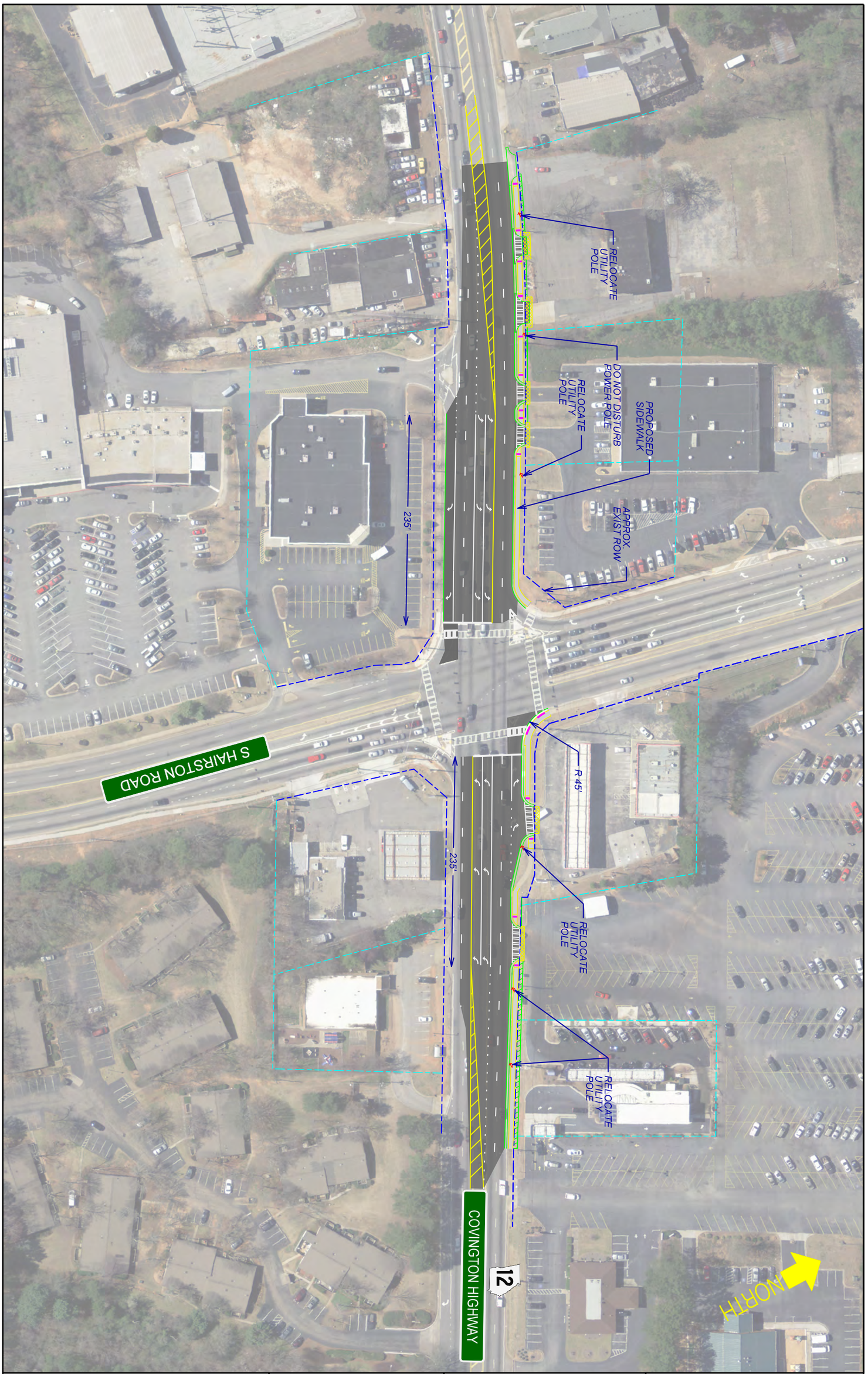
DESIGN AND STRUCTURAL

Description of the proposed project: The proposed project includes the mill, overlay, and restriping of SR 12/Covington Hwy with smaller lane widths to include dual left turn lanes to accommodate high left-turning movement counts. The eastbound movement's project limits do not pass the edge of pavement. The westbound movement includes curb and gutter, a 5' sidewalk, and restriped crosswalks. See Attachment 1 for a conceptual layout of the proposed project and Attachment 2 for typical sections.

Major Structures: N/A
Mainline Design Features: SR 12/Covington Hwy - Urban Minor Arterial Street

Feature	Existing	Policy	Proposed
Typical Section			
- Number of Lanes	4		4
- **Lane Width(s)**	**10'-12'**	**11'-12'**	**11'**
- **Median Width & Type**	**15' Flush (center turn lane)**	**N/A**	**15'-22' Flush (center turn lane)**
- **Border Area Width**	**10'**	**10'-16'**	**10'**
- **Outside Shoulder Slope**	**2%**	**2%**	**2%**
- **Inside Shoulder Width**	**N/A**	**N/A**	**N/A**
- **Sidewalks**	**5'**	**5'**	**5'**
- Auxiliary Lanes	12'-14'		11'
- **Bike Accommodations**	**N/A**	**N/A**	**N/A**
Posted Speed	45		45
Design Speed	**45**	**45**	**45**
Minimum Horizontal Curve Radius	**N/A**	**N/A**	**N/A**
Maximum Superelevation Rate	**N/A**	**N/A**	**N/A**
Maximum Grade	**N/A**	**N/A**	**N/A**
Access Control	**Permitted**	**Permitted**	**Permitted**
Design Vehicle	WB-67		WB-67
Pavement Type	Asphalt		Asphalt

*According to current GDOT design policy if applicable



PROPOSED ASPHALT
PROPOSED SIDEWALK
PROPOSED CURB & GUTTER
TEMP EASEMENT FOR CONSTR OF SLOPES
TEMP EASEMENT FOR CONSTR OF DRIVES

Georgia Department of Transportation
ARCADIS

SCALE IN FEET
0 100 200

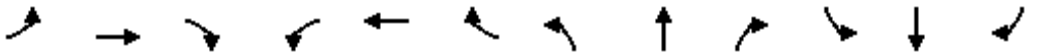
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

COVINGTON HIGHWAY AT
S HAIRSTON ROAD

FTO No.
1413-2

APPENDIX F

SYNCHRO WORKSHEETS —NO BUILD



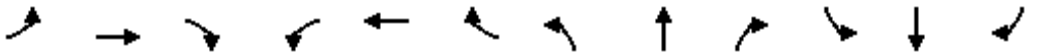
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	573	31	257	1604	412	29	463	193	325	399	414
Future Volume (veh/h)	168	573	31	257	1604	412	29	463	193	325	399	414
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	177	603	33	271	1688	434	31	487	0	342	420	0
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, %	4	4	4	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	1556	694	332	1704	760	47	529		371	816	
Arrive On Green	0.06	0.44	0.44	0.10	0.48	0.48	0.03	0.15	0.00	0.11	0.23	0.00
Sat Flow, veh/h	3401	3497	1560	3428	3526	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	177	603	33	271	1688	434	31	487	0	342	420	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1560	1714	1763	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	6.2	13.9	1.4	9.3	57.0	23.6	2.1	16.3	0.0	11.9	12.5	0.0
Cycle Q Clear(g_c), s	6.2	13.9	1.4	9.3	57.0	23.6	2.1	16.3	0.0	11.9	12.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1556	694	332	1704	760	47	529		371	816	
V/C Ratio(X)	0.89	0.39	0.05	0.82	0.99	0.57	0.65	0.92		0.92	0.51	
Avail Cap(c_a), veh/h	198	1556	694	429	1704	760	74	529		371	816	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.1	22.3	18.9	53.1	30.7	22.1	57.8	50.3	0.0	53.0	40.2	0.0
Incr Delay (d2), s/veh	35.9	0.2	0.0	9.2	19.5	1.0	14.2	23.8	0.0	27.8	2.3	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	3.6	5.5	0.5	4.3	26.7	8.5	1.1	8.8	0.0	6.4	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	22.5	18.9	62.4	50.3	23.1	72.0	74.1	0.0	80.7	42.5	0.0
LnGrp LOS	F	C	B	E	D	C	E	E		F	D	
Approach Vol, veh/h		813			2393			518	A		762	A
Approach Delay, s/veh		37.5			46.7			73.9			59.7	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	59.4	9.2	33.8	13.0	64.0	19.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	50.0	5.0	26.0	7.0	58.0	13.0	18.0
Max Q Clear Time (g_c+I1), s	11.3	15.9	4.1	14.5	8.2	59.0	13.9	18.3
Green Ext Time (p_c), s	0.3	4.1	0.0	1.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	775	18	18	1654	61	45	11	38	74	15	533
Future Volume (veh/h)	197	775	18	18	1654	61	45	11	38	74	15	533
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	224	881	20	20	1880	0	51	12	43	84	17	606
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, %	4	4	4	3	3	3	4	4	4	2	2	2
Cap, veh/h	250	2089	932	366	1768		258	96	343	381	509	613
Arrive On Green	0.11	0.60	0.60	0.02	0.50	0.00	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1753	3497	1560	1767	3526	1572	789	352	1262	1349	1870	1585
Grp Volume(v), veh/h	224	881	20	20	1880	0	51	0	55	84	17	606
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1572	789	0	1614	1349	1870	1585
Q Serve(g_s), s	14.5	20.0	0.8	0.8	74.1	0.0	7.5	0.0	3.8	7.4	1.0	40.2
Cycle Q Clear(g_c), s	14.5	20.0	0.8	0.8	74.1	0.0	8.5	0.0	3.8	11.2	1.0	40.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	250	2089	932	366	1768		258	0	439	381	509	613
V/C Ratio(X)	0.90	0.42	0.02	0.05	1.06		0.20	0.00	0.13	0.22	0.03	0.99
Avail Cap(c_a), veh/h	444	2089	932	392	1768		258	0	439	381	509	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	16.0	12.1	17.3	36.8	0.0	42.6	0.0	40.5	44.8	39.5	45.0
Incr Delay (d2), s/veh	11.1	0.6	0.0	0.1	40.6	0.0	0.4	0.0	0.1	0.3	0.0	33.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	7.8	0.3	0.3	39.9	0.0	1.5	0.0	1.6	2.5	0.5	27.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	16.6	12.2	17.4	77.4	0.0	43.0	0.0	40.7	45.1	39.6	78.2
LnGrp LOS	E	B	B	B	F		D	A	D	D	D	E
Approach Vol, veh/h		1125			1900	A		106			707	
Approach Delay, s/veh		25.6			76.8			41.8			73.3	
Approach LOS		C			E			D			E	

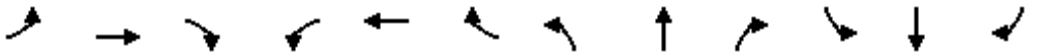
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	94.3		46.2	21.5	80.1		46.2				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	5.0	88.3		40.2	33.3	60.0		40.2				
Max Q Clear Time (g_c+I1), s	2.8	22.0		42.2	16.5	76.1		10.5				
Green Ext Time (p_c), s	0.0	6.9		0.0	0.5	0.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay	60.2	
HCM 6th LOS	E	

Notes

User approved changes to right turn type.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	635	276	130	1474	34	251	7	141	3	22	1
Future Volume (veh/h)	0	635	276	130	1474	34	251	7	141	3	22	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1781	1781	1781
Adj Flow Rate, veh/h	0	683	297	140	1585	37	276	0	0	3	24	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	8	8	8
Cap, veh/h	110	1443	644	334	1829	816	613	0		33	264	11
Arrive On Green	0.00	0.41	0.41	0.06	0.52	0.52	0.17	0.00	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1753	3497	1560	1767	3526	1572	3506	0	1560	189	1509	63
Grp Volume(v), veh/h	0	683	297	140	1585	37	276	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1572	1753	0	1560	1761	0	0
Q Serve(g_s), s	0.0	14.7	14.2	4.5	40.4	1.2	7.3	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.7	14.2	4.5	40.4	1.2	7.3	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.11		0.04
Lane Grp Cap(c), veh/h	110	1443	644	334	1829	816	613	0		308	0	0
V/C Ratio(X)	0.00	0.47	0.46	0.42	0.87	0.05	0.45	0.00		0.09	0.00	0.00
Avail Cap(c_a), veh/h	194	1941	866	377	2090	932	613	0		308	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.1	21.9	16.1	21.6	12.2	38.0	0.0	0.0	35.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.8	3.7	0.0	2.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	4.9	1.7	15.6	0.4	3.3	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.3	22.4	16.9	25.4	12.2	40.4	0.0	0.0	36.2	0.0	0.0
LnGrp LOS	A	C	C	B	C	B	D	A		D	A	A
Approach Vol, veh/h		980			1762			276	A		28	
Approach Delay, s/veh		22.3			24.4			40.4			36.2	
Approach LOS		C			C			D			D	

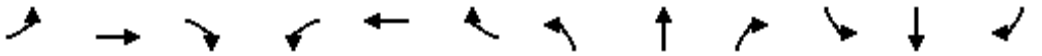
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	46.9		22.5	0.0	57.9		22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.9	57.1		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	6.5	16.7		3.4	0.0	42.4		9.3				
Green Ext Time (p_c), s	0.1	6.0		0.1	0.0	10.9		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		25.3
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

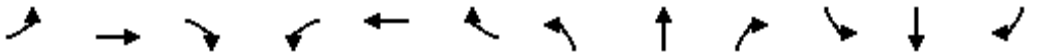
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	3	34	7	30	20	45	213	7	8	550	193
Future Volume (veh/h)	63	3	34	7	30	20	45	213	7	8	550	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	3	38	8	34	22	51	239	8	9	618	217
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	6	6	2	2	2	3	3	3	3	3	3
Cap, veh/h	344	8	68	171	135	81	460	944	32	780	981	832
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	918	55	500	148	995	598	653	1785	60	1124	1856	1572
Grp Volume(v), veh/h	112	0	0	64	0	0	51	0	247	9	618	217
Grp Sat Flow(s),veh/h/ln	1473	0	0	1741	0	0	653	0	1845	1124	1856	1572
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	1.6	0.0	2.0	0.1	6.3	2.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.9	0.0	0.0	7.9	0.0	2.0	2.1	6.3	2.0
Prop In Lane	0.63		0.34	0.12		0.34	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	420	0	0	388	0	0	460	0	975	780	981	832
V/C Ratio(X)	0.27	0.00	0.00	0.17	0.00	0.00	0.11	0.00	0.25	0.01	0.63	0.26
Avail Cap(c_a), veh/h	1392	0	0	1572	0	0	1536	0	4019	2634	4042	3425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	10.4	0.0	0.0	7.3	0.0	3.4	4.0	4.5	3.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	0.0	10.6	0.0	0.0	7.4	0.0	3.6	4.0	5.1	3.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		112			64			298			844	
Approach Delay, s/veh		11.1			10.6			4.2			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.7		8.2		18.7		8.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		58.5		22.5		58.5		22.5				
Max Q Clear Time (g_c+I1), s		9.9		3.8		8.3		2.9				
Green Ext Time (p_c), s		1.9		0.5		5.9		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			5.4									
HCM 6th LOS			A									



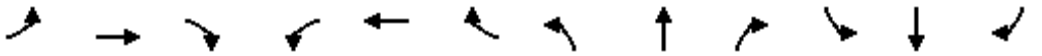
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	115	107	84	321	63	172	673	71	30	606	178
Future Volume (veh/h)	102	115	107	84	321	63	172	673	71	30	606	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	110	124	0	90	345	0	185	724	76	32	652	191
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	3	3	3
Cap, veh/h	140	443		114	416		367	1264	564	311	1091	486
Arrive On Green	0.08	0.24	0.00	0.07	0.23	0.00	0.08	0.36	0.36	0.03	0.31	0.31
Sat Flow, veh/h	1753	1841	1560	1753	1841	1560	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	110	124	0	90	345	0	185	724	76	32	652	191
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	1841	1560	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	3.7	3.3	0.0	3.0	10.7	0.0	4.2	9.9	1.9	0.7	9.4	5.7
Cycle Q Clear(g_c), s	3.7	3.3	0.0	3.0	10.7	0.0	4.2	9.9	1.9	0.7	9.4	5.7
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	140	443		114	416		367	1264	564	311	1091	486
V/C Ratio(X)	0.79	0.28		0.79	0.83		0.50	0.57	0.13	0.10	0.60	0.39
Avail Cap(c_a), veh/h	161	569		147	554		367	1264	564	398	1091	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	18.5	0.0	27.5	22.0	0.0	13.1	15.5	12.9	13.5	17.5	16.2
Incr Delay (d2), s/veh	19.8	0.3	0.0	19.2	7.7	0.0	1.1	1.9	0.5	0.1	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.3	0.0	1.8	4.9	0.0	1.4	3.6	0.7	0.3	3.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	18.8	0.0	46.7	29.8	0.0	14.2	17.4	13.4	13.7	19.9	18.6
LnGrp LOS	D	B		D	C		B	B	B	B	B	B
Approach Vol, veh/h		234	A		435	A		985			875	
Approach Delay, s/veh		32.0			33.3			16.5			19.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	25.9	8.4	18.9	9.5	23.0	9.3	18.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.0	18.5	5.0	18.5	5.5	18.0
Max Q Clear Time (g_c+I1), s	2.7	11.9	5.0	5.3	6.2	11.4	5.7	12.7
Green Ext Time (p_c), s	0.0	2.6	0.0	0.4	0.0	2.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	1519	45	251	863	259	70	490	390	507	547	265
Future Volume (veh/h)	295	1519	45	251	863	259	70	490	390	507	547	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	304	1566	46	259	890	267	72	505	0	523	564	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	514	1439	642	250	1336	596	89	480		492	808	
Arrive On Green	0.07	0.45	0.45	0.04	0.42	0.42	0.06	0.15	0.00	0.16	0.25	0.00
Sat Flow, veh/h	3110	3198	1427	3110	3198	1427	1603	3198	1427	3110	3198	1427
Grp Volume(v), veh/h	304	1566	46	259	890	267	72	505	0	523	564	0
Grp Sat Flow(s),veh/h/ln	1555	1599	1427	1555	1599	1427	1603	1599	1427	1555	1599	1427
Q Serve(g_s), s	6.6	54.0	2.2	5.0	26.9	16.1	5.3	18.0	0.0	19.0	19.2	0.0
Cycle Q Clear(g_c), s	6.6	54.0	2.2	5.0	26.9	16.1	5.3	18.0	0.0	19.0	19.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	514	1439	642	250	1336	596	89	480		492	808	
V/C Ratio(X)	0.59	1.09	0.07	1.04	0.67	0.45	0.81	1.05		1.06	0.70	
Avail Cap(c_a), veh/h	569	1439	642	250	1336	596	107	480		492	808	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	33.0	18.8	32.7	28.2	25.0	56.0	51.0	0.0	50.5	40.7	0.0
Incr Delay (d2), s/veh	1.4	51.5	0.0	67.1	1.3	0.5	30.6	55.6	0.0	58.0	5.0	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	2.3	29.6	0.7	4.3	10.0	5.4	2.9	10.8	0.0	11.2	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	84.5	18.8	99.8	29.4	25.5	86.7	106.6	0.0	108.5	45.6	0.0
LnGrp LOS	C	F	B	F	C	C	F	F		F	D	
Approach Vol, veh/h		1916			1416			577	A		1087	A
Approach Delay, s/veh		73.2			41.6			104.1			75.9	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	60.0	12.7	36.3	14.9	56.1	25.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	54.0	8.0	29.0	11.0	48.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	7.0	56.0	7.3	21.2	8.6	28.9	21.0	20.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.3	6.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.4
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	456	1844	44	28	1025	91	38	36	39	118	19	305
Future Volume (veh/h)	456	1844	44	28	1025	91	38	36	39	118	19	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	475	1921	46	29	1068	0	40	38	41	123	20	318
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, %	1	1	1	1	1	1	2	2	2	2	2	2
Cap, veh/h	513	2366	1055	168	1917		219	132	143	220	301	495
Arrive On Green	0.15	0.66	0.66	0.03	0.54	0.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1795	3582	1598	1795	3582	1598	1042	823	888	1320	1870	1585
Grp Volume(v), veh/h	475	1921	46	29	1068	0	40	0	79	123	20	318
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1598	1042	0	1711	1320	1870	1585
Q Serve(g_s), s	14.5	46.3	1.2	0.9	23.3	0.0	4.0	0.0	4.8	10.7	1.1	19.0
Cycle Q Clear(g_c), s	14.5	46.3	1.2	0.9	23.3	0.0	5.1	0.0	4.8	15.5	1.1	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	513	2366	1055	168	1917		219	0	275	220	301	495
V/C Ratio(X)	0.93	0.81	0.04	0.17	0.56		0.18	0.00	0.29	0.56	0.07	0.64
Avail Cap(c_a), veh/h	773	2366	1055	197	1917		219	0	275	220	301	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	14.7	7.0	16.4	18.2	0.0	44.2	0.0	43.6	50.4	42.0	34.9
Incr Delay (d2), s/veh	12.7	3.2	0.1	0.5	1.2	0.0	0.4	0.0	0.6	3.2	0.1	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	16.7	0.4	0.3	9.2	0.0	1.1	0.0	2.1	3.7	0.5	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	17.8	7.1	16.9	19.3	0.0	44.6	0.0	44.1	53.6	42.1	37.7
LnGrp LOS	C	B	A	B	B		D	A	D	D	D	D
Approach Vol, veh/h		2442			1097	A		119			461	
Approach Delay, s/veh		20.4			19.3			44.3			42.1	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	84.0		25.0	23.9	69.2		25.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	78.0		19.0	35.0	48.0		19.0
Max Q Clear Time (g_c+I1), s	2.9	48.3		21.0	16.5	25.3		7.1
Green Ext Time (p_c), s	0.0	18.5		0.0	1.4	7.4		0.4

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1658	336	77	874	21	255	8	167	12	7	1
Future Volume (veh/h)	3	1658	336	77	874	21	255	8	167	12	7	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	3	1692	343	79	892	21	266	0	0	12	7	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	266	1634	729	129	1757	784	536	0		164	96	14
Arrive On Green	0.00	0.46	0.46	0.04	0.49	0.49	0.15	0.00	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3563	0	1585	1089	635	91
Grp Volume(v), veh/h	3	1692	343	79	892	21	266	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1585	1814	0	0
Q Serve(g_s), s	0.1	55.0	17.9	2.8	20.3	0.8	8.2	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	55.0	17.9	2.8	20.3	0.8	8.2	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.60		0.05
Lane Grp Cap(c), veh/h	266	1634	729	129	1757	784	536	0		273	0	0
V/C Ratio(X)	0.01	1.04	0.47	0.61	0.51	0.03	0.50	0.00		0.07	0.00	0.00
Avail Cap(c_a), veh/h	333	1634	729	135	1757	784	536	0		273	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	32.3	22.3	28.4	20.4	15.5	46.7	0.0	0.0	43.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	32.1	0.5	7.4	0.2	0.0	3.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.0	6.4	1.3	7.9	0.3	3.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	64.4	22.8	35.8	20.6	15.5	49.9	0.0	0.0	44.2	0.0	0.0
LnGrp LOS	B	F	C	D	C	B	D	A		D	A	A
Approach Vol, veh/h		2038			992			266	A		20	
Approach Delay, s/veh		57.3			21.7			49.9			44.2	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	61.0		24.0	6.5	65.2		24.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	55.0		18.0	5.0	55.0		18.0
Max Q Clear Time (g_c+I1), s	4.8	57.0		3.1	2.1	22.3		10.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.6		0.5

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	12	78	19	6	10	62	266	34	14	316	49
Future Volume (veh/h)	78	12	78	19	6	10	62	266	34	14	316	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	80	12	80	19	6	10	63	271	35	14	322	50
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	3	3	3	1	1	1	1	1	1
Cap, veh/h	385	22	125	392	88	82	613	619	80	634	713	604
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	703	125	720	667	509	470	1018	1636	211	1082	1885	1598
Grp Volume(v), veh/h	172	0	0	35	0	0	63	0	306	14	322	50
Grp Sat Flow(s),veh/h/ln	1548	0	0	1646	0	0	1018	0	1847	1082	1885	1598
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.5	0.2	2.6	0.4
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.3	0.0	0.0	3.6	0.0	2.5	2.7	2.6	0.4
Prop In Lane	0.47		0.47	0.54		0.29	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	531	0	0	562	0	0	613	0	699	634	713	604
V/C Ratio(X)	0.32	0.00	0.00	0.06	0.00	0.00	0.10	0.00	0.44	0.02	0.45	0.08
Avail Cap(c_a), veh/h	2803	0	0	2719	0	0	2638	0	4372	2786	4462	3781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	0.0	0.0	7.0	0.0	0.0	6.0	0.0	4.7	5.6	4.7	4.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.4	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	0.4	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	0.0	7.0	0.0	0.0	6.1	0.0	5.1	5.7	5.1	4.1
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		172			35			369			386	
Approach Delay, s/veh		8.0			7.0			5.3			5.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	12.1	8.0	12.1	8.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	47.5	33.5	47.5	33.5
Max Q Clear Time (g_c+I1), s	5.6	4.0	4.7	2.3
Green Ext Time (p_c), s	2.1	1.0	2.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	225	129	71	131	64	77	590	88	51	828	195
Future Volume (veh/h)	195	225	129	71	131	64	77	590	88	51	828	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	201	232	0	73	135	0	79	608	91	53	854	201
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	246	351		95	192		296	1397	623	378	1363	608
Arrive On Green	0.14	0.19	0.00	0.05	0.10	0.00	0.05	0.39	0.39	0.04	0.38	0.38
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1795	3582	1598	1795	3582	1598
Grp Volume(v), veh/h	201	232	0	73	135	0	79	608	91	53	854	201
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1791	1598	1795	1791	1598
Q Serve(g_s), s	8.0	8.4	0.0	3.0	5.1	0.0	1.9	9.2	2.7	1.3	14.3	6.6
Cycle Q Clear(g_c), s	8.0	8.4	0.0	3.0	5.1	0.0	1.9	9.2	2.7	1.3	14.3	6.6
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	246	351		95	192		296	1397	623	378	1363	608
V/C Ratio(X)	0.82	0.66		0.77	0.70		0.27	0.44	0.15	0.14	0.63	0.33
Avail Cap(c_a), veh/h	366	615		220	461		320	1397	623	420	1363	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	27.8	0.0	34.4	32.0	0.0	13.9	16.5	14.5	13.0	18.5	16.1
Incr Delay (d2), s/veh	8.7	2.1	0.0	12.4	4.6	0.0	0.5	1.0	0.5	0.2	2.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.8	0.0	1.5	2.4	0.0	0.7	3.4	1.0	0.5	5.5	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	29.9	0.0	46.8	36.6	0.0	14.4	17.5	15.0	13.2	20.7	17.6
LnGrp LOS	D	C		D	D		B	B	B	B	C	B
Approach Vol, veh/h		433	A		208	A		778			1108	
Approach Delay, s/veh		34.4			40.2			16.9			19.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	34.7	9.9	19.7	10.0	34.0	16.1	13.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	28.0	9.0	24.0	5.0	28.0	15.0	18.0
Max Q Clear Time (g_c+I1), s	3.3	11.2	5.0	10.4	3.9	16.3	10.0	7.1
Green Ext Time (p_c), s	0.0	3.7	0.0	1.0	0.0	4.7	0.2	0.4

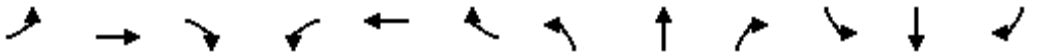
Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

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

APPENDIX G

SYNCHRO WORKSHEETS – BUILD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	579	31	273	1620	412	29	463	199	325	399	414
Future Volume (veh/h)	168	579	31	273	1620	412	29	463	199	325	399	414
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	177	609	33	287	1705	434	31	487	0	342	420	0
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, %	4	4	4	3	3	3	3	3	3	3	3	3
Cap, veh/h	198	1567	699	349	1733	773	47	529		343	787	
Arrive On Green	0.06	0.45	0.45	0.10	0.49	0.49	0.03	0.15	0.00	0.10	0.22	0.00
Sat Flow, veh/h	3401	3497	1560	3428	3526	1572	1767	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	177	609	33	287	1705	434	31	487	0	342	420	0
Grp Sat Flow(s),veh/h/ln	1700	1749	1560	1714	1763	1572	1767	1763	1572	1714	1763	1572
Q Serve(g_s), s	6.2	14.0	1.4	9.8	57.1	23.3	2.1	16.3	0.0	12.0	12.6	0.0
Cycle Q Clear(g_c), s	6.2	14.0	1.4	9.8	57.1	23.3	2.1	16.3	0.0	12.0	12.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1567	699	349	1733	773	47	529		343	787	
V/C Ratio(X)	0.89	0.39	0.05	0.82	0.98	0.56	0.65	0.92		1.00	0.53	
Avail Cap(c_a), veh/h	198	1567	699	457	1733	773	74	529		343	787	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.1	22.1	18.7	52.8	30.0	21.4	57.8	50.3	0.0	54.0	41.1	0.0
Incr Delay (d2), s/veh	35.9	0.2	0.0	8.9	17.8	0.9	14.2	23.8	0.0	47.9	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.5	0.5	4.6	26.4	8.3	1.1	8.8	0.0	7.3	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	22.3	18.7	61.8	47.8	22.3	72.0	74.1	0.0	101.9	43.7	0.0
LnGrp LOS	F	C	B	E	D	C	E	E		F	D	
Approach Vol, veh/h		819			2426			518	A		762	A
Approach Delay, s/veh		37.2			44.9			73.9			69.8	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	59.8	9.2	32.8	13.0	65.0	18.0	24.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	16.0	50.0	5.0	25.0	7.0	59.0	12.0	18.0
Max Q Clear Time (g_c+I1), s	11.8	16.0	4.1	14.6	8.2	59.1	14.0	18.3
Green Ext Time (p_c), s	0.4	4.2	0.0	1.8	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	775	18	18	1666	61	45	11	38	98	15	553
Future Volume (veh/h)	208	775	18	18	1666	61	45	11	38	98	15	553
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	236	881	20	20	1893	0	51	12	43	111	17	628
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, %	4	4	4	3	3	3	4	4	4	2	2	2
Cap, veh/h	200	1986	886	340	1763		270	103	370	410	549	602
Arrive On Green	0.09	0.57	0.57	0.02	0.50	0.00	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1753	3497	1560	1767	3526	1572	773	352	1262	1349	1870	1585
Grp Volume(v), veh/h	236	881	20	20	1893	0	51	0	55	111	17	628
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1572	773	0	1614	1349	1870	1585
Q Serve(g_s), s	13.0	21.8	0.8	0.8	75.0	0.0	7.6	0.0	3.7	9.8	1.0	44.0
Cycle Q Clear(g_c), s	13.0	21.8	0.8	0.8	75.0	0.0	8.5	0.0	3.7	13.6	1.0	44.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	200	1986	886	340	1763		270	0	473	410	549	602
V/C Ratio(X)	1.18	0.44	0.02	0.06	1.07		0.19	0.00	0.12	0.27	0.03	1.04
Avail Cap(c_a), veh/h	200	1986	886	366	1763		270	0	473	410	549	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	18.7	14.2	18.0	37.5	0.0	40.8	0.0	38.8	43.7	37.8	46.5
Incr Delay (d2), s/veh	120.8	0.7	0.0	0.1	44.4	0.0	0.3	0.0	0.1	0.4	0.0	48.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	8.7	0.3	0.3	41.3	0.0	1.5	0.0	1.5	3.3	0.5	30.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	173.3	19.4	14.2	18.1	81.9	0.0	41.2	0.0	38.9	44.1	37.8	94.7
LnGrp LOS	F	B	B	B	F		D	A	D	D	D	F
Approach Vol, veh/h		1137			1913	A		106			756	
Approach Delay, s/veh		51.3			81.2			40.0			86.0	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	91.2		50.0	19.0	81.0		50.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	83.0		44.0	13.0	75.0		44.0
Max Q Clear Time (g_c+I1), s	2.8	23.8		46.0	15.0	77.0		10.5
Green Ext Time (p_c), s	0.0	6.9		0.0	0.0	0.0		0.7

Intersection Summary	
HCM 6th Ctrl Delay	72.3
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	651	284	130	1480	34	254	7	141	3	22	1
Future Volume (veh/h)	0	651	284	130	1480	34	254	7	141	3	22	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1781	1781	1781
Adj Flow Rate, veh/h	0	700	305	140	1591	37	279	0	0	3	24	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	8	8	8
Cap, veh/h	110	1447	646	329	1833	817	612	0		33	264	11
Arrive On Green	0.00	0.41	0.41	0.06	0.52	0.52	0.17	0.00	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1753	3497	1560	1767	3526	1572	3506	0	1560	189	1509	63
Grp Volume(v), veh/h	0	700	305	140	1591	37	279	0	0	28	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1560	1767	1763	1572	1753	0	1560	1761	0	0
Q Serve(g_s), s	0.0	15.1	14.7	4.5	40.7	1.2	7.4	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	15.1	14.7	4.5	40.7	1.2	7.4	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.11		0.04
Lane Grp Cap(c), veh/h	110	1447	646	329	1833	817	612	0		307	0	0
V/C Ratio(X)	0.00	0.48	0.47	0.43	0.87	0.05	0.46	0.00		0.09	0.00	0.00
Avail Cap(c_a), veh/h	193	1937	864	371	2086	930	612	0		307	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.1	22.0	16.1	21.7	12.2	38.2	0.0	0.0	35.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.9	3.8	0.0	2.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	5.1	1.7	15.7	0.4	3.3	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.4	22.6	17.0	25.5	12.2	40.6	0.0	0.0	36.3	0.0	0.0
LnGrp LOS	A	C	C	B	C	B	D	A		D	A	A
Approach Vol, veh/h		1005			1768			279	A		28	
Approach Delay, s/veh		22.4			24.5			40.6			36.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	47.2		22.5	0.0	58.1		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	8.9	57.1		18.0	5.0	61.0		18.0
Max Q Clear Time (g_c+I1), s	6.5	17.1		3.4	0.0	42.7		9.4
Green Ext Time (p_c), s	0.1	6.2		0.1	0.0	10.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	3	35	7	30	20	49	233	7	8	557	193
Future Volume (veh/h)	63	3	35	7	30	20	49	233	7	8	557	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	71	3	39	8	34	22	55	262	8	9	626	217
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	6	6	6	2	2	2	3	3	3	3	3	3
Cap, veh/h	339	8	69	169	135	81	456	954	29	763	988	837
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	909	57	509	147	996	599	648	1791	55	1100	1856	1572
Grp Volume(v), veh/h	113	0	0	64	0	0	55	0	270	9	626	217
Grp Sat Flow(s),veh/h/ln	1475	0	0	1741	0	0	648	0	1846	1100	1856	1572
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	1.8	0.0	2.2	0.1	6.5	2.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.9	0.0	0.0	8.2	0.0	2.2	2.3	6.5	2.0
Prop In Lane	0.63		0.35	0.12		0.34	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	416	0	0	386	0	0	456	0	983	763	988	837
V/C Ratio(X)	0.27	0.00	0.00	0.17	0.00	0.00	0.12	0.00	0.27	0.01	0.63	0.26
Avail Cap(c_a), veh/h	1327	0	0	1494	0	0	1532	0	4048	2591	4070	3449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	10.5	0.0	0.0	7.4	0.0	3.5	4.1	4.5	3.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	0.0	10.7	0.0	0.0	7.5	0.0	3.6	4.1	5.2	3.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		113			64			325			852	
Approach Delay, s/veh		11.2			10.7			4.3			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	18.9	8.2	18.9	8.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	59.5	21.5	59.5	21.5
Max Q Clear Time (g_c+I1), s	10.2	3.8	8.5	2.9
Green Ext Time (p_c), s	2.1	0.5	6.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	119	107	84	322	63	172	673	71	30	606	184
Future Volume (veh/h)	118	119	107	84	322	63	172	673	71	30	606	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	127	128	0	90	346	0	185	724	76	32	652	198
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	3	3	3
Cap, veh/h	161	465		114	416		357	1233	550	302	1062	474
Arrive On Green	0.09	0.25	0.00	0.07	0.23	0.00	0.08	0.35	0.35	0.03	0.30	0.30
Sat Flow, veh/h	1753	1841	1560	1753	1841	1560	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	127	128	0	90	346	0	185	724	76	32	652	198
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1753	1841	1560	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	4.3	3.4	0.0	3.1	10.8	0.0	4.3	10.2	2.0	0.7	9.6	6.1
Cycle Q Clear(g_c), s	4.3	3.4	0.0	3.1	10.8	0.0	4.3	10.2	2.0	0.7	9.6	6.1
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	161	465		114	416		357	1233	550	302	1062	474
V/C Ratio(X)	0.79	0.28		0.79	0.83		0.52	0.59	0.14	0.11	0.61	0.42
Avail Cap(c_a), veh/h	168	573		145	549		357	1233	550	388	1062	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	18.1	0.0	27.8	22.3	0.0	13.7	16.1	13.4	14.0	18.1	16.9
Incr Delay (d2), s/veh	21.2	0.3	0.0	19.6	8.1	0.0	1.3	2.1	0.5	0.2	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.4	0.0	1.8	5.0	0.0	1.5	3.7	0.7	0.3	3.7	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	18.4	0.0	47.4	30.4	0.0	15.0	18.1	13.9	14.2	20.7	19.6
LnGrp LOS	D	B		D	C		B	B	B	B	C	B
Approach Vol, veh/h		255	A		436	A		985			882	
Approach Delay, s/veh		33.2			33.9			17.2			20.2	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	25.6	8.4	19.8	9.5	22.7	10.0	18.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.6	18.2	5.0	18.8	5.0	18.2	5.8	18.0
Max Q Clear Time (g_c+I1), s	12.3	12.2	5.1	5.4	6.3	11.6	6.3	12.8
Green Ext Time (p_c), s	0.0	2.4	0.0	0.5	0.0	2.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	905	1800	8	0	12
Future Vol, veh/h	0	905	1800	8	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	984	1957	9	0	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1966	0	-	0	2454	983
Stage 1	-	-	-	-	1962	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	292	-	-	-	25	248
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	580	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	292	-	-	-	25	248
Mov Cap-2 Maneuver	-	-	-	-	25	-
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	580	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	292	-	-	-	248
HCM Lane V/C Ratio	-	-	-	-	0.053
HCM Control Delay (s)	0	-	-	-	20.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

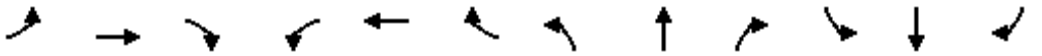
Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	24	278	11	8	524
Future Vol, veh/h	44	24	278	11	8	524
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	26	302	12	9	570

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	896	308	0	0	314	0
Stage 1	308	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	311	732	-	-	1246	-
Stage 1	745	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	308	732	-	-	1246	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	387	1246	-
HCM Lane V/C Ratio	-	-	0.191	0.007	-
HCM Control Delay (s)	-	-	16.5	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	1536	45	262	874	259	70	490	407	507	547	265
Future Volume (veh/h)	295	1536	45	262	874	259	70	490	407	507	547	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	304	1584	46	270	901	267	72	505	0	523	564	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	1476	658	254	1399	624	89	492		478	807	
Arrive On Green	0.07	0.46	0.46	0.05	0.44	0.44	0.06	0.15	0.00	0.15	0.25	0.00
Sat Flow, veh/h	3110	3198	1427	3110	3198	1427	1603	3198	1427	3110	3198	1427
Grp Volume(v), veh/h	304	1584	46	270	901	267	72	505	0	523	564	0
Grp Sat Flow(s),veh/h/ln	1555	1599	1427	1555	1599	1427	1603	1599	1427	1555	1599	1427
Q Serve(g_s), s	6.9	60.0	2.3	6.0	28.7	16.8	5.8	20.0	0.0	20.0	20.8	0.0
Cycle Q Clear(g_c), s	6.9	60.0	2.3	6.0	28.7	16.8	5.8	20.0	0.0	20.0	20.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	512	1476	658	254	1399	624	89	492		478	807	
V/C Ratio(X)	0.59	1.07	0.07	1.06	0.64	0.43	0.81	1.03		1.09	0.70	
Avail Cap(c_a), veh/h	556	1476	658	254	1399	624	111	492		478	807	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.4	35.0	19.5	31.4	28.7	25.3	60.7	55.0	0.0	55.0	44.1	0.0
Incr Delay (d2), s/veh	1.5	45.8	0.0	73.7	1.0	0.5	29.0	47.5	0.0	68.8	5.0	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	2.5	31.2	0.8	4.7	10.7	5.7	3.0	11.2	0.0	12.3	8.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	80.8	19.5	105.1	29.7	25.8	89.7	102.5	0.0	123.8	49.1	0.0
LnGrp LOS	C	F	B	F	C	C	F	F		F	D	
Approach Vol, veh/h		1934			1438			577	A		1087	A
Approach Delay, s/veh		70.4			43.1			100.9			85.0	
Approach LOS		E			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	66.0	13.2	38.8	15.2	62.8	26.0	26.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	60.0	9.0	31.0	11.0	55.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	8.0	62.0	7.8	22.8	8.9	30.7	22.0	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.2	7.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.2
HCM 6th LOS	E

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	1844	44	28	1033	91	38	36	39	134	19	318
Future Volume (veh/h)	490	1844	44	28	1033	91	38	36	39	134	19	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	510	1921	46	29	1076	0	40	38	41	140	20	331
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, %	1	1	1	1	1	1	2	2	2	2	2	2
Cap, veh/h	547	2366	1055	168	1789		217	132	143	220	301	552
Arrive On Green	0.19	0.66	0.66	0.03	0.50	0.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1795	3582	1598	1795	3582	1598	1030	823	888	1320	1870	1585
Grp Volume(v), veh/h	510	1921	46	29	1076	0	40	0	79	140	20	331
Grp Sat Flow(s),veh/h/ln	1795	1791	1598	1795	1791	1598	1030	0	1711	1320	1870	1585
Q Serve(g_s), s	18.7	46.3	1.2	0.9	25.4	0.0	4.0	0.0	4.8	12.3	1.1	19.0
Cycle Q Clear(g_c), s	18.7	46.3	1.2	0.9	25.4	0.0	5.1	0.0	4.8	17.1	1.1	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	547	2366	1055	168	1789		217	0	275	220	301	552
V/C Ratio(X)	0.93	0.81	0.04	0.17	0.60		0.18	0.00	0.29	0.64	0.07	0.60
Avail Cap(c_a), veh/h	759	2366	1055	197	1789		217	0	275	220	301	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	14.7	7.0	17.1	21.1	0.0	44.2	0.0	43.6	51.1	42.0	31.7
Incr Delay (d2), s/veh	14.7	3.2	0.1	0.5	1.5	0.0	0.4	0.0	0.6	6.0	0.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	16.7	0.4	0.4	10.2	0.0	1.1	0.0	2.1	4.4	0.5	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	17.8	7.1	17.6	22.6	0.0	44.6	0.0	44.1	57.1	42.1	33.5
LnGrp LOS	D	B	A	B	C		D	A	D	E	D	C
Approach Vol, veh/h		2477			1105	A		119			491	
Approach Delay, s/veh		21.8			22.5			44.3			40.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	84.0		25.0	28.1	65.0		25.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	78.0		19.0	36.0	47.0		19.0
Max Q Clear Time (g_c+I1), s	12.9	48.3		21.0	20.7	27.4		7.1
Green Ext Time (p_c), s	0.0	18.5		0.0	1.4	7.1		0.4

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

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1669	341	77	891	21	263	8	167	12	7	1
Future Volume (veh/h)	3	1669	341	77	891	21	263	8	167	12	7	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	3	1703	348	79	909	21	274	0	0	12	7	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	260	1634	729	129	1757	784	536	0		164	96	14
Arrive On Green	0.00	0.46	0.46	0.04	0.49	0.49	0.15	0.00	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3563	0	1585	1089	635	91
Grp Volume(v), veh/h	3	1703	348	79	909	21	274	0	0	20	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1585	1814	0	0
Q Serve(g_s), s	0.1	55.0	18.2	2.8	20.8	0.8	8.5	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	55.0	18.2	2.8	20.8	0.8	8.5	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.60		0.05
Lane Grp Cap(c), veh/h	260	1634	729	129	1757	784	536	0		273	0	0
V/C Ratio(X)	0.01	1.04	0.48	0.61	0.52	0.03	0.51	0.00		0.07	0.00	0.00
Avail Cap(c_a), veh/h	328	1634	729	135	1757	784	536	0		273	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	32.3	22.4	28.4	20.5	15.5	46.8	0.0	0.0	43.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	34.2	0.5	7.4	0.3	0.0	3.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.5	6.5	1.3	8.1	0.3	4.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	66.5	22.9	35.8	20.8	15.5	50.2	0.0	0.0	44.2	0.0	0.0
LnGrp LOS	B	F	C	D	C	B	D	A		D	A	A
Approach Vol, veh/h		2054			1009			274	A		20	
Approach Delay, s/veh		59.1			21.9			50.2			44.2	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	61.0		24.0	6.5	65.2		24.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	55.0		18.0	5.0	55.0		18.0
Max Q Clear Time (g_c+I1), s	4.8	57.0		3.1	2.1	22.8		10.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.7		0.6

Intersection Summary	
HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	12	82	19	6	10	65	279	34	14	337	49
Future Volume (veh/h)	78	12	82	19	6	10	65	279	34	14	337	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	80	12	84	19	6	10	66	285	35	14	344	50
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	3	3	3	1	1	1	1	1	1
Cap, veh/h	370	25	131	380	95	83	600	642	79	627	736	623
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	666	142	738	640	535	470	998	1647	202	1068	1885	1598
Grp Volume(v), veh/h	176	0	0	35	0	0	66	0	320	14	344	50
Grp Sat Flow(s),veh/h/ln	1546	0	0	1644	0	0	998	0	1849	1068	1885	1598
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	1.1	0.0	2.7	0.2	2.8	0.4
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.3	0.0	0.0	3.9	0.0	2.7	2.9	2.8	0.4
Prop In Lane	0.45		0.48	0.54		0.29	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	526	0	0	558	0	0	600	0	721	627	736	623
V/C Ratio(X)	0.33	0.00	0.00	0.06	0.00	0.00	0.11	0.00	0.44	0.02	0.47	0.08
Avail Cap(c_a), veh/h	2632	0	0	2552	0	0	2538	0	4311	2701	4396	3726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	7.2	0.0	0.0	6.2	0.0	4.7	5.7	4.7	4.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.5	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	0.4	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	0.0	0.0	7.2	0.0	0.0	6.3	0.0	5.1	5.7	5.2	4.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		176			35			386			408	
Approach Delay, s/veh		8.3			7.2			5.3			5.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	12.6	8.2	12.6	8.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	48.5	32.5	48.5	32.5
Max Q Clear Time (g_c+I1), s	5.9	4.2	4.9	2.3
Green Ext Time (p_c), s	2.3	1.1	2.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	228	129	71	135	64	77	590	88	51	828	212
Future Volume (veh/h)	206	228	129	71	135	64	77	590	88	51	828	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	212	235	0	73	139	0	79	608	91	53	854	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	257	366		94	196		290	1382	616	373	1348	601
Arrive On Green	0.14	0.19	0.00	0.05	0.10	0.00	0.05	0.39	0.39	0.04	0.38	0.38
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1795	3582	1598	1795	3582	1598
Grp Volume(v), veh/h	212	235	0	73	139	0	79	608	91	53	854	219
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1791	1598	1795	1791	1598
Q Serve(g_s), s	8.5	8.5	0.0	3.0	5.3	0.0	1.9	9.3	2.8	1.3	14.5	7.4
Cycle Q Clear(g_c), s	8.5	8.5	0.0	3.0	5.3	0.0	1.9	9.3	2.8	1.3	14.5	7.4
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	257	366		94	196		290	1382	616	373	1348	601
V/C Ratio(X)	0.83	0.64		0.77	0.71		0.27	0.44	0.15	0.14	0.63	0.36
Avail Cap(c_a), veh/h	362	608		217	456		314	1382	616	413	1348	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	27.6	0.0	34.8	32.2	0.0	14.3	16.9	14.9	13.4	19.0	16.8
Incr Delay (d2), s/veh	10.3	1.9	0.0	12.5	4.7	0.0	0.5	1.0	0.5	0.2	2.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	3.9	0.0	1.6	2.5	0.0	0.7	3.5	1.0	0.5	5.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	29.5	0.0	47.2	37.0	0.0	14.8	17.9	15.4	13.6	21.3	18.5
LnGrp LOS	D	C		D	D		B	B	B	B	C	B
Approach Vol, veh/h		447	A		212	A		778			1126	
Approach Delay, s/veh		35.1			40.5			17.3			20.4	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	34.7	9.9	20.4	10.0	34.0	16.6	13.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.6	28.0	9.0	24.0	5.0	28.0	15.0	18.0
Max Q Clear Time (g_c+I1), s	3.3	11.3	5.0	10.5	3.9	16.5	10.5	7.3
Green Ext Time (p_c), s	0.0	3.7	0.0	1.0	0.0	4.7	0.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1974	1031	25	0	8
Future Vol, veh/h	0	1974	1031	25	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2146	1121	27	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1148	0	-	0	2208	574
Stage 1	-	-	-	-	1135	-
Stage 2	-	-	-	-	1073	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	604	-	-	-	38	462
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	290	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	604	-	-	-	38	462
Mov Cap-2 Maneuver	-	-	-	-	38	-
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	290	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	604	-	-	-	462
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

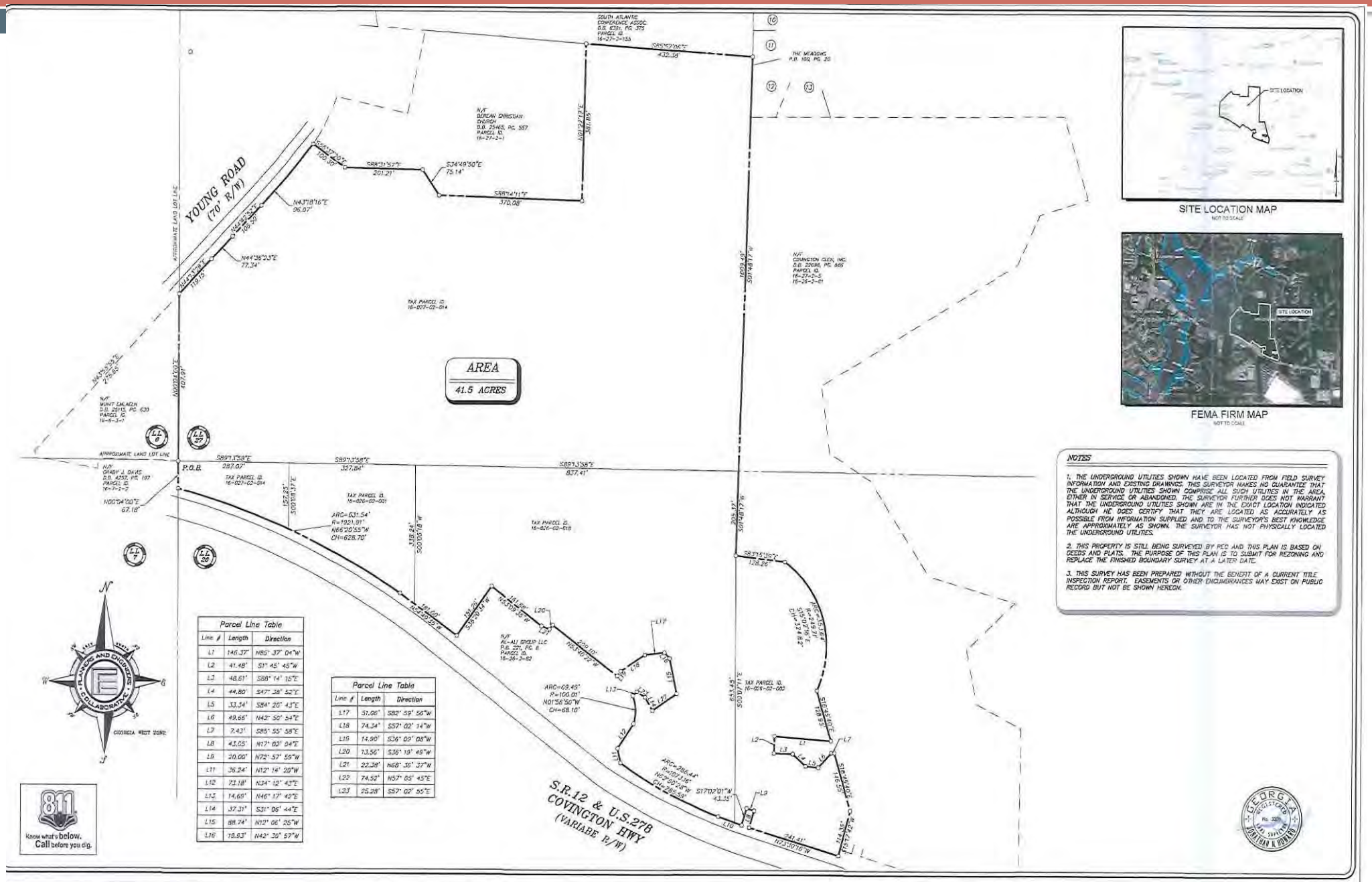
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	16	583	34	25	386
Future Vol, veh/h	29	16	583	34	25	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	17	634	37	27	420

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1127	653	0	0	671	0
Stage 1	653	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	226	467	-	-	919	-
Stage 1	518	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	467	-	-	919	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.4	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	268	919	-
HCM Lane V/C Ratio	-	-	0.183	0.03	-
HCM Control Delay (s)	-	-	21.4	9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

N.12 Z-20-1243620 Site Survey



360 STUDIO | PLANNERS AND ENGINEERS COLLABORATIVE

COVINGTON HIGHWAY @ YOUNG ROAD
DEKALB COUNTY

0' 100' 200' 300'
SCALE: 1" = 100'

D·R·HORTON America's Builder

WATER FEATURES AMENITY ELEMENTS

DISCLAIMER: DESIGN IS CONCEPTUAL AT THIS STAGE, AND SUBJECT TO CHANGE DURING DESIGN DEVELOPMENT.

SPLASH PAD

SPLASH PAD

WATER FOUNTAIN

OPEN SPACE AMENITY ELEMENTS

SMALL PLAZA

BENCH AND TRAIL

PICNIC TABLE

COMMUNITY GATHERING SPACE AMENITY ELEMENTS

DISCLAIMER: DESIGN IS CONCEPTUAL AT THIS STAGE, AND SUBJECT TO CHANGE DURING DESIGN DEVELOPMENT.

GRAND LAWN

OUTDOOR CHARCOAL GRILL

PAVILION

PLAYGROUND

OVERALL VIEW OF COMMON SPACE

DISCLAIMER: DESIGN IS CONCEPTUAL AT THIS STAGE, AND SUBJECT TO CHANGE DURING DESIGN DEVELOPMENT.

N.12 Z-20-1243620 Conceptual Rear Facade

DISCLAIMER: DESIGN IS CONCEPTUAL AT THIS STAGE, AND SUBJECT TO CHANGE DURING DESIGN DEVELOPMENT.

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COVINGTON HIGHWAY @ YOUNG ROAD

DEKALB COUNTY

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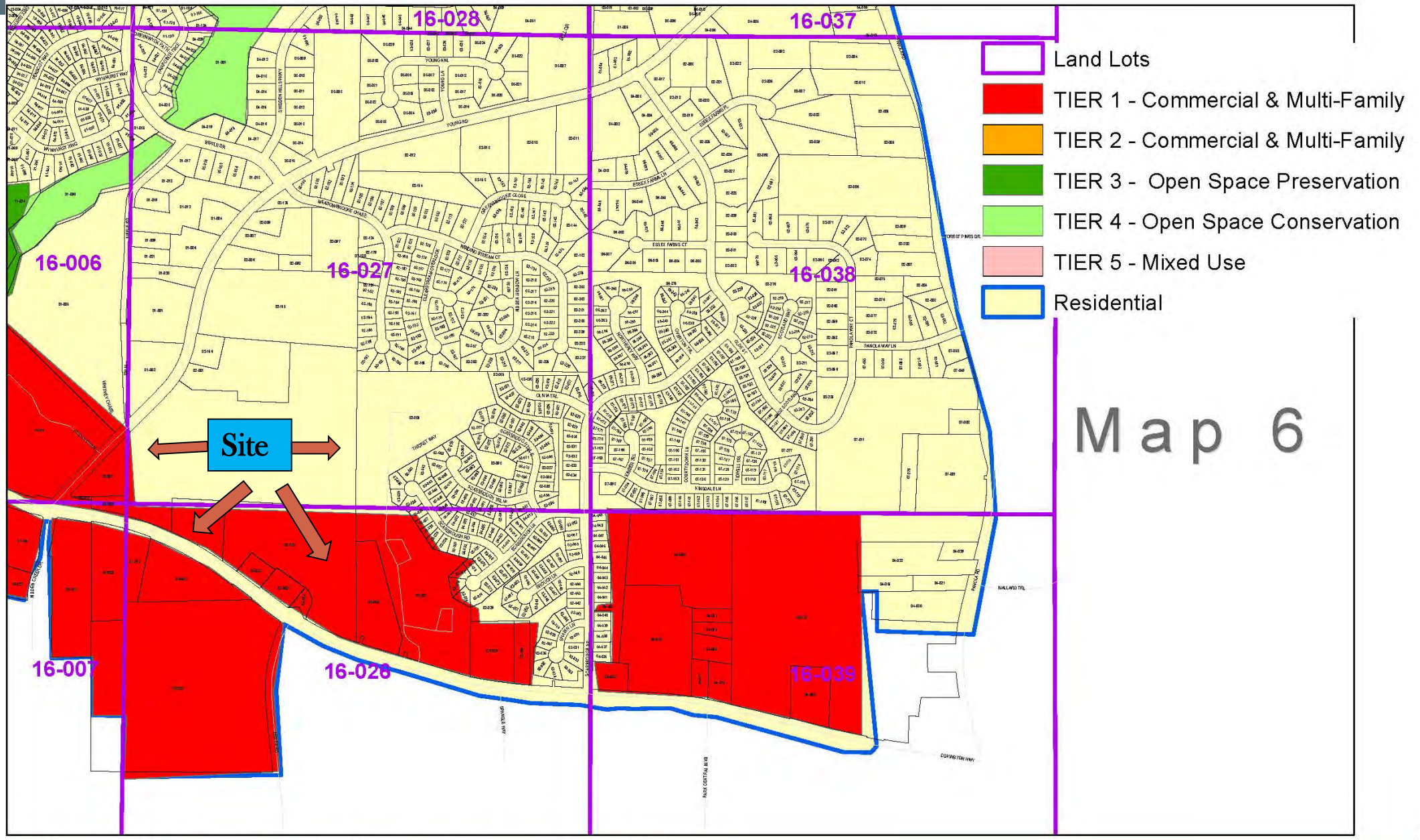
N.12 Z-20-1243620 Greater Hidden Hills Overlay District Map



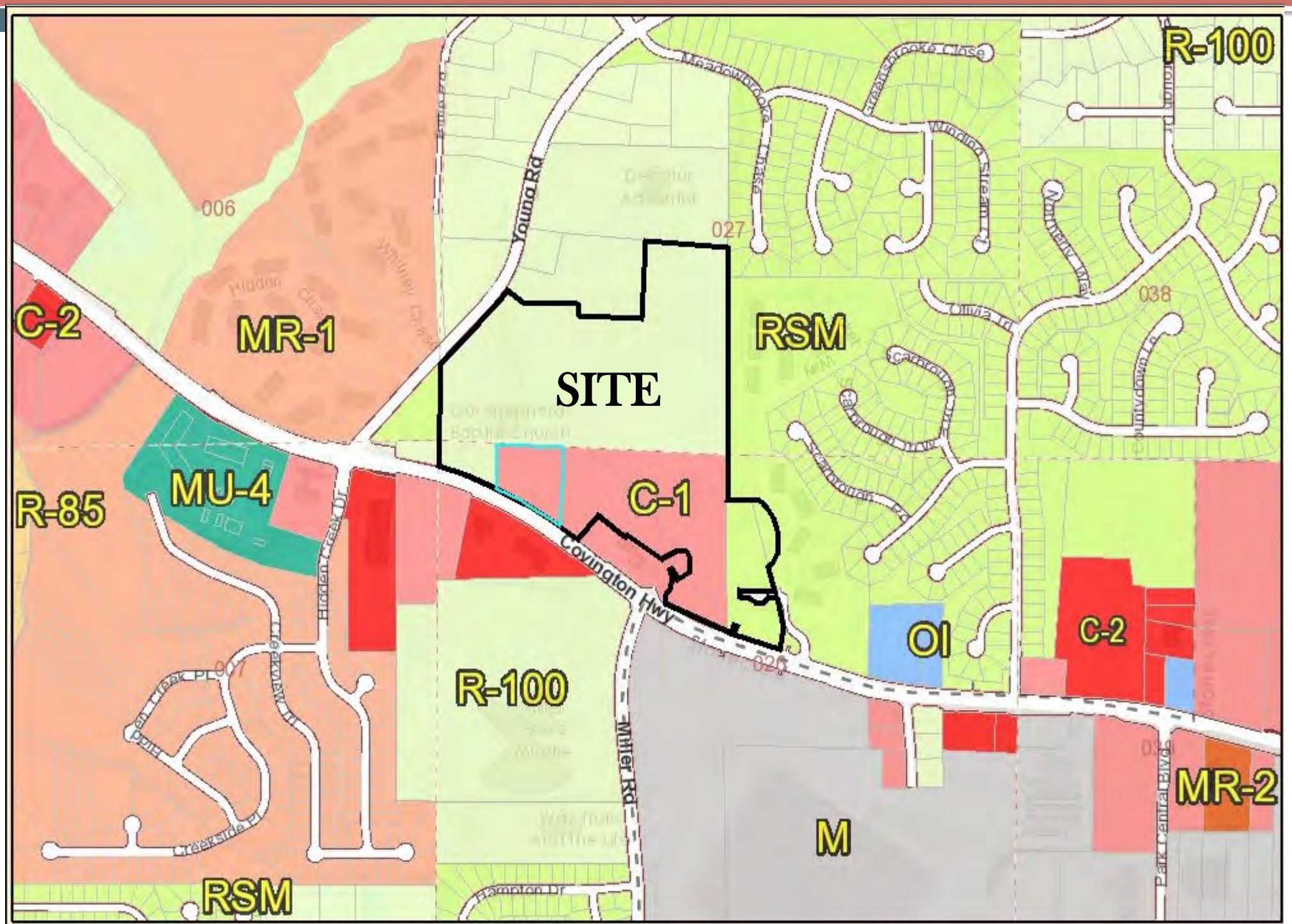
eKalb County - Department of Planning & Sustainability

0 265 530 1,060 Feet

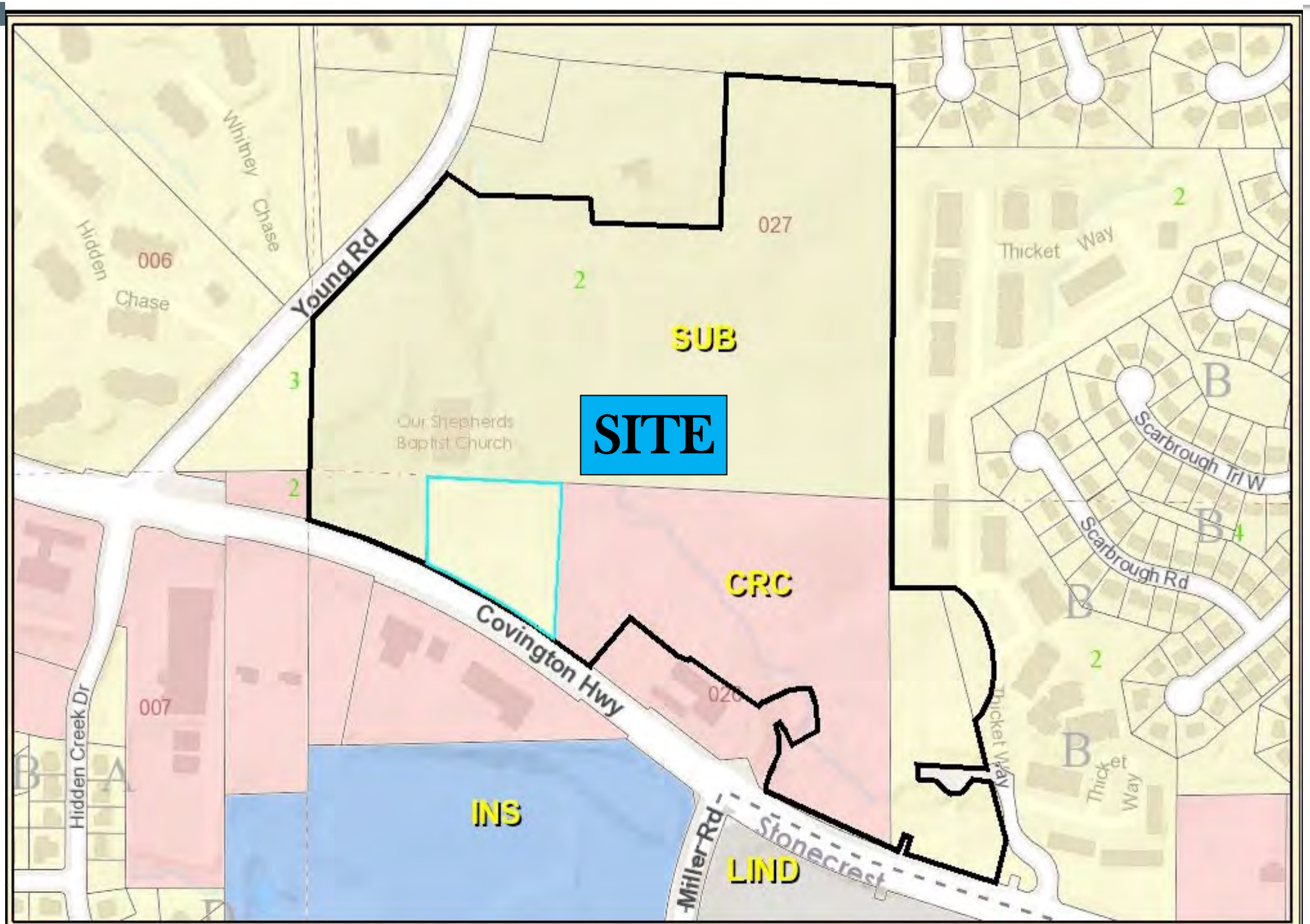
Greater Hidden Hills Overlay District

October 28, 2011

N.12 Z-20-1243620 Zoning Map



N.12 Z-20-1243620 Suburban & Commercial Redevelopment Corridor



N.12 Z- 20-1243620 Aerial