Montgomery Planning
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

2425 Reedie Drive
Floor 14
Wheaton, MD 20902

MontgomeryPlanning.org

Memorandum

TO: Eric Willis, Chief, Property Acquisition Section
Montgomery County Department of Transportation

VIA: Patrick Butler, Chief, Upcounty Planning Division P B
Montgomery Planning

FROM: Gwen Wright, Planning Director Gwen L. M. Wright
Montgomery Planning

RE: Right-of-Way Abandonment Case No. AB-779
Portions of Walter Johnson Road (13,451 square feet total)
2019 MARC Rail Communities Master Plan
Germantown Town Center Policy Area

DATE: February 10, 2022

Recommendation

Staff supports the abandonment petition for a portion (13,451 feet total) of the Walter Johnson Road right-of- way (ROW) and recommends that it be abandoned through the County Council's action on this petition.

This memorandum hereby transmits the following staff comments to the Montgomery County Department of Transportation (MCDOT) in accordance with Montgomery County Code Chapter 49-62, "Abandonment and Closing Rights-of-Way: Abandonment Authority; Scope of Article; Procedures." This item has not been heard by the Montgomery County Planning Board.

Discussion

On December 9, 2021 the Maryland - National Capital Park and Planning Commission (M-NCPPC) received Abandonment Petition No. AB-779, in accordance with Section 49-62(g) of the County Code (Attachment A). The Applicant is Lidl US, LLC, and they are requesting an abandonment of the public right-of-way interior to the property located at 19430 Walter Johnson Road. This property is currently under review for development applications property contained within the ongoing development applications, Preliminary Plan 120220030 and Site Plan 820220080.

Currently the property hosts two commercial office buildings. Under the Preliminary and Site Plan applications, one office building as well as the proposed abandonment area is proposed to be replaced with a grocery store.

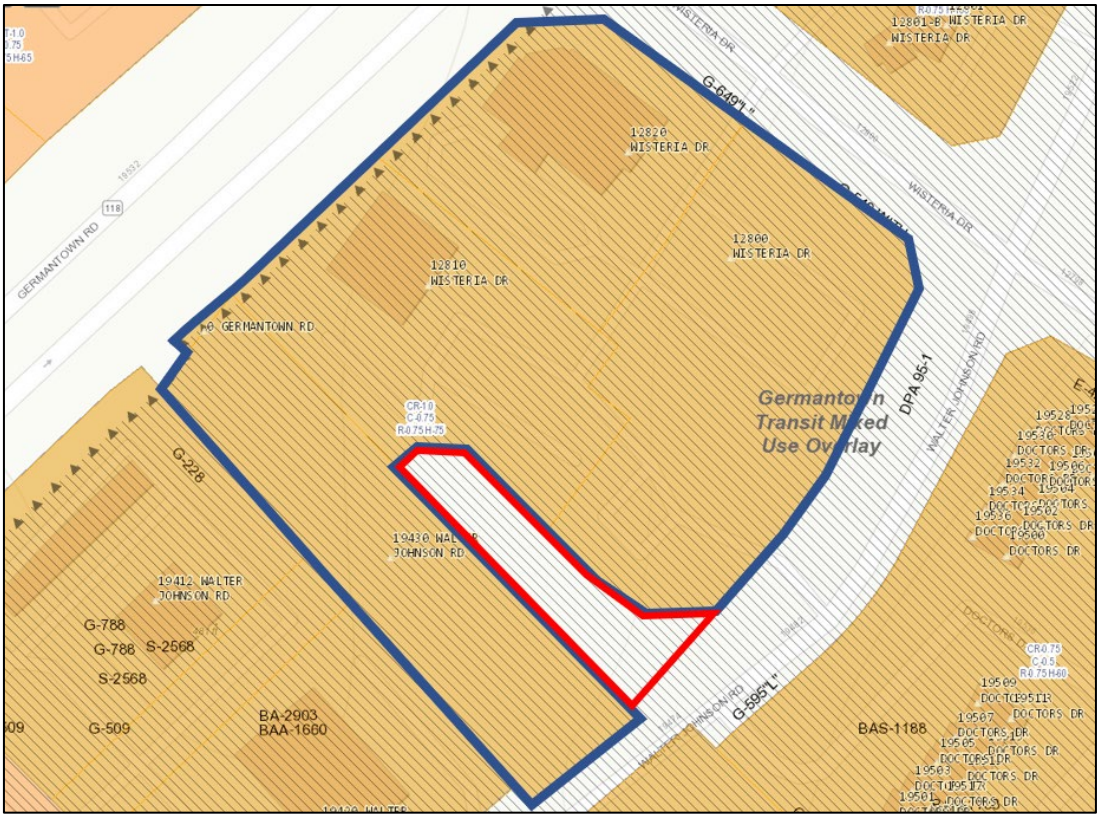


Figure 1: Subject Property Map (Property outlined in blue, abandonment in red)



Figure 2: Application for Grocery Store, Preliminary Plan 120220030 and Site Plan 820220080

A small portion of ROW extends into the subject property. The history and rationale for this ROW is lost, though there is a similar ROW dedication immediately adjacent to the property (on the left in Fig. 2), a duplicative segment also recorded under the name Walter Johnson Road. These segments are not to be confused with Walter Johnson Road proper, which runs along the southeast property frontage (bottom of Fig. 2). No abandonment of any portion of this active roadway is proposed.

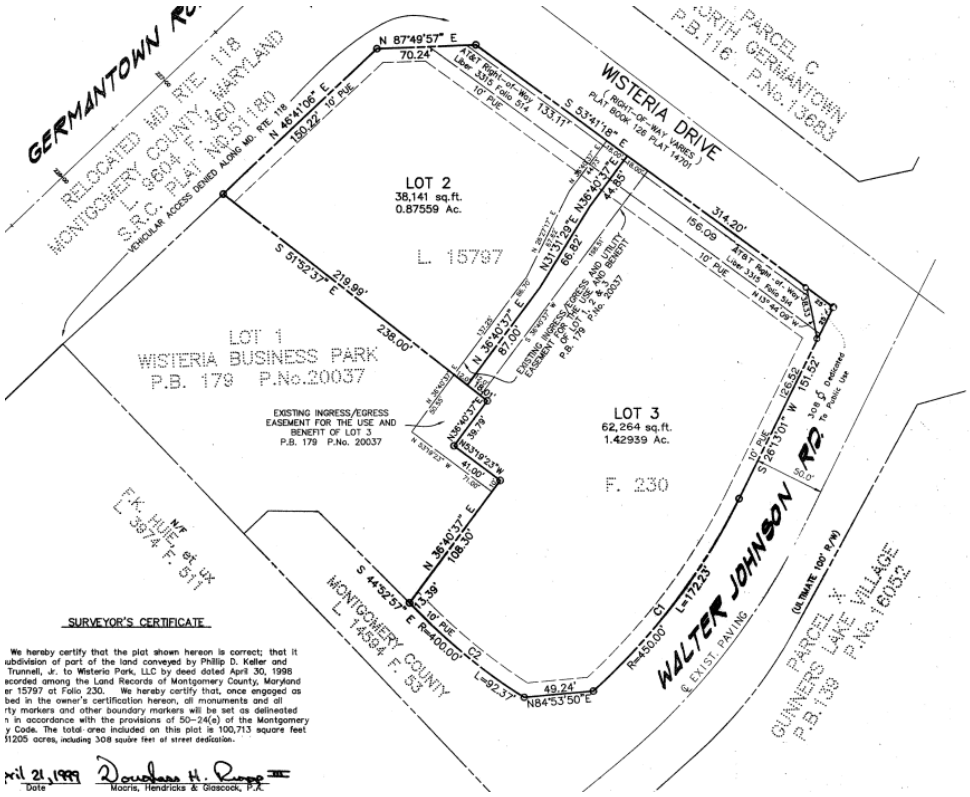


Figure 3: 1999 Wisteria Business Park Plat 21066

The dedication of this portion of ROW appears connected to the subdivision and platting of Plat 21066 for the Wisteria Business Park in 1999. At the time of platting, this portion of ROW did not provide a continuous dedication connection to any road segment apart from Walter Johnson Road to the south; the duplicative segment of Walter Johnson to the southeast is separated by an additional property. There are no public improvements existing; this portion of ROW is not in public use.

As part of the aforementioned development applications, two private connections will be constructed to serve the Subject Property. Neither of these connections will utilize the abandonment area, which will instead be incorporated into the footprint of the proposed grocery store (Fig. 2). Full inter-parcel bike, pedestrian and vehicular movement will be accommodated in these private facilities. These applications continue under review and must meet all safety and adequacy requirements determined by Planning Staff, MCDOT, Montgomery DPS and Montgomery Fire and Rescue Services. These applications will receive an additional full public hearing before the Planning Board.

Necessary Findings

Section 49-63(c)(1) -(2) of the Montgomery County Code (the "Code") authorizes the County Council to abandon a right-of-way, including a public road, upon a finding that:

1. The right-of-way is no longer necessary for present public use or anticipated public use in the foreseeable future, or

2. The abandonment or closing is necessary to protect the health, safety and welfare of the residents near the right-of-way to be abandoned or closed

Furthermore, Section 49-62(a) of the Code defines right-of-way, as the following:

> *any road, street, alley, crosswalk, pedestrian walkway, shared use path, water main, sanitary sewer, storm sewer, or storm drainage right-of-way used at any time by the public, including use by pedestrians and bicyclists.*

Through the initial review of Preliminary Plan 120220030 and Site Plan 820220080, Planning Staff explored options to extend the southeastern segment of the duplicative Walter Johnson Road to the northeast to connect to Wisteria Drive. However, this was determined to be unnecessary given the proximity of the completed and functional segment of existing Walter Johnson Road immediately parallel. Additionally, there would be inadequate signal spacing distance for a full public road connection at Wisteria Drive. Last, the dedication area would be a significant burden on the applicant given the alignment through the Property. It was determined that a private connection would accommodate all site traffic while still accommodating cross connectivity, particularly for bike and pedestrian movement. Without a public through connection to Wisteria Drive to intersect with the ROW to be abandoned, this portion of ROW does not serve a public purpose. Additionally, this ROW area does not support any Master Plan road connection as recommended in either the 2019 *MARC Rail Communities Master Plan* or 2018 *Master Plan of Highways and Transitways*. Similarly, the 2018 *Bicycle Master Plan* does not envision designated bikeways in this abandonment area.

Therefore, Staff concludes that the portion of right-of-way identified in the Abandonment Petition No. AB-779 is not necessary for present or future public use. This portion of right-of-way is not necessary to protect the health, safety and welfare of residents. The abandonment is consistent with the 2019 *MARC Rail Communities Master Plan*, 2018 *Master Plan of Highways and Transitways*, and 2018 *Bicycle Master Plan*. Staff is recommending approval of Abandonment Case No. AB-779, which will result in the abandonment of 13,451 square feet of ROW dedication.

Attachments

A. Request for Abandonment

Attachment A

Françoise M. Carrier, Of Counsel (MD DC CA)
fcarrier@bregmanlaw.com

BBS&G Attorneys
Bregman, Berbert, Schwartz & Gilday, LLC
T: 301-656-2707 F: 301-961-6525

June 3, 2021

Christopher Conklin, Director
Department of Transportation
Executive Office Building
101 Monroe St, 10th Floor
Rockville, MD, 20850

David Dise, Director
Department of General Services
Executive Office Building
101 Monroe St, 9th Floor
Rockville, MD, 20850

Re: Request for Abandonment and Disposition of County Real Property
Walter Johnson Road, Germantown

Dear Mr. Conklin and Mr. Dise:

I write on behalf of my client Lidl US, LLC ("Lidl") to request that the County abandon (if necessary) and convey to Lidl 13,451 square feet of county-owned real property located along Walter Johnson Road in Germantown, near the Germantown MARC station, described more fully in Exhibits A and B (the "Conveyance Area"). Enclosed is a check in the amount of $2,500 in payment of the filing fee for the abandonment request.

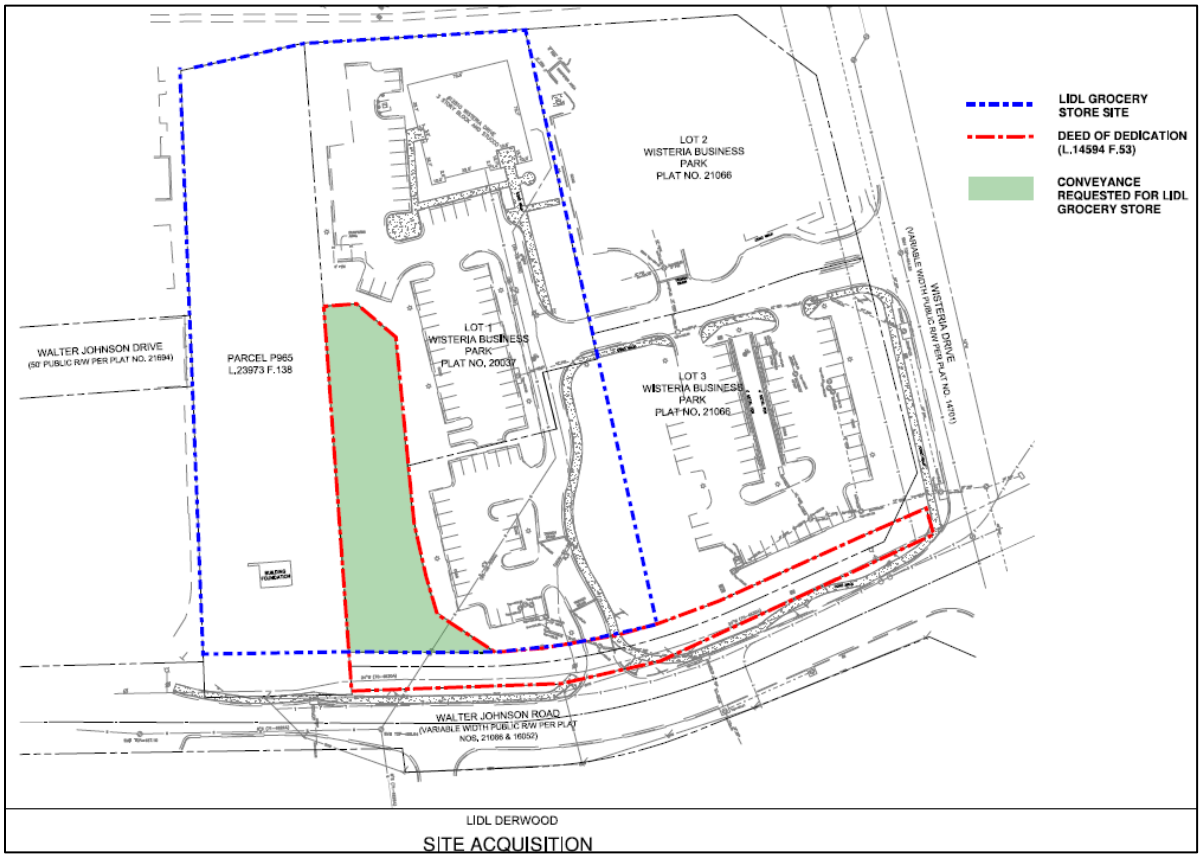
Lidl, a German company with its US headquarters in Arlington, Virginia, is the world's fifth largest grocery store chain. Lidl is in the midst of a major US expansion, with stores open in College Park, under construction in Montgomery Village, and proposed in the City of Rockville and at the site where the Abandonment Area is located, in Germantown.

Project Site and Background

Lidl's proposed Germantown site is located on the northwest side of Walter Johnson Road about two blocks north of the Germantown MARC Station (the "Site"). As depicted on the Site Acquisition exhibit shown on the next page, the Site is comprised of three privately owned tracts and the Conveyance Area. Lidl is the contract purchaser of the three privately owned tracts: Lot 1 and part of Lot 3 in the Wisteria Business Park subdivision, located at 12800 and 12810 Wisteria Drive, and Parcel P965, located at 19430 Walter Johnson Road.

The Conveyance Area is part of an area of land that was dedicated and conveyed to the County in fee simple by the 1996 Deed of Dedication attached as Exhibit C (the "1996 Dedication").[1] This dedication was made in compliance with a condition of approval of the Wisteria Business Park subdivision. *See* Planning Board Opinion, Preliminary Plan No.1-90068, attached as Exhibit D.

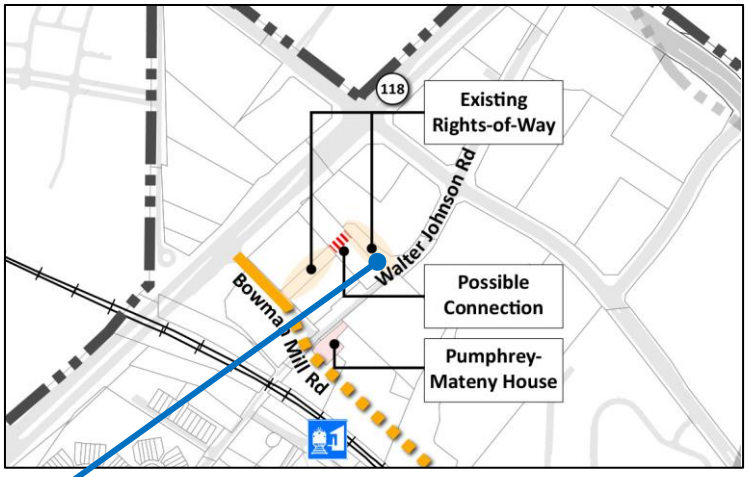
[1.] While the Deed of Dedication contains some indicia suggesting that the dedication was in the form of an easement, Lidl defers to the determination of its title insurer that the dedication conveyed to the County a fee simple interest.



The purpose of the 1996 Dedication was to support implementation of roadway recommendations in the *1992 Germantown Design Study* – in particular, the construction of a road connecting Walter Johnson Road (the former Rte. 118) with a new road proposed slightly northwest of Walter Johnson Road. This was shown in the 1992 design study, but is easier to see in images from page 54 of the *2009 Germantown Master Plan* and page 63 of the *2019 MARC Rail Communities Plan*, excerpted below.[1]



2009 Germantown Master Plan,



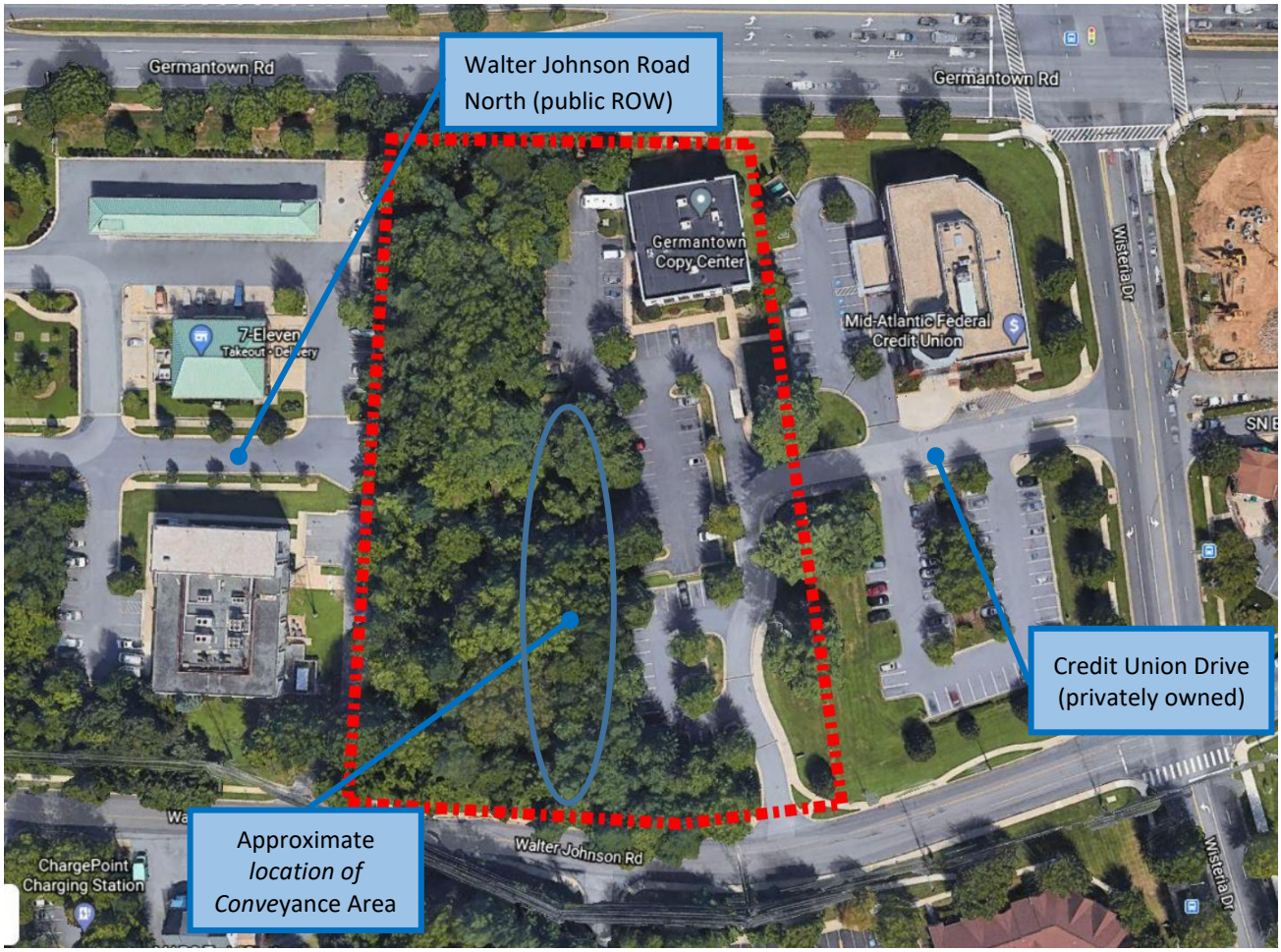
2019 MARC Rail Communities Plan, p. 63
Proposed Extension of Bowman Mill Drive and Private Road Connecting to Walter Johnson Road

[1] Links to all three plans are provided at the close of this letter.

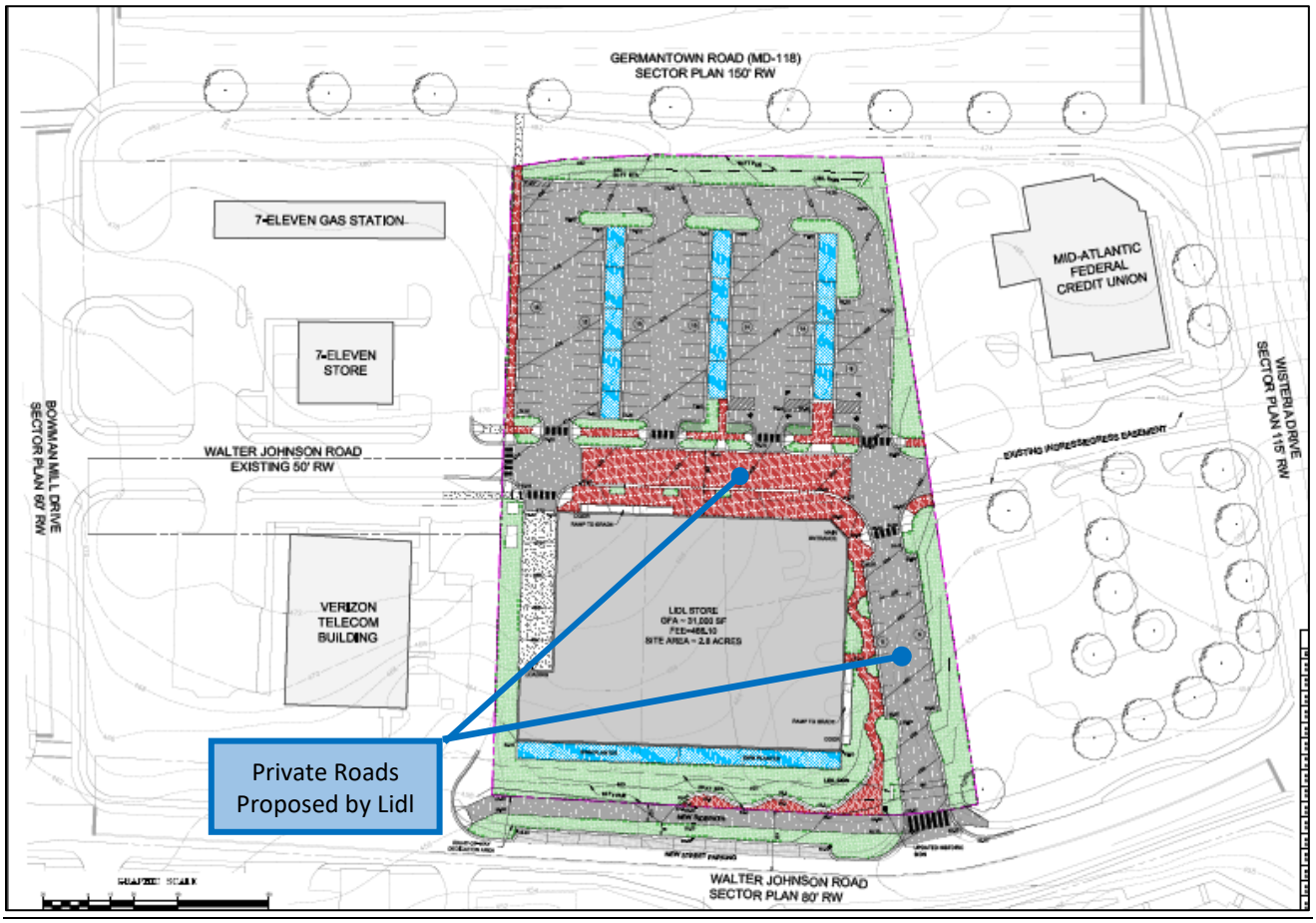
The Conveyance Area is a vacant piece of land, fully occupied by forest. Although it is depicted on the County GIS Map as right-of-way, it has never been used for a public purpose; all existing infrastructure associated with Walter Johnson Road is located outside the Conveyance Area. Lidl will assume for purposes of this letter that the Conveyance Area needs to be abandoned before it is eligible for disposition, but defers to the County's determination on this question. If the County determines that abandonment is not necessary because the Conveyance Area has never been used as public right-of-way, Lidl requests disposition of the Conveyance Area via conveyance of fee simple title to Lidl.

No Further Public Need

The Conveyance Area is no longer needed for public use because Lidl's proposed grocery store project will fulfill and surpass the public need for which the Conveyance Area was deeded to the County. The Conveyance Area was intended for construction of a segment of roadway perpendicular to Walter Johnson Road, as shown on the master plan excerpts on the previous page. This roadway was intended to connect to a new road parallel to Walter Johnson Road. The 1996 Dedication did not, however, provide land for the new parallel road. In the intervening years, two segments of the parallel road have been built, as highlighted on the aerial photograph below. One is a section of public road running between a 7-11 store and a Verizon utility buidling, which is also called Walter Johnson Road, but which we are referring to as Walter Johnson Road North to avoid confusion. The other is a private drive running between the Mid-Atlantic Federal Credit Union and associated parking (the "Credit Union Drive"), over which Lidl will acquire an access easement by virtue of its acquisition of part of Lot 3.

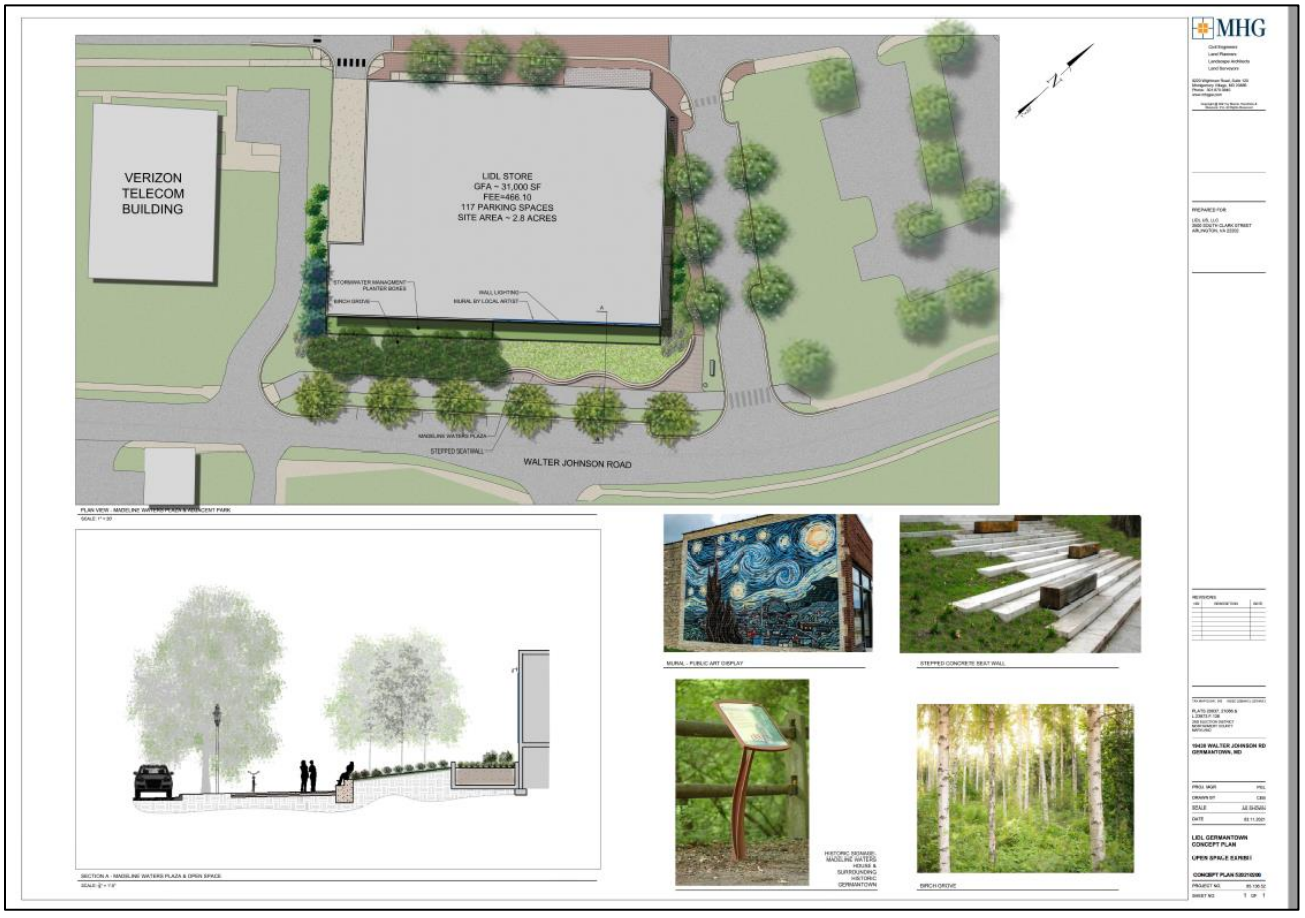


As highlighted on the Concept Site Plan excerpted below and attached in full as Exhibit E, Lidl proposes to build two sections of private roadway that will be open to public use: one parallel to Walter Johnson Road, connecting Walter Johnson Road North with the Credit Union Drive, and another perpendicular to Walter Johnson Road, roughly 50 feet northeast of the road segment shown in applicable master plans. In addition, by acquiring part of Lot 3, Lidl will be acquiring an easement allowing public use of Credit Union Drive. Thus, Lidl proposes to complete the road connections proposed for this block in the applicable master plan, connecting Bowman Mill Drive, Wisteria Drive and Walter Johnson Road. This site plan and roadway layout were designed based on feedback from the Planning Department, where staff emphasized connectivity and safe and efficient pedestrian and vehicular traffic patterns in the immediate neighborhood as the highest priority for the Site. Lidl's proposed project will fully implement master planned roadway connectivity, therefore there is no further public need for the Conveyance Area for present or anticipated future right of way.



Lidl Concept Plan

Lidl's preliminary open space plan is provided on the next page for additional background. Lidl has designed a multi-layered, inviting open space concept to soften the long side of the grocery store building, which was placed adjacent to Walter Johnson Road to accommodate the desired roadway connectivity.



Lidl Open Space Plan

Nominal Value/Waiver of Full Market Value Compensation

County law requires the County Executive to dispose of real property for no less than full market value unless the property is of nominal value (defined in published Code as under $100,000) or the County Council waives the requirement for full market value compensation. *See* Code Section 11B-45(c). Lidl respectfully requests disposition of the Conveyance Area without monetary consideration, either as a property of nominal value or via County Council waiver of full market value consideration.

The Conveyance Area has no monetary value apart from its value as part of Lidl's grocery store project. Due to its size and shape, there is no reasonable expectation that the Conveyance Area could become an independent development site. It has been under County ownership for 25 years and has remained unused during that entire period. Under these circumstances, it would be appropriate to consider the Conveyance Area to be of nominal value, and therefore eligible for conveyance by the County Executive without a public hearing or referral to the County Council.

Alternatively, as a matter of public policy the County should recognize that transferring the Conveyance Area to Lidl will permit construction of a grocery store project with interconnecting roadways that will fulfill and surpass the public purpose for which the Conveyance Area was dedicated in 1996. The 1996 Dedication was intended to facilitate construction of a road perpendicular to Walter Johnson Road if the area were to redevelop in the future. Lidl is now poised to carry out a grocery store project that will implement the full master plan vision of roadway connectivity by building not only a road perpendicular

to Walter Johnson Road, but the missing road segment that will connect Bowman Mill Drive and Wisteria Drive – Lidl's acquisition of part of Lot 3 even brings with it an easement for public use of the Credit Union Drive, making full connectivity possible. The cost of constructing the two road segments and their value to the public in completing the local roadway grid far exceed any monetary value that might be imputed to the Conveyance Area.

For all of the above reasons, Lidl requests abandonment of the Conveyance Area (if needed) and its disposition to Lidl via fee simple conveyance either as a nominal value property, or with a waiver of full market value compensation in recognition of Lidl's implementation of the public purpose for which the County originally acquired the Conveyance Area.

Sincerely yours,

BREGMAN, BERBERT, SCHWARTZ & GILDAY, LLC

By: _____
Françoise M. Carrier

cc: Dustin Schade, Lidl
Ronnie Warner, DGS
Eric Willis, DOT

Links to planning documents cited in text:

https://montgomeryplanning.org/planning/communities/upcounty/germantown/germantown-town-center-design-study-1992/
https://montgomeryplanning.org/planning/communities/upcounty/germantown/germantown-2009/
https://montgomeryplanning.org/planning/communities/upcounty/marc-rail-communities/

EXHIBIT A

PARENT TAX ID Number: 02-2744112

DESCRIPTION OF PART OF THE PROPERTY DEDICATED TO MONTGOMERY COUNTY, MARYLAND LIBER 14594 FOLIO 53

Being a parcel of land located in the Second (2nd) Election District in Montgomery County, Maryland, hereinafter described in, through, over and across the property dedicated in fee simple and released by Phillip D. Keller and W. K. Trummell, Jr. to Montgomery County, Maryland, by a deed of dedication dated October 21, 1996 and recorded among the Land Records of Montgomery County, Maryland in Liber 14594 at Folio 53; and being more particularly described by MHG, P. A. on March 30, 2021 in the datum of said deed as follows:

Beginning for said parcel of land at a rebar and cap found at the beginning of the fifth (5th) or North 46°21'17" East, 23.46 foot deed line of said Deed of Dedication to Montgomery County, Maryland recorded in Liber 14594 at Folio 53 among the aforesaid Land Records; said point being also at the southerly end of the South 46°21'17" West, 23.46 foot plat line as delineated on a plat entitled "LOT 1, WISTERIA BUSINESS PARK" recorded among said Land Records as Plat No. 20037, and running and binding then with the outline of said Lot 1 and with all of the fifth (5th) through seventh (7th) lines of said Deed of Dedication the following three (3) courses and distances:

1. North 46°21'17" East, 23.46 feet to a rebar and cap found, then
2. South 89°15'50" East, 35.74 feet to a rebar and cap found, then
3. South 44°52'57" East, 91.61 feet to a rebar and cap found, then leaving the outline of said Lot 1 and running and binding with the outline of Lot 3 as delineated on a plat of subdivision entitled "LOTS 2 & 3, WISTERIA BUSINESS PARK" as recorded among said Land Records as Plat No. 21066 and with the eighth (8th) through the tenth (10th) lines of the aforesaid Deed of Dedication the following three (3) courses and distances:
4. South 44°52'57" East, 13.39 feet to a rebar and cap found, then

5. 92.37 feet along the arc of a tangent curve deflecting to the left with a radius of 400.00 feet and a chord bearing and distance of South 51°29'52" East, 92.16 feet to an open pipe found, then
6. North 84°53'50" East, 49.24 feet to a rebar and cap found on the northwesterly right of way limits of Walter Johnson Road as shown on said Plat No. 21066, then by two (2) new lines of division
7. 20.58 feet along the arc of a non-tangent curve deflecting to the right with a radius of 450.00 feet and a chord bearing and distance of South 49°27'24" West, 20.58 feet to point, then
8. South 50°46'01" West, 82.07 feet to a point on the last line (described only as a straight line to the beginning) of Exhibit "A" of the lands conveyed by Fred K. Huie and Margaret P. Huie to Mahmoud Fallahi and Behjat Baharloo by a deed dated May 1, 2003 and recorded in Liber 23973 at Folio 138 among the aforesaid Land Records, then running and binding with part of said last line
9. North 43°38'43" West, 244.52 feet to the point of beginning; containing an area of 13,451 square feet or 0.30879 acres of land.

Certified correct to the best of my professional knowledge, information and belief and this description was prepared by me and is in conformance with Title 9, Subtitle 13, Chapter 6, Section .12 of the Minimum Standards of Practice for Land Surveyors.





MHG, P.A.
Wayne F. Aubertin, Professional Land Surveyor
Maryland Registration No. 21330
License Expires: 01-07-2023

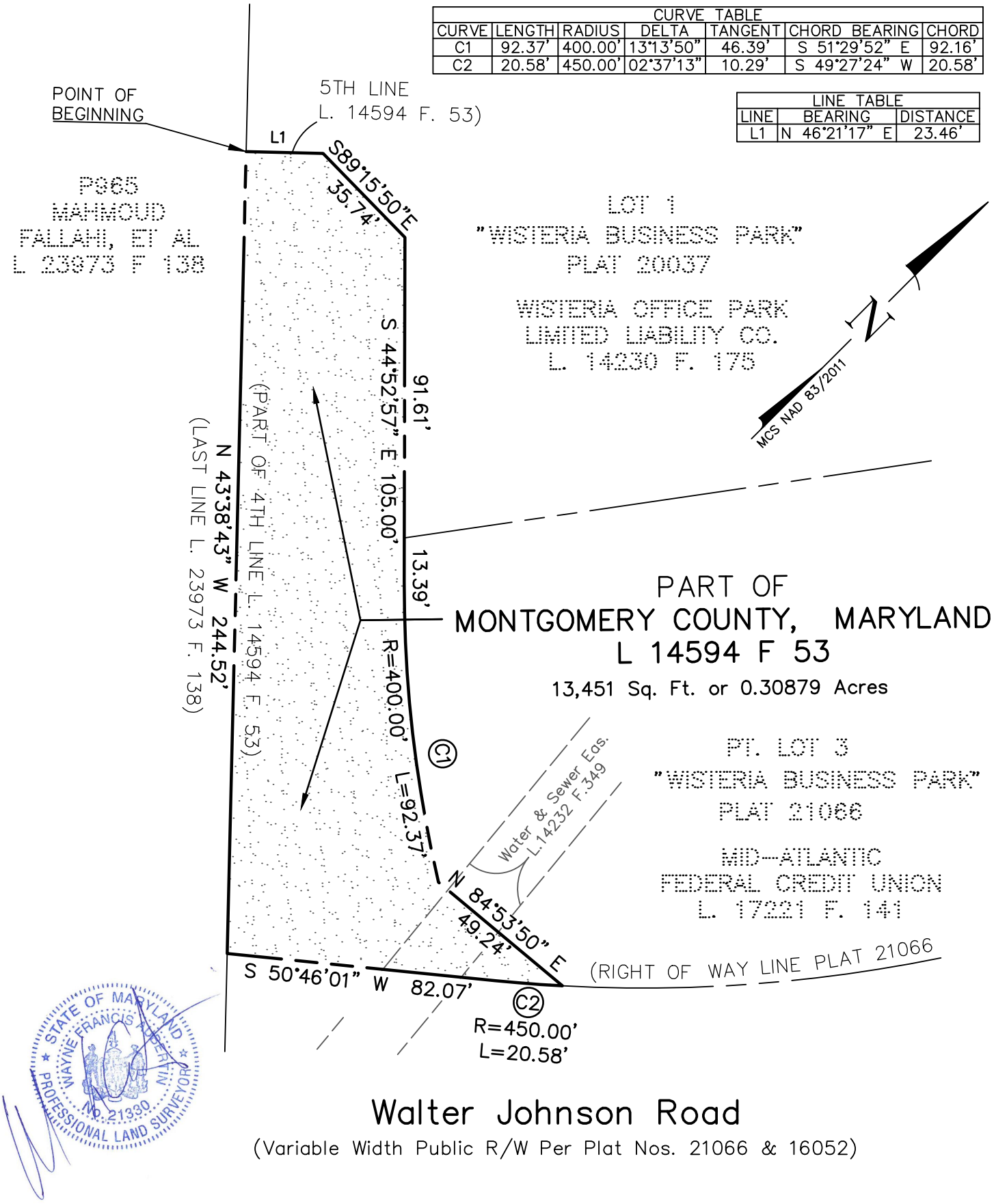
AFTER RECORDATION PLEASE RETURN TO:

MHG, P.A.
9220 Wightman Rd., Suite 120
Montgomery Village, MD 20086
Attn: Wayne Aubertin

F:\Projects\85136\85136.52\WP\PART MONTCO_RLB_2021_03_30.docx

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BEARING	CHORD
C1	92.37'	400.00'	13°13'50"	46.39'	S 51°29'52" E	92.16'
C2	20.58'	450.00'	02°37'13"	10.29'	S 49°27'24" W	20.58'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 46°21'17" E	23.46'



MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors
www.mhgpa.com

EXHIBIT B

PROPERTY OF MONTGOMERY COUNTY, MD

PART OF L. 14594 F. 53

MONTGOMERY COUNTY, MARYLAND

DEED	L.14594 F.053
SCALE	1" = 40'
DATE	05-28-2021
JOB NO.	85.136.53

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0053, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

Exhibit C

Tax ID No:2-02-2744112 ✓
TITLING - NA -

DEED OF DEDICATION

THIS DEED OF DEDICATION, dated October 21, 1996, from **PHILLIP D. KELLER and W. K. TRUMBELL, JR.**, Grantors, to **MONTGOMERY COUNTY, MARYLAND**, Grantee.

The Grantors, for and in consideration of the sum of Ten Dollars ($10.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, do dedicate in fee simple and release unto the Grantee, its successors and assigns, the real property located in Montgomery County, Maryland, and described as follows:

See Schedule A attached hereto and incorporated herein by reference

INT ED SURF $ 5.00
RECORDING FEE 20.00
TOTAL 25.00
Rest MOOR RCPT # 34690
MQR BDH Blk # 4376
DEC 30, 1996 04:09 PM

Together with all improvements thereupon and the rights, alleys, ways, waters, easements, privileges, appurtenances and advantages belonging or appertaining thereto.

To have and to hold the property hereby conveyed to the Grantee, its successors and assigns, in fee simple, forever.

The Grantors covenant to warrant specially the property hereby conveyed, and to execute such further assurances of the property as may be requisite.

Witness the hands and seals of the Grantors.

RECEIVED FOR TRANSFER
State Department of
Assessments & Taxation
for Montgomery County
AR # 84454
By Date

AGRICULTURE TRANSFER TAX IN THE AMOUNT OF $ N/A
SIGNATURE

96 DEC 30 P 4:11 CE
CLERK'S OFFICE
MONTGOMERY COUNTY, MD.

LAW OFFICES
MILLER, MILLER & CANBY
CHARTERED
200-B MONROE STREET
ROCKVILLE, MARYLAND
301 762-5212
129-13 WEST PATRICK ST
FREDERICK, MARYLAND
301 698-1380

22
5

BB

3 of 3

LF 14594.054

WITNESS:

Kevin M. Keller — PHILLIP D. KELLER (SEAL)

Stacey Brown — W. K. TRUNNELL, JR. (SEAL)

STATE OF MARYLAND
COUNTY OF MONTGOMERY

I HEREBY CERTIFY, that on Oct 10, 1996, before me a Notary Public of the State of Maryland, personally appeared PHILLIP D. KELLER, known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing instrument, and who acknowledged that he executed the same for the purposes therein contained.

WITNESS my hand and Notarial Seal.

Patricia A. Sigler
Notary Public

My Commission Expires:

PATRICIA A. SIGLER
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires January 26, 2000

STATE OF MARYLAND
COUNTY OF MONTGOMERY

I HEREBY CERTIFY, that on Oct 10, 1996, before me a Notary Public of the State of Maryland, personally appeared W. K. TRUNNELL, JR., known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing instrument, and who acknowledged that he executed the same for the purposes therein contained.

WITNESS my hand and Notarial Seal.

Patricia A. Sigler
Notary Public

My Commission Expires:

PATRICIA A. SIGLER
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires January 26, 2000

LAW OFFICES
MILLER, MILLER & CANBY
CHARTERED
200-B MONROE STREET
ROCKVILLE, MARYLAND
301 762-5212

100-12 WEST PATRICK ST
FREDERICK, MARYLAND
301 663-1388

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0054, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

STATE OF MARYLAND
COUNTY OF MONTGOMERY

I HEREBY CERTIFY, that on October 21, 1996, before me a Notary Public of the State of Maryland, personally appeared PHILLIP D. KELLER, known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing instrument, and who acknowledged that he executed the same for the purposes therein contained.

WITNESS my hand and Notarial Seal.

Sandra G. Newman
Notary Public

My Commission Expires:

SANDRA G. NEWMAN
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires

I HEREBY CERTIFY that I am an attorney duly admitted to practice before the Court of Appeals of Maryland and that this instrument was prepared under my supervision.

Diane M. Poole

LAW OFFICES
MILLER, MILLER & CANBY
CHARTERED
200-B MONROE STREET
ROCKVILLE, MARYLAND
301 762-5212

128-12 WEST PATRICK ST.
FREDERICK, MARYLAND
301 695-1280

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0055, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

LF 14594..056

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p: 0056, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

SCHEDULE "A"

PUBLIC USE AREA

PART OF PHILLIP D. KELLER & W.K. TRUNNELL, JR. PROPERTY

LIBER 8868 FOLIO 290

Being a strip or parcel of land located in the Second (2nd) Election District of Montgomery County, Maryland and being part of the land conveyed by Post Development to Phillip D. Keller et al by deed dated June 15, 1989 and recorded among the Land Records of Montgomery County, Maryland in Liber 8868 at Folio 290 and being more particularly described in the Maryland State Plain (NAD 27) datum by Macris, Hendricks and Glascock, P.A. as follows:

Beginning at a point on the westerly right-of-way line of Germantown Road (Old Route 118) said point being the beginning of the fifth (5th) line of Parcel Two as described in the aforesaid conveyance, then binding with the 5th thru 7th and part of the 1st line of said Parcel Two

1. South 25°48'23" West, 211.19 feet to a point, then
2. South 37°18'13" West, 73.47 feet to a point, then
3. South 48°43'00" West, 146.95 feet to a point, then leaving the westerly limits of said Germantown Road and binding with part of the said 1st line of Liber 8868 Folio 290
4. North 43°38'43" West, 271.88 feet to a point, said point being at the southeasterly end of the North 43°38'43" West, 186.00 foot line of Lot 1 as delineated on a plat of

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0057, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

subdivision entitled "Wisteria Business Park" as recorded among the aforesaid Land Records in Plat Book 179 at Plat No. 20037, then binding with the southerly platted limits of said Lot 1

5. North 46°21'17" East, 23.46 feet to a point, then
6. South 89°15'50" East, 35.74 feet to a point, then
7. South 44°52'57" East, 91.61 feet to a point, then leaving the southerly platted limits of said Lot 1 and continuing to cross and include part of said Liber 8868 at Folio 290
8. South 44°52'57" East, 13.39 feet to a point, then
9. 92.37 feet along the arc of a curve to the left, having a radius of 400.00 feet and a chord bearing and length of South 51°29'52" East, 92.16 feet to a point, then
10. North 84°53'50" East, 49.24 feet to a point, then
11. 172.23 feet along the arc of a curve to the left, having a radius of 450.00 feet and a chord bearing and length of North 37°10'54" East, 171.18 feet to a point of tangency, then
12. North 26°13'01" East, 151.52 feet to a point on the southerly right-of-way limits of Wisteria Drive (variable width R/W), then binding with said Wisteria Drive

13. South 53°41'18" East, 20.07 feet to the point of beginning; containing 23,376 square feet or 0.536639 of an acre of land.

Certified correct to the best of our professional knowledge, information and belief. If the seal and signature are not violet colored, the document is a copy that should be assumed to contain unauthorized alterations. The certification contained on this document shall not apply to any copies.

Douglass H. Riggs III

Morris, Hendricks & Glascock, P.A.
Douglass H. Riggs III, Professional Land Surveyor
MD Registration No. 10712

STATE OF MARYLAND
DOUGLASS H. RIGGS III
No. 10712
REGISTERED
PROFESSIONAL LAND SURVEYOR

DEC 30 1996

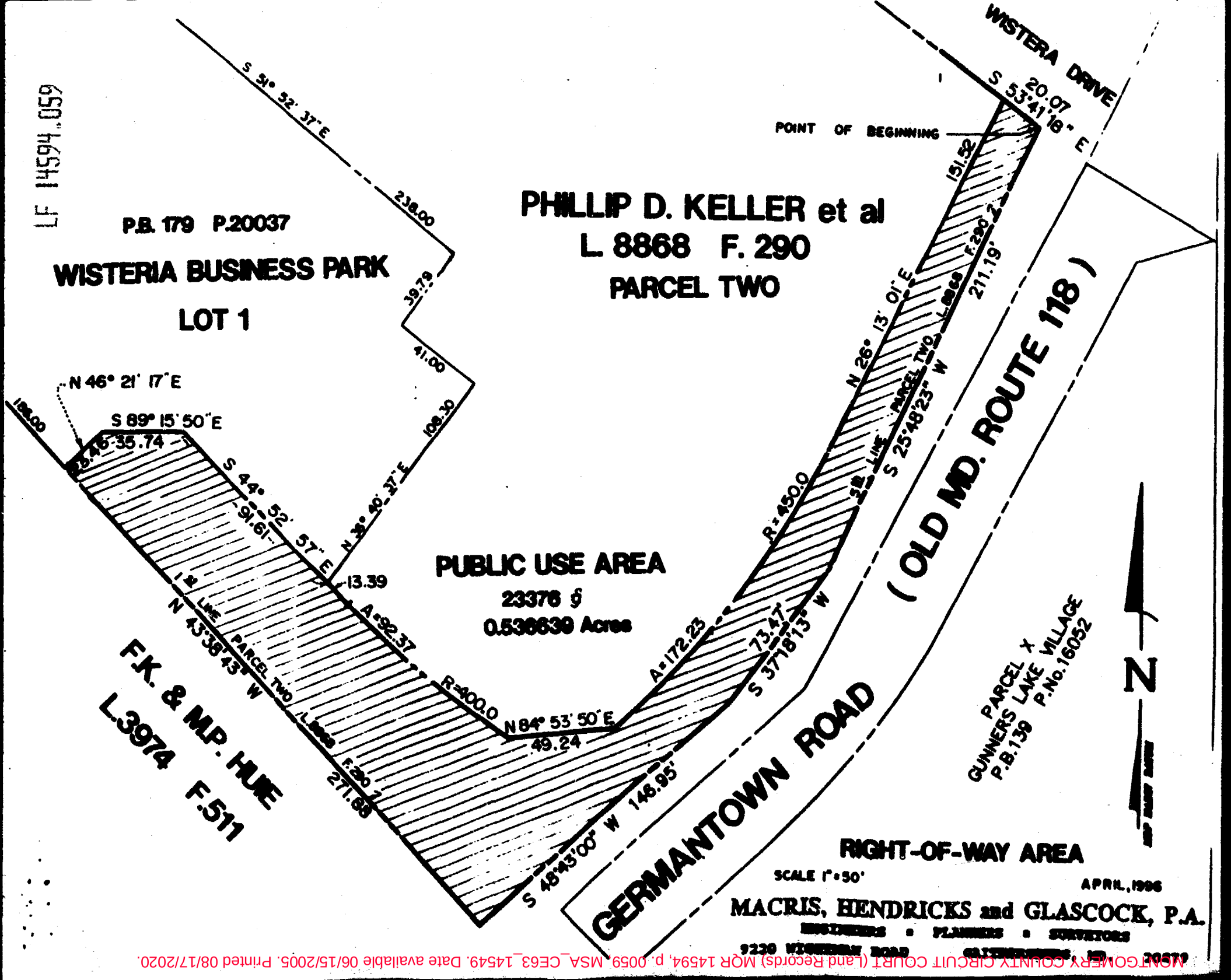
2-2-274112

All Taxes on assessments certified to the Collector of Taxes for Montgomery County Md. by [illegible] have been paid Dept. of Finance Montgomery County, Md. This statement is for the purpose of permitting recordation and is not assurance against further taxation even for prior periods, nor does it guarantee satisfaction of outstanding tax sales.

TRANSFER TO GOVERNMENTAL, RELIGIOUS, OR CHARITABLE ORGANIZATION

SA100501.DOC/85-136
4/19/96

MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0058, MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.



MONTGOMERY COUNTY CIRCUIT COURT (Land Records) MQR 14594, p. 0059. MSA_CE63_14549. Date available 06/15/2005. Printed 08/17/2020.

Exhibit D

Date of mailing: October 26, 1995

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
8787 Georgia Avenue • Silver Spring, Maryland 20910-3760

Action: Approved Staff Recommendation with Modifications (Motion of Comm. Richardson, seconded by Comm. Holmes, with a vote of 5-0; Comms. Richardson, Holmes, Baptiste, Aron, and Hussmann voting in favor).

MONTGOMERY COUNTY PLANNING BOARD

OPINION

Preliminary Plan 1-90068
NAME OF PLAN: K & T DEVELOPMENT

On 02-16-90, W.K. TRUNNELL, JR. , submitted an application for the approval of a preliminary plan of subdivision of property in the R200 zone. The application proposed to create 1 lots on 3.92 ACRES of land. The application was designated Preliminary Plan 1-90068. On 10-12-95, Preliminary Plan 1-90068 was brought before the Montgomery County Planning Board for a public hearing. At the public hearing , the Montgomery County Planning Board heard testimony and received evidence submitted in the record on the application. Based upon the testimony and evidence presented by staff and on the information on the Preliminary Subdivision Plan Application Form attached hereto and made a part hereof, the Montgomery County Planning Board finds Preliminary Plan 1-90068 to be in accordance with the purposes and requirements of the Subdivision Regulations (Chapter 50, Montgomery County Code,as amended) and approves Preliminary Plan 1-90068, subject to the following conditions:

(1) Compliance with Environmental Planning Division approval regarding the requirements of the forest conservation legislation. Applicant shall satisfy all conditions prior to recording of plat(s) or MCDEP issuance of sediment and erosion control permit, as appropriate

(2) Prior to recording of plat(s) applicant to submit agreement with Planning Board limiting development to a maximum of 200 children enrollment daycare center, 20,000 square feet of office, 7,450 square feet retail and 3,000 square feet bank facility as outlined in 10-5-95 Transportation Division memo

(3) Final building locations shall be consistent with Historic Area Work Permit and finalized at site plan

(4) Dedication of all rights-of-way to be in conformance with Germantown Town Center Study

(5) Preservation and design of allee of trees to be developed at site plan

(6) Provide area of possible future dedication of MARC Train "loop road" as shown on plan

- continued -

(7) Conditions of MCDEP stormwater management approval dated 7-17-95

(8) Access and improvements including sidewalks, street trees, etc. as required and approved by MCDOT

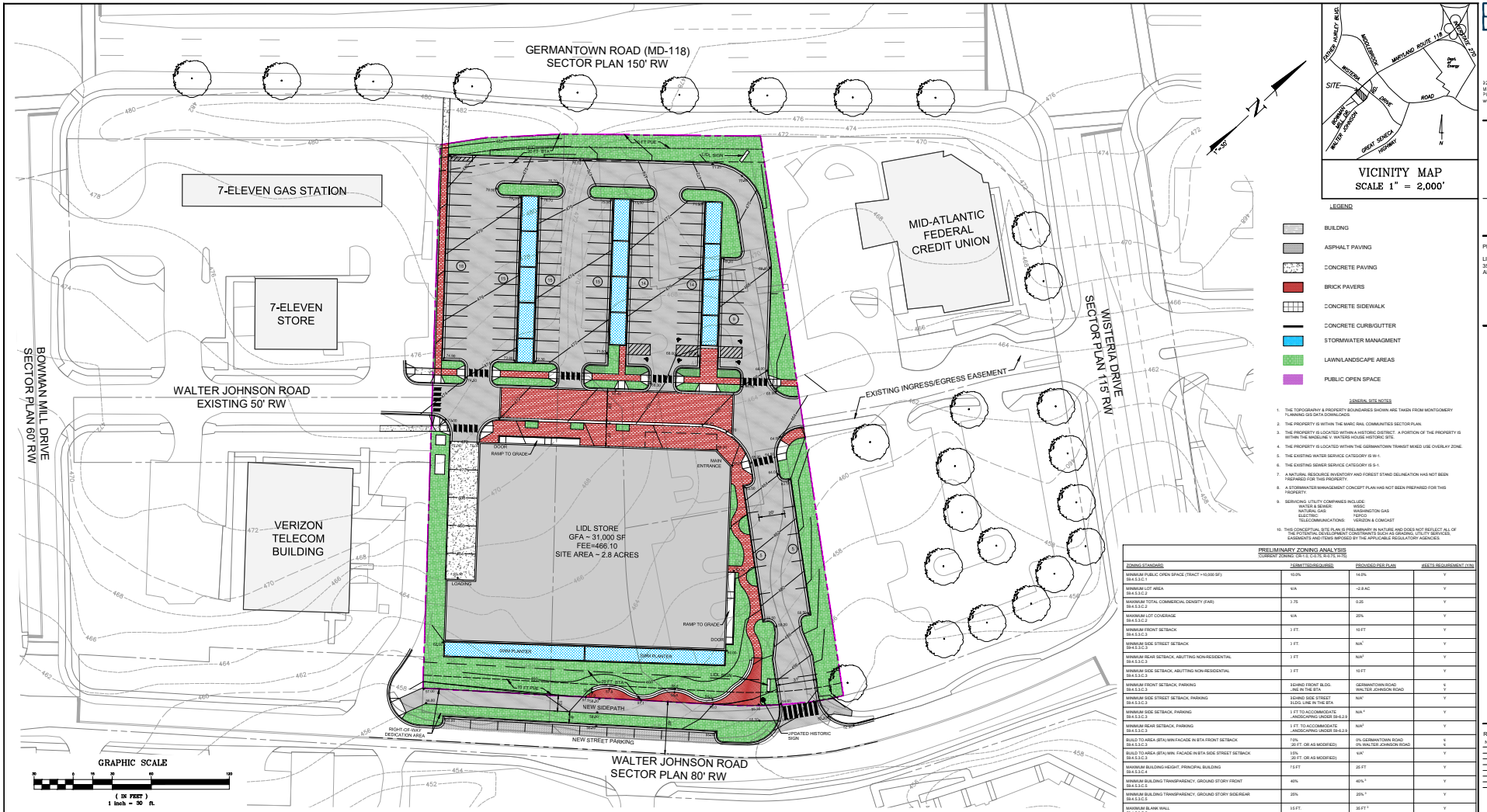
(9) No clearing, grading or recording of lots prior to site plan approval

(10) Record plat(s) to reference ingress/egress easements

(11) Other necessary easements

(12) This preliminary plan will remain valid until November 26, 1998. Prior to the expiration of this validity period, a final record plat for all property delineated on the approved preliminary plan must be recorded or a request for an extension must be filed.

Exhibit E



VICINITY MAP
SCALE 1" = 2,000'

LEGEND

- BUILDING
- ASPHALT PAVING
- CONCRETE PAVING
- BRICK PAVERS
- CONCRETE SIDEWALK
- CONCRETE CURB/GUTTER
- STORMWATER MANAGMENT
- LAWN/LANDSCAPE AREAS
- PUBLIC OPEN SPACE

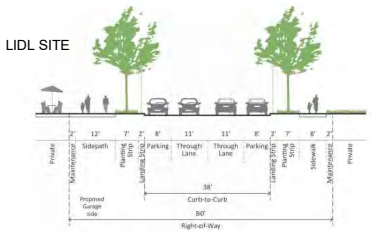
GENERAL SITE NOTES

1. THE TOPOGRAPHY & PROPERTY BOUNDARIES SHOWN ARE TAKEN FROM MONTGOMERY PLANNING GIS DATA DOWNLOADS.
2. THE PROPERTY IS WITHIN THE MARC RAIL COMMUNITIES SECTOR PLAN.
3. THE PROPERTY IS LOCATED WITHIN A HISTORIC DISTRICT. A PORTION OF THE PROPERTY IS WITHIN THE MASELINE V. WATERS HOUSE HISTORIC SITE.
4. THE PROPERTY IS LOCATED WITHIN THE GERMANTOWN TRANSIT MIXED USE OVERLAY ZONE.
5. THE EXISTING WATER SERVICE CATEGORY IS W-1.
6. THE EXISTING SEWER SERVICE CATEGORY IS S-1.
7. A NATURAL RESOURCE INVENTORY AND FOREST STAND DELINEATION HAS NOT BEEN PREPARED FOR THIS PROPERTY.
8. A STORMWATER MANAGEMENT CONCEPT PLAN HAS NOT BEEN PREPARED FOR THIS PROPERTY.
9. SERVICING UTILITY COMPANIES INCLUDE:
   WATER & SEWER: WSSC
   NATURAL GAS: WASHINGTON GAS
   ELECTRIC: PEPCO
   TELECOMMUNICATIONS: VERIZON & COMCAST
10. THIS CONCEPTUAL SITE PLAN IS PRELIMINARY IN NATURE AND DOES NOT REFLECT ALL OF THE POTENTIAL DEVELOPMENT CONSTRAINTS SUCH AS GRADING, UTILITY SERVICES, EASEMENTS AND ITEMS IMPOSED BY THE APPLICABLE REGULATORY AGENCIES.

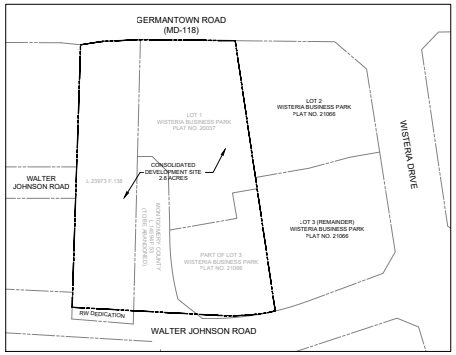
PRELIMINARY ZONING ANALYSIS
CURRENT ZONING: CR-1.0, C-0.75, R-0.75, H-70

ZONING STANDARD	PERMITTED/REQUIRED	PROVIDED PER PLAN	MEETS REQUIREMENT (Y/N)
MINIMUM PUBLIC OPEN SPACE (TRACT >10,000 SF.) 59-4.5.3.C.1	10.0%	14.0%	Y
MINIMUM LOT AREA 59-4.5.3.C.2	N/A	~2.8 AC	Y
MAXIMUM TOTAL COMMERCIAL DENSITY (FAR) 59-4.5.3.C.2	1.75	0.25	Y
MAXIMUM LOT COVERAGE 59-4.5.3.C.3	N/A	25%	Y
MINIMUM FRONT SETBACK 59-4.5.3.C.3	3 FT.	10 FT.	Y
MINIMUM SIDE STREET SETBACK 59-4.5.3.C.3	3 FT.	N/A [1]	Y
MINIMUM REAR SETBACK, ABUTTING NON-RESIDENTIAL 59-4.5.3.C.3	3 FT.	N/A [2]	Y
MINIMUM SIDE SETBACK, ABUTTING NON-RESIDENTIAL 59-4.5.3.C.3	3 FT.	10 FT.	Y
MINIMUM FRONT SETBACK, PARKING 59-4.5.3.C.3	BEHIND FRONT BLDG. LINE IN THE BTA	GERMANTOWN ROAD WALTER JOHNSON ROAD	N Y
MINIMUM SIDE STREET SETBACK, PARKING 59-4.5.3.C.3	BEHIND SIDE STREET BLDG. LINE IN THE BTA	N/A [1]	Y
MINIMUM SIDE SETBACK, PARKING 59-4.5.3.C.3	1 FT TO ACCOMMODATE LANDSCAPING UNDER 59-6.2.9	N/A [1]	Y
MINIMUM REAR SETBACK, PARKING 59-4.5.3.C.3	1 FT. TO ACCOMMODATE LANDSCAPING UNDER 59-6.2.9	N/A [2]	Y
BUILD TO AREA (BTA) MIN FACADE IN BTA FRONT SETBACK 59-4.5.3.C.3	70% (80 FT. OR AS MODIFIED)	0% GERMANTOWN ROAD 0% WALTER JOHNSON ROAD	N N
BUILD TO AREA (BTA) MIN. FACADE IN BTA SIDE STREET SETBACK 59-4.5.3.C.3	35% (80 FT. OR AS MODIFIED)	N/A [1]	Y
MAXIMUM BUILDING HEIGHT, PRINCIPAL BUILDING 59-4.5.3.C.4	70 FT	35 FT	Y
MINIMUM BUILDING TRANSPARENCY, GROUND STORY FRONT 59-4.5.3.C.5	60%	60% [3]	Y
MINIMUM BUILDING TRANSPARENCY, GROUND STORY SIDE/REAR 59-4.5.3.C.5	20%	20% [3]	Y
MAXIMUM BLANK WALL 59-4.5.3.C.3	0 FT.	30 FT [3]	Y
PARKING LOT INTERNAL LANDSCAPED AREA 59-6.2.9.C.1	1%	20%	Y
PARKING LOT TREE CANOPY 59-6.2.9.C.2	25%	25%	Y
PARKING LOT PERIMETER PLANTING WIDTH, ABUTTING NON-RESIDENTIAL 59-6.2.9.C.3	1 FT	6 FT (MIN)	Y
VEHICLE PARKING REQUIREMENTS (WITHIN REDUCED PARKING AREA) 59-6.2.4.B	109 SPACES MINIMUM (1.5 PER 1,000 SF) 167 SPACES MAXIMUM (4 PER 1,000 SF)	112 SPACES (SEE BREAKDOWN BELOW)	Y
MINIMUM NUMBER OF ACCESSIBLE SPACES 59-6.2.3.B / COMAR 05.02.02	5 SPACES	5 SPACES	Y
MOTORCYCLE/SCOOTER SPACES: 59-6.2.3.C	2 SPACES	2 SPACES	Y
CAR-SHARE SPACES: 59-6.2.3.D	1 SPACE	1 SPACE	Y
ELECTRIC VEHICLE CHARGING SPACES (FUTURE): 59-6.2.3.E	2 SPACES	2 SPACES	Y
PARKING PROVIDED BREAKDOWN:			
STANDARD (8.5 FT X 18 FT) ACCESSIBLE (8 FT X 18 FT) MOTORCYCLE/SCOOTER (4 FT X 18 FT) CAR-SHARE (8.5 FT X 18 FT) ELECTRIC VEHICLE CHARGING (8 FT X 18 FT)		102 SPACES 5 SPACES 2 SPACES 1 SPACE 2 SPACES	Y Y Y Y Y
MINIMUM BICYCLE PARKING SPACES REQUIRED 59-6.2.4.C	4 SPACES (1 LONG TERM) 1.0 PER 10,000 SF)	4 SPACES (1 LONG TERM)	Y
MINIMUM NUMBER OF LOADING SPACES 59-6.2.8.B	1 SPACE (12 FT X 55 FT)	1 SPACE (21 FT X 100 FT)	Y

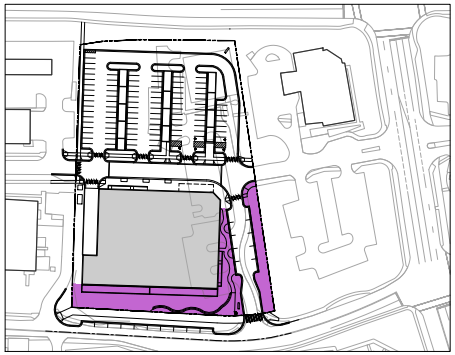
FOOTNOTES:
1. PROPERTY IS NOT A CORNER LOT AND THEREFORE DOES NOT INCLUDE A SIDE STREET SETBACK.
2. PROPERTY IS CONSIDERED A THROUGH LOT, AND THEREFORE HAS NO REAR YARD.
3. CAN BE MET WITH MINOR ARCHITECTURAL ADJUSTMENTS PER OUR EXPERIENCE ON OTHER LIDL PROJECTS.
4. BOTH SIDES OF THE SITE ABUT EXISTING PARKING LOTS. THEREFORE, PER 59-6.2.9.C.3.b.ii, PERIMETER PLANTING IS NOT REQUIRED.



WALTER JOHNSON ROAD - TYPICAL SECTION
(FIGURE 47 - MARC RAIL COMMUNITIES SECTOR PLAN)



LOTTING DIAGRAM
1" = 80'



PUBLIC OPEN SPACE DIAGRAM
1" = 80'

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors
9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
Phone: 301.670.0840
www.mhgpa.com

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PREPARED FOR:

LIDL US, LLC
3500 SOUTH CLARK STREET
ARLINGTON, VA 22202

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 228NW13, 227NW13

PLATS 20037, 21066 &
L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

19430 WALTER JOHNSON RD
GERMANTOWN, MD

PROJ. MGR	PGL
DRAWN BY	JDP
SCALE	1"= 30'
DATE	03.31.2021

LIDL GERMANTOWN
CONCEPT SITE PLAN

CONCEPT PLAN 520210200

PROJECT NO.	85.136.51
SHEET NO.	1 OF 1

I:\85\136\DWG\CP_01_01.dwg, Concept Plan, 3/31/2021 2:01:36 PM, Copyright © 2017 Macris, Hendricks & Glascock, P.A.

DEPARTMENT OF TRANSPORTATION

Marc Elrich
County Executive

Christopher Conklin
Director

July 15, 2022

Mr. Jonathan Casey, Senior Planner
Upcounty Planning Division
The Maryland-National Capital
Park & Planning Commission
2425 Reedie Drive
Wheaton, MD 20902

RE: Preliminary Plan No. 120220030
Wisteria Business Park - Lidl Germantown
Traffic Impact Study

Dear Mr. Casey:

We have completed our review of the revised preliminary plan uploaded to eplans on June 22, 2022. A previous version of this plan was reviewed by the Development Review Committee (DRC) at its meeting on January 4, 2022. We recommend approval of the plans subject to the following comments:

Preliminary Plan Review Comments

Significant Plan Review Comments

1. Traffic Signal - MCDOT has reviewed the revised Local Area Transportation Review (LATR), dated April 5, 2022, and produced by Gorove Slade, for the Walter Johnson Road development in Germantown, MD. In reviewing the document, MCDOT notes that the subject LATR does not propose the installation of a traffic signal at the intersection of Wisteria Drive and Walter Johnson Road. MCDOT disagrees with this assertion and believes that a traffic signal is necessary at the Wisteria Drive/Walter Johnson Road intersection for the reasons noted below:

   MCDOT recognizes that the mathematical traffic signal warrants, as cited in the Maryland Manual on Uniform Traffic Control Devices (MdMUTCD) Section 4C.01 are not met. It must be noted that the mathematical traffic signal warrants are only part of the evaluation that must be considered to determine if traffic signals are justified at a location (Section 4C.01.02). In accordance with the MUTCD, an engineering study may reveal that overall safety and operations are enhanced, even if a traffic signal is not warranted (Section 4C.01.06). In this case, a review of the additional left-turn volumes from Walter Johnson Road to Wisteria Drive and from Wisteria Drive to Walter Johnson Road, as well as the right-turn volumes anticipated from Walter Johnson Road to Wisteria Drive

(19430 Walter Johnson Road LATR) will create an operational condition with higher demand that may increase the hazards to all intersection users without the presence of a traffic signal.

The LIDL development is anticipated to:

- Double the left-turn volumes from Wisteria Drive to Walter Johnson Road in the AM and PM Peaks (+26AM/+56PM);
- Double the left-turn volumes from Walter Johnson Road to Wisteria Drive in the AM Peak (+13) and nearly triple the left-turn volumes in the PM Peak (+51);
- Double the right-turn volumes from Walter Johnson Road to Wisteria Drive in the PM Peak (+37).

The lane geometry at the Wisteria Drive/Walter Johnson Road intersection includes a multi-lane approach along Wisteria Drive, resulting in increased, unprotected left-turns across multiple lanes with multiple movements. Additionally, Wisteria Drive on both approaches to Walter Johnson Road has a downward grade, contributing to increased vehicle speeds at this intersection. MCDOT views these complicated movements, without the provision of a traffic signal, as a greater hazard for both vehicles and pedestrians using this intersection in comparison to the base case. Additionally, existing bus stops are located on either side of Wisteria Drive at its intersection with Walter Johnson Road. Pedestrians crossing Wisteria Drive to reach the bus stops or students from the nearby school (Seneca High School) will have to navigate six lanes of traffic on Wisteria Drive, with increased traffic volumes to reach these facilities.

In this respect the LATR refers to the Vision Zero Statement in Section 3.4.b. The requirement is that the project's right-of-way improvements within the vicinity of the site address safety issues for motorists, transit riders, bicyclists and pedestrians. MCDOT does not agree that the proposed improvements associated with the development adequately address or mitigate the pedestrian/transit rider and motorist safety hazards described by the activity at the Wisteria Drive/Walter Johnson Road intersection.

Additionally, Signal Warrant 4 – Pedestrian Volume "is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street." While MCDOT understands that the pedestrian volume and major street volumes may not result in "excessive delay", the interaction of pedestrians crossing an uncontrolled, multi-lane roadway are exposed to significant hazard of being struck by a vehicle. MCDOT does not agree that the LATR recommendations for improvements satisfies the LATR requirement to demonstrate how the improvements proximal to the intersection address these identified safety issues.

Therefore, the applicant will be responsible for the installation of a traffic signal at this intersection prior to issuance of the Use and Occupancy permit. At or before the right-of-way permit stage, please contact Mr. Kamal Hamud of our Transportation Systems Engineering Team at (240) 777-2190 or at kamal.hamud@montgomerycountymd.gov for proper executing procedures. All costs associated with such improvements shall be the responsibility of the applicant.

2. To comply with the 2018 Bicycle Master Plan:

    - The applicant will be required to construct a 12' asphalt, sidepath along the Walter Johnson Road frontage extending from the property's southwest corner to the northwest corner of the Walter Johnson Road/Wisteria Drive intersection. The applicant will be required to construct an 8' asphalt, sidepath along the north side of Walter Johnson Road extending from west side of the Verizon driveway entrance to the northeast corner of the Walter Johnson Road/Bowman Mill Drive intersection.

    - The applicant will be required to construct a 10' asphalt, shared use path along the Germantown Road (MD 118) frontage extending from the property's northwest corner to the southwest corner of the Germantown Road (MD 118)/Wisteria Drive intersection. The applicant will also be required to construct a 5' concrete sidewalk extending north from the northwest corner of the property to the asphalt path.

    - The applicant will be required to construct a 10' asphalt, shared use path along the west side of Wisteria Drive extending from the southwest corner of the Germantown Road (MD 118)/Wisteria Drive intersection to the northwest corner of the Wisteria Drive/Walter Johnson Road intersection.

3. The applicant will be required to construct right-in/right-out channelization at the entrance on Wisteria Drive. Show this configuration as proposed on the Certified Preliminary Plan.

4. The applicant will be required to underground all utilities along Walter Johnson Road from the property's southwest corner to the northwest corner of the Wisteria Drive/Walter Johnson Road intersection.

5. Provide dedication along the Walter Johnson Road frontage to accommodate the necessary roadway improvements per Page 66 of the April 2019, MARC Rail Communities Sector Plan.

<u>Standard Plan Review Comments</u>

6. All Planning Board Opinions relating to this plan or any subsequent revision, project plans or site plans should be submitted to the Montgomery County Department of Permitting Services in the package for record plats, storm drain, grading or paving plans, or application for access permit. This letter and all other correspondence from this department should be included in the package.

7. We defer to Maryland State Highway Administration (MSHA) for all improvements along Germantown Road (MD 118).

8. No steps, stoops, retaining walls or other structures for the development are allowed in County right-of-way. In addition, doors are not allowed to swing into the County right-of-way.

9. The sight distance study has been accepted. A copy of the Sight Distance Evaluation certifications form is included with this letter.

10. The storm drain analysis was reviewed and is acceptable to MCDOT. No improvements are needed to the downstream County storm drain system for this plan.

11. This project is located in a Bicycle and Pedestrian Priority Area (BiPPA). Design all vehicular access points (if being reconstructed/rebuilt) to be at-grade with sidewalk, dropping down to street level between the sidewalk and roadway.

12. Provide on-site handicap access facilities, parking spaces, ramps, etc. in accordance with the Americans with Disabilities Act.

13. Relocation of utilities along existing roads to accommodate the required roadway improvements shall be the responsibility of the applicant.

14. In all underground utility installations, install identification tape or other "toning" device approximately two feet above the utility.

15. If the proposed development will alter any existing streetlights, replacement of signing, and/or pavement markings, please contact Mr. Dan Sanayi of our Traffic Engineering Design and Operations Section at (240) 777-2190 for proper executing procedures. All costs associated with such relocations shall be the responsibility of the applicant.

16. Trees in the County rights of way – spacing and species to be in accordance with the applicable MCDOT standards. Tree planning within the public right of way must be coordinated with DPS Right-of-Way Plan Review Section.

17. Posting of a ROW permit bond is a prerequisite to MCDPS approval of the record plat. The permit will include, but not necessarily be limited to, the following improvements:

    a. Curb, gutter, asphalt path, handicap ramps, storm drain, street trees and streetlights along Walter Johnson Road.

    b. Curb, gutter, asphalt path, handicap ramps, street trees and street lights along Wisteria Drive.

    c. Traffic Signal at the intersection of Wisteria Drive and Walter Johnson Road.

    d. Permanent monuments and property line markers, as required by Section 50-4.3(G) of the Subdivision Regulations.

    e. Erosion and sediment control measures as required by Montgomery County Code 19-10(02) and on-site stormwater management where applicable shall be provided by the Developer (at no cost to the County) at such locations deemed necessary by the Department of Permitting Services (DPS) and will comply with their specifications. Erosion and sediment

control measures are to be built prior to construction of streets, houses and/or site grading and are to remain in operation (including maintenance) as long as deemed necessary by MCDPS.

Traffic Impact Study Review Comments

We have completed our review of the revised Traffic Impact Study (TIS) dated April 5, 2022. Total development evaluated by this analysis includes:

- 30,000 square foot grocery store

Based upon our review, we have the following comments:

General Comment

1. The traffic counts were collected in the Spring of 2021, and an adjustment factor was applied, consistent with the September 17, 2020, COVID-19 Policy memorandum.

2. Additional traffic counts were collected in the Fall of 2021 and do not require an adjustment factor.

3. The study is based upon the 2020-2024 Growth and Infrastructure Policy adopted on November 16, 2020 (Council Resolution #19-655).

Adequacy Determination

1. The study indicates that the subject development will generate between 136 AM and 417 PM total weekday peak-hour person trips; therefore, all Adequacy tests are required. The project is located in the Germantown Town Center "Orange" Policy Area. Therefore, the pedestrian and bicycle adequacies are to be evaluated within a 1000-foot walkshed, and there must be a minimum of 4 bus shelters with Realtime Information (TRI) display within 1500 feet.

Motor Vehicle System Adequacy

1. The subject development is required to meet the Local Area Transportation Review (LATR) test for motor vehicle system adequacy. The LATR test for the Germantown Town Center policy area uses the Highway Capacity Manual (HCM) congestion standard with an average vehicle delay standard of 63 seconds per vehicle. Some of the intersections studied are located in the Germantown West

"Yellow" Policy Area and are subject to the Critical Lane Volume (CLV) standard of 1425 or fewer vehicles.

2. The consultant studied thirteen (13) intersections, including the site entrances on Wisteria Drive and Bowman Mill Drive. Nine intersections are located in the Germantown Town Center "Orange" Policy Area and are subject to the Highway Capacity Manual (HCM) delay standard of 63 seconds or fewer per vehicle. Four intersections are located in the Germantown West "Yellow" Policy Area and are subject to the Critical Lane Volume (CLV) standard of 1425 or fewer vehicles. The consultant concluded that the total future conditions for these intersections will not exceed the congestion or delay standards for the Germantown West and Germantown Town Center policy areas. We concur with the consultant's findings.

3. The TIS included signal warrant analysis (SWA) at the Wisteria Drive/Walter Johnson Road intersection. The results and recommendations are discussed above in Comment #1 in the Preliminary Plan review portion of this letter.

Pedestrian System Adequacy

1. The Pedestrian System Adequacy Test is required since the grocery store will generate 50 or more peak hour person trips. This test consists of pedestrian level of comfort, street lighting and ADA compliance. The site is located in the Orange Policy area and will generate more than 350 peak hour person trips. Therefore, pedestrian adequacy was evaluated within a 1000-foot walkshed.

2. Pedestrian Level of Comfort (PLOC): Sidewalks and pathways were evaluated within a 1000-foot walkshed. For a site to achieve adequacy, roads classified as primary residential or higher must score either PLOC-2 (somewhat comfortable) or PLOC-1 (very comfortable). The consultant identified deficient PLOC items. The applicant will be required to construct the pedestrian improvements discussed above in Comment #2 in the Preliminary Plan review portion of this letter.

3. Streetlight Evaluation: The consultant evaluated streetlights within the study area and identified the off-site spacing deficiencies. Consistent with the LATR Proportionality Guide, these deficiencies were not prioritized for inclusion in the project mitigation.

4. ADA Compliance: The consultant identified non-compliant ramps within the study area. The applicant will be required to install a Detectable Warning Surface (DWS) where missing and construct the pedestrian improvements discussed above in Comment #2 in the Preliminary Plan

review portion of this letter.

Bicycle System Adequacy

1. A low Level of Stress (LTS-2) is required to achieve bicycle system adequacy. The consultant identified all existing and planned bike facilities as well as the deficiencies. The applicant will construct a 12-foot wide sidepath along the project's Walter Johnson Road frontage. In addition, the applicant will construct approximately 560 linear feet of off-site, 10-foot wide and 8-foot wide sidepath improvements along Wisteria Drive, Germantown Road (MD 118) and Walter Johnson Road as discussed above in Comment #2 in the Preliminary Plan review portion of this letter.

Transit System Adequacy

1. Since the project will generate more than 350 peak hour person trips, four bus shelters with Realtime Information (RTI) displays are required within 1500 feet of the project. The consultant identified all existing bus stops within the study area, including four stops with shelters and one stop with Realtime Information (RTI) display. Consistent with the LATR Proportionality Guide, these deficiencies were not prioritized for inclusion in the project mitigation.

Vision Zero Statement

1. The consultant evaluated roadways, crash data and conducted speed studies within the study area and concluded that none of the road segments are within 1000' of any designated High Injury Network (HIN) segments. In addition, the applicant will be improving safety with the installation of a traffic signal at the Wisteria Drive/Walter Johnson Road intersection. The results and recommendations are discussed above in Comment #1 in the Preliminary Plan review portion of this letter.

Thank you for the opportunity to review this preliminary plan and TIS. If you have any questions or comments regarding this letter, please contact me at william.whelan@montgomerycountymd.gov or (240) 777-2173.

Sincerely,

William Whelan

William Whelan
Development Review Team
Office of Transportation Policy

SharePoint/transportation/directors office/development review/WhelanW/120220030 Wisteria Business Park LIDL-MCDOT review letter 071522docx

Enclosures (1)

Sight Distance Certifications

cc: Correspondence folder FY 2023

cc-e:	Patrick La Vay	MHGPA
	Francoise Carrier	Bregman Law
	Chris Van Alstyne	MNCP&PC
	Sandra Pereira	MNCP&PC
	Michael Paylor	MCDOT DTEO
	Mark Terry	MCDOT DTEO
	Kamal Hamud	MCDOT DTEO
	Sam Farhadi	MCDPS RWPR

II.C

Preliminary Consultation
MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	12820 Wisteria Drive, Germantown	**Meeting Date:**	3/23/2022
Resource:	Master Plan Site #19/13 (***Madeline V. Waters House***)	**Report Date:**	3/16/2022
		Public Notice:	3/9/2022
Applicant:	Lidl US, LLC (Françoise Carrier, Agent)	**Tax Credit:**	No
Review:	Preliminary Consultation	**Staff:**	Michael Kyne

Permit Number: N/A

PROPOSAL: Construction of a new grocery store with associated hardscape and landscaping, historic markers, grading, and other alterations

---

STAFF RECOMMENDATION:

Staff recommends that the applicant make any revisions based upon the HPC's comments and return with a HAWP application.

ARCHITECTURAL DESCRIPTION:

SIGNIFICANCE: Master Plan Site #19/13, *Madeline V. Waters House*
STYLE: Colonial Revival Villa
DATE: c. 1899-1902

Excerpt from *Places from the Past*:

> A linear park along Wisteria Drive, at Rt. 118, commemorates the Madeline Waters House that was destroyed by arson in 1986. Built in 1899-1902, this roomy frame Colonial Revival house belonged to the owner of Germantown's general store, Horace D. Waters. His stepson Lloyd Dorsey built the house, which was the long-time dwelling of Madeline Waters, daughter of Horace. The residence was the most elaborate house in Germantown, featuring a three-story projecting pavilion with palladian windows, a broad hipped roof with dormers, cornice with dentil molding, and pedimented wrap-around porch with classical columns.



Fig. 1: Artist's rendering of the Madeline V. Waters House.

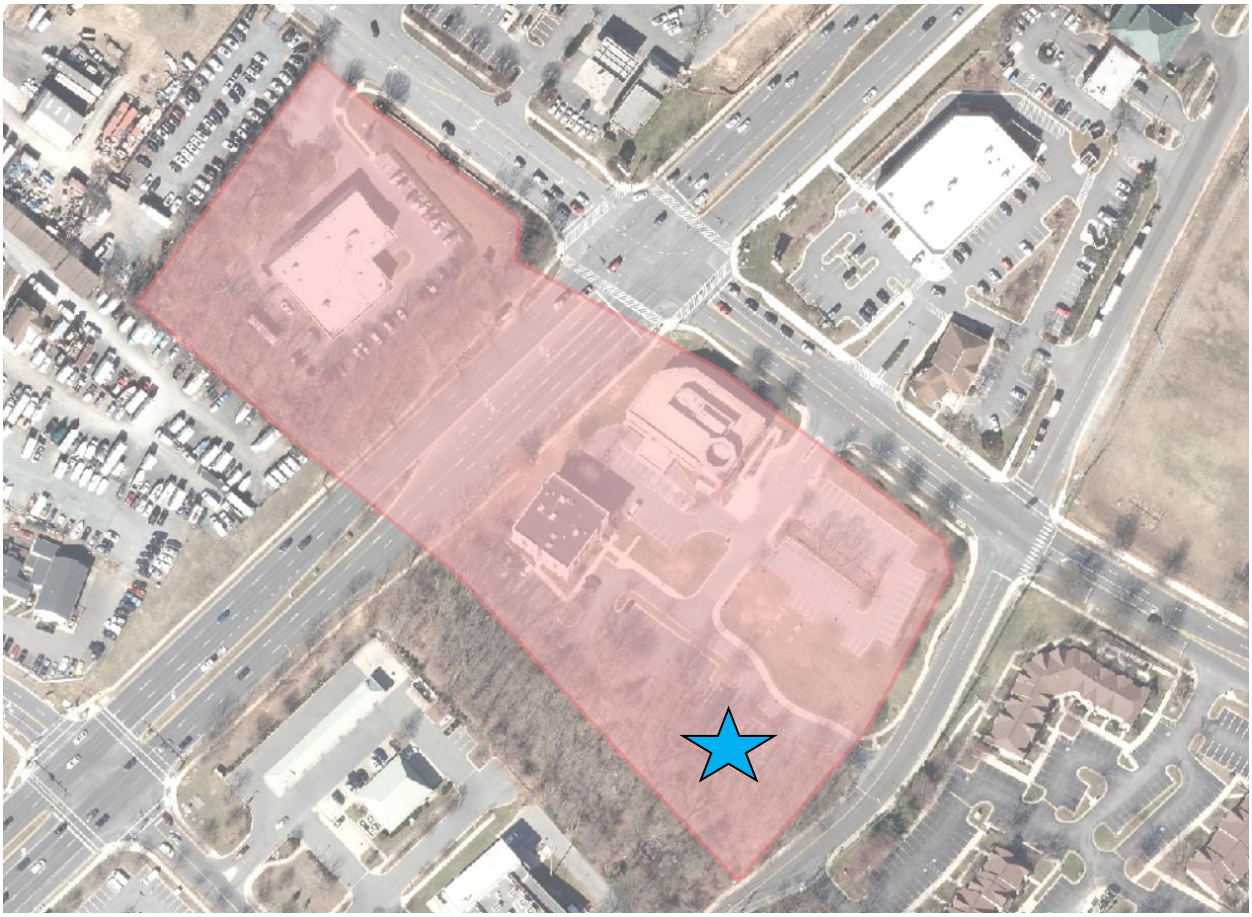


Fig. 2: Madeline V. Waters House environmental setting, with the approximate location of the proposed new grocery store marked by the blue star.

PROPOSAL:

The applicants propose construction of a new grocery store with associated hardscape and landscaping, historic markers, grading, and other alterations at the subject property.

APPLICABLE GUIDELINES:

When reviewing alterations and new construction at Master Plan Sites several documents are to be utilized as guidelines to assist the Commission in developing their decision. In this case, these documents include *Montgomery County Code Chapter 24A (Chapter 24A)*, the *MARC Rail Communities Sector Plan (Sector Plan)*, and *the Secretary of the Interior's Standards for Rehabilitation (Standards)*. The pertinent information in these documents is outlined below.

Montgomery County Code; Chapter 24A-8

(a) The commission shall instruct the director to deny a permit if it finds, based on the evidence and information presented to or before the commission that the alteration for which the permit is sought would be inappropriate, inconsistent with or detrimental to the preservation, enhancement or ultimate protection of the historic site or historic resource within an historic district, and to the purposes of this chapter.

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to ensure conformity with the purposes and requirements of this chapter, if it finds that:

(1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or

(2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

(3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or

(4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or

(5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or

(6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

(c) It is not the intent of this chapter to limit new construction, alteration or repairs to any 1 period or architectural style.

MARC Rail Communities Sector Plan (Approved and Adopted April 2019)

The *Sector Plan* recommends the following for the Madeline V. Waters House Master Plan Site:

- Maintain the entire Madeline V. Waters House (MP 19/13-1) historic site (Sites GH and GI) [see Reference Key below] and all rights-of-way, including Germantown Road and Wisteria Drive within its designated environmental setting as follows:

    - The portion of the site north of Germantown Road, within the Wisteria Drive right-of-way, must maintain the existing linear park with benches, lighting, stone wall, pavers and commemorative monument/signage. Street signage should be added for Waters House Avenue.

    - The portion of the site south of Germantown Road must maintain the historic row of trees (including replanting as necessary) and existing commemorative signage within a publicly accessible, grassy open space.

    - For both north and south portions of the site, commemorative signage must be erected along the street frontage of every parcel and the existing environmental setting, and these requirements will remain in place even if there is parcel assemblage, resubdivision or redevelopment of the site.

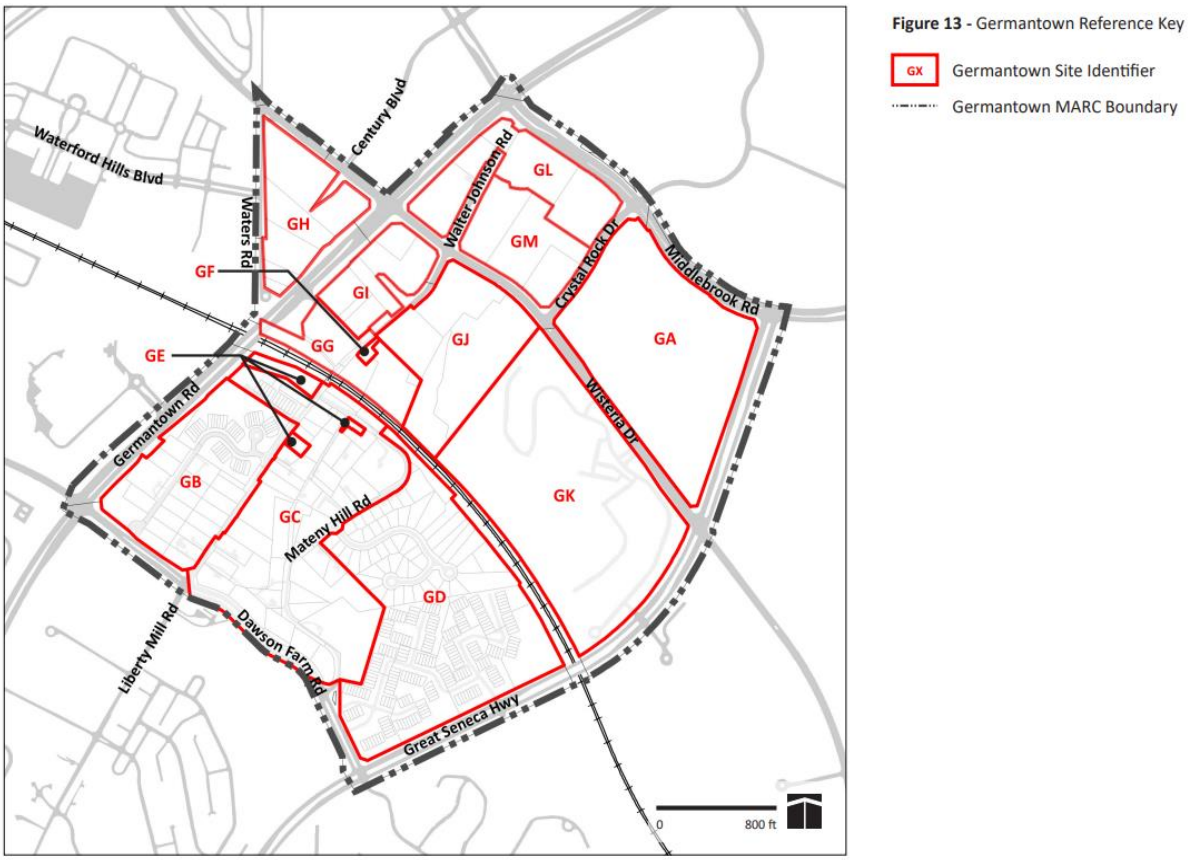


Fig. 3: Germantown Reference Key from the Sector Plan.

Secretary of the Interior's Standards for Rehabilitation

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

STAFF DISCUSSION:

The subject property is the *Madeline V. Waters House* Master Plan Site, which was designated to the Master Plan for Historic Preservation via amendment in May 1985. The property was designated for its architecturally significant features and its association with prominent early settlers of the Germantown area (the Horace Waters family). The historic house was destroyed by arson in 1986.

Germantown Road (Maryland Route 118) bisects the designated environmental setting. Staff notes that the 1985 amendment acknowledges that "[t]he programmed relocation and widening of Maryland Route 118 will require a portion of the eventual environmental setting but will leave sufficient ground to preserve the integrity of the Waters house and will improve opportunities for the commercial reuse of the historic structure." The amendment also notes that the designated environmental setting "… should include the allee of trees leading to the historic structure."



Fig. 4: 1979 aerial image of the Madeline V. Waters House property, with the house marked by the blue star. The above-referenced allee/row of trees is clearly visible at the southeast side of the property (inside the red rectangle).



Fig. 5: 1986 aerial image of the Madeline V. Waters House property, after the house was destroyed by arson. The above-referenced allee/row of trees remains clearly visible at the southeast side of the property (inside the red rectangle). A portion of Germantown Road (Maryland Route 118) is also visible in the upper right part of the image, before it bisected the property.

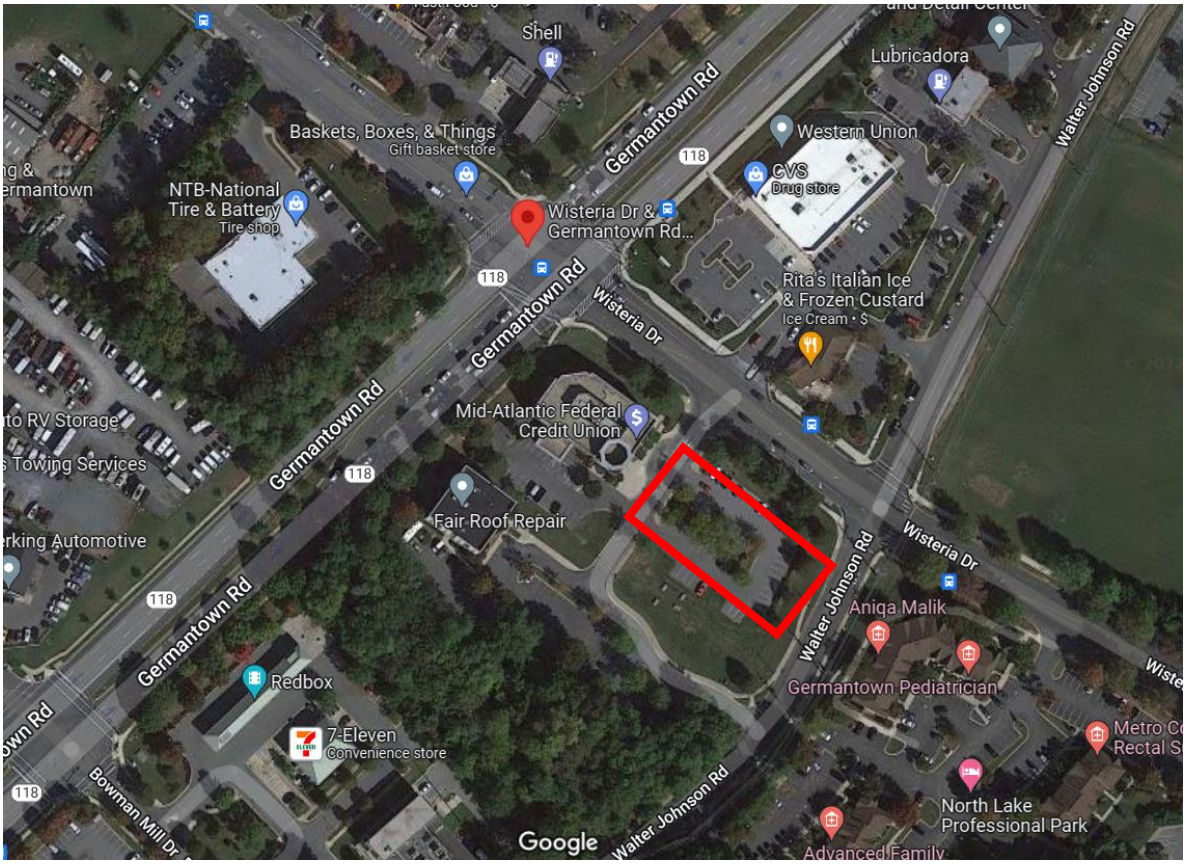


Fig. 6: Current aerial image of the Madeline V. Waters House property, with what may be the aforementioned allee/row of trees (inside the red rectangle) in front of the Mid-Atlantic Federal Credit Union building, which is adjacent to the proposed project site.

The applicants propose the following work items at the subject property:

- Remove an existing modern office building (see *Fig. 7 below)* and a portion of the existing credit union parking lot and build a new 32,000-SF grocery store with associated surface parking and public open space.
    - A portion of the proposal will be within the designated environmental setting of the *Madeline V. Waters House* Master Plan Site.
    - The proposed new surface parking area will be accessed via a reconfigured driveway off of Walter Johnson Road to the south of the subject property.
    - The proposed new grocery store will face north, away from the public right-of-way of Walter Johnson Road, with the proposed new surface parking area to the north.
    - The proposed new open space will include seating, extensive landscaping, a mural depicting images associated with the history of Germantown, and new historic site signage.
        - The proposed mural will be on the south elevation (rear) of the proposed new grocery store, facing the public right-of-way of Walter Johnson Road.

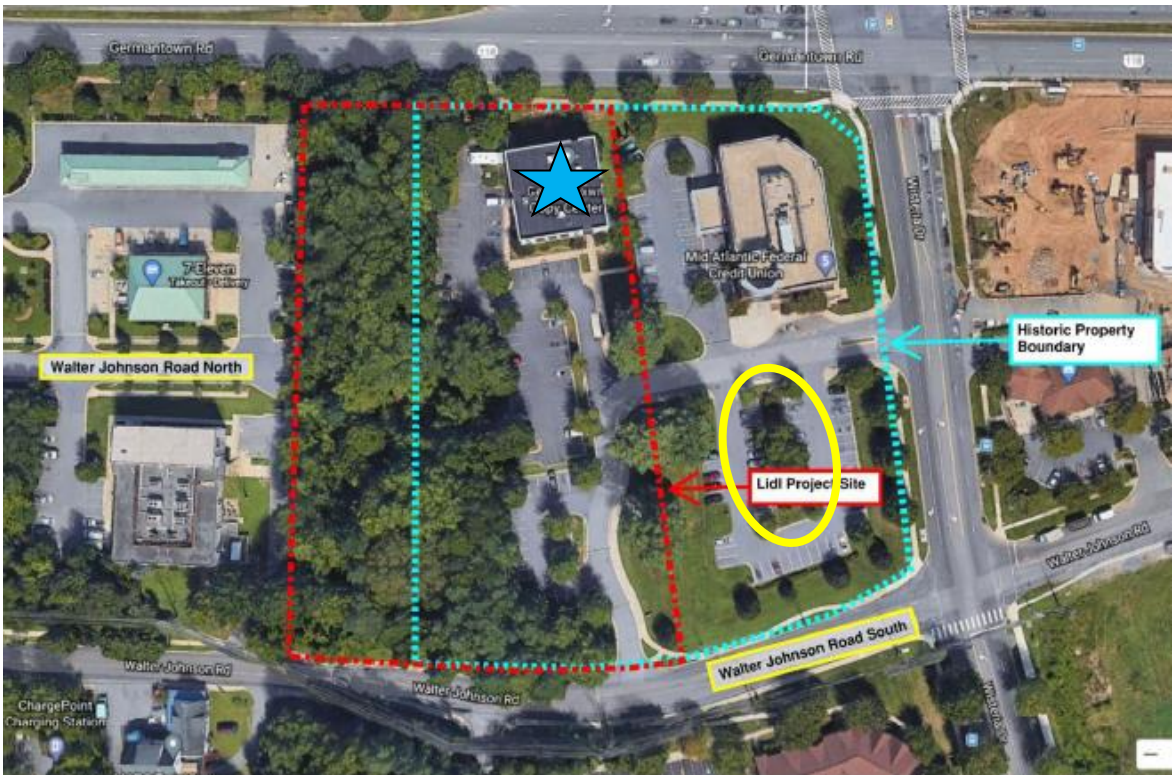


Fig. 7: Project map, with the modern office building to be removed marked by the blue star. What may be the above-referenced allee/row of trees is within the yellow oval.

Staff is supportive of the applicants' proposal, finding that it is generally consistent with recommendations of the *Sector Plan*. The recommendations state that "…commemorative signage must be erected along the street frontage of every parcel and the existing environmental setting, and these requirements will remain in place even if there is parcel assemblage, resubdivision or redevelopment of the site." As noted, the applicants propose a mural depicting images associated with the history of Germantown, as well as new historic site signage. While the submitted renderings indicate the location of the proposed mural on the south side (rear) of the proposed new grocery along the street frontage of Walter Johnson Road, it is not clear where the proposed new historic site signage will be located. Staff asks that the applicants provide additional information regarding the location and design of the proposed new historic site signage.

Staff also understands that the applicants have been working with the local community and interested parties, including the Germantown Historical Society, regarding the content of the proposed mural and new historic site signage. Staff recommends that the applicants continue to do so as these aspects of the proposal are developed.

Regarding the allee/row of trees, the *Sector Plan* recommends that "[t]he portion of the site south of Germantown Road must maintain the historic row of trees (including replanting as necessary) and existing commemorative signage within a publicly accessible, grassy open space." From current and historic photographs, it appears that the allee/row of trees, which is also referenced in the 1985 amendment, has either been removed, or may be in front of the Mid-Atlantic Federal Credit Union building. The Mid-Atlantic Federal Credit Union building is also within the environmental setting of the *Madeline V. Waters House* Master Plan Site, adjacent to the subject property (to the right, as viewed from the public right-of-way of Walter Johnson Road), but the applicants' proposal will not impact these trees.

Because the historic house was destroyed by arson in 1986, Germantown Road (Maryland Route 118) has

bisected the property, and commercial development has previously occurred within the proposed project area, staff finds that the proposal will not remove historic materials or alter features and spaces that characterize the property, in accordance with *Standard #2*.

Questions for the HPC:

- Are there any outstanding issues with the proposal, in terms of compatibility with the site (i.e., scale and massing, location on the site, etc.)?
- Does the HPC have any recommendations regarding the location and/or design of the proposed new historic site signage?

STAFF RECOMMENDATION:

Staff recommends that the applicant make any revisions based upon the HPC's comments and return with a HAWP application.

FOR STAFF ONLY:
HAWP#_____
DATE ASSIGNED_____

APPLICATION FOR HISTORIC AREA WORK PERMIT

HISTORIC PRESERVATION COMMISSION
301.563.3400

APPLICANT:

Name: Lidl US, LLC, c/o David Simez, Construction and Development Manager **E-mail:** David.Simez@lidl.us

Address: 3500 S. Clark Street **City:** Arlington, VA **Zip:** 22202

Daytime Phone: 703-472-4307 **Tax Account No.:** _____

AGENT/CONTACT (if applicable):

Name: Françoise Carrier **E-mail:** fcarrier@bregmanlaw.com

Address: 7315 Wisconsin Ave, Ste. 800 West **City:** Bethesda **Zip:** 20814

Daytime Phone: 240-428-4671 **Contractor Registration No.:** N/A

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property SEE ATTACHED

Is the Property Located within an Historic District? __Yes/District Name_____
x No/Individual Site Name Madeline V. Waters House

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: _____ **Street:** SEE ATTACHED

Town/City: _____ **Nearest Cross Street:** _____

Lot: _____ **Block:** _____ **Subdivision:** _____ **Parcel:** _____

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

- [X] New Construction
- [ ] Addition
- [ ] Demolition
- [ ] Grading/Excavation
- [ ] Deck/Porch
- [ ] Fence
- [ ] Hardscape/Landscape
- [ ] Roof
- [ ] Shed/Garage/Accessory Structure
- [ ] Solar
- [ ] Tree removal/planting
- [ ] Window/Door
- [ ] Other:_____

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

Françoise M. _____ March 1. 2022

Signature of owner or authorized agent — Date

SEE ATTACHED

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFING [Owner, Owner's Agent, Adjacent and Confronting Property Owners]	
Owner's mailing address	**Owner's Agent's** mailing address
Adjacent and confronting Property Owners mailing addresses	
19430 Walter Johnson Road, Germantown, MD 20874	13001 Wisteria Drive Germantown, MD 20874
19525 Waters Road Germantown, MD 20874	19520 Walter Johnson Road Germantown, MD 20874
19621 Waters Road Germantown, MD 20874	

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

As noted on the attachment, the Madeline V. Waters House was destroyed by fire in the 1980s. There are no physical features associated with the historic resource remaining on the project site.

Description of Work Proposed: Please give an overview of the work to be undertaken:

The applicant proposes to remove the existing modern office building and a portion of the existing credit union parking lot union and build a 32,000-SF grocery store with associated surface parking and public open space. The open space will include seating, extensive landscaping, a mural depicting images associated with the history of Germantown, and new historic site signage.

Work Item 1: _____

Description of Current Condition:	Proposed Work:

Work Item 2: _____

Description of Current Condition:	Proposed Work:

Work Item 3: _____

Description of Current Condition:	Proposed Work:

HISTORIC AREA WORK PERMIT
CHECKLIST OF
APPLICATION REQUIREMENTS

	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/ Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/ Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/ Parking Area	*	*		*	*	*	*
Grading/Excavation/Landscaing	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

HAWP Application Attachment
Applicant: Lidl US, LLC
March 1, 2022

A. Location of building/premises

The applicant proposes to construct a grocery store on a tract comprised of one parcel, one lot, part of another lot, and a small area of unused county property with no parcel designation. A portion of the tract is located within the Madeline V. Waters House historic site as designated on the Montgomery County Master Plan for Historic Preservation, having been the location of a portion of the driveway leading to the historic house. The Madeline V. Waters House was destroyed by fire in the 1980s. The portions of the applicant's tract that are within the historic site were redeveloped in the early 2000s.

B. Additional Approvals Needed

The applicant will be submitting a proposed amendment to an existing preliminary plan of subdivision and a proposed site plan.

The project site is comprised of four parcels/lots:

1. Lot 1, Wisteria Business Park subdivision, 12810 Wisteria Drive, 1.02 acre.
2. Part of Lot 3, Wisteria Business Park Subdivision, 12800 Wisteria Drive, 23,084 square feet.
3. Parcel P965, 19430 Walter Johnson Road, one acre.
4. Unused, unaddressed county property, 13,451 square feet.

Lidl is the contract purchaser of Lot 1, part of Lot 3 and Parcel P965. Lidl has requested abandonment and conveyance to Lidl of the unused county right-of-way and expects a favorable decision in the coming months.

In addition to the project site, the proposed preliminary plan amendment will include Lot 2 and the remainder of Lot 3, Wisteria Business Park Subdivision, located at 12800 and 12820 Wisteria Drive, respectively, because the applicant is required to amend the existing preliminary plan for the Wisteria Business Park subdivision to make a portion of Lot 3 part of a new lot for the grocery store. No changes are proposed on Lot 2 or on the portion of Lot 3 that is not being acquired by the applicant.

C. Property Owner Information

1. Lot 1

Wisteria Office Park, LLC
12810 Wisteria Drive, Ste. 100
Germantown, MD 20874

2. Lots 2 and 3

Mid-Atlantic Federal Credit Union
12820 Wisteria Drive
Germantown, MD 20874

3. Parcel P965

Mahmoud Fallahi, et al
12929 Esworthy Road
North Potomac, MD 20878

4. Unused County Right-of-Way

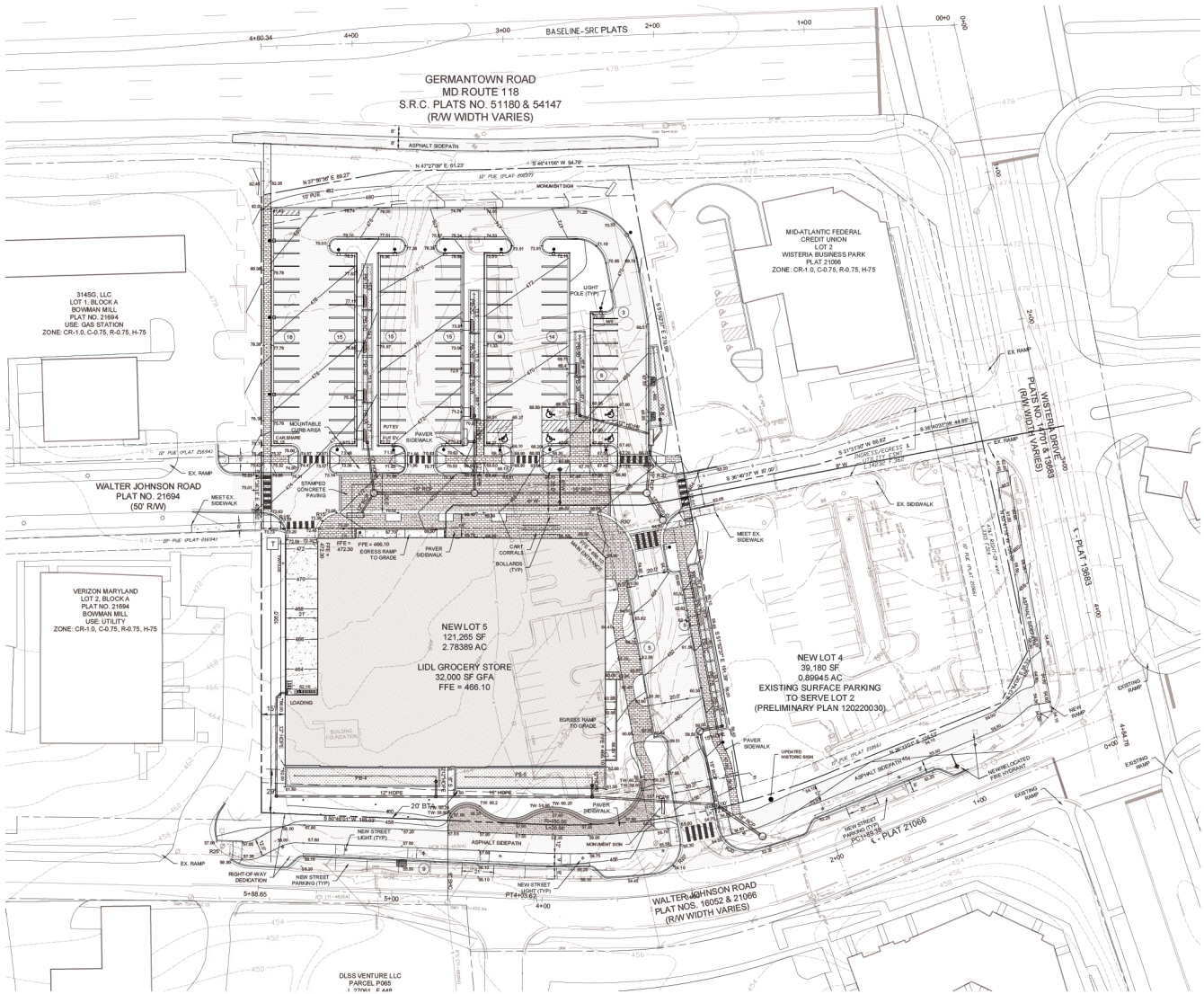
Ronnie Warner
Department of General Services
Chief, Office of Planning and Development
Department of General Services
101 Monroe Street, 9th Floor, Rockville, Maryland 20850

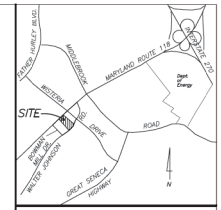
5. Contract Purchaser and Applicant in Abandonment/Disposition Proceedings

Lidl US Operations, LLC
3500 Clark Street
Arlington, VA 22202

D. Adjoining and confronting property owners

Owner Name	Address Line 1	City	State	Zip
314SG LLC as Bayview LLC	2200 Pacfic Coast Hwy #305	Hermosa Beach	CA	90254
Albiol Robert M	16710 River Road	Poolesville	MD	20837
DLSS Venture LLC	PO Box 1510	Clarksburg	MD	20871-1510
Germantown Luxury Imports LLC	200 SW 1ST Ave., 14th Floor	Fort Lauderdale	FL	33301
Mid-Atlantic Federal Credit Union	12820 Wisteria Dr.	Germantown	MD	20874-2653
Saul Holding Ltd. Partnership	7501 Wisconsin Ave., Ste 1500	Bethesda	MD	20814-6522
Verizon Maryland Merge Co.	PO Box 152206	Irving	TX	75015-2206
Bernstein Jay A & S D E Trust	13211 Valley Drive	Rockville	MD	20850
Zalco Commercial LLC	10801 Lockwood Drive	Silver Spring	MD	20901
Northlake Professional Park Condominium, Inc.	245 E. Chase Street	Baltimore	MD	21201





VICINITY MAP
SCALE 1" = 2,000'

ABBREVIATIONS

ARCH	ARCHITECTURAL
BC	BACK OF CURB
BLDG	BUILDING
BS	BOTTOM OF STAIR
BW	BOTTOM OF WALL
C&G	CURB AND GUTTER
CONC	CONCRETE
DIP	DUCTILE IRON PIPE
ELEC	ELECTRIC
EP	EDGE OF PAVING
EX	EXISTING
FC	FOREST CONSERVATION
FDC	FIRE DEPARTMENT CONNECTION
FFE	FINISHED FLOOR ELEVATION
FL	FLOW LINE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
MB	MICRO-BIORETENTION
MECH	MECHANICAL
NIC	NOT IN CONTRACT
PLUM	PLUMBING
RCP	REINFORCED CONCRETE PIPE
REM	REMOVE
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
S	SANITARY SEWER
SWM	STORMWATER MANAGEMENT
S/W	SIDEWALK
TBR	TO BE REMOVED
TC	TOP OF CURB
TS	TOP OF STAIR
TW	TOP OF WALL
TYP	TYPICAL
W	WATER

LEGEND

CONTOUR (2FT)
CONTOUR (5FT)
SPOT ELEVATION
CURB & GUTTER
ASPHALT PAVING
CONCRETE PAVING
LIMITS OF DISTURBANCE
WATER LINE
FIRE HYDRANT
SEWER LINE
STORM DRAIN
NATURAL GAS
UNDERGROUND ELECTRIC
UNDERGROUND COMMUNICATION
LIGHT POLE
PROPERTY BOUNDARY
EASEMENT

GENERAL NOTES - WORK IN THE PUBLIC RIGHT-OF-WAY

1. ADA COMPLIANT PUBLIC SIDEWALK, MINIMUM OF 5 FEET WIDE SHALL BE MAINTAINED ALONG SITE FRONTAGE & WITHIN THE PUBLIC RIGHT-OF-WAY.
2. IMPROVEMENTS IN THE PUBLIC RIGHT-OF-WAY ARE SHOWN TO CONVEY THE GENERAL FRONTAGE IMPROVEMENTS REQUIRED BY THIS PROJECT. FINAL LOCATION AND DIMENSIONS OF CURBS, STREET LIGHTS, STREET TREES, PAVING, SIDEWALKS AND OTHER ELEMENTS IN THE RIGHT-OF-WAY ARE SUBJECT TO REVISION DURING PERMIT REVIEW BY MCDPS RIGHT-OF-WAY.
3. ALL NON-STANDARD SITE FRONTAGE WORK AND STREETSCAPING IN THE PUBLIC RIGHT-OF-WAY IS SUBJECT TO REVIEW AND APPROVAL BY MCDPS RIGHT-OF-WAY AT THE TIME OF PERMIT REVIEW, INCLUDING A MAINTENANCE AND LIABILITY AGREEMENT.
4. PAVEMENT MARKINGS AND SIGNAGE IN THE RIGHT-OF-WAY ARE SHOWN FOR GENERAL REFERENCE ONLY. ANY SIGNAGE AND MARKING REQUIRED FOR ACCESS TO THIS DEVELOPMENT IS SUBJECT TO REVIEW AND APPROVAL BY MCDOT AND MCDPS RIGHT-OF-WAY AT THE TIME OF PERMIT REVIEW.
5. MINOR MODIFICATIONS TO THE LIMITS OF DISTURBANCE SHOWN WITHIN THE PUBLIC RIGHT OF WAY FOR UTILITY CONNECTIONS MAY BE DONE DURING REVIEW OF THE RIGHT OF WAY PERMIT DRAWINGS BY THE DEPARTMENT OF PERMITTING SERVICES (DPS).

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

DEVELOPER'S CERTIFICATE

THE UNDERSIGNED AGREES TO EXECUTE ALL THE FEATURES OF SITE PLAN APPROVAL NO. 820200030 INCLUDING APPROVAL CONDITIONS, DEVELOPMENT PROGRAM, AND CERTIFIED SITE PLAN.

DEVELOPER: LIDL US, LLC (COMPANY) CONNOR BEVANS (CONTACT PERSON)
ADDRESS: 3500 S CLARK STREET, ARLINGTON, VA 22202
PHONE: (703) 424-8741
EMAIL: CONNOR.BEVANS@LIDL.US
SIGNATURE:

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors
9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
Phone: 301.670.0840
www.mhgpa.com

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Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the Laws of the State of Maryland, Lic. No. 19906 Exp. Date: 04.21.2022

PROJECT TEAM

OWNER/APPLICANT:
LIDL US OPERATIONS, LLC
3850 S CLARK STREET
ARLINGTON, VA 22202
PHONE: (703) 921-7402
CONTACT: DANIEL GOCKMAN
EMAIL: DANIEL.GOCKMAN@LIDL.US

CIVIL ENGINEER & LANDSCAPE ARCHITECT:
MORRIS, HENDRICKS & GLASCOCK, P.A.
9220 WIGHTMAN ROAD, SUITE 120
MONTGOMERY VILLAGE, MD 20886
PHONE: (301) 670-0840
CONTACT: PATRICK LAVAY, P.E.
EMAIL: PLAVA@MHGPA.COM

TRAFFIC ENGINEER:
GORSUCH KOLAR ASSOCIATES, INC.
11400 CONNECTICUT AVENUE, NW, SUITE 800
WASHINGTON, DC 20036
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CONTACT: KATIE WAGNER, PE, PTOE
EMAIL: KLW@GORSUCHKOLAR.COM

LAND USE ATTORNEY:
FOXHALL GROUP, LLC
7315 WISCONSIN AVENUE, SUITE 800 WEST
BETHESDA, MD 20814
PHONE: (301) 951-0160
CONTACT: FRANCOISE CARRIER
EMAIL: FCARRIER@FOXHALLGROUP.COM

ARCHITECT:
LIDL US OPERATIONS/CORPORATE
1550 CAMPUS COMMONS DRIVE, SUITE 101
RESTON, VA 20191
PHONE: (800) 980-6008
CONTACT: NICHOLAS CRONLEY
EMAIL: NICHOLAS.CRONLEY@LIDL.COM

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 226NW03, 227NW13

PLATS 20037, 21066 &
L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

LOT 1 & PART OF LOT 3
WISTERIA BUSINESS PARK
& PARCEL P965
L.23973 F.138

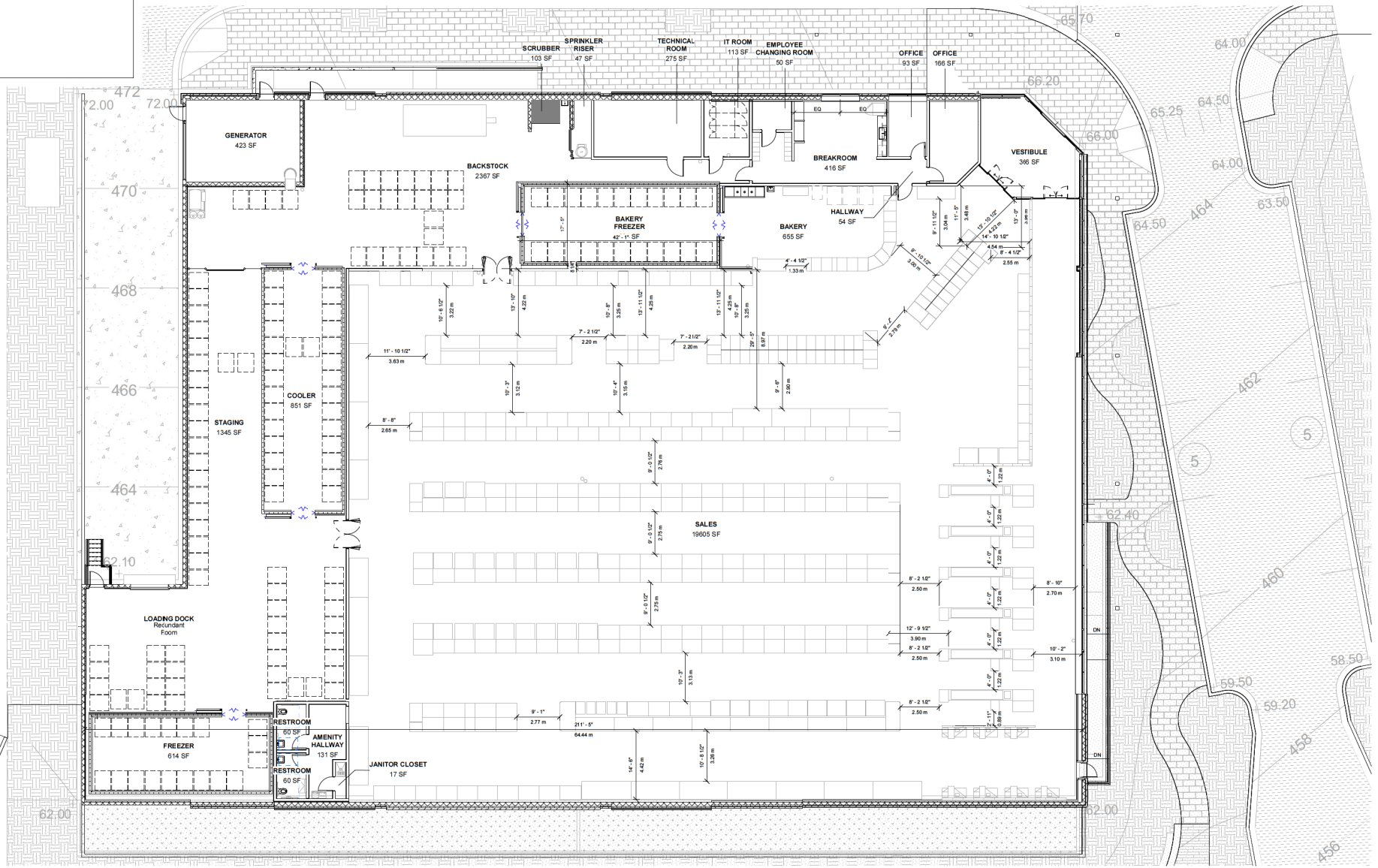
PROJ. MGR	PGL
DRAWN BY	DCM
SCALE	1"=30'
DATE	01.19.2022

LIDL GERMANTOWN
SITE PLAN

SP2.01

PROJECT NO.	85.136.53
SHEET NO.	1 OF 1

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AREA AND LINEAR FT SCHEDULE

Gross Building Area	
Germantown	31,000 SF
T14	25,656 SF
T15	28,142 SF
T17	29,089 SF
T18	31,484 SF

Net Areas	Germantown	T14	T15	T17	T18
Sales Floor	18,056 SF	15,376 SF	17,202 SF	18,569 SF	20,240 SF
Ancillary	2,744 SF	2,345 SF	2,465 SF	2,348 SF	2,465 SF
Warehouse	6,342 SF	6,444 SF	7,115 SF	6,569 SF	7,561 SF
Total	29,142 SF	24,165 SF	26,782 SF	27,486 SF	29,820 SF

Specialty Area Schedule (LF & Unit)	Germantown	T14	T15	T17	T18
Sales Floor Shelving (LF)	1,497	1,631	1,550	1,937	1,871
Total Pallets	141	192	153	204	158
Bakery Freezer	22	30	22	30	22
Freezer	19	22	19	22	19
Cooler	28	20	28	20	28
Warehouse	72	114	82	126	89

DEVELOPER'S CERTIFICATE

THE UNDERSIGNED AGREES TO EXECUTE ALL THE FEATURES OF THE PLAN APPROVAL NO. 820220080 INCLUDING APPROVAL CONDITIONS, DEVELOPMENT PROGRAM, AND CERTIFIED SITE PLAN.

DEVELOPER: LIDL US, LLC (COMPANY) DANIEL GOODMAN (CONTACT PERSON)

ADDRESS: 3500 S CLARK STREET, ARLINGTON, VA 22202

PHONE: (703) 851-7492

EMAIL: DANIEL.GOODMAN@LIDL.US

SIGNATURE:

1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

architecture incorporated
1942 campus commons drive
suite 101
reston, virginia 20191
Tel: 703.476.3900
www.archinc.com

Design Documents for:
LiDL US, LLC
LiDL Germantown
GERMANTOWN, MD

Project: 20131.11

Issue 10.11.2021
SCHEMATIC DESIGN
Revisions

FLOOR PLAN

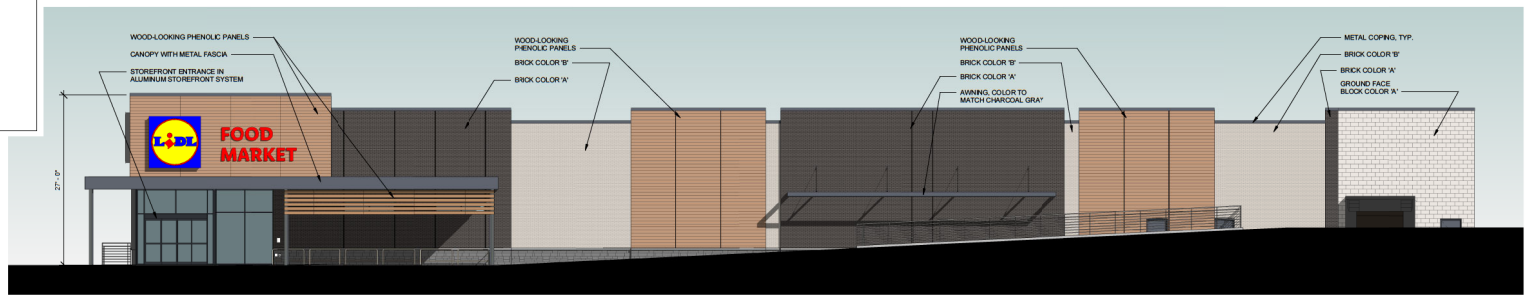
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SCHEMATIC DESIGN

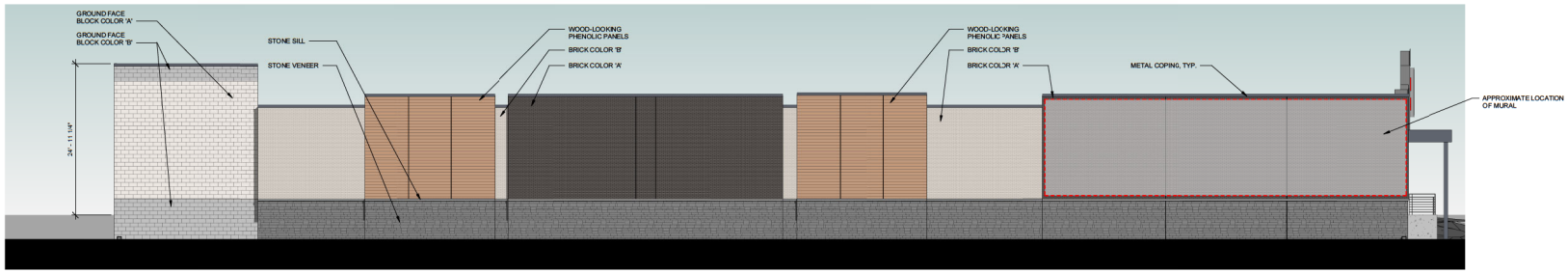
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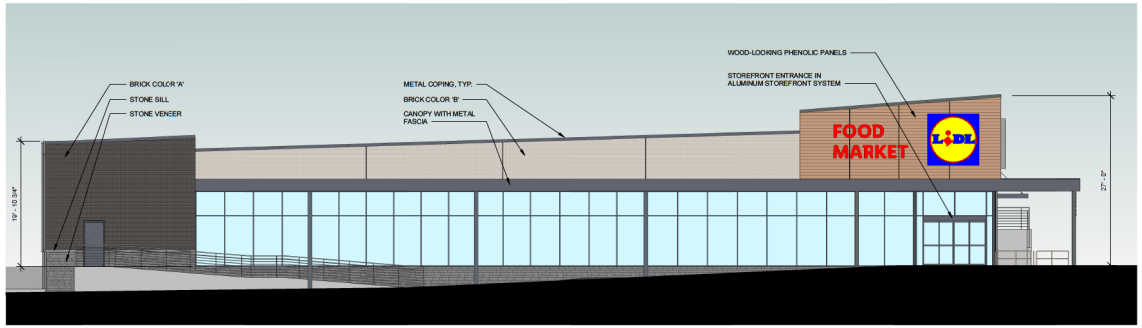
PARKING LOT ELEVATION

SCALE: 1/8" = 1'-0"



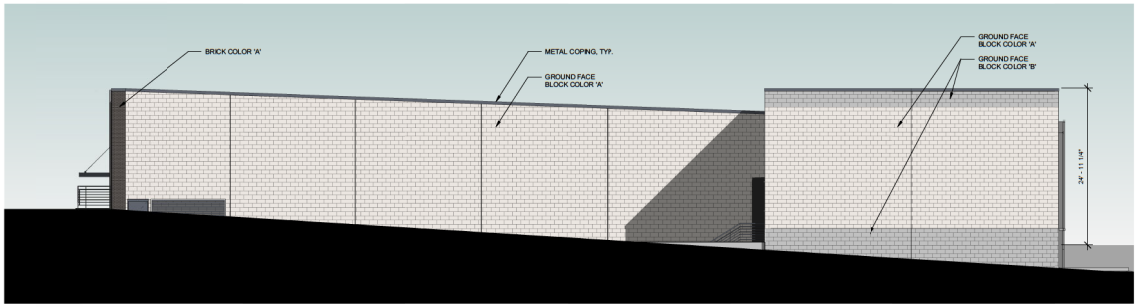
FRONT ELEVATION (WALTER JOHNSON ROAD)

SCALE: 1/8" = 1'-0"



RIGHT ELEVATION

SCALE: 1/8" = 1'-0"



LEFT ELEVATION

SCALE: 1/8" = 1'-0"

EXTERIOR FINISH SCHEDULE

FINISH DESCRIPTION	MANUFACTURER	FINISH	COLOR	NOTES
BRICK COLOR 'B'	GLEN-GREY	MODULAR	ASPEN WHITE	GROUT: ARGOS - WHITE N
BRICK COLOR 'A'	GLEN-GREY	MODULAR	CARBON BLACK	GROUT: ARGOS - REGULAR GRAY/SLATE
STONE	GLEN-GERY	GLEN RIDGE	GRANITE	GROUT: ARGOS - REGULAR GRAY/SLATE
WOOD-LOOKING PHENOLIC PANELS	STONEWOOD	CUSTOM	LIDL OAK	
METALS - FASCIA, GUTTERS, DOWNSPOUTS	ATAS	PVDF	CHARCOAL GREY	
CMU COLOR 'B'	OLDCASTLE	GROUNDFACE	SLATE GRAY	GROUT: ARGOS - REGULAR GRAY/SLATE
CMU COLOR 'A'	OLDCASTLE	GROUNDFACE	PEARL MIST	GROUT: ARGOS - WHITE N
SILL	OLDCASTLE	GROUNDFACE	CHARCOAL	GROUT: ARGOS - REGULAR GRAY/SLATE
STOREFRONT SYSTEM - FRAME/WINDOWS	KAWNEER	ANODIZED ALUMINUM	CHARCOAL GREY	
ALUMINUM-FRAMED SLIDING DOORS	ASSA ABLOY	ANODIZED ALUMINUM	CHARCOAL GREY	

DEVELOPER'S CERTIFICATE

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GERMANTOWN, MD

Project: 20131.11

Issue 01.17.2022
SCHEMATIC DESIGN
Revisions

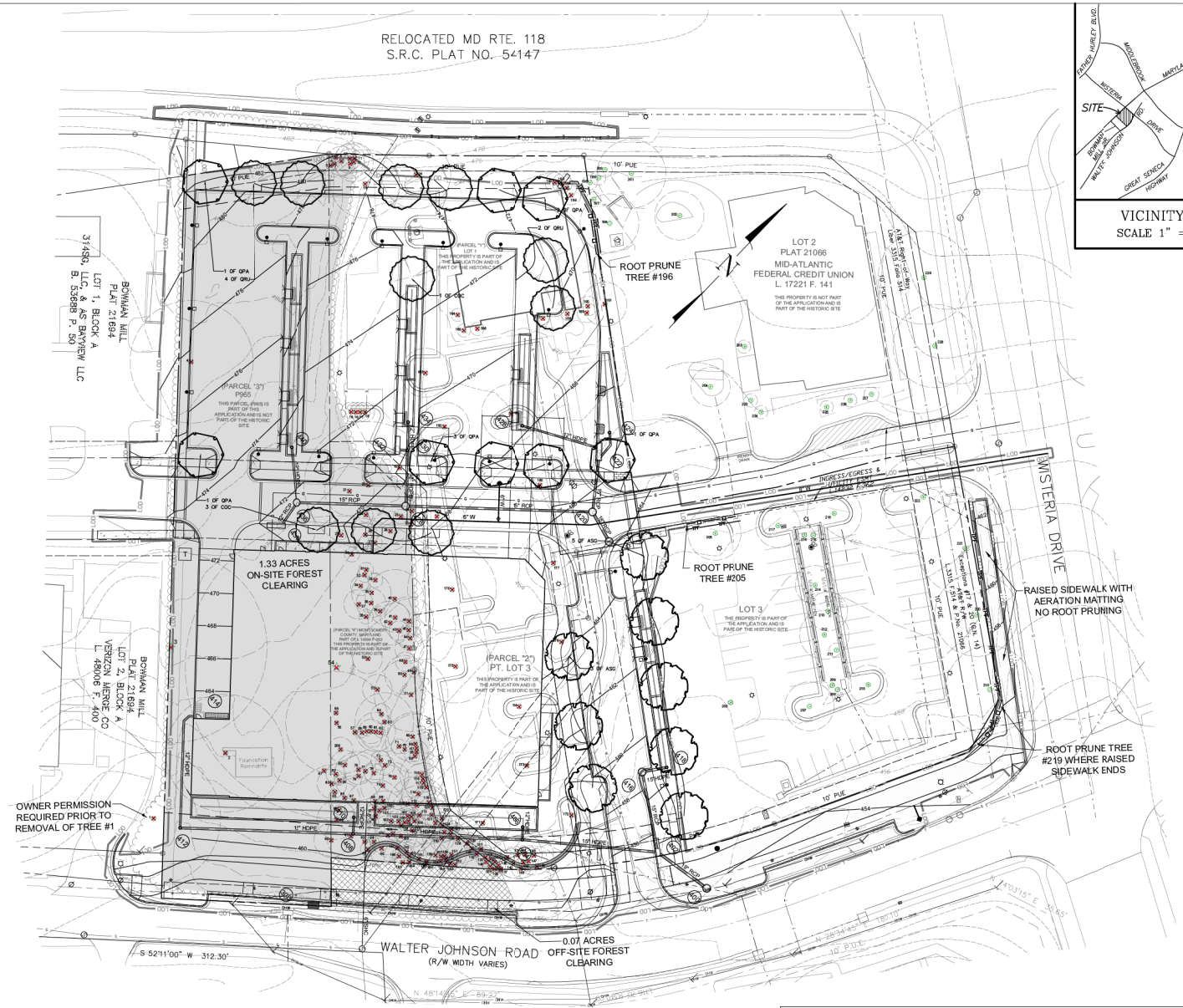
EXTERIOR ELEVATIONS

Scale As Indicated
Drawn NJC
Checked NJC

A200

SCHEMATIC DESIGN

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THIS FOREST CONSERVATION PLAN SUPERSEDES THE PREVIOUSLY APPROVED FOREST CONSERVATION PLANS #119900680 AND #819960130

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. 120220030 , including financial bonding, forest planting, maintenance and all other applicable agreements.

Developer's Name: LIDL US OPERATIONS, LLC (Company) CONNOR BEVANS (Contact Person)

Address: 3500 S. CLARKS STREET ARLINGTON, VA 22202

Phone: 703-424-8741

Email: CONNOR.BEVANS@LIDL.US

Signature: _____

811 Know what's below. Call before you dig.

FOR UTILITY LOCATIONS CONTACT "ONE CALL" AT 811 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION

THIS APPLICATION INCLUDES ALL OF LOTS 1 & 3 AND ALSO INCLUDES P965 AND THE PROPERTY LABELED AS "PARCEL 4 MONTGOMERY COUNTY, MARYLAND PART OF L 14594 F 053".

VARIANCE TREE MITIGATION LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	CAL	HGT	ROOT	SPACING
SHADE TREES							
ASG	6	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	3"		B&B	AS SHOWN
COC	4	Celtis occidentalis	Common Hackberry	3"		B&B	AS SHOWN
QPA	10	Quercus palustris	Pin Oak	3"		B&B	AS SHOWN
QRU	6	Quercus rubra	Red Oak	3"		B&B	AS SHOWN

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors

9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
Phone: 301.670.0840
www.mhgpa.com

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FRANK C. JOHNSON
01/19/2022
DATE
RECOGNIZED AS QUALIFIED PROFESSIONAL BY MD DEPT. OF NATURAL RESOURCES COMAR 08.19.06.01

Qualified Professional Certification
I hereby certify that the information shown hereon is correct and that his plan has been prepared in accordance with the requirements of the existing state and county forest conservation legislation.

LIDL US OPERATIONS, LLC
3500 S. CLARKS STREET
ARLINGTON, VA 22202
703-424-8741
CONNOR.BEVANS@LIDL.US

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU42 WSSC 227NW13

PLATS 20037, 21066 & L.23973 F. 138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

LOT 1 & 3 WISTERIA BUSINESS PARK, PARCEL 955, & LAND DEED L.14594 F.53

PROJ. MGR	PGL
DRAWN BY	FCJ
SCALE	1"= 30'
DATE	10.21.2021

PRELIMINARY/FINAL FOREST CONSERVATION PLAN

L9.01

PROJECT NO. 85.136.53

SHEET NO. 1 OF 3

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FOREST CONSERVATION WORKSHEET
WISTERIA BUSINESS PARK

NET TRACT AREA:

A. Total tract area ...	3.75
B. Additions to tract area (Off-Site Work, etc.; constrnction required by this plan)...	0.64
C. Land dedication acres (parks, county facility, etc.) ..	0.00
D. Land dedication for roads or utilities (construction not required by this plan) ...	0.00
E. Area to remain in commercial agricultural production/use ...	0.00
F. Other deductions (specify)	0.00
G. Net Tract Area .....=	4.39

LAND USE CATEGORY: (from Chapter 22A-3. Definitions)
Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	0	0	1

G. Afforestation Threshold ...	15%	x G =	0.66
H. Conservation Threshold ...	15%	x G =	0.66

EXISTING FOREST COVER:

I. Existing forest cover .....=	1.40
J. Area of forest above afforestation threshold .....=	0.74
K. Area of forest above conservation threshold .....=	0.74

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation ....=	0.81
M. Clearing permitted without mitigation .....=	0.59

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared .....=	1.40 **	
O. Total area of forest to be retained .....=	0.00	
PLANTING REQUIREMENTS:		
P. Reforestation for clearing above conservation threshold ....=	0.19	
Q. Reforestation for clearing below conservation threshold ....=	1.32	1
R. Credit for retention above conservation threshold.....=	0.00	
S. Total reforestation required .....=	1.50	1
T. Total afforestation required .....=	0.00	
U. Credit for landscaping (may not exceed 20% of "S") .....=	0.00	
V. Total reforestation and afforestation required .....=	**1.50**	

worksheet date 5/13/2019

** TOTAL FOREST CLEARED IN CLUDES 1.33 ACRES ON-SITE AND 0.07 ACRES IN OFF-SITE RIGHT OF WAY

FOREST CONSERVATION REQUIREMENT OF 1.50 ACRES TO BE MET VIA FOREST BANK IF AVAILABLE OTHERWISE TO BE MET VIA FEE-IN-LIEU.

FOREST CONSERVATION DATA TABLE

DESCRIPTION	SIZE
Property Area	3.75 Acres
Off-site Disturbance	0.64 Acres
Total Tract Area	4.39 Acres
Tract remaining in Ag use	0.00 Acres
Road & Utility ROW (Unimproved)	0.00 Acres
On-site Forest	1.33 Acres
Off-site ROW Forest	0.07 Acres
Total Forest	1.40 Acres
Total Forest Retention	0.00 Acres
Total Forest Cleared	1.40 Acres
Land Use Category	CIA
Afforestation Threshold	15%
Reforestation Threshold	20%

Stream(s) Length: NA Average Buffer Width: NA

Acres of Forest in:	Retained	Cleared	Planted
Wetlands	0.00	0.00	0.00
100yr Floodplain	0.00	0.00	0.00
Stream Buffers	0.00	0.00	0.00
Other Priority Areas	0.00	0.00	0.00

TREE TABLE

TREE ID#	COMMON NAME	BOTANICAL NAME	SIZE (DIAM. INCHES)	CONDITION	STATUS/MITIGATION
1	RED OAK	QUERCUS RUBRA	27	GOOD - VINES	REMOVE/NO MITIGATION/NOT VARIANCE TREE
2	MAPLE	ACER SP.	24	DEAD - FALLEN OVER	REMOVE/MITIGATED PER FC WORKSHEET/NOT VARIANCE TREE
3	SILVER MAPLE	ACER SACCHARINUM	39	POOR - TOPPED, ALMOST DEAD, DIEBACK, DEADWOOD, VINES	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
4	BLACK CHERRY	PRUNUS SEROTINA	25	POOR - DEADWOOD, HEAVY IVY	REMOVE/MITIGATED PER FC WORKSHEET/NOT VARIANCE TREE
5	BLACK LOCUST	ROBINIA PSEUDOACACIA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
6	BLACK LOCUST	ROBINIA PSEUDOACACIA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
7	BLACK LOCUST	ROBINIA PSEUDOACACIA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
8	BLACK LOCUST	ROBINIA PSEUDOACACIA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
9	BLACK LOCUST	ROBINIA PSEUDOACACIA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
10	BLACK LOCUST	ROBINIA PSEUDOACACIA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
11	BLACK LOCUST	ROBINIA PSEUDOACACIA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
12	BLACK LOCUST	ROBINIA PSEUDOACACIA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
13	RED MAPLE	ACER RUBRUM	14	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 14"
14	RED MAPLE	ACER RUBRUM	14	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 14"
15	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
16	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
17	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
18	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
19	RED MAPLE	ACER RUBRUM	8	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 8"
20	SILVER MAPLE	ACER SACCHARINUM	26	FAIR - DEADWOOD, VINES, LEANS	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
21	MULBERRY	WHITE MORUS ALBA	10	POOR - DEADWOOD, VINES, EPICORMIC GROWTH	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
22	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
23	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
24	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
25	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
26	BLACK WALNUT	JUGLANS NIGRA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
27	BOXELDER	ACER NEGUNDO	3-2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
28	BOXELDER	ACER NEGUNDO	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
29	BOXELDER	ACER NEGUNDO	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
30	BLACK LOCUST	ROBINIA PSEUDOACACIA	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
31	N. CATALPA	CATALPA SPECIOSA	3	POOR - DEADWOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
32	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
33	N. CATALPA	CATALPA SPECIOSA	3	POOR - DEADWOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
34	BOXELDER	ACER NEGUNDO	4	POOR - DEADWOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
35	BOXELDER	ACER NEGUNDO	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
36	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
37	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
38	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
39	BOXELDER	ACER NEGUNDO	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
40	GREEN ASH	FRAXINUS PENNSYVANICA	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
41	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
42	BLACK WALNUT	JUGLANS NIGRA	9	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
43	N. CATALPA	CATALPA SPECIOSA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
44	BLACK WALNUT	JUGLANS NIGRA	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
45	N. CATALPA	CATALPA SPECIOSA	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
46	BLACK WALNUT	JUGLANS NIGRA	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
47	BLACK WALNUT	JUGLANS NIGRA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
48	BLACK WALNUT	JUGLANS NIGRA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
49	BLACK CHERRY	PRUNUS SEROTINA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
50	BLACK WALNUT	JUGLANS NIGRA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
51	BLACK CHERRY	PRUNUS SEROTINA	15-15	FAIR - HEAVY VINES, DEADWOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
52	BLACK WALNUT	JUGLANS NIGRA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
53	BLACK CHERRY	PRUNUS SEROTINA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
54	SILVER MAPLE	ACER SACCHARINUM	61	FAIR - DEADWOOD, MULTISTEM AT 9FT, WOUND CLOSURE	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
55	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
56	VIRGINIA PINE	PINUS VIRGINIANA	21	FAIR - DEADWOOD, VINES	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
57	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
58	BLACK CHERRY	PRUNUS SEROTINA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
59	BLACK CHERRY	PRUNUS SEROTINA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
60	BLACK CHERRY	PRUNUS SEROTINA	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
61	BLACK CHERRY	PRUNUS SEROTINA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
62	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
63	BLACK WALNUT	JUGLANS NIGRA	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
64	BLACK WALNUT	JUGLANS NIGRA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
65	BLACK LOCUST	ROBINIA PSEUDOACACIA	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
66	SILVER MAPLE	ACER SACCHARINUM	12-8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
67	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
68	SILVER MAPLE	ACER SACCHARINUM	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
69	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
70	NORWAY MAPLE	ACER PLATANOIDES	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
71	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
72	N. CATALPA	CATALPA SPECIOSA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
73	N. CATALPA	CATALPA SPECIOSA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
74	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
75	BLACK WALNUT	JUGLANS NIGRA	9	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
76	BOXELDER	ACER NEGUNDO	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
77	BLACK CHERRY	PRUNUS SEROTINA	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
78	BLACK CHERRY	PRUNUS SEROTINA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
79	BLACK CHERRY	PRUNUS SEROTINA	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
80	SILVER MAPLE	ACER SACCHARINUM	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
81	DEAD TREE	UNKNOWN	44	DEAD - TOPPED, HOLLOW SNAG	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
82	BOXELDER	ACER NEGUNDO	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
83	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
84	BOXELDER	ACER NEGUNDO	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
85	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
86	BLACK CHERRY	PRUNUS SEROTINA	6	POOR - ROT, VINES	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
87	BLACK CHERRY	PRUNUS SEROTINA	10	GOOD - VINES	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
88	BOXELDER	ACER NEGUNDO	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
89	BLACK WALNUT	JUGLANS NIGRA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
90	BLACK WALNUT	JUGLANS NIGRA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
91	BLACK WALNUT	JUGLANS NIGRA	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
92	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
93	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
94	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
95	SILVER MAPLE	ACER SACCHARINUM	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
96	SILVER MAPLE	ACER SACCHARINUM	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
97	SILVER MAPLE	ACER SACCHARINUM	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
98	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
99	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
100	SILVER MAPLE	ACER SACCHARINUM	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
101	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
102	BOXELDER	ACER NEGUNDO	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
103	BLACK LOCUST	ROBINIA PSEUDOACACIA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
104	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
105	BOXELDER	ACER NEGUNDO	2	DEAD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
106	BOXELDER	ACER NEGUNDO	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
107	BOXELDER	ACER NEGUNDO	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
108	BOXELDER	ACER NEGUNDO	2	DEAD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
109	BOXELDER	ACER NEGUNDO	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
110	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
111	SILVER MAPLE	ACER SACCHARINUM	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
112	SILVER MAPLE	ACER SACCHARINUM	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
113	PEAR	PYRUS CALLERYANA	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
114	SILVER MAPLE	ACER SACCHARINUM	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
115	BLACK LOCUST	ROBINIA PSEUDOACACIA	9	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
116	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
117	BLACK CHERRY	PRUNUS SEROTINA	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
118	BLACK CHERRY	PRUNUS SEROTINA	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
119	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
120	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
121	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
122	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
123	BLACK LOCUST	ROBINIA PSEUDOACACIA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
124	TULIP POPLAR	LIRIODENDRON TULIFERA	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
125	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
126	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
127	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
128	SILVER MAPLE	ACER SACCHARINUM	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
129	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
130	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
131	SILVER MAPLE	ACER SACCHARINUM	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
132	SILVER MAPLE	ACER SACCHARINUM	12	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
133	BLACK LOCUST	ROBINIA PSEUDOACACIA	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
134	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
135	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
136	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 3"
137	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 1"
138	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
139	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
140	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
141	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 3"
142	SILVER MAPLE	ACER SACCHARINUM	6	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 6"
143	SILVER MAPLE	ACER SACCHARINUM	10	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 10"
144	SYCAMORE	ACER SACCHARINUM	3	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 3"
145	SILVER MAPLE	ACER SACCHARINUM	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
146	SILVER MAPLE	ACER SACCHARINUM	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
147	BLACK LOCUST	ROBINIA PSEUDOACACIA	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"

TREE TABLE

TREE ID#	COMMON NAME	BOTANICAL NAME	SIZE (DIAMETER INCHES)	CONDITION	STATUS/MITIGATION
148	BLACK LOCUST	ROBINIA PSEUDOACACIA	8	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 8"
149	SILVER MAPLE	ACER SACCHARINUM	8	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 8"
150	SILVER MAPLE	ACER SACCHARINUM	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
151	BLACK LOCUST	ROBINIA PSEUDOACACIA	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
152	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
153	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
154	SILVER MAPLE	ACER SACCHARINUM	4	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
155	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
156	SILVER MAPLE	ACER SACCHARINUM	1	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
157	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
158	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
159	BLACK LOCUST	ROBINIA PSEUDOACACIA	5	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
160	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
161	SILVER MAPLE	ACER SACCHARINUM	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
162	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
163	SILVER MAPLE	ACER SACCHARINUM	7	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
164	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
165	SILVER MAPLE	ACER SACCHARINUM	3	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
166	SILVER MAPLE	ACER SACCHARINUM	6	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
167	BLACK LOCUST	ROBINIA PSEUDOACACIA	11	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
168	SILVER MAPLE	ACER SACCHARINUM	2	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
169	SILVER MAPLE	ACER SACCHARINUM	10	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
170	SILVER MAPLE	ACER SACCHARINUM	8	GOOD	REMOVE/MITIGATED PER FC WORKSHEET/VARIANCE TREE
171	RED OAK	QUERCUS RUBRA	11	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 11"
172	WILLOW OAK	QUERCUS PHELLOS	15	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 15"
173	WILLOW OAK	QUERCUS PHELLOS	12	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 12"
174	WILLOW OAK	QUERCUS PHELLOS	13	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 13"
175	WILLOW OAK	QUERCUS PHELLOS	15	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 15"
176	WILLOW OAK	QUERCUS PHELLOS	15	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 15"
177	RED MAPLE	ACER RUBRUM	11	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 11"
178	RED MAPLE	ACER RUBRUM	18	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 18"
179	RED MAPLE	ACER RUBRUM	11	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 11"
180	RED MAPLE	ACER RUBRUM	6	FAIR - CAVITIES	REMOVE/VARIANCE TREE/MITIGATION = 6"
181	RED MAPLE	ACER RUBRUM	12	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 12"
182	RED MAPLE	ACER RUBRUM	10	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 10"
183	RED MAPLE	ACER RUBRUM	10	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 10"
184	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 2"
185	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 2"
186	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 2"
187	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 2"
188	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 2"
189	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
190	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
191	GREEN ASH	FRAXINUS PENNSYVANICA	9	POOR - DIEBACK	REMOVE/VARIANCE TREE/MITIGATION = 9"
192	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
193	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
194	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
195	N.S. HOLLY	ILEX NELLIE R STEVENS	4	GOOD	REMOVE/VARIANCE TREE/MITIGATION = 4"
196	WILLOW OAK	QUERCUS PHELLOS	12	GOOD	SAVE/IMPACT/VARIANCE TREE/STRESS REDUCTION
197	ARBORVITAE	THUJA OCCIDENTALIS	3-3	GOOD	SAVE
198	ARBORVITAE	THUJA OCCIDENTALIS	3-3	GOOD	SAVE
199	ARBORVITAE	THUJA OCCIDENTALIS	3-3	GOOD	SAVE
200	ARBORVITAE	THUJA OCCIDENTALIS	3-3	GOOD	SAVE
201	WILLOW OAK	QUERCUS PHELLOS	14	GOOD	SAVE
202	ZELKOVA	ZELKOVA SERRATA	10	POOR - DECAY, BARK LOSS ON TRUNK	SAVE
203	CREPE MYRTLE	LAGERSTROEMIA SP	2-2-2-2-2-2	GOOD	SAVE

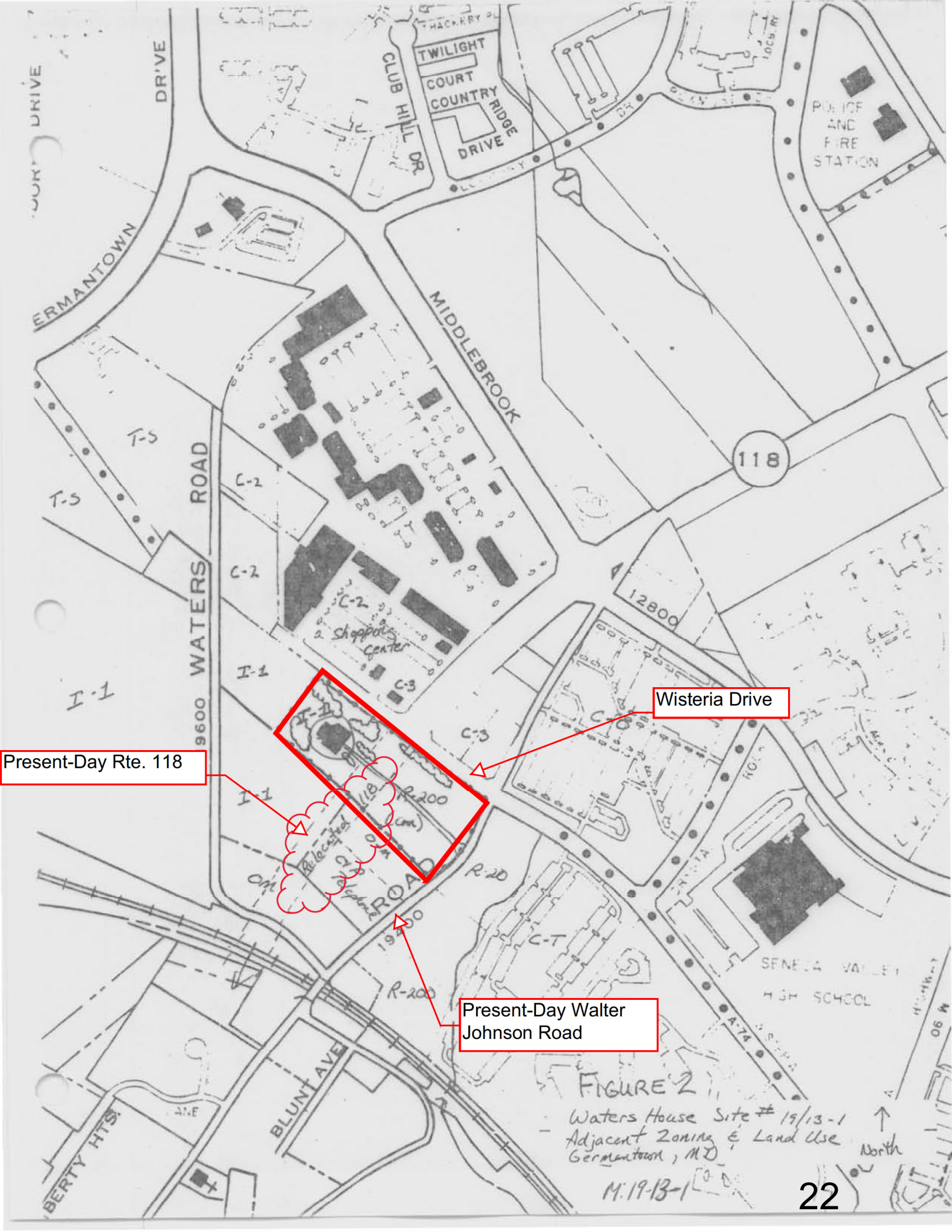
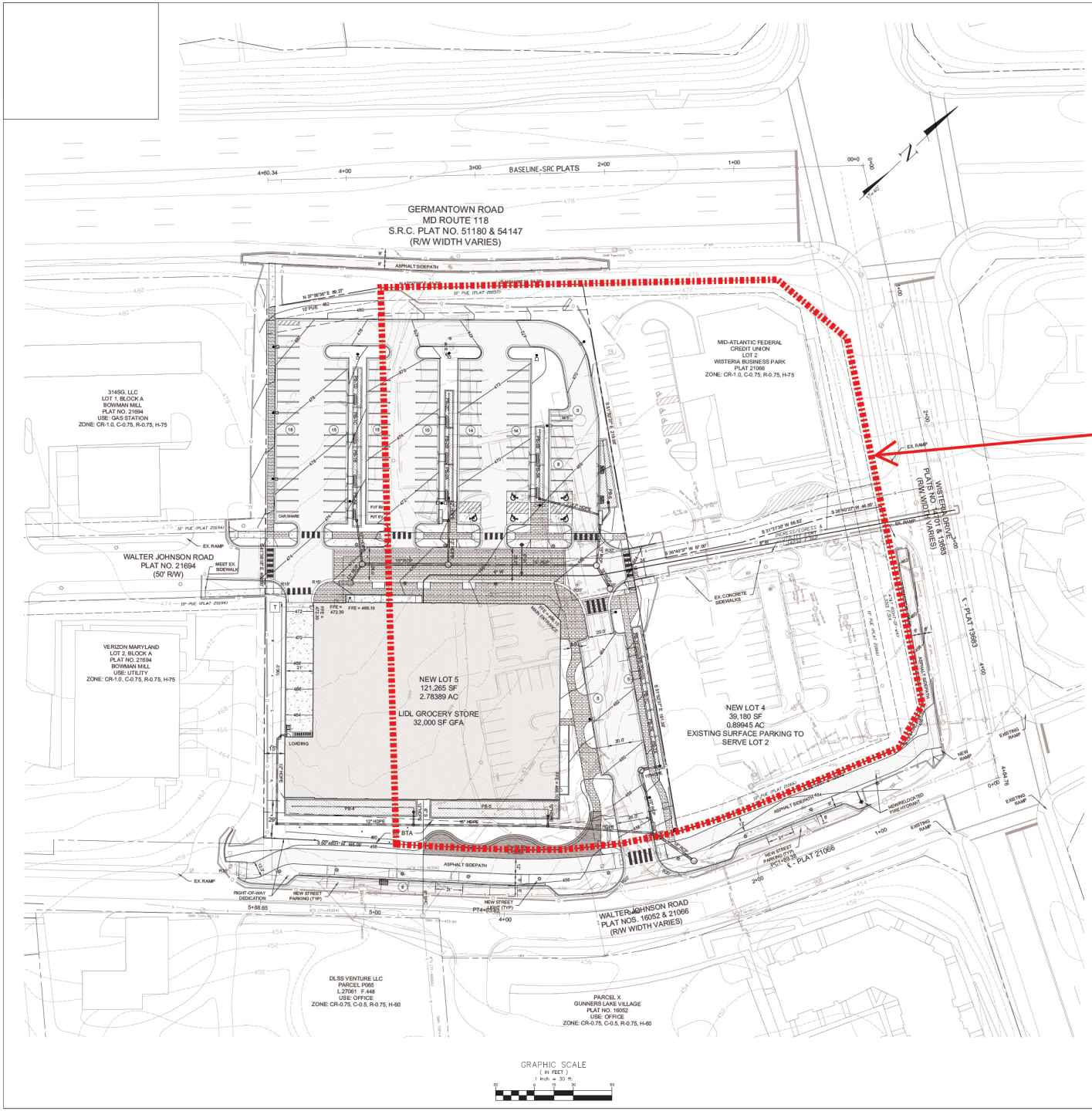


FIGURE 2
Waters House Site # 19/13-1
Adjacent Zoning & Land Use
Germantown, MD
M:19-13-1

Madeline V. Waters House Historic Site as Shown on
Montgomery County GIS System at https://mcatlas.org/hp2/





DEVELOPMENT STANDARDS
(ZONING: CR-1.0, C-0.75, R-0.75, H-75)

ZONING STANDARD	PERMITTED/REQUIRED	PROVIDED LOT 4	PROVIDED LOT 5
TRACT AREA	N/A	49,915 SF (1.146 AC)	156,426 (3.591 AC)
MINIMUM PUBLIC OPEN SPACE (TRACT >10,000 SF) 59-4.5.3.C.1	10%	18%	12%
MINIMUM LOT AREA 59-4.5.3.C.2	N/A	39,180 SF (0.899 AC)	121,265 SF (2.783 AC)
MAXIMUM TOTAL COMMERCIAL DENSITY (FAR) 59-4.5.3.C.2	0.75 (117,320 SF)	0.00 (0 SF) [8]	0.20 (32,000 SF)
MAXIMUM LOT COVERAGE 59-4.5.3.C.2	N/A	0% [8]	20%
MINIMUM FRONT SETBACK 59-4.5.3.C.3	0 FT	N/A [9]	29 FT
MINIMUM SIDE STREET SETBACK 59-4.5.3.C.3	0 FT	N/A [1]	N/A [1]
MINIMUM REAR SETBACK, ABUTTING NON-RESIDENTIAL 59-4.5.3.C.3	0 FT	N/A [1]	N/A [1]
MINIMUM SIDE SETBACK, ABUTTING NON-RESIDENTIAL 59-4.5.3.C.3	0 FT	N/A [9]	15 FT
MINIMUM FRONT SETBACK, PARKING 59-4.5.3.C.3	BEHIND FRONT BLDG. LINE IN THE BTA	N/A [9]	SEE FOOTNOTE 3
MINIMUM SIDE STREET SETBACK, PARKING 59-4.5.3.C.3	BEHIND SIDE STREET BLDG. LINE IN THE BTA	N/A [9]	N/A [1]
MINIMUM SIDE SETBACK, PARKING 59-4.5.3.C.3	6 FT TO ACCOMMODATE LANDSCAPING UNDER 59-6.2.9	N/A [10]	N/A [1]
MINIMUM REAR SETBACK, PARKING 59-4.5.3.C.3	6 FT. TO ACCOMMODATE LANDSCAPING UNDER 59-6.2.9	N/A [10]	N/A [1]
BUILD TO AREA (BTA) MIN FACADE IN BTA FRONT SETBACK 59-4.5.3.C.3	70% WITHIN 20 FT OR AS MODIFIED	N/A [9]	TBD BY SITE PLAN [9] (WALTER JOHNSON RD)
BUILD TO AREA (BTA) MIN. FACADE IN BTA SIDE STREET SETBACK 59-4.5.3.C.3	35% WITHIN 20 FT OR AS MODIFIED	N/A [9]	N/A [9]
MAXIMUM BUILDING HEIGHT, PRINCIPAL BUILDING 59-4.5.3.C.4	75 FT	N/A [9]	35 FT
MINIMUM BUILDING TRANSPARENCY, GROUND STORY FRONT 59-4.5.3.C.5	40%	N/A [9]	TBD BY SITE PLAN [9]
MINIMUM BUILDING TRANSPARENCY, GROUND STORY SIDE/REAR 59-4.5.3.C.5	25%	N/A [9]	TBD BY SITE PLAN [9]
MAXIMUM BLANK WALL 59-4.5.3.C.5	35 FT.	N/A [9]	TBD BY SITE PLAN [9]
PARKING LOT INTERNAL LANDSCAPED AREA 59-6.2.9.C.1	5%	N/A [10]	23% [7]
PARKING LOT TREE CANOPY 59-6.2.9.C.2	25%	N/A [10]	30% [7]
PARKING LOT PERIMETER PLANTING WIDTH, ABUTTING NON-RESIDENTIAL 59-6.2.9.C.3	6 FT	N/A [10]	N/A [4]
VEHICLE PARKING REQUIREMENTS (WITHIN REDUCED PARKING AREA) 59-6.2.4.B	LOT 5 ONLY 112 SPACES MINIMUM (3.5 PER 1,000 SF) 192 SPACES MAXIMUM (6.0 PER 1,000 SF)	52 SPACES (SEE BREAKDOWN BELOW)	121 SPACES (SEE BREAKDOWN BELOW)
MINIMUM NUMBER OF ACCESSIBLE SPACES: 59-6.2.3.B / COMAR 05.02.02	5 SPACES	N/A [10]	5 SPACES
MOTORCYCLE/SCOOTER SPACES: 59-6.2.3.C	3 SPACES	N/A [10]	3 SPACES
CAR-SHARE SPACES: 59-6.2.3.D	1 SPACE	N/A [10]	1 SPACE
ELECTRIC VEHICLE CHARGING SPACES (FUTURE) 59-6.2.3.E	2 SPACES	N/A [10]	2 SPACES
PARKING PROVIDED BREAKDOWN STANDARD (8.5 FT X 18 FT) ACCESSIBLE (8 FT X 18 FT) VAN SITE PARALLEL (21 FT X 8 FT) - PUBLIC R/W [6] ACCESSIBLE (8 FT X 18 FT) MOTORCYCLE/SCOOTER (4 FT X 18 FT) CAR SHARE (8.5 FT X 18 FT) ELECTRIC VEHICLE CHARGING (8 FT X 18 FT)	52 SPACES	51 SPACES 44 SPACES 5 SPACES 1 SPACE 1 SPACE 2 SPACES	
MINIMUM BICYCLE PARKING SPACES REQUIRED 59-6.2.4.C	LOT 5 ONLY 4 SPACES (1 LONG TERM) (1.0 PER 10,000 SF)	N/A [9]	4 SPACES (1 LONG TERM) [4]
MINIMUM NUMBER OF LOADING SPACES 59-6.2.8.B	LOT 5 ONLY 1 SPACE (12 FT X 55 FT)	N/A [9]	1 SPACE (21 FT X 100 FT)

FOOTNOTES:
1. PROPERTY IS NOT A CORNER LOT AND THEREFORE DOES NOT INCLUDE A SIDE STREET SETBACK.
2. PROPERTY IS CONSIDERED A THROUGH LOT, AND THEREFORE HAS NO REAR YARD.
3. ALL ON-SITE PARKING WILL BE LOCATED BEHIND THE FRONT BUILDING LINE IN RELATION TO WALTER JOHNSON ROAD. THE PROPERTY IS A THROUGH LOT AND IS BEING DEVELOPED WITH ACCESS ONLY FROM GERMANTOWN ROAD. ALL PARKING CANNOT BE LOCATED BEHIND A BUILDING IN RELATION TO GERMANTOWN ROAD.
4. WITH SIDEWALK ON BOTH SIDES AND TREE PLANTING CREATING A BUILDING IN RELATION TO GERMANTOWN ROAD.
5. THE APPLICANT IS SEEKING RELIEF FROM THE BUILD TO, THEREFORE, PER 59-6.2.8.C.3.B.IV, PERIMETER PLANTING IS NOT REQUIRED.
6. SEE ARCHITECTURAL PLANS FOR 820220090 FOR DETAILS.
7. SEE LANDSCAPE PLANS FOR 820220090 FOR DETAILS.
8. LONG TERM BICYCLE PARKING SPACE WILL BE LOCATED WITHIN THE BUILDING.
9. THERE ARE NO EXISTING OR PROPOSED BUILDINGS ON LOT 4.
10. EXISTING PARKING LOT ON LOT 4 ESISTED PRIOR TO OCTOBER 30, 2014 AND IS THEREFORE CONSIDERED CONFORMING AS THERE ARE NO ALTERATIONS PROPOSED.

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Land Surveyors
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Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the Laws of the State of Maryland, Lic. No. 19606 Exp. Date: 04.21.2022

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REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 228NW13, 227NW13

PLATS 20037 & 21066

2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

LOTS 1 & 3
WISTERIA BUSINESS PARK
& PARCEL P965
L.23973 F.138

PROJ. MGR	PGL
DRAWN BY	PGL
SCALE	1"=30'
DATE	01.19.2022

PRELIMINARY PLAN
COVER SHEET

PP0.04

PROJECT NO.	85.136.53
SHEET NO.	4 OF 4

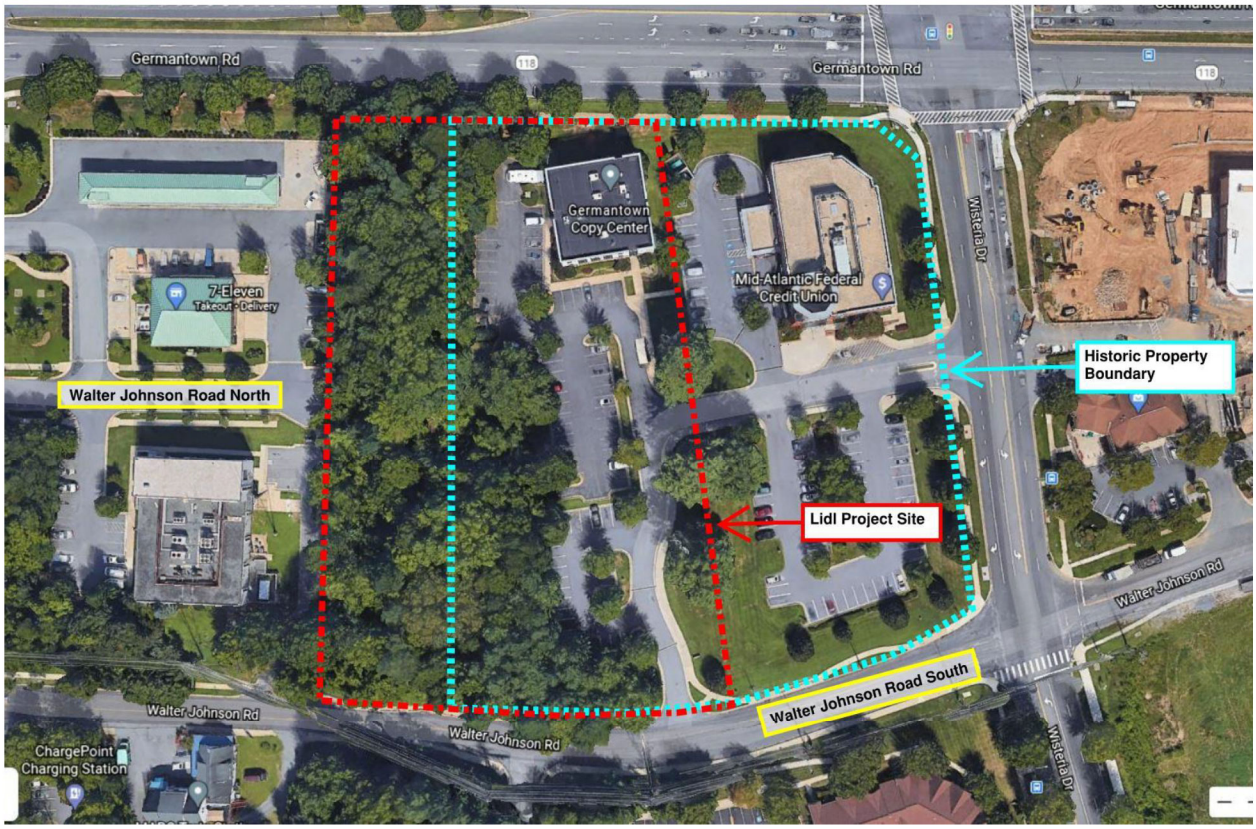
MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION

REQUEST FOR PRELIMINARY CONSULTATION

Submitted 2-24-22 by LIDL US, LLC

19430 Walter Johnson Road, Germantown

SITE PHOTOS



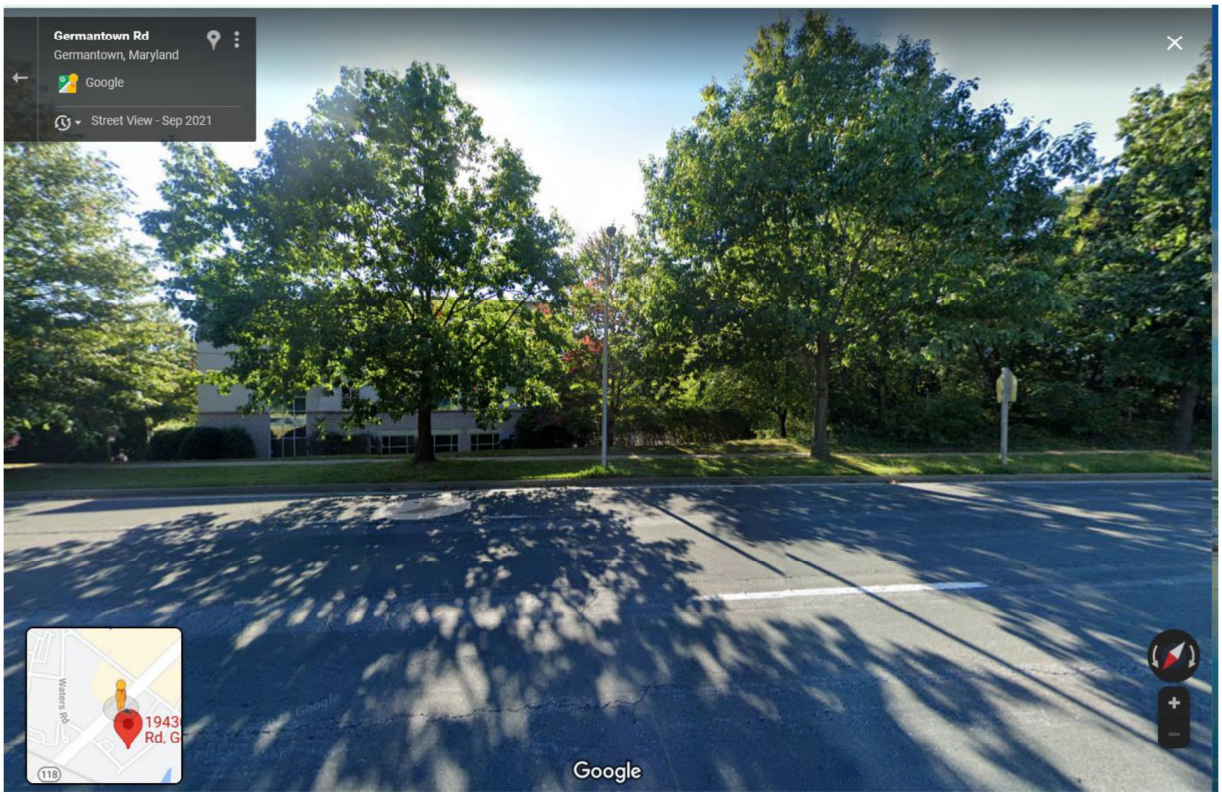
Aerial Photo of Project Site and Portion of Historic Site South of Rte. 118



Southern Corner of Subject Site as Seen from the South Side of Walter Johnson Road "South"
New Property Line Separates Lidl Project Site (to left) from Property Remaining with Credit Union (to right)



Middle of Subject Site's Walter Johnson Rd. Frontage Seen from Driveway across Walter Johnson Rd. "South"



Project Site's Rte. 118 Frontage as Seen from across Rte. 118, Looking South



View from Project Site's 118 Frontage towards Former Location of Madeline V. Waters House across Rte. 118, Looking North


LIDL
FOODMARKET
FOOD MARKET
LIDL

Attachment 4

****Note: This is only part of the submitted report. The complete report (430 pages) is available on DAIC or by request.

Local Area Transportation Report

19430 Walter Johnson Road

Germantown, Maryland

First Submission: October 11, 2021

Second Submission: April 5, 2022

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Transportation Planners and Engineers

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Executive Summary

The following report is a Local Area Transportation Review (LATR) for the 19430 Walter Johnson Road development in the Germantown, Maryland.

Proposed Project

The proposed development will consist of a 30,000 square foot grocery store. The proposed development will provide 121 parking spaces.

The 19430 Walter Johnson Road site is well served by transit and is surrounded by a well-connected pedestrian and expanding bicycle network. The site is located near several major roadways such as Germantown Road, Great Seneca Highway, Middlebrook Road, and Wisteria Drive. These roadways create connections to I-270, the Capital Beltway (I-495), and I-95 making.

Vehicular access to the site will be primarily available off of Walter Johnson Road with additional connections available from Wisteria Drive and Bowman Mill Drive. As part of the project, an internal driveway connection between Wisteria Drive and Bowman Mill Drive will be established to increase east-west connectivity.

The project includes a number of on-site facilities that enhance the surrounding multimodal network such as a 12-foot wide sidepath along the northwest side of Walter Johnson Road and a 10-foot wide sidepath along the southwest side of Wisteria Drive, and a 10-foot path along the southeast side of Germantown Road. Off-site facilities also include an 8-foot path between the Verizon Building driveway and Bowman Mill Drive A new sidewalk will also establish a non-vehicular connection between the site and Germantown Road.

Adequacy Determination

As the project generates 136 net person trips during the morning peak hour and 417 net person trips during the afternoon peak hour, a statement is required to determine any required mitigation necessary for adequate operations of each mode.

Motor Vehicle System Adequacy

A capacity analysis was completed to compare the future roadway conditions with and without the proposed development. Based on the results of the HCM and CLV analysis, the project was not found to negatively impact delays at any of the study intersections.

A queueing analysis was also conducted. Queueing analysis results indicate the project does not cause any movement queue lengths to exceed storage capacity and queueing issues are not anticipated as a result of the project. Queue lengths in the future condition with the project were found to be generally consistent with queues experienced in the background condition.

Per Staff request, a signal warrant study was also conducted at the Walter Johnson Road and Wisteria Drive intersection. Roadway volumes with the project were not found to meet MDOT SHA criteria for signalization.

Based on the conducted analyses, motor vehicle adequacy is satisfied without improvements.

Pedestrian System Adequacy

A review of the existing pedestrian system was conducted in accordance with the LATR Guidelines. The review covered PLOC adequacy, ADA compliance, and streetlighting adequacy.

The applicant proposes to achieve adequacy with a robust pedestrian system improvements package focused on enhancing the pedestrian environment along Walter Johnson Road, Germantown Road, and Wisteria Drive.

Bicycle System Adequacy

An evaluation of the existing bicycle system was conducted in accordance with the LATR Guidelines. The review was based on BLTS adequacy.

The applicant proposes to achieve bicycle system adequacy with the proposed sidepath improvements along Walter Johnson Road, Wisteria Drive, and Germantown Road.

Transit System Adequacy

The transit system adequacy test consisted of evaluating bus stops within a specified distance from the project site. The transit adequacy standard requires a minimum of four (4) bus stops with shelters and RTI displays within 1,500 feet beyond the site frontage.

With the proposed improvements to off-site pedestrian and bicycle facilities, connections to transit are enhanced for transit users in the area.

Vision Zero Statement

As part the project's Vision Zero Statement, conditions around the project site were evaluated to determine if safety measures are necessary to address safety issues.

No safety issues were identified after reviewing the high injury network locations, crash data, conducting a speed study, and assessing the proposed site access and circulation.

Impact Summary and Recommendations

With a robust transportation network improvements package, the project includes significant on-site and off-site transportation improvements to accommodate the multimodal trip generation impacts of the proposed grocery store. These improvements substantially enhance connectivity and access of all forms of transportation in the vicinity of the Lidl Project Site. The proposed improvements are focused along Walter Johnson Road, Germantown Road, and Wisteria Drive, and along the facilities pedestrians and bicyclists are most likely to use to travel to and from the store. The project's transportation network improvements package includes 690 linear feet of off-site improvements that include improved sidewalks/sidepaths, and improved crossings. More specifically the proposed improvements include the following:

- 560 linear feet of pathway improvements to include widened sidewalks
- 90 linear feet of improved crossings to include high visibility crosswalks
- 4 curb ramp improvements to include detectable warning surfaces (approximately 40 linear feet)

The proposed improvements package advances goals identified in the *MARC Rail Communities Sector Plan* and implementation will be closely coordinated with Planning Staff to ensure multimodal adequacy is satisfied.

In addition to the proposed network improvements, the development has many positive elements contained within its design that minimize potential transportation impacts, including:

- Improvements to the pedestrian facilities adjacent to the site that meet or exceed County and ADA requirements.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet zoning requirements.
- Site Layout that enhances the street grid for improved multimodal circulation.

As noted above, this report concludes that **the proposed development will not have a detrimental impact to the surrounding transportation and roadway network** assuming that all planned site design elements and recommended measures are implemented. Furthermore, based the proposed transportation network improvements, **the project will significantly improve pedestrian, bicycle, and transit facilities along Walter Johnson Road and Wisteria Drive resulting in improved multimodal conditions**.

Introduction

This report reviews the transportation elements of 19430 Walter Johnson Road development. The site, shown in Figure 1, is located in Germantown, Maryland.

The purpose of this report is to:

1. Review the transportation elements of the development site plan and demonstrate that the site conforms to Montgomery County LATR policies.
2. Provide information to the Montgomery County Park and Planning Commission (Maryland-National Capital Park and Planning Commission/M-NCPPC), Montgomery County Department of Transportation (MCDOT), and Maryland Department of Transportation State Highway Administration (MDOT SHA) and other agencies on how the development of the site will influence the local transportation network. This report accomplishes this by identifying the potential trips generated by the site on all major modes of travel and where these trips will be distributed on the network.
3. Determine if development of the site will lead to adverse impacts on the local transportation network. This report accomplishes this by projecting future conditions with and without development of the site and performing analyses of study area intersections using Highway Capacity Manual (HCM) methodology, with Critical Lane Volume (CLV) analyses included in the Technical Attachments, as required by the LATR guidelines. HCM standards are compared to the acceptable levels set by Montgomery County LATR standards adopted in July 2021 within the Germantown Town Center Policy Area to determine if the site will negatively impact the study area. The report discusses what improvements to the transportation network are needed to mitigate adverse impacts as needed.

Contents of Study

This report contains nine (9) sections as follows:

- *Section 1: Study Area Overview*

  This section reviews the area near and adjacent to the proposed project and includes an overview of the site location.

Section 2: Project Design

This section reviews the transportation components of the project, including the site plan and access.

Section 3: Trip Generation

This section outlines the travel demand of the proposed project. It summarizes the proposed trip generation of the project.

Section 4: Pedestrian Facilities

This section summarizes existing and future pedestrian access to the site, reviews walking routes to and from the project site, outlines impact, and presents recommendations as needed. The pedestrian system adequacy test is also presented in this section, including a discussion on necessary improvements to achieve adequacy, if needed. The pedestrian system adequacy test includes a review of the following:

- Pedestrian Level of Comfort (PLOC) adequacy
- American with Disabilities Act (ADA) compliance
- Streetlight network

The findings of each individual component are presented along with specific recommendations to improve conditions, as needed.

Section 5: Bicycle Facilities

This section summarizes existing and future bicycle access to the site, reviews the quality of cycling routes to and from the project site, outlines impact, and presents recommendations as needed. The bicycle system adequacy test is also presented in this section, including a discussion on potential improvements necessary to achieve adequacy, if needed. The bicycle system adequacy test includes a review of the Bicycle Level of Traffic Stress (BLTS) in the vicinity of the project area.

Section 6: Transit Facilities

This section summarizes the existing and future transit service adjacent to the site, reviews how the project's transit demand will be accommodated, outlines impact, and presents recommendations as needed. The transit system adequacy test is also presented in this section, including a discussion on potential improvements necessary to achieve adequacy, if needed.

Section 7: Vision Zero Statement

This section outlines the required Vision Zero Statement for the project. It includes a review of the High Injury Network, history of crashes around the site, traffic speeds around the site, and site access and circulation to determine if measures to manage safety issues around the project are recommended.

Section 8: Traffic Operations

This section provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. This section highlights the vehicular impacts of the project, including presenting mitigation measures as needed.

Section 9: Summary and Conclusions

This section presents a summary of the recommended mitigation measures by mode and presents overall report findings and conclusions.



Figure 1: Site Aerial

Section 1: Study Area Overview

This chapter reviews the existing conditions of the surrounding transportation network and includes an overview of the site location, including a summary of the major transportation characteristics of the area and of future regional projects. Detailed characteristics of each mode and their subsequent study areas will be defined in the following chapters.

The following conclusions are reached within this chapter:

- The site is surrounded by a well-connected regional and local transportation system that will accommodate the patrons and staff of the proposed development.
- The site is well-served by public transportation with access to the Brunswick Line of the MARC rail system.
- The site is surrounded by a well-connected pedestrian environment. In the vicinity of the site, sidewalks generally meet Montgomery County guidelines with some gaps in the system.
- The site has access to existing bicycle facilities, including sidepaths on Wisteria Drive, Great Seneca Highway, and Middlebrook Road. Bicycle lanes are also available on Middlebrook Road and Dawson Farm.

Major Transportation Features

Overview of Regional Access

Under existing conditions, the proposed development site has ample access to regional vehicular and transit-based transportation options, as shown in Figure 2, that connect the site to destinations within Virginia, the District, and Maryland.

The site is accessible from several principal arterials such as Germantown Road (MD 118), Middlebrook Road, Great Seneca Highway (MD 119) and Father Hurley Boulevard. The arterials create connections to I-270 and I-355. These principal arterial roadways bring vehicular traffic within one half-mile of the site, at which point minor arterials, collectors, and local roads can be used to access the site directly.

The site has access to the Brunswick Line of the MARC rail system at the Germantown station, which provides connections to areas in the District, Maryland, and West Virginia.

Overall, the site has access to several regional roadways, transit, and bicycle options, making it convenient to travel between the site and destinations in the Virginia, the District, and Maryland.

Overview of Local Access

There are several local transportation options near the site that serve vehicular, transit, walking, and cycling trips under existing conditions, as shown.

In addition to several principal arterials, the site is served by a local vehicular network that includes several minor arterials and collectors such Dawsons Farm Road and Wisteria Drive. In addition, there is an existing network of local roadways that provide access to the site. Table 1 provides a list of the local roadways in the project study area.

Table 1: Summary of Study Area Roadways

Roadway	Jurisdiction	Functional Classification (MDOT SHA/MPOHT)	Rural vs Urban	# of Lanes	Speed Limit
Germantown Road	SHA	Principal Arterial Other/major Highway	Urban	6	40 MPH
Middlebrook Road	MCDOT	Principal Arterial Other/ Arterial	Urban	6	40 MPH, 35 MPH East of Germantown
Wisteria Drive	MCDOT	Major Collector/business	Urban	4	30 MPH
Bowman Mill Drive	MCDOT	Local/Business	Urban	2	30 MPH
Waters Road	MCDOT	Local/Business	Urban	2	30 MPH
Dawson Farm Road	MCDOT	Major Collector/Arterial	Urban	4	30 MPH
Great Seneca Hwy	MCDOT	Principal Arterial Other/Major Highway	Urban	4	50MPH
Walter Johnson Road	MCDOT	Local/Business	Urban	2	25 MPH
Father Hurley Blvd	MCDOT	Principal Arterial Other /Major Highway	Urban	4	35 MPH

Several bus systems provide local transit service in the vicinity of the site, including connections to several neighborhoods within Virginia, the District, and additional Metro stations. In the vicinity of the site the majority of routes travel along Germantown.

Existing bicycle facilities are available in the vicinity of the project site and include separated and striped bicycle lanes along Middlebrook Road, striped bicycle lanes along Dawson Farm Road, sidepaths along Wisteria Drive, Great Seneca Highway, and Germantown Road. These provide local bicycle connectivity to areas within Germantown and are supplemented by roadways with a low level of bicycle level of traffic stress (BLTS) for a network that provides access to destinations within Montgomery County such as Gaithersburg and Darnestown to the south. In addition to the existing facilities, the Montgomery County *Bicycle Master Plan* identifies significant improvements to the surrounding bicycle network that include bicycle facilities on all of the roadways within the study area. A detailed review of existing, proposed, and planned bicycle facilities and connectivity is provided in a later chapter of this report.

In the vicinity of the site, most sidewalks meet the County's pathway and buffer width guidelines and comply with Americans with Disabilities Act (ADA) width requirements. Anticipated pedestrian routes, such as those to public transportation stops, retail zones, nearby residential areas, and community amenities, provide well-connected pedestrian facilities. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later chapter of this report.

Overall, the site is surrounded by a local transportation network that allows for convenient and efficient transportation options via transit, bicycle, walking, or vehicular modes.

Planned Development

There are 14 potential development projects in the vicinity of the 19430 Walter Johnson Road development. For the purpose of this analysis, only approved developments with an origin/destination within the study area were included. A list of all planned developments considered and relevant references to each development's LATR study or trip generation are included in the Technical Attachments. The 14 planned developments considered are described below. Figure 3 shows the location of these developments in relation to the proposed development.

Chestnut Ridge (#120120250)

The Chestnut Ridge development is located west of Germantown Road along Waters Road and is approximately 0.25 miles from 19430 Walter Johnson Road. The development program features 6,816 square feet of retail.

Qiagen Germantown Business (#119811420)

Qiagen Germantown Business Park development features 84,000 SF of General Office, 59,782 SF of Research and Development Center, and 13,918 SF of General Light Industry. This development is approximately 0.6 miles from 19430 Walter Johnson Road.

Germantown Town Center East (#819990010)

The Germantown Town Center East development is located west of Germantown Road along Airport Drive and is approximately 0.9 miles from 19430 Walter Johnson Road. The development program features 10,567 square feet of retail.

Chestnut Ridge/Arden Courts of Germantown (#120170210)

The Chestnut Ridge/Arden Courts of Germantown is located at the southeast corner of the intersection of Liberty Mill Road and Dawson Farm Road, approximately 0.7 miles away from 19430 Walter Johnson Road. This development features 64 bed Residential Care Facility.

Century Technology Campus (#120020950)

The Century Technology Campus development is located on Century Boulevard, just southeast of Father Hurley Boulevard, approximately 1.5 miles from 19430 Walter Johnson Road. This development features a three-building office complex totaling 94,920 square feet of general office.

Montgomery College Germantown Campus (#120160240)

The Montgomery College Germantown Campus development located on the west side of Observation Drive and north of Exploration Lane is approximately 2.5 miles away from 19430 Walter Johnson Road. Th development features 150,000 square feet of office/professional services/professional services building.

Seneca Meadows Corporate Center (#119980040)

The Seneca Meadows Corporate Center is located on the northeast quadrant of the intersection of Germantown Road and Interstate 270. This development, approximately 2 miles away

from 19430 Walter Johnson Road, features 1,577,000 square feet of General Office and 83,000 square feet of Retail. Per Montgomery County's pipeline development records, 366,619 square feet of approved office space remain unbuilt.

College View Campus (#120200170)

The College View Campus development is a mixed land use development featuring 128 midrise multi-family units, 43,450 square feet of general office and 5,000 square feet of retail. This development is located approximately 2.5 miles away from 19430 Walter Johnson Road, on Frederick Road about 500 feet north of Cider Press Place.

Crystal Rock (#120120210)

The Crystal Rock development is a mixed land use development located on Crystal Rock Drive approximately 2.5 miles away from 19430 Walter Johnson Road. This development features 334,639 square feet of Retail and 1,097,800 square feet of General Office space.

Poplar Grove (#120190040)

The Poplar Grove development features a mixed land use development including 350 midrise and 190 low rise residential multifamily units, 460,000 square feet of general office, 60,000 square feet of retail. This development is located approximately 2.5 miles from 19430 Walter Johnson Road, on the southeast quadrant of Century Boulevard and Dorsey Mill Road intersection.

Milestone Industrial (#11987271C)

The Milestone Industrial development is located at the northeast quadrant of Interstate 270 and Ridge Road approximately 2.5 miles from 19430 Walter Johnson Road. This development features 28,250 square feet of Retail and 485 units of mid-rise multi-Family residential units.

Liberty Mill (#120040520)

The Liberty Mill development features 3 single family residential units approximately 0.7 miles from 19430 Walter Johnson Road. This development is located on Liberty Mill Road, just northeast of Duchin Road.

Germantown Estates (#120060970)

The Germantown Estates development is a 2-story, 15,600 square foot office building located on the corner of Germantown Road and Clopper Road. This development is approximately 1.6 miles from 19430 Walter Johnson Road.

Kingsview Knolls (#120030850)

The Kingsview Knolls development features 3 single family residential units on Kings Hills Road. This development is located on the northwest quadrant of Kings Hill Road and Kings Brook intersection, approximately 2 miles from 19430 Walter Johnson Road.

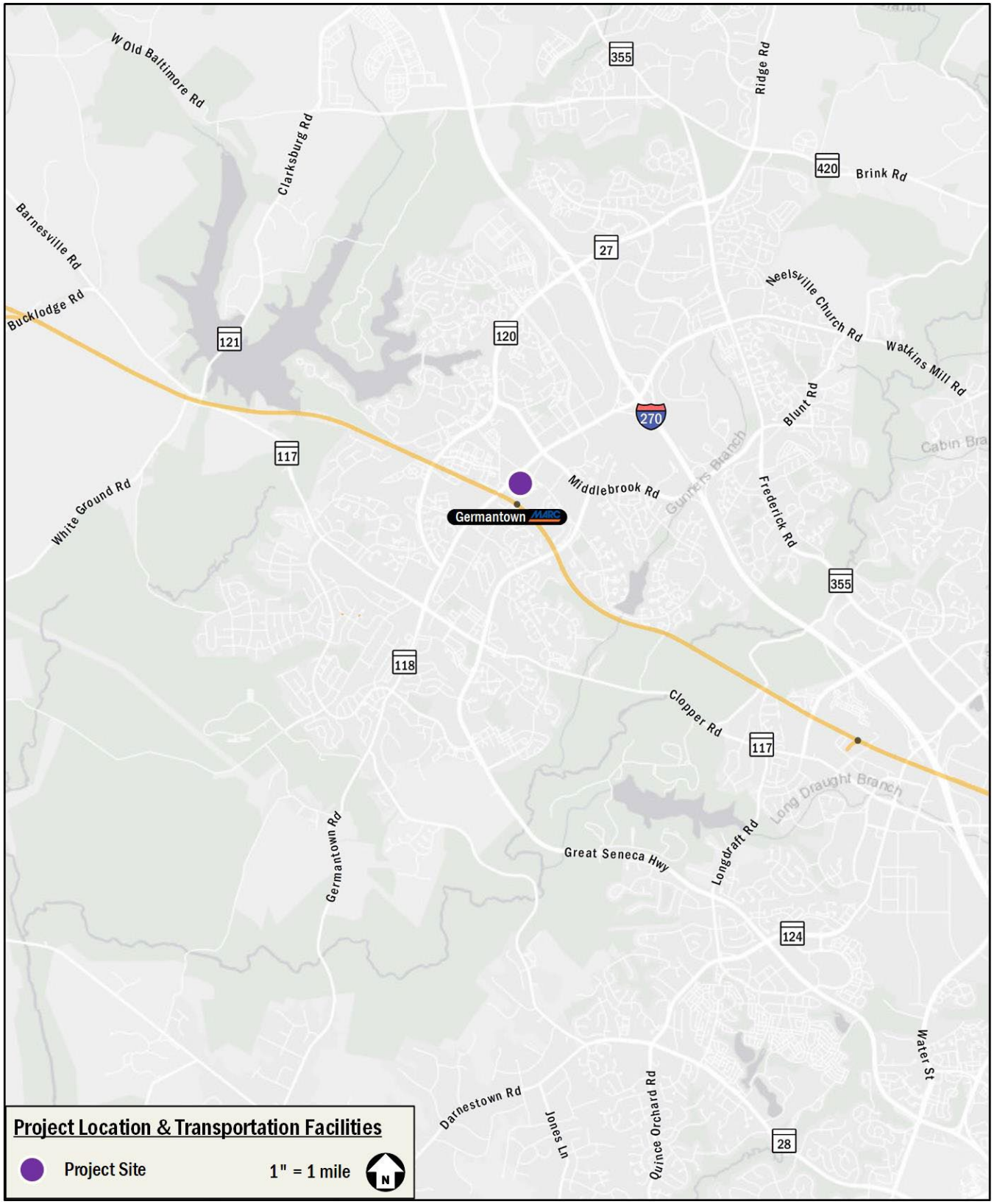


Figure 2: Project Location and Transportation Facilities

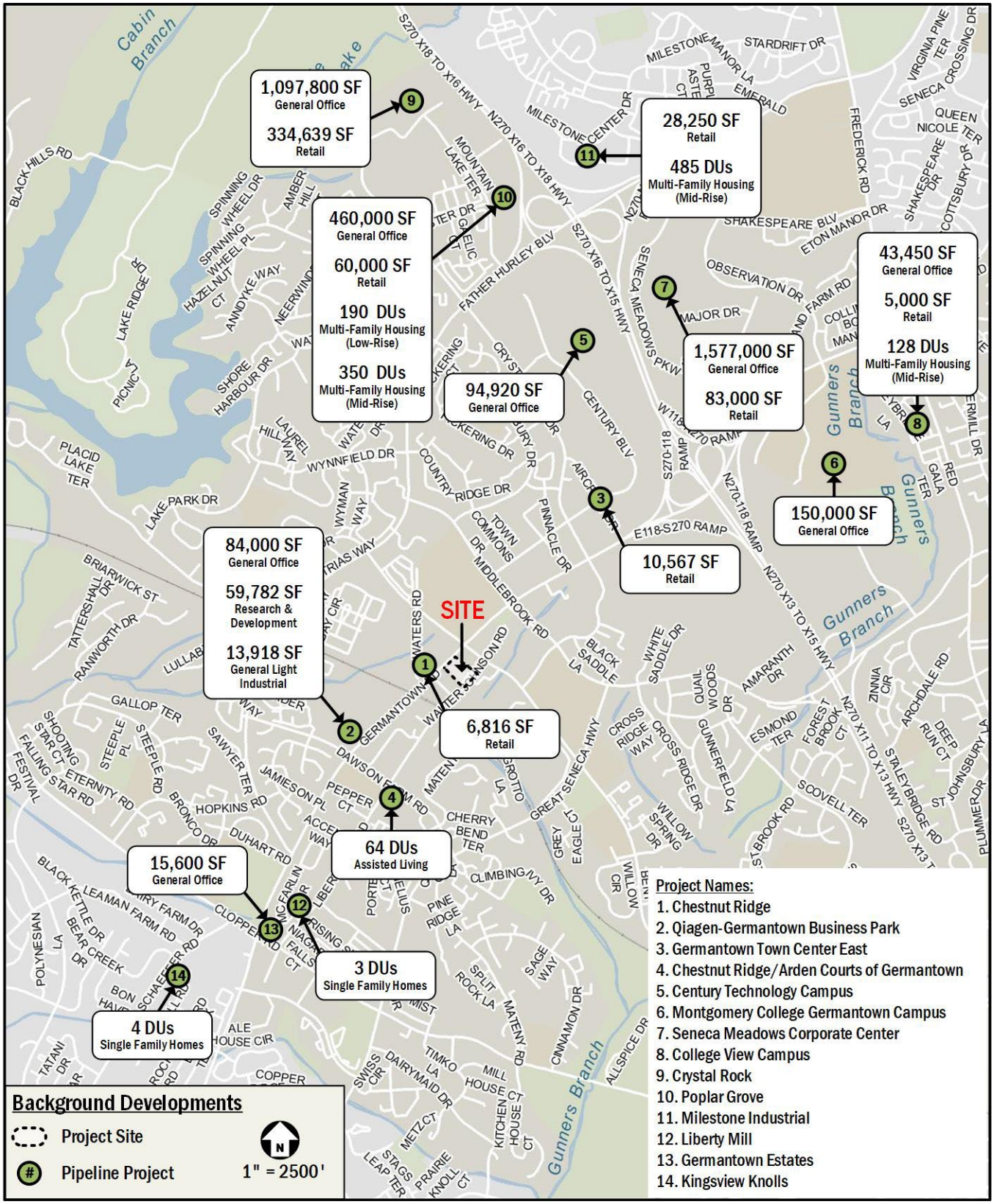


Figure 3: Background Developments

Section 2: Project Design

This section reviews the transportation components of the 19430 Walter Johnson Road development, including the proposed site plan and access points. It includes descriptions of the site's vehicular access, loading, parking, bicycle, and pedestrian facilities.

The proposed development site is located in Germantown, Maryland and is bounded by Walter Johnson Road to the east, Germantown Road to the west, and commercial developments to the northeast and southwest. As shown in Figure 1, the Lidl Project Site has primary frontage along Walter Johnson Road.

The proposed development replaces the existing 15,000 square feet office building with a 30,000 square feet grocer with 121 parking spaces. The proposed site plan is shown in Figure 4.

Site Access

Pedestrian Access

Primary pedestrian access to the grocery store is proposed off of the sidewalk along the internal site driveway. The internal site circulation includes pedestrian facilities accessible from Walter Johnson Road, Wisteria Drive, and Bowman Mill Drive.

The project also includes a new sidewalk connecting the site to Germantown Road.

Bicycle Access

Bicycle access to the development will be available from existing bicycle facilities along Wisteria Drive and new proposed sidepaths along Walter Johnson Road and Wisteria Drive.

Consistent with the 2019 *MARC Rail Communities Sector Plan*, the project will provide a 12-foot wide sidepath along the northwest side of Walter Johnson Road between the driveway serving the Verizon building to the west and Wisteria Drive to the east. The project will also provide a 10-foot wide sidepath along the southwest side of Wisteria Drive between Walter Johnson Road and the existing driveway serving the Mid-Atlantic Federal Credit Union site. In addition, the project will provide a 10-foot sidepath along the site's Germantown Road frontage. Additional off-site bicycle facilities in the form of sidepaths are also proposed as part of the 2020-2024 Growth and Infrastructure Policy off-site improvements requirements. These are described in the following sections.

Vehicular Access

Vehicular access to the site is provided via an existing curb cut along Walter Johnson Road. The project also establishes new connections to the driveways serving the commercial buildings bordering the project site to the southwest and northeast. The new driveway connections will provide site access via Wisteria Drive and Bowman Mill Drive.

Vehicle Parking

The project's parking program includes 121 total parking spaces with the following breakdown:

- 102 parking spaces on surface lot that includes:
  - 99 vehicle parking spaces
  - three (3) motorcycle parking spaces
- 10 on-site parallel parking spaces
- Nine (9) parallel parking spaces on Walter Johnson Road adjacent to the store

Under Montgomery County Zoning Code 59-6.2.4, the project is required to provide a minimum of 3.5 vehicle parking spaces per 1,000 square feet of gross leasable area resulting in a minimum requirement of 112 parking spaces. The project will meet zoning requirements for parking with the proposed parking facilities.

Loading and Trash Facilities

The grocery store includes a loading area with one (1) 55-foot long loading berth accessible from the internal site driveway. The trash and recycling enclosures will also be located within the loading area. Figure 4 shows the location of the loading facility for the grocery store.

All loading and trash/recycling collection activity will take place within the site on private property without impact to the surrounding roadways.

Based on information provided by the grocery store operator, the project will only generate one (1) to two (2) daily grocery truck delivery trip early in the morning outside of the commuter peak hours. The same delivery truck collects recycling further limiting impact associated with loading activity. Based on this anticipated activity, the proposed loading facilities will accommodate loading demand without detrimental impacts.

Loading vehicles will access the site from the north and south via designated primary truck routes such as I-270 and major through highways such as Germantown Road and Great Seneca

Highway. Truck turning diagrams are provided with the Preliminary Plan Submission.

Under Montgomery County Zoning Code 59-6.2.8, retail development with a gross floor area between 15,001 and 50,000 square feet is required to provide a minimum of one (1) loading space. The proposed development will meet the loading zoning requirements.

Proposed Off-Site Improvements

The proposed off-site improvements are consistent with the cost cap established in the LATR Proportionality Guide. Consistent with Appendix 5 of the LATR Guidelines, the project's land use category is Commercial: Retail with a proportionality guide rate of $16.45 per square foot of gross floor area. Based on the project's location and policy area, the proportionality adjustment factor is 25 percent consistent with the Germantown Town Center Policy Area non-auto driver mode share goal for commercial projects.

The off-site improvements cost cap calculation based on the LATR Proportionality Guide is presented in Table 2.

Based on the off-site mitigation considerations outlined in the LATR Guidelines, the project proposes pedestrian and bicycle facilities as the modal improvements required by the *2020-2024 Growth and Infrastructure Policy*. The proposed off-site improvements, described in the sections that follow, were prioritized in close coordination with Planning Staff.

Pedestrian Facilities Improvements

With the project, pedestrian facilities in the area will be improved. The project includes as 12-foot wide sidepath along the frontage on Walter Johnson Road between the Verizon Building driveway and Wisteria Drive. Sidepaths will also be provided off-site along Wisteria Drive, Walter Johnson Road, and Germantown Road. The project also includes a new paved path between the site and Germantown Road. These improvements are shown in Figure 4

These improvements provide comfortable facilities for pedestrian circulation around the project. Within the project site, sidewalks, curb ramps, and crosswalks are provided to facilitate accessible circulation. These internal facilities are also shown in Figure 4.

With the goal of enhancing the pedestrian realm and as part of the project's multimodal improvements package, the project also includes the following off-site improvements:

- 560 linear feet of pathway improvements to include widened sidewalks
- 90 linear feet of improved crossings to include high visibility crosswalks
- 4 curb ramp improvements to include detectable warning surfaces (approximately 40 linear feet)

These improvements are detailed in Table 3. The location of each these improvements is presented in Figure 5. The implementation of these proposed improvements will be based on feasibility and in coordination with Planning Staff and if appropriate payment in lieu of construction may be proposed as an alternative, consistent with the study area's Bicycle and Pedestrian Priority Area (BiPPA) designation. The surrounding pedestrian system and existing deficiencies that the proposed improvements address are discussed in detail in the Pedestrian System Adequacy section of this report.

Multimodal - Connectivity Oriented Design

In addition to the described pedestrian facilities improvements included with the project, the site was designed to promote multimodal connectivity in the area. The applicant implemented design feedback from Planning Staff which identified completion of the vehicular link between Bowman Mill Drive and Wisteria Drive as a key design priority. The roadway connection advances circulation priorities identified in the *MARC Rail Communities Sector Plan*. As such, the site layout was modified to break up the super block and provide a new east-west connection between Wisteria Drive and Bowman Mill Drive.

The improved street grid also enhances the pedestrian environment with improved circulation options.

Bicycle Facilities Improvements

According to the Montgomery County Zoning Code 59-6.2.4, retail uses are required to provide a minimum of one (1) bicycle parking space for every 10,000 square feet of gross floor area of which 15 percent are required to be long-term spaces. Based on zoning regulations, the project is required to provide a minimum of four (4) short-term bicycle parking spaces and one (1) long-term bicycle parking space. The project will meet zoning requirements for bicycle parking.

In addition to bicycle parking facilities, the sidepath improvements proposed by the project will further enhance bicycle connectivity around the site. The off-site bicycle network improvements included with the project are the following:

- 560 linear feet of sidepath improvements
  - 340 linear feet of a new 10’ sidepath along Wisteria Drive and Germantown Road along the adjacent bank property’s frontage
  - 220 linear feet of a new 8’ sidepath along Walter Johnson Road between Bowman Mill Drive and Verizon Building driveway

These improvements are outlined in Table 3. The location of each these improvements is presented in Figure 5. The surrounding bicycle network and existing deficiencies are discussed in detail in the Bicycle System Adequacy section of this report.

Improvements Prioritization

The proposed improvements were prioritized for implementation based on the County’s priorities for off-site improvements in which proximity to the site and access to transit as a community benefit are of significance in the consideration of improvements. The unit cost assumptions were coordinated with the project’s civil engineering team. The overall cost estimate also includes a 40 percent contingency line item for design, Maintenance of Traffic, erosion control, and stormwater plans.

The overall preliminary cost estimate for the proposed off-site improvements is approximately $131,000. The Applicant will continue to work with M-NCPPC, MCDOT, and MDOT SHA to refine cost estimates and prioritize off-site improvements. Unit cost assumptions and cost estimates are included in the Technical Attachments.

Table 2: Off-Site Improvements Proportionality Guide Calculation

Land Use	Extent of Development	Proportionally Guide Unit Rate	Policy Area Adjustment Factor	LATR Proportionality Guide
Retail	30,000 SF	$16.45	25%	$123,375

Table 3: Proposed GIP Focused Network Improvements

#	Location	Modal Adequacy Issue	Category	Proposed Improvement	Improvement Linear Feet/Quantity
1	SB Wisteria Dr/Germantown Rd (Bank Frontage)	narrow buffer	Sidepath	upgrade sidewalk to 10' sidepath	340’
2	Bank Driveway at Wisteria Dr	narrow buffer	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp/10’
3	Wisteria Dr/Walter Johnson Rd	unmarked crossing	Crossing	stripe high visibility crosswalk on west leg	50’
4	Walter Johnson Rd and Verizon Driveway	N/A	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp/10’
5	Walter Johnson Rd and Verizon Driveway	no medians on north south leg; no high visibility crosswalk on west leg	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp/10’
6	SB Walter Johnson Rd	narrow sidewalk and buffer	Sidepath	upgrade sidewalk to 8' sidepath	220'
7	Bowman Mill Dr and Walter Johnson Rd	unmarked crossing	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp/10’
8	Existing 7-Eleven/Verizon Driveway at Bowman Mill Dr	no buffer	Crossing	stripe marked crosswalk	40’

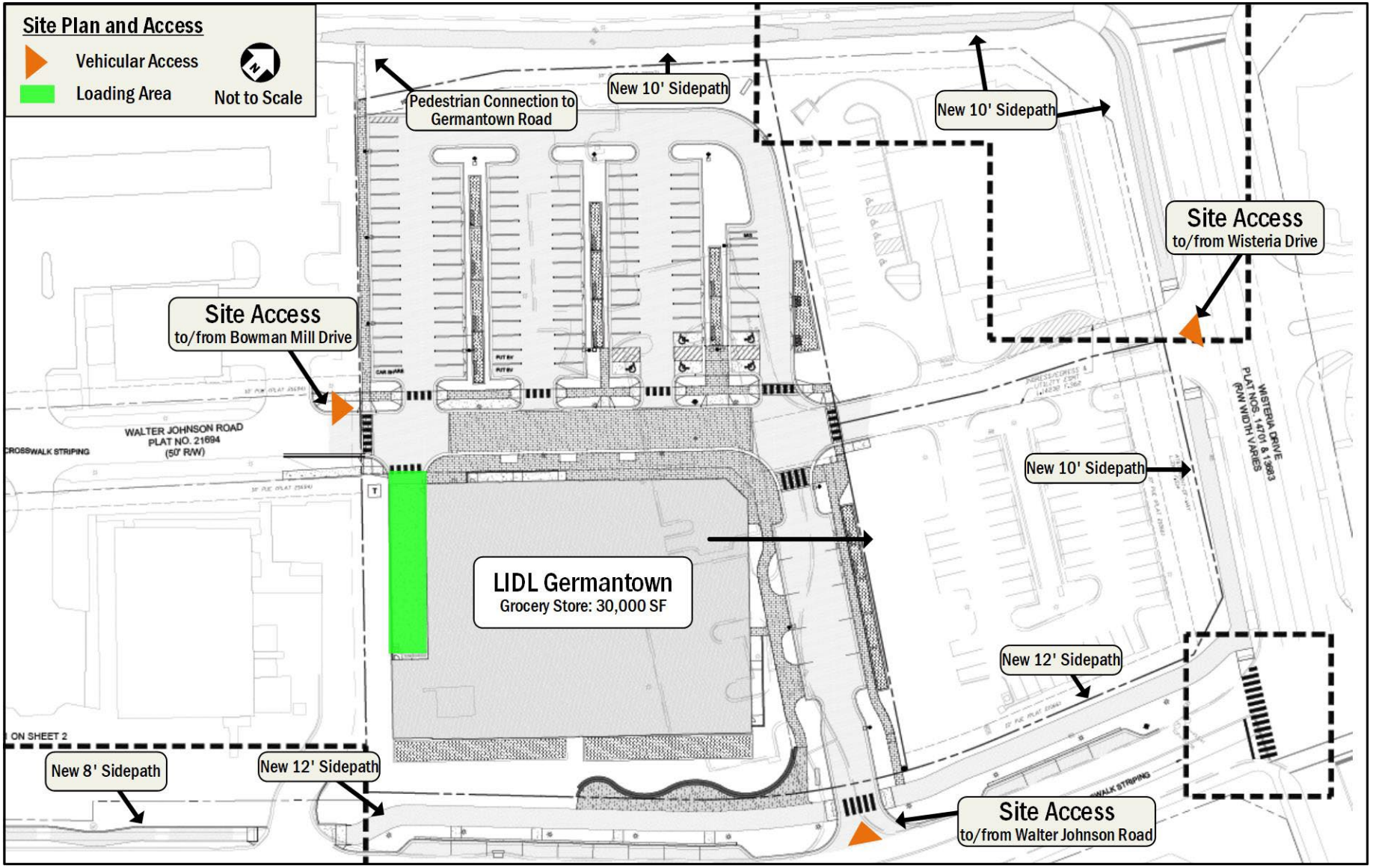


Figure 4: Site Plan and Access

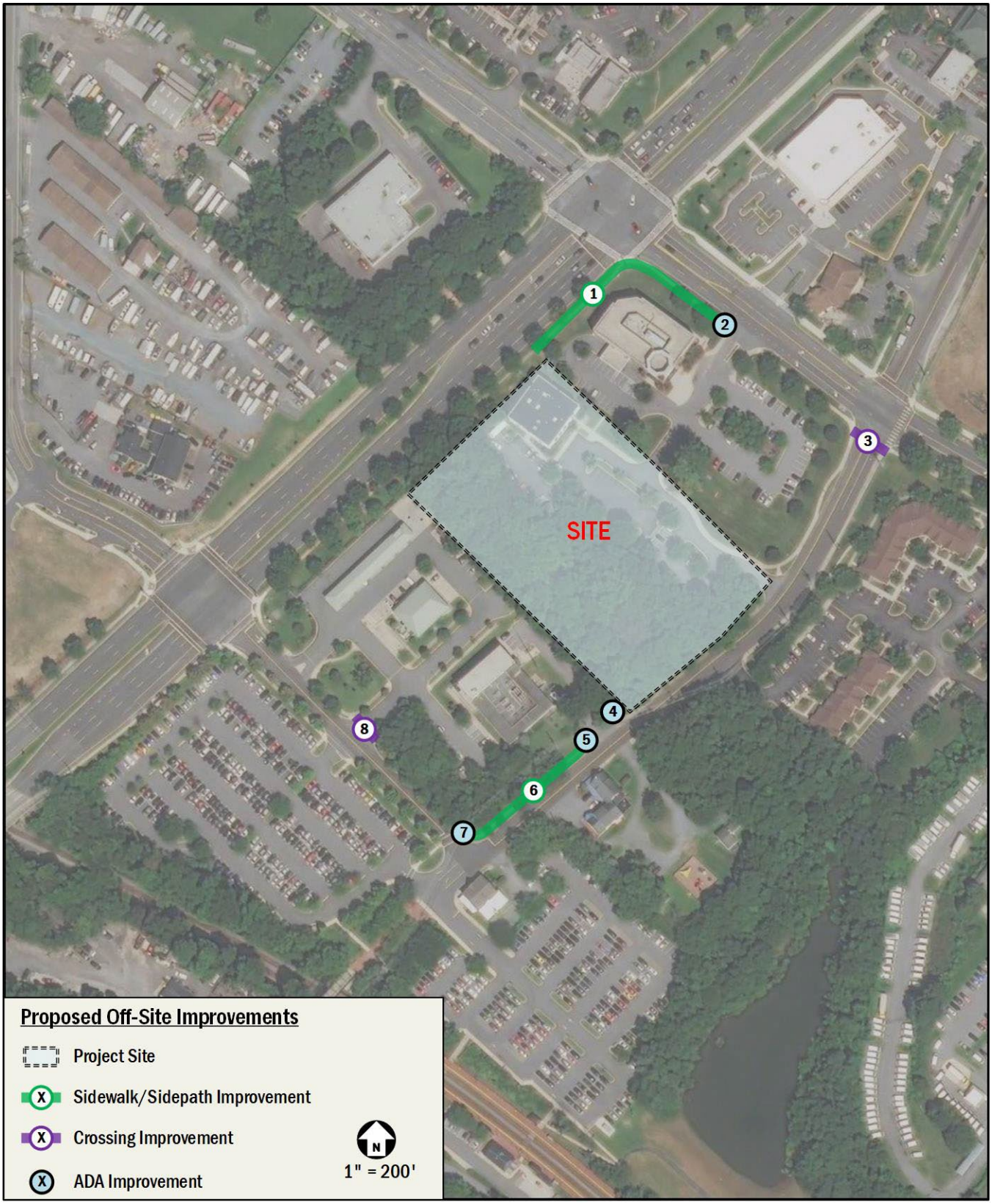


Figure 5: Proposed Off-Site Improvements

Section 3: Trip Generation

This section outlines the transportation demand of the 19430 Walter Johnson Road development. It summarizes the projected trip generation of the site, which forms the basis for the chapters that follow. The proposed development plan includes a 30,000 square foot grocery store.

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual,* 10th Edition. This methodology was supplemented in accordance with the M-NCPPC Local Area Transportation Review (LATR) guidelines to account for the context-sensitive multimodal trip generation adjustment factors associated with each policy area in Montgomery County.

The project is located within the Germantown Town Center Transportation Policy Area (Policy Area 15). Based on Appendix Table 1a and Table 1b of the M-NCPPC July 2021 LATR Guidelines, the adjustment factors used to determine the existing site and the proposed project's trip generation are presented in Table 4.

Office trip generation was calculated using ITE Land Use Code 710, General Office, and adjusted based on the adjustment factors shown in Table 4. As approved by Montgomery County Planning Staff during the scoping process, the project trip generation was allowed to be credited with existing office trips based on the LATR trip generation of the existing 15,000 square feet of office space.

Retail trip generation for the grocery store was calculated using ITE Land Use Code 850, Supermarket. The ITE trip generation was then adjusted using the Policy Area-specific retail adjustment factors presented in Table 4.

Following the removal of existing trips, the proposed development will generate 87 net new trips during the morning peak hour and 268 net new trips during the afternoon peak hour, as outlined in Table 5. Detailed calculations are provided in the Technical Attachments.

Table 4: Trip Generation Adjustment Factors (Policy Area 15)

Development Type	Vehicle Trip Generation Rate Adjustment Factor	Mode Split Assumptions			
		Auto Driver	Auto Passenger	Transit	Non-Motorized
Existing Office	91%	69.2%	20.4%	4.5%	5.9%
Proposed Retail	89%	64.5%	26.5%	2.5%	6.5%

Table 5: Trip Generation Summary

Trip Generation Summary Comparison										
Land Use	Size		Source	AM Peak Hour			PM Peak Hour		
Existing Site Trip Generation										
Office	15	ksf	LATR Rate Vehicle Trips	14	1	15	3	12	15
			Existing People Trips	20	2	22	4	18	22
			Existing Transit Trips	1	0	1	0	1	1
			Existing Bicycling Trips	1	1	2	0	2	2
			Existing Walking Trips	2	1	3	0	3	3
Proposed Project Trip Generation										
Supermarket	30	ksf	LATR Rate Vehicle Trips	61	41	102	144	139	283
			Proposed Pass-by Trips	--	--	--	*52*	*50*	*102*
			Total Proposed Vehicle Trips w/ Pass-by Reduction	61	41	102	92	89	181
			Proposed People Trips	95	63	158	223	216	439
			Proposed Transit Trips	2	2	4	6	5	11
			Proposed Bicycling Trips	7	3	10	14	15	29
			Proposed Walking Trips	9	5	14	20	20	40
Net Trip Generation (Proposed – Existing)										
			Total Net Vehicle Trips	47	40	87	141	127	268
			Total Net Primary Vehicle Trips	*47*	*40*	*87*	*89*	*77*	*166*
			Total Pass-by Vehicle Trips	--	--	--	*52*	*50*	*102*
			Net People Trips	75	61	136	219	198	417
			Net Transit Trips	1	2	3	6	4	10
			Net Bicycling Trips	6	2	8	14	13	27
			Net Walking Trips	7	4	11	20	17	37

Section 4: Pedestrian Facilities

This chapter reviews the existing and future pedestrian access to the site and reviews walking routes to and from the site. A review of the pedestrian system adequacy is also provided in this chapter.

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the site provides an adequate walking environment. There are sidewalks along all primary routes to pedestrian destinations with several curb ramps and sidewalk width deficiencies in the system.
- The Applicant will improve sidewalk conditions along segments of Walter Johnson Road and Wisteria Drive.
- The Applicant proposes to achieve pedestrian system adequacy with an improvements package that includes pedestrian friendly site design and off-site improvements focused on enhancing the multimodal environment along Walter Johnson Road and Wisteria Drive.

Existing Facilities Overview

As part of the of the Pedestrian and Bicycle Statement submitted as part of this LATR, facilities around the proposed project site were reviewed and include a review of routes to nearby transit facilities.

The project site is located within a designated Bicycle-Pedestrian Priority Area (BiPPA). As such, the enhancement of bicycle and pedestrian traffic is a priority.

Paved sidewalks with buffers are available between the project site and the bus stops along Wisteria Drive and Germantown Road. The Germantown MARC Station, located less than a ¼-mile away, is also accessible via paved sidewalks with segments that include buffers.

A review of existing conditions at each study intersection with respect to pedestrian accommodations such as crosswalks, curb rams, median refuges, and pedestrian automated push buttons is provided in Figure 6.

Project Pedestrian Infrastructure Improvements

As part of the proposed project, the pedestrian environment will be significantly improved. The project layout was modified in coordination with County Staff to ensure an east-west connection is established between Wisteria Drive and Bowman Mill Drive. This new connection removes mobility barriers such as the existing super-block that restricts connections across the site.

In addition to the pedestrian-friendly site layout, the project also includes the following frontage and off-site improvements:

- 12-foot sidepath along the northwest side of Walter Johnson Road between Wisteria Drive and the Verizon Building driveway
- 10-foot sidepath along the southwest side of Wisteria Drive between Germantown Road and Walter Johnson Road
- 8-foot sidepath along the northwest side of Walter Johnson Road between the Verizon Building driveway and Bowman Mill Drive
- 10-foot sidepath along the south side of Germantown Road between Wisteria Drive and the site frontage on Germantown Road to the new pedestrian connection between the site and Germantown Road.
- High visibility crosswalks at all internal crossings and the following off-site locations:
    - Southwest leg of the Wisteria Drive and Walter Johnson Road intersection
    - Across shopping center driveway/site driveway at Bowman Mill Drive
- ADA-compliant curb ramps at all internal crossings and the following off-site locations:
    - Northwest corner of bank driveway/site driveway at Wisteria Drive
    - Both sides of the Verizon Building driveway at Walter Johnson Road
    - Northeast corner of Bowman Mill Drive and Walter Johnson Road intersection

Pedestrian Circulation

Under existing conditions, pedestrian access is available from Walter Johnson Road and Wisteria Drive via the commercial driveway serving the bank site. In addition to these connections, pedestrian access will be available via a pedestrian-only connection to Germantown Road and a new multimodal east-west connection between Bowman Mill Drive and Wisteria Drive.

Site Impacts

Using LATR guidelines for pedestrian trip adjustments, the development program associated with the project will generate approximately 136 and 417 peak hour person trips in the morning and afternoon, respectively. As this is above the

threshold of 50-person peak hour trips, pedestrian system adequacy analysis is required.

Based on LATR adjustment factors for walking trips, the project will generate approximately 11 and 37 net walking trips in the morning and afternoon peak hours, respectively.

Pedestrian System Adequacy

For any project generating 50+ net new peak-hour weekday person trips, quantitative pedestrian system adequacy analysis is required to assess the existing system's adequacy along with the project's trip generation.

The Pedestrian System Adequacy Test consists of three (3) components:

- Pedestrian Level of Comfort (PLOC),
- ADA Compliance, and
- Street Lighting.

PLOC Review and Methodology

The Pedestrian Level of Comfort (PLOC) Review is based on the PLOC ranking of streets within the study area. Streets are ranked from PLOC-1 ("Very Comfortable") to PLOC-4 ("Undesirable"). These ratings are based on several factors: including the pathway width, the width of the buffer between the pathway and the street, the speed limit of the adjacent street, and the presence of on-street buffers such as parking lanes or separated bike lanes. PLOC ratings also apply to street crossings and are based off the number of lanes in the street to be crossed, the speed limit of that street, and the existing conditions of the crossing (if there are marked crosswalks, medians, etc.).

The goal of the PLOC Review is to identify any locations within the study area that are either a PLOC-3 ("Uncomfortable") or a PLOC-4 ("Undesirable") and find improvements to bring them to a PLOC-1 or PLOC-2.

PLOC Study Area

The study area is limited to roadways classified primary residential and higher and is based on the site's policy area and peak-hour person trips. Based on the project site's location within an Orange Policy Area with 136 net person trips generated during the AM peak hour and 417 net person trips during the PM peak hour, the required PLOC study area is a 1,000-foot walkshed beyond the site frontage. The PLOC study area is shown in Figure 7.

PLOC Deficiencies

As part of the PLOC review, the score ratings available from the Montgomery County PLOC Database were confirmed through attribute-verification within the study area that included verification of sidewalk and buffer widths, speed limits, and presence of on-street buffers.

Based on the PLOC review, approximately 5,195 linear feet did not meet PLOC adequacy standards. More specifically:

- 4,275 linear feet of pathways did not meet PLOC adequacy standards
- 920 linear feet of crossings did not meet PLOC adequacy standards

Figure 8 presents the location of the identified PLOC deficiencies where facilities do not meet the criteria for a comfortable score. Table 6 outlines the identified deficiencies and improvements required to achieve an adequate PLOC score.

ADA Compliance Review and Methodology

Per the 2021 LATR Guidelines, the project is required to conduct an American Disabilities Act (ADA) Compliance Review using the ADA Curb Ramps Survey form as available directly from the ADA website. The survey includes a detailed assessment of the attributes of every curb ramp located within a specified walkshed. The list of reviewed attributes includes the following:

- Ramp width
- Ramp slopes
  - Cross-slope
  - Running-slope
  - Gutter slope
- Slopes of flared sides
- Landing width
- Sidewalk width
- Presence of a detectable warning surface
- Height of level changes
- Presence of parking lane
- Type of curb ramp

The applicant is to remedy ADA compliance issues such as missing curb ramps, missing detectable warning surfaces, etc. within a specified study area. The ADA Compliance Review Study Area is one half the size of the PLOC Study Area, which is a walkshed determined by the site's policy area and peak-hour person trips generated.

ADA Compliance Study Area

The study area is limited to roadways classified primary residential and higher and is based on the site's policy area and peak-hour trips. Based on the project site location within an Orange Policy Area and the project's trip generation estimates of 136 net person trips generated during the AM peak hour and 417 net person trips during the PM peak hour, the required ADA study area is a 500-foot walkshed beyond the site frontage. The ADA study area is presented in Figure 9

ADA Compliance Deficiencies

Based on the ADA review, approximately 80 linear feet and one (1) curb ramp do not meet ADA adequacy standards. More specifically:

- 80 linear feet of missing sidewalk did not meet ADA adequacy standards
    - This missing sidewalk link is also identified as a PLOC deficiency
- 1 curb ramp needs a DWS (detectable warning surface) upgrade

Figure 10 presents the location of the identified ADA deficiencies where facilities do not meet ADA standards. Table 7 outlines the identified deficiencies and improvements required to provide ADA-compliant facilities. A detailed review of curb ramps within the ADA study area is included in the Technical Attachments.

Streetlight Network Review, Methodology, & Study Area

Street lighting adequacy is based on MCDOT standards to ensure a sufficient level of street lighting is provided within the project's study area. Street lighting adequacy requires the applicant to identify deficiencies in the existing streetlight network within the PLOC study area (for this project, a 1,000-foot walkshed). Standards vary depending on roadway type and surroundings land uses. The street lighting study area is presented in Figure 7.

Streetlight Network Deficiencies

Based on the streetlight network review, approximately 3,900 linear feet do not meet streetlight network adequacy standards. More specifically:

- Approximately 2,140 linear feet of streetlights are missing from required locations
- Approximately 1,760 linear feet of streetlights are missing from desirable locations

The segments of missing streetlights are identified in Figure 11. Table 8 outlines the applicable spacing standard and number of streetlights required to achieve adequacy. An inventory of the reviewed streetlights that includes pole number, where available, and approximate GIS coordinates is included in the Technical Attachments.

Pedestrian System Improvement Priorities

Consistent with the area's BiPPA designation and the *MARC Rail Communities Sector Plan*, the applicant proposes to satisfy off-site pedestrian adequacy requirements with approximately 690 linear feet of improved pathways and crossings, and improved curb ramps to provide an enhanced pedestrian environment around the project site. The specific pedestrian off-site improvements proposed are outlined in Table 9. The location of these improvements is identified in Figure 5. The proposed off-site pedestrian system improvements are summarized as follows:

- 560 linear feet of pathway improvements to include widened sidewalks as new sidepaths that accommodate pedestrian and bicycle traffic
- 90 linear feet of improved crossings to include high visibility crosswalks
- 4 curb ramp improvements to include detectable warning surfaces (approximately 40 linear feet)

The proposed improvements complement the project's layout specifically designed to improve multimodal circulation and accessibility in the area and eliminate barriers to non-vehicular mobility. Currently, walkability is limited around the existing site with super-block characteristics that force a pedestrian to walk down Walter Johnson Road between Wisteria Drive and Bowman Mill Drive to access Germantown Road. Similarly, pedestrians seeking east-west connections currently must walk along Germantown Road or Walter Johnson Road entirely as the existing site lacks pedestrian porosity. In coordination with Planning Staff, the site layout has specifically been modified to improve this condition and provide a multimodal east-west connection for increased porosity.

With the construction of the project and the proposed improvements, the vision goals outlined in the *MARC Rail Communities Sector Plan* are also advanced. These vision goals include improving walking and bicycling, improving traffic flow,

activating areas around the MARC Stations, and specifically establishing a fine-grained, walkable interconnected street grid.

The applicant will work with Planning Staff closely to implement a holistic approach to pedestrian improvements that focuses on activating Walter Johnson Road and Wisteria Drive into a main multimodal connection.

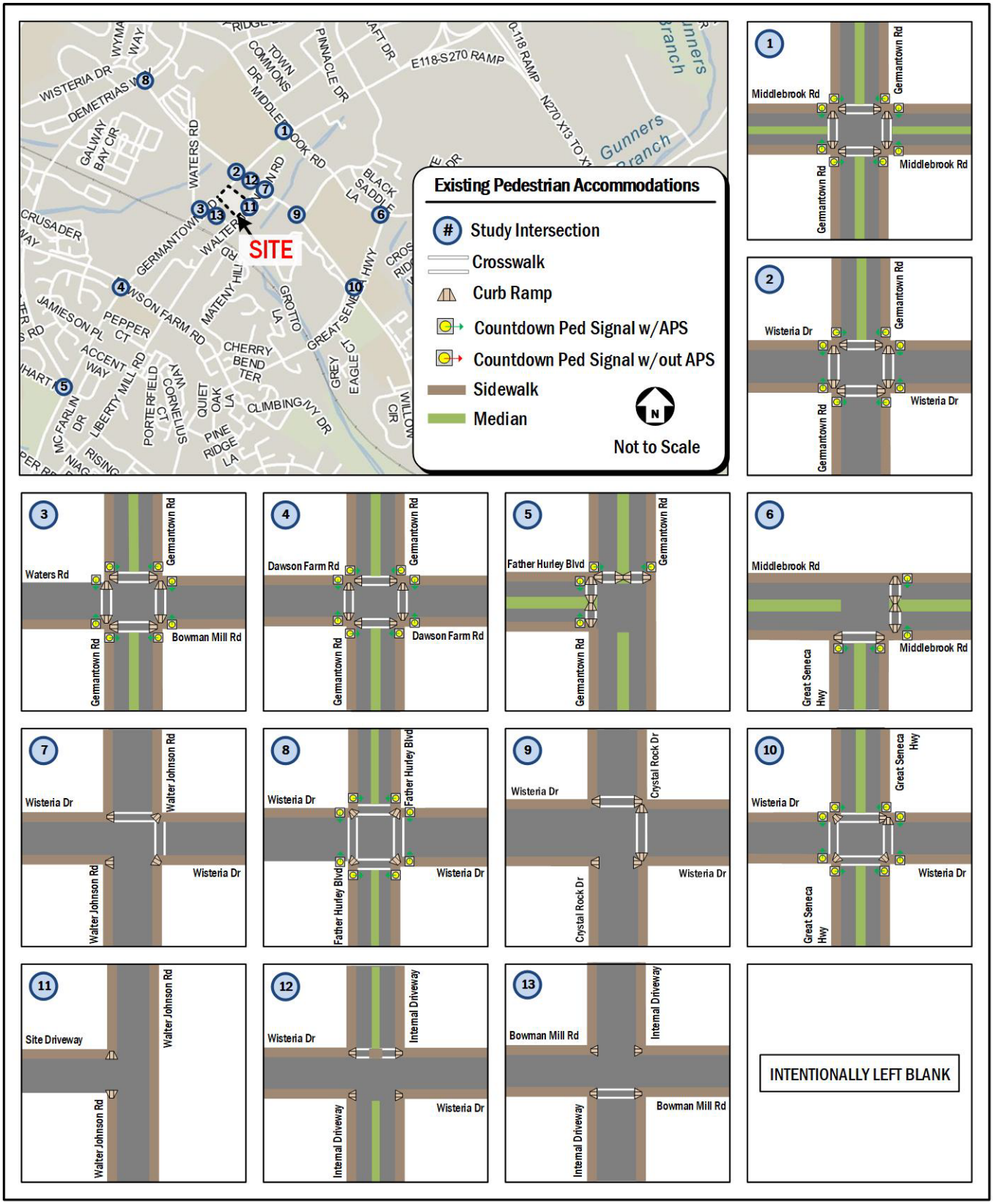


Figure 6: Existing Pedestrian Accommodations at Study Intersections

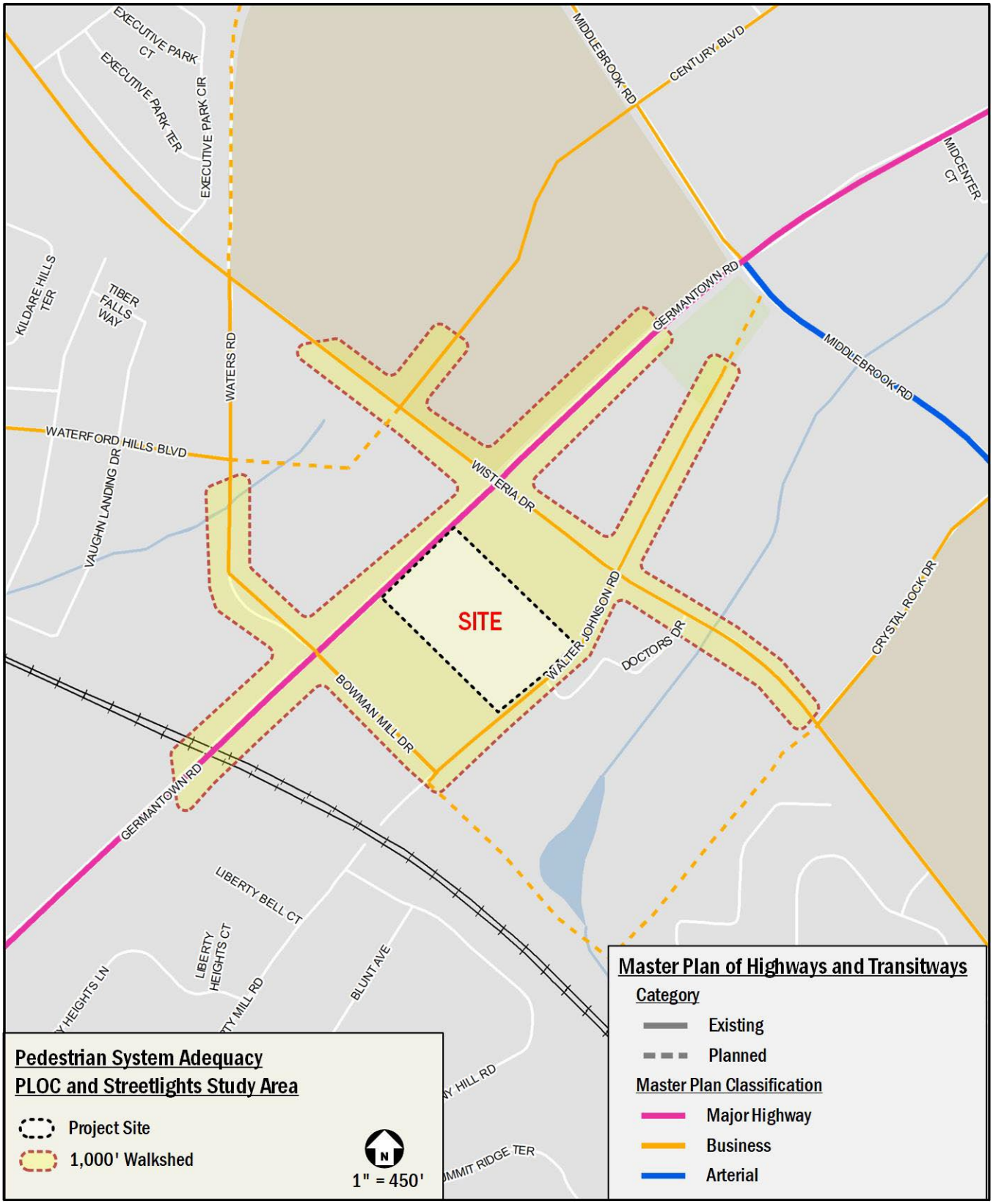


Figure 7: Pedestrian System Adequacy PLOC and Streetlights Study Area

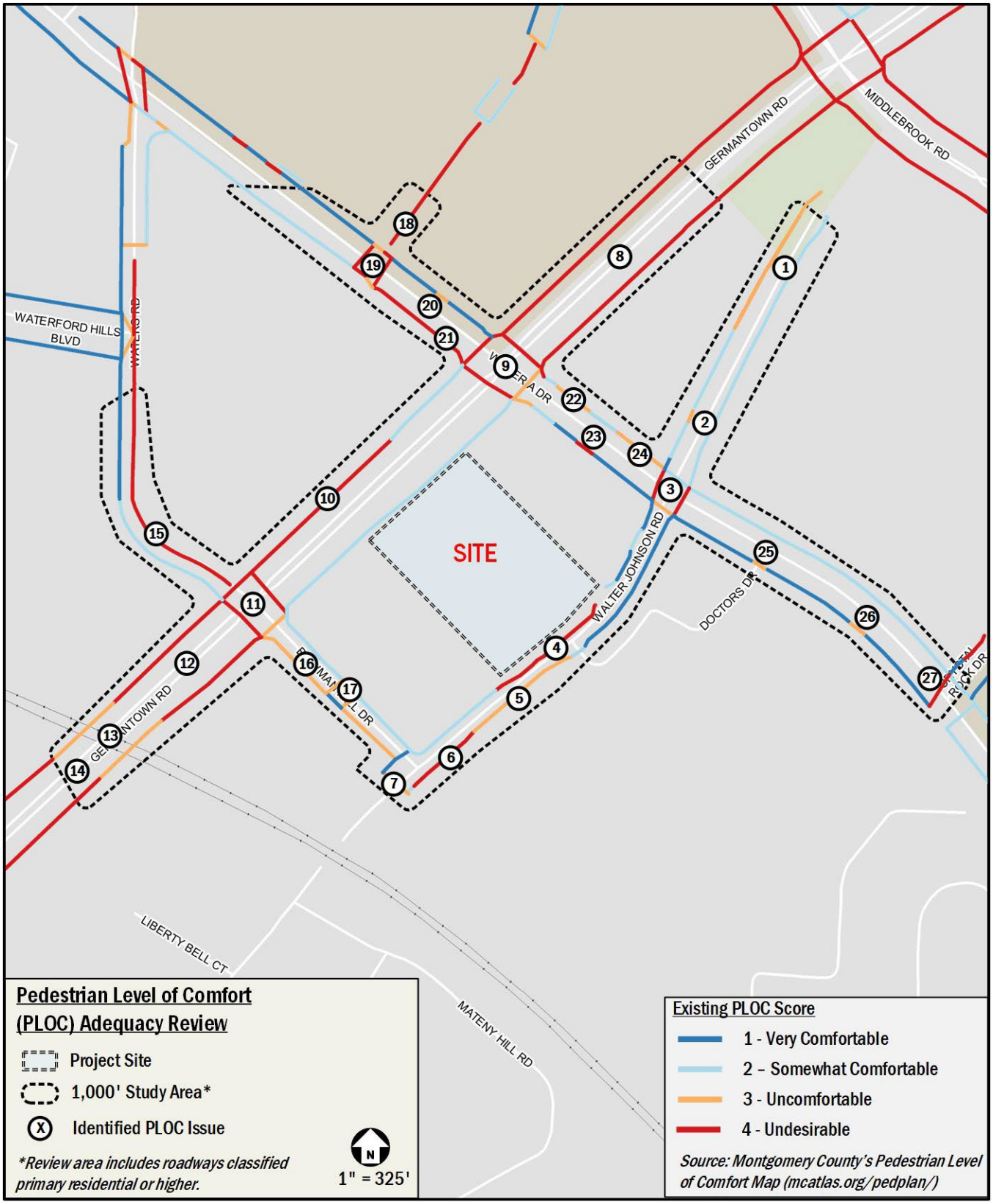


Figure 8: PLOC Adequacy Review

Table 6: PLOC Deficiencies

#	Location	PLOC Issue	Category	Mitigation to Address PLOC Deficiency	Linear Feet
1	SB Walter Johnson Rd	Sidewalk width < 5' unmarked driveway crossing (4)	Pathway Crossing	install ≥5' sidewalk stripe crosswalks	200' 110'
2	SB Walter Johnson Rd	unmarked driveway crossing	Crossing	stripe crosswalks	35'
3	Wisteria Dr/Walter Johnson Rd	no medians on north south leg; no high visibility crosswalk on west leg	Crossing	stripe high visibility crosswalk on west leg	50'
4	Site Frontage on SB Walter Johnson Rd	Sidewalk width < 5' unmarked driveway crossing	Pathway Crossing	install ≥5' sidewalk stripe crosswalks	Frontage Frontage
5	NB Walter Johnson Rd	no buffer	Pathway	increase buffer to ≥2'	230'
6	NB Walter Johnson Rd	narrow buffer	Pathway	increase buffer to ≥5'	130'
7	Walter Johnson Rd and Commuter Parking Lot driveways	unmarked driveway crossing	Crossing	Crossing not recommended at this location	--
8	Germantown Rd (both sides)	narrow buffer	Pathway	increase buffer to ≥8'	1,255'
9	Germantown Rd/Wisteria Dr	no median refuge; ≥40 mph speed limit	Crossing	Install median refuge on east leg; align crosswalk with median; align curb ramps (2)	100'
10	SB Germantown Rd	narrow buffer	Pathway	increase buffer to ≥8'	475'
11	Germantown Rd/Bowman Mill Dr	no median refuge; no high visibility crosswalk; ≥40 mph speed limit	Crossing	install median refuge on east and west legs; install high visibility crosswalks; realign crosswalk with refuge; relocate curb ramps (4)	320'
12	SB Germantown Rd NB Germantown Rd	narrow buffer narrow buffer	Pathway Pathway	increase buffer to ≥8' increase buffer to ≥8'	320' 275'
13	CSX Tracks Overpass	narrow buffer	Pathway	N/A	--
14	NB Germantown Rd	narrow buffer	Pathway	increase buffer to ≥8'	150'
15	WB Waters Rd	missing sidewalk	Pathway	install ≥5' sidewalk with 5' buffer	435'
16	Bowman Mill Dr	narrow buffer	Pathway	increase buffer to ≥5'	350'
17	Existing 7-Eleven/Verizon Driveway at Bowman Mill Dr	no marked crossing	Crossing	stripe marked crosswalk	40'
18	Future Century Blvd Extension	no sidewalk	Pathway	N/A (Future Roadway)	--
19	Wisteria Dr/Future Century Blvd Extension	no marked crossings	Crossing	stripe marked crosswalk across driveways	100'
20	Shopping Center Driveway	no marked crossings	Crossing	stripe marked crosswalk across driveways	30'
21	EB Wisteria Dr	Sidewalk width < 5'; narrow buffer	Pathway	increase buffer to ≥5'	240'
22	WB Wisteria Dr	narrow buffer	Pathway	increase buffer to ≥5'	95'
23	Existing Bank Driveway at Wisteria Dr Intersection	unmarked crossing	Crossing	stripe marked crosswalk	50'
24	WB Wisteria Dr	narrow buffer	Pathway	increase buffer to ≥5'	120'
25	North Lake Professional Park Driveway at Wisteria Dr	unmarked crossing	Crossing	stripe marked crosswalk	35'
26	Post Office Driveway at Wisteria Dr	unmarked crossing	Crossing	stripe marked crosswalk	50'
27	Walter Johnson Rd and Crystal Rock Dr	unmarked crossing	Crossing	High visibility crossing available	--

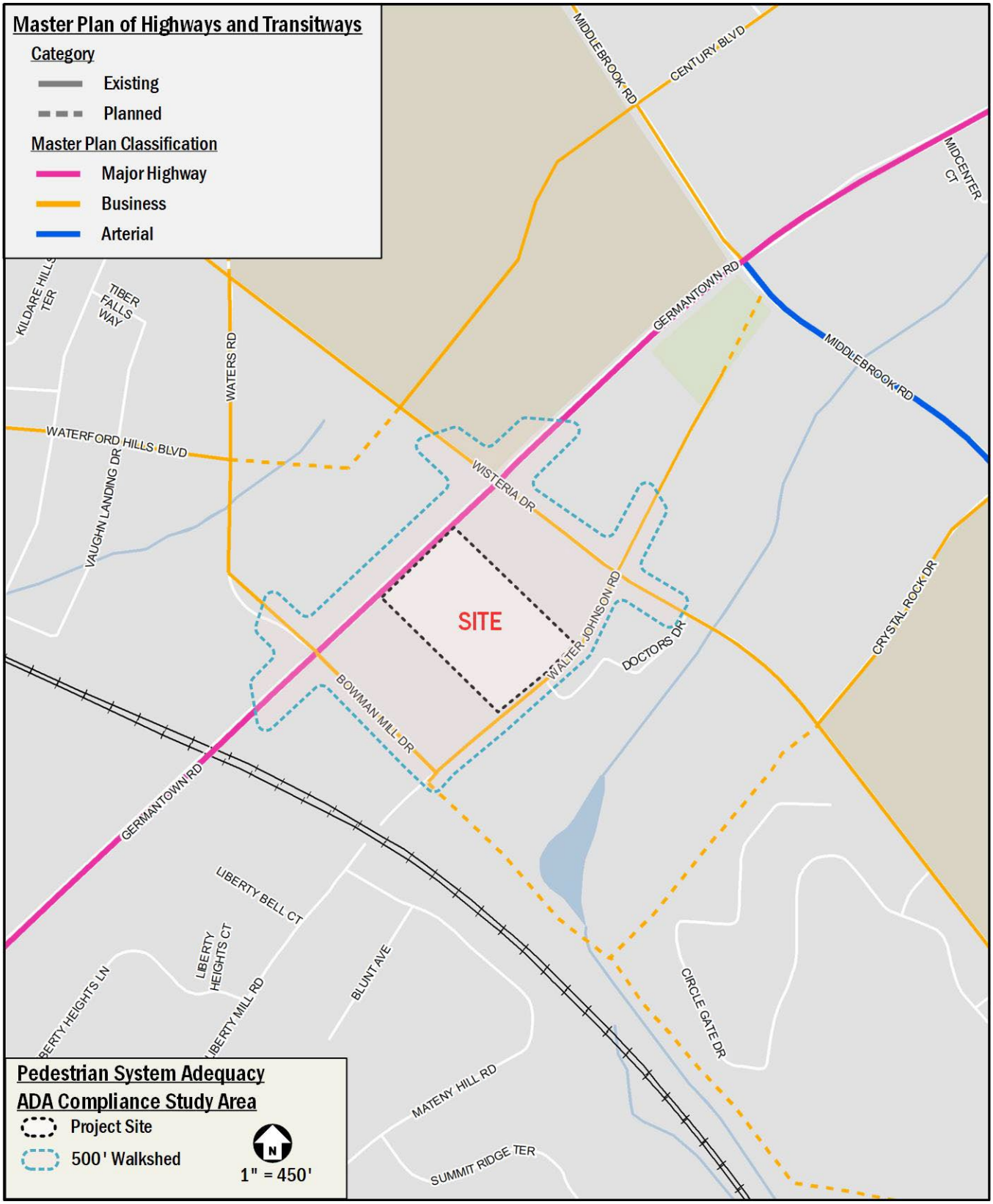


Figure 9: Pedestrian System Adequacy ADA Compliance Study Area



Figure 10: Pedestrian System Adequacy ADA Compliance Review

Table 7: ADA Compliance Issues

#	Location	ADA Issue Category	ADA Issue	Mitigation to Address ADA Compliance	Linear Feet
1	Waters Rd (East Side) North of Germantown Rd	Pathway	Missing sidewalk (80')	Addressed with PLOC Improvements	80’
2	Bowman Mill Dr and Walter Johnson Rd	Curb Ramps	No detectable warning surface on NE curb ramp	Upgrade existing curb ramp with DWS (1)	N/A

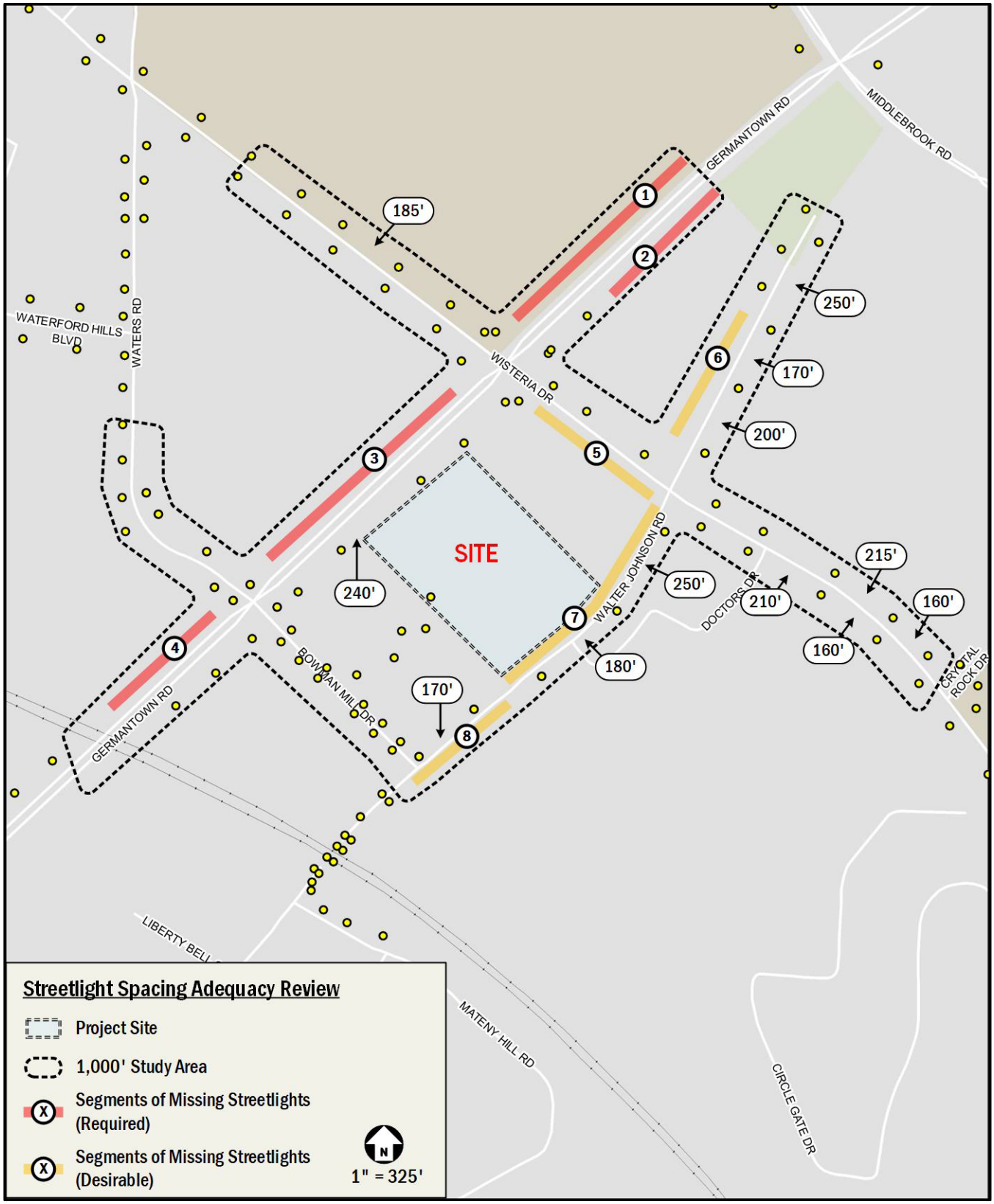


Figure 11: Streetlight Spacing Adequacy Review

Table 8: Streetlight Spacing Deficiencies

Number	Location	Classification	Spacing Standard	Streetlight Issue	Mitigation	Linear Feet
1	Southbound Germantown Road between Wisteria Drive and Germantown Sq Park	Major Highway	125'-150' (Both Sides Required)	Missing Streetlights	4 Streetlights	580'
2	Northbound Germantown Road between Wisteria Drive and Germantown Sq Park	Major Highway	125'-150' (Both Sides Required)	Missing Streetlights	4 Streetlights	560'
3	Southbound Germantown Road between Bowman Mill Drive and Wisteria Drive	Major Highway	125'-150' (Both Sides Required)	Missing Streetlights	4 Streetlights	700'
4	Southbound Germantown Road between Bowman Mill Drive and CSX Tracks	Major Highway	125'-150' (Both Sides Required)	Missing Streetlights	2 Streetlights	300'
Total Streetlight Installation (Required)					**14 Streetlights**	**2,140'**
5	Southbound Wisteria Dr (West side) between Germantown Rd and Walter Johnson Rd	Business	125'-150' (Opposite Arrangement Desirable)	Missing Streetlights	2 Streetlights	320'
6	Southbound Walter Johnson Road between Wisteria Drive and Germantown Sq Park	Business	125'-150' (Opposite Arrangement Desirable)	Missing Streetlights	3 Streetlights	460'
7	Southbound Walter Johnson Road between Wisteria Drive and Verizon Bldg Driveway	Business	125'-150' (Opposite Arrangement Desirable)	Missing Streetlights	4 Streetlights	570'
8	Northbound Walter Johnson Road between Commuter Parking Lots and North Lake Professional Park Driveway	Business	125'-150' (Opposite Arrangement Desirable)	Missing Streetlights	2 Streetlights	410'
Total Streetlight Installation (Desirable)					**11 Streetlights**	**1,760'**

Table 9: Proposed Pedestrian System Improvements

#	Location	Category	Proposed Improvement	Improvement Linear Feet/Quantity
1	SB Wisteria Dr/Germantown Rd (Bank Frontage)	Pathway/Sidepath	upgrade sidewalk to 10' sidepath	340'
2	Bank Driveway at Wisteria Dr	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp (~10')
3	Wisteria Dr/Walter Johnson Rd	Crossing	stripe high visibility crosswalk on west leg	50'
4	Walter Johnson Rd and Verizon Driveway	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp (~10')
5	Walter Johnson Rd and Verizon Driveway	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp (~10')
6	SB Walter Johnson Rd	Pathway/Sidepath	upgrade sidewalk to 8' sidepath	220'
7	Bowman Mill Dr and Walter Johnson Rd	Curb Ramp	upgrade existing curb ramp with detectable warning surface	1 Curb Ramp (~10')
8	Existing 7-Eleven/Verizon Driveway at Bowman Mill Dr	Crossing	stripe marked crosswalk	40'

Pedestrian Crossing Distance Analysis

A pedestrian crossing distance analysis was conducted at study intersections to determine the existing crossing conditions and signal timing necessary to meet the required pedestrian crossing needs. Crosswalk measurements were taken using Montgomery County GIS (MCATLAS) to determine the pedestrian crossing distances, measured curb to curb at each intersection. Using these measurements, the required pedestrian crossing time was calculated by dividing the distance by an average walking speed of 3.5 feet per seconds. Pedestrian crossing times were provided by Montgomery County via signal timing sheets. Table 10 shows the results of the pedestrian crossing distance analysis. Based on the results of the analysis, there are no intersections where pedestrians are not provided sufficient time to cross.

Table 10: Pedestrian Crossing Distance Analysis Results

Pedestrian Crossing	Crosswalk Leg	Crossing Distance (ft)	Required Crossing Time (sec)	Provided Crossing Time	
				AM (sec)	PM (sec)
Father Hurley Boulevard & Wisteria Drive	Wisteria: North	60	17.1	80	80
	Father Hurley: East	105	30.0	50	50
	Father Hurley: West	93	26.6	50	50
	Wisteria: South	64	18.3	60	60
Father Hurley Boulevard and Germantown Road	Germantown: North (T)	95	27.1	45	45
	Father Hurley: West (T)	80	22.9	60	60
Germantown Road and Dawson Farm Road	Germantown: Northeast	128	36.6	45	45
	Dawson Farm: Northwest	66	18.9	57	63
	Dawson Farm: Southeast	58	16.6	57	51
	Germantown: Southwest	128	36.6	75	69
Germantown Road and Wisteria Drive	Germantown: Northeast	106	30.3	38	39
	Wisteria: Northwest	82	23.4	63	54
	Wisteria: Southeast	78	22.3	63	54
	Germantown: Southwest	120	34.3	38	39
Germantown Road and Middlebrook Road	Germantown: Northeast	108	30.9	40	41
	Middlebrook: Northwest	111	31.7	59	49
	Middlebrook: Southeast	122	34.9	59	49
	Germantown: Southwest	114	32.6	40	41
Middlebrook Road and Great Seneca Highway	Great Seneca: South	130	37.1	56	55
	Middlebrook: East (T)	94	26.9	50	40
Great Seneca Highway and Wisteria Drive	Great Seneca: Northeast	123	35.1	52	52
	Wisteria: Northwest	90	25.7	42	42
	Wisteria: Southeast	62	17.7	42	42
	Great Seneca: Southwest	124	35.4	52	52
Bowman Hill Road and Germantown Road	Germantown: Northeast	102	29.1	37	50
	Bowman Hill: Northwest	51	14.6	81	80
	Bowman Hill: Southeast	59	16.9	81	80
	Germantown: Southwest	108	30.9	37	50
Crystal Rock Drive and Wisteria Drive	Crystal Rock: North	64	18.3	45	45
	Wisteria: East (T)	66	18.9	32	32

Section 5: Bicycle Facilities

This chapter summarizes existing and future bicycle access and reviews the quality of cycling routes to and from the site. A review of the bicycle system adequacy is also provided in this chapter.

The following conclusions are reached within this chapter:

- The site has access to off-street sidepaths along Wisteria Drive, Great Seneca Highway, and Middlebrook Road.
- The future bicycle network as identified in the Bicycle Master Plan will include bicycle facilities on every roadway surrounding the site.
- The project will enhance bicycle connectivity with sidepaths along Walter Johnson Road, Wisteria Drive, and Germantown Road.

Existing Bicycle Facilities

The project site and study area are located within a Bicycle Pedestrian Priority Area (BiPPA). As such, a significant number of bicycle improvements are identified in the area surrounding the site. Currently, the site has access to off-street bikeways in the form of sidepaths along Wisteria Drive and Great Seneca Highway.

Additional facilities can be accessed along Middlebrook Road and Dawson Farm.

Planned Bicycle Facilities

According to the proposed bicycle network from the 2018 Montgomery County Bicycle Master Plan, there are planned bikeways on every roadway surrounding the project site. More specifically, separated bike lanes are planned on the east side of Wisteria Drive between Great Seneca Highway and Father Hurley Boulevard. Sidepaths are planned along Germantown Road, Walter Johnson Road, and planned extension of Bowman Mill Drive.

Additionally, the County was recently awarded funding to advance the design of the Walter Johnson Road sidepath. The connection is intended to promote an alternative to driving to the MARC Rail station from the nearby residential and commercial developments. The projects are scheduled for completion near the end of calendar year 2022.

On-Site Bicycle Elements

The project will provide amenities that cater to cyclists including bicycle parking spaces that meet zoning requirements.

Short-term bicycle parking will include inverted U-racks placed in high-visibility areas.

In addition to bicycle parking facilities, the frontage and off-site sidepath improvements proposed by the project will further enhance bicycle connectivity around the site along Walter Johnson Road, Wisteria Drive, and Germantown Road. The project specifically includes the following sidepath improvements:

- 12-foot sidepath along the northwest side of Walter Johnson Road between Wisteria Drive and the Verizon Building driveway
- 10-foot sidepath along the southwest side of Wisteria Drive between Germantown Road and Walter Johnson Road
- 8-foot sidepath along the northwest side of Walter Johnson Road between the Verizon Building driveway and Bowman Mill Drive
- 10-foot sidepath along the south side of Germantown Road between Wisteria Drive and the site frontage on Germantown Road to the new pedestrian connection between the site and Germantown Road.

The locations of the sidepath improvements around the site are shown on Figure 4.

Site Impacts

Using adjustment factors outlined in the LATR guidelines, the development program associated with the project will generate over 50 person-peak hour trips. As such, bicycle system adequacy analysis is required.

Based on LATR adjustment factors for bicycle trips, the project will generate approximately eight (8) and 27 net bicycle trips in the morning and afternoon peak hours, respectively.

Bicycle System Adequacy

For any site generating 50+ net new peak-hour weekday person trips, a bicycle system adequacy test is required. The test requires that the applicant identify any conditions where the Bicycle Level of Traffic Stress (BLTS) is above a BLTS score of two (2) “low stress”. The BLTS, like the PLOC, is determined through roadway characteristics, such as the speed limit of the road, the presence of a center line, parking usage, and bike

lanes/paths. Wherever the BLTS is above a two (2), the applicant is required to improve it to a BLTS-2 or BLTS-1 through mitigation measures that are in accordance with the 2018 *Bicycle Master Plan*.

Bicycle System Adequacy Study Area

The Bicycle System Adequacy Study Area is determined by the site's policy area and peak-hour person trips generated. Unlike ADA, PLOC, or Streetlight compliance, the walkshed is not limited to roadways classified primary residential and higher—any public roadway is applicable.

Given this site's location within an Orange Policy Area with 136 person trips generated during the AM peak hour and 417 person trips during the PM peak hour, the Bicycle System Adequacy study area is 1,000 feet beyond the site frontage. The Bicycle Adequacy study area can be seen in Figure 13.

Bicycle System Adequacy Deficiencies

As part of the BLTS review, the score ratings available from the Montgomery County BLTS Database were confirmed through attribute-verification within the study area that included verification of sidewalk/sidepath widths and presence of on-street facilities.

Based on the Bicycle System Adequacy review, approximately 1,965 linear feet do not meet adequacy standards. More specifically:

- 1,505 linear feet of sidepath required for a comfortable BLTS score
- 460 linear feet of separated bike lanes required for a comfortable BLTS score

A summary of the Bicycle System Adequacy deficiencies is outlined in Table 11. The location of deficiencies is provided in Figure 14 and improvements required to meet County standards are outlined in Table 12.

Table 11: Bicycle System Total Deficiencies

BLTS Category	Linear Feet
Sidepath (required for a comfortable BLTS score)	1,505'
Separated Bike Lanes (required for a comfortable BLTS score)	460'
Total Bicycle System Mitigation	**1,965'**

Bicycle System Improvement Priorities

Consistent with the area's BiPPA designation and the *MARC Rail Communities Sector Plan*, the applicant proposes to enhance bicycle conditions along Walter Johnson Road and Wisteria Drive.

As Figure 4 shows, the applicant will upgrade segments of the existing sidewalks on the northwest side of Walter Johnson Road and on the southwest side of Wisteria Drive to include a new 12-foot wide sidepath and a 10-foot wide path, respectively, along the project site frontage. Additionally, the project also includes off-site bicycle facilities along Walter Johnson Road between the Verizon Building driveway and Bowman Mill Road, along Germantown Road between Wisteria Drive and the new sidewalk connecting the site to Germantown Road, and along Wisteria Drive between the bank driveway/site driveway and Germantown Road. Specifically, the Applicant is proposing to install the following improved off-site bicycle facilities:

- 560 linear feet total of off-site sidepath improvements
  - 340 linear feet of a new 10' sidepath along Wisteria Drive and Germantown Road
  - 220 linear feet of a new 8' sidepath along Walter Johnson Road

These are shown with the Site Plan and in Figure 5.

The proposed bicycle improvements were prioritized in close coordination with Planning Staff and in accordance with the LATR Proportionality Guide.

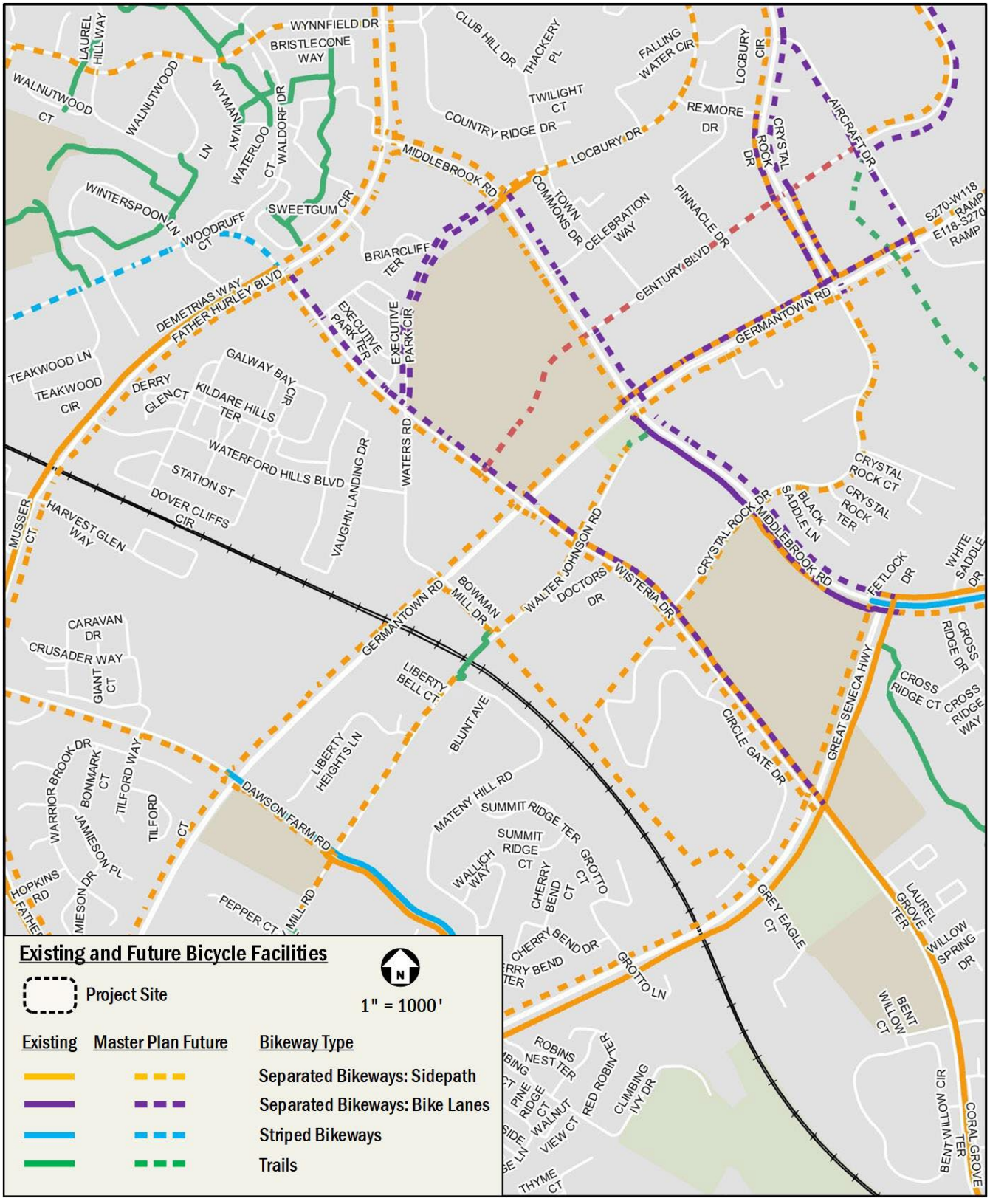


Figure 12: Existing and Future Bicycle Facilities

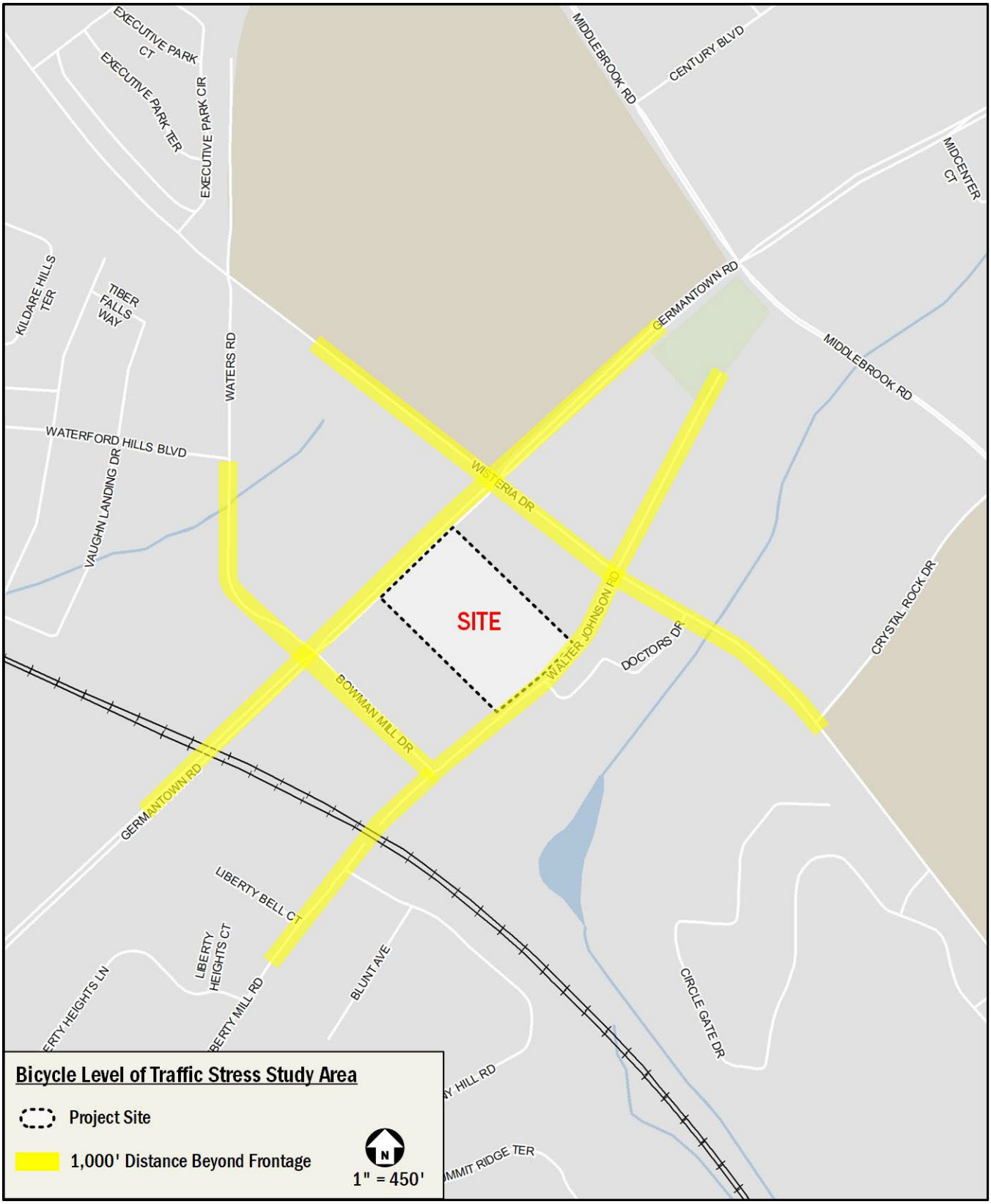


Figure 13: Bicycle Level of Stress Study Area

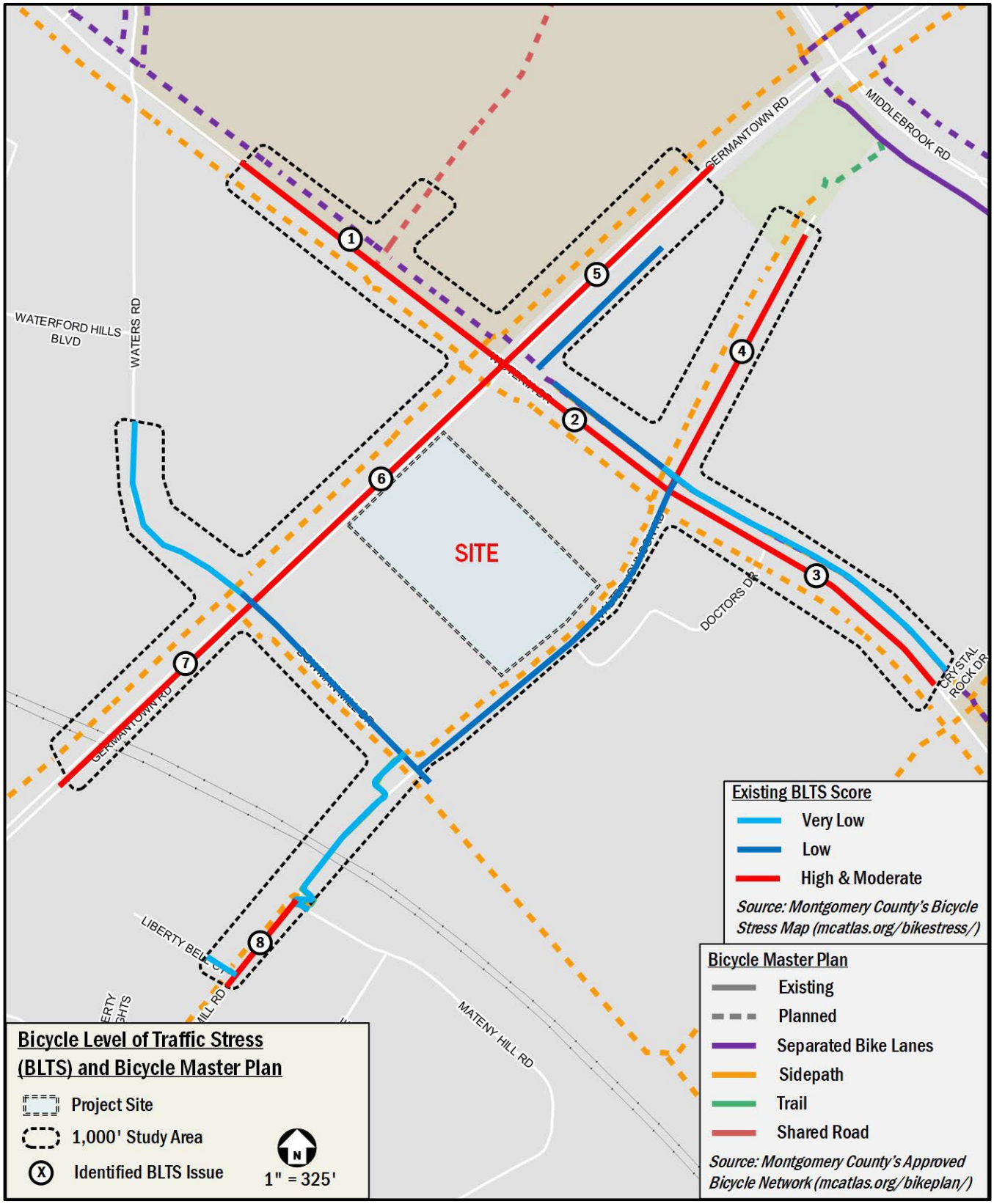


Figure 14: Bicycle Level of Traffic Stress Scores and Bicycle Master Plan

Table 12: BLTS Deficiencies

#	Location	BLTS Issue	Mitigation	Mitigation Category	Linear Feet
1	Wisteria Dr between Germantown Rd and Study Area Boundary	BLTS Score > Low	8' w/ ≥ 5' buffer Sidepath on south side per Master Plan	Sidepath	350'
			Separated bike lanes (w/ sidewalk) on north side per Master Plan	Separated Bike Lanes	460'
			8' w/ ≥ 5' buffer Sidepath on north side per Master Plan	Sidepath	460'
2	Wisteria Dr between Germantown Rd and Walter Johnson Rd	BLTS Score > Low	None recommended; Low LTS facility (sidepath) on north side	N/A	--
3	Wisteria Dr between Walter Johnson Rd and Crystal Rock Dr	BLTS Score > Low	None recommended; Low LTS facility (sidepath) on north side	N/A	--
4	Walter Johnson Rd between Wisteria Dr and Germantown Square Urban Park	BLTS Score > Low	12' Sidepath w/ 7' buffer on west side per Master Plan	Sidepath	285'
5	Germantown Rd between Wisteria Dr and Study Area Boundary	BLTS Score > Low	Addressed with PLOC Improvements	Sidepath	--
6	Germantown Rd between Bowman Mill Dr and Wisteria Dr	BLTS Score > Low	11' Sidepath w/ ≥ 8' buffer on west side per Master Plan	Sidepath	200'
7	Germantown Rd between Bowman Mill Dr and Study Area Boundary	BLTS Score > Low	Addressed with PLOC Improvements	N/A	--
8	Liberty Mill Rd between pedestrian bridge and Study Area Boundary	BLTS Score > Low	11' Sidepath w/ ≥ 8' buffer on west side per Master Plan	Sidepath	210'

Section 6: Transit Facilities

This chapter discusses the existing transit facilities in the vicinity of the site, accessibility to transit, and evaluates the overall transit impacts of the project.

The following conclusions are reached within this chapter:

- The site is surrounded by adequate regional and local transportation system that will accommodate the employees and patrons of the proposed project.
- The site is well-served by public transportation with access to the Germantown Marc Station, less than 500 feet from the site and several Ride On routes that travel along multiple primary corridors.
- The site is expected to generate a minimal amount of transit trips.

Existing Transit Service

The site is adequately served by regional and local transit services such as MARC, and Ride On-Montgomery County. Combined, these transit services provide local, citywide, and regional transit connections and link the site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 15 identifies the major transit routes, stations, and stops in the study area.

The site is located approximately 450 feet from the Germantown MARC station served by the Brunswick Line, which travels south from Martinsburg, West Virginia, through Washington County, Fredrick County, and Montgomery County and terminates at Union Station near the District core. The Brunswick Line trains are running a regular service schedule servicing the Germantown MARC train station with nine (9) trains in the morning and three (3) trains in the afternoon.

The site is also serviced by Ride On Montgomery County routes along multiple primary corridors. Four (4) Ride On-Montgomery County routes directly service the site, with buses scheduled every thirty minutes during both the peak morning commute time and the peak afternoon commute time, providing a good connection to Metrorail and other destinations on weekdays. Ride On stops are located adjacent to the site along Wisteria Drive, Germantown Road, and Bowman Mill Drive.

An inventory of the bus stop amenities is provided in Table 14.

Site Impacts

Using adjustment factors outlined in the LATR guidelines, the development program associated with the project will generate over 50 person-peak hour trips. As such, transit system adequacy analysis is required.

Using LATR adjustment factors, the project will generate approximately three (3) transit trips in the morning peak hour and approximately 10 transit trips in the afternoon peak hour.

Bus Transit System Adequacy

The Bus Transit System Adequacy Test, required of only Red/Orange/Yellow policy areas, requires that the applicant identify the need for new bus shelters.

Bus Transit System Adequacy Study Area

The Bus Transit System Adequacy Study Area is determined by the site's policy area and peak-hour person trips generated. The study area is limited to the area just beyond a site's frontage. The number of shelters required also changes with these site characteristics.

Given this site's location within an Orange Policy Area with 136 person trips generated during the AM peak hour and 417 person trips during the PM peak hour, the Bus Transit System Adequacy study area is 1,500 feet beyond the site frontage, with four (4) shelters (with Real-Time Displays or RTIs) required. The Bus Transit Adequacy study area can be seen in Figure 15.

Bus Transit System Adequacy Deficiencies and Improvement Priorities

Based on the Bus Transit System Adequacy review, shown in Figure 16, adequate transit facilities are not available under existing conditions per the County standard of four (4) shelters with RTI displays within 1,500 feet beyond the site frontage. An inventory of the bus stop amenities is provided in Table 14.

As shown Figure 16,

- One (1) RTI display is available without shelter
- Four (4) shelters lack RTI displays

The transit system deficiencies are also summarized in Table 13. In coordination with Planning Staff, the specific transit system deficiencies were not prioritized for inclusion in the project's package of transportation improvements.

Table 13: Transit System Deficiencies

Transit Mitigation Category	Mitigation
Missing Real Time Information (RTI) Display	4 RTI Displays
Missing Shelter	1 Shelters

Nonetheless, with the proposed pedestrian facilities and sidepath improvements around the site, the multimodal environment surrounding the project site will be enhanced for transit users in the area.

Table 14: Bus Stop Amenities Inventory

Location	Stop ID	Routes Served	Amenities								
			Bus stop flag	Route map & schedule	Landing pad	Sidewalk	Bench	Shelter	Dynamic info sign	Lighting	Trash Recp.
Wisteria Dr + Waters Rd (EB)	14559	97,98	●		●	●				●	
Wisteria Dr + Waters Rd (WB)	14560	97,98	●		●	●				●	
Wisteria Dr + Walter Johnson Rd (WB)	27424	97	●		●	●				●	
Wisteria Dr + Walter Johnson Rd (EB)	27462	97	●		●	●				●	
Wisteria Dr + 13083 (WB)	27463	97	●		●	●				●	
Wisteria Dr + Germantown Rd (EB)	27423	97	●		●	●				●	●
Wisteria Dr + Crystal Rock Dr (EB)	27742	97	●		●	●					
Wisteria Dr + Crystal Rock Dr (WB)	27744	97	●		●	●				●	
Germantown Rd + Middlebrook Rd (NB)	22886	61,75	●	●	●	●	●	●			●
Germantown Rd + Middlebrook Rd (SB)	22904	61,75	●	●	●	●	●	●			●
Germantown Rd + Wisteria Dr (NB)	22884	61,75	●	●	●	●	●	●		●	●
Germantown Rd + Wisteria Dr (SB)	22906	61,75	●	●	●	●	●	●			●
Germantown Rd + Marc Park & Ride (NB)	22880	61,75	●	●	●	●	●	●		●	●
Germantown Rd + Bowman Mill Dr (SB)	22908	61,75	●		●	●				●	
Germantown Marc Station + Parking Lot	22916	97	●		●	●			●	●	

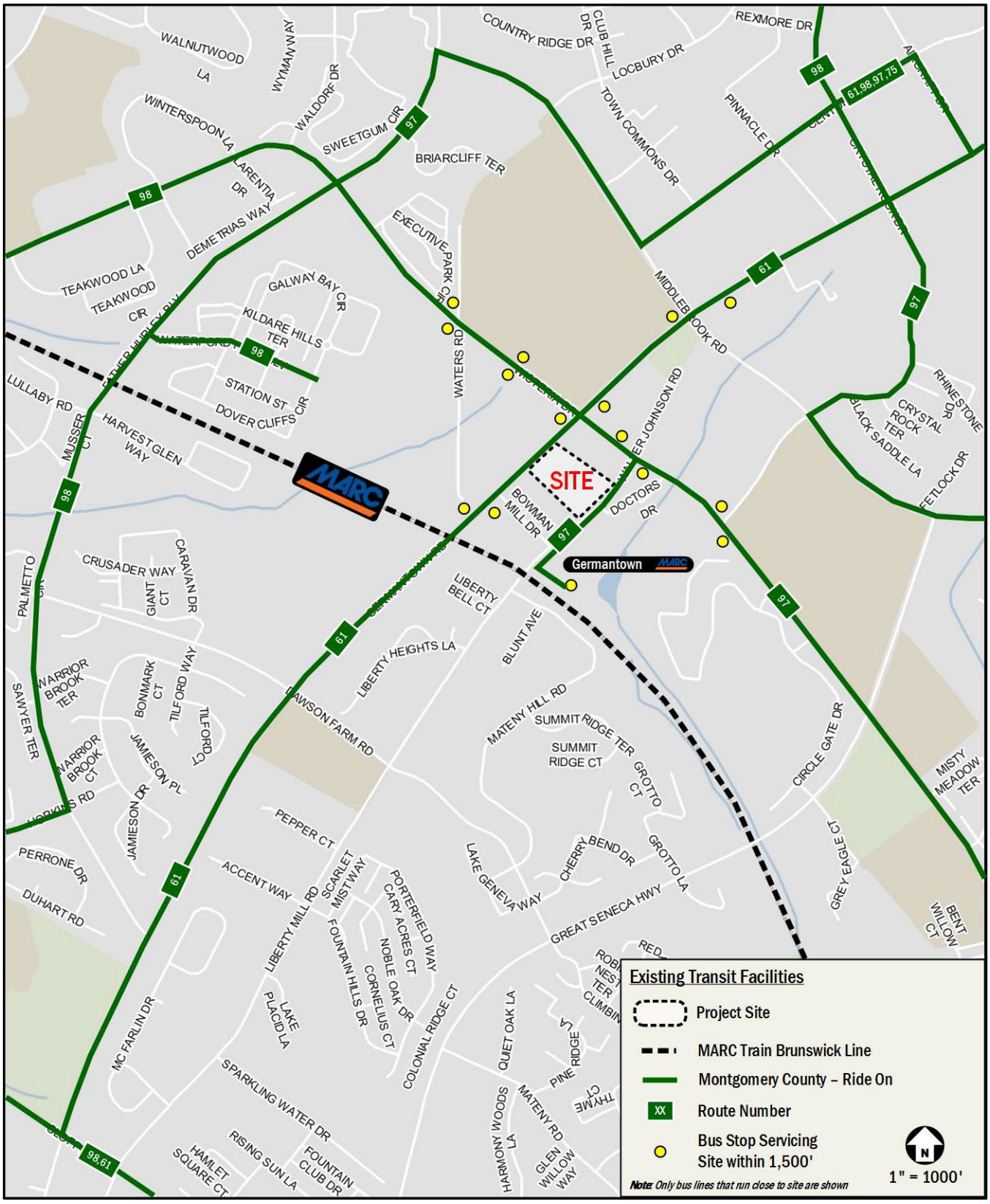


Figure 18: Existing Transit Facilities

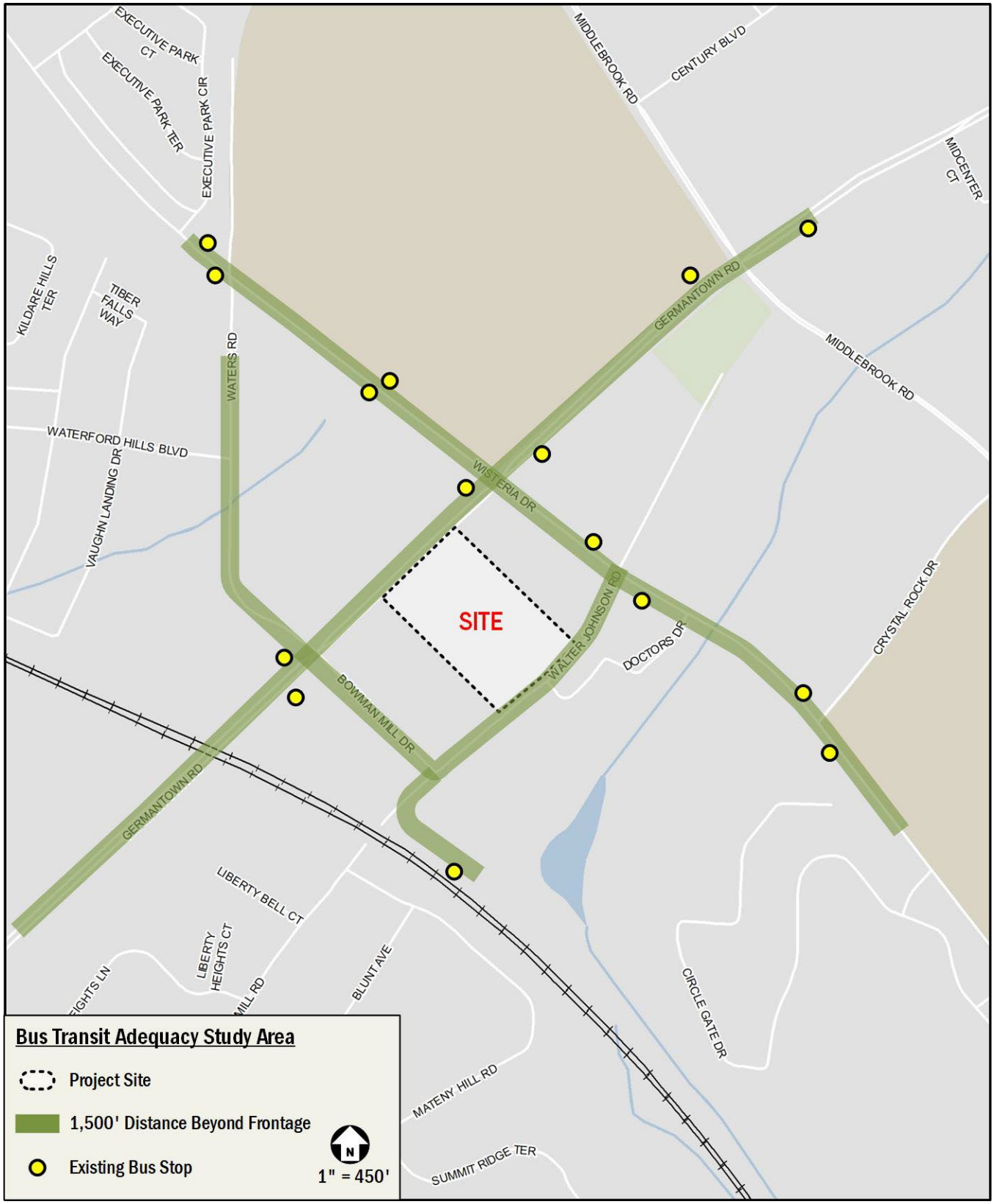


Figure 15: Bus Transit Adequacy Study Area



Figure 16: Transit Adequacy Review

Section 7: Vision Zero Statement

This chapter outlines the project's Vision Zero Statement. The purpose of this statement is to assess and propose solutions, as needed, to address high injury network and safety issues in the vicinity of the project site. A review of traffic speeds around the site and a description of site access relative to existing safety issues, if any.

The following conclusions are reached within this chapter:

- The project site is not located near any roadway segments designated to be part of High Injury Network.
- Speed study findings do not indicate speed management is required around the project site.
- The project includes internal facilities that promote pedestrian circulation with marked crossings, wide sidewalks, and curb ramps.
- The project establishes a new east-west connection lined with pedestrian facilities that will offer pedestrians increased connectivity in the area.

For any project generating 50+ net new peak-hour weekday person trips, a Vision Zero Statement must be developed with the project made of up the following:

- High Injury Network (HIN) Review to determine if the project is located within a specified proximity of any roadway segments with a designated HIN designation.
- Crash History Review to review crash data within a specified distance near the project site.
- Speed Studies within specified distance from the site frontage to document the average and 85th percentile speeds in the area along with the 10-mile per hour pace.
- Site Access and Circulation review to ensure the project access configuration promotes multimodal safety.

These are discussed in detail in the following sections.

High Injury Network Review

Based on the proposed trip generation of 136 net person trips during the morning peak hour and 417 person trips during the afternoon peak hour, High Injury Network (HIN) segments within 1,000-foot walkshed beyond the site frontage must be documented and reviewed along with proposed solutions to identified issues.

The proposed project is not located within 1,000 feet of any designated HIN segments.

Vision Zero projects outside the 1,000-foot walked are shown in Figure 17.

Proximate Safety Issues

Using Montgomery County's Interactive Crash Map for crashes between 2015 and 2019, 124 crashes were reviewed within a 1,000-foot walkshed beyond the project site frontage. The reviewed crashes are shown in Figure 18. The reviewed collision data is summarized as follows:

- Four (4) serious crashes were recorded within 1,000 feet of project site frontage. These are shown in Figure 19.
    - All four (4) serious crashes were recorded to take place at an intersection
        - Two (2) of which involved a pedestrian:
            - 2015 crash at the Germantown Road and Wisteria Drive intersection
            - 2018 crash at the Walter Johnson Road and Wisteria Drive intersection
        - One (1) 2019 crash which included a same direction rear end collision at the Germantown Road and Bowman Mill Drive intersection
        - One (1) 2017 crash which included a straight movement angle collision at the Germantown Road and Wisteria Drive intersection
- No documented fatal crashes within 1,000 feet of project site frontage
- Four (4) additional crashes categorized as minor/without serious injury involved pedestrians within 1,000 feet of project site frontage.
    - Two (2) located at the Germantown Road and Bowman Mill Drive intersection
    - One (1) located at the Germantown Road and Wisteria Drive intersection
    - One (1) off-road crash
- No documented crashes involving bicycles within 1,000 feet of project site frontage
- Six (6) out of the 124 crashes (less than five (5) percent) involved pedestrians

- 26 out of the 124 crashes, approximately 20 percent, are off-road crashes recorded to take place on private property or a parking lot.

Speed Study

As part of the LATR Vision Zero Statement, speed studies were conducted within the site frontages on Germantown Road and Walter Johnson Road, respectively.

The 48-hour speed data was collected on Tuesday, September 14, 2021, and Wednesday, September 15, 2021. Schools were in session and weather conditions were sunny on the days data was collected. The speed data has been included in the Technical Attachments of this report.

Table 15 summarizes the observed speed data, including the 50th and 85th percentile speeds for each observation day and each direction at the two (2) study locations. The plotted cumulative distributions and the density distributions of the speed data included in the Technical Attachments.

Based on the speed study results, none of the observed 85th percentile speed for any day or direction exceeds the posted speed by 20 mph. Therefore, per the 2021 LATR guidelines, speed management is not required at these study locations.

Site Access

The proposed site layout has been modified in coordination with County Staff to promote multimodal circulation and provide a comfortable walking environment for pedestrians.

Non-vehicular site access is proposed along Walter Johnson Road with an improved 12-foot wide side path that will enhance the pedestrian experience. The sidepath will run along the northwest side of Walter Johnson Road between the Verizon building driveway and Wisteria Drive. Along Wisteria Drive, a 10-foot wide sidepath will also facilitate comfortable circulation with a wider pathway than the existing sidewalk. An 8-foot sidepath is also proposed to the southwest of the project site along Walter Johnson Road, enhancing connectivity to the MARC station. Along the Germantown Road frontage, a 10-foot sidepath that extends to Wisteria Drive is also proposed.

A new sidewalk will also link the site to Germantown Road providing more direct access to pedestrians traveling to and from the project site.

Pedestrians will also be able to access the project site from Bowman Mill Drive and Wisteria Drive using the new east-west connection established by the project. Sidewalks, curb ramps, and marked crossings will be available within the site to facilitate efficient and comfortable site circulation.

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Table 15: Speed Data Summary

Roadway	Approach	Posted Speed Limit	Day 1 (9/14/21)			Day 2 (9/15/21)		
			50th %	*85th %*	*Pace*	*50th %*	*85th %*	*Pace*
Germantown Road	NB	40 mph	38 mph	47 mph	32-42 mph	39 mph	49 mph	33-43 mph
	SB		44 mph	53 mph	38-48 mph	44 mph	53 mph	39-49 mph
Walter Johnson Road	NB	30 mph	25 mph	30 mph	20-30 mph	26 mph	32 mph	21-31 mph
	SB		16 mph	22 mph	11-21 mph	16 mph	22 mph	10-20 mph

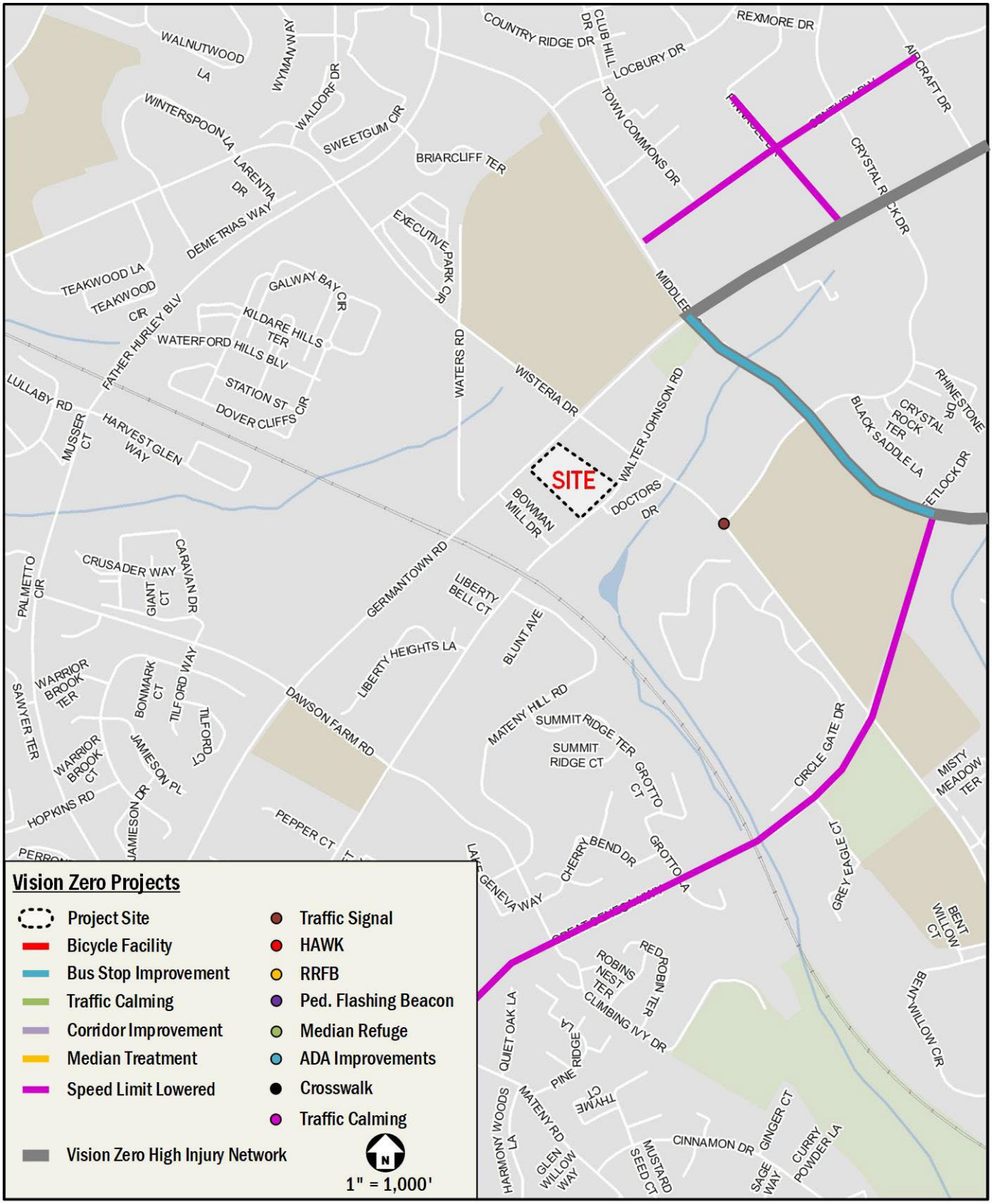


Figure 17: Vision Zero Projects



Figure 18: Crash Data near Project Site



Figure 19: Serious Crashes near Project Site

Section 8: Traffic Operations

This section provides a summary of an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the 19430 Walter Johnson Road project and a discussion of potential improvements as needed.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways; and
- Determine the overall impact of the project on the study area roadways; and
- Discuss potential improvements and mitigation measures to accommodate the additional vehicular trips, if necessary.

The capacity analysis focuses on the morning and afternoon commuter peak hours as determined by the existing traffic volumes in the study area.

The following conclusions are reached within this chapter:

- The study area intersections operate well below the congestion thresholds per LATR guidelines during all analysis scenarios for the morning and afternoon peak hours.
- The addition of site-generated trips does not cause additional intersections to operate outside the congestion standards.
- No intersections were found to meet the mitigation criteria per LATR guidelines.
- No queueing issues are anticipated as a result of the project.
- Roadway volumes at the Walter Johnson Road and Wisteria Drive intersection do not meet signalization criteria per MDOT SHA guidelines.

Study Area, Scope, & Methodology

This section outlines the vehicular trips generated in the study area along the vehicular access routes and defines the analysis assumptions.

The scope of the analysis contained within this report was discussed with and agreed to by M-NCPPC as detailed in the scoping form approved August 31, 2021. The scoping form document is included in the Technical Attachments. The general methodology of the analysis follows national and Montgomery County/LATR guidelines on the preparation of transportation impact evaluations of site development, unless stated otherwise.

Capacity Analysis Scenarios

The vehicular analyses are performed to determine if the proposed development will lead to adverse impacts on traffic operations. This is accomplished by comparing future scenarios: (1) without the proposed development (referred to as the Background condition) and (2) with the proposed development (referred to as the Future condition).

Specifically, the roadway capacity analysis examined the following scenarios:

- 2021 Existing Conditions
- Future Conditions without the development (Background)
- Future Conditions with the development (Total Future)

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses are performed for the scenarios listed above. The set of intersections decided upon during the study scoping process with M-NCPPC Staff are those intersections most likely to have potential impacts or require changes to traffic operations to accommodate the proposed development.

The number of intersections meet the LATR criteria, based on the maximum number of new weekday peak-hour vehicle trips generated by the proposed land uses. For the 19430 Walter Johnson Road development, a minimum number of two (2) intersections in each direction was required.

Based on the projected future trip generation and the location of the site access points, the following intersections were chosen for analysis:

1. Germantown Road (MD 118) and Middlebrook Road
2. Germantown Road (MD 118) and Wisteria Drive
3. Germantown Road (MD 118) and Bowman Mill Drive/Waters Road
4. Germantown Road (MD 118) and Dawson Farm Road
5. Germantown Road (MD 118) and Father Hurley Boulevard

6. Middlebrook Road and Great Seneca Highway (MD 119)
7. Wisteria Drive and Walter Johnson Road
8. Wisteria Drive and Father Hurley Boulevard
9. Wisteria Drive and Crystal Rock Drive
10. Wisteria Drive and Great Seneca Highway (MD 119)
11. Walter Johnson Road and Site Driveway
12. Wisteria Drive and Commercial Driveway
13. Bowman Mill Drive and Commercial Driveway

Figure 24 shows a map of the study area intersections.

Traffic Volume Assumptions

The following section reviews the traffic volume assumptions and methodologies used in the roadway capacity analyses.

Existing Traffic Volumes

Due to the ongoing COVID-19 pandemic, Montgomery County issued guidance on alternative approaches to establish existing baseline traffic counts. Based on the Traffic Counts During COVID-19 Pandemic – Policy Update memorandum dated September 17, 2020, this analysis applies an adjustment factor to historical pre-pandemic traffic volumes collected in 2018 and 2019. Traffic volume counts were also collected in the Spring of 2021 and an adjustment factor was also applied to the 2021 count data.

As additional study intersections were requested after the end of the 2020-2021 academic school year, count data was also collected in the Fall of 2021. Consistent with the latest policy on traffic counts, adjustment factors were not applied to the count data collected in the Fall.

In summary, the existing traffic volumes are comprised of the following:

- Historical volumes with applied growth factors per the September 2020 count policy at the following intersections:
  - Germantown Road and Middlebrook Road collected in 2019
  - Germantown Road and Bowman Mill Drive/Waters Road collected in 2018
  - Germantown Road and Father Hurley Boulevard collected in 2019
  - Middlebrook Road and Great Seneca Highway collected in 2019
- Traffic volumes collected on Thursday June 10, 2021, with an adjustment factor of 1.07 applied to volumes collected before 4:30 PM per the September 2020 count policy at the following intersections:
  - Germantown Road and Wisteria Drive
  - Germantown Road and Dawson Farm Road
  - Wisteria Drive and Father Hurley Boulevard
  - Wisteria Drive and Great Seneca Highway
  - Walter Johnson Road and Site Driveway
- Traffic volumes collected on Tuesday September 14, 2021, without adjustment per the July 2021 count policy at the following intersections:
  - Wisteria Drive and Walter Johnson Road
  - Wisteria Drive and Crystal Rock Drive
  - Wisteria Drive and Commercial Driveway
  - Bowman Mill Drive and Commercial Driveway

Since the count data came from various data collection dates, the intersection peak hours were used at every study intersection to provide for a conservative analysis.

The unadjusted traffic volumes along with data collection date are presented in Figure 25.

Per M-NCPPC's policy on historical counts, the growth factor applied to the historical volumes was based on MDOT SHA AADT data, included in the Technical Attachments, and was applied based on data collection year. Table 16 outlines the applied growth rates.

Table 16: Growth Rate Data and Applied Total Growth Rates

Road	Avg Annual Growth 2011-2019	Annual Growth Used in Analysis	Total Growth 2018 -2021	Total Growth 2019 -2021
Middlebrook Rd	1.3%	1.3%	4.0%	2.6%
Wisteria Dr	-0.5%	0.1%	0.3%	0.2%
Father Hurley Blvd	0.7%	0.7%	2.1%	1.4%
Germantown Rd	0.3%	0.3%	0.9%	0.6%
Walter Johnson Rd	2.1%	2.1%	6.4%	4.2%

The combined adjustment volumes based on growth factors and the 1.07 adjustment factor are presented in Figure 26.

Background Traffic Volumes (without the project)

Traffic projections for the background conditions typically consist of the existing volumes with the addition of traffic generated by approved but unbuilt developments in the study area (known as background developments).

Following LATR guidelines, "background traffic from approved but unbuilt developments will be in the same geographic area as the intersections to be studied if that background development is estimated to contribute at least 5 peak-hour trips."

Based on these criteria, 12 out of the 14 developments discussed in the Planned Developments section of this report were included in the Background scenario. As a conservative measure, projects that result in an overall reduction in traffic were not analyzed. Two (2) of the developments were found to result in overall traffic reductions either from changes in land use or modified development programs. The considered developments are:

1. Chestnut Ridge #120120250 – 6,816 SF of Retail
2. Qiagen-Germantown Business Park #119811420 – 84,000 SF of General Office, 59,782 SF of Research and Development Center; 13,918 SF of General Light Industrial
3. Germantown Town Center East #819990010 – 10,567 SF of Retail
4. Chestnut Ridge/Arden Courts of Germantown #120170210 – 30,500 SF, 64 beds/DUs of Assisted Living
5. Century Technology Campus #120020950 – 94,920 SF of General Office
6. Montgomery College Germantown Campus #120160240 – 150,000 SF of Office
7. Seneca Meadows Corporate Center #119980040 – 1,577,000 of General Office; 83,000 SF of Retail
8. College View Campus #120200170 –128 DUs of Multi-Family (Mid-Rise); 43,450 SF of General Office; 5,000 SF of Retail
9. Crystal Rock #120120210 – 334,639 SF of Retail; 1,097,800 SF of General Office
10. Poplar Grove #120190040 – 460,000 SF of Office; 60,000 SF of Retail; 190 DUs of Multi-Family (Low-Rise); 350 DUs of Multi-Family (Mid-Rise)
11. Milestone Industrial #11987271C—28,250 SF of Retail; 485 DUs of Multi-Family (Mid-Rise)
12. Liberty Mill #120040520 – 3 DUs of single-family homes
13. Germantown Estates #120060970 – 15,600 SF of General Office
14. Kingsview Knolls #120030850 – 4 DUs of single-family homes

Existing transportation studies were available for most of the background developments. Trip distribution assumptions for the background developments were based on previous studies if applicable and altered where necessary based on anticipated travel patterns. Trip generation assumptions for the background developments are shown on Table 18. The traffic volumes generated by the background developments along the network are shown in Figure 29.

The traffic volumes generated by the background developments were added to the existing traffic volumes in order to establish the Background traffic volumes. The traffic volumes for the Background conditions are shown in Figure 30.

Total Future Traffic Volumes (with the project)

The Total Future traffic volumes consist of the Background volumes and the addition of the net traffic volumes generated by the proposed development (site-generated trips). Thus, the Total Future traffic volumes include the existing roadway volumes, traffic generated by background developments, and the net traffic volumes generated by the proposed project.

Trip distribution for the project was determined based on: (1) Table 2-11 of the M-NCPPC LATR Guidelines, (2) existing travel patterns in the study area, and (3) the site driveway layout of the development. The resulting global trip distribution for the proposed project is summarized in Table 17.

Table 17: Global Trip Distribution

To/From	Percentage
Germantown Road to/from South/Southwest	13%
Germantown Road to/from North/Northwest	19%
Wisteria Drive and Middlebrook Road to/from East	36%
Wisteria Drive and Father Hurley Boulevard to/from North	13%
Wisteria Drive and Great Seneca Highway to/from Southeast	19%
Total:	**100%**

Detailed site trip distributions by turning movement were developed within the study area road network based on existing traffic patterns and a comprehensive review of the site access points. A summary of trip distribution assumptions and routing for the development is provided in Figure 31.

The net site trips with LATR policy area adjustment factors summarized in Table 4 were then applied to the study area roadway network based on the trip distributions described above. The resulting site-generated net primary traffic volumes during peak hours are shown in Figure 32. The site-generated pass-by traffic volumes are shown in Figure 33. The total net site-generated traffic volumes are shown in Figure 34.

The total future traffic forecasts were prepared by adding the total net site-generated traffic volumes, shown in Figure 34, to the background future traffic forecasts shown in Figure 30. The total future traffic volumes are shown in Figure 35.

Table 18: Summary of Background Development Trip Generation

Proposed Development	Trip Generation Methodology	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Chestnut Ridge*	Based on Approved Traffic Statement	--	--	--	--	--	--
Qiagen-Germantown Business Park	Based on Approved Traffic Impact Report	118	3	121	15	120	135
Germantown Town Center East	Based on ITE 10th Edition and LATR Rates	5	4	9	44	48	92
Chestnut Ridge/Arden Courts of Germantown	Based on Approved Supplemental Analysis	6	3	9	6	8	14
Century Technology Campus	Based on ITE 10th Edition and LATR Rates	91	15	106	15	83	98
Montgomery College Germantown Campus	Based on Approved LATR	215	32	247	40	196	236
Seneca Meadows Corporate Center	Based on ITE 10th Edition and LATR Rates*	290	48	338	57	299	356
College View Campus	Based on Approved LATR	68	43	111	45	67	112
Crystal Rock	Based on Approved Traffic Analysis	1,828	672	2,500	725	1,605	2,330
Poplar Grove	Based on Approved Traffic Statement	729	299	1,028	499	826	1,325
Milestone Industrial*	Based on Approved Traffic Statement	67	183	250	199	180	322
Liberty Mill	Based on ITE 10th Edition and LATR Rates	2	5	7	2	2	4
Germantown Estates	Based on ITE 10th Edition and LATR Rates	32	5	37	3	14	17
Kingsview Knolls	Based on ITE 10th Edition and LATR Rates	2	5	7	3	2	5

*Based on approved analysis using unbuilt office square footage only.

Geometry and Operations Assumptions

The following section reviews the roadway geometry and operations assumptions made and the methodologies used in the roadway capacity analyses.

Existing Geometry and Operations Assumptions

The geometry and operations assumed in the existing conditions scenario are those present when the main data collection occurred. Gorove Slade made observations and confirmed the existing lane configurations and traffic controls at the intersections within the study area. Existing signal timings and offsets were obtained from Montgomery County and confirmed during field reconnaissance. The signal timing data provided by MCDOT is included in the Technical Attachments.

The lane configurations and traffic controls for the Existing conditions are shown on Figure 36.

Background Geometry and Operations Assumptions

Following national and Montgomery County/LATR methodologies, a background improvement must meet the following criteria to be incorporated into the analysis:

- Be funded; and
- Have a construction completion date prior or close to the proposed development.

Based on these criteria, there are no funded projects which will affect the geometry of the study intersections.

Total Future Geometry and Operations Assumptions

The project includes new internal connections to the adjacent commercial developments that will provide site access from Wisteria Drive and Bowman Mill Drive. These new connections do not affect the lane configurations and traffic controls at study intersections. As such, the lane configuration and traffic controls assumed in the Total Future conditions is the same presented as presented for the Existing conditions in Figure 36.

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three (3) scenarios outlined previously at the study intersections shown in Figure 24 for the morning and afternoon peak hours. Synchro Version 10 was used to analyze the study intersections based on the HCM methodology as outlined in the LATR Guidelines for intersections located within an orange policy area. For the development's policy area (Germantown Town Center), a delay of 63 seconds per vehicle or less is considered acceptable. The study intersections subject to the HCM delay standard are the following:

- Germantown Road and Middlebrook Road
- Germantown Road and Wisteria Drive
- Germantown Road and Bowman Mill Drive/Waters Road
- Wisteria Drive and Walter Johnson Road
- Wisteria Drive and Father Hurley Boulevard
- Wisteria Drive and Crystal Rock Drive
- Walter Johnson Road and Site Driveway
- Wisteria Drive and Commercial Driveway
- Bowman Mill Drive and Commercial Driveway

As outlined in the LATR Guidelines, the Critical Lane Volume (CLV) methodology was used to analyze intersection capacity for study intersections located within a yellow policy area. For the study intersections located in the Germantown West policy area,

a CLV of 1,425 or less is considered acceptable. The study intersections subject to the CLV congestion standard are the following:

- Germantown Road and Dawson Farm Road
- Germantown Road and Father Hurley Boulevard
- Middlebrook Road and Great Seneca Highway
- Wisteria Drive and Great Seneca Highway

Table 19 presents the HCM results and Table 20 presents the CLV results.

As shown in Table 19 and Table 20, all intersections operate well within the congestion standards under all three (3) analyzed scenarios.

No intersections exceed congestion standards because of the proposed project under total future conditions.

Mitigation Measures

LATR guidelines specify that intersections exceeding the policy area congestion standard be mitigated. Adequacy is achieved when the average intersection vehicle delay in the total future with mitigation condition does not exceed either the congestion standard or the average intersection vehicle delay in the background condition, whichever is higher. As shown in Table 19 and Table 20, the project does not warrant mitigation measures at any of the study intersections.

Based on the intersection capacity analysis results, the proposed project satisfies motor vehicle system adequacy without detrimental impact to the surrounding roadways based on a mitigation strategy that is consistent with the LATR guidelines.

Table 19: Intersection HCM Delay Results

	Intersection	Existing (2021)				Background (2023)				Future (2023)			
		AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1.	Germantown Rd & Middlebrook Rd	40.1	D	43.9	D	39.6	D	45.1	D	39.6	D	45.5	D
2.	Germantown Rd & Wisteria Dr	34.8	C	40.4	D	33.4	C	42.3	D	34.0	C	43.6	D
3.	Germantown Rd & Waters Road/Bowman Mill Dr	11.0	B	23.9	C	9.0	A	21.7	C	9.1	A	24.8	C
7.	Wisteria Dr & Walter Johnson Rd	1.3	A	3.7	A	1.2	A	3.9	A	2.1	A	8.2	A
8.	Wisteria Dr & Father Hurley Blvd	17.2	B	18.4	B	26.2	C	25.1	C	26.5	C	25.2	C
9.	Wisteria Dr & Crystal Rock Dr	9.3	A	7.9	A	9.7	A	8.1	A	10.0	B	9.4	A
11.	Site Driveway & Walter Johnson Rd	0.6	A	1.5	A	0.6	A	1.5	A	4.8	A	5.4	A
12.	Site Driveway & Wisteria Dr	0.2	A	2.0	A	0.2	A	2.0	A	0.3	A	2.1	A
13.	Site Driveway & Bowman Mill Dr	0.6	A	1.5	A	0.6	A	1.5	A	0.9	A	3.1	A

Table 20: Intersection CLV Results

	Intersection	Existing (2021)				Background (2023)				Future (2023)			
		AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
		CLV	LOS	CLV	LOS	CLV	LOS	Delay	LOS	CLV	LOS	CLV	LOS
4.	Germantown Rd & Dawson Farm Road	513	A	575	A	696	A	679	A	699	A	683	A
5.	Germantown Rd & Father Hurley Blvd	549	A	706	A	818	A	1,060	B	820	A	1,063	B
6.	Middlebrook Rd & Great Seneca Hwy	1,300	C	1,176	C	1,374	D	1,363	D	1,382	D	1,363	D
10.	Wisteria Dr & Great Seneca Hwy	591	A	885	A	718	A	990	A	718	A	991	A

Queuing Analysis

In addition to the capacity analyses, a queuing analysis was performed at the study intersections. The queueing analysis was conducted based on HCM methodologies using SimTraffic 10. Table 23 presents the 50th and 95th percentile for all study intersections. The 50th (average) percentile queue is the maximum back of queue on a median cycle. The 95th percentile queue is the maximum back of queue that is exceeded five percent of the time. The detailed queuing analysis worksheets are provided in the Technical Attachments.

As Table 23 shows, queues exceed available storage length at four (4) intersections under existing conditions:

- Germantown Road and Middlebrook Road:
  - Westbound Left (PM)
- Germantown Road and Wisteria Drive:
  - Westbound Left (AM/PM)
  - Southbound Left (PM)
- Middlebrook Road and Great Seneca Highway:
  - Eastbound Right (AM)
- Wisteria Drive and Great Seneca Highway:
  - Westbound Left (PM)

Under background conditions, queues exceed storage capacity at the following intersections:

- Germantown Road and Middlebrook Road:
  - Westbound Left (PM)
- Germantown Road and Wisteria Drive:
  - Westbound Left (AM/PM)
  - Southbound Left (PM)
- Middlebrook Road and Great Seneca Highway:
  - Eastbound Right (AM/PM)
- Wisteria Drive and Great Seneca Highway:
  - Westbound Left (PM)

With the addition of volumes generated by the proposed project, no additional intersections were found to experience queue lengths that exceed storage capacity as shown in Table 23.

Consistent with Background Conditions, queues exceed storage capacity at the following locations in Total Future conditions:

- Germantown Road and Middlebrook Road:
  - Westbound Left (PM)
    - This queue increases by less than a car length as compared to the background queues. Site-generated trips are not assigned to this movement and the changes in queues are consistent with variabilities associated with SimTraffic simulations.
- Germantown Road and Wisteria Drive:
  - Westbound Left (AM/PM)
    - This queue increases by less than a car length as compared to the background queues during the morning peak hour and is reduced by three (3) feet during the afternoon peak hour. Site-generated trips are not assigned to this movement and the changes to queues do not exceed a car length. The changes in queue lengths are consistent with variabilities resulting from SimTraffic simulations.
  - Southbound Left (PM)
    - This queue increases by less than a car length as compared to the background queues during the afternoon peak hour.
- Middlebrook Road and Great Seneca Highway:
  - Eastbound Right (AM/PM)
    - This queue increases by 35 feet, less than two (2) car lengths, as compared to the background queues during the morning peak hour and is reduced by five (5) feet during the afternoon peak hour. Site-generated trips are not assigned to this movement and the changes in queues are consistent with variabilities associated with SimTraffic simulations.
- Wisteria Drive and Great Seneca Highway:
  - Westbound Left (PM)
    - This queue increases by less than a car length as compared to the background queues. Site-generated trips are not assigned to this movement and the changes in queues are consistent with variabilities associated with SimTraffic simulations.

As the project does not generate significant queuing issues in the study area, **the project satisfies motor vehicle adequacy requirements without improvements.**

Signal Warrant

As requested by Staff during the scoping process, a signal warrant analysis was conducted at the intersection of the Wisteria Drive and Walter Johnson Road to determine if future volumes warrant a traffic signal based on MDOT SHA Standards. A traffic signal is considered as a measure to provide protected pedestrian crossings, as a review of crash data indicate there has been a number of vehicle crashes at this intersection between 2015 and 2019 as discussed in the Vision Zero Statement section of this report. While only one (1) crash involved a pedestrian it was categorized as a serious crash resulting in serious injuries.

The warrants were performed using methodologies prescribed in Section 4C of the MDOT SHA *Manual on Uniform Traffic Control Devices* (MdMUTCD), 2011 Edition. The analysis is based on 13-hour traffic movement counts at the Wisteria Drive and Walter Johnson Road intersection, collected by Gorove Slade on Tuesday, September 14, 2021. The detailed traffic counts and volumes used in the analysis are included in the Technical Attachments.

In order to determine if the warrants are met as a result of the proposed development, the Total Future scenario was considered for the warrant analysis. The Total Future traffic volumes consists of the existing volumes as collected, traffic generated by approved background developments, and site-generated volumes. The projected net hourly traffic volumes for the grocery store were calculated using the time-of-day distribution data from the ITE *Trip Generation Manual*, 10th Edition, supplemented with trip generation directional distribution data. Details are presented in the Technical Attachments. Similarly, time-of-day distribution data based on land use was applied to the background developments with trip assignments at this intersection.

Warrant 1: Eight-Hour Vehicular Volume

The Eight-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal or where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Warrant 1 is satisfied when the major-street and minor-street traffic volumes listed in the 100% columns of Table 21 for condition A or Condition B are met for any 8 hours. The condition for the major-street and minor-street shall be for the same 8 hours.

The 80% columns may be used in place of the 100% columns when street volumes for both the major-street and minor-street approaches meet or exceed the 80% values set forth in the MdMUTCD and satisfy both Conditions A and B for each of any 8 hours of an average day. The condition for the major-street and minor-street shall be for the same 8 hours but do not need to be the same for Condition A and Condition B.

The analysis was based on the existing configuration of one (1) lane of traffic on the major approaches and two (2) proposed lanes on the minor approach. The MdMUTCD Table 4C-1 volumes applicable to this analysis are shown on Table 21.

Table 22 shows the approach volumes used to evaluate the site's impact under Warrant 1 criteria and the corresponding results. Based on the results, the projected future hourly volumes on the major-street and higher-volume minor street do not meet the minimum requirements under Conditions A or Conditions B for any of the thresholds, therefore, **Warrant 1: Eight-Hour Vehicular Volume is not satisfied under the Total Future analysis scenario and signalization is not warranted as a result of the proposed development**.

Warrant 2: Four-Hour Vehicular Volume

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any four (4) hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 of the MdMUTCD for the analyzed set of approach lanes.

The Warrant 2 results are presented in Figure 20. The warrant was based on the scenario of the configuration of two (2) lanes of moving traffic on the major approaches and two (2) lanes on the minor approach, represented by the "Major-2, Minor-2" curve Figure 20. Based on the results, volumes do not fall above the applicable curve during any of the analyzed hours. Therefore, the projected future weekday hourly volumes on the major-street and higher-volume minor street do not meet the minimum requirements under the weekday traffic conditions.

Table 21: MdMUTCD Table 4C-1 Warrant 1, Eight-Hour Vehicular Volumes

# of Lanes of Wisteria Drive Approach	Wisteria Drive Volumes		# of Lanes of Walter Johnson Road Approach	Walter Johnson Road Volumes	
	100%	80%		100%	80%
Condition A - Minimum Vehicular Volume					
2	600	480	2	200	160
Condition B - Interruption of Continuous Traffic					
2	900	720	2	100	80

Table 22: Total Future Traffic Volumes and Signal Warrant 1 Results

Hour	Volumes (Major/Minor)	Standard 4C.02.04 Either Condition A or B Must be Satisfied		Standard 4C.02.07 Both Condition A and B Must be Satisfied	
		Condition A (600/200)	*Condition B (900/100)*	*Condition A (480/160)*	*Condition B (720/80)*
7:00 - 8:00	702/54	Y/N	N/N	Y/N	N/N
8:00 - 9:00	749/84	Y/N	N/N	Y/N	Y/Y
9:00 - 10:00	663/85	Y/N	N/N	Y/N	N/Y
10:00 - 11:00	692/75	Y/N	N/N	Y/N	N/N
11:00 - 12:00	648/84	Y/N	N/N	Y/N	N/Y
12:00 - 1:00	737/105	Y/N	N/Y	Y/N	Y/Y
1:00 - 2:00	732/103	Y/N	N/Y	Y/N	Y/Y
2:00 - 3:00	870/108	Y/N	N/Y	Y/N	Y/Y
3:00 - 4:00	924/108	Y/N	Y/Y	Y/N	Y/Y
4:00 - 5:00	994/142	Y/N	Y/Y	Y/N	Y/Y
5:00 - 6:00	1033/136	Y/N	Y/Y	Y/N	Y/Y
6:00 - 7:00	790/121	Y/N	N/Y	Y/N	Y/Y
Total Hours Met:		**0**	**3**	**0**	**8**
Warrant Results:		**Not Met**		**Not Met**	

Warrant 3: Peak Hour

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 of MdMUTCD for the analyzed combination of approach lanes.

Figure 21 shows the results for the Warrant 3. Neither of the AM or the PM peak hour volume was found to fall above the applicable “Major-2, Minor-2” curve.

Warrant 4: Pedestrian Volume

Warrant 4 is applicable where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. Warrant 4 is satisfied if one of the following criteria is met:

A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5 of MdMUTCD; or

B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) fall above the curve in Figure 4C-7 of MdMUTCD.

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 of MdMUTCD may be used in place of Figure 4C-5 of MdMUTCD to evaluate Criterion A and Figure 4C-8 of MdMUTCD may be used in place of Figure 4C-7 of MdMUTCD to evaluate Criterion B.

Six (6) hours of pedestrian volumes during the peak periods were evaluated to determine if pedestrian volumes coupled with traffic volumes along Wisteria Drive meet the outlined criteria and warrant signalization. As Figure 22 and Figure 23 show, the conditions do not warrant signalization based on forecasted future volumes and existing pedestrian volumes.

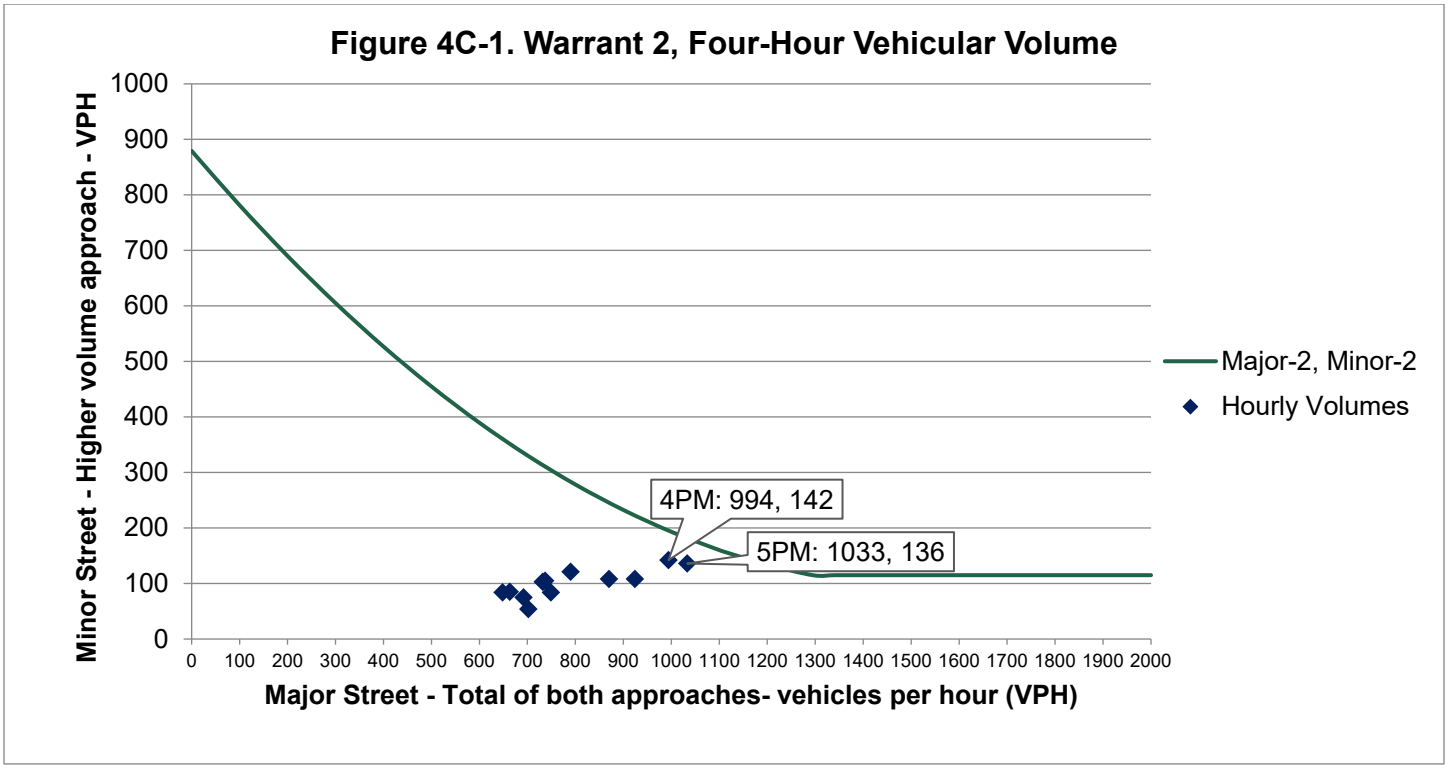


Figure 20: Signal Warrant 2 Results

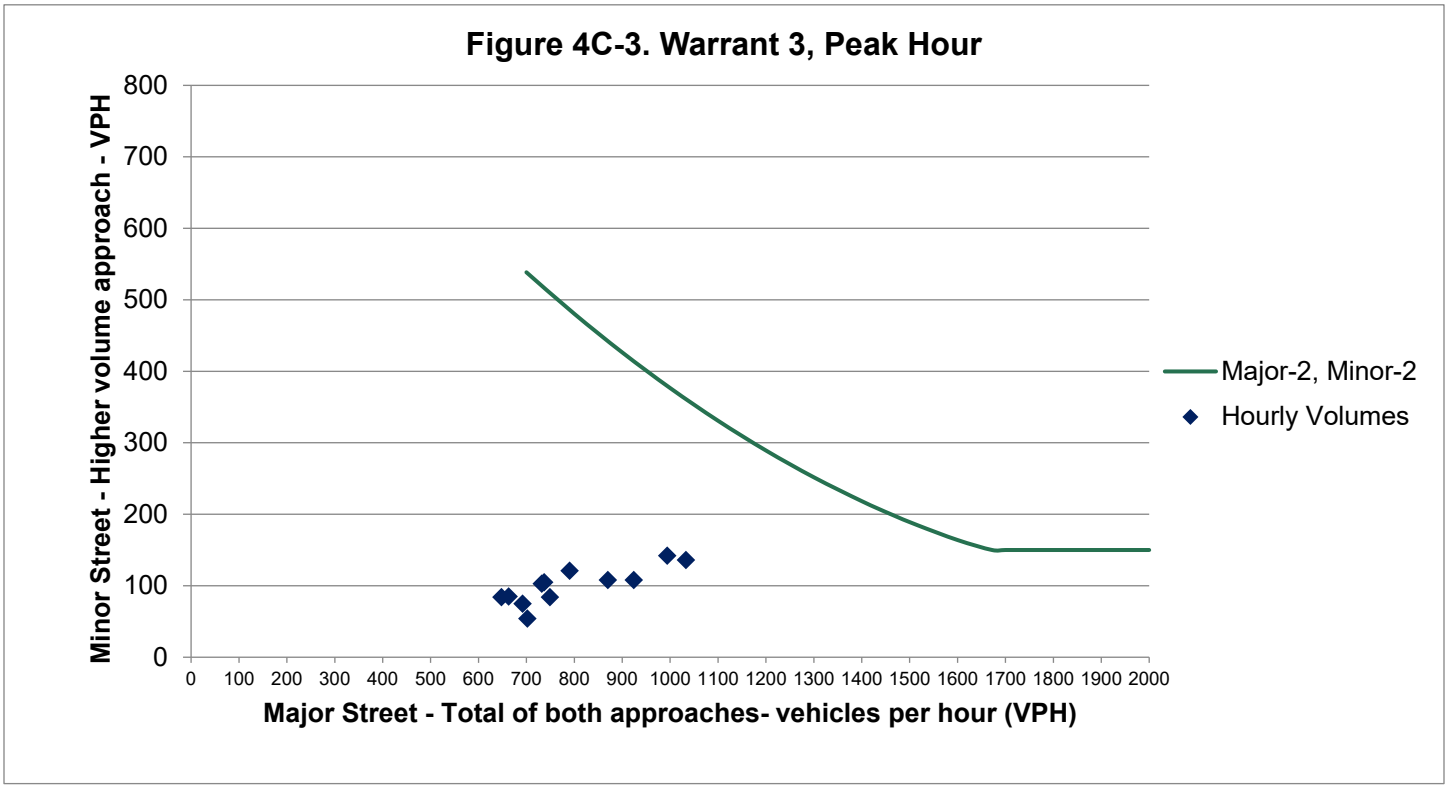


Figure 21: Signal Warrant 3 Results

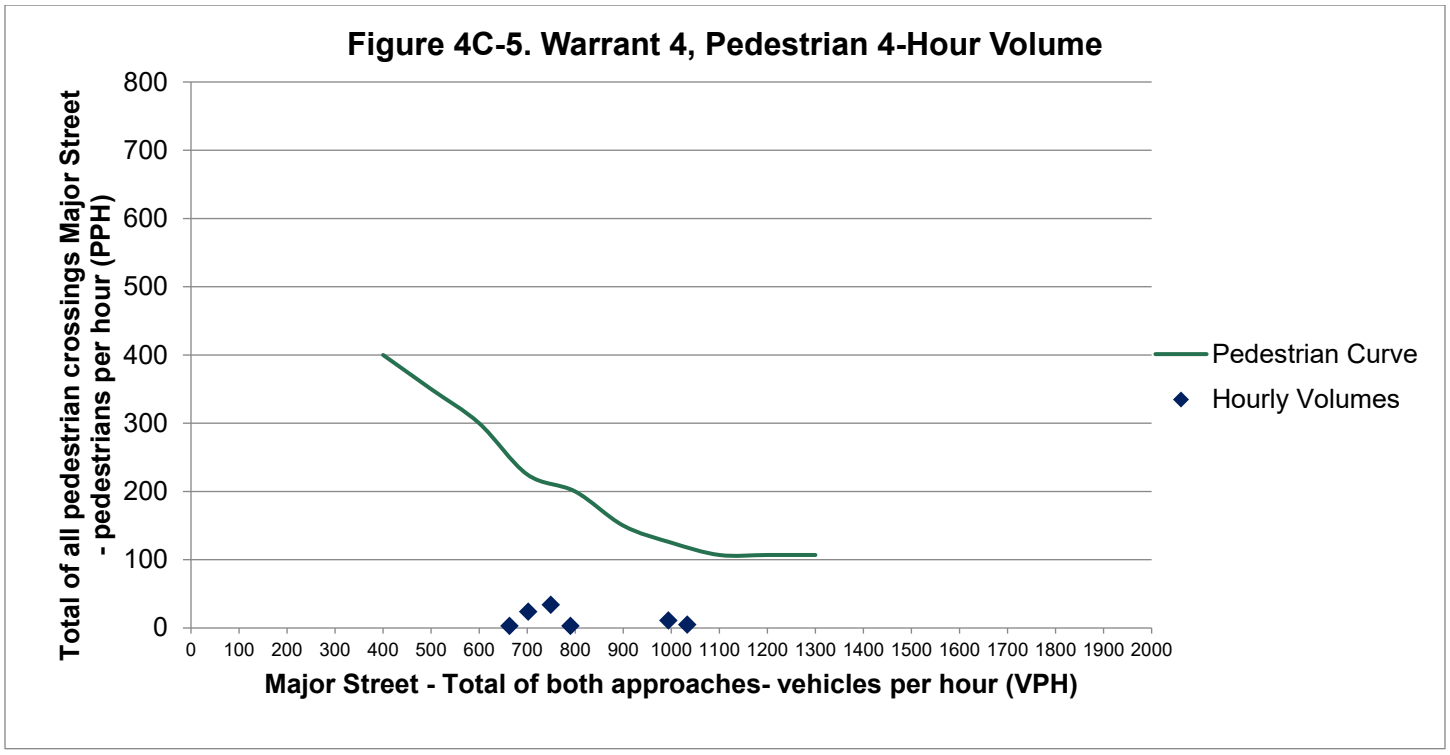


Figure 22: Warrant 4 Results: Four-Hour Pedestrian Volumes

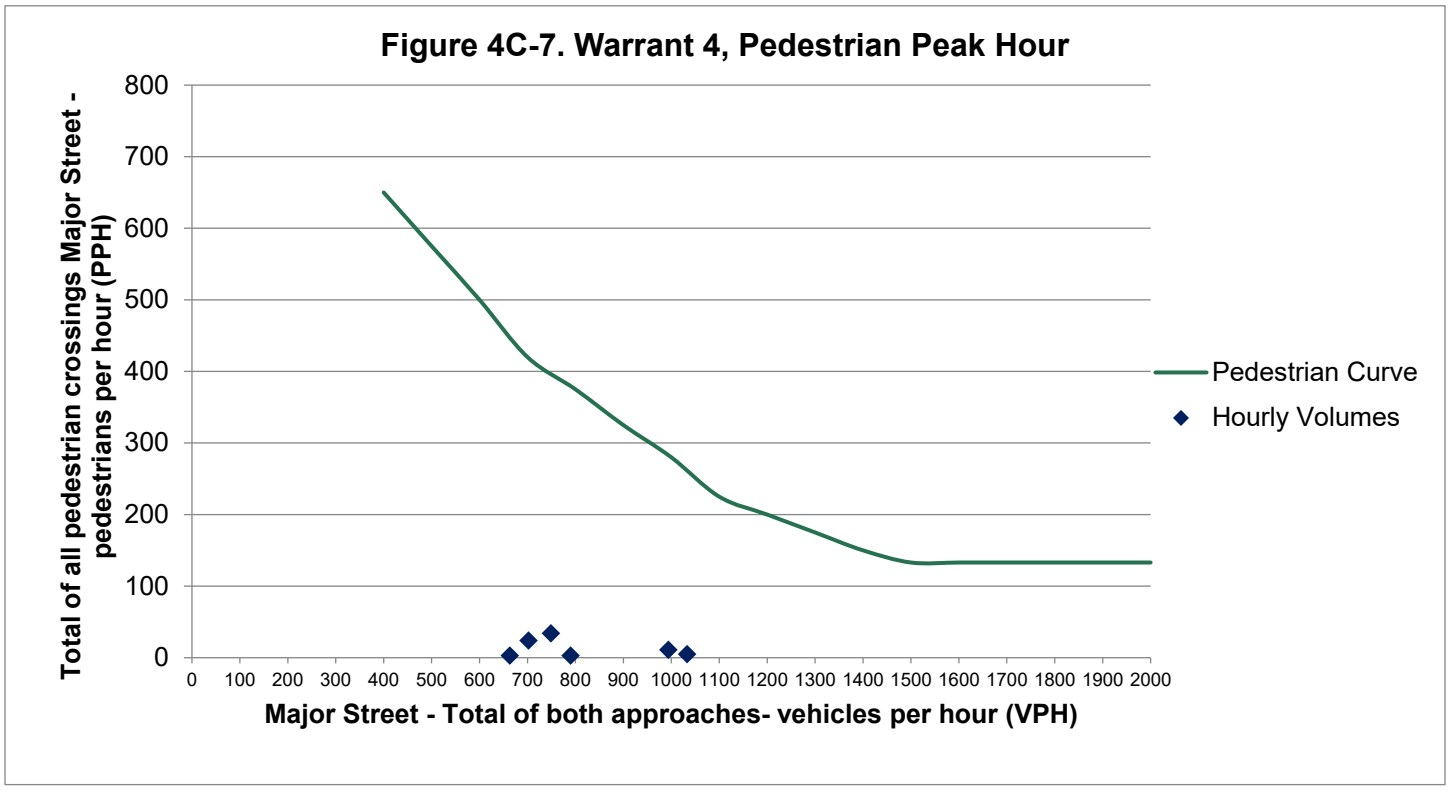


Figure 23: Warrant 4 Results: Peak-Hour Pedestrian Volumes

Warrant 5: School Crossing

Warrant 5 is applicable where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. Warrant 5 is satisfied when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period and there are a minimum of 20 schoolchildren during the highest crossing hour.

An established school crossing is not located at this intersection. Therefore, **Warrant 5 is not applicable**.

Warrant 6: Coordinated Signal System

Warrant 6 is satisfied if an engineering study finds that on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. This warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

As the Germantown Road signal is approximately 360 feet to the northwest, **Warrant 6 is not applicable**.

Warrant 7: Crash Experience

Warrant 7 is applicable where the severity and frequency of crashes are the principal reasons to consider signalization. Warrant 7 is satisfied if all of the following criteria are met:

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

B. Five or more reported crashes of types susceptible to correction by a traffic control signal, have occurred within a 12-month period. Each crash should involve personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

C. For each of any 8 hours of an average day, the vehicles per hour given in both of the 80 percent columns of Condition A in the Table 4C-1, or the vehicles per hour in both of the 80 percent columns of Condition B in the Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of the pedestrian traffic is not less than 80 percent of the requirements specified in Warrant 4. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

As shown in Table 22, the projected future hourly volumes do not meet Criterion C of Warrant 7. In addition, Montgomery County's Interactive Crash Map shows eight (8) crashes occurred around the study intersection between 2015 and 2019. Therefore, **Warrant 7 is not satisfied due to not meeting all of the criteria**.

Warrant 8: Roadway Network

Warrant 8 is satisfied when the common intersection of two or more major routes meets one or both of the following criteria:

A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

While Walter Johnson Road is envisioned to become an activity corridor, it does not operate as a major route and currently services local traffic and connections to the MARC Rail Station. Hence, the intersection does not qualify as an intersection of two major routes. Therefore, **Warrant 8 is not applicable**.

Warrant 9: Intersection Near a Grade Crossing

Warrant 9 should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing (railroad crossing).

A grade crossing is not in close proximity to the study intersection; therefore, Warrant 9 is not applicable.

Table 23: 50th and 95th Percentile SimTraffic Queues

	Intersection and Lane Group	Storage Length (ft)	Existing (2021)				Background (2023)				Future (2023)			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
1.	**Germantown Rd & Middlebrook Rd**													
	Eastbound Left	310	75	188	104	161	68	131	92	150	72	166	101	157
	Eastbound Thru	490	253	385	142	217	255	347	152	165	267	388	146	225
	Eastbound Thru Right	480	237	363	160	239	244	335	229	253	258	373	161	248
	Westbound Left	180	55	101	150	272	74	118	137	239	80	124	139	251
	Westbound Thru	990	83	140	247	364	83	136	240	348	87	141	253	377
	Westbound Right	990	68	134	117	225	76	144	117	212	96	184	121	235
	Northbound Left	200	51	91	85	134	55	93	94	150	52	88	95	154
	Northbound Thru	900	125	189	106	161	170	242	129	207	178	265	128	199
	Northbound Right	370	64	124	33	83	58	114	47	93	62	118	47	99
	Southbound Left	370	98	158	134	211	108	172	155	243	111	177	152	251
	Southbound Thru	1500	136	207	208	292	177	255	284	384	162	237	287	385
	Southbound Thru Right	1500	94	175	188	277	131	217	257	366	120	204	257	367
2.	**Germantown Rd & Wisteria Drive**													
	Eastbound Left	245	97	167	86	142	97	170	87	132	96	160	90	147
	Eastbound Thru	850	152	243	119	194	154	241	128	206	154	240	133	214
	Eastbound Thru Right	850	105	212	134	214	119	223	149	228	119	217	156	237
	Westbound Left	90	37	98	80	134	71	127	85	140	72	128	86	137
	Westbound Thru	350	111	180	173	259	121	193	171	248	122	206	179	250
	Westbound Thru Right	350	130	207	191	258	139	219	187	257	145	234	203	258
	Northbound Left	220	54	96	98	165	55	96	112	187	52	92	106	173
	Northbound Thru	680	152	234	179	277	207	297	190	303	211	306	193	311
	Northbound Right	220	31	108	50	178	48	168	67	215	55	191	62	203
	Southbound Left	190	105	179	137	221	108	187	130	226	105	173	164	249
	Southbound Thru	910	40	98	142	254	64	150	251	402	66	118	256	417
	Southbound Thru Right	910	58	115	191	310	84	144	285	438	93	158	287	440
3.	**Germantown Rd & Waters Road/Bowman Mill Drive**													
	Eastbound Left Thru	640	66	130	27	64	61	118	32	77	62	115	30	68
	Eastbound Right	310	32	61	22	51	34	66	20	21	34	67	22	58
	Westbound LTR	410	63	121	129	208	69	130	129	208	70	124	140	221
	Northbound Left	220	8	26	31	82	9	28	31	84	9	25	33	70
	Northbound Thru	1910	33	99	90	197	51	144	112	254	49	132	122	271
	Northbound Right	145	8	39	19	91	11	67	24	108	9	55	29	119
	Southbound Left	220	25	52	14	42	30	60	15	41	28	61	17	47
	Southbound Thru	680	19	50	38	78	34	80	45	97	35	78	50	102
	Southbound Thru Right	680	15	47	55	108	32	84	65	119	31	78	70	131

	Intersection and Lane Group	Storage Length (ft)	Existing (2021)				Background (2023)				Future (2023)			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
4.	**Germantown Rd & Dawson Farm Road**													
	Eastbound Left	360	74	141	42	89	67	126	42	87	75	141	43	93
	Eastbound Thru Right	640	45	95	35	80	40	85	36	79	46	99	31	72
	Westbound Left Thru	730	14	43	61	113	16	52	61	115	19	55	67	129
	Westbound Right	370	44	81	48	86	62	109	56	94	64	113	57	99
	Northbound Left	260	12	38	24	57	9	33	24	59	10	35	25	63
	Northbound Thru	1730	62	123	81	143	109	197	103	171	118	215	101	175
	Northbound Right	300	2	14	4	22	4	20	4	20	4	19	5	22
	Southbound Left	260	63	119	126	215	77	147	146	245	70	129	137	228
	Southbound Thru	710	17	52	40	110	21	61	59	170	23	64	47	114
	Southbound Right	250	2	13	4	16	2	13	4	14	2	13	5	16
5.	**Germantown Rd & Father Hurley Blvd**													
	Eastbound Left	380	107	179	70	132	110	198	63	124	107	194	65	132
	Eastbound Right	920	193	275	115	184	197	288	179	265	201	290	174	260
	Northbound Left	530	76	136	162	232	189	269	205	296	196	279	210	298
	Northbound Thru	1580	88	155	63	127	107	179	87	159	107	186	79	149
	Southbound Thru	1740	52	129	63	144	123	219	156	263	129	226	151	273
	Southbound Thru Right	1740	76	154	83	165	148	242	181	295	152	253	184	302
6.	**Middlebrook Rd & Great Seneca Hwy**													
	Eastbound U Turn	180	41	114	13	59	50	154	20	84	49	145	19	88
	Eastbound Thru	1080	248	462	176	299	272	481	227	380	302	534	231	388
	Eastbound Right	250	101	290	108	245	122	301	178	313	147	336	176	308
	Westbound Left	450	129	188	229	320	149	217	245	376	151	227	251	372
	Westbound Thru	910	93	160	123	204	128	201	141	223	143	230	151	240
	Northbound Left	940	200	371	174	279	279	476	236	366	278	459	239	377
	Northbound Right	1370	296	433	229	357	356	556	286	433	357	557	277	424
7.	**Wisteria Dr & Walter Johnson Rd**													
	Eastbound Left	145	4	19	15	45	4	21	11	34	4	20	13	36
	Eastbound Thru	360	0	5	1	15	0	5	1	9	0	2	1	15
	Eastbound Right	145	--	--	1	15	--	--	--	--	--	--	1	15
	Westbound Left	180	7	30	12	39	12	40	12	38	15	43	26	58
	Westbound Thru	720	--	--	1	8	--	--	1	11	--	--	2	20
	Westbound Thru Right	720	--	--	2	13	--	--	1	10	--	--	4	21
	Northbound Left Thru	790	5	23	16	41	4	21	15	42	17	47	41	93
	Northbound Right	220	17	42	21	42	19	44	21	43	24	49	34	80
	Southbound LTR	670	15	47	38	70	17	48	37	69	16	46	42	78

	Intersection and Lane Group	Storage Length (ft)	Existing (2021)				Background (2023)				Future (2023)			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
8.	**Wisteria Dr & Father Hurley Blvd**													
	Eastbound Left	180	14	38	33	82	18	46	41	92	20	49	48	115
	Eastbound Thru Right	330	76	139	105	186	98	193	121	225	92	170	130	234
	Westbound Left	225	94	174	100	189	112	201	113	210	105	185	107	193
	Westbound Thru	320	70	146	103	210	95	206	127	245	84	167	115	217
	Westbound Right	300	14	41	17	46	18	47	20	48	17	45	24	64
	Northbound Left	300	29	64	49	85	24	59	50	90	22	54	50	91
	Northbound Thru	1620	46	86	68	120	157	250	117	209	150	233	117	194
	Northbound Thru Right	1620	58	110	118	211	141	244	157	280	137	233	169	295
	Southbound Left	220	43	89	30	63	48	96	34	67	49	95	36	82
	Southbound Thru	540	34	79	32	69	60	113	112	173	60	108	112	182
	Southbound Thru Right	540	21	53	15	39	38	84	87	158	41	85	82	161
9.	**Wisteria Dr & Crystal Rock Dr**													
	Eastbound Left	150	57	119	58	124	56	114	55	122	60	123	63	132
	Eastbound Thru Right	710	89	182	93	188	83	184	96	192	87	181	99	183
	Westbound Left	100	5	28	6	34	4	25	5	30	5	27	2	16
	Westbound Thru	1550	62	125	79	160	68	149	84	193	80	172	90	180
	Westbound Right	350	17	44	12	33	20	46	11	28	20	44	11	27
	Northbound LTR	280	6	29	8	32	6	29	9	36	6	29	7	31
	Southbound Left	120	34	75	36	72	37	77	36	69	38	84	41	75
	Southbound Thru Right	880	31	63	30	69	33	69	30	67	34	67	36	72
10.	**Wisteria Dr & Great Seneca Hwy**													
	Eastbound Left	535	66	140	37	90	69	138	52	112	64	128	54	117
	Eastbound Thru	550	24	62	38	90	21	61	35	78	19	53	37	83
	Eastbound Right	325	4	22	4	20	2	14	6	28	3	19	6	32
	Westbound Left	100	43	98	68	133	41	94	65	128	41	92	67	133
	Westbound Thru	725	42	91	73	140	51	110	73	133	51	111	67	127
	Westbound Thru Right	725	51	121	76	151	55	132	73	144	55	124	67	127
	Northbound Left	325	55	103	105	179	52	109	107	189	62	121	122	198
	Northbound Thru	630	84	140	141	213	128	205	178	267	125	202	177	262
	Northbound Thru Right	630	74	139	136	219	117	200	173	266	118	195	173	259
	Southbound Left	300	45	102	174	296	42	95	166	294	51	107	155	252
	Southbound Thru	1350	49	123	129	287	68	165	170	319	75	177	171	302
	Southbound Thru Right	1350	73	146	148	284	96	188	188	321	103	202	192	314
11.	**Site Driveway & Walter Johnson Rd**													
	Eastbound Left Right	140	0	4	7	28	0	4	10	33	11	46	35	63
	Northbound Left Thru	300	--	--	--	--	0	0	--	--	--	--	0	6

	Intersection and Lane Group	Storage Length (ft)	Existing (2021)				Background (2023)				Future (2023)			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
12.	**Site Driveway & Wisteria Dr**													
	Eastbound Left	70	2	15	21	54	3	16	19	49	2	14	19	50
	Eastbound Thru	140	--	--	3	26	--	--	0	2	--	--	0	8
	Eastbound Thru Right	140	--	--	0	8	--	--	0	2	--	--	1	10
	Westbound Left	30	0	4	1	8	--	--	1	7	0	4	1	7
	Westbound Thru	170	0	6	14	64	1	10	14	69	2	22	18	82
	Westbound Thru Right	170	1	15	15	62	3	23	25	91	4	29	29	106
	Northbound LTR	215	1	9	21	49	1	10	21	54	8	30	30	65
	Southbound LTR	85	5	22	30	64	4	21	29	61	6	25	35	77
13.	**Site Driveway & Bowman Mill**													
	Eastbound LTR	205	--	--	1	13	0	4	1	12	--	--	5	24
	Westbound LTR	180	--	--	11	57	--	--	8	49	--	--	15	66
	Northbound LTR	35	1	8	6	28	1	7	8	30	1	9	6	27
	Southbound LTR	70	10	31	8	29	9	32	12	35	12	35	23	53

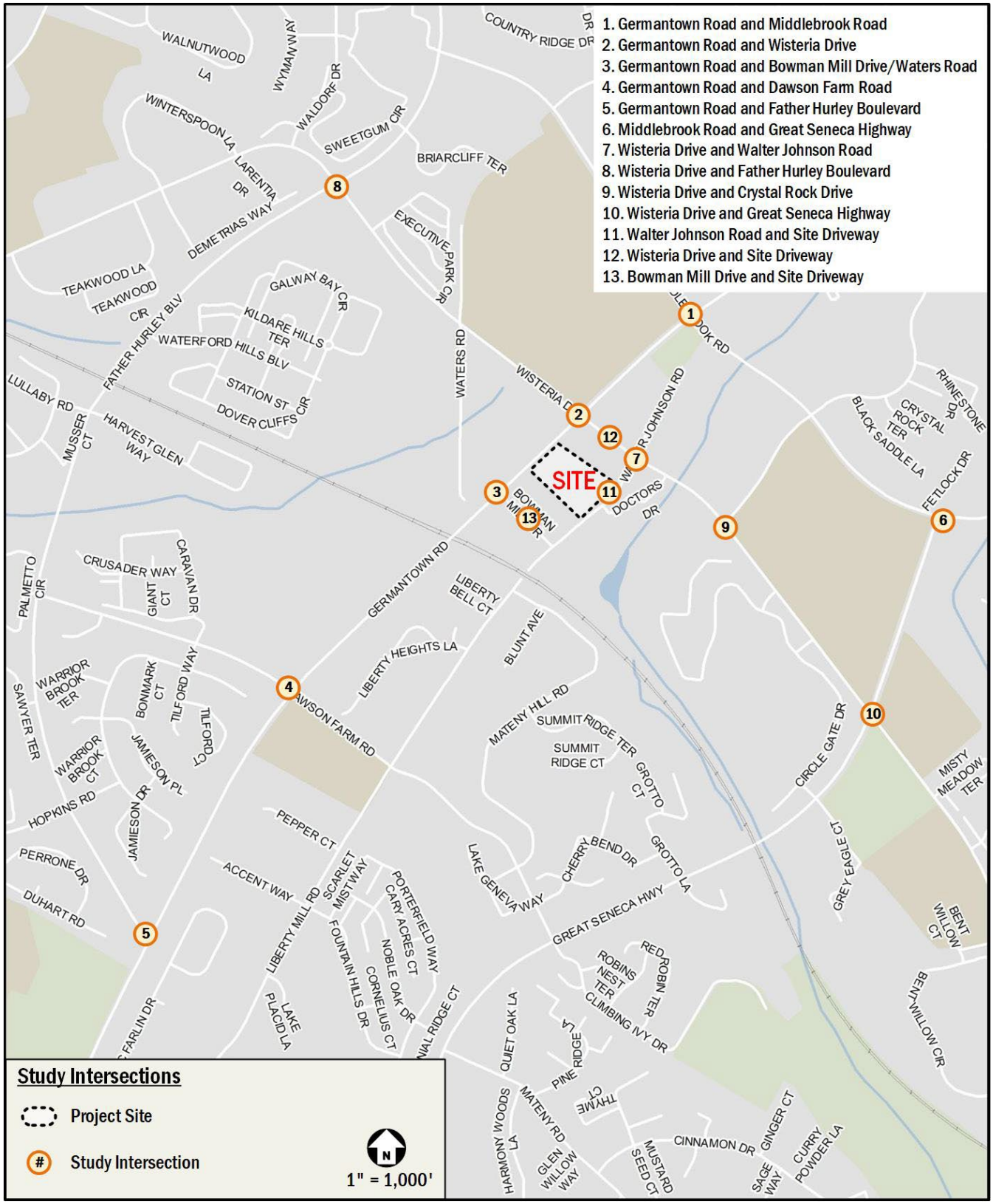


Figure 24: Study Intersections

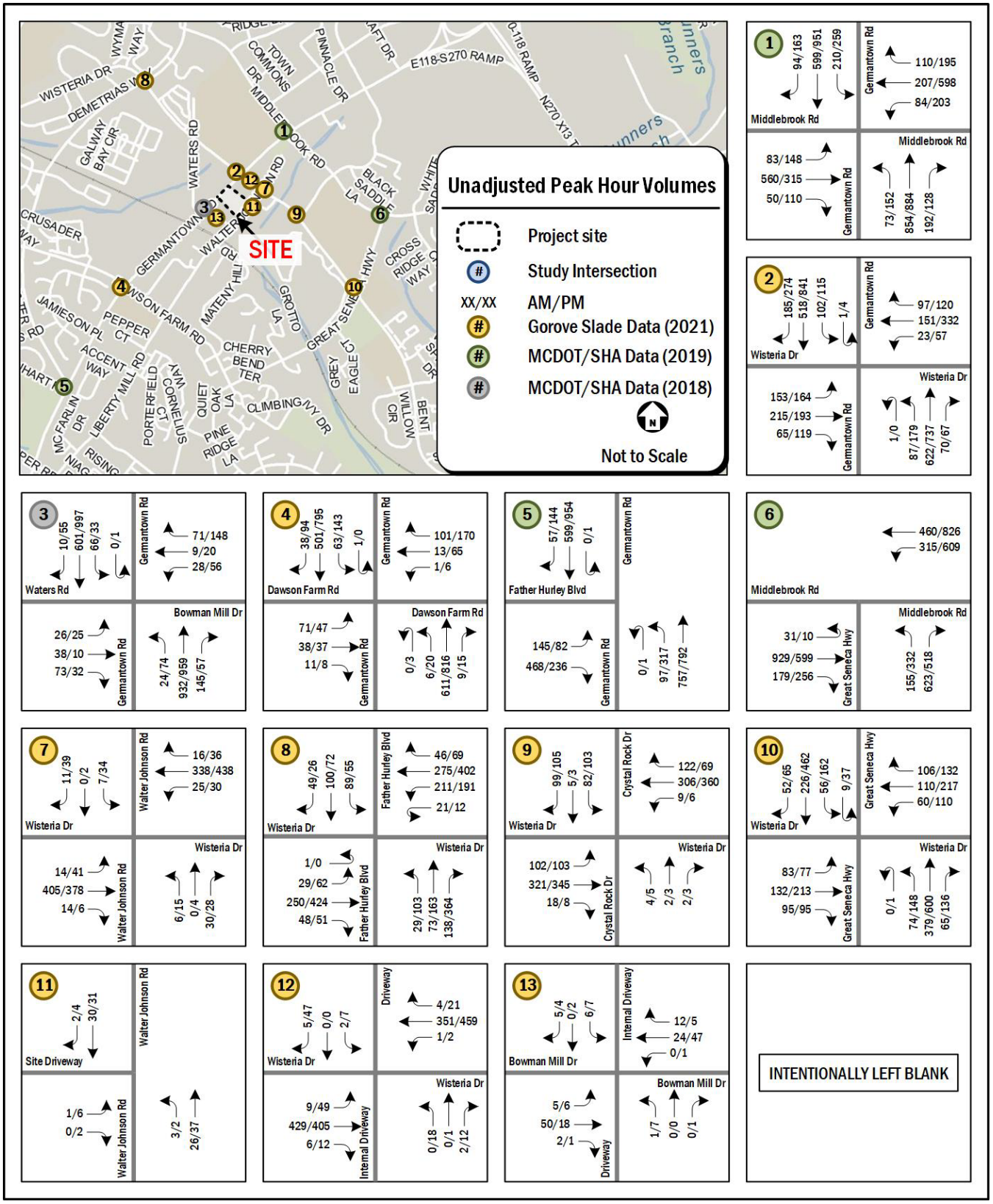


Figure 25: Unadjusted Peak Hour Volumes

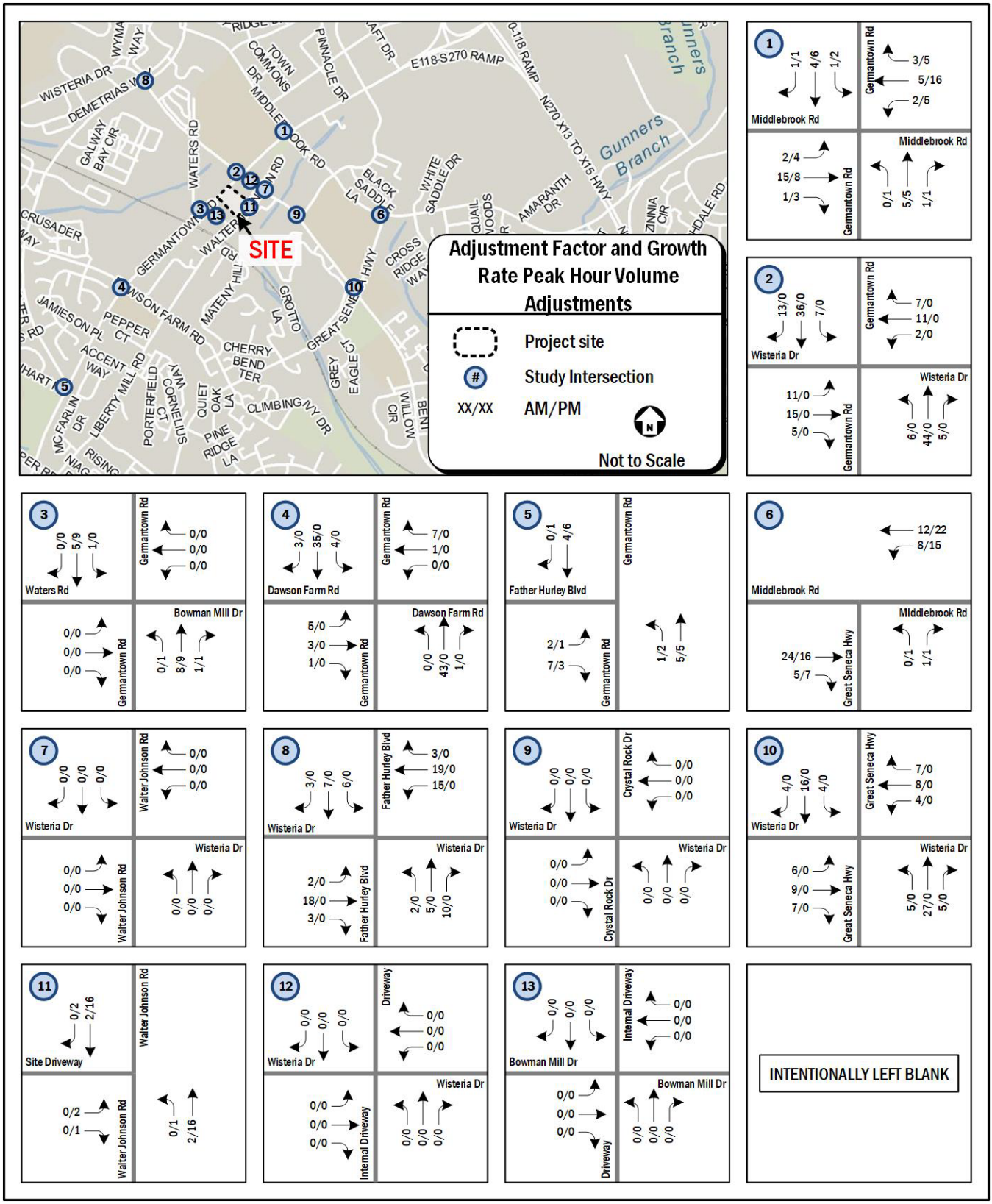


Figure 26: Adjustment Factor and Growth Rate Peak Hour Volume Adjustments

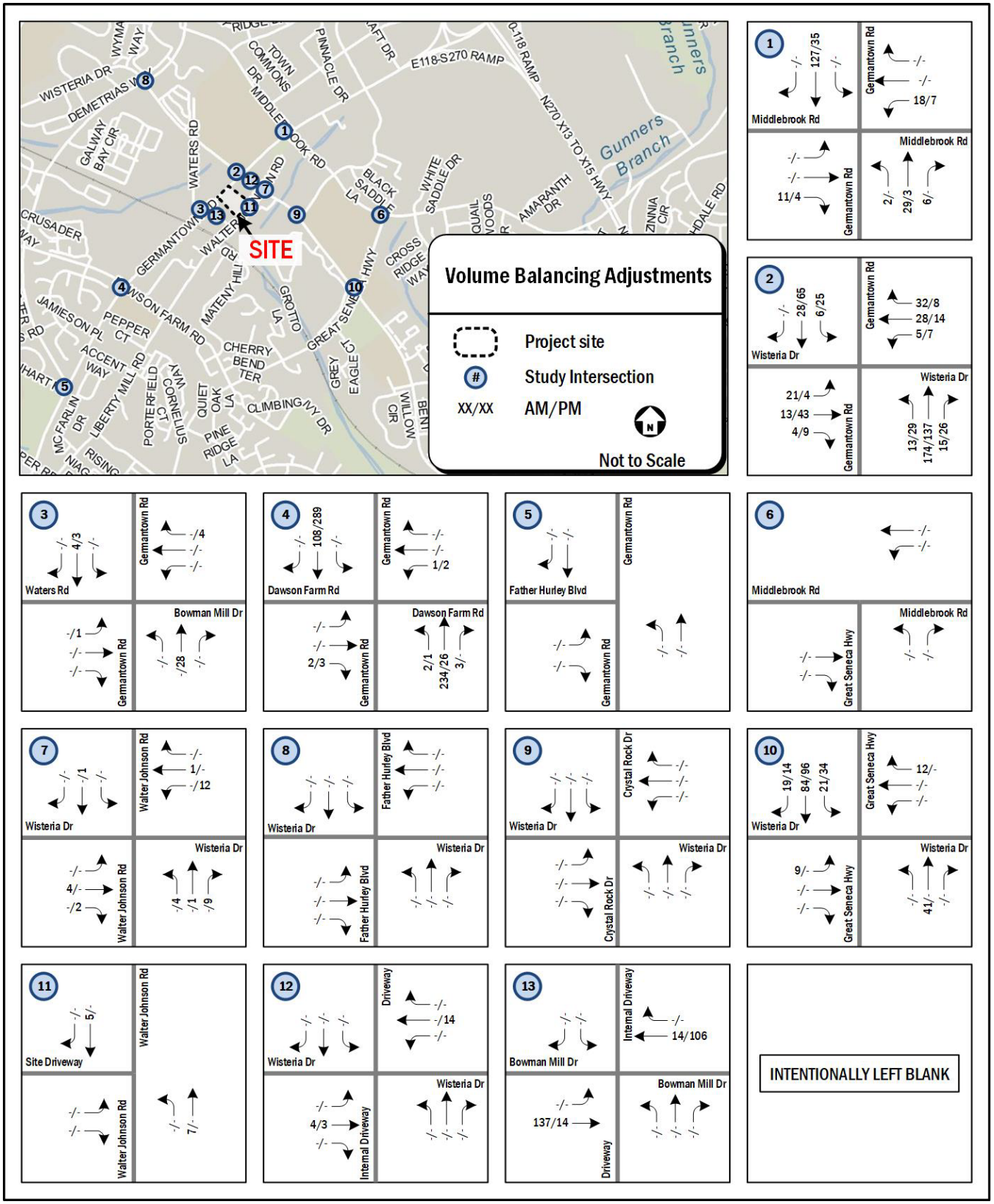


Figure 27: Volume Balancing Adjustments

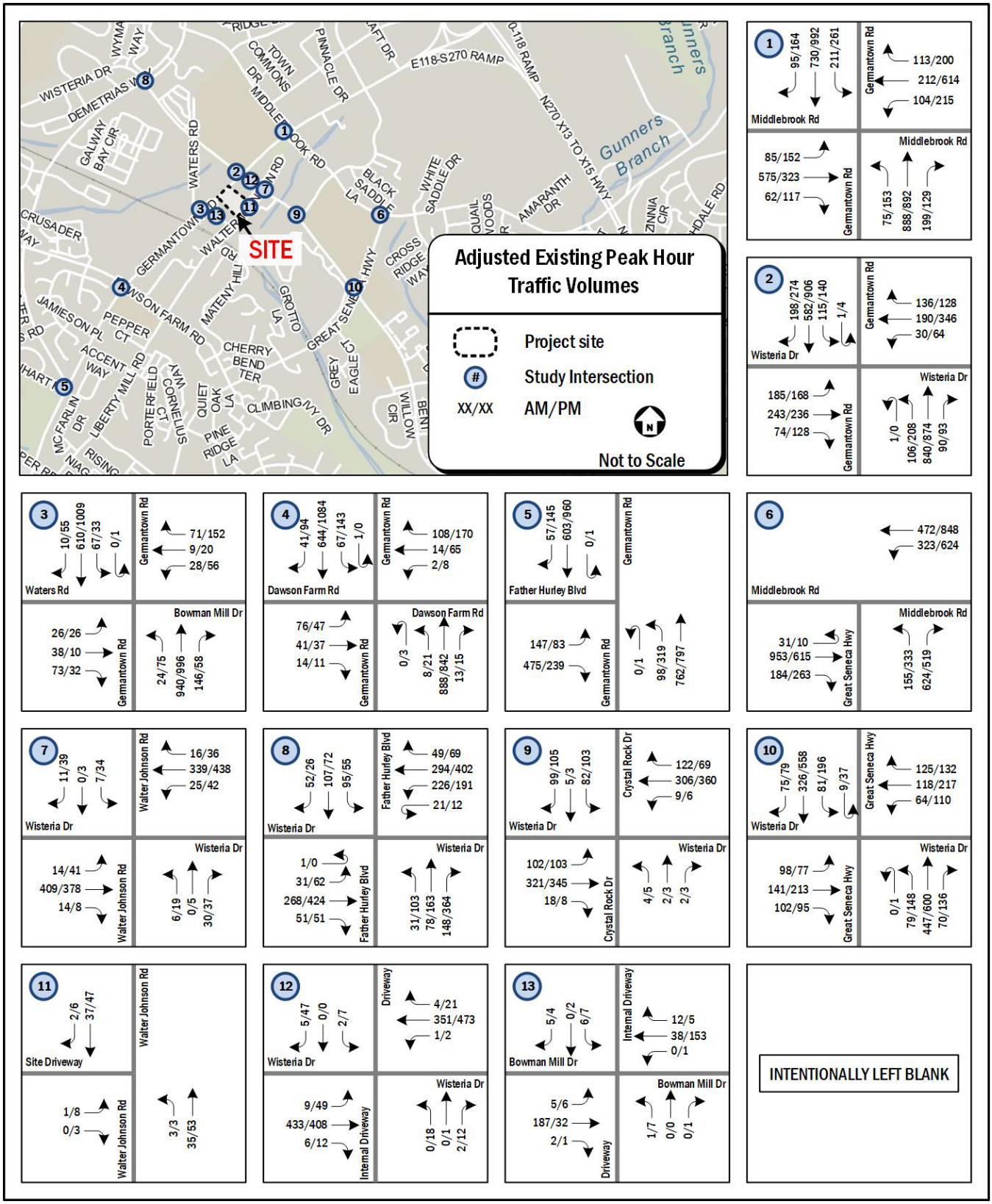


Figure 28: Adjusted Existing Peak Hour Traffic Volumes

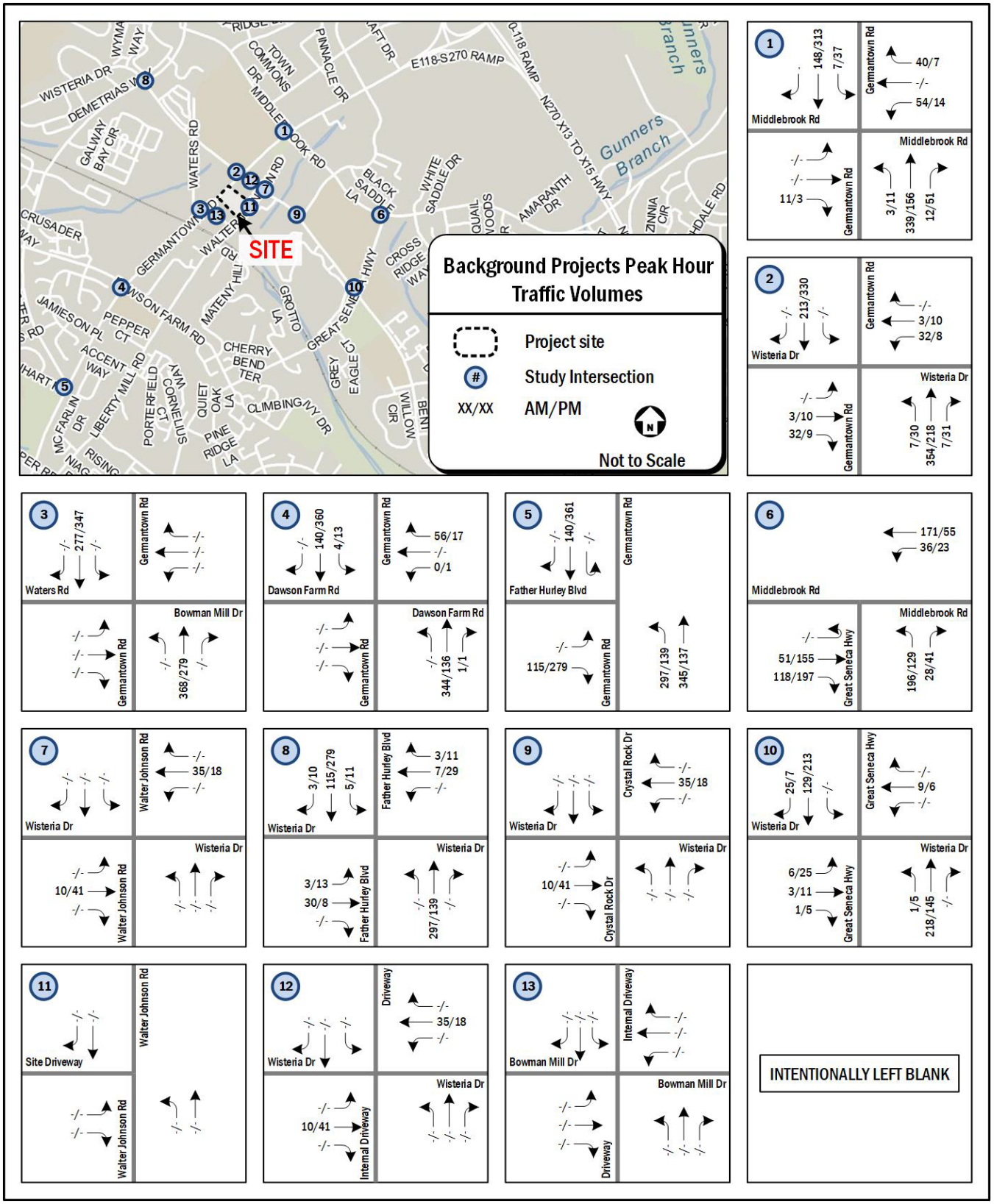


Figure 29: Background Projects Peak Hour Traffic Volumes

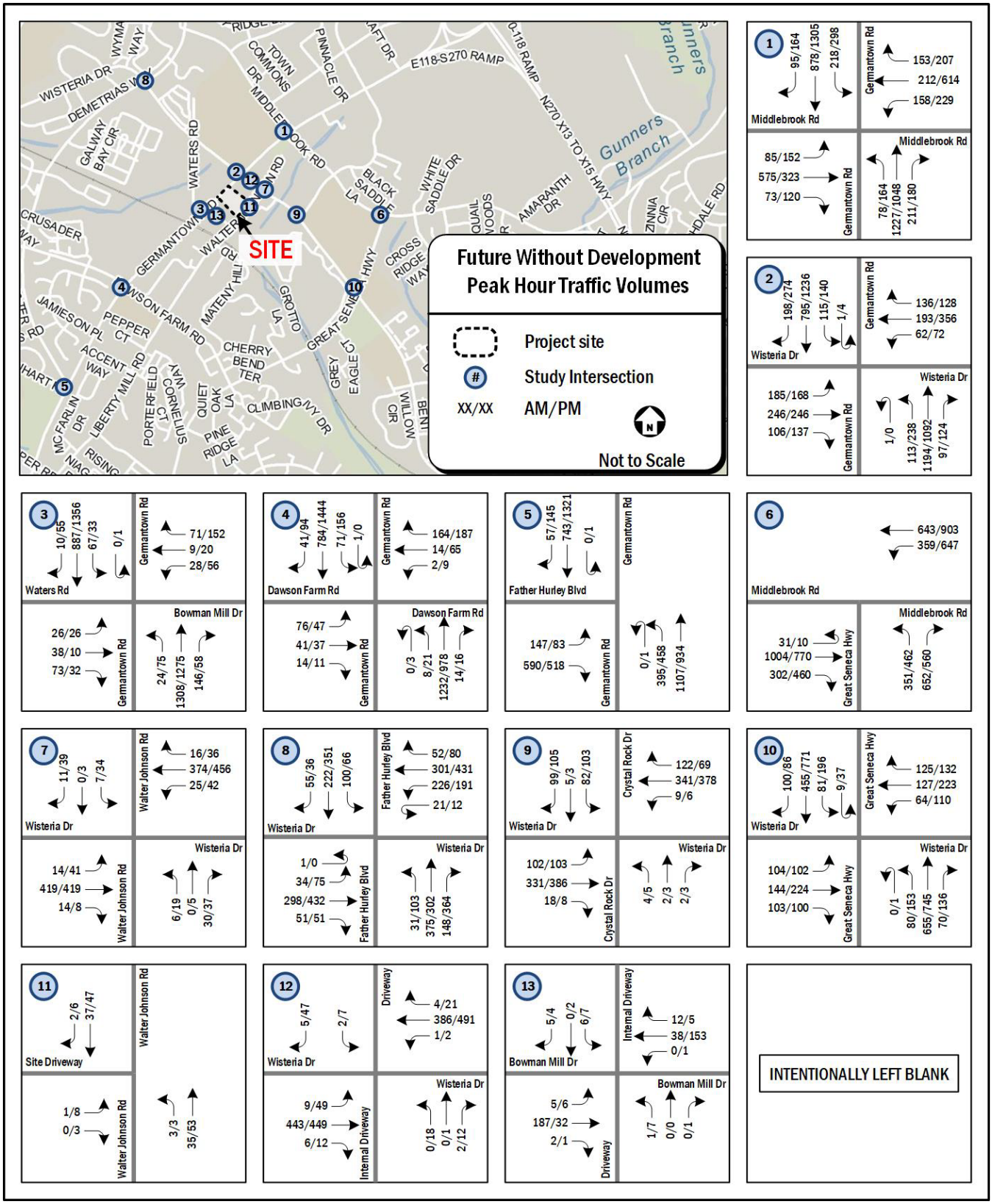


Figure 30: Future without Development Peak Hour Traffic Volumes

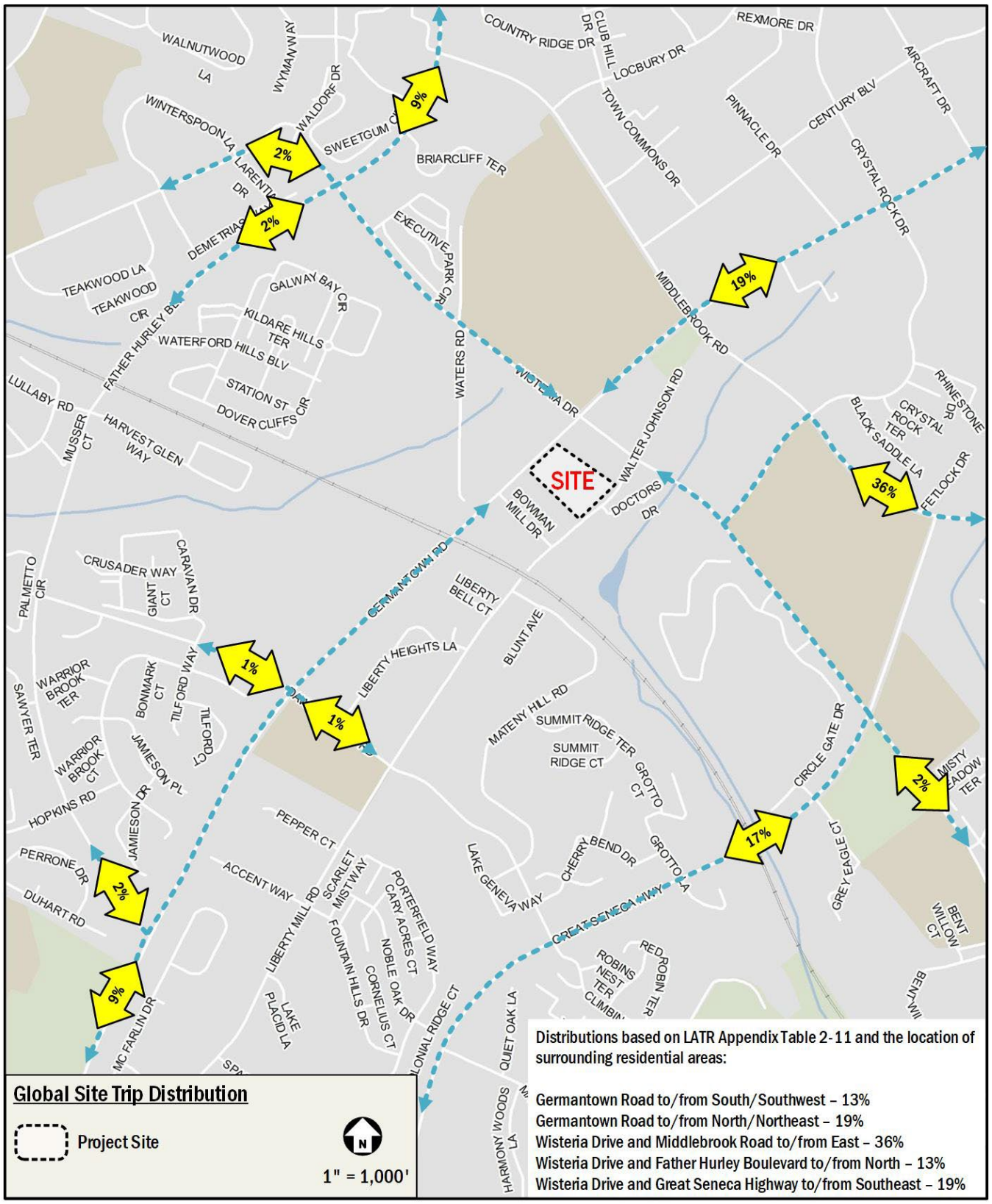


Figure 31: Global Site Trip Distribution

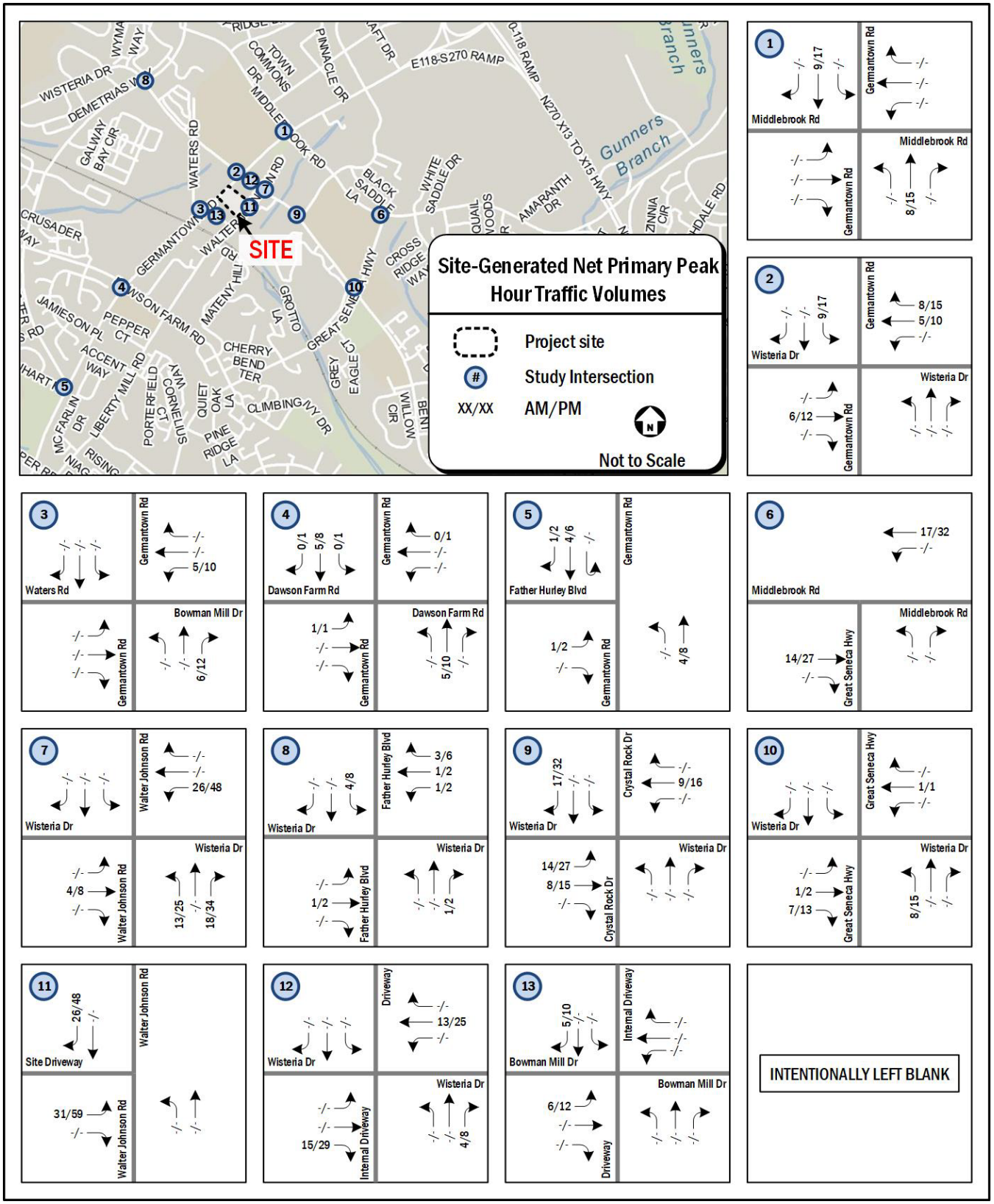


Figure 32: Site-Generated Net Primary Peak Hour Traffic Volumes

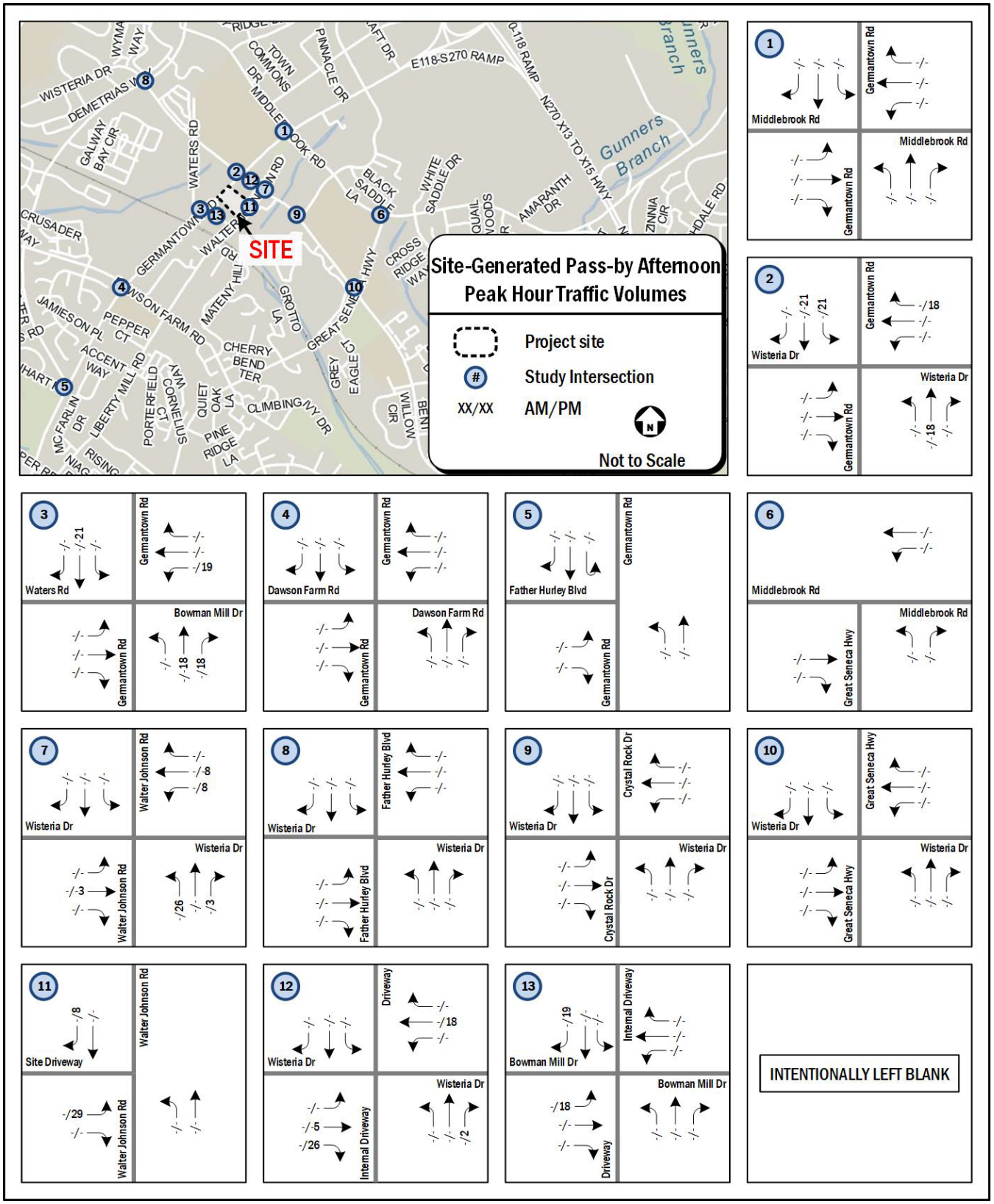


Figure 33: Site-Generated Pass-by Afternoon Peak Hour Traffic Volumes

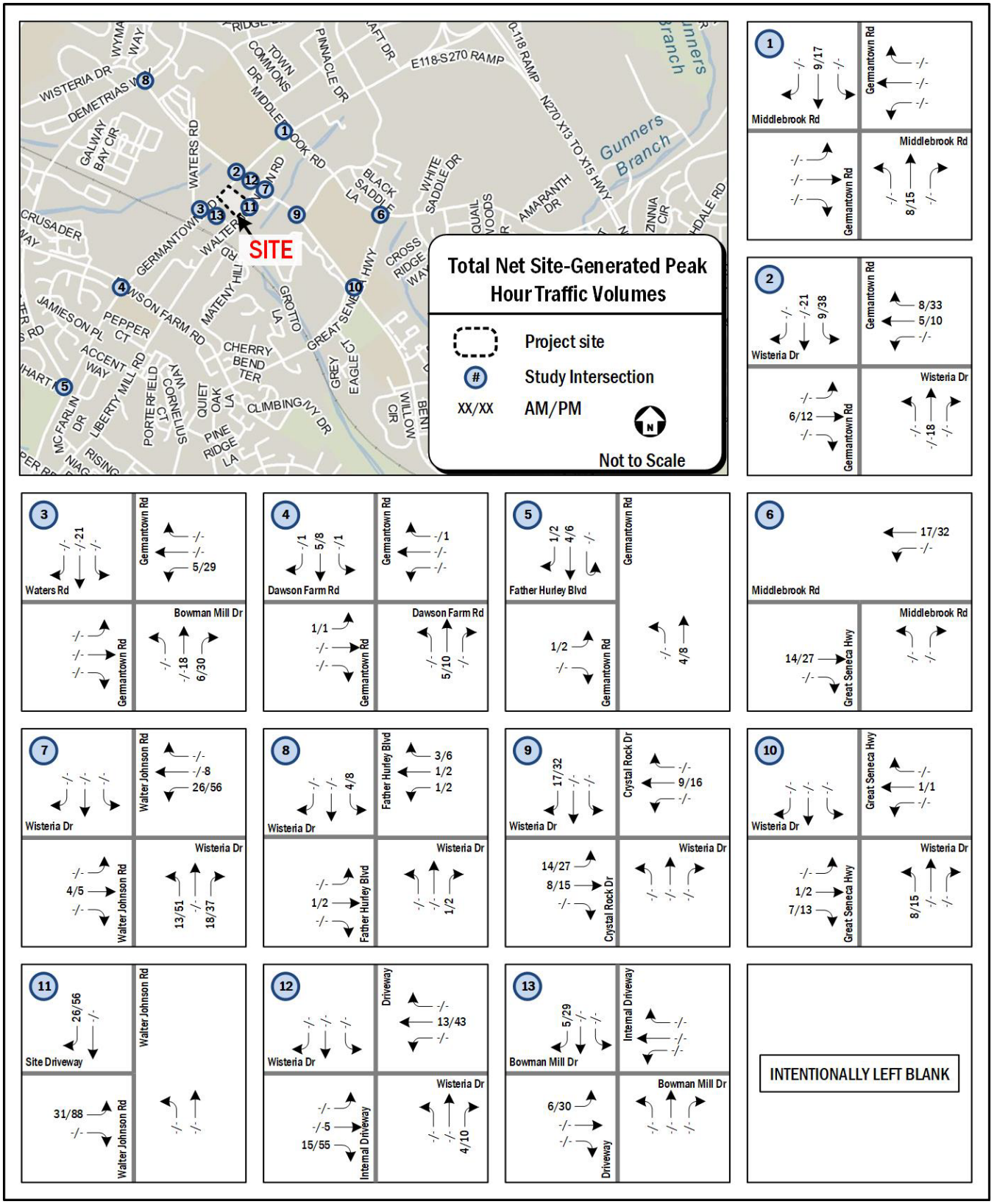


Figure 34: Total Net Site-Generated Peak Hour Traffic Volumes

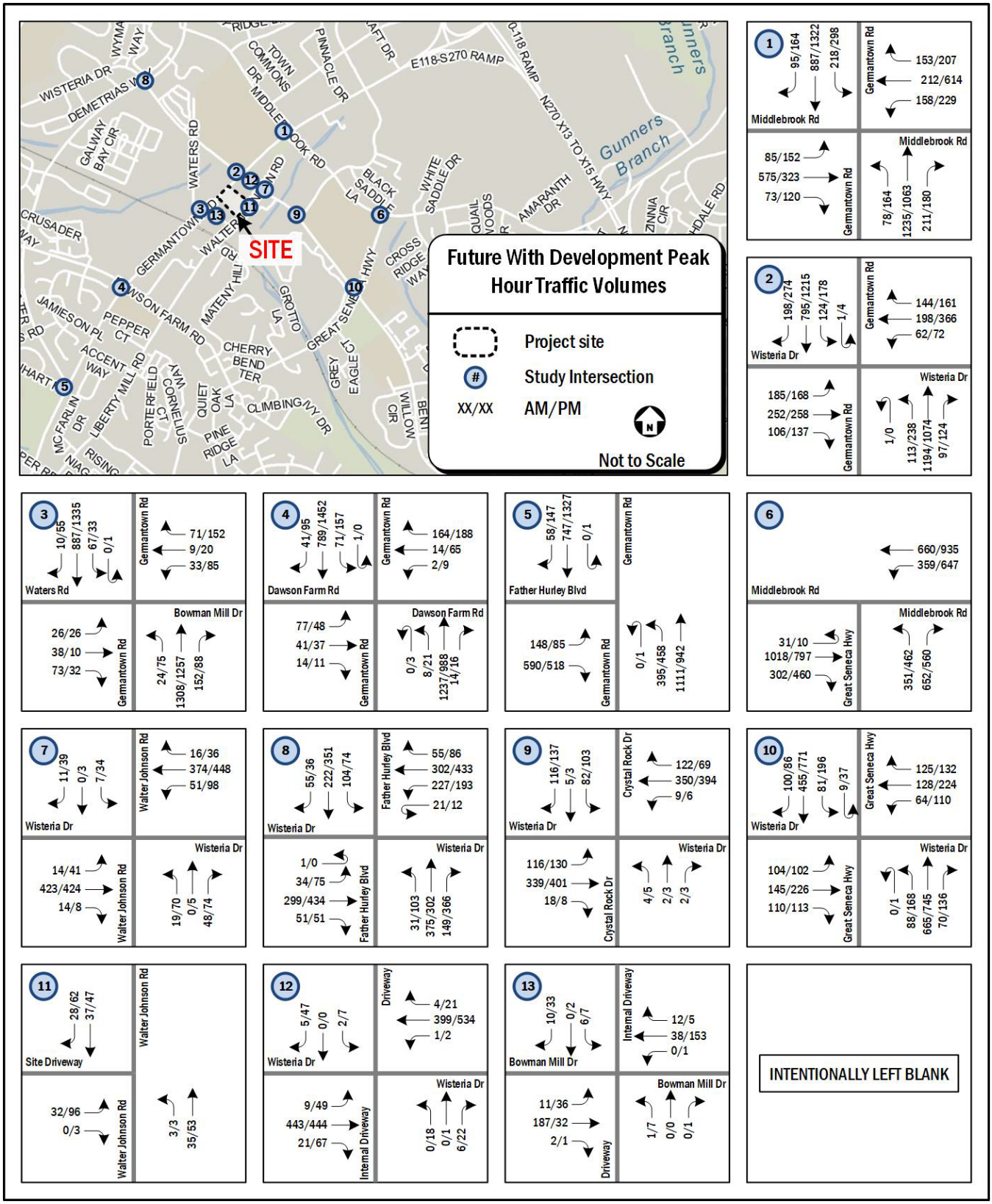


Figure 35: Future with Development Peak Hour Traffic Volumes

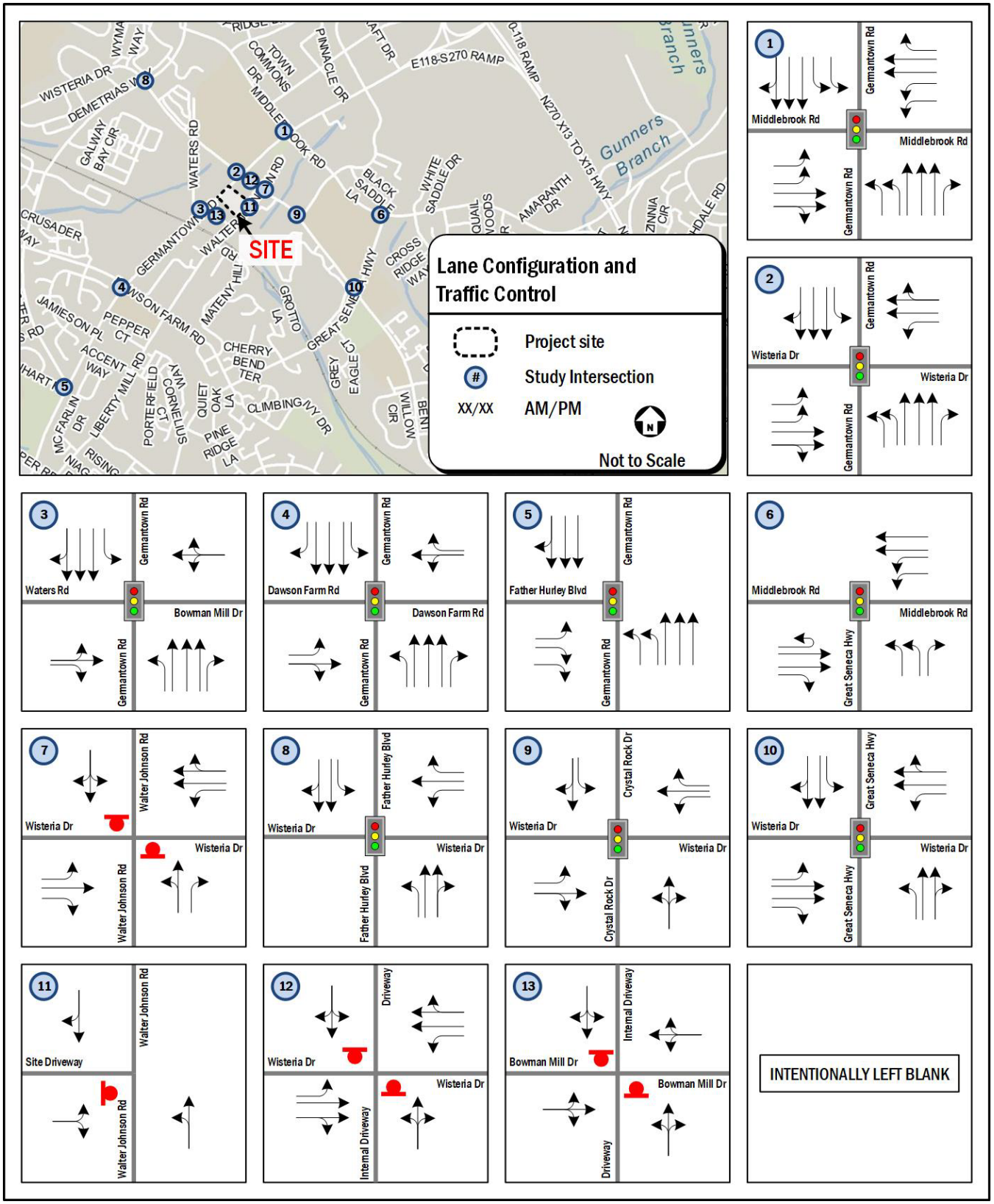


Figure 36: Lane Configuration and Traffic Control

Section 9: Summary and Conclusions

This report concludes that the proposed development will not have a detrimental impact to the surrounding transportation and roadway network assuming that all planned site design elements and proposed mitigation measures are implemented.

Proposed Project

The proposed development will consist of a 30,000 square foot grocery store. The proposed development will provide 121 parking spaces.

The 19430 Walter Johnson Road site is well served by transit and is surrounded by a well-connected pedestrian and expanding bicycle network. The site is located near several major roadways such as Germantown Road, Great Seneca Highway, Middlebrook Road, and Wisteria Drive. These roadways create connections to I-270, the Capital Beltway (I-495), and I-95 making.

Vehicular access to the site will be primarily available off of Walter Johnson Road with additional connections available from Wisteria Drive and Bowman Mill Drive. As part of the project, an internal driveway connection between Wisteria Drive and Bowman Mill Drive will be established to increase east-west connectivity.

The project includes a number of on-site facilities that enhance the surrounding multimodal network such as a 12-foot wide sidepath along the northwest side of Walter Johnson Road and a 10-foot wide sidepath along the Wisteria Drive Germantown Road frontages. The project also includes off-site sidepath facilities along Wisteria Drive, Walter Johnson Road, and Germantown Road that further enhance connectivity in the area. A new sidewalk will also establish a non-vehicular connection between the site and Germantown Road.

Adequacy Determination

As the project generates 136 net person trips during the morning peak hour and 417 net person trips during the afternoon peak hour, a statement is required to determine any required mitigation necessary for adequate operations of each mode.

Motor Vehicle System Adequacy

A capacity analysis was completed to compare the future roadway conditions with and without the proposed development. Based on the results of the HCM and CLV analysis, the project was not found to negatively impact delays at any of the study intersections.

A queueing analysis was also conducted. Queueing analysis results indicate the project does not cause any movement queue lengths to exceed storage capacity and queueing issues are not anticipated as a result of the project. Queue lengths in the future condition with the project were found to be consistent with queues experienced in the background condition.

Per Staff request, a signal warrant study was also conducted at the Walter Johnson Road and Wisteria Drive intersection. Roadway volumes with the project were not found to meet MDOT SHA criteria for signalization.

Based on the conducted analyses, motor vehicle adequacy is satisfied without improvements.

Pedestrian System Adequacy

A review of the existing pedestrian system was conducted in accordance with the LATR Guidelines. The review covered PLOC adequacy, ADA compliance, and streetlighting adequacy.

The applicant proposes to achieve adequacy with a robust pedestrian system improvements package focused on enhancing the pedestrian environment with widened facilities, improved crossings, and curb ramp upgrades along Walter Johnson Road, Wisteria Drive, Germantown Road, and Bowman Mill Drive. The proposed off-site pedestrian improvements were prioritized in close coordination with Staff in accordance with the LATR Proportionality Guide.

Bicycle System Adequacy

An evaluation of the existing bicycle system was conducted in accordance with the LATR Guidelines. The review was based on BLTS adequacy.

The applicant proposes to achieve bicycle system adequacy with the proposed sidepath improvements along Walter Johnson Road, Wisteria Drive, and Germantown Road.

The proposed off-site bicycle network improvements were prioritized in close coordination with Staff in accordance with the LATR Proportionality Guide.

Transit System Adequacy

The transit system adequacy test consisted of evaluating bus stops within a specified distance from the project site. The transit adequacy standard requires a minimum of four (4) bus stops with shelters and RTI displays within 1,500 feet beyond the site frontage. In coordination with Planning Staff and consistent with the LATR Proportionality Guide, these deficiencies were not prioritized for inclusion in project mitigation.

With improved pedestrian and bicycle facilities, transit users will have enhanced connections to transit stops. The proposed off-site improvements include sidepaths for enhanced pedestrian and bicycle connections, high visibility crosswalks, and upgraded curb ramps that facilitate non-auto mobility near the MARC station and surrounding bus stops. Off-site improvements were prioritized in close coordination with Staff in accordance with the LATR Proportionality Guide.

Vision Zero Statement

As part the project's Vision Zero Statement, conditions within a specified distance were evaluated to determine if specific measures are recommended to improve safety conditions around the site.

No safety issues were identified after reviewing the high injury network locations, crash data, conducting a speed study, and assessing the proposing site access and circulation.

Impact Summary and Recommendations

With a robust transportation network improvements package, the project includes significant on-site and off-site transportation improvements to accommodate the multimodal trip generation impacts of the proposed grocery store. These improvements substantially enhance connectivity and access of all forms of transportation in the vicinity of the Lidl Project Site. The proposed improvements are focused along Walter Johnson Road, Germantown Road, and Wisteria Drive, and along the facilities pedestrians and bicyclists are most likely to use to travel to and from the store. The project's transportation network improvements package includes 690 linear feet of off-site improvements that include improved sidewalks/sidepaths, and improved crossings. More specifically the proposed improvements include the following:

- 560 linear feet of pathway improvements to include widened sidewalks
- 90 linear feet of improved crossings to include high visibility crosswalks
- 4 curb ramp improvements to include detectable warning surfaces (approximately 40 linear feet)

The proposed improvements package advances goals identified in the *MARC Rail Communities Sector Plan* and implementation will be closely coordinated with Planning Staff to ensure multimodal adequacy is satisfied.

In addition to the proposed network improvements, the development has many positive elements contained within its design that minimize potential transportation impacts, including:

- Improvements to the pedestrian facilities adjacent to the site that meet or exceed County and ADA requirements.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet zoning requirements.
- Site Layout that enhances the street grid for improved multimodal circulation.

As noted above, this report concludes that **the proposed development will not have a detrimental impact to the surrounding transportation and roadway network** assuming that all planned site design elements and recommended measures are implemented. Furthermore, based the proposed transportation network improvements, **the project will significantly improve pedestrian, bicycle, and transit facilities along Walter Johnson Road and Wisteria Drive resulting in improved multimodal conditions**.

Transportation Technical Attachments

19430 Walter Johnson Road
LATR

Germantown, MD

March 29, 2022

GOROVE SLADE
Transportation Planners and Engineers

CONTENTS

(Note: Click on heading to navigate directly to each section of the Technical Attachments)

A. Scoping Information

B. Off-Site Improvements: 10% Plans and Cost Estimate Assumptions

C. Detailed Trip Generation and Mode Split Information

D. ADA Compliance Curb Ramp Survey Data

E. Speed Study Data

F. Historical Turning Movement Counts

G. 2021 Turning Movement Counts

H. MDOT SHA AADT Data

I. Study Intersection Signal Timing and Phasing Settings

J. Background Developments Trip Generation

K. Existing Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

L. Background Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

M. Total Future Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

N. Signal Warrant Worksheets

A. Scoping Information

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Local Area Transportation Review

TRANSPORTATION IMPACT STUDY SCOPE OF WORK AGREEMENT

Updated Winter 2021

Scoping Approval - Prior to initiating a Local Area Transportation Review study or supplemental traffic study, scoping *must be approved* by relevant agencies, including the Planning Department, the Montgomery County Department of Transportation, and the State Highway Administration (where relevant). It is the responsibility of the Applicant to obtain approval, which is demonstrated below via signature or electronic signature of the relevant agency representatives. Generally, the Applicant should anticipate a turnaround time of ten (10) business days for form review. Substantially large projects may require additional time and/or may warrant a scoping meeting.

Montgomery County Planning Department
Name (print): _____ Signature: _____ Date: _____

Montgomery County Department of Transportation
Name (print): _____ Signature: _____ Date: _____

State Highway Administration (where relevant)
Name (print): _____ Signature: _____ Date: _____

Applicant Contact Information	
Transportation Consultant (company, contact name, email, and phone number)	Katie Wagner, PE, PTOE Gorove/Slade Associates, Inc. klw@goroveslade.com 202-540-1927
Name of Applicant / Developer	Lidl US, LLC Dustin Schade

Project Information	***Include Tables/Graphics, As Needed***			
Project Name (include plan no. if known)	19340 Walter Johnson Road			
Project Location (include address if known)	19430 Walter Johnson Road			
Policy Area(s) (subdivision staging policy map)	15- Germantown Town Center (Orange)	Master Plan(s) / Sector Plan Area(s)	Germantown Master Plan (1989) Germantown Sector Plan (2009) MARC Rail Communities Plan (2019)	
	☑ Preliminary Plan	☑ Site Plan	☐ Sketch/Concept/Pre-Preliminary (Optional)	☐ Amendment

<table>
<tr><td>Application Type(s)</td><td>☐ Conditional Use (formerly special exception)</td><td>☐ Local Map Amendment</td><td>☐ APF at Building Permit</td><td>☐ Other:</td></tr>
<tr><td>Project Description & Previous Approvals

(proposed land uses, zoning, no. of units, square footage, construction phasing, prior approvals and proposals, existing uses, site operations, year built, status of Adequate Public Facilities [APF], other relevant info)</td><td colspan="4">The applicant proposes to redevelop an 15,000 SF existing office (address 12810 Wisteria Drive) building with a 30,000 SF grocer with 112 surface parking spaces.</td></tr>
<tr><td>1.Site Access

(proposed access location(s), existing/adjacent/opposite curb cuts, interparcel connections, access configurations and restrictions, internal circulation, private roads, parking/loading areas, other relevant info)</td><td colspan="4">The project site will remain accessible from an existing curb cut along Walter Johnson Road and an internal driveway accessible from Wisteria Drive. The project will also establish a connection to the driveways serving the commercial buildings bordering the project site to the southwest and northeast.

The internal site driveway will provide southwest-northeast connectivity between Bowman Mill Drive and Wisteria Drive.

Pedestrian access will be available via the site driveway and connections to Walter Johnson Road, Wisteria Drive, and Bowman Mill Drive. A new sidewalk connecting the project site to Germantown Road will also facilitate pedestrian circulation.

Bicycle access will be available from Walter Johnson Road and Wisteria Drive. The project will provide the master planned 12’ side path along Walter Johnson Road as included in the Bike Master Plan.</td></tr>
<tr><td>2.Transportation Analysis Requirement</td><td colspan="2">☑ Transportation Impact Study

Generates <u>50 or more</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>AND</u> is outside of the White Flint and White Oak Policy Areas. Fill out remainder of this form and include in transportation impact study appendix.</td><td colspan="2">☐ Transportation Study Exemption Statement

Generates <u>49 or fewer</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>OR</u> within White Flint and White Oak Policy Areas.</td></tr>
<tr><td>3.Project-based Transportation Demand Management Plan Required (see Chapter 42, Articles I and II)</td><td>☑ No</td><td colspan="2">☐ Yes
(In Transportation Management District [TMD])</td><td>☐ Amend Existing TMAg</td></tr>
<tr><td>4.Established Transportation Management District (TMD)?</td><td>☑ No</td><td colspan="3">☐ Yes TMD Name: _____</td></tr>
</table>

Transportation Impact Study Assumptions *Include Tables/Graphics, As Needed*

5.Study Years / Phases

Existing Year: 2021 | Phases / Build-out Year(s): 2023

6.Study Periods

☑ AM ☑ PM ☐ Mid-day ☐ Saturday ☐ Sunday ☐ Other: _____

7.Study Intersections
(For projects generating 50 or more person trips, list all signalized & significant unsignalized intersections, and site driveways traffic counts **must be collected within 12-months of completed and accepted application**)

# of tiers of intersections to study (refer current LATR Guidelines): 2

For the purpose of determining the number of tiers of study intersections, trip calculation for the subject site should also include nearby unbuilt properties in common ownership. No trip reductions should be taken in this calculation other than a credit for existing developments over 12 years old.

1) Germantown Road and Middlebrook Road (2019 historical data) HCM	7) Wisteria Drive and Walter Johnson Road (Spring 2021 data) HCM
2) Germantown Road and Wisteria Drive (Spring 2021 data) HCM	8) Wisteria Drive and Father Hurley Boulevard (Spring 2021 data) HCM
3) Germantown Road and Bowman Mill Drive/Waters Road (2018 historical data) HCM	9) Wisteria Drive and Crystal Rock Drive (to be provided by MCDOT or conducted at a later date) HCM
4) Germantown Road and Dawson Farm Road (Spring 2021 data) CLV	10) Wisteria Drive and Great Seneca Highway (Spring 2021 data) CLV
5) Germantown Road and Father Hurley Boulevard (2019 historical data) CLV	11) Walter Johnson Road and Site Driveway (Spring 2021 data) HCM
6) Middlebrook Road and Great Seneca Highway (2019 historical data) CLV	attach more rows if necessary

In accordance with M-NCPPC's current interim policy on traffic counts during COVID-19, a modified growth factor based on the past 10-year historical traffic volume data of the surrounding roadways will be applied to the 2018 and 2019 historical count data to establish 2021 volumes and existing roadway conditions. Proposed growth rates are included in the technical attachments. Furthermore, per the current interim policy an adjustment factor of 7% will be applied to volumes before 4:30 PM, collected in the spring of 2021.

8.Trip Generation

(clearly cite sources and methodology including use of average rates vs. equation; include trip generation for existing site, current approvals, proposed uses, and net changes)

Total Person Trips	Vehicle Trips* (Auto Driver)	Transit Trips*	Walking Trips* (non-motorized + transit)	Bicycling Trips* (non-motorized)
New: 139 AM / 417 PM Existing and proposed trip gen. attached	**New: 89 AM / 268 PM** Existing and proposed trip gen. attached	**New: 3 AM / 10 PM** Existing and proposed trip gen. attached	**New: 12 AM / 37 PM** Existing and proposed trip gen. attached	**New: 9 AM / 27 PM** Existing and proposed trip gen. attached

** Only required if total peak hour person trips are 50 or more in either the AM or PM peak hour. Sum of all vehicle, transit, and non-motorized trips shall be the equivalent of total person trips. Use table at the end of the form to show all calculations and assumptions for mode breakout.*

9.Trip Reductions

(include justification and supporting documentation for internal capture, pass-by, diverted, Transportation Demand Management)

PM pass-by reductions to be applied at 36 percent consistent with ITE's Trip Generation Handbook Volume 3.

10.Trip Distribution %

(include a map of the proposed project in addition to a list or table)

Distributions for the development were developed based on Appendix Table 2-11 of the LATR Guidelines and the location of surrounding residential areas.

Germantown Road to/from South/Southwest – 13%
Germantown Road to/from North/Northeast – 19%

	Wisteria Drive and Middlebrook Road to/from East – 36% Wisteria Drive and Father Hurley Boulevard to/from North – 13% Wisteria Drive and Great Seneca Highway to/from Southeast – 19%
11.Pipeline Developments to be considered as background traffic (include name, plan #, land uses, and sizes for approved but unbuilt developments or concurrently pending applications; info can be obtained from the M-NCPPC Pipeline website: - website is updated quarterly)	1. Chestnut Ridge #120120250 – 6,816 SF of Retail 2. Qiagen-Germantown Business Park #119811420 – 84,000 SF of General Office, 59,782 SF of Research and Development Center; 13,918 SF of General Light Industrial 3. Germantown Town Center East #819990010 – 10,567 SF of Retail 4. Chestnut Ridge/Arden Courts of Germantown #120170210 – 30,500 SF, 64 beds/DUs of Assisted Living 5. Century Technology Campus #120020950 – 94,920 SF of General Office 6. Montgomery College Germantown Campus #120160240 – 150,000 SF of Office 7. Seneca Meadows Corporate Center #119980040 – 1,577,000 of General Office; 83,000 SF of Retail 8. College View Campus #120200170 –128 DUs of Multi-Family (Mid-Rise); 43,450 SF of General Office; 5,000 SF of Retail 9. Crystal Rock #120120210 – 334,639 SF of Retail; 1,097,800 SF of General Office 10. Poplar Grove #120190040 – 460,000 SF of Office; 60,000 SF of Retail; 190 DUs of Multi-Family (Low-Rise); 350 DUs of Multi-Family (Mid-Rise) 11. Milestone Industrial #11987271C—28,250 SF of Retail; 485 DUs of Multi-Family (Mid-Rise) 12. Liberty Mill #120040520 – 3 DUs of single-family homes 13. Germantown Estates #120060970 – 15,600 SF of General Office 14. Kingsview Knolls #120030850 – 4 DUs of single-family homes
12.Pipeline Transportation Projects to be considered as background condition (fully funded for construction in County Capital Improvement Program, State Consolidated Transportation Program, developer projects, etc. within the next 6 years)	Per the Bicycle Master Plan, separated bike lanes are planned on the east side of Wisteria Drive. Side paths are proposed on the west side of Wisteria Drive, the west side of Walter Johnson Road, and the west side of Bowman Hill Road. The Bicycle Master Plan also recommends sidepaths on the north side of Germantown Road.
13. Vision Zero Statement	• Trigger: All LATR studies for a site that generates 50 or more weekday peak hour person trips must develop a Vision Zero Statement. • Requirements: The Vision Zero Statement consists of four components: 1. **Review High Injury Network segments:** Document any segments on the High Injury Network (HIN) that are within a certain distance of the site frontage. 2. **Assess proximate safety issues:** Review the crash history for all segments and crossings within a certain distance of the site frontage. 3. **Review traffic speeds:** Conduct speed studies within a certain distance from the site frontage. Speed studies to be done at site frontage on Germantown Road and Walter Johnson Road. 4. **Describe site access:** Address the safety issues identified in steps 1 through 3 and describe how site circulation promotes safety, outlining how safe access will be provided to the site.

	The applicant should refer to the *LATR Guidelines* to determine the applicable scoping distance pertaining to steps 1 through 3 and requirements pertaining to steps 1 through 4.

Preliminary Mitigation Analysis		***Refer to the LATR Guidelines for details on how to mitigate***
14.Vehicular Analysis	☑ Vehicular Analysis Anticipated (Vehicular mitigation to be determined after study)	• TEST: The motor vehicle adequacy test will not be applied in "Red" policy areas and these areas will not be subject to LATR motor vehicle mitigation requirements. If the plan generates 50 or more weekday peak hour person trips, HCM Analysis is required to be provided for all intersections analyzed in studies for: 1) "Orange" policy areas, and 2) intersections with a CLV of more than 1,350 in "Yellow & Green" policy areas. 3) **With the exception of intersections located within "Red" policy areas, CLV analysis required for all intersections regardless of policy area. CLV assessment and signal timing worksheets are to be included in the study appendix.** • MITIGATION: The applicant must mitigate its impact on vehicle delay or down to the applicable policy area standard, whichever is less.
15.Pedestrian Analysis	☑ Pedestrian Mitigation Anticipated	• TEST: If the plan generates 50 or more weekday peak hour person trips, mitigation of surrounding pedestrian conditions is required. MITIGATION: Mitigation consists of three components: (1) **Pedestrian Level of Comfort (PLOC).** Pedestrian system adequacy is defined by providing a "Somewhat Comfortable" or "Very Comfortable PLOC score on streets and intersections for roads classified as Primary Residential or higher within a certain walkshed from the site. (2) **Street Lighting.** The applicant must evaluate existing street lighting based on MCDOT standards along roadways and paths from the development within a certain walkshed from the site frontage. Where standards are not met, the applicant must upgrade the street lighting to meet the applicable standard. (3) **ADA Compliance.** The applicant must fix ADA noncompliance issues within a certain walkshed from the site frontage equivalent to half the walkshed specified in the required scoping distance. The applicant should refer to the *LATR Guidelines* to determine the applicable scoping walkshed distance requirement for each component described above.
16.Bicycle Analysis	☑ Bicycle Mitigation Anticipated	• TEST: If the plan generates 50 or more peak hour weekday person trips mitigation of surrounding bicycle conditions is required • MITIGATION: Required to ensure a low Level of Traffic Stress (LTS-2) on all existing transportation rights-of-way within a certain distance of the site frontage ; Alternatively, the project may provide a master planned improvement that provides an equivalent improvement in the level of traffic stress for cyclists within a certain distance of the site frontage.

		The applicant should refer to the *LATR Guidelines* to determine the applicable scoping distance requirement.
17.Bus Transit Analysis	☑ Transit Mitigation Anticipated	• TEST: If the plan generates 50 or more peak hour person trips mitigation of surrounding transit conditions is required. Projects located within "Green" policy areas are exempt from the bus transit adequacy test. • MITIGATION: Required to ensure that there are bus shelters outfitted with realtime traveler information displays and other standard amenities, along with a safe, efficient, and accessible path between the site and a bus stop, at a certain number of bus stops within a certain distance from the site. The applicant should refer to the *LATR Guidelines* to determine the applicable number of bus stop and scoping distance requirement.
Additional Analysis or Software Required	☑ Queuing Analysis ☐ Signal Warrant Analysis ☐ Weaving/Merge Analysis	☐ Accident Analysis ☑ Synchro ☐ SIDRA
		☐ VISSIM ☐ CORSIM ☐ Other _____

M-NCPPC Clarifications	**Additional Assumptions & Special Circumstances for Discussion**
• **Transportation impact study will comply** with all other requirements of the LATR Guidelines not listed on this form. • **If physical improvements are proposed as mitigation**, the transportation impact study will demonstrate feasibility with regards to right-of-way and utility relocation (at a minimum). • **If the development proposal significantly changes after this transportation impact study** scope has been agreed to, the Applicant will work with M-NCPPC staff to amend the scope to accurately reflect the new proposal. • **A receipt from MCDOT** showing that the transportation impact study review fee has been paid will be provided to M-NCPPC DARC at the time the development application is submitted. • **Minimum of seven paper copies** (more if near the County line or an incorporated City) and two PDF copies of the transportation impact study and appendices will be provided.	As described above and in accordance with M-NCPPC's current interim policy on traffic counts during COVID-19, adjusted historical traffic volumes and adjusted volumes collected in the Spring of 2021 will be used to establish 2021 existing volumes and existing roadway conditions. Growth factors based on the past 10-year historical AADT data of the surrounding roadways will be applied to the 2018 and 2019 historical volumes and a 7% adjustment factor will be applied to volumes collected in 2021 before 4:30 PM. Signal warrant analysis will be done for Wisteria / Walter Johnson Rd.

Trip Generation Summary Comparison								
Land Use	**Size**	**Source**	**AM Peak Hour**			**PM Peak Hour**		
Existing								
Office	15 ksf	LATR Rate Vehicle Trips	11	2	13	3	12	15
		Existing People Trips	16	3	19	4	18	22
		Existing Transit Trips	1	0	1	0	1	1
		Existing Bicycling Trips	1	0	1	0	2	2
		Existing Walking Trips	2	0	2	0	3	3
Proposed								
Supermarket	30 ksf	LATR Rate Vehicle Trips	61	41	102	144	139	283
		Proposed Pass-by Trips	--	--	--	*52*	*50*	*102*
		Total Proposed Vehicle Trips w/ Pass-by Reduction	61	41	102	92	89	181
		Proposed People Trips	95	63	158	223	216	439
		Proposed Transit Trips	2	2	4	6	5	11
		Proposed Bicycling Trips	7	3	10	14	15	29
		Proposed Walking Trips	9	5	14	20	20	40
Net Trip Generation								
		Net Vehicle Trips	50	39	89	141	127	268
		Net People Trips	79	60	139	219	198	417
		Net Transit Trips	1	2	3	6	4	10
		Net Bicycling Trips	6	3	9	14	13	27
		Net Walking Trips	7	5	12	20	17	37

Trip Generation - Existing Office

15kSF Office Building

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	710	15,000 sf	12 veh/hr	2 veh/hr	14 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr
		Calculation Details:	*86%*	*14%*	*=0.94(X/1000)*	*16%*	*84%*	*=1.15(X/1000)*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	91%	11 veh/hr	2 veh/hr	13 veh/hr	3 veh/hr	12 veh/hr	15 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	69.2%	16 ppl/hr	3 ppl/hr	19 ppl/hr	4 ppl/hr	18 ppl/hr	22 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	Auto Driver	69.2%	11 ppl/hr	2 ppl/hr	13 ppl/hr	3 ppl/hr	12 ppl/hr	15 ppl/hr
Office	Auto Passenger	20.4%	3 ppl/hr	1 ppl/hr	4 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr
Office	Transit	4.5%	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Office	Non-Motorized	5.9%	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	11 veh/hr	2 veh/hr	13 veh/hr	3 veh/hr	12 veh/hr	15 veh/hr
Auto Passenger	3 ppl/hr	1 ppl/hr	4 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr
Transit	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Bicycle (Non-motorized)	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr
Walk (Transit and other walk trips)	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	3 ppl/hr	3 ppl/hr

Trip Generation - Retail

30kSF Grocery Store

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	850	30,000 sf	69 veh/hr	46 veh/hr	115 veh/hr	162 veh/hr	156 veh/hr	318 veh/hr	162 veh/hr
		Calculation Details:	*60%*	*40%*	*=3.82(X/1000)*	*51%*	*49%*	*Ln(T)=0.75Ln(X/1000)+3.21*	*=5.45(X/1000)-1.75*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	89%	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	144 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	64.5%	95 ppl/hr	63 ppl/hr	158 ppl/hr	223 ppl/hr	216 ppl/hr	439 ppl/hr	223 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

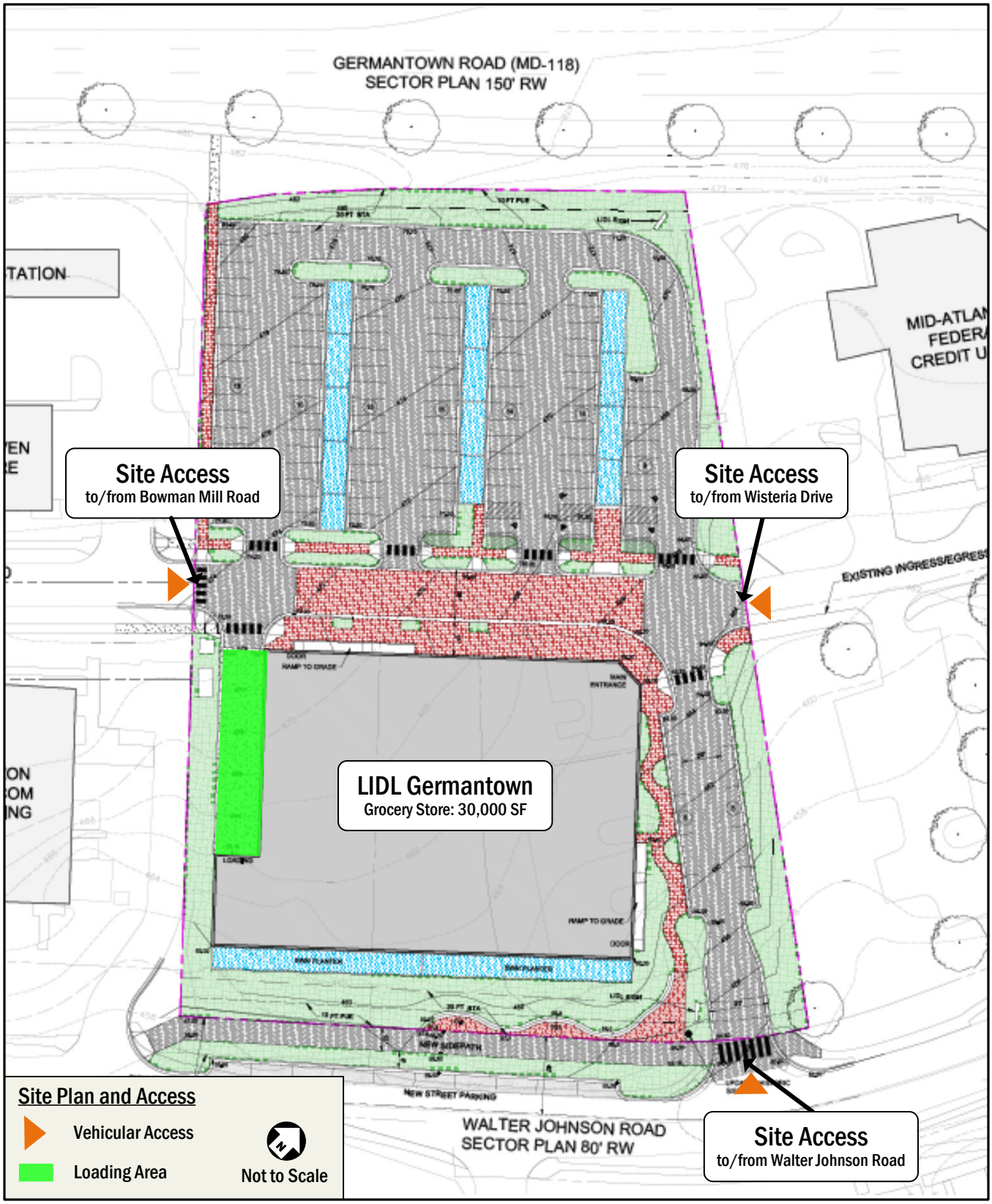
Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	64.5%	61 ppl/hr	41 ppl/hr	102 ppl/hr	144 ppl/hr	139 ppl/hr	283 ppl/hr	144 ppl/hr
Retail	Auto Passenger	26.5%	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	59 ppl/hr
Retail	Transit	2.5%	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	6 ppl/hr
Retail	Non-Motorized	6.5%	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	14 ppl/hr
	Total	100.0%							

Step 5: Apply Pass-By Rate

Land Use	Trip Category	Rate	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Pass-By	AM: 0% / PM: 36%	--	--	--	52 ppl/hr	50 ppl/hr	102 ppl/hr	N/A
Retail	Auto Primary	AM: 100% / PM: 64%	61 ppl/hr	41 ppl/hr	102 ppl/hr	92 ppl/hr	89 ppl/hr	181 ppl/hr	N/A

Trip Gen Summary for Retail

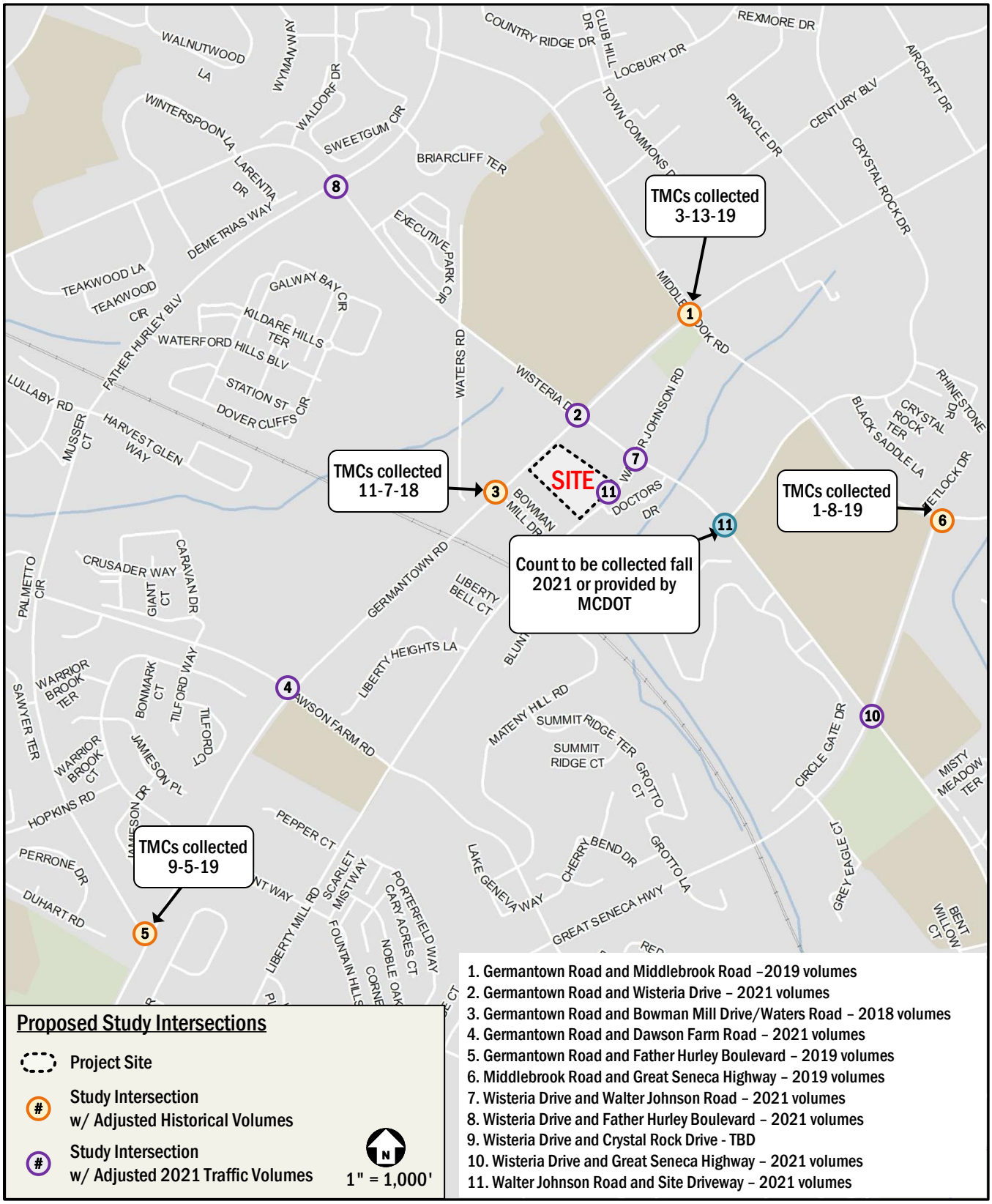
Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	144 veh/hr
Auto Passenger	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	59 ppl/hr
Auto Pass-By	--	--	--	*52 veh/hr*	*50 veh/hr*	*102 veh/hr*	*N/A*
Transit	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	6 ppl/hr
Bicycle (Non-motorized)	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	14 ppl/hr
Walk (Transit and other walk trips)	9 ppl/hr	5 ppl/hr	14 ppl/hr	20 ppl/hr	20 ppl/hr	40 ppl/hr	20 ppl/hr

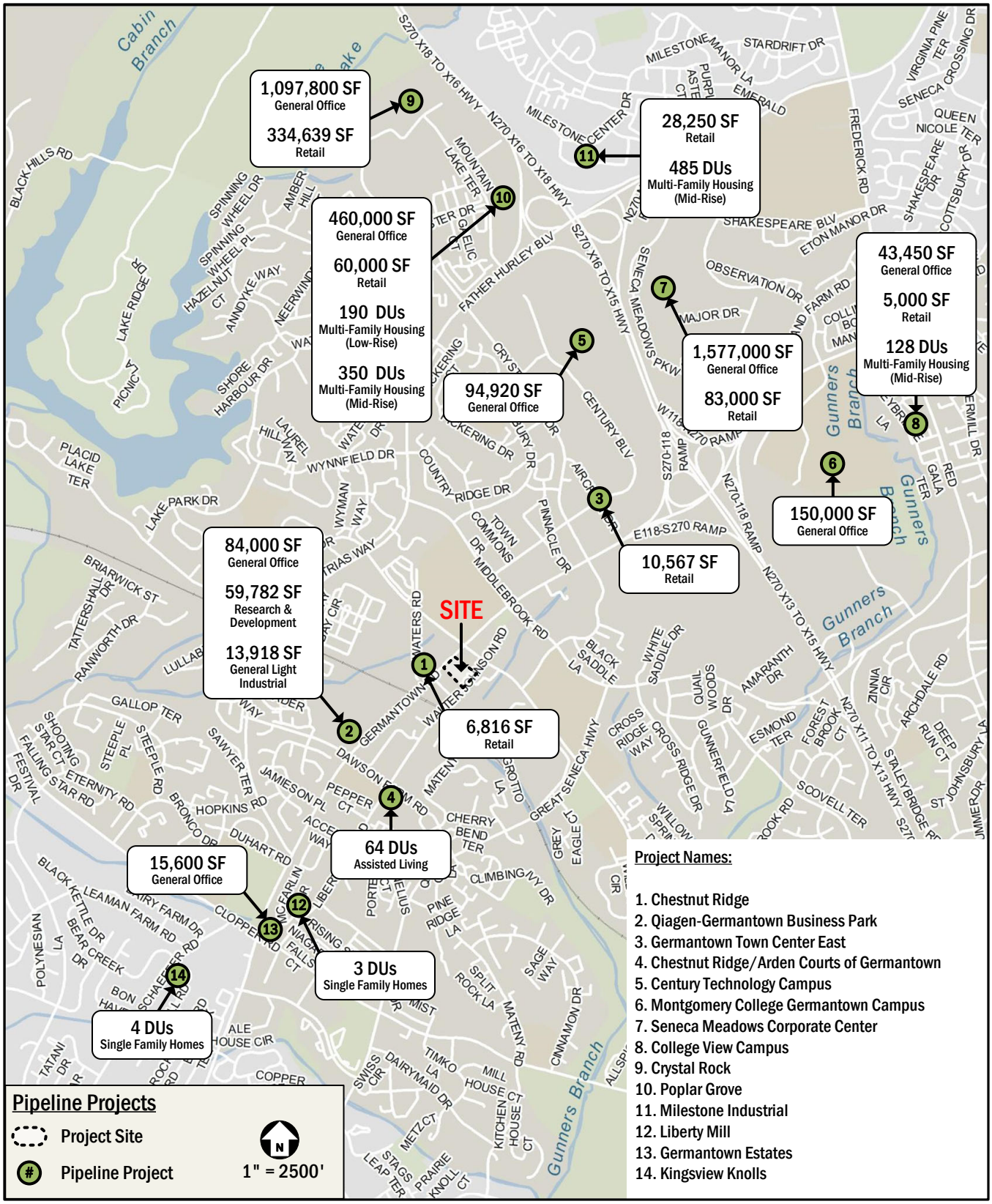

GERMANTOWN ROAD (MD-118)
SECTOR PLAN 150' RW
Site Access
to/from Bowman Mill Road
Site Access
to/from Wisteria Drive
LIDL Germantown
Grocery Store: 30,000 SF
EXISTING INGRESS/EGRESS
WALTER JOHNSON ROAD
SECTOR PLAN 80' RW
Site Access
to/from Walter Johnson Road
Site Plan and Access
Vehicular Access
Loading Area
Not to Scale

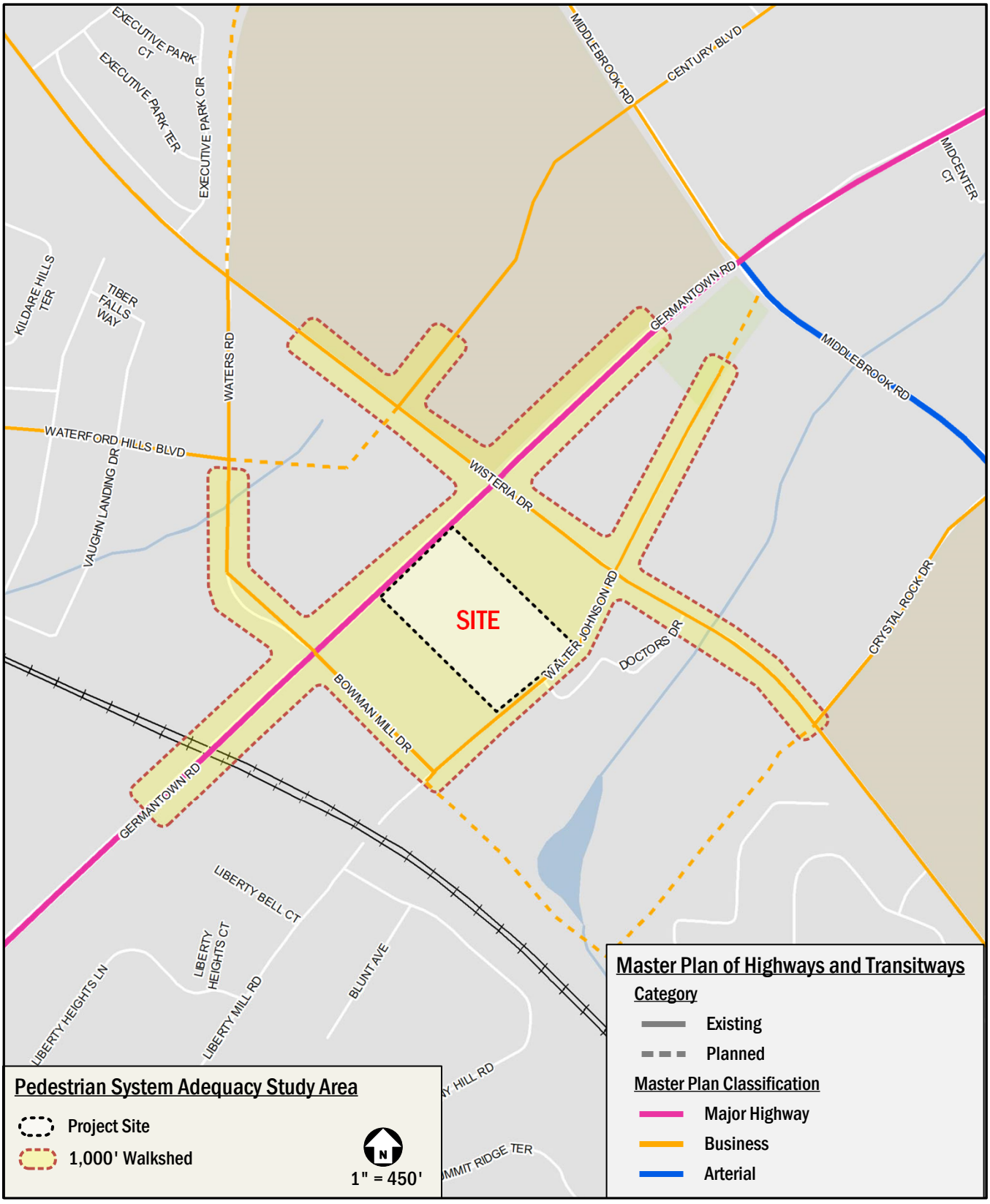
Road	Location	LIDL Germantown; Historical AADT's (Source: Maryland SHA)									Growth Between 2011-2019
		2011	2012	2013	2014	2015	2016	2017	2018	2019	
Middlebrook Road	MD 118 to MD 119 (.1 mi. east of MD 118)	20680	20521	20562	22350	22931	23372	24410	24191	24192	1.3%
Wisteria Drive	MD 118 to MD 119 (.05 mi. west of Walter Johnson Rd.)	11801	11712	12120	12081	12402	12100	12391	12282	12050	0.1%
Father Hurley Boulevard	Dawson Farm Road to MD 118	4542	7710	7731	7712	10080	10271	10522	9170	9171	0.7%
Germantown Road	MD 117 to Father Hurley Boulevard (.1 mi. north of MD 117)	24870	24671	24722	23880	24501	24972	22340	22141	23472	0.3%
Walter Johnson Road	Bowman Mill Drive to Wisteria Drive (.1 mi. north of Mateny Hill Rd.)	891	882	860	861	882	990	1011	1002	1020	2.1%

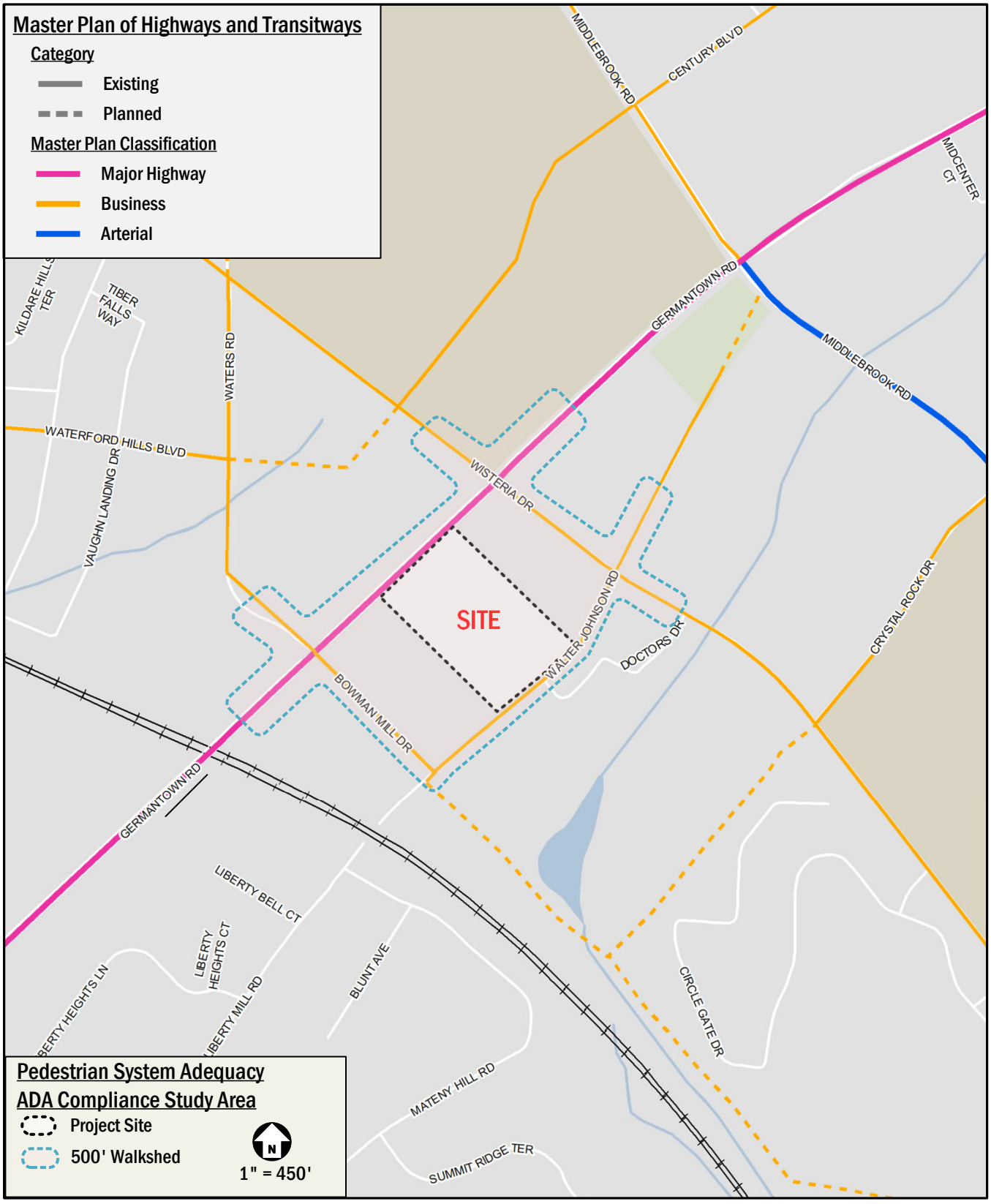
Sources:

Middlebrook Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150014
Wisteria Drive	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150048
Father Hurley Boulevard	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150110
Germantown Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B2768
Walter Johnson Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150047

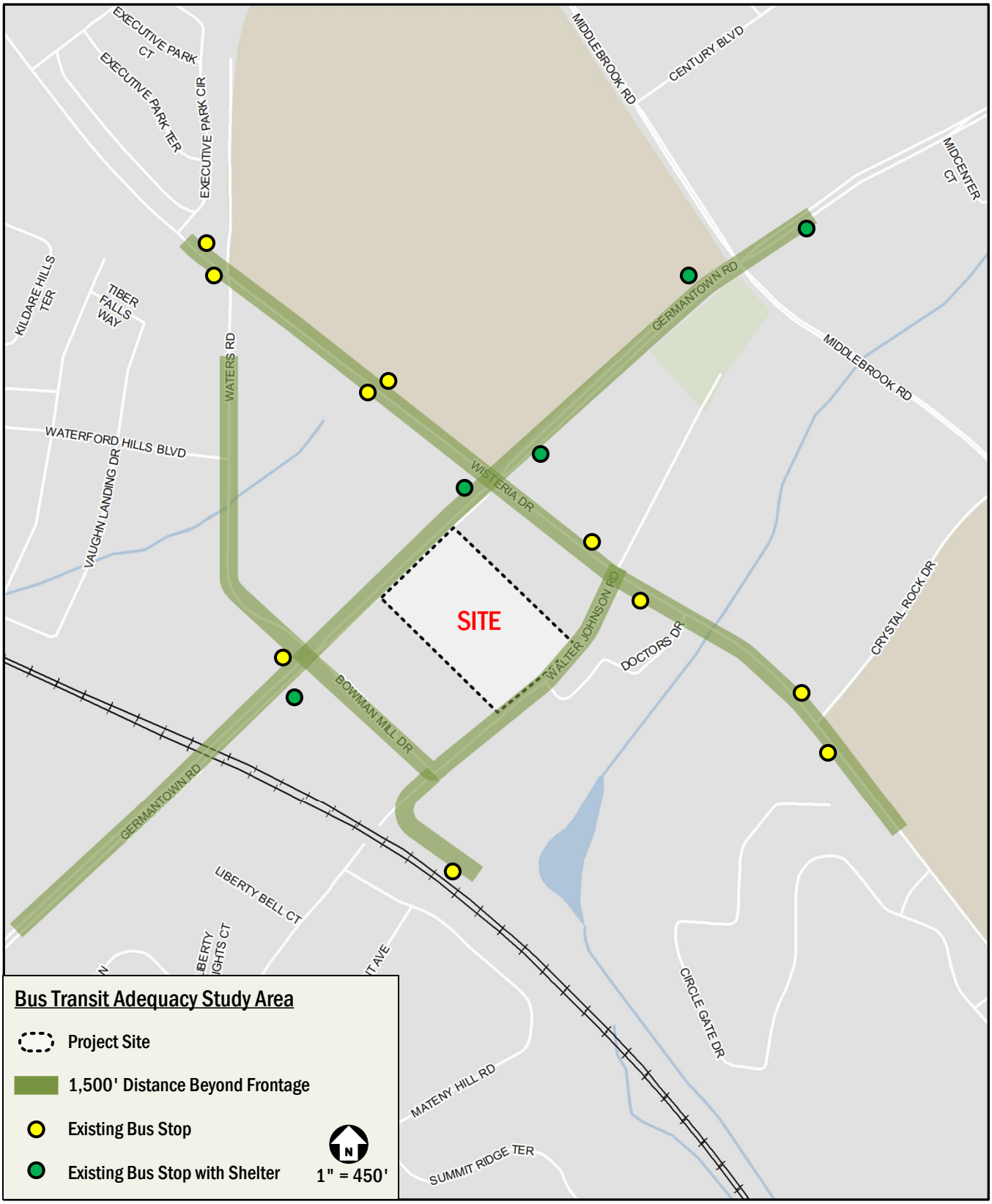

TMCs collected 3-13-19
TMCs collected 11-7-18
TMCs collected 1-8-19
TMCs collected 9-5-19
SITE
Count to be collected fall 2021 or provided by MCDOT
Proposed Study Intersections
Project Site
Study Intersection w/ Adjusted Historical Volumes
Study Intersection w/ Adjusted 2021 Traffic Volumes
1" = 1,000'
1. Germantown Road and Middlebrook Road –2019 volumes
2. Germantown Road and Wisteria Drive – 2021 volumes
3. Germantown Road and Bowman Mill Drive/Waters Road – 2018 volumes
4. Germantown Road and Dawson Farm Road – 2021 volumes
5. Germantown Road and Father Hurley Boulevard – 2019 volumes
6. Middlebrook Road and Great Seneca Highway – 2019 volumes
7. Wisteria Drive and Walter Johnson Road – 2021 volumes
8. Wisteria Drive and Father Hurley Boulevard – 2021 volumes
9. Wisteria Drive and Crystal Rock Drive - TBD
10. Wisteria Drive and Great Seneca Highway – 2021 volumes
11. Walter Johnson Road and Site Driveway – 2021 volumes


1,097,800 SF
General Office
334,639 SF
Retail
9
28,250 SF
Retail
485 DUs
Multi-Family Housing
(Mid-Rise)
11
460,000 SF
General Office
60,000 SF
Retail
190 DUs
Multi-Family Housing
(Low-Rise)
350 DUs
Multi-Family Housing
(Mid-Rise)
10
43,450 SF
General Office
5,000 SF
Retail
128 DUs
Multi-Family Housing
(Mid-Rise)
8
7
1,577,000 SF
General Office
83,000 SF
Retail
94,920 SF
General Office
5
6
150,000 SF
General Office
3
10,567 SF
Retail
84,000 SF
General Office
59,782 SF
Research & Development
13,918 SF
General Light Industrial
SITE
1
2
6,816 SF
Retail
64 DUs
Assisted Living
4
15,600 SF
General Office
12
13
3 DUs
Single Family Homes
14
4 DUs
Single Family Homes
Cabin Branch
Gunners Branch
S270 X18 TO X16 HWY
N270 X16 TO X18 HWY
S270 X16 TO X15 HWY
N270 X13 TO X15 HWY
N270-118 RAMP
S270-118 RAMP
E118-S270 RAMP
MILESTONE CENTER DR
MILESTONE MANOR LA
STARDRIFT DR
FREDERICK RD
SHAKESPEARE BLVD
ETON MANOR DR
OBSERVATION DR
MAJOR DR
FATHER HURLEY BLVD
CENTURY BLVD
SENECA MEADOWS PKWY
MIDDLEBROOK RD
GERMANTOWN RD
WATERS RD
DAWSON FARM RD
GREAT SENECA HWY
CROSS RIDGE DR
GUNNERFIELD LA
SCOVELL TER
CLOPPERHEAD RD
CLIMBING IVY DR
PINE RIDGE LA
SPLIT ROCK LA
MATENY RD
CINNAMON DR
MILL HOUSE CT
KITCHEN HOUSE CT
DAIRYMAID DR
TIMKO LA
SWISS CIR
METZ CT
STAGS LEAP TER
PRAIRIE KNOLL CT
COUNTRY RIDGE DR
WYNNFIELD DR
LAKE PARK DR
PLACID LAKE TER
BLACK HILLS RD
LAKE RIDGE DR
SHORE HARBOUR DR
HOPKINS RD
DUHART RD
BRONCO DR
GALLOP TER
ETERNITY RD
SHOOTING STAR CT
FALLING STAR RD
FESTIVAL DR
STEEPLE PL
STEEPLE RD
SAWYER TER
JAMIESON PL
PEPPER CT
CHERRY BEND TER
GROTTO LA
GREY EAGLE CT
BLACK KETTLE DR
LEAMAN FARM RD
BEAR CREEK DR
POLYNESIAN LA
BRIARWICK ST
TATTERSHALL DR
RANWORTH DR
LULLABY CIR
WYMAN WAY
TOWN COMMONS DR
PINNACLE DR
BLACK SADDLE LA
WHITE SADDLE DR
AMARANTH DR
ESMOND TER
FOREST BROOK CT
ZINNIA CIR
ARCHDALE RD
DEEP RUN CT
ST JOHNSBURY LA
STALEYBRIDGE RD
QUEEN NICOLE TER
SHAKESPEARE DR
COTTSBURY DR
VIRGINIA PINE TER
SENECA CROSSING DR
RED GALA TER
MILL DR
Pipeline Projects
Project Site
Pipeline Project
1" = 2500'
Project Names:
1. Chestnut Ridge
2. Qiagen-Germantown Business Park
3. Germantown Town Center East
4. Chestnut Ridge/Arden Courts of Germantown
5. Century Technology Campus
6. Montgomery College Germantown Campus
7. Seneca Meadows Corporate Center
8. College View Campus
9. Crystal Rock
10. Poplar Grove
11. Milestone Industrial
12. Liberty Mill
13. Germantown Estates
14. Kingsview Knolls


EXECUTIVE PARK CT
EXECUTIVE PARK TER
EXECUTIVE PARK CIR
MIDDLEBROOK RD
CENTURY BLVD
MIDCENTER CT
KILDARE HILLS TER
TIBER FALLS WAY
WATERS RD
GERMANTOWN RD
MIDDLEBROOK RD
WATERFORD HILLS BLVD
VAUGHN LANDING DR
WISTERIA DR
SITE
WALTER JOHNSON RD
DOCTORS DR
CRYSTAL ROCK DR
BOWMAN MILL DR
GERMANTOWN RD
LIBERTY BELL CT
LIBERTY HEIGHTS CT
LIBERTY HEIGHTS LN
LIBERTY MILL RD
BLUNT AVE
Y HILL RD
MMIT RIDGE TER
Pedestrian System Adequacy Study Area
Project Site
1,000' Walkshed
N
1" = 450'
Master Plan of Highways and Transitways
Category
Existing
Planned
Master Plan Classification
Major Highway
Business
Arterial


Master Plan of Highways and Transitways
Category
Existing
Planned
Master Plan Classification
Major Highway
Business
Arterial
MIDDLEBROOK RD
CENTURY BLVD
MIDCENTER CT
GERMANTOWN RD
MIDDLEBROOK RD
KILDARE HILLS TER
TIBER FALLS WAY
WATERS RD
WATERFORD HILLS BLVD
VAUGHN LANDING DR
WISTERIA DR
SITE
WALTER JOHNSON RD
DOCTORS DR
CRYSTAL ROCK DR
BOWMAN MILL DR
GERMANTOWN RD
LIBERTY BELL CT
LIBERTY HEIGHTS CT
LIBERTY HEIGHTS LN
LIBERTY MILL RD
BLUNT AVE
CIRCLE GATE DR
MATENY HILL RD
SUMMIT RIDGE TER
Pedestrian System Adequacy
ADA Compliance Study Area
Project Site
500' Walkshed
N
1" = 450'


EXECUTIVE PARK CT
EXECUTIVE PARK TER
EXECUTIVE PARK CIR
MIDDLEBROOK RD
CENTURY BLVD
MIDCENTER CT
KILDARE HILLS TER
TIBER FALLS WAY
WATERS RD
GERMANTOWN RD
MIDDLEBROOK RD
WATERFORD HILLS BLVD
VAUGHN LANDING DR
WISTERIA DR
SITE
WALTER JOHNSON RD
DOCTORS DR
CRYSTAL ROCK DR
BOWMAN MILL DR
GERMANTOWN RD
LIBERTY BELL CT
LIBERTY HEIGHTS CT
BLUNT AVE
CIRCLE GATE DR
Bicycle Level of Traffic Stress Study Area
Project Site
1,000' Distance Beyond Frontage
N
1" = 450'


EXECUTIVE PARK CT
EXECUTIVE PARK TER
EXECUTIVE PARK CIR
MIDDLEBROOK RD
CENTURY BLVD
MIDCENTER CT
KILDARE HILLS TER
TIBER FALLS WAY
WATERS RD
GERMANTOWN RD
MIDDLEBROOK RD
WATERFORD HILLS BLVD
VAUGHN LANDING DR
WISTERIA DR
SITE
WALTER JOHNSON RD
DOCTORS DR
CRYSTAL ROCK DR
BOWMAN MILL DR
GERMANTOWN RD
LIBERTY BELL CT
CIRCLE GATE DR
MATENY HILL RD
SUMMIT RIDGE TER
Bus Transit Adequacy Study Area
Project Site
1,500' Distance Beyond Frontage
Existing Bus Stop
Existing Bus Stop with Shelter
N
1" = 450'

B. Off-Site Improvements: 10% Plans and Cost Estimate Assumptions

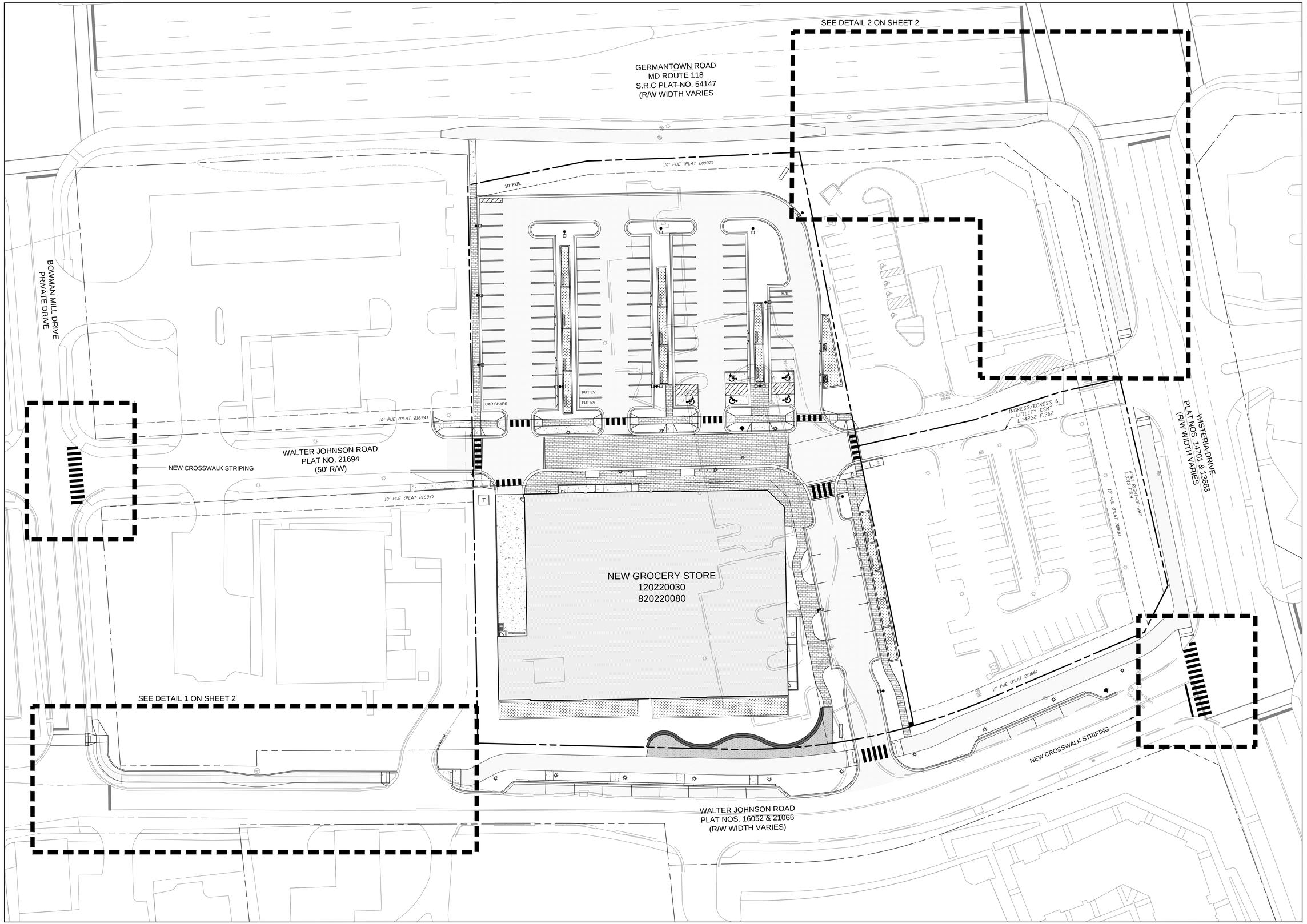
MHG

USER: PGL
JOB #: 1985.136.53
DATE: 03.22.2022

COST ESTIMATE

Lidl Germantown (120220030) - Off-Site Improvements

NO.	ITEM DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1.	Remove & Dispose of Ex. Concrete Sidewalks	2,700	SF	$2.70	$7,290
2.	Earth cut/fill	37	CY	$35.00	$1,295
3.	Aggregate stone base	542	SY	$6.75	$3,659
4.	Asphalt Paving	542	SY	$45.00	$24,390
5.	Concrete curb	250	LF	$26.00	$6,500
6.	Concrete sidewalk	120	SF	$10.00	$1,200
7.	Sidewalk Ramp w/ Detectable Warning Surface	4	EA	$2,500.00	$10,000
8.	Crosswalk Striping	90	LF	$50.00	$4,500
9.	Temporary Traffic Control	1	EA	$5,000.00	$5,000
10.	Sodding	330	SY	$10.00	$3,300
11.	Replacement Street Trees (Walter Johnson Rd)	4	EA	$500.00	$2,000
12.	Permit Fee (15.843975%)	1	EA	$10,953.49	$10,953
13.	Bond Fee (2.5%)	1	EA	$1,728.34	$1,728
14.	Engineering/Surveying	1	EA	$12,000.00	$12,000
		SUBTOTAL			$93,815
	PERCENT	CONTINGENCY	40		$37,526
		ROUND TOTAL			$131,000



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MHG

Civil Engineers
Land Planners
Landscape Architects
Land Surveyors

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Phone: 301.670.0840
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Professional Certification

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the Laws of the State of Maryland. Lic. No. 16905 Exp. Date. 04.21.2024

LIDL US OPERATIONS, LLC
3500 S CLARK STREET
ARLINGTON, VA 22202
PHONE: (703) 851-7492
CONTACT: DANIEL GOODMAN
EMAIL: DANDIEL.GOODMAN@LIDL.US

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 226NW13, 227NW13

PLAT PLATS 20037, 21066 & L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

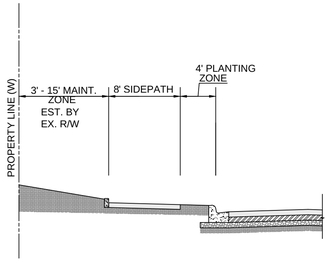
LOT 1 & PART OF LOT 3 WISTERIA BUSINESS PARK & PARCEL P965 L.23973 F.138

PROJ. MGR	PGL
DRAWN BY	PGL
SCALE	1"= 30'
DATE	03.22.2022

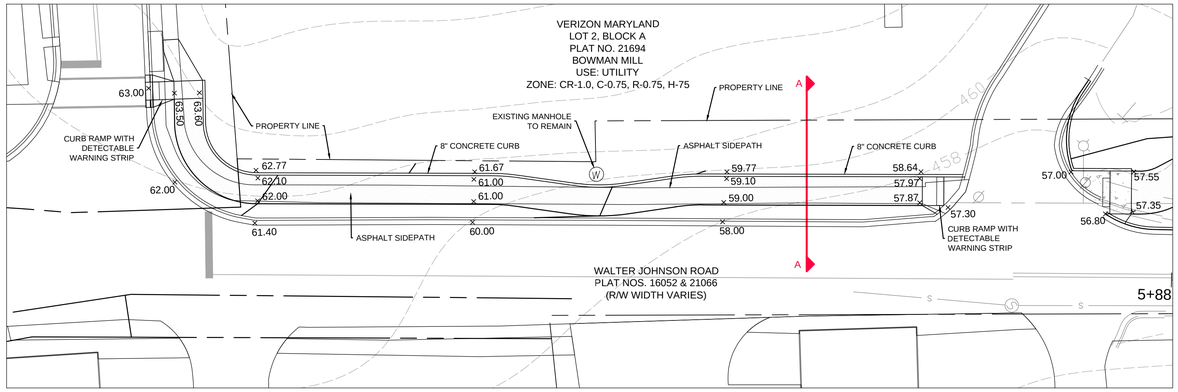
OFF-SITE PEDESTRIAN & BICYCLE IMPROVEMENTS

OVERALL VIEW

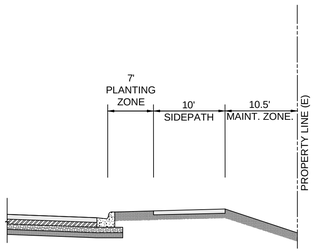
PROJECT NO.	85.136.53
SHEET NO.	1 OF 2



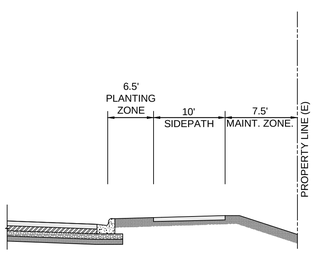
WALTER JOHNSON ROAD (PUBLIC)
TYPICAL SECTION ALONG LOT 2, BLOCK A - SECTION "A - A"



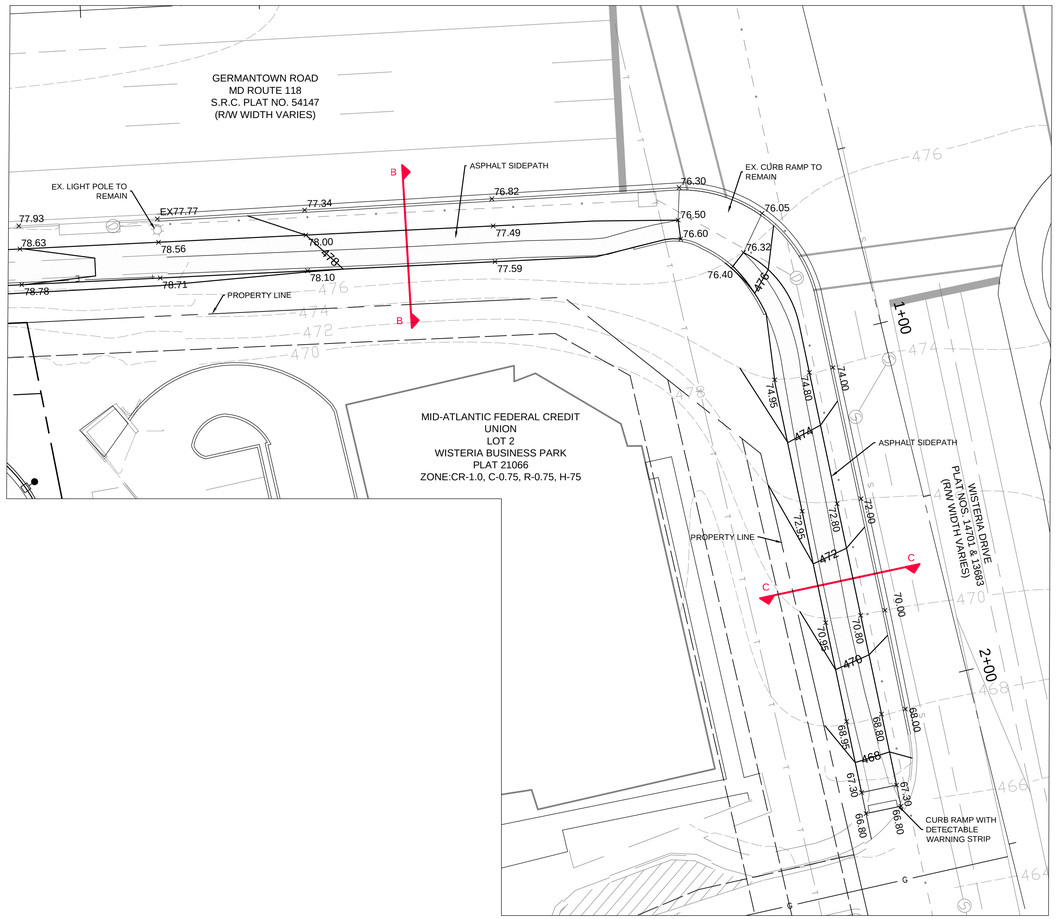
1 / - DETAILED PLAN VIEW ALONG WALTER JOHNSON ROAD - LOT 2, BLOCK A
1" = 20'



GERMANTOWN ROAD (RT. 118) - PUBLIC
TYPICAL SECTION ALONG LOT 2 - SECTION "B - B"



WISTERIA DRIVE (PUBLIC)
TYPICAL SECTION ALONG LOT 2 - SECTION "C - C"



1 / - DETAILED PLAN VIEW ALONG GERMANTOWN ROAD AND WISTERIA DRIVE - LOT 2
1" = 20'

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors

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EMAIL: DANDIEL.GOODMAN@LIDL.US

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 226NW13, 227NW13

PLAT PLATS 20037, 21066 & L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

LOT 1 & PART OF LOT 3 WISTERIA BUSINESS PARK & PARCEL P965 L.23973 F.138

PROJ. MGR	PGL
DRAWN BY	PGL
SCALE	1"= 20'
DATE	03.22.2022

OFF-SITE PEDESTRIAN & BICYCLE IMPROVEMENTS

DETAILED PLAN VIEWS & SECTIONS

PROJECT NO.	85.136.53
SHEET NO.	2 OF 2

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C. Detailed Trip Generation and Mode Split Information

Trip Generation - Existing Office

15kSF Office Building

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	710	15,000 sf	15 veh/hr	2 veh/hr	17 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr
		Calculation Details:	*86%*	*14%*	*=1.16(X/1000)*	*16%*	*84%*	*=1.15(X/1000)*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	91%	14 veh/hr	1 veh/hr	15 veh/hr	3 veh/hr	12 veh/hr	15 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	69.2%	20 ppl/hr	2 ppl/hr	22 ppl/hr	4 ppl/hr	18 ppl/hr	22 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	Auto Driver	69.2%	14 ppl/hr	1 ppl/hr	15 ppl/hr	3 ppl/hr	12 ppl/hr	15 ppl/hr
Office	Auto Passenger	20.4%	4 ppl/hr	0 ppl/hr	4 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr
Office	Transit	4.5%	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Office	Non-Motorized	5.9%	1 ppl/hr	1 ppl/hr	2 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	14 veh/hr	1 veh/hr	15 veh/hr	3 veh/hr	12 veh/hr	15 veh/hr
Auto Passenger	4 ppl/hr	0 ppl/hr	4 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr
Transit	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Bicycle (Non-motorized)	1 ppl/hr	1 ppl/hr	2 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr
Walk (Transit and other walk trips)	2 ppl/hr	1 ppl/hr	3 ppl/hr	0 ppl/hr	3 ppl/hr	3 ppl/hr

Trip Generation - Retail

30kSF Grocery Store

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	850	30,000 sf	69 veh/hr	46 veh/hr	115 veh/hr	162 veh/hr	156 veh/hr	318 veh/hr	162 veh/hr
		Calculation Details:	*60%*	*40%*	*=3.82(X/1000)*	*51%*	*49%*	*Ln(T)=0.75Ln(X/1000)+3.21*	*=5.45(X/1000)-1.75*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	89%	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	144 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	64.5%	95 ppl/hr	63 ppl/hr	158 ppl/hr	223 ppl/hr	216 ppl/hr	439 ppl/hr	223 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	64.5%	61 ppl/hr	41 ppl/hr	102 ppl/hr	144 ppl/hr	139 ppl/hr	283 ppl/hr	144 ppl/hr
Retail	Auto Passenger	26.5%	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	59 ppl/hr
Retail	Transit	2.5%	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	6 ppl/hr
Retail	Non-Motorized	6.5%	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	14 ppl/hr
	Total	100.0%							

Step 5: Apply Pass-By Rate

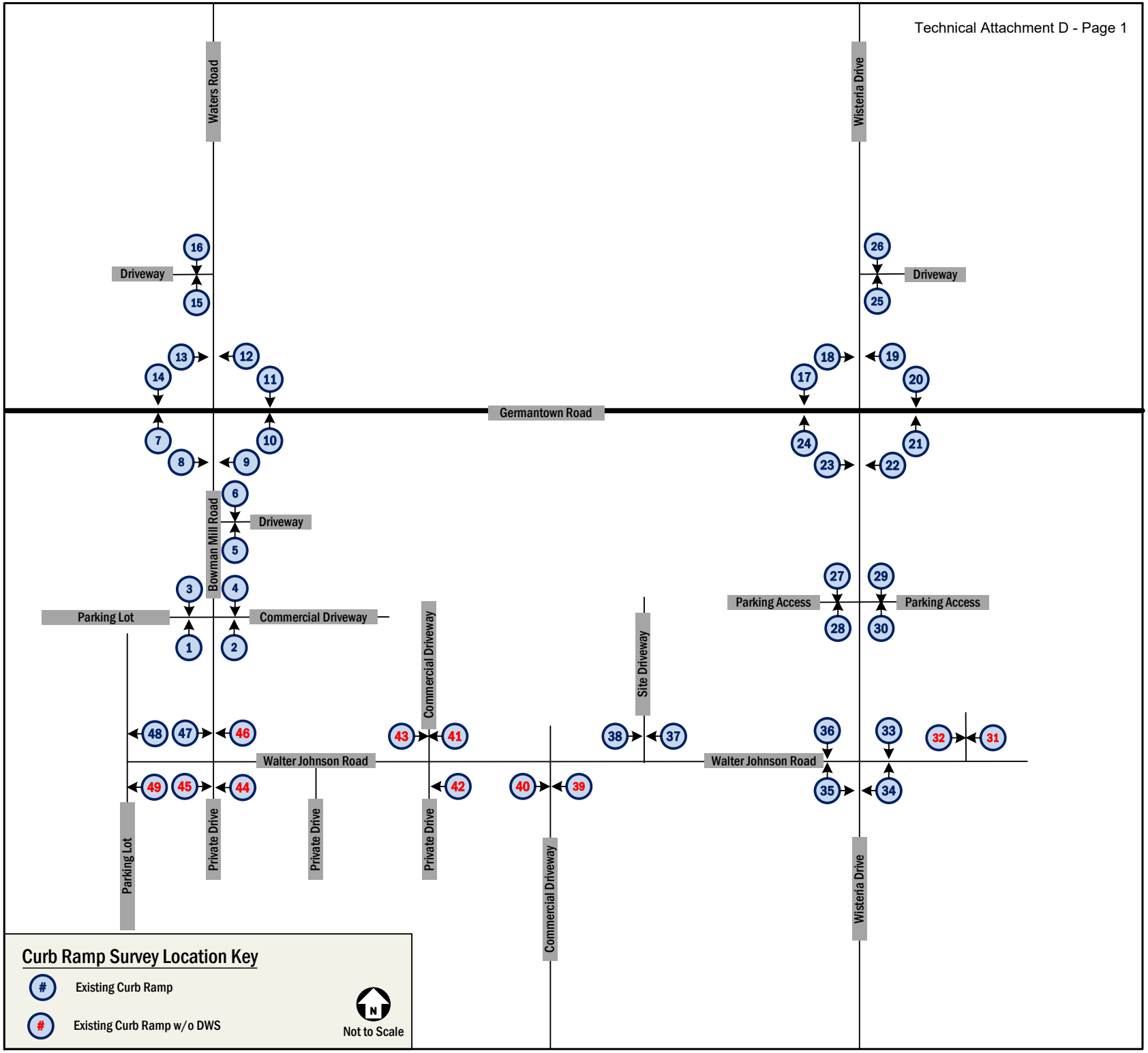
Land Use	Trip Category	Rate	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Pass-By	AM: 0% / PM: 36%	--	--	--	52 ppl/hr	50 ppl/hr	102 ppl/hr	N/A
Retail	Auto Primary	AM: 100% / PM: 64%	61 ppl/hr	41 ppl/hr	102 ppl/hr	92 ppl/hr	89 ppl/hr	181 ppl/hr	N/A

Trip Gen Summary for Retail

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	144 veh/hr
Auto Passenger	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	59 ppl/hr
Auto Pass-By	--	--	--	*52 veh/hr*	*50 veh/hr*	*102 veh/hr*	*N/A*
Transit	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	6 ppl/hr
Bicycle (Non-motorized)	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	14 ppl/hr
Walk (Transit and other walk trips)	9 ppl/hr	5 ppl/hr	14 ppl/hr	20 ppl/hr	20 ppl/hr	40 ppl/hr	20 ppl/hr

Trip Generation Summary Comparison								
Land Use	**Size**	**Source**	**AM Peak Hour**			**PM Peak Hour**		
Existing								
Office	15 ksf	LATR Rate Vehicle Trips	14	1	15	3	12	15
		Existing People Trips	20	2	22	4	18	22
		Existing Transit Trips	1	0	1	0	1	1
		Existing Bicycling Trips	1	1	2	0	2	2
		Existing Walking Trips	2	1	3	0	3	3
Proposed								
Supermarket	30 ksf	LATR Rate Vehicle Trips	61	41	102	144	139	283
		Proposed Pass-by Trips	--	--	--	*52*	*50*	*102*
		Total Proposed Vehicle Trips w/ Pass-by Reduction	61	41	102	92	89	181
		Proposed People Trips	95	63	158	223	216	439
		Proposed Transit Trips	2	2	4	6	5	11
		Proposed Bicycling Trips	7	3	10	14	15	29
		Proposed Walking Trips	9	5	14	20	20	40
Net Trip Generation								
		Net Vehicle Trips	47	40	87	141	127	268
		Net People Trips	75	61	136	219	198	417
		Net Transit Trips	1	2	3	6	4	10
		Net Bicycling Trips	6	2	8	14	13	27
		Net Walking Trips	7	4	11	20	17	37

D. ADA Compliance Curb Ramp Survey Data


Waters Road
Wisteria Drive
Germantown Road
Bowman Mill Road
Driveway
Parking Lot
Commercial Driveway
Parking Access
Site Driveway
Walter Johnson Road
Private Drive
Commercial Driveway
Curb Ramp Survey Location Key
Existing Curb Ramp
Existing Curb Ramp w/o DWS
Not to Scale

Curb Ramps Survey Results

Refer to #	>>> Newest Organization System	Curb Ramp: 1		Curb Ramp: 2		Curb Ramp: 3		Curb Ramp: 4		Curb Ramp: 5		Curb Ramp: 6		Curb Ramp: 7		Curb Ramp: 8		Curb Ramp: 9		Curb Ramp: 10		Curb Ramp: 11		Curb Ramp: 12		Curb Ramp: 13		Curb Ramp: 14		Curb Ramp: 15	
1	Is ramp of CR at least 36" wide (not including flared sides)?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		96"		64"		105"		60"		65"		58"		60"		72"		66"		58"		66"		66"		60"		59"		82"	
2	Does CR have a running slope of 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		1.30%		7.50%		0.60%		%		8.20%		7.20%		1%		1.10%		8%		6.80%		7%		4.70%		%		%		%	
3	Does CR have a cross slope of 2% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		0.40%		7.30%		3.00%		7.00%		5.10%		2.40%		0.10%		1.90%		1.30%		1.90%		0.80%		0.40%		6.80%		7.00%		4.20%	
4	Does CR have a gutter slope of 5% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		1.50%		0.90%		1.40%		2.60%		0.30%		2.40%		1.60%		0.50%		0.30%		3.30%		2.30%		1.00%		0.20%		0.90%		0.30%	
5	Are transitions on and off CR flush and free of abrupt level changes? *Record the height of any level changes.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		N.A.		1/4"		N.A.		N.A.		1/4"		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.	
6	Does CR have detectable warnings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
7	Can CR be blocked by legally parked cars?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
8	Is the sidewalk at the "top" of CR at least 36" wide?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		55"		51"		48"		63"		85"		43"		66"		72"		72"		72"		90"		90"		70"		72"		72"	
9	Does CR have flared sides? *If yes, answer* ***one*** *of the next two questions. If not, skip to question* ***10*** .	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a
9.a	If the sidewalk at the "top" of CR is 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		3.50%		13%		13%		18.20%		10.50%		%		4.20%		1.90%		5.40%		12.80%		8.60%		7.20%		9.60%		8.70%		25.10%	
				22%		4.40%						%				4.90%						7.30%		7.50%		8.90%		%			
9.b	If the sidewalk at the "top" of CR is less than 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		%		%		%		%		%		13.30%		%		%		%		%		%		%		%		%		%	
		%		%		%		%		%		18.90%		%		%		%		%		%		%		%		%		%	
10	If no flared sides, is there an obstruction or grass on each side of CR that discourages pedestrians from traveling across ramp? *If the CR has flared sides, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
11	If CR is built-up to the curb, is it ouside the path of cars? *If CR is not built-up to curb, skip this question.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Answer the last two questions only if the CR is located at a marked crossing:																															
12	Is ramp of CR contained in markings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
13	If corner-type CR, is bottom landing at least 48" long and contained in crosswalk? *If not corner-type CR, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		"		"		"		"		"		"		"		"		"		"		"		"		"		"		"	

Curb Ramps Survey Results

Refer to #	>>> Newest Organization System	Curb Ramp: 16		Curb Ramp: 17		Curb Ramp: 18		Curb Ramp: 19		Curb Ramp: 20		Curb Ramp: 21		Curb Ramp: 22		Curb Ramp: 23		Curb Ramp: 24		Curb Ramp: 25		Curb Ramp: 26		Curb Ramp: 27		Curb Ramp: 28		Curb Ramp: 29		Curb Ramp: 30	
1	Is ramp of CR at least 36" wide (not including flared sides)?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		71"		76"		96"		69"		87"		72"		72"		72"		70"		48"		47"		67"		62"		120"		51"	
2	Does CR have a running slope of 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		%		0%		0.10%		3.10%		4.70%		0.60%		1%		2.30%		0.30%		%		10.20%		12.30%		2.10%		6.80%		2.30%	
3	Does CR have a cross slope of 2% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		3.70%		0%		1.60%		2.40%		0.30%		2.80%		3.50%		4.50%		1.70%		7.00%		3.30%		3.50%		8.20%		0.20%		4.90%	
4	Does CR have a gutter slope of 5% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		0.70%		3.30%		1.90%		3.30%		3.70%		3.10%		2.10%		0.30%		0.70%		2.60%		6.50%		3.10%		4.40%		6.50%		4.90%	
5	Are transitions on and off CR flush and free of abrupt level changes? *Record the height of any level changes.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		N.A.		N.A.		1/4"		N.A.		N.A.		N.A.		N.A.		1/4"		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.	
6	Does CR have detectable warnings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
7	Can CR be blocked by legally parked cars?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
8	Is the sidewalk at the "top" of CR at least 36" wide?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		60"		82"		84"		60"		70"		63"		63"		60"		64"		51"		43"		67"		62"		120"		59"	
9	Does CR have flared sides? *If yes, answer **one** of the next two questions. If not, skip to question **10** .*	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a
9.a	If the sidewalk at the "top" of CR is 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		7.20%		%		%		6.50%		7.20%		8.40%		8.20%		18.40%		11.60%		1.90%		%		%		16.40%		%		11.40%	
				%		%		5.40%				2.80%		4.00%								%		%		11.60%		%		0.20%	
9.b	If the sidewalk at the "top" of CR is less than 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		%		%		%		%		%		%		%		%		%		%		14.90%		%		%		%		%	
		%		%		%		%		%		%		%		%		%		%				%		%		%		%	
10	If no flared sides, is there an obstruction or grass on each side of CR that discourages pedestrians from traveling across ramp? *If the CR has flared sides, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
11	If CR is built-up to the curb, is it ouside the path of cars? *If CR is not built-up to curb, skip this question.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Answer the last two questions only if the CR is located at a marked crossing:																															
12	Is ramp of CR contained in markings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
13	If corner-type CR, is bottom landing at least 48" long and contained in crosswalk? *If not corner-type CR, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		"		"		"		"		"		"		"		"		"		"		"		"		"		"		"	

Curb Ramps Survey Results

Refer to #	>>> Newest Organization System	Curb Ramp: 31		Curb Ramp: 32		Curb Ramp: 33		Curb Ramp: 34		Curb Ramp: 35		Curb Ramp: 36		Curb Ramp: 37		Curb Ramp: 38		Curb Ramp: 39		Curb Ramp: 40		Curb Ramp: 41		Curb Ramp: 42		Curb Ramp: 43		Curb Ramp: 44		Curb Ramp: 45	
1	Is ramp of CR at least 36" wide (not including flared sides)?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		44"		44"		138"		169"		134"		127"		62"		64"		51"		65"		62"		49"		60"		57"		60"	
2	Does CR have a running slope of 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		5.40%		3.70%		1%		1.30%		0.50%		1.00%		8.90%		5.60%		10.30%		7.90%		12.50%		8.20%		11.60%		7.20%		4.40%	
3	Does CR have a cross slope of 2% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		6.80%		4.20%		2.10%		1.70%		0.60%		1.60%		3.80%		2.40%		1.60%		5.80%		7%		4.50%		8.60%		3.00%		0.10%	
4	Does CR have a gutter slope of 5% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		2.60%		4.00%		2.40%		0.60%		2.10%		2.30%		1.30%		6.10%		3.00%		6.10%		11.70%		3.00%		8.60%		3.00%		8.60%	
5	Are transitions on and off CR flush and free of abrupt level changes? *Record the height of any level changes.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		1/4"		N.A.		debris		grass		N.A.		1/4"		1/4"	
6	Does CR have detectable warnings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
7	Can CR be blocked by legally parked cars?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
8	Is the sidewalk at the "top" of CR at least 36" wide?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		53"		54"		80"		66"		45"		71"		60"		76"		70"		72"		60"		68"		88"		57"		60"	
9	Does CR have flared sides? *If yes, answer* ***one*** *of the next two questions. If not, skip to question* ***10*** .	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a	Y	n/a
9.a	If the sidewalk at the "top" of CR is 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		25.80%		29.40%		7%		%		%		4.40%		27.40%		22.40%		19.10%		24.60%		0.20%		9.50%		18.40%		%		%	
								%		%						23.60%		27.50%		11.00%		20.70%		16.20%		30.40%		%		%	
9.b	If the sidewalk at the "top" of CR is less than 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		%		%		%		%		4.50%		%		%		%		%		%		%		%		%		%		%	
		%		%		%		%				%		%		%		%		%		%		%		%		%		%	
10	If no flared sides, is there an obstruction or grass on each side of CR that discourages pedestrians from traveling across ramp? *If the CR has flared sides, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
11	If CR is built-up to the curb, is it ouside the path of cars? *If CR is not built-up to curb, skip this question.*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Answer the last two questions only if the CR is located at a marked crossing:																															
12	Is ramp of CR contained in markings?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
13	If corner-type CR, is bottom landing at least 48" long and contained in crosswalk? *If not corner-type CR, skip this question .*	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
		"		"		"		54"		"		"		"		"		"		"		"		"		"		"		"	

Curb Ramps Survey Results

Refer to #	>>> Newest Organization System	Curb Ramp: 46		Curb Ramp: 47		Curb Ramp: 48		Curb Ramp: 49	
1	Is ramp of CR at least 36" wide (not including flared sides)?	Y	N	Y	N	Y	N	Y	N
		53"		76"		60"		46"	
2	Does CR have a running slope of 8.33% or less?	Y	N	Y	N	Y	N	Y	N
			7.70%		0.70%		6.30%		13.20%
3	Does CR have a cross slope of 2% or less?	Y	N	Y	N	Y	N	Y	N
			10.50%		4.00%		0.50%		5.10%
4	Does CR have a gutter slope of 5% or less?	Y	N	Y	N	Y	N	Y	N
			10.50%		4.00%		7.30%		0.30%
5	Are transitions on and off CR flush and free of abrupt level changes? *Record the height of any level changes.*	Y	N	Y	N	Y	N	Y	N
		N.A.		1/2"		N.A.		N.A.	
6	Does CR have detectable warnings?	Y	N	Y	N	Y	N	Y	N
7	Can CR be blocked by legally parked cars?	Y	N	Y	N	Y	N	Y	N
8	Is the sidewalk at the "top" of CR at least 36" wide?	Y	N	Y	N	Y	N	Y	N
		46"		57"		60"		0	
9	Does CR have flared sides? *If yes, answer **one** of the next two questions. If not, skip to question **10** .*	Y	n/a	Y	n/a	Y	n/a	Y	n/a
9.a	If the sidewalk at the "top" of CR is 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N
			20.50%	%			13.50%	%	
			14.90%	%			12.60%	%	
9.b	If the sidewalk at the "top" of CR is less than 48" wide, is the slope of the flared sides 8.33% or less?	Y	N	Y	N	Y	N	Y	N
		%		%		%		%	
		%		%		%		%	
10	If no flared sides, is there an obstruction or grass on each side of CR that discourages pedestrians from traveling across ramp? *If the CR has flared sides, skip this question .*	Y	N	Y	N	Y	N	Y	N
11	If CR is built-up to the curb, is it ouside the path of cars? *If CR is not built-up to curb, skip this question.*	Y	N	Y	N	Y	N	Y	N
Answer the last two questions only if the CR is located at a marked crossing:									
12	Is ramp of CR contained in markings?	Y	N	Y	N	Y	N	Y	N
13	If corner-type CR, is bottom landing at least 48" long and contained in crosswalk? *If not corner-type CR, skip this question .*	Y	N	Y	N	Y	N	Y	N
		"		"		"		"	

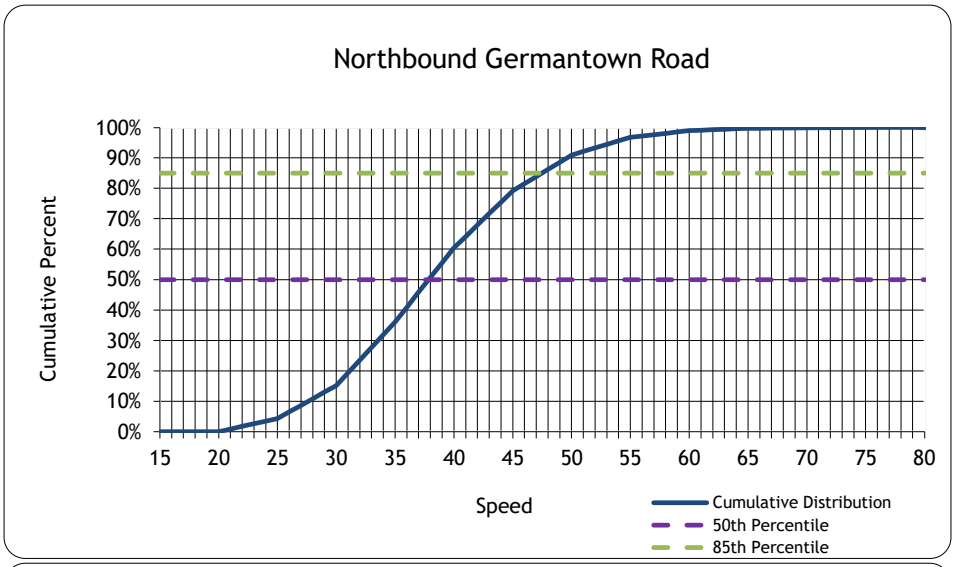
E. Speed Study Data

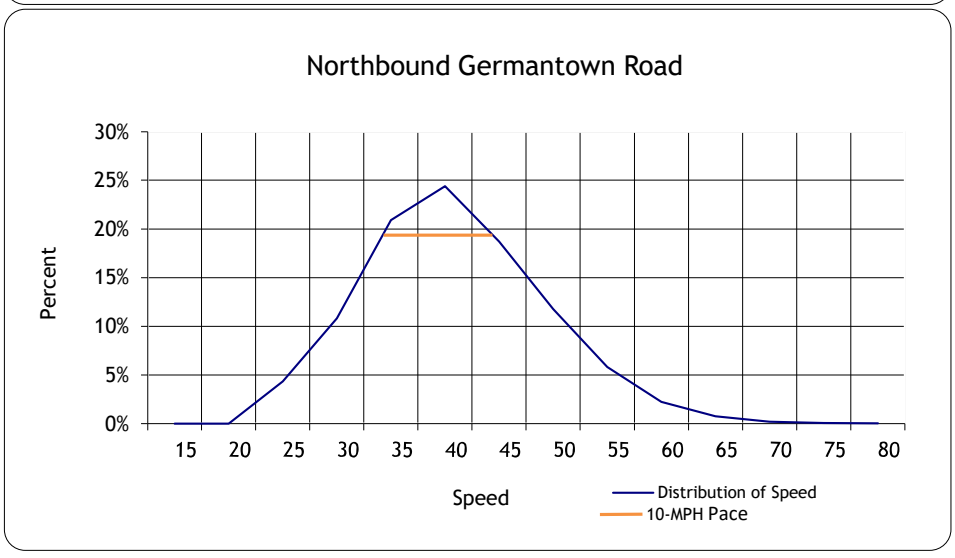
Speed Survey

Street :	Germantown Road
Capture Zone :	Principal Arterial - Other (Major Highway)
Counted By:	Gorove Slade
Posted Speed Limit :	40 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/14/2021
Day :	Tuesday
Time Range :	24 hours
Direction :	Northbound

Lowest Recorded Speed	: 25	mph	**15th Percentile :**	30.00	mph
Highest Recorded Speed	: > 75	mph	**50th Percentile :**	38.00	mph
Average Speed	: 41	mph	**85th Percentile :**	47	mph
Vehicles Observed	: 12020		**95th Percentile :**	54.00	mph

SPEED	COUNT	PERCENT
15	0	0%
20	0	0%
25	520	4%
30	1301	11%
35	2512	21%
40	2933	24%
45	2250	19%
50	1413	12%
55	699	6%
60	268	2%
65	89	1%
70	24	0%
75	9	0%
80	2	0%





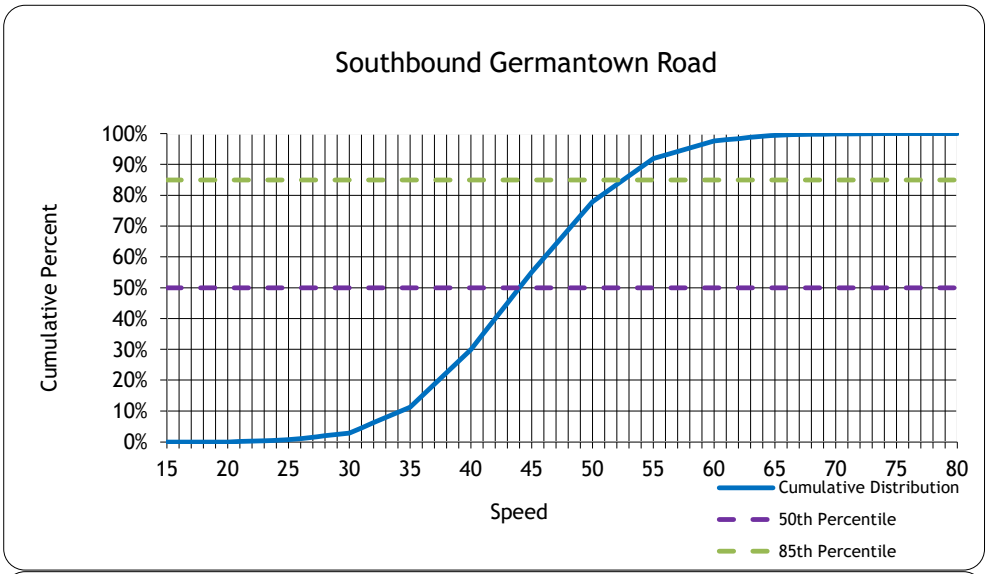
Total Vehicles 12020

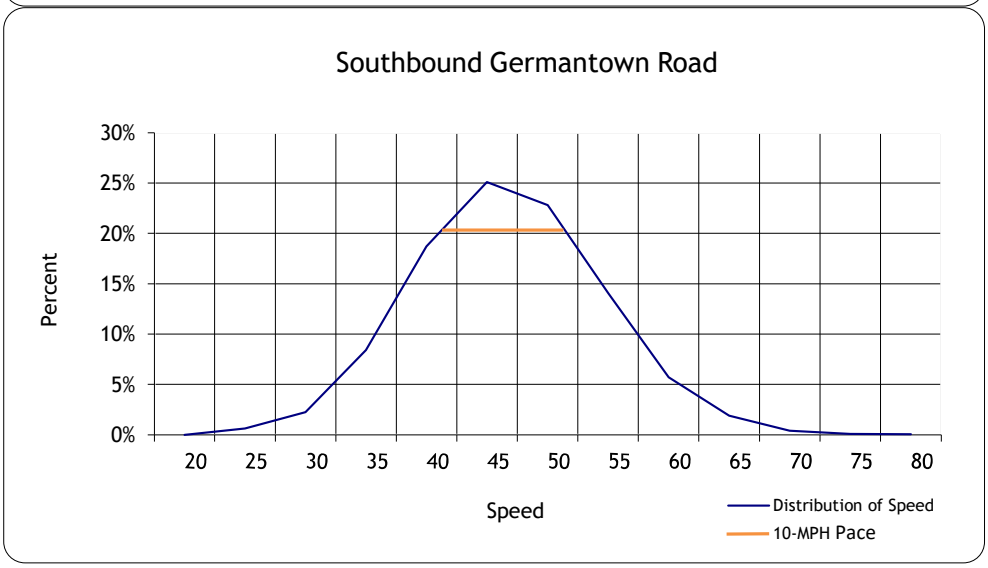
Speed Survey

Street :	Germantown Road
Capture Zone :	Principal Arterial - Other (Major Highway)
Counted By:	Gorove Slade
Posted Speed Limit :	40 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/14/2021
Day :	Tuesday
Time Range :	24 hours
Direction :	Southbound

Lowest Recorded Speed	: 25	mph	**15th Percentile :**	36.00	mph
Highest Recorded Speed	: > 75	mph	**50th Percentile :**	44.00	mph
Average Speed	: 47	mph	**85th Percentile :**	53	mph
Vehicles Observed	: 12635		**95th Percentile :**	58.00	mph

SPEED	COUNT	PERCENT
15	0	0%
20	0	0%
25	77	1%
30	282	2%
35	1062	8%
40	2362	19%
45	3173	25%
50	2881	23%
55	1776	14%
60	721	6%
65	240	2%
70	50	0%
75	8	0%
80	3	0%





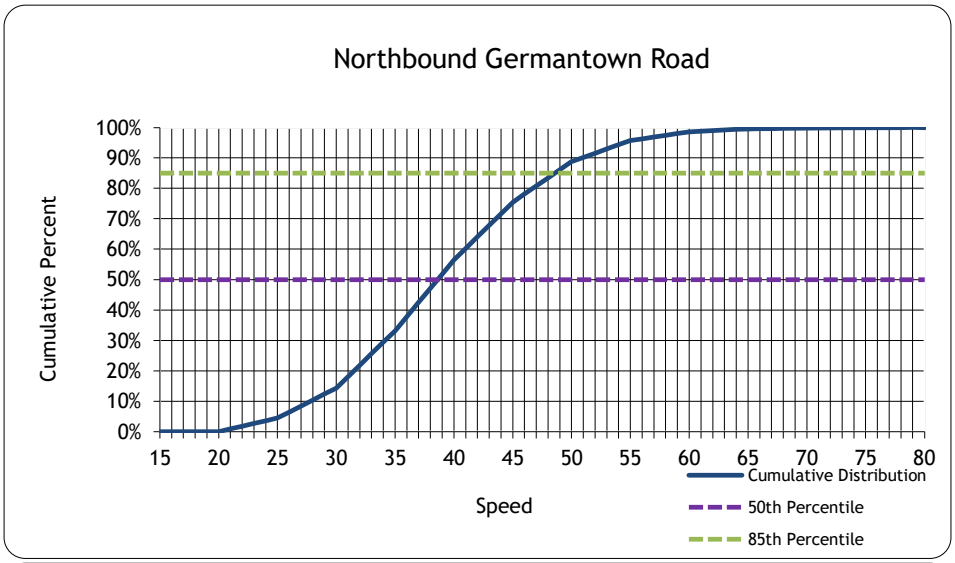
Total Vehicles 12635

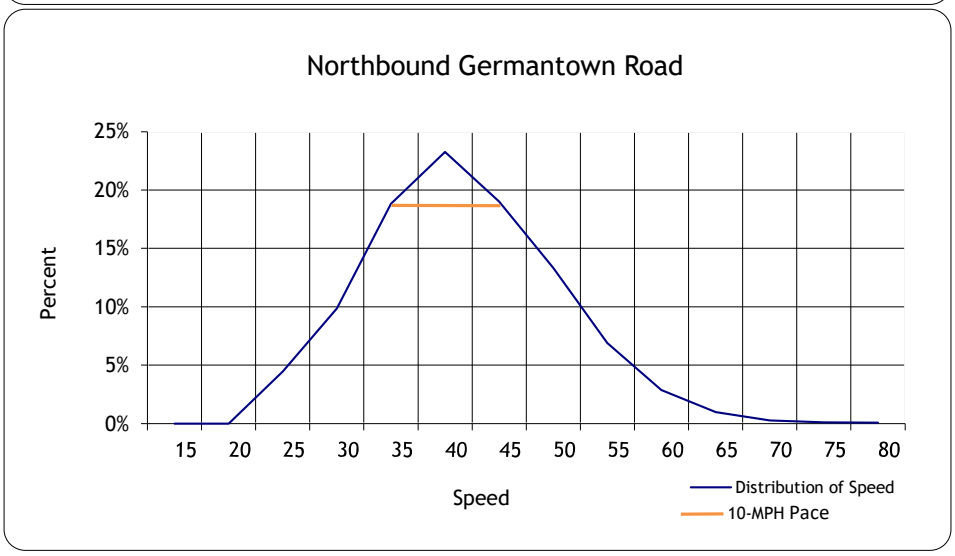
Speed Survey

Street :	Germantown Road
Capture Zone :	Principal Arterial - Other (Major Highway)
Counted By:	Gorove Slade
Posted Speed Limit :	40 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/15/2021
Day :	Wednesday
Time Range :	24 hours
Direction :	Northbound

Lowest Recorded Speed	: 25	mph	**15th Percentile :**	30.00	mph
Highest Recorded Speed	: > 75	mph	**50th Percentile :**	39.00	mph
Average Speed	: 42	mph	**85th Percentile :**	49	mph
Vehicles Observed	: 12098		**95th Percentile :**	54.00	mph

SPEED	COUNT	PERCENT
15	0	0%
20	0	0%
25	541	4%
30	1192	10%
35	2278	19%
40	2816	23%
45	2300	19%
50	1615	13%
55	836	7%
60	347	3%
65	118	1%
70	32	0%
75	12	0%
80	11	0%





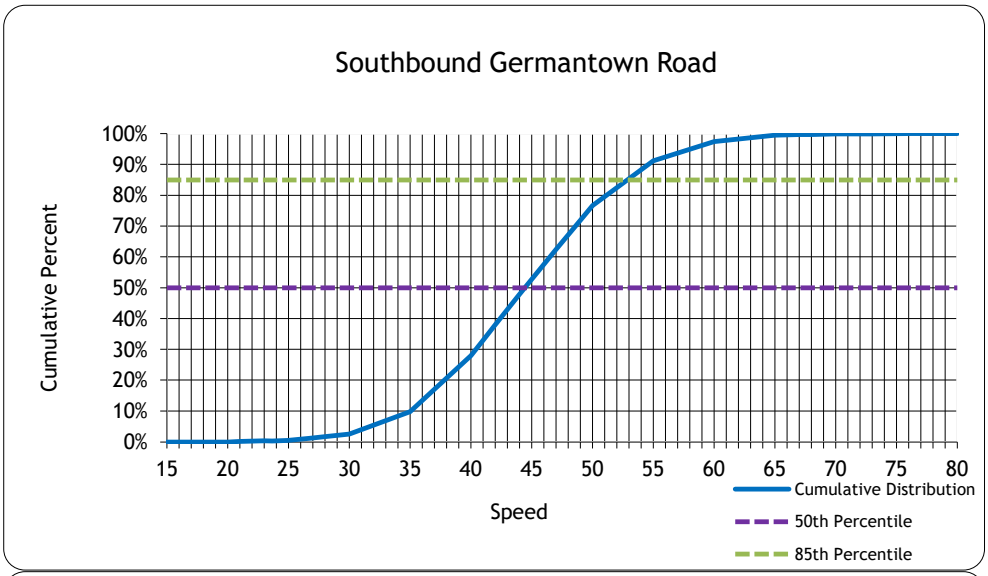
Total Vehicles 12098

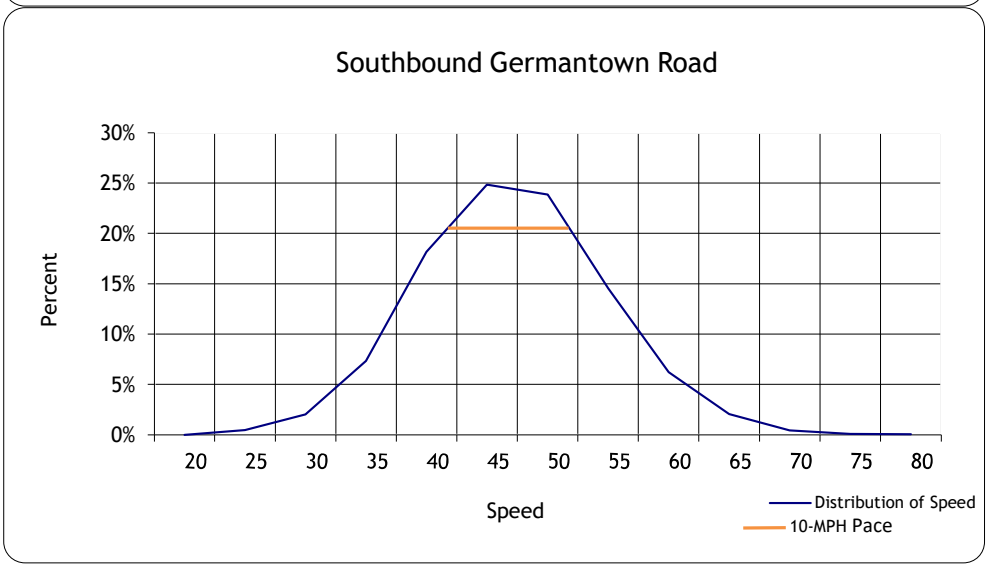
Speed Survey

Street :	Germantown Road
Capture Zone :	Principal Arterial - Other (Major Highway)
Counted By:	Gorove Slade
Posted Speed Limit :	40 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/15/2021
Day :	Wednesday
Time Range :	24 hours
Direction :	Southbound

Lowest Recorded Speed	: 25	mph	**15th Percentile :**	36.00	mph
Highest Recorded Speed	: > 75	mph	**50th Percentile :**	44.00	mph
Average Speed	: 47	mph	**85th Percentile :**	53	mph
Vehicles Observed	: 12643		**95th Percentile :**	58.00	mph

SPEED	COUNT	PERCENT
15	0	0%
20	0	0%
25	57	0%
30	254	2%
35	925	7%
40	2298	18%
45	3143	25%
50	3016	24%
55	1839	15%
60	785	6%
65	258	2%
70	53	0%
75	9	0%
80	6	0%





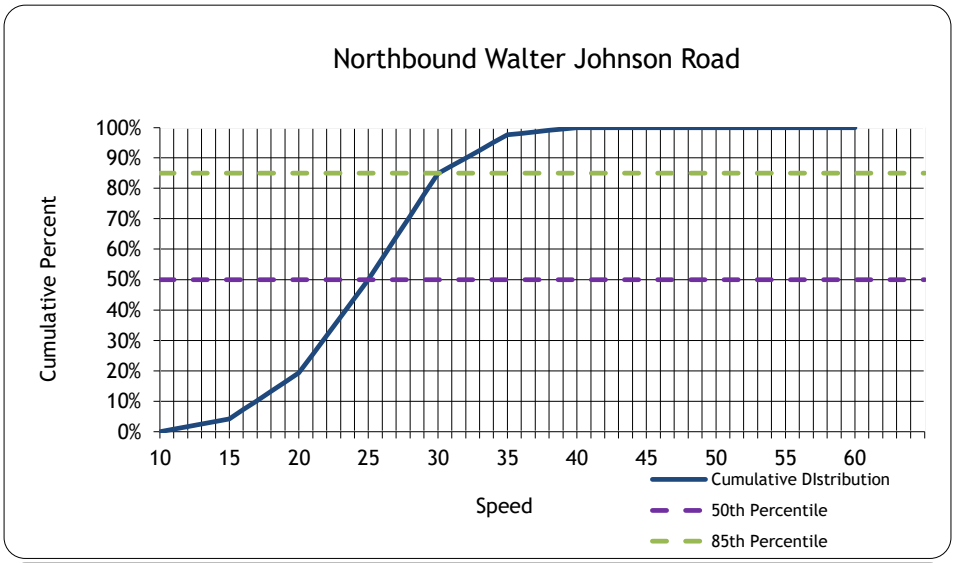
Total Vehicles 12643

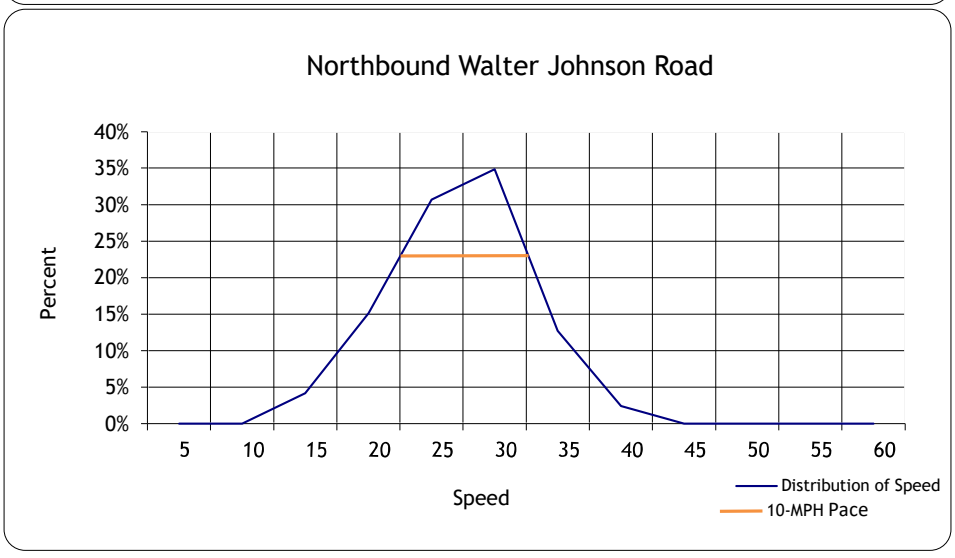
Speed Survey

Street :	Walter Johnson Road
Capture Zone :	Local (Business)
Counted By:	Gorove Slade
Posted Speed Limit :	30 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/14/2021
Day :	Tuesday
Time Range :	24 hours
Direction :	Northbound

Lowest Recorded Speed :	15	mph	**15th Percentile :**	19.00	mph
Highest Recorded Speed :	60	mph	**50th Percentile :**	25.00	mph
Average Speed :	27	mph	**85th Percentile :**	30	mph
Vehicles Observed :	456		**95th Percentile :**	34.00	mph

SPEED	COUNT	PERCENT
5	0	0%
10	0	0%
15	19	4%
20	69	15%
25	140	31%
30	159	35%
35	58	13%
40	11	2%
45	0	0%
50	0	0%
55	0	0%
60	0	0%





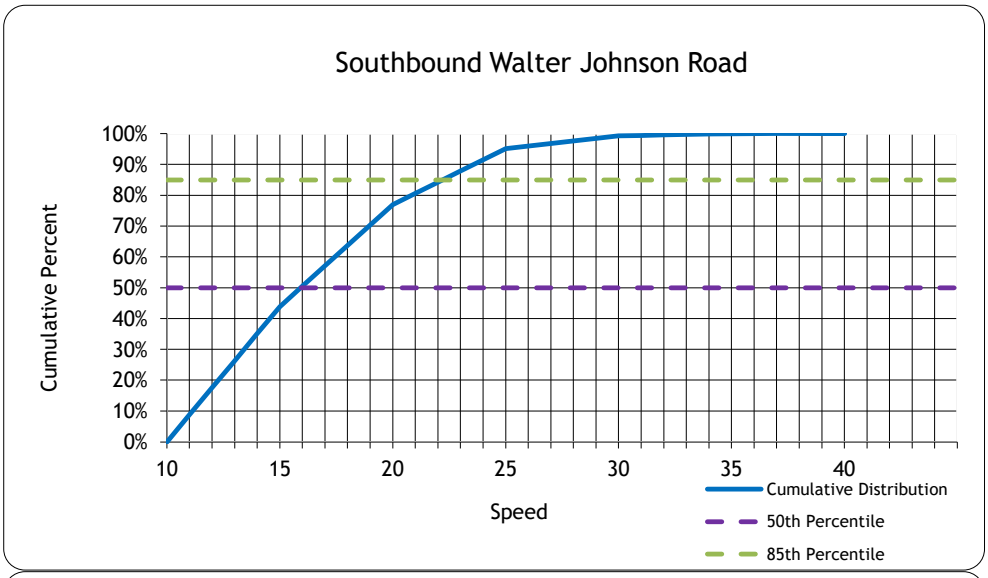
Total Vehicles 456

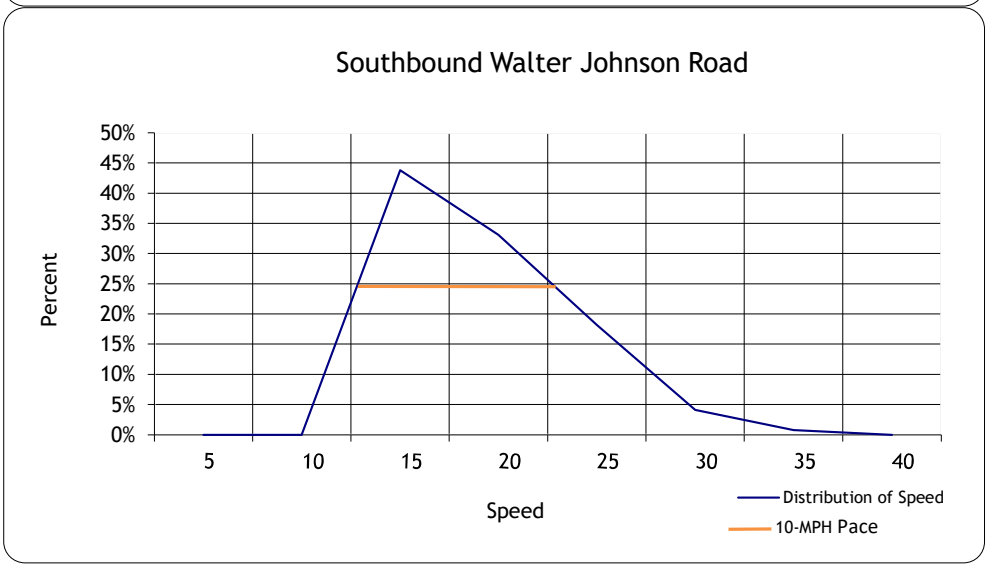
Speed Survey

Street :	Walter Johnson Road
Capture Zone :	Local (Business)
Counted By:	Gorove Slade
Posted Speed Limit :	30 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/14/2021
Day :	Tuesday
Time Range :	24 hours
Direction :	Southbound

Lowest Recorded Speed :	15	mph	**15th Percentile :**	12.00	mph
Highest Recorded Speed :	40	mph	**50th Percentile :**	16.00	mph
Average Speed :	19	mph	**85th Percentile :**	22	mph
Vehicles Observed :	392		**95th Percentile :**	25.00	mph

SPEED	COUNT	PERCENT
5	0	0%
10	0	0%
15	171	44%
20	129	33%
25	71	18%
30	16	4%
35	3	1%
40	0	0%





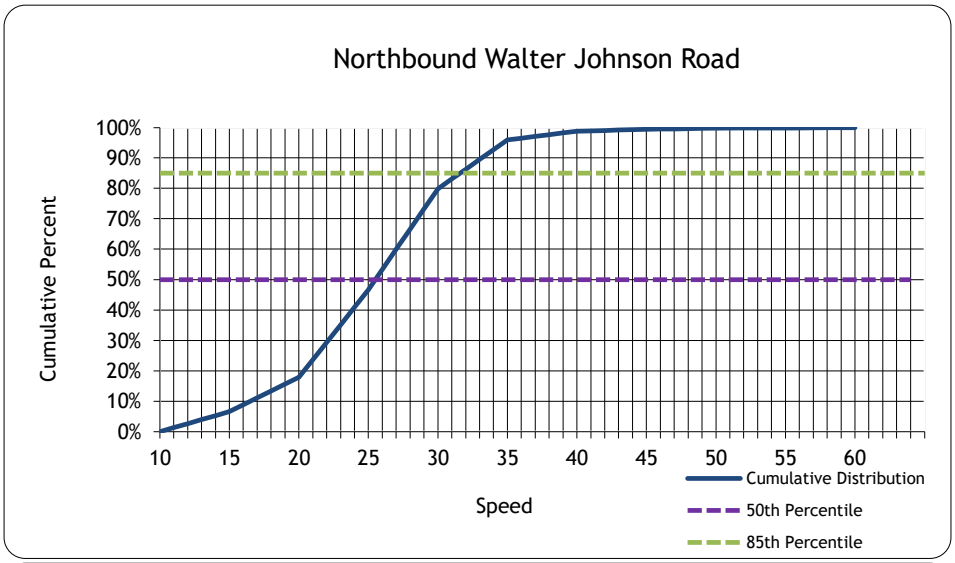
Total Vehicles 390

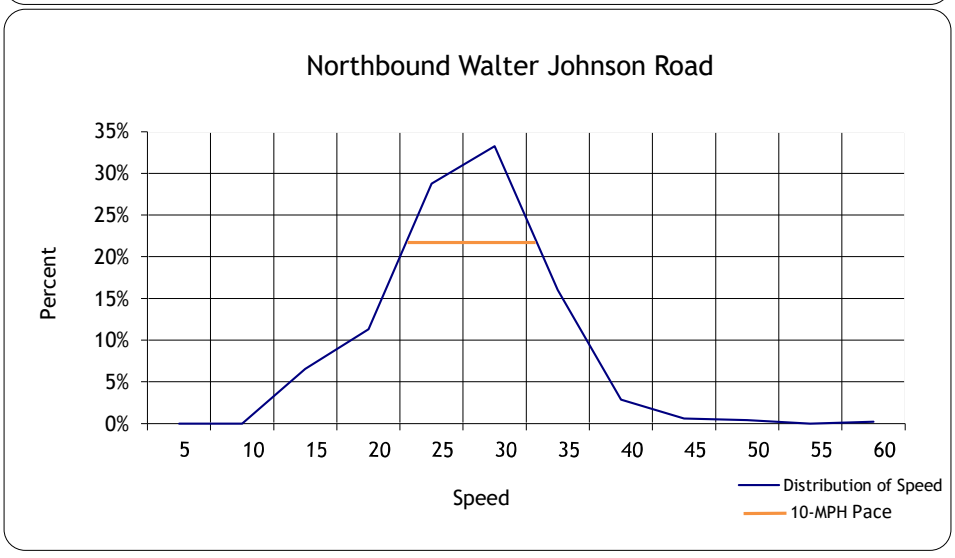
Speed Survey

Street :	Walter Johnson Road
Capture Zone :	Local (Business)
Counted By:	Gorove Slade
Posted Speed Limit :	30 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/15/2021
Day :	Wednesday
Time Range :	24 hours
Direction :	Northbound

Lowest Recorded Speed :	15	mph	**15th Percentile :**	19.00	mph
Highest Recorded Speed :	60	mph	**50th Percentile :**	26.00	mph
Average Speed :	28	mph	**85th Percentile :**	32	mph
Vehicles Observed :	487		**95th Percentile :**	35.00	mph

SPEED	COUNT	PERCENT
5	0	0%
10	0	0%
15	32	7%
20	55	11%
25	140	29%
30	162	33%
35	78	16%
40	14	3%
45	3	1%
50	2	0%
55	0	0%
60	1	0%





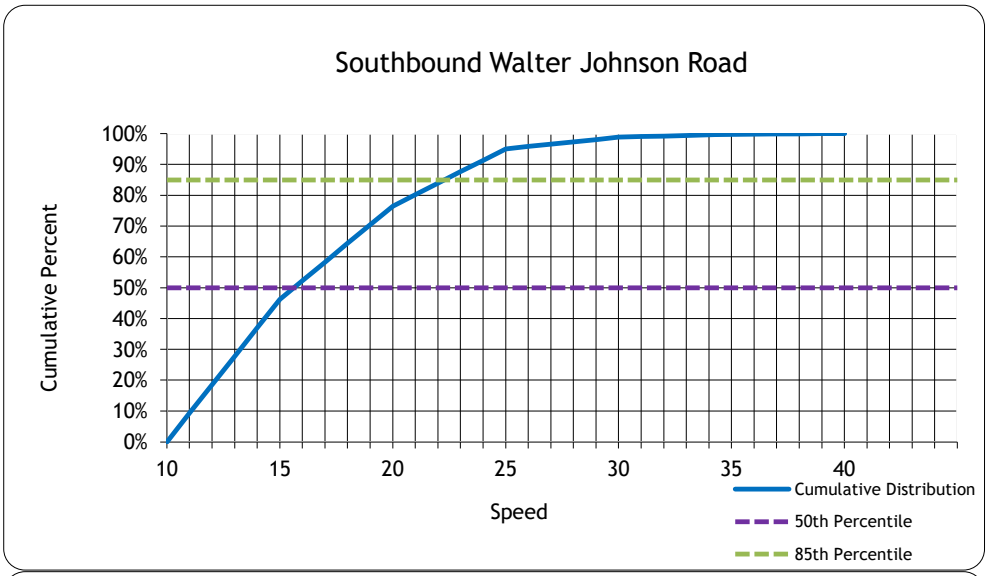
Total Vehicles 487

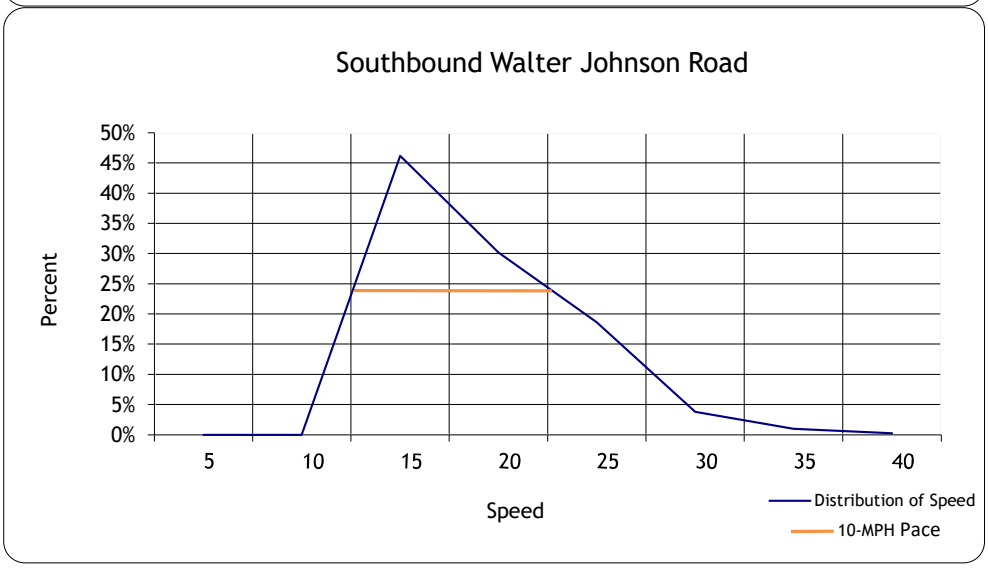
Speed Survey

Street :	Walter Johnson Road
Capture Zone :	Local (Business)
Counted By:	Gorove Slade
Posted Speed Limit :	30 MPH
Types of Vehicles :	All Vehicles
Weather Conditions :	Sunny
Date :	9/15/2021
Day :	Wednesday
Time Range :	24 hours
Direction :	Southbound

Lowest Recorded Speed :	15	mph	**15th Percentile :**	12.00	mph
Highest Recorded Speed :	40	mph	**50th Percentile :**	16.00	mph
Average Speed :	19	mph	**85th Percentile :**	22	mph
Vehicles Observed :	426		**95th Percentile :**	25.00	mph

SPEED	COUNT	PERCENT
5	0	0%
10	0	0%
15	196	46%
20	128	30%
25	79	19%
30	16	4%
35	4	1%
40	1	0%





Total Vehicles 424

F. Historical Turning Movement Counts

Traffic Counts Report (15 Min Interval)



Intersection: Darnestown-Germantown Rd at Middlebrook

Count Date: Wednesday, 3/13/2019

Count Source: SHA

AM Start Time	AM Peak Hour	AM Peak CLV	PM End Time	PM Peak Hour	PM Peak CLV	Is Holiday?
06:00	07:30 to 08:30	769	19:00	17:00 to 18:00	1029	No

	NORTH BOUND				SOUTH BOUND				EAST BOUND				WEST BOUND				OTHER BOUND			
	GERMANTOWN RD (MD 118)				GERMANTOWN RD (MD 118)				MIDDLEBROOK RD				MIDDLEBROOK RD							
START TIME	L	T	R	O	L	T	R	O	L	T	R	O	L	T	R	O	L	T	R	O
06:00	3	99	18	0	28	67	7	0	4	62	6	0	7	22	4	0	0	0	0	0
06:15	4	113	25	0	39	86	8	0	7	108	9	0	9	18	9	0	0	0	0	0
06:30	5	127	35	0	35	100	14	0	12	86	15	0	10	28	11	0	0	0	0	0
06:45	3	128	28	0	41	108	16	0	18	128	22	0	14	20	12	0	0	0	0	0
07:00	5	129	28	0	58	157	16	0	22	123	14	0	15	33	17	0	0	0	0	0
07:15	15	173	50	0	68	165	16	0	16	174	11	0	20	51	32	0	0	0	0	0
07:30	21	213	50	0	57	163	23	0	19	135	15	0	26	49	21	0	0	0	0	0
07:45	19	215	52	0	52	128	16	0	22	124	10	0	23	49	20	0	0	0	0	0
08:00	16	228	42	0	53	161	23	0	18	156	6	0	15	50	31	0	0	0	0	0
08:15	17	198	48	0	48	147	32	0	24	145	19	0	20	59	38	0	0	0	0	0
08:30	24	191	46	0	44	144	27	0	24	107	14	0	21	55	27	0	0	0	0	0
08:45	20	187	40	0	49	141	27	0	26	98	16	0	29	64	5	0	0	0	0	0
09:00	24	196	43	0	55	125	35	0	13	97	17	0	27	54	7	0	0	0	0	0
09:15	23	192	40	0	47	138	30	0	34	83	21	0	19	59	5	0	0	0	0	0
09:30	20	148	32	0	37	127	30	0	17	81	14	0	21	59	3	0	0	0	0	0
09:45	17	116	28	0	39	119	31	0	30	74	20	0	23	62	10	0	0	0	0	0
10:00	17	113	31	0	39	100	30	0	21	62	13	0	23	52	7	0	0	0	0	0
10:15	20	120	16	0	29	114	35	0	23	68	24	0	20	53	4	0	0	0	0	0
10:30	26	113	14	0	44	124	37	0	28	64	20	0	31	80	6	0	0	0	0	0
10:45	18	133	30	0	34	106	27	0	33	62	19	0	24	78	3	0	0	0	0	0
11:00	20	116	27	0	33	121	35	0	23	58	22	0	31	67	4	0	0	0	0	0
11:15	26	114	33	0	44	135	42	0	18	51	16	0	21	90	9	0	0	0	0	0
11:30	30	127	40	0	58	169	48	0	38	69	18	0	42	76	5	0	0	0	0	0
11:45	32	120	10	0	38	129	39	0	35	86	22	0	37	89	5	0	0	0	0	0
12:00	40	132	17	0	57	156	32	0	38	76	17	0	30	98	6	0	0	0	0	0
12:15	40	137	34	0	51	163	58	0	42	79	31	0	29	90	6	0	0	0	0	0
12:30	18	130	20	0	49	152	42	0	51	100	29	0	26	79	8	0	0	0	0	0
12:45	29	132	22	0	53	125	39	0	43	68	26	0	30	118	4	0	0	0	0	0
13:00	24	131	17	0	45	144	48	0	44	81	17	0	25	73	2	0	0	0	0	0
13:15	32	113	23	0	46	149	28	0	41	70	25	0	32	85	4	0	0	0	0	0
13:30	23	145	23	0	51	117	35	0	33	74	23	0	27	85	6	0	0	0	0	0
13:45	20	161	24	0	53	160	45	0	41	78	17	0	32	77	26	0	0	0	0	0
14:00	17	138	29	0	45	155	52	0	34	64	27	0	35	77	38	0	0	0	0	0
14:15	31	135	32	0	50	171	43	0	29	68	27	0	36	96	45	0	0	0	0	0
14:30	26	150	28	0	44	106	37	0	45	78	28	0	35	88	28	0	0	0	0	0
14:45	27	144	42	0	48	189	46	0	41	79	30	0	43	84	34	0	0	0	0	0
15:00	30	167	28	0	39	161	44	0	39	70	22	0	45	115	47	0	0	0	0	0
15:15	20	155	25	0	54	197	35	0	40	68	19	0	35	97	49	0	0	0	0	0
15:30	21	192	26	0	42	210	38	0	33	63	31	0	43	107	38	0	0	0	0	0
15:45	32	156	28	0	63	195	39	0	34	87	13	0	38	145	33	0	0	0	0	0
16:00	29	218	27	0	53	190	50	0	48	91	24	0	51	125	38	0	0	0	0	0
16:15	41	207	20	0	63	210	50	0	37	55	24	0	56	138	51	0	0	0	0	0
16:30	50	214	32	0	57	184	52	0	37	71	21	0	48	155	36	0	0	0	0	0
16:45	37	182	28	0	58	243	38	0	39	82	24	0	53	111	51	0	0	0	0	0
17:00	39	253	34	0	66	244	38	0	42	70	31	0	54	129	52	0	0	0	0	0
17:15	39	199	27	0	70	226	44	0	25	92	22	0	44	161	61	0	0	0	0	0
17:30	41	224	33	0	72	254	43	0	37	67	33	0	44	135	41	0	0	0	0	0
17:45	33	208	34	0	51	227	38	0	44	86	24	0	61	173	41	0	0	0	0	0
18:00	50	212	31	0	58	260	49	0	33	88	21	0	57	148	43	0	0	0	0	0
18:15	41	166	24	0	48	203	56	0	28	81	28	0	56	139	35	0	0	0	0	0
18:30	32	147	24	0	40	232	48	0	41	79	36	0	53	142	36	0	0	0	0	0
18:45	29	186	27	0	46	213	43	0	37	68	39	0	40	126	35	0	0	0	0	0
Total	1316	8343	1565	0	2541	8310	1854	0	1601	4434	1092	0	1686	4513	1189	0	0	0	0	0

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
State Highway Administration
Data Services Division

Turning Movement Summary Report

Station ID: S2018150264 County: Montgomery Comments:

Date: 11/7/2018 12:00:00 AM Town: none
Location: MD 118 at BOWMAN MILL RD Weather: Cloudy
Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2023	A	0.32	12:00PM-19:00PM	17:15	18:00	2467	A	0.47

MD 118	MD 118	Bowman Mill Rd	Waters Rd
From North	From South	From East	From West

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	1	21	2	24	0	1	10	1	12	0	6	1	2	9	0	1	2	0	3	48
00:15:00	1	1	26	0	28	0	1	8	0	9	0	0	0	0	0	0	0	0	0	0	37
00:30:00	0	0	24	1	25	0	2	10	0	12	0	2	2	0	4	0	0	1	0	1	42
00:45:00	0	0	10	2	12	0	0	8	1	9	0	1	0	0	1	0	0	0	0	0	22
01:00:00	0	1	15	1	17	0	0	8	1	9	0	0	0	1	1	0	1	0	0	1	28
01:15:00	0	0	2	3	5	0	0	6	1	7	0	1	0	2	3	0	0	0	0	0	15
01:30:00	0	1	5	0	6	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	8
01:45:00	0	0	10	0	10	0	0	5	2	7	0	1	0	0	1	0	1	0	0	1	19
02:00:00	0	1	3	0	4	0	0	1	0	1	0	2	0	1	3	0	0	0	0	0	8
02:15:00	0	0	5	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	7
02:30:00	0	0	4	0	4	0	0	3	2	5	0	0	0	1	1	0	0	0	0	0	10
02:45:00	0	0	5	0	5	0	0	1	0	1	0	1	0	2	3	0	0	1	0	1	10
03:00:00	0	0	4	0	4	0	0	7	2	9	0	1	0	2	3	0	2	0	0	2	18
03:15:00	0	0	6	0	6	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	13
03:30:00	0	0	6	0	6	0	0	13	0	13	0	0	0	1	1	0	0	2	0	2	22
03:45:00	0	1	3	0	4	0	0	7	2	9	0	0	0	3	3	0	1	0	0	1	17
04:00:00	0	2	7	0	9	0	0	7	0	7	0	0	0	2	2	0	0	2	0	2	20
04:15:00	0	1	8	0	9	0	0	21	0	21	0	3	1	3	7	0	0	2	0	2	39
04:30:00	0	2	7	0	9	0	0	24	4	28	0	1	1	5	7	0	1	4	1	6	50
04:45:00	0	3	26	1	30	0	0	24	7	31	0	2	0	8	10	0	2	3	2	7	78
05:00:00	0	28	22	1	51	0	0	43	13	56	0	0	0	9	9	0	1	1	0	2	118
05:15:00	2	27	35	1	65	0	2	49	16	67	0	1	0	15	16	0	4	2	0	6	154
05:30:00	1	20	39	1	61	0	1	63	19	83	0	1	0	8	9	0	3	6	1	10	163
05:45:00	1	18	37	3	59	0	2	80	21	103	0	4	0	12	16	0	5	0	3	8	186
06:00:00	0	25	69	4	98	0	2	69	30	101	0	3	0	13	16	0	5	4	5	14	229
06:15:00	0	26	81	1	108	0	1	100	27	128	0	6	0	11	17	0	3	8	11	22	275
06:30:00	0	22	102	1	125	0	2	113	30	145	0	1	1	13	15	0	10	7	23	40	325
06:45:00	0	26	114	1	141	0	1	129	30	160	0	4	1	8	13	0	2	12	26	40	354
07:00:00	0	24	150	2	176	0	1	170	23	194	0	10	0	10	20	0	4	12	18	34	424
07:15:00	0	25	143	0	168	0	3	194	59	256	0	9	0	20	29	0	5	8	25	38	491
07:30:00	0	19	156	3	178	0	7	230	41	278	0	9	3	15	27	0	9	10	15	34	517
07:45:00	0	8	163	5	176	0	7	264	20	291	0	5	4	18	27	0	4	12	18	34	528
08:00:00	0	14	139	2	155	0	7	244	25	276	0	5	2	18	25	0	8	8	15	31	487
08:15:00	1	7	150	2	160	0	7	234	20	261	0	4	6	15	25	0	6	4	15	25	471
08:30:00	1	6	164	1	172	0	4	223	15	242	0	10	3	15	28	0	3	3	24	30	472
08:45:00	0	6	170	5	181	0	20	202	12	234	0	3	3	8	14	0	4	3	19	26	455
09:00:00	0	5	146	3	154	0	13	202	21	236	0	4	2	14	20	0	4	2	15	21	431
09:15:00	1	2	137	3	143	2	10	244	28	284	0	5	4	17	26	0	5	3	5	13	466
09:30:00	0	3	133	3	139	0	4	184	13	201	0	2	0	12	14	0	4	2	4	10	364
09:45:00	0	1	124	4	129	0	6	161	15	182	0	5	0	14	19	0	4	1	3	8	338
10:00:00	1	5	109	2	117	0	4	157	19	180	0	3	0	16	19	0	4	2	3	9	325
10:15:00	0	2	112	3	117	0	3	132	15	150	0	4	0	8	12	0	1	2	8	11	290
10:30:00	0	7	107	3	117	0	4	143	8	155	0	3	0	3	6	0	3	1	2	6	284
10:45:00	1	2	108	5	116	0	3	145	12	160	0	7	0	11	18	0	6	2	5	13	307
11:00:00	0	6	132	4	142	0	1	119	8	128	0	7	3	11	21	0	2	3	6	11	302
11:15:00	0	5	126	2	133	1	6	133	10	150	0	6	1	11	18	0	2	1	3	6	307
11:30:00	0	4	148	9	161	0	1	147	7	155	0	2	1	7	10	0	7	1	2	10	336
11:45:00	1	4	155	8	168	0	7	190	12	209	0	5	0	6	11	0	9	1	5	15	403
12:00:00	1	7	173	10	191	0	2	178	7	187	0	6	2	10	18	0	4	0	4	8	404
12:15:00	0	3	161	5	169	1	6	176	10	193	0	7	1	10	18	0	6	1	5	12	392
12:30:00	1	5	201	5	212	0	3	184	7	194	0	6	0	9	15	0	7	0	7	14	435
12:45:00	0	2	184	5	191	0	5	174	7	186	0	3	3	7	13	0	2	2	9	13	403
13:00:00	1	7	199	4	211	0	5	149	13	167	0	3	0	10	13	0	5	1	7	13	404
13:15:00	1	9	158	5	173	0	5	205	16	226	0	6	3	12	21	0	7	1	8	16	436
13:30:00	2	4	154	4	164	0	7	199	9	215	0	3	3	10	16	0	0	1	6	7	402
13:45:00	3	2	190	5	200	0	6	234	10	250	0	3	2	9	14	0	4	3	4	11	475
14:00:00	0	8	195	5	208	0	8	172	5	185	0	3	1	5	9	0	6	0	11	17	419
14:15:00	1	1	139	6	147	0	1	144	6	151	0	3	3	5	11	0	2	3	7	12	321
14:30:00	0	6	170	6	182	0	5	160	9	174	0	6	1	10	17	0	2	0	4	6	379
14:45:00	0	3	172	7	182	0	6	160	5	171	0	6	0	3	9	0	5	2	4	11	373
15:00:00	0	5	248	10	263	0	2	169	10	181	0	4	2	9	15	0	1	0	6	7	466
15:15:00	0	3	155	3	161	0	3	197	6	206	0	7	1	6	14	0	4	2	1	7	388
15:30:00	0	12	182	8	202	0	7	166	7	180	0	6	1	9	16	0	1	2	7	10	408
15:45:00	1	9	167	7	184	0	8	197	15	220	0	10	1	20	31	0	2	5	5	12	447
16:00:00	1	7	213	7	228	0	9	207	11	227	0	5	1	11	17	0	9	3	9	21	493
16:15:00	0	6	221	8	235	0	21	211	10	242	0	15	9	44	68	0	4	1	12	17	562
16:30:00	2	3	232	15	252	0	14	239	13	266	0	11	3	39	53	0	3	5	6	14	585
16:45:00	1	14	221	15	251	0	18	250	20	288	0	11	5	18	34	0	6	1	8	15	588
17:00:00	0	10	211	11	232	0	9	235	5	249	0	7	5	17	29	0	1	1	8	10	520
17:15:00	0	4	263	9	276	0	17	253	13	283	0	15	9	59	83	0	6	1	10	17	659
17:30:00	0	9	249	17	275	0	22	243	15	280	0	5	2	27	34	0	6	4	5	15	604
17:45:00	1	13	248	11	273	0	11	251	14	276	0	26	6	44	76	0	6	3	8	17	642
18:00:00	0	7	237	18	262	0	24	212	15	251	0	10	3	18	31	0	7	2	9	18	562
18:15:00	1	5	203	10	219	0	14	219	13	246	0	28	9	46	83	0	2	1	10	13	561
18:30:00	2	5	202	8	217	0	16	214	10	240	0	8	2	16	26	0	0	1	8	9	492
18:45:00	1	14	202	12	229	0	10	181	10	201	0	16	2	22	40	0	2	1	8	11	481
19:00:00	0	12	232	6	250	0	10	180	12	202	0	20	9	23	52	0	5	1	15	21	525
19:15:00	0	7	220	14	241	0	12	128	12	152	0	10	4	12	26	0	3	3	9	15	434
19:30:00	0	5	186	11	202	0	11	114	6	131	0	7	3	5	15	0	4	2	7	13	361
19:45:00	0	7	181	10	198	0	13	96	1	110	0	2	2	4	8	0	3	1	7	11	327
20:00:00	0	7	193	12	212	0	10	87	3	100	0	6	2	6	14	0	0	2	4	6	332
20:15:00	0	4	159	9	172	0	2	90	10	102	0	8	2	11	21	0	6	1	5	12	307
20:30:00	0	2	142	5	149	0	6	87	3	96	0	4	1	6	11	0	1	0	6	7	263
20:45:00	0	4	144	6	154	1	1	72	5	79	0	4	1	5	10	0	0	0	4	4	247
21:00:00	0	6	148	5	159	0	3	76	1	80	0	5	0	2	7	0	7	2	3	12	258
21:15:00	1	3	127	8	139	0	5	77	5	87	0	5	0	8	13	0	0	1	7	8	247
21:30:00	0	1	133	5	139	0	2	73	0	75	0	1	2	6	9	0	2	2	3	7	230
21:45:00	0	3	98	6	107	0	2	56	5	63	0	1	3	9	13	0	2	1	3	6	189
22:00:00	1	3	93	3	100	0	0	50	8	58	0	3	0	6	9	0	1	0	3	4	171
22:15:00	0	2	87	5	94	0	1	39	5	45	0	6	2	10	18	0	2	3	0	5	162
22:30:00	1	3	71	1	76	0	0	44	4	48	0	3	1	5	9	0	1	1	2	4	137
22:45:00	0	0	58	5	63	0	1	32	6	39	0	3	0	5	8	0	2	0	1	3	113
23:00:00	0	2	54	0	56	0	0	25	4	29	0	1	0	6	7	0	0	1	1	2	94
23:15:00	0	2	37	0	39	0	1	17	1	19	0	3	0	5	8	0	0	1	0	1	67
23:30:00	0	3	26	1	30	0	1	25	5	31	0	3	0	5	8	0	0	0	0	0	69
23:45:00	0	1	35	2	38	0	2	11	1	14	0	1	0	2	3	0	0	1	3	4	59
TOTAL	**34**	**621**	**11442**	**442**	**12539**	**5**	**480**	**11495**	**981**	**12961**	**0**	**484**	**151**	**1017**	**1652**	**0**	**285**	**208**	**561**	**1054**	**28206**
AMPEAK	**0**	**66**	**601**	**10**	**677**	**0**	**24**	**932**	**145**	**1101**	**0**	**28**	**9**	**71**	**108**	**0**	**26**	**38**	**73**	**137**	**2023**
PMPEAK	**1**	**33**	**997**	**55**	**1086**	**0**	**74**	**959**	**57**	**1090**	**0**	**56**	**20**	**148**	**224**	**0**	**25**	**10**	**32**	**67**	**2467**
DAYPEAK	**1**	**33**	**997**	**55**	**1086**	**0**	**74**	**959**	**57**	**1090**	**0**	**56**	**20**	**148**	**224**	**0**	**25**	**10**	**32**	**67**	**2467**

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
State Highway Administration
Data Services Division

Turning Movement Summary Report

Station ID: S2012150317 County: Montgomery Comments:

Date: 9/5/2019 12:00:00 AM Town: none
Location: MD 118 at FATHER HURLEY BLVD Weather: Warm, Cloudy, Dry
Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2123	A	0.41	12:00PM-19:00PM	17:00	17:45	2527	A	0.48

MD 118	MD 118		Father Hurley Blvd
From North	From South	From East	From West

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	0	23	8	31	0	1	8	0	9	0	0	0	0	0	0	2	0	1	3	43
00:15:00	0	0	13	2	15	0	2	10	0	12	0	0	0	0	0	0	1	0	2	3	30
00:30:00	0	0	20	3	23	0	2	8	0	10	0	0	0	0	0	0	1	0	1	2	35
00:45:00	0	0	7	3	10	0	2	7	0	9	0	0	0	0	0	0	0	0	2	2	21
01:00:00	0	0	6	2	8	0	0	9	0	9	0	0	0	0	0	0	0	0	1	1	18
01:15:00	0	0	5	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	10
01:30:00	0	0	8	2	10	0	2	6	0	8	0	0	0	0	0	0	1	0	2	3	21
01:45:00	0	0	3	0	3	0	1	1	0	2	0	0	0	0	0	0	0	0	2	2	7
02:00:00	0	0	4	0	4	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	6
02:15:00	0	0	7	1	8	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	10
02:30:00	0	0	10	3	13	0	1	2	0	3	0	0	0	0	0	0	0	0	1	1	17
02:45:00	0	0	2	1	3	1	1	6	0	8	0	0	0	0	0	0	0	0	2	2	13
03:00:00	0	0	6	0	6	0	0	4	0	4	0	0	0	0	0	0	1	0	0	1	11
03:15:00	0	0	4	2	6	0	3	3	0	6	0	0	0	0	0	0	0	0	0	0	12
03:30:00	0	0	3	0	3	0	1	5	0	6	0	0	0	0	0	0	2	0	1	3	12
03:45:00	0	0	3	0	3	0	0	13	0	13	0	0	0	0	0	0	3	0	5	8	24
04:00:00	0	0	3	0	3	0	1	4	0	5	0	0	0	0	0	0	1	0	1	2	10
04:15:00	0	0	5	1	6	0	0	10	0	10	0	0	0	0	0	0	1	0	1	2	18
04:30:00	0	0	13	3	16	0	0	11	0	11	0	0	0	0	0	0	3	0	2	5	32
04:45:00	0	0	14	0	14	0	0	17	0	17	0	0	0	0	0	0	5	0	0	5	36
05:00:00	0	0	19	2	21	0	1	29	0	30	0	0	0	0	0	0	2	0	3	5	56
05:15:00	0	0	24	1	25	0	2	33	0	35	0	0	0	0	0	0	11	0	4	15	75
05:30:00	0	0	28	0	28	0	0	40	0	40	0	0	0	0	0	0	11	0	11	22	90
05:45:00	1	0	35	5	41	0	2	48	0	50	0	0	0	0	0	0	13	0	11	24	115
06:00:00	0	0	52	6	58	0	0	57	0	57	0	0	0	0	0	0	10	0	14	24	139
06:15:00	0	0	82	6	88	1	4	85	0	90	0	0	0	0	0	0	14	0	38	52	230
06:30:00	0	0	103	2	105	1	8	90	0	99	0	0	0	0	0	0	13	0	50	63	267
06:45:00	0	0	115	3	118	0	5	83	0	88	0	0	0	0	0	0	16	0	75	91	297
07:00:00	0	0	134	7	141	0	8	104	0	112	0	0	0	0	0	0	25	0	95	120	373
07:15:00	0	0	156	10	166	0	19	164	0	183	0	0	0	0	0	0	24	0	111	135	484
07:30:00	0	0	145	22	167	0	29	211	0	240	0	0	0	0	0	0	34	0	107	141	548
07:45:00	0	0	164	10	174	0	32	208	0	240	0	0	0	0	0	0	46	0	128	174	588
08:00:00	0	0	134	15	149	0	17	174	0	191	0	0	0	0	0	0	41	0	122	163	503
08:15:00	0	0	143	14	157	0	18	165	0	183	0	0	0	0	0	0	27	0	94	121	461
08:30:00	0	0	167	12	179	0	16	206	0	222	0	0	0	0	0	0	23	0	100	123	524
08:45:00	0	0	138	22	160	1	18	180	0	199	0	0	0	0	0	1	30	0	101	132	491
09:00:00	0	0	119	12	131	0	14	201	0	215	0	0	0	0	0	0	30	0	59	89	435
09:15:00	2	0	127	7	136	1	14	197	0	212	0	0	0	0	0	0	32	0	38	70	418
09:30:00	0	0	104	10	114	1	14	166	0	181	0	0	0	0	0	0	20	0	49	69	364
09:45:00	0	0	106	14	120	0	15	125	0	140	0	0	0	0	0	0	14	0	26	40	300
10:00:00	0	0	77	11	88	0	14	118	0	132	0	0	0	0	0	0	13	0	24	37	257
10:15:00	0	0	91	9	100	0	14	123	0	137	0	0	0	0	0	0	25	0	24	49	286
10:30:00	0	0	75	8	83	0	10	117	0	127	0	0	0	0	0	1	12	0	21	34	244
10:45:00	0	0	120	9	129	0	19	111	0	130	0	0	0	0	0	0	19	0	27	46	305
11:00:00	0	0	126	6	132	0	17	107	0	124	0	0	0	0	0	0	12	0	31	43	299
11:15:00	0	0	98	13	111	0	25	104	0	129	0	0	0	0	0	1	12	0	23	36	276
11:30:00	0	0	141	8	149	0	17	135	0	152	0	0	0	0	0	0	14	0	22	36	337
11:45:00	0	0	120	12	132	1	13	103	0	117	0	0	0	0	0	0	10	0	31	41	290
12:00:00	0	0	140	7	147	1	13	125	0	139	0	0	0	0	0	0	18	0	36	54	340
12:15:00	0	0	113	12	125	1	18	133	0	152	0	0	0	0	0	0	14	0	32	46	323
12:30:00	0	0	143	23	166	0	14	123	0	137	0	0	0	0	0	0	13	0	25	38	341
12:45:00	0	0	118	7	125	0	26	117	0	143	0	0	0	0	0	0	5	0	19	24	292
13:00:00	0	0	161	13	174	0	19	112	0	131	0	0	0	0	0	0	12	0	27	39	344
13:15:00	0	0	133	16	149	0	19	105	0	124	0	0	0	0	0	0	29	0	28	57	330
13:30:00	0	0	114	11	125	0	22	140	0	162	0	0	0	0	0	0	15	0	32	47	334
13:45:00	0	0	132	18	150	0	30	123	0	153	0	0	0	0	0	0	17	0	31	48	351
14:00:00	0	0	159	26	185	0	24	116	0	140	0	0	0	0	0	0	19	0	36	55	380
14:15:00	0	0	134	13	147	1	34	99	0	134	0	0	0	0	0	0	15	0	39	54	335
14:30:00	0	0	184	17	201	0	40	133	0	173	0	0	0	0	0	0	10	0	36	46	420
14:45:00	0	0	148	19	167	1	48	151	0	200	0	0	0	0	0	0	14	0	30	44	411
15:00:00	0	0	158	21	179	0	38	153	0	191	0	0	0	0	0	0	22	0	45	67	437
15:15:00	0	0	153	23	176	1	45	143	0	189	0	0	0	0	0	0	26	0	52	78	443
15:30:00	0	0	182	26	208	0	34	180	0	214	0	0	0	0	0	0	19	0	32	51	473
15:45:00	1	0	185	20	206	0	44	169	0	213	0	0	0	0	0	0	11	0	41	52	471
16:00:00	0	0	191	15	206	1	60	137	0	198	0	0	0	0	0	0	23	0	34	57	461
16:15:00	1	0	166	24	191	0	59	165	0	224	0	0	0	0	0	0	25	0	32	57	472
16:30:00	0	0	204	26	230	0	59	141	0	200	0	0	0	0	0	0	20	0	60	80	510
16:45:00	0	0	221	20	241	0	63	195	0	258	0	0	0	0	0	0	22	0	55	77	576
17:00:00	0	0	223	37	260	0	67	213	0	280	0	0	0	0	0	0	24	0	63	87	627
17:15:00	0	0	264	42	306	0	75	179	0	254	0	0	0	0	0	0	22	0	56	78	638
17:30:00	1	0	247	35	283	0	73	195	0	268	0	0	0	0	0	0	22	0	58	80	631
17:45:00	0	0	220	30	250	1	102	205	0	308	0	0	0	0	0	0	14	0	59	73	631
18:00:00	0	0	218	28	246	0	77	205	0	282	0	0	0	0	0	0	22	0	62	84	612
18:15:00	0	0	211	22	233	1	81	193	0	275	0	0	0	0	0	0	13	0	63	76	584
18:30:00	0	0	199	40	239	0	81	219	0	300	0	0	0	0	0	0	17	0	63	80	619
18:45:00	0	0	181	29	210	0	66	179	0	245	0	0	0	0	0	0	16	0	43	59	514
19:00:00	1	0	168	24	193	0	48	153	0	201	0	0	0	0	0	0	19	0	39	58	452
19:15:00	0	0	160	40	200	0	49	133	0	182	0	0	0	0	0	0	14	0	40	54	436
19:30:00	0	0	159	26	185	0	50	150	0	200	0	0	0	0	0	0	19	0	25	44	429
19:45:00	0	0	158	28	186	0	31	90	0	121	0	0	0	0	0	0	15	0	41	56	363
20:00:00	1	0	125	31	157	0	33	145	0	178	0	0	0	0	0	1	12	0	29	42	377
20:15:00	0	0	121	27	148	0	35	118	0	153	0	0	0	0	0	0	8	0	27	35	336
20:30:00	0	0	118	23	141	1	17	81	0	99	0	0	0	0	0	0	14	0	17	31	271
20:45:00	0	0	94	21	115	1	28	88	0	117	0	0	0	0	0	0	9	0	31	40	272
21:00:00	0	0	101	25	126	0	34	174	0	208	0	0	0	0	0	0	8	0	11	19	353
21:15:00	0	0	88	21	109	0	41	126	0	167	0	0	0	0	0	0	13	0	7	20	296
21:30:00	0	0	105	25	130	0	27	70	0	97	0	0	0	0	0	0	6	0	10	16	243
21:45:00	0	0	78	14	92	0	19	54	0	73	0	0	0	0	0	0	8	0	6	14	179
22:00:00	0	0	50	12	62	0	14	74	0	88	0	0	0	0	0	0	8	0	10	18	168
22:15:00	0	0	54	16	70	0	12	37	0	49	0	0	0	0	0	0	10	0	10	20	139
22:30:00	0	0	38	10	48	0	9	44	0	53	0	0	0	0	0	0	4	0	11	15	116
22:45:00	0	0	27	9	36	0	4	31	0	35	0	0	0	0	0	0	5	0	6	11	82
23:00:00	0	0	20	15	35	0	3	45	0	48	0	0	0	0	0	0	5	0	4	9	92
23:15:00	0	0	30	7	37	0	6	25	0	31	0	0	0	0	0	0	7	0	6	13	81
23:30:00	0	0	31	6	37	0	3	28	0	31	0	0	0	0	0	0	4	0	4	8	76
23:45:00	0	0	20	8	28	0	0	19	0	19	0	0	0	0	0	0	3	0	3	6	53
TOTAL	**8**	**0**	**9749**	**1297**	**11054**	**17**	**2176**	**9645**	**0**	**11838**	**0**	**0**	**0**	**0**	**0**	**4**	**1264**	**0**	**2992**	**4260**	**27152**
AMPEAK	**0**	**0**	**599**	**57**	**656**	**0**	**97**	**757**	**0**	**854**	**0**	**0**	**0**	**0**	**0**	**0**	**145**	**0**	**468**	**613**	**2123**
PMPEAK	**1**	**0**	**954**	**144**	**1099**	**1**	**317**	**792**	**0**	**1110**	**0**	**0**	**0**	**0**	**0**	**0**	**82**	**0**	**236**	**318**	**2527**
DAYPEAK	**1**	**0**	**954**	**144**	**1099**	**1**	**317**	**792**	**0**	**1110**	**0**	**0**	**0**	**0**	**0**	**0**	**82**	**0**	**236**	**318**	**2527**

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
State Highway Administration
Data Services Division

Turning Movement Summary Report

Station ID: S1998150344 County: Montgomery Comments:

Date: 1/8/2019 12:00:00 AM Town: none
Location: MD 119 at MIDDLEBROOK RD Weather: Clear
Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:30	08:15	2692	B	0.63	12:00PM-19:00PM	16:45	17:30	3150	A	0.5

From North						MD 119 From South						Middlebrook Rd From East						Middlebrook Rd From West					
Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00:00	0	0	0	0	0	0	4	0	13	17	3	25	26	0	54	0	0	12	6	18	89
00:15:00	0	0	0	0	0	0	3	0	9	12	0	18	15	0	33	0	0	14	2	16	61
00:30:00	0	0	0	0	0	0	6	0	6	12	0	16	8	0	24	0	0	7	3	10	46
00:45:00	0	0	0	0	0	0	3	0	6	9	1	14	13	0	28	0	0	7	2	9	46
01:00:00	0	0	0	0	0	0	1	0	2	3	0	13	9	0	22	0	0	7	2	9	34
01:15:00	0	0	0	0	0	0	1	0	9	10	0	10	9	0	19	0	0	5	2	7	36
01:30:00	0	0	0	0	0	0	3	0	4	7	1	8	6	0	15	0	0	6	0	6	28
01:45:00	0	0	0	0	0	0	4	0	4	8	0	6	9	0	15	0	0	4	3	7	30
02:00:00	0	0	0	0	0	0	2	0	4	6	0	4	2	0	6	0	0	5	2	7	19
02:15:00	0	0	0	0	0	0	1	0	1	2	0	5	4	0	9	0	0	6	1	7	18
02:30:00	0	0	0	0	0	0	1	0	6	7	0	4	4	0	8	0	0	2	0	2	17
02:45:00	0	0	0	0	0	0	1	0	3	4	1	4	4	0	9	0	0	5	0	5	18
03:00:00	0	0	0	0	0	0	1	0	5	6	0	5	5	0	10	0	0	5	0	5	21
03:15:00	0	0	0	0	0	0	0	0	5	5	0	2	4	0	6	0	0	6	1	7	18
03:30:00	0	0	0	0	0	0	1	0	4	5	0	7	6	0	13	0	0	2	0	2	20
03:45:00	0	0	0	0	0	0	1	0	15	16	0	6	7	0	13	0	0	2	2	4	33
04:00:00	0	0	0	0	0	0	6	0	7	13	0	4	6	0	10	0	0	10	1	11	34
04:15:00	0	0	0	0	0	0	2	0	10	12	2	6	7	0	15	0	0	14	1	15	42
04:30:00	0	0	0	0	0	0	6	0	35	41	2	11	9	0	22	0	0	23	4	27	90
04:45:00	0	0	0	0	0	0	7	0	31	38	2	9	7	0	18	0	0	31	4	35	91
05:00:00	0	0	0	0	0	0	7	0	42	49	0	7	9	0	16	0	0	31	6	37	102
05:15:00	0	0	0	0	0	0	15	0	50	65	0	8	16	0	24	0	0	46	5	51	140
05:30:00	0	0	0	0	0	0	16	0	48	64	3	16	22	0	41	0	0	37	6	43	148
05:45:00	0	0	0	0	0	0	13	0	67	80	3	30	33	0	66	0	0	59	5	64	210
06:00:00	0	0	0	0	0	0	18	0	100	118	5	18	39	0	62	0	0	78	10	88	268
06:15:00	0	0	0	0	0	0	25	0	83	108	10	40	50	0	100	0	0	103	15	118	326
06:30:00	0	0	0	0	0	0	20	0	112	132	1	61	60	0	122	0	0	133	18	151	405
06:45:00	0	0	0	0	0	0	20	0	102	122	7	46	40	0	93	0	0	149	26	175	390
07:00:00	0	0	0	0	0	0	27	0	118	145	5	46	71	0	122	3	0	135	24	162	429
07:15:00	0	0	0	0	0	0	44	0	126	170	2	50	98	0	150	14	0	172	40	226	546
07:30:00	0	0	0	0	0	0	36	0	154	190	5	76	132	0	213	21	0	250	48	319	722
07:45:00	0	0	0	0	0	0	38	0	178	216	3	75	122	0	200	10	0	238	30	278	694
08:00:00	0	0	0	0	0	0	50	0	159	209	4	61	101	0	166	0	0	202	40	242	617
08:15:00	0	0	0	0	0	0	31	0	132	163	4	87	105	0	196	0	0	239	61	300	659
08:30:00	0	0	0	0	0	0	40	0	164	204	0	84	98	0	182	0	0	194	60	254	640
08:45:00	0	0	0	0	0	0	63	0	169	232	2	67	100	0	169	0	0	222	55	277	678
09:00:00	0	0	0	0	0	0	43	0	124	167	3	67	119	0	189	1	0	206	42	249	605
09:15:00	0	0	0	0	0	0	47	0	159	206	2	60	125	0	187	0	0	201	49	250	643
09:30:00	0	0	0	0	0	0	46	0	120	166	6	80	109	0	195	0	0	193	42	235	596
09:45:00	0	0	0	0	0	0	47	0	121	168	1	56	123	0	180	1	0	154	40	195	543
10:00:00	0	0	0	0	0	0	35	0	103	138	3	46	104	0	153	0	0	136	29	165	456
10:15:00	0	0	0	0	0	1	49	0	99	149	3	55	110	0	168	0	0	108	18	126	443
10:30:00	0	0	0	0	0	1	48	0	107	156	2	49	91	0	142	0	0	97	27	124	422
10:45:00	0	0	0	0	0	0	38	0	95	133	5	59	100	0	164	0	0	104	21	125	422
11:00:00	0	0	0	0	0	0	40	0	80	120	0	58	114	0	172	2	0	113	37	152	444
11:15:00	0	0	0	0	0	0	53	0	97	150	3	52	95	0	150	1	0	111	28	140	440
11:30:00	0	0	0	0	0	0	34	0	78	112	4	46	124	0	174	0	0	117	24	141	427
11:45:00	0	0	0	0	0	0	39	0	77	116	7	72	132	0	211	2	0	121	29	152	479
12:00:00	0	0	0	0	0	0	67	0	79	146	4	68	156	0	228	0	0	120	28	148	522
12:15:00	0	0	0	0	0	1	46	0	82	129	2	91	140	0	233	0	0	112	27	139	501
12:30:00	0	0	0	0	0	1	42	0	88	131	7	83	152	0	242	0	0	120	39	159	532
12:45:00	0	0	0	0	0	0	61	0	95	156	5	55	108	0	168	0	0	110	26	136	460
13:00:00	0	0	0	0	0	1	43	0	96	140	4	80	146	0	230	1	0	121	24	146	516
13:15:00	0	0	0	0	0	1	69	0	89	159	2	69	135	0	206	0	0	119	37	156	521
13:30:00	0	0	0	0	0	2	41	0	88	131	3	73	133	0	209	1	0	113	35	149	489
13:45:00	0	0	0	0	0	0	52	0	105	157	6	80	174	0	260	4	0	106	34	144	561
14:00:00	0	0	0	0	0	0	59	0	95	154	6	95	123	0	224	2	0	110	38	150	528
14:15:00	0	0	0	0	0	0	38	0	92	130	5	75	158	0	238	1	0	136	41	178	546
14:30:00	0	0	0	0	0	0	54	0	109	163	2	121	130	0	253	16	0	167	53	236	652
14:45:00	0	0	0	0	0	0	51	0	135	186	3	107	126	0	236	7	0	142	52	201	623
15:00:00	0	0	0	0	0	1	69	0	113	183	3	100	163	0	266	6	0	144	45	195	644
15:15:00	0	0	0	0	0	0	60	0	98	158	4	105	160	0	269	3	0	137	61	201	628
15:30:00	0	0	0	0	0	0	63	0	140	203	1	135	165	0	301	5	0	160	64	229	733
15:45:00	0	0	0	0	0	0	82	0	123	205	2	119	203	0	324	4	0	137	45	186	715
16:00:00	0	0	0	0	0	0	54	0	114	168	3	136	197	0	336	4	0	157	66	227	731
16:15:00	0	0	0	0	0	0	91	0	98	189	0	112	182	0	294	8	0	126	60	194	677
16:30:00	0	0	0	0	0	0	81	0	119	200	4	113	164	0	281	0	0	154	49	203	684
16:45:00	0	0	0	0	0	0	79	0	121	200	5	154	211	0	370	1	0	152	73	226	796
17:00:00	0	0	0	0	0	1	77	0	143	221	9	152	198	0	359	4	0	143	61	208	788
17:15:00	0	0	0	0	0	1	99	0	143	243	1	138	213	0	352	3	0	159	62	224	819
17:30:00	0	0	0	0	0	0	75	0	111	186	4	146	204	0	354	2	0	145	60	207	747
17:45:00	0	0	0	0	0	3	91	0	113	207	8	152	212	0	372	1	0	141	54	196	775
18:00:00	0	0	0	0	0	0	96	0	118	214	5	131	208	0	344	1	0	125	61	187	745
18:15:00	0	0	0	0	0	0	93	0	119	212	2	138	207	0	347	5	0	147	71	223	782
18:30:00	0	0	0	0	0	2	81	0	127	210	4	152	177	0	333	0	0	128	58	186	729
18:45:00	0	0	0	0	0	1	64	0	92	157	2	133	199	0	334	2	0	104	54	160	651
19:00:00	0	0	0	0	0	0	57	0	99	156	5	132	163	0	300	1	0	104	40	145	601
19:15:00	0	0	0	0	0	0	65	0	96	161	6	148	141	0	295	3	0	119	24	146	602
19:30:00	0	0	0	0	0	0	64	0	78	142	4	98	136	0	238	0	0	85	54	139	519
19:45:00	0	0	0	0	0	2	42	0	77	121	5	110	134	0	249	8	0	106	51	165	535
20:00:00	0	0	0	0	0	0	59	0	86	145	3	129	114	0	246	7	0	83	35	125	516
20:15:00	0	0	0	0	0	0	61	0	54	115	5	85	104	0	194	0	0	71	24	95	404
20:30:00	0	0	0	0	0	0	28	0	51	79	3	117	113	0	233	2	0	78	22	102	414
20:45:00	0	0	0	0	0	0	39	0	49	88	5	93	96	0	194	3	0	48	34	85	367
21:00:00	0	0	0	0	0	0	24	0	51	75	1	67	75	0	143	1	0	54	24	79	297
21:15:00	0	0	0	0	0	0	25	0	51	76	4	79	76	0	159	0	0	39	16	55	290
21:30:00	0	0	0	0	0	0	22	0	40	62	4	90	56	0	150	0	0	57	14	71	283
21:45:00	0	0	0	0	0	0	24	0	54	78	2	51	62	0	115	0	0	38	17	55	248
22:00:00	0	0	0	0	0	0	16	0	47	63	1	49	59	0	109	0	0	60	19	79	251
22:15:00	0	0	0	0	0	0	18	0	24	42	1	59	43	0	103	0	0	43	4	47	192
22:30:00	0	0	0	0	0	0	24	0	33	57	3	42	45	0	90	0	0	33	10	43	190
22:45:00	0	0	0	0	0	0	14	0	27	41	1	37	33	0	71	0	0	27	5	32	144
23:00:00	0	0	0	0	0	0	6	0	22	28	5	27	22	0	54	0	0	20	12	32	114
23:15:00	0	0	0	0	0	0	14	0	19	33	2	36	39	0	77	0	0	19	9	28	138
23:30:00	0	0	0	0	0	0	6	0	24	30	2	30	27	0	59	0	0	29	9	38	127
23:45:00	0	0	0	0	0	0	9	0	16	25	4	28	30	0	62	0	0	15	4	19	106
TOTAL	**0**	**0**	**0**	**0**	**0**	**19**	**3531**	**0**	**7286**	**10836**	**277**	**6269**	**8914**	**0**	**15460**	**161**	**0**	**8985**	**2676**	**11822**	**38118**
AMPEAK	**0**	**0**	**0**	**0**	**0**	**0**	**155**	**0**	**623**	**778**	**16**	**299**	**460**	**0**	**775**	**31**	**0**	**929**	**179**	**1139**	**2692**
PMPEAK	**0**	**0**	**0**	**0**	**0**	**2**	**330**	**0**	**518**	**850**	**19**	**590**	**826**	**0**	**1435**	**10**	**0**	**599**	**256**	**865**	**3150**
DAYPEAK	**0**	**0**	**0**	**0**	**0**	**2**	**330**	**0**	**518**	**850**	**19**	**590**	**826**	**0**	**1435**	**10**	**0**	**599**	**256**	**865**	**3150**

G. 2021 Turning Movement Counts

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:15 AM to 09:15 AM
System Peak Hour (all vehicles): 08:15 AM to 09:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Westeria Drive & Germantown Road

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Westeria Drive					Germantown Road					Westeria Drive					Germantown Road				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM	to 06:45 AM	0	27	14	9	0	0	6	63	24	0	0	0	19	5	0	0	10	73	1	0
06:45 AM	to 07:00 AM	0	23	21	14	0	0	1	70	21	0	0	2	18	6	0	0	6	91	6	0
07:00 AM	to 07:15 AM	0	37	30	11	2	0	9	70	30	0	0	4	19	5	1	0	11	97	4	2
07:15 AM	to 07:30 AM	0	49	36	17	0	0	11	88	28	2	0	4	19	5	2	0	9	135	10	0
07:30 AM	to 07:45 AM	0	44	35	31	0	0	11	92	26	1	0	2	21	12	1	0	25	141	10	2
07:45 AM	to 08:00 AM	0	26	38	12	0	0	23	104	41	1	0	4	27	10	0	0	18	152	12	1
08:00 AM	to 08:15 AM	0	39	50	19	1	1	24	124	32	1	0	5	24	21	1	0	16	143	18	1
08:15 AM	to 08:30 AM	0	40	55	14	0	0	23	115	49	1	0	5	36	25	1	1	22	162	14	0
08:30 AM	to 08:45 AM	0	39	67	16	2	0	22	122	40	0	0	6	40	22	0	0	23	164	14	0
08:45 AM	to 09:00 AM	0	36	51	20	0	0	29	135	51	5	0	4	45	23	0	0	21	146	17	1
09:00 AM	to 09:15 AM	0	38	42	15	0	1	28	146	45	0	0	8	30	27	0	0	21	150	25	0
09:15 AM	to 09:30 AM	0	26	44	22	1	2	24	90	38	2	0	8	46	27	0	0	25	129	22	0
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		433				2	806				6	271				1	780				1
08:15 AM	to 09:15 AM	0	153	215	65		1	102	518	185		0	23	151	97		1	87	622	70	
Peak Hour Factor (PHF)	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.99	n/a	0.96	0.80	0.81	**0.89**	0.25	0.88	0.89	0.91	**0.92**	n/a	0.72	0.84	0.90	**0.94**	0.25	0.95	0.95	0.70	**0.97**

HEAVY VEHICLES (FHWA 4+)

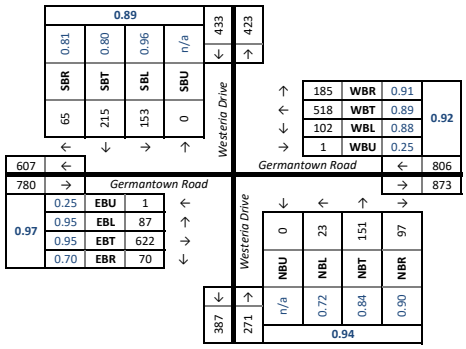
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Germantown Road				Westeria Drive				Germantown Road			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	1	0	0	7	1	0	0	0	0	0	0	1	0
06:45 AM	to 07:00 AM	0	4	1	2	0	0	9	0	0	0	1	0	0	1	2	0
07:00 AM	to 07:15 AM	0	2	2	1	0	0	8	0	0	0	2	0	0	1	2	0
07:15 AM	to 07:30 AM	0	1	7	1	0	3	6	1	0	4	1	0	0	0	6	2
07:30 AM	to 07:45 AM	0	2	1	0	0	0	4	0	0	1	8	0	0	0	14	2
07:45 AM	to 08:00 AM	0	1	4	0	0	0	3	4	0	0	4	0	0	2	4	0
08:00 AM	to 08:15 AM	0	1	3	1	0	0	9	1	0	0	1	0	0	1	6	1
08:15 AM	to 08:30 AM	0	1	3	0	0	1	4	0	0	0	3	0	0	0	4	2
08:30 AM	to 08:45 AM	0	0	0	0	0	2	6	1	0	1	3	2	0	0	5	1
08:45 AM	to 09:00 AM	0	1	0	4	0	1	9	4	0	0	4	0	0	0	1	1
09:00 AM	to 09:15 AM	0	4	1	0	0	1	4	1	0	0	0	0	0	0	7	2
09:15 AM	to 09:30 AM	0	0	1	0	0	0	3	2	0	1	2	2	0	1	9	1
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		14				34				13				23			
08:15 AM	to 09:15 AM	0	6	4	4	0	5	23	6	0	1	10	2	0	0	17	6
Heavy Vehicle % (PHV):		0.0%	3.9%	1.9%	6.2%	0.0%	4.9%	4.4%	3.2%	0.0%	4.3%	6.6%	2.1%	0.0%	0.0%	2.7%	8.6%
	3.2%					**4.2%**				**4.8%**				**2.9%**			
INT. PEAK HR (HV ONLY)		22				31				19				38			
07:15 AM	to 08:15 AM	0	5	15	2	0	3	22	6	0	5	14	0	0	3	30	5
Heavy Vehicle % (PHV):		0.0%	3.2%	9.4%	2.5%	0.0%	4.3%	5.4%	4.7%	0.0%	33.3%	15.4%	0.0%	0.0%	4.4%	5.3%	10.0%
	5.6%					**5.1%**				**12.3%**				**5.5%**			

BICYCLES

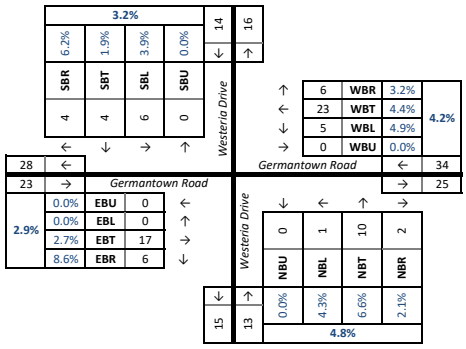
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Germantown Road				Westeria Drive				Germantown Road			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		0				0				2				0			
08:15 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
INT. PEAK HR (BIKES)		1				0				1				0			
07:45 AM	to 08:45 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0

DATA COLLECTION NOTES :

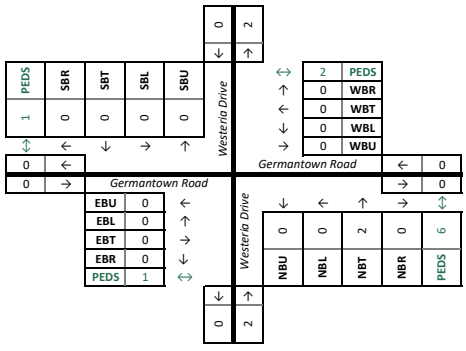
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:15 PM to 06:15 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Westeria Drive & Germantown Road

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Westeria Drive					Germantown Road					Westeria Drive					Germantown Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	37	54	31	1	1	35	172	58	0	0	13	75	45	0	0	39	139	21	0
04:15 PM to 04:30 PM	0	39	57	31	0	1	40	183	58	1	0	17	68	29	0	1	43	171	16	0
04:30 PM to 04:45 PM	0	34	53	28	0	0	35	172	59	3	0	22	77	29	0	0	39	183	14	1
04:45 PM to 05:00 PM	0	33	69	29	0	1	42	172	47	0	0	13	91	29	0	0	33	173	21	1
05:00 PM to 05:15 PM	0	38	32	24	0	0	23	161	53	0	0	15	92	38	1	0	37	190	22	4
05:15 PM to 05:30 PM	0	51	54	25	0	0	32	191	59	1	0	13	90	32	1	0	50	237	22	4
05:30 PM to 05:45 PM	0	33	58	25	2	2	31	178	75	0	0	22	86	36	0	0	54	153	15	1
05:45 PM to 06:00 PM	0	42	40	32	1	2	24	252	85	3	0	14	74	22	1	0	41	197	13	0
06:00 PM to 06:15 PM	0	38	41	37	0	0	28	220	55	2	0	8	82	30	0	0	34	150	17	0
06:15 PM to 06:30 PM	0	42	49	28	0	2	32	224	89	3	0	10	62	32	0	0	47	213	11	0
06:30 PM to 06:45 PM	0	44	36	36	0	0	25	185	57	0	0	9	70	26	0	1	31	137	10	0
06:45 PM to 07:00 PM	0	38	37	23	2	0	18	181	61	0	0	7	46	22	0	0	37	138	16	1
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	476				3	1234				6	509				2	983				5
05:15 PM to 06:15 PM	0	164	193	119		4	115	841	274		0	57	332	120		0	179	737	67	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.94**	n/a	0.80	0.83	0.80	**0.92**	0.50	0.90	0.83	0.81	**0.85**	n/a	0.65	0.92	0.83	**0.88**	n/a	0.83	0.78	0.76	**0.80**

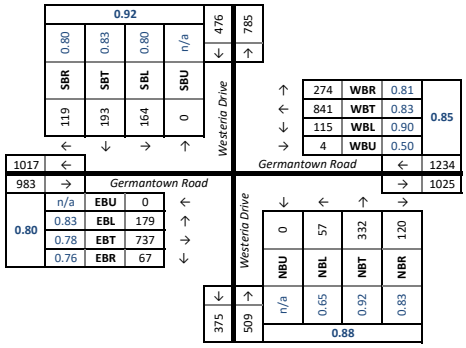
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Germantown Road				Westeria Drive				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	3	1	0	0	2	5	3	0	0	1	1	0	1	7	2
04:15 PM to 04:30 PM	0	0	5	0	0	1	4	4	0	0	1	0	0	1	3	0
04:30 PM to 04:45 PM	0	1	0	0	0	0	4	2	0	0	2	0	0	0	3	0
04:45 PM to 05:00 PM	0	0	1	0	0	1	3	2	0	0	0	0	0	0	5	0
05:00 PM to 05:15 PM	0	2	1	1	0	0	4	0	0	0	1	1	0	0	3	0
05:15 PM to 05:30 PM	0	2	1	0	0	0	3	0	0	0	0	0	0	0	5	0
05:30 PM to 05:45 PM	0	1	1	0	0	0	3	1	0	0	2	0	0	1	1	1
05:45 PM to 06:00 PM	0	2	2	0	0	0	2	2	0	0	0	0	0	1	4	0
06:00 PM to 06:15 PM	0	1	0	0	0	0	3	0	0	0	0	0	0	0	6	0
06:15 PM to 06:30 PM	0	0	2	0	0	0	2	2	0	0	1	0	0	0	1	0
06:30 PM to 06:45 PM	0	1	1	0	0	0	2	2	0	0	0	0	0	0	2	1
06:45 PM to 07:00 PM	0	1	1	0	0	0	1	3	0	0	0	0	0	0	0	1
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	10				14				2				19			
05:15 PM to 06:15 PM	0	6	4	0	0	0	11	3	0	0	2	0	0	2	16	1
Heavy Vehicle % (PHV):	0.0%	3.7%	2.1%	0.0% **2.1%**	0.0%	0.0%	1.3%	1.1% **1.1%**	0.0%	0.0%	0.6%	0.0% **0.4%**	0.0%	1.1%	2.2%	1.5% **1.9%**
INT. PEAK HR (HV ONLY)	11				31				5				22			
04:00 PM to 05:00 PM	0	4	7	0	0	4	16	11	0	0	4	1	0	2	18	2
Heavy Vehicle % (PHV):	0.0%	2.8%	3.0%	0.0% **2.2%**	0.0%	2.6%	2.3%	5.0% **2.9%**	0.0%	0.0%	1.3%	0.8% **1.0%**	0.0%	1.3%	2.7%	2.8% **2.5%**

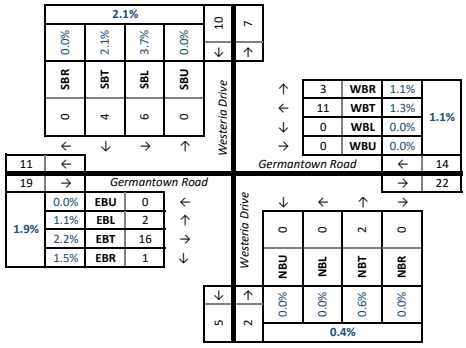
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Germantown Road				Westeria Drive				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	2				1				0				0			
05:15 PM to 06:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	1				4				1				0			
04:15 PM to 05:15 PM	0	0	1	0	0	0	4	0	0	0	1	0	0	0	0	0

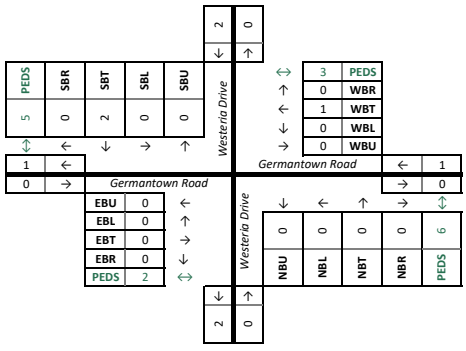
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:15 AM to 09:15 AM
System Peak Hour (all vehicles): 08:15 AM to 09:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Dowson Farm Road & Germantown Road

ALL VEHICLES

	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Dowson Farm Road					Germantown Road					Dowson Farm Road					Germantown Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	12	5	2	0	0	8	52	1	0	0	0	0	14	1	0	1	64	2	1
06:45 AM to 07:00 AM	0	7	2	1	2	0	5	76	3	2	0	0	1	18	0	0	3	88	2	0
07:00 AM to 07:15 AM	0	13	3	3	1	0	11	63	4	0	0	0	3	23	1	0	0	69	1	1
07:15 AM to 07:30 AM	0	19	7	3	0	0	9	87	5	4	0	1	2	25	1	0	0	145	2	1
07:30 AM to 07:45 AM	0	17	7	4	0	1	12	106	5	0	0	3	3	36	1	0	0	122	1	1
07:45 AM to 08:00 AM	0	20	8	1	0	0	10	94	7	1	0	1	7	37	3	1	2	139	1	0
08:00 AM to 08:15 AM	0	17	8	5	2	0	15	131	6	1	0	2	7	23	2	0	0	140	2	0
08:15 AM to 08:30 AM	0	22	12	3	0	0	16	119	7	2	0	1	4	29	0	0	2	163	3	1
08:30 AM to 08:45 AM	0	15	7	2	0	0	9	123	6	0	0	0	3	26	1	0	2	157	1	0
08:45 AM to 09:00 AM	0	16	10	3	0	0	17	124	10	1	0	0	4	17	0	0	0	152	3	1
09:00 AM to 09:15 AM	0	18	9	3	0	1	21	135	15	0	0	0	2	29	1	0	2	139	2	0
09:15 AM to 09:30 AM	0	12	6	3	1	0	13	92	7	0	0	0	2	23	0	0	1	133	2	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	120				0	603				3	115				2	626				2
08:15 AM to 09:15 AM	0	71	38	11		1	63	501	38		0	1	13	101		0	6	611	9	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	SB	U	Left	Thru	Right	WB	U	Left	Thru	Right	NB	U	Left	Thru	Right	EB
0.96	n/a	0.81	0.79	0.92	0.81	0.25	0.75	0.93	0.63	0.88	n/a	0.25	0.81	0.87	0.85	n/a	0.75	0.94	0.75	0.93

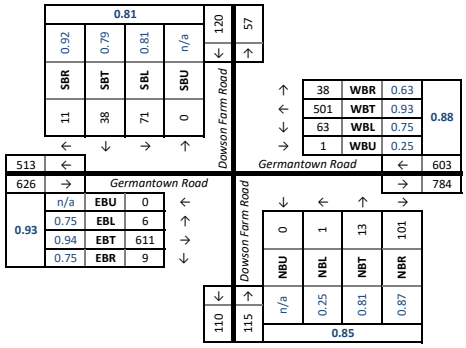
HEAVY VEHICLES (FHWA 4+)

	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Dowson Farm Road				Germantown Road				Dowson Farm Road				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	3	5	0	0	0	0	0	0	0	1	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	10	0	0	0	0	1	0	1	2	0
07:00 AM to 07:15 AM	0	0	0	0	0	1	11	1	0	0	0	1	0	0	3	0
07:15 AM to 07:30 AM	0	0	1	1	0	2	10	0	0	0	0	2	0	0	11	1
07:30 AM to 07:45 AM	0	0	1	0	0	0	9	0	0	0	1	2	0	0	10	0
07:45 AM to 08:00 AM	0	0	0	0	0	1	1	0	0	0	1	3	0	0	3	1
08:00 AM to 08:15 AM	0	0	0	0	0	0	11	0	0	0	1	0	0	0	8	0
08:15 AM to 08:30 AM	0	0	1	0	0	1	4	0	0	0	0	1	0	0	5	0
08:30 AM to 08:45 AM	0	0	0	0	0	1	8	1	0	0	0	2	0	0	4	0
08:45 AM to 09:00 AM	0	0	0	0	0	2	9	1	0	0	0	0	0	0	3	0
09:00 AM to 09:15 AM	0	0	2	0	0	0	5	0	0	0	1	3	0	0	8	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	3	0	0	0	0	3	0	0	8	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	3				32				7				20			
08:15 AM to 09:15 AM	0	0	3	0	0	4	26	2	0	0	1	6	0	0	20	0
Heavy Vehicle % (PHV):	0.0%	0.0%	7.9%	0.0%	0.0%	6.3%	5.2%	5.3%	0.0%	0.0%	7.7%	5.9%	0.0%	0.0%	3.3%	0.0%
2.5%					**5.3%**				**6.1%**				**3.2%**			
INT. PEAK HR (HV ONLY)	3				44				7				28			
06:45 AM to 07:45 AM	0	0	2	1	0	3	40	1	0	0	1	6	0	1	26	1
Heavy Vehicle % (PHV):	0.0%	0.0%	10.5%	9.1%	0.0%	8.1%	12.0%	5.9%	0.0%	0.0%	11.1%	5.9%	0.0%	33.3%	6.1%	16.7%
3.5%					**11.4%**				**6.1%**				**6.5%**			

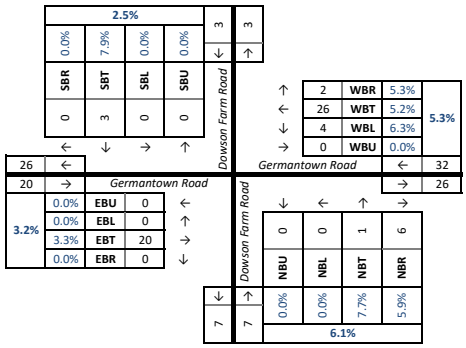
BICYCLES

	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Dowson Farm Road				Germantown Road				Dowson Farm Road				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
09:00 AM to 09:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	1				1				0				1			
08:15 AM to 09:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)	0				2				0				1			
08:00 AM to 09:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0

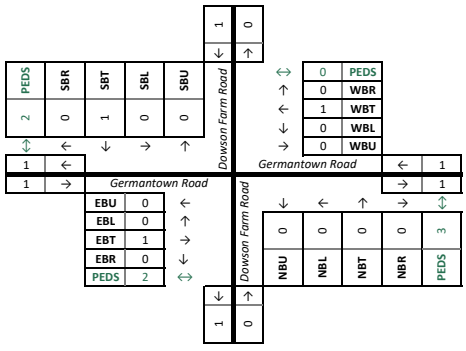
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:15 PM to 06:15 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Dowson Farm Road & Germantown Road

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Dowson Farm Road					Germantown Road					Dowson Farm Road					Germantown Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	11	8	2	0	0	27	190	17	0	0	2	7	33	0	0	5	193	4	0
04:15 PM to 04:30 PM	0	11	8	2	1	0	24	196	17	0	0	2	12	45	0	0	4	146	0	2
04:30 PM to 04:45 PM	0	11	6	3	0	3	24	178	22	0	0	1	8	37	0	0	2	179	2	0
04:45 PM to 05:00 PM	0	16	7	2	1	0	19	195	13	0	0	1	13	37	0	0	4	209	2	1
05:00 PM to 05:15 PM	0	16	5	4	2	0	22	182	19	0	0	0	15	41	1	1	4	215	3	0
05:15 PM to 05:30 PM	0	18	10	2	0	0	36	185	18	0	0	3	17	51	0	2	5	202	5	1
05:30 PM to 05:45 PM	0	6	10	4	0	0	35	185	28	0	0	1	15	40	0	0	9	213	2	0
05:45 PM to 06:00 PM	0	8	8	1	0	0	28	227	21	0	0	2	22	42	1	0	1	199	3	0
06:00 PM to 06:15 PM	0	15	9	1	1	0	44	198	27	0	0	0	11	37	0	1	5	202	5	0
06:15 PM to 06:30 PM	0	9	5	1	1	0	29	174	18	0	0	1	15	45	0	0	8	200	4	0
06:30 PM to 06:45 PM	0	11	4	8	0	0	37	197	31	0	0	3	11	21	0	0	3	157	4	0
06:45 PM to 07:00 PM	0	11	6	5	0	0	25	185	13	0	0	3	10	23	0	0	2	157	2	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	92				1	1032				0	241				1	854				1
05:15 PM to 06:15 PM	0	47	37	8		0	143	795	94		0	6	65	170		3	20	816	15	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.99**	n/a	0.65	0.93	0.50	**0.77**	n/a	0.81	0.88	0.84	**0.93**	n/a	0.50	0.74	0.83	**0.85**	0.38	0.56	0.96	0.75	**0.95**

HEAVY VEHICLES (FHWA 4+)

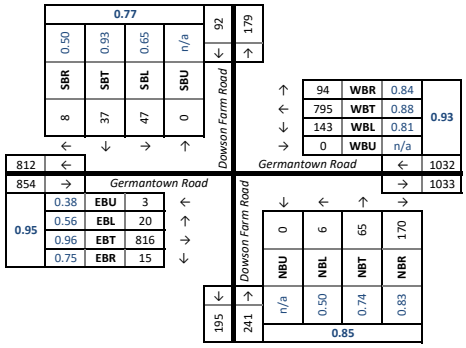
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Dowson Farm Road				Germantown Road				Dowson Farm Road				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	1	0	0	1	3	1	0	0	0	2	0	0	10	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0
04:30 PM to 04:45 PM	0	1	0	0	0	1	3	0	0	0	1	0	0	0	2	0
04:45 PM to 05:00 PM	0	1	0	0	0	0	3	0	0	0	0	3	0	0	2	0
05:00 PM to 05:15 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	0
05:15 PM to 05:30 PM	0	0	0	0	0	1	3	0	0	0	0	1	0	0	5	0
05:30 PM to 05:45 PM	0	0	0	0	0	1	2	0	0	0	0	1	0	0	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	1	1	0	0	0	1	2	0	0	4	0
06:00 PM to 06:15 PM	0	0	0	0	0	1	1	1	0	0	0	0	0	0	4	0
06:15 PM to 06:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0
06:45 PM to 07:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				12				5				14			
05:15 PM to 06:15 PM	0	0	0	0	0	4	7	1	0	0	1	4	0	0	14	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.9%	1.1%	0.0%	0.0%	1.5%	2.4%	0.0%	0.0%	1.7%	0.0%
INT. PEAK HR (HV ONLY)	3				16				6				16			
04:00 PM to 05:00 PM	0	2	1	0	0	2	13	1	0	0	1	5	0	0	16	0
Heavy Vehicle % (PHV):	0.0%	4.1%	3.4%	0.0%	0.0%	2.1%	1.7%	1.4%	0.0%	0.0%	2.5%	3.3%	0.0%	0.0%	2.2%	0.0%

BICYCLES

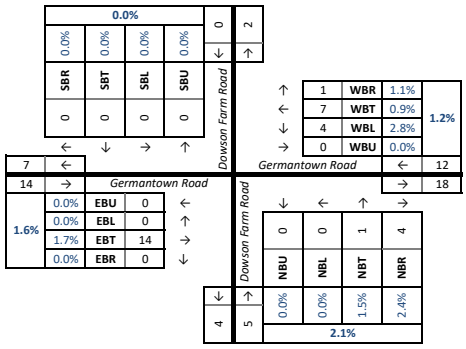
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Dowson Farm Road				Germantown Road				Dowson Farm Road				Germantown Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
05:15 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				3				0				0			
04:00 PM to 05:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

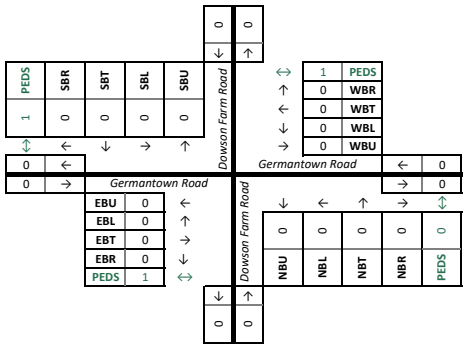
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:00 AM to 09:00 AM
System Peak Hour (all vehicles): 08:15 AM to 09:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Westeria Drive & Father Hurley Blvd

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Westeria Drive					Father Hurley Blvd					Westeria Drive					Father Hurley Blvd				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	1	1	24	4	1	0	8	12	5	3	2	14	29	1	3	0	2	6	16	5
06:45 AM to 07:00 AM	0	2	44	10	1	0	10	10	4	1	1	32	40	5	1	0	2	5	21	0
07:00 AM to 07:15 AM	0	1	40	6	0	0	23	17	8	0	3	35	43	4	0	0	3	13	18	0
07:15 AM to 07:30 AM	0	4	54	7	0	0	17	16	6	0	4	61	48	7	0	0	7	12	21	1
07:30 AM to 07:45 AM	0	5	48	10	0	0	15	32	10	3	3	43	68	19	2	0	3	21	31	1
07:45 AM to 08:00 AM	1	4	57	7	1	0	20	22	1	0	6	43	74	20	0	0	3	18	26	0
08:00 AM to 08:15 AM	0	9	59	15	0	0	20	26	12	0	6	51	57	9	2	0	4	18	36	0
08:15 AM to 08:30 AM	0	4	62	8	1	0	20	19	5	1	8	58	85	10	1	0	5	11	28	2
08:30 AM to 08:45 AM	0	9	61	10	0	0	21	32	12	0	2	51	69	9	1	0	11	23	38	0
08:45 AM to 09:00 AM	1	7	68	15	0	0	28	23	20	0	5	51	64	18	1	0	9	21	36	0
09:00 AM to 09:15 AM	0	1	65	11	0	0	13	21	7	0	3	34	49	15	0	0	8	14	41	0
09:15 AM to 09:30 AM	0	8	58	19	1	0	15	15	5	0	2	41	54	5	1	0	13	11	33	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	328				1	238				1	553				5	240				2
08:00 AM to 09:00 AM	1	29	250	48		0	89	100	49		21	211	275	46		0	29	73	138	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) 0.93	0.25	0.81	0.92	0.80	**0.90**	n/a	0.79	0.78	0.61	**0.84**	0.66	0.91	0.81	0.64	**0.86**	n/a	0.66	0.79	0.91	**0.83**

HEAVY VEHICLES (FHWA 4+)

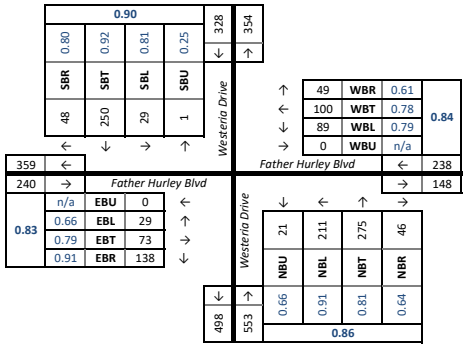
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Father Hurley Blvd				Westeria Drive				Father Hurley Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	1	2	1	0	0	1	0	0	1	2	1	0	0	1	3
07:00 AM to 07:15 AM	0	0	0	0	0	1	3	0	0	2	3	1	0	0	2	0
07:15 AM to 07:30 AM	0	0	2	0	0	0	0	0	0	8	2	0	0	2	0	2
07:30 AM to 07:45 AM	0	0	1	0	0	0	2	0	0	3	1	0	0	0	2	5
07:45 AM to 08:00 AM	0	0	3	0	0	1	4	0	0	0	5	5	0	0	4	3
08:00 AM to 08:15 AM	0	0	1	2	0	5	3	1	0	0	1	0	0	0	2	1
08:15 AM to 08:30 AM	0	0	1	0	0	1	2	0	0	0	8	0	0	0	1	4
08:30 AM to 08:45 AM	0	0	2	0	0	0	0	1	0	0	1	0	0	0	1	1
08:45 AM to 09:00 AM	0	0	5	0	0	0	1	3	0	0	6	1	0	2	1	4
09:00 AM to 09:15 AM	0	1	4	0	0	1	2	2	0	0	0	1	0	0	2	1
09:15 AM to 09:30 AM	0	0	2	2	0	0	0	0	1	0	1	0	0	0	1	3
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	11				17				17				17			
08:00 AM to 09:00 AM	0	0	9	2	0	6	6	5	0	0	16	1	0	2	5	10
Heavy Vehicle % (PHV):	0.0%	0.0%	3.6%	4.2%	0.0%	6.7%	6.0%	10.2%	0.0%	0.0%	5.8%	2.2%	0.0%	6.9%	6.8%	7.2%
3.4%					**7.1%**				**3.1%**				**7.1%**			
INT. PEAK HR (HV ONLY)	8				19				23				22			
07:30 AM to 08:30 AM	0	0	6	2	0	7	11	1	0	3	15	5	0	0	9	13
Heavy Vehicle % (PHV):	0.0%	0.0%	2.7%	5.0%	0.0%	9.3%	11.1%	3.6%	0.0%	1.5%	5.3%	8.6%	0.0%	0.0%	13.2%	10.7%
2.8%					**9.4%**				**4.1%**				**10.8%**			

BICYCLES

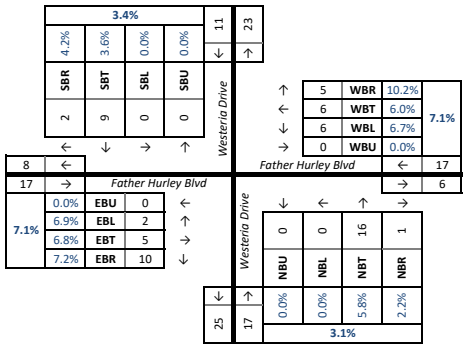
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Father Hurley Blvd				Westeria Drive				Father Hurley Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
08:00 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				1				1				0			
06:30 AM to 07:30 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0

DATA COLLECTION NOTES :

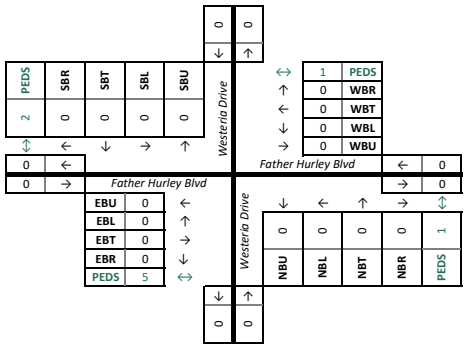
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:15 PM to 06:15 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Westeria Drive & Father Hurley Blvd

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Westeria Drive					Father Hurley Blvd					Westeria Drive					Father Hurley Blvd				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM	to 04:15 PM	0	10	94	10	0	0	14	15	11	0	3	43	69	14	0	0	22	32	67	4
04:15 PM	to 04:30 PM	0	11	81	10	0	0	19	19	6	0	1	53	81	9	0	0	25	19	71	0
04:30 PM	to 04:45 PM	0	11	128	9	2	0	9	19	8	2	1	49	88	17	3	0	12	33	78	0
04:45 PM	to 05:00 PM	0	10	94	17	0	0	17	16	10	1	6	43	83	10	1	0	24	30	68	1
05:00 PM	to 05:15 PM	0	7	120	10	0	0	18	21	7	1	2	33	103	13	1	0	20	43	83	0
05:15 PM	to 05:30 PM	0	18	119	16	0	0	18	24	6	2	1	59	98	15	2	0	28	38	96	1
05:30 PM	to 05:45 PM	0	16	127	12	0	0	12	12	4	0	7	49	115	21	1	0	21	38	100	0
05:45 PM	to 06:00 PM	0	10	100	13	3	0	12	16	8	2	0	32	81	13	1	0	26	45	83	0
06:00 PM	to 06:15 PM	0	18	78	10	0	0	13	20	8	0	4	51	108	20	0	0	28	42	85	0
06:15 PM	to 06:30 PM	0	13	67	14	1	0	15	23	5	0	3	40	89	14	4	0	21	34	72	5
06:30 PM	to 06:45 PM	0	9	78	15	0	0	9	16	11	1	1	33	74	15	1	0	25	38	57	0
06:45 PM	to 07:00 PM	0	5	81	13	0	0	7	12	6	1	0	40	62	6	1	0	21	18	66	0
07:00 PM	to 07:15 PM																				
07:15 PM	to 07:30 PM																				
07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		537				3	153				4	674				4	630				1
05:15 PM	to 06:15 PM	0	62	424	51		0	55	72	26		12	191	402	69		0	103	163	364	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.93**	n/a	0.86	0.83	0.80	**0.87**	n/a	0.76	0.75	0.81	**0.80**	0.43	0.81	0.87	0.82	**0.88**	n/a	0.92	0.91	0.91	**0.97**

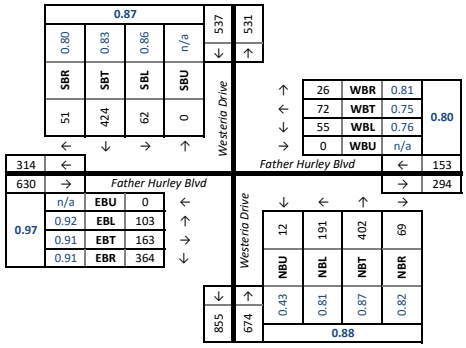
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Father Hurley Blvd				Westeria Drive				Father Hurley Blvd			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM	0	1	4	0	0	1	1	0	1	1	2	0	0	0	2	0
04:15 PM	to 04:30 PM	0	0	2	0	0	0	2	0	0	6	0	0	0	0	0	1
04:30 PM	to 04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	2
04:45 PM	to 05:00 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0
05:00 PM	to 05:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	2
05:30 PM	to 05:45 PM	0	0	2	0	0	0	1	0	0	2	1	0	0	0	1	2
05:45 PM	to 06:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
06:00 PM	to 06:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0
06:30 PM	to 06:45 PM	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
07:00 PM	to 07:15 PM																
07:15 PM	to 07:30 PM																
07:30 PM	to 07:45 PM																
07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		5				2				6				7			
05:15 PM	to 06:15 PM	0	0	5	0	0	0	2	0	0	4	2	0	0	0	1	6
Heavy Vehicle % (PHV):		0.0%	0.0%	1.2%	0.0%	**0.9%**	0.0%	0.0%	2.8%	0.0%	**1.3%**	0.0%	2.1%	0.5%	0.0%	**0.9%**	0.0%	0.0%	0.6%	1.6%	**1.1%**
INT. PEAK HR (HV ONLY)		9				5				12				7			
04:00 PM	to 05:00 PM	0	1	8	0	0	1	4	0	1	8	3	0	0	0	4	3
Heavy Vehicle % (PHV):		0.0%	2.4%	2.0%	0.0%	**1.9%**	0.0%	1.7%	5.8%	0.0%	**3.1%**	9.1%	4.3%	0.9%	0.0%	**2.1%**	0.0%	0.0%	3.5%	1.1%	**1.5%**

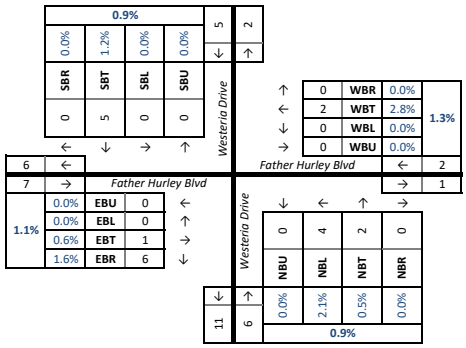
BICYCLES

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Father Hurley Blvd				Westeria Drive				Father Hurley Blvd			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
04:15 PM	to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
04:45 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:30 PM	to 05:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
05:45 PM	to 06:00 PM	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
07:00 PM	to 07:15 PM																
07:15 PM	to 07:30 PM																
07:30 PM	to 07:45 PM																
07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		2				2				1				1			
05:15 PM	to 06:15 PM	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
INT. PEAK HR (BIKES)		2				3				1				1			
05:00 PM	to 06:00 PM	0	0	2	0	0	0	3	0	0	0	1	0	0	0	1	0

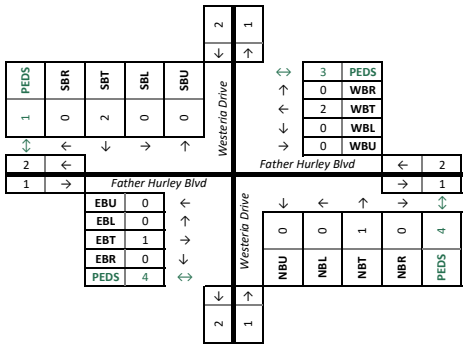
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:15 AM to 09:15 AM
System Peak Hour (all vehicles): 08:15 AM to 09:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Westeria Drive & Great Seneca Highway

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Westeria Drive					Great Seneca Highway					Westeria Drive					Great Seneca Highway				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM	to 06:45 AM	0	11	7	9	0	1	3	24	3	0	0	5	8	26	0	0	5	73	2	0
06:45 AM	to 07:00 AM	0	13	9	6	1	0	5	28	9	2	0	6	15	16	0	0	9	73	5	0
07:00 AM	to 07:15 AM	0	14	12	10	0	4	4	32	6	0	0	7	15	17	1	0	7	78	1	3
07:15 AM	to 07:30 AM	0	17	15	10	0	0	10	40	8	1	0	6	20	23	1	1	10	85	5	2
07:30 AM	to 07:45 AM	0	34	17	17	0	0	4	44	7	1	0	12	23	30	1	0	11	98	11	0
07:45 AM	to 08:00 AM	0	16	27	21	0	2	11	49	7	1	0	8	21	28	1	0	16	96	14	0
08:00 AM	to 08:15 AM	0	17	22	14	0	3	14	44	7	2	0	15	22	32	0	0	15	89	17	0
08:15 AM	to 08:30 AM	0	28	28	27	2	2	7	58	11	4	0	13	25	27	2	0	18	103	16	2
08:30 AM	to 08:45 AM	0	22	39	22	1	3	15	59	23	4	0	13	31	23	0	0	21	96	15	2
08:45 AM	to 09:00 AM	0	21	31	17	1	1	18	53	9	1	0	16	29	31	0	0	20	107	12	3
09:00 AM	to 09:15 AM	0	12	34	29	0	3	16	56	9	0	0	18	25	25	1	0	15	73	22	0
09:15 AM	to 09:30 AM	0	20	24	12	1	6	17	56	12	2	0	9	22	19	1	0	20	73	17	2
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		310				4	343				9	276				3	518				7
08:15 AM	to 09:15 AM	0	83	132	95		9	56	226	52		0	60	110	106		0	74	379	65	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.95**	n/a	0.74	0.85	0.82	**0.93**	0.75	0.78	0.96	0.57	**0.86**	n/a	0.83	0.89	0.85	**0.91**	n/a	0.88	0.89	0.74	**0.93**

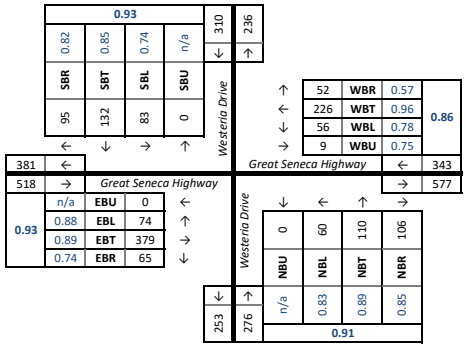
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Great Seneca Highway				Westeria Drive				Great Seneca Highway			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	2	0	1	0	1	7	1	0	1	0	1	0	0	1	0
06:45 AM	to 07:00 AM	0	0	1	1	0	0	6	1	0	0	1	1	0	0	1	1
07:00 AM	to 07:15 AM	0	0	2	0	0	0	1	0	0	0	1	0	0	2	2	1
07:15 AM	to 07:30 AM	0	2	1	2	0	0	2	2	0	1	2	1	0	1	3	0
07:30 AM	to 07:45 AM	0	4	1	3	0	0	0	0	0	1	1	0	0	1	1	3
07:45 AM	to 08:00 AM	0	3	3	3	0	0	2	0	0	3	6	1	0	0	3	6
08:00 AM	to 08:15 AM	0	1	3	0	0	0	0	1	0	0	0	2	0	0	3	2
08:15 AM	to 08:30 AM	0	3	0	1	0	0	3	0	0	0	2	0	0	1	3	1
08:30 AM	to 08:45 AM	0	1	2	1	0	2	6	2	0	2	6	1	0	0	4	1
08:45 AM	to 09:00 AM	0	2	0	0	0	0	2	0	0	3	3	2	0	0	5	0
09:00 AM	to 09:15 AM	0	0	3	3	0	0	4	1	0	0	0	0	0	0	2	1
09:15 AM	to 09:30 AM	0	2	1	0	0	0	2	1	0	0	2	0	0	0	4	0
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		16				20				19				18			
08:15 AM	to 09:15 AM	0	6	5	5	0	2	15	3	0	5	11	3	0	1	14	3
Heavy Vehicle % (PHV):		0.0%	7.2%	3.8%	5.3%	0.0%	3.6%	6.6%	5.8%	0.0%	8.3%	10.0%	2.8%	0.0%	1.4%	3.7%	4.6%
		5.2%				**5.8%**				**6.9%**				**3.5%**			
INT. PEAK HR (HV ONLY)		21				16				23				24			
07:45 AM	to 08:45 AM	0	8	8	5	0	2	11	3	0	5	14	4	0	1	13	10
Heavy Vehicle % (PHV):		0.0%	9.6%	6.9%	6.0%	0.0%	4.3%	5.2%	6.3%	0.0%	10.2%	14.1%	3.6%	0.0%	1.4%	3.4%	16.1%
		7.4%				**5.1%**				**8.9%**				**4.7%**			

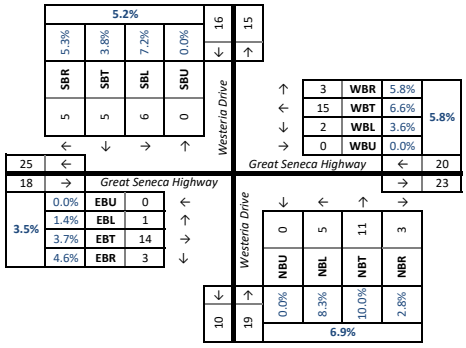
BICYCLES

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Great Seneca Highway				Westeria Drive				Great Seneca Highway			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		0				0				0				0			
08:15 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		1				0				0				1			
06:45 AM	to 07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

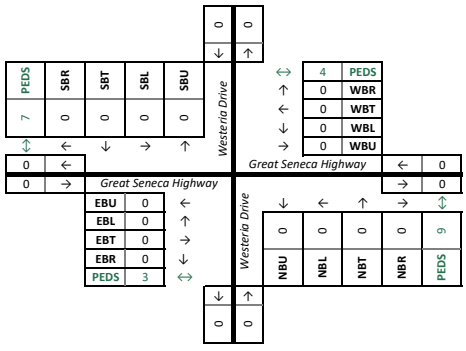
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:00 PM to 06:00 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Westeria Drive & Great Seneca Highway

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Westeria Drive					Great Seneca Highway					Westeria Drive					Great Seneca Highway				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM	to 04:15 PM	0	17	46	25	0	8	40	103	19	0	0	21	52	28	0	0	14	125	21	3
04:15 PM	to 04:30 PM	0	27	50	26	0	11	48	119	13	0	0	29	46	27	1	1	32	132	27	3
04:30 PM	to 04:45 PM	0	22	45	36	1	6	35	101	16	5	0	22	48	29	0	0	23	100	30	0
04:45 PM	to 05:00 PM	0	27	48	27	0	12	36	100	14	1	0	35	56	36	0	0	42	137	36	5
05:00 PM	to 05:15 PM	0	22	55	21	1	9	36	110	20	2	0	27	33	28	3	0	36	152	32	4
05:15 PM	to 05:30 PM	0	16	67	23	1	7	44	106	14	6	0	37	71	31	0	0	46	164	40	0
05:30 PM	to 05:45 PM	0	18	49	30	0	12	37	124	14	1	0	23	51	32	0	1	33	135	34	3
05:45 PM	to 06:00 PM	0	21	42	21	0	9	45	122	17	0	0	23	62	41	1	0	33	149	30	2
06:00 PM	to 06:15 PM	0	13	30	27	0	4	29	137	18	0	0	20	41	31	2	0	30	118	29	0
06:15 PM	to 06:30 PM	0	22	46	30	0	7	39	111	14	2	0	15	55	28	1	0	16	101	18	2
06:30 PM	to 06:45 PM	0	13	37	26	1	5	38	142	21	2	0	26	43	31	1	1	18	103	29	4
06:45 PM	to 07:00 PM	0	7	42	28	1	13	32	110	15	1	0	20	39	23	0	0	25	95	27	4
07:00 PM	to 07:15 PM																				
07:15 PM	to 07:30 PM																				
07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		385				2	726				9	459				4	885				9
05:00 PM	to 06:00 PM	0	77	213	95		37	162	462	65		0	110	217	132		1	148	600	136	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.92**	n/a	0.88	0.79	0.79	**0.91**	0.77	0.90	0.93	0.81	**0.94**	n/a	0.74	0.76	0.80	**0.83**	0.25	0.80	0.91	0.85	**0.89**

HEAVY VEHICLES (FHWA 4+)

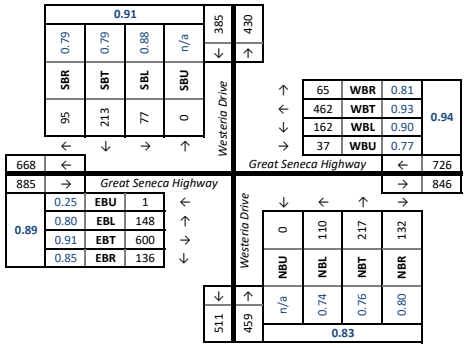
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Great Seneca Highway				Westeria Drive				Great Seneca Highway			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM	0	1	2	2	0	0	0	0	0	0	1	0	0	0	4	0
04:15 PM	to 04:30 PM	0	1	1	0	0	0	4	0	0	0	1	0	0	1	2	0
04:30 PM	to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
04:45 PM	to 05:00 PM	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	1
05:00 PM	to 05:15 PM	0	0	0	0	0	0	2	0	0	0	1	0	0	2	2	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
05:30 PM	to 05:45 PM	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0
05:45 PM	to 06:00 PM	0	0	1	0	0	0	2	1	0	0	1	1	0	0	3	0
06:00 PM	to 06:15 PM	0	1	1	1	0	0	1	0	0	0	0	1	0	0	1	1
06:15 PM	to 06:30 PM	0	1	1	0	0	0	2	0	0	2	0	1	0	1	2	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	1	2	0	0	1	0	0	1	1	1
06:45 PM	to 07:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
07:00 PM	to 07:15 PM																
07:15 PM	to 07:30 PM																
07:30 PM	to 07:45 PM																
07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		2				7				4				12			
05:00 PM	to 06:00 PM	0	0	1	1	0	1	5	1	0	0	3	1	0	3	9	0
Heavy Vehicle % (PHV):		0.0%	0.0%	0.5%	1.1%	0.0%	0.6%	1.1%	1.5%	0.0%	0.0%	1.4%	0.8%	0.0%	2.0%	1.5%	0.0%
		0.5%				**1.0%**				**0.9%**				**1.4%**			
INT. PEAK HR (HV ONLY)		6				9				7				11			
05:45 PM	to 06:45 PM	0	2	3	1	0	0	6	3	0	2	2	3	0	2	7	2
Heavy Vehicle % (PHV):		0.0%	2.9%	1.9%	1.0%	0.0%	0.0%	1.2%	4.3%	0.0%	2.4%	1.0%	2.3%	0.0%	2.1%	1.5%	1.9%
		1.8%				**1.2%**				**1.7%**				**1.6%**			

BICYCLES

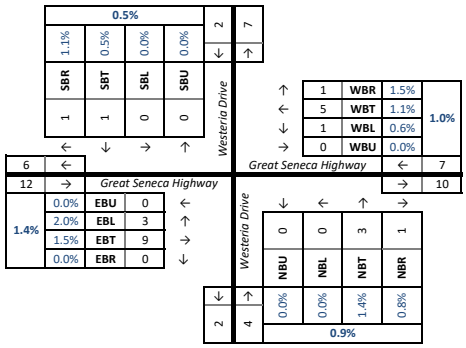
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Great Seneca Highway				Westeria Drive				Great Seneca Highway			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:45 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	to 07:15 PM																
07:15 PM	to 07:30 PM																
07:30 PM	to 07:45 PM																
07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		1				0				0				0			
05:00 PM	to 06:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		1				1				2				0			
04:15 PM	to 05:15 PM	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0	0

DATA COLLECTION NOTES :

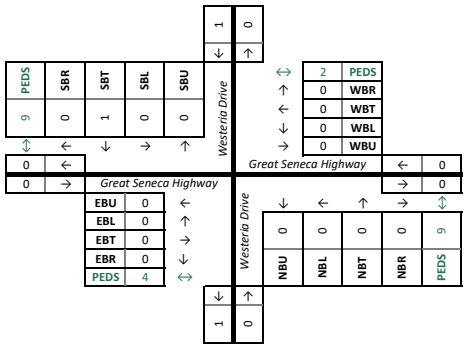
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:15 AM to 09:15 AM
System Peak Hour (all vehicles): 08:15 AM to 09:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Site Driveway/ & Walter Johnson Road

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Site Driveway					Walter Johnson Road										Walter Johnson Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	1	3	0	0
07:00 AM to 07:15 AM	0	1	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0	4	0	0
07:15 AM to 07:30 AM	0	0	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0	8	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	1	2	0	0
07:45 AM to 08:00 AM	0	1	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0	12	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	1	4	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	9	2	0	0	0	0	0	0	0	0	5	0	0
08:30 AM to 08:45 AM	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	5	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1	7	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	1	9	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	6	0	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)		1			0		32			0		0			0		29			0
08:15 AM to 09:15 AM	0	1	0	0		0	0	30	2		0	0	0	0		0	3	26	0	
Peak Hour Factor (PHF) Overall **0.86**	U	Left	Thru	Right	**SB 0.25**	U	Left	Thru	Right	**WB 0.73**	U	Left	Thru	Right	**NB n/a**	U	Left	Thru	Right	**EB 0.73**
	n/a	0.25	n/a	n/a		n/a	n/a	0.75	0.25		n/a	n/a	n/a	n/a		n/a	0.75	0.72	n/a	

HEAVY VEHICLES (FHWA 4+)

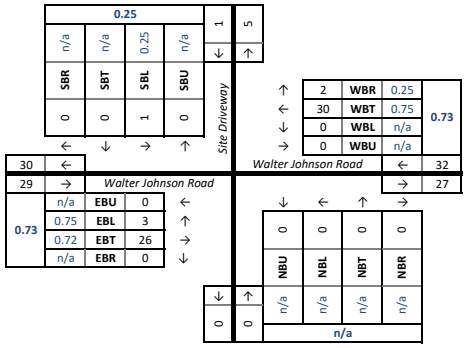
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Site Driveway					Walter Johnson Road										Walter Johnson Road				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:30 AM to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM to 07:00 AM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	2	0	
07:00 AM to 07:15 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	1	0	
07:15 AM to 07:30 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	2	0	
07:30 AM to 07:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:45 AM to 08:00 AM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	2	0	
08:00 AM to 08:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:15 AM to 08:30 AM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	1	0	
08:30 AM to 08:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:45 AM to 09:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
09:00 AM to 09:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
09:15 AM to 09:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)		0					3					0					3			
08:15 AM to 09:15 AM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	3	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	10.0%	0.0%	**9.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	11.5%	0.0%	**10.3%**
INT. PEAK HR (HV ONLY)		0					4					0					5			
06:30 AM to 07:30 AM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	5	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	17.4%	0.0%	**16.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	31.3%	0.0%	**29.4%**

BICYCLES

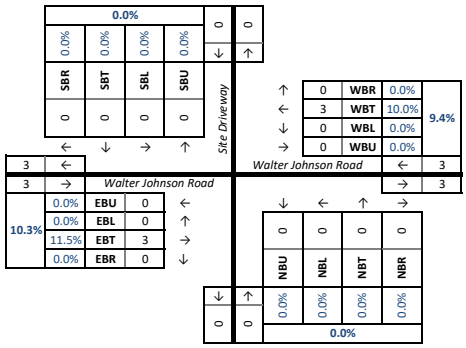
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Site Driveway				Walter Johnson Road								Walter Johnson Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)		0				0				0				0		
08:15 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		0				0				0				0		
06:30 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

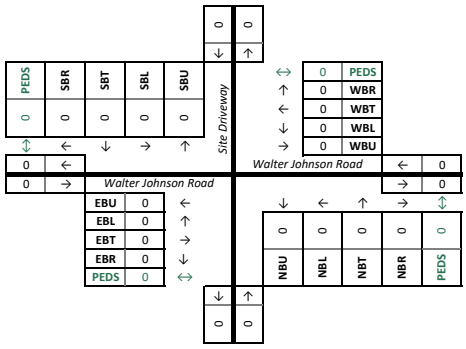
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Lidl Germantown
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, June 10, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:00 PM to 05:00 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Site Driveway/ & Walter Johnson Road

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Site Driveway					Walter Johnson Road										Walter Johnson Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	1	0	1	0	0	0	6	2	0	0	0	0	0	0	0	1	5	0	0
04:15 PM to 04:30 PM	0	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	11	0	0
04:30 PM to 04:45 PM	0	1	0	0	0	0	0	6	2	0	0	0	0	0	0	0	1	12	0	0
04:45 PM to 05:00 PM	0	3	0	1	0	0	0	9	0	0	0	0	0	0	0	0	0	9	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	2	0	0
05:15 PM to 05:30 PM	0	1	0	0	0	0	0	9	0	1	0	0	0	0	0	0	1	8	0	0
05:30 PM to 05:45 PM	0	1	0	1	0	0	0	9	0	0	0	0	0	0	0	0	0	9	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	8	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0
06:30 PM to 06:45 PM	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	6	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	3	0	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	8				0	35				0	0				0	39				0
04:00 PM to 05:00 PM	0	6	0	2		0	0	31	4		0	0	0	0		0	2	37	0	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.93**	n/a	0.50	n/a	0.50	**0.50**	n/a	n/a	0.78	0.50	**0.88**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.50	0.77	n/a	**0.75**

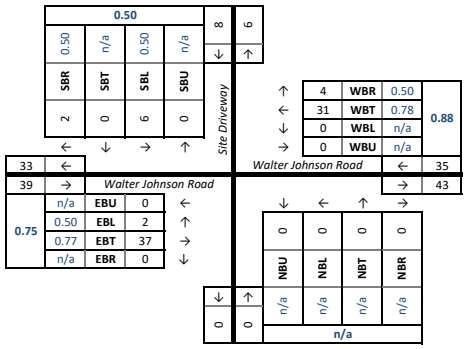
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Site Driveway					Walter Johnson Road										Walter Johnson Road				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
04:00 PM to 04:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:15 PM to 04:30 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	2	0	
04:30 PM to 04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	2	0	
04:45 PM to 05:00 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
05:00 PM to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:15 PM to 05:30 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
05:30 PM to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
05:45 PM to 06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:00 PM to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	0					3					0					4				
04:00 PM to 05:00 PM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	4	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	9.7%	0.0%	**8.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	10.8%	0.0%	**10.3%**
INT. PEAK HR (HV ONLY)	0					3					0					4				
04:00 PM to 05:00 PM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	4	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	9.7%	0.0%	**8.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	10.8%	0.0%	**10.3%**

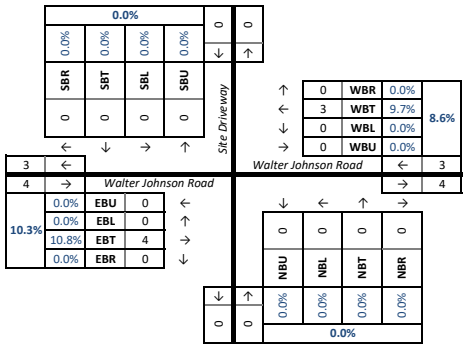
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Site Driveway				Walter Johnson Road								Walter Johnson Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
04:00 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				0			
04:00 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

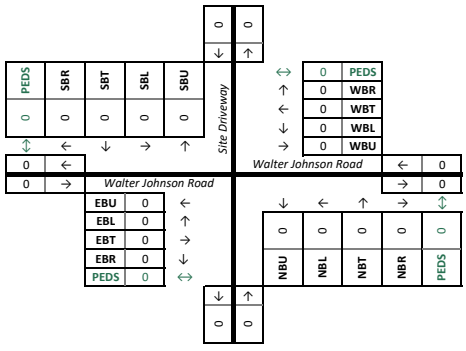
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Westeria Drive & Walter Johnson Road

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Westeria Drive					Walter Johnson Road					Westeria Drive					Walter Johnson Road				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM	to 06:45 AM	0	0	20	1	0	0	0	0	2	1	0	5	22	0	0	0	0	0	4	2
06:45 AM	to 07:00 AM	0	0	33	2	0	0	0	0	0	1	0	5	24	1	0	0	0	0	4	2
07:00 AM	to 07:15 AM	0	0	57	2	0	0	0	0	0	7	0	3	37	1	4	0	0	0	3	1
07:15 AM	to 07:30 AM	0	3	131	3	1	0	0	0	3	7	0	3	72	0	7	0	1	0	9	3
07:30 AM	to 07:45 AM	0	3	104	3	0	0	2	0	3	21	0	9	135	3	3	0	2	0	7	5
07:45 AM	to 08:00 AM	0	3	92	4	1	0	3	0	3	1	0	7	73	11	2	0	1	0	7	2
08:00 AM	to 08:15 AM	0	5	78	4	0	0	2	0	2	1	0	6	58	2	0	0	2	0	7	1
08:15 AM	to 08:30 AM	0	4	91	9	0	0	3	0	5	2	0	4	51	0	0	0	1	1	10	1
08:30 AM	to 08:45 AM	0	7	90	3	0	0	1	0	2	0	0	3	46	1	1	0	1	1	4	0
08:45 AM	to 09:00 AM	0	6	61	6	0	0	3	1	2	1	0	5	58	3	2	0	3	0	3	0
09:00 AM	to 09:15 AM	0	8	61	5	0	0	4	1	4	1	0	8	65	2	0	0	5	1	7	1
09:15 AM	to 09:30 AM	0	6	79	2	0	0	5	0	7	0	0	6	62	4	1	0	1	0	9	0
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		433				2	18				30	379				12	36				11
07:15 AM	to 08:15 AM	0	14	405	14		0	7	0	11		0	25	338	16		0	6	0	30	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.80**	n/a	0.70	0.77	0.88	**0.79**	n/a	0.58	n/a	0.92	**0.75**	n/a	0.69	0.63	0.36	**0.64**	n/a	0.75	n/a	0.83	**0.90**

HEAVY VEHICLES (FHWA 4+)

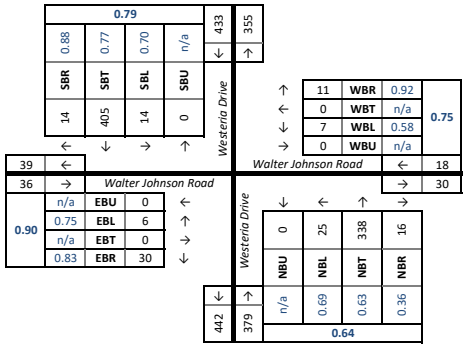
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Walter Johnson Road				Westeria Drive				Walter Johnson Road			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	5	0	0	0	0	1	0	0	1	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0
07:45 AM	to 08:00 AM	0	0	3	0	0	0	0	0	0	0	5	1	0	0	0	0
08:00 AM	to 08:15 AM	0	0	6	1	0	1	0	0	0	1	3	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	6	1	0	0	0	0	0	0	3	0	0	0	0	2
08:30 AM	to 08:45 AM	0	0	6	0	0	0	0	0	0	0	4	0	0	0	0	0
08:45 AM	to 09:00 AM	0	1	3	0	0	0	0	0	0	0	5	0	0	1	0	0
09:00 AM	to 09:15 AM	0	0	3	0	0	1	0	0	0	1	3	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		16				3				12				1			
07:15 AM	to 08:15 AM	0	0	15	1	0	1	0	2	0	2	9	1	0	1	0	0
Heavy Vehicle % (PHV):		0.0%	0.0%	3.7%	7.1%	0.0%	14.3%	0.0%	18.2%	0.0%	8.0%	2.7%	6.3%	0.0%	16.7%	0.0%	0.0%
		3.7%				**16.7%**				**3.2%**				**2.8%**			
INT. PEAK HR (HV ONLY)		24				1				16				3			
08:00 AM	to 09:00 AM	0	1	21	2	0	1	0	0	0	1	15	0	0	1	0	2
Heavy Vehicle % (PHV):		0.0%	4.5%	6.6%	9.1%	0.0%	11.1%	0.0%	0.0%	0.0%	5.6%	7.0%	0.0%	0.0%	14.3%	0.0%	8.3%
		6.6%				**4.8%**				**6.8%**				**9.1%**			

BICYCLES

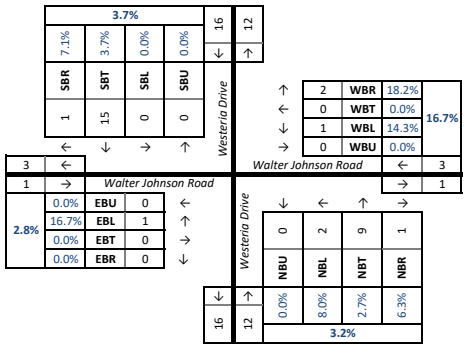
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Westeria Drive				Walter Johnson Road				Westeria Drive				Walter Johnson Road			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		5				1				0				0			
07:15 AM	to 08:15 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		5				1				0				0			
07:00 AM	to 08:00 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

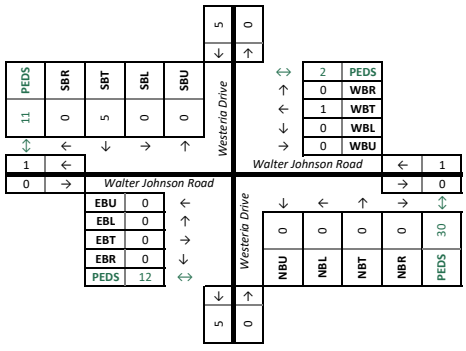
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:30 PM to 05:30 PM
System Peak Hour (all vehicles): 04:30 PM to 05:30 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Westeria Drive & Walter Johnson Road

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Westeria Drive					Walter Johnson Road					Westeria Drive					Walter Johnson Road				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	2	100	3	0	0	7	1	21	4	0	5	97	8	3	0	2	1	11	1
04:15 PM to 04:30 PM	0	4	91	3	0	0	5	0	15	1	0	3	86	11	2	0	5	1	7	1
04:30 PM to 04:45 PM	0	6	100	0	0	0	4	0	14	0	0	5	113	12	0	0	3	1	5	0
04:45 PM to 05:00 PM	0	12	99	3	0	0	8	2	5	1	0	8	104	6	0	0	0	2	8	4
05:00 PM to 05:15 PM	0	13	91	2	0	0	13	0	9	0	0	6	119	11	0	0	8	0	11	1
05:15 PM to 05:30 PM	0	10	88	1	0	0	9	0	11	2	0	11	102	7	0	0	4	1	4	0
05:30 PM to 05:45 PM	0	11	96	1	1	0	12	0	12	0	0	3	100	8	2	0	2	0	4	0
05:45 PM to 06:00 PM	0	11	67	3	0	0	12	1	11	3	0	2	86	4	0	0	2	1	7	1
06:00 PM to 06:15 PM	0	4	81	2	0	0	15	0	14	2	0	4	86	12	4	0	3	0	8	1
06:15 PM to 06:30 PM	0	1	79	1	0	0	7	0	6	2	0	3	68	7	1	0	0	0	6	0
06:30 PM to 06:45 PM	0	8	72	1	0	0	11	0	9	1	0	1	91	6	2	0	0	0	4	0
06:45 PM to 07:00 PM	0	5	77	2	0	0	9	0	7	1	0	7	70	6	1	0	0	0	7	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	425				0	75				3	504				0	47				5
04:30 PM to 05:30 PM	0	41	378	6		0	34	2	39		0	30	438	36		0	15	4	28	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.93	n/a	0.79	0.95	0.50	**0.93**	n/a	0.65	0.25	0.70	**0.85**	n/a	0.68	0.92	0.75	**0.93**	n/a	0.47	0.50	0.64	**0.62**

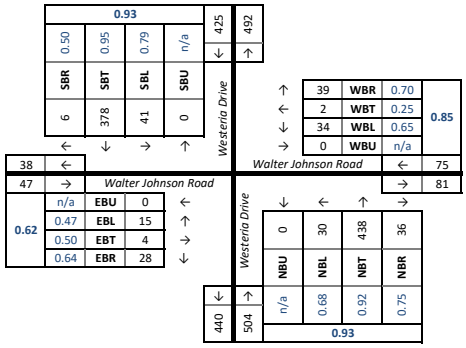
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Walter Johnson Road				Westeria Drive				Walter Johnson Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	3	1	0	0	0	0	0	0	1	0	0	1	0	0
04:15 PM to 04:30 PM	0	0	7	0	0	0	0	0	0	0	4	0	0	0	0	2
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
06:15 PM to 06:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	2				0				3				2			
04:30 PM to 05:30 PM	0	0	1	1	0	0	0	0	0	0	3	0	0	0	0	2
Heavy Vehicle % (PHV):	0.0%	0.0%	0.3%	16.7%	**0.5%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.7%	0.0%	**0.6%**	0.0%	0.0%	0.0%	7.1%	**4.3%**
INT. PEAK HR (HV ONLY)	12				0				6				4			
04:00 PM to 05:00 PM	0	0	10	2	0	0	0	0	0	0	6	0	0	1	0	3
Heavy Vehicle % (PHV):	0.0%	0.0%	2.6%	22.2%	**2.8%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	1.5%	0.0%	**1.3%**	0.0%	10.0%	0.0%	9.7%	**8.7%**

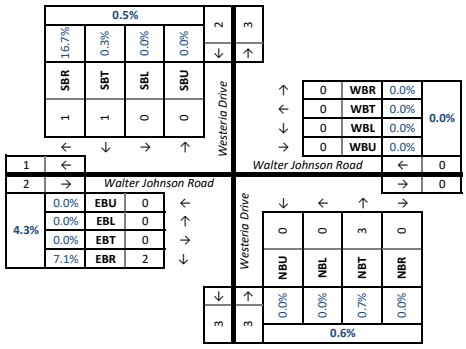
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Westeria Drive				Walter Johnson Road				Westeria Drive				Walter Johnson Road			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	1				0				0				0			
04:30 PM to 05:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				2				1			
04:00 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0

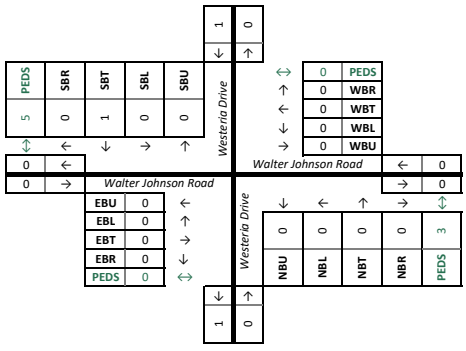
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Bowman Mill Drive & Shopping Center D/W North/

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W North					Bowman Mill Drive									
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	8	10	0	0	0	0	0	12	0	0	0	4	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	10	10	0	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	14	4	0	0	0	1	0	11	1	0	0	1	1	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	18	9	0	0	0	2	0	16	0	0	0	4	1	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	15	18	0	0	0	0	0	15	1	0	0	4	2	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	11	9	0	0	0	1	0	17	1	0	0	4	2	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	12	16	0	0	0	1	0	15	0	0	0	5	1	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	19	9	0	0	0	3	0	17	0	0	0	4	1	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	12	9	0	0	0	2	0	19	0	0	0	2	1	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	9	7	0	0	0	1	0	11	0	0	0	4	3	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	19	8	0	0	0	0	0	13	0	0	0	3	1	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	11	8	0	0	0	0	0	17	0	0	0	5	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	109				0	69				2	23				0	0				0
07:30 AM to 08:30 AM	0	57	52	0		0	5	0	64		0	0	17	6		0	0	0	0	
Peak Hour Factor (PHF) Overall **0.93**	U	Left	Thru	Right	**SB 0.83**	U	Left	Thru	Right	**WB 0.86**	U	Left	Thru	Right	**NB 0.96**	U	Left	Thru	Right	**EB n/a**
	n/a	0.75	0.72	n/a		n/a	0.42	n/a	0.94		n/a	n/a	0.85	0.75		n/a	n/a	n/a	n/a	

HEAVY VEHICLES (FHWA 4+)

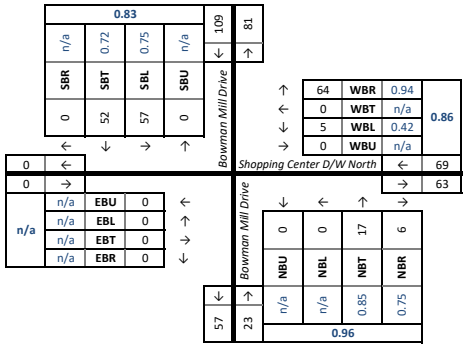
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W North					Bowman Mill Drive									
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:30 AM to 06:45 AM																				
06:45 AM to 07:00 AM																				
07:00 AM to 07:15 AM																				
07:15 AM to 07:30 AM																				
07:30 AM to 07:45 AM																				
07:45 AM to 08:00 AM																				
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10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	0					0					0					0				
07:30 AM to 08:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	0					0					0					0				
06:30 AM to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

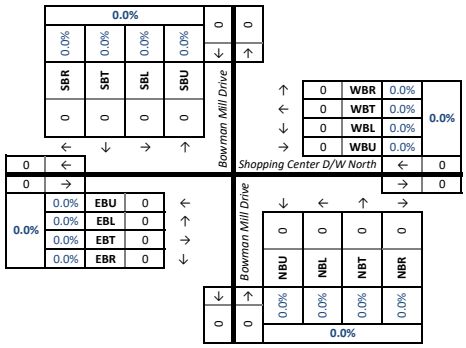
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Bowman Mill Drive				Shopping Center D/W North				Bowman Mill Drive							
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM																
06:45 AM to 07:00 AM																
07:00 AM to 07:15 AM																
07:15 AM to 07:30 AM																
07:30 AM to 07:45 AM																
07:45 AM to 08:00 AM																
08:00 AM to 08:15 AM																
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10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				0			
06:30 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

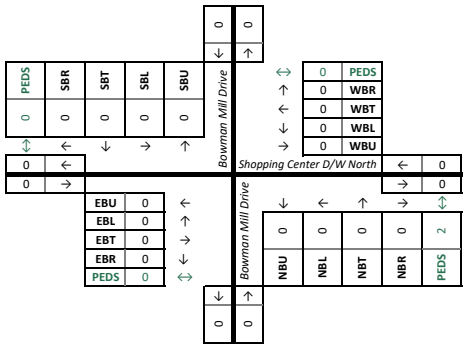
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:45 PM to 05:45 PM
System Peak Hour (all vehicles): 04:30 PM to 05:30 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Bowman Mill Drive & Shopping Center D/W North/

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Bowman Mill Drive					Shopping Center D/W North					Bowman Mill Drive									
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM	to 04:15 PM	0	16	10	0	0	0	0	0	21	1	0	0	8	2	0	0	0	0	0	0
04:15 PM	to 04:30 PM	0	15	6	0	0	0	1	0	16	0	0	0	5	1	0	0	0	0	0	0
04:30 PM	to 04:45 PM	0	19	9	0	0	0	0	0	14	0	0	0	4	2	0	0	0	0	0	0
04:45 PM	to 05:00 PM	0	16	5	0	0	0	3	0	17	0	0	0	1	3	0	0	0	0	0	0
05:00 PM	to 05:15 PM	0	17	7	0	0	0	1	0	23	1	0	0	19	3	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	12	5	0	0	0	0	0	14	1	0	0	11	2	0	0	0	0	0	0
05:30 PM	to 05:45 PM	0	17	3	0	0	0	1	0	20	0	0	0	11	1	0	0	0	0	0	0
05:45 PM	to 06:00 PM	0	16	6	0	0	0	2	0	12	0	0	0	5	1	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	13	6	0	0	0	0	0	15	0	0	0	8	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	15	4	0	0	0	0	0	11	0	0	0	9	1	0	0	0	0	0	0
06:30 PM	to 06:45 PM	0	15	5	0	0	0	1	0	15	0	0	0	3	2	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	10	4	0	0	0	1	0	14	0	0	0	6	1	0	0	0	0	0	0
07:00 PM	to 07:15 PM																				
07:15 PM	to 07:30 PM																				
07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		82				0	79				2	51				0	0				0
04:45 PM	to 05:45 PM	0	62	20	0		0	5	0	74		0	0	42	9		0	0	0	0	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.76**	n/a	0.91	0.71	n/a	**0.85**	n/a	0.42	n/a	0.80	**0.82**	n/a	n/a	0.55	0.75	**0.58**	n/a	n/a	n/a	n/a	**n/a**

HEAVY VEHICLES (FHWA 4+)

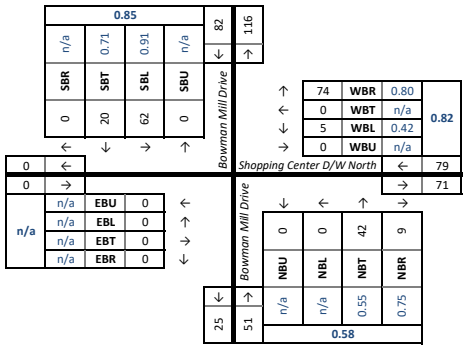
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Bowman Mill Drive					Shopping Center D/W North					Bowman Mill Drive									
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
04:00 PM	to 04:15 PM																				
04:15 PM	to 04:30 PM																				
04:30 PM	to 04:45 PM																				
04:45 PM	to 05:00 PM																				
05:00 PM	to 05:15 PM																				
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05:30 PM	to 05:45 PM																				
05:45 PM	to 06:00 PM																				
06:00 PM	to 06:15 PM																				
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07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		0					0					0					0				
04:45 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)		0					0					0					0				
04:00 PM	to 05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

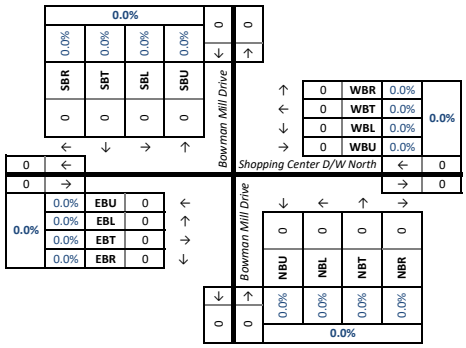
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Bowman Mill Drive				Shopping Center D/W North				Bowman Mill Drive							
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM																
04:15 PM	to 04:30 PM																
04:30 PM	to 04:45 PM																
04:45 PM	to 05:00 PM																
05:00 PM	to 05:15 PM																
05:15 PM	to 05:30 PM																
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07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		0				0				0				0			
04:45 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		0				0				0				0			
04:00 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

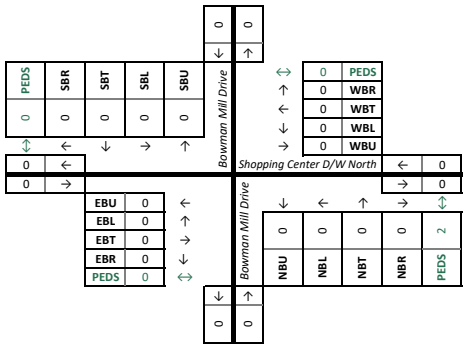
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Wisteria Drive & Shopping Center D/W/Driveway

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Wisteria Drive					Shopping Center D/W					Wisteria Drive					Driveway				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	0	21	0	0	0	0	0	0	0	0	0	23	1	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	35	2	0	0	0	0	0	3	0	0	24	0	0	0	2	0	0	2
07:00 AM to 07:15 AM	0	0	58	2	0	0	0	0	1	7	0	1	36	1	0	0	1	0	1	1
07:15 AM to 07:30 AM	0	1	134	2	0	0	0	0	1	9	0	0	76	0	0	0	0	0	2	4
07:30 AM to 07:45 AM	0	0	110	0	0	0	0	0	0	21	0	0	139	1	0	0	0	0	0	3
07:45 AM to 08:00 AM	0	1	99	2	0	0	0	0	0	2	0	0	74	3	0	0	0	0	0	2
08:00 AM to 08:15 AM	0	7	86	2	0	0	2	0	4	1	0	1	62	0	0	0	0	0	0	2
08:15 AM to 08:30 AM	0	0	101	5	0	0	2	0	2	1	0	1	52	4	0	0	0	0	1	1
08:30 AM to 08:45 AM	0	6	96	2	0	0	2	0	1	0	0	0	46	3	0	0	1	0	1	0
08:45 AM to 09:00 AM	0	1	74	5	0	0	0	0	6	1	0	0	62	0	0	0	2	0	1	0
09:00 AM to 09:15 AM	0	6	74	3	0	0	0	0	3	1	0	1	69	4	0	0	2	0	1	2
09:15 AM to 09:30 AM	0	5	84	4	0	0	1	0	7	0	0	0	62	7	0	0	2	0	2	2
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	444				0	7				33	356				0	2				11
07:15 AM to 08:15 AM	0	9	429	6		0	2	0	5		0	1	351	4		0	0	0	2	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.81**	n/a	0.32	0.80	0.75	**0.81**	n/a	0.25	n/a	0.31	**0.29**	n/a	0.25	0.63	0.33	**0.64**	n/a	n/a	n/a	0.25	**0.25**

HEAVY VEHICLES (FHWA 4+)

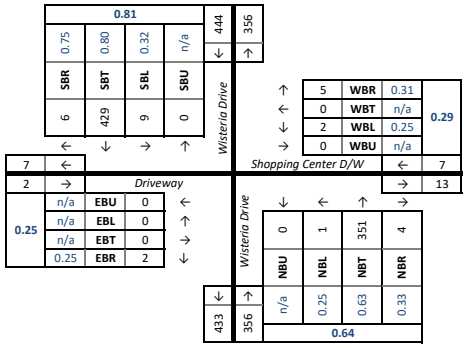
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Shopping Center D/W				Wisteria Drive				Driveway			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	5	0	0	0	0	0	0	0	2	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	6	0	0	0	0	0	0	0	4	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	4	0	0	0	0	0	0	0	6	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	16				0				12				0			
07:15 AM to 08:15 AM	0	0	16	0	0	0	0	0	0	0	12	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%
3.6%					**0.0%**				**3.4%**				**0.0%**			
INT. PEAK HR (HV ONLY)	24				0				16				0			
08:00 AM to 09:00 AM	0	0	24	0	0	0	0	0	0	0	16	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.2%	0.0%	0.0%	0.0%	0.0%	0.0%
6.2%					**0.0%**				**6.9%**				**0.0%**			

BICYCLES

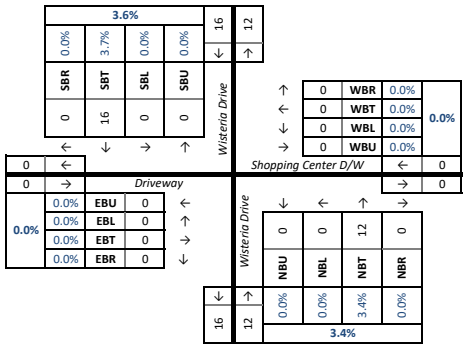
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Shopping Center D/W				Wisteria Drive				Driveway			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	5				0				0				0			
07:15 AM to 08:15 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	5				0				0				0			
07:00 AM to 08:00 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

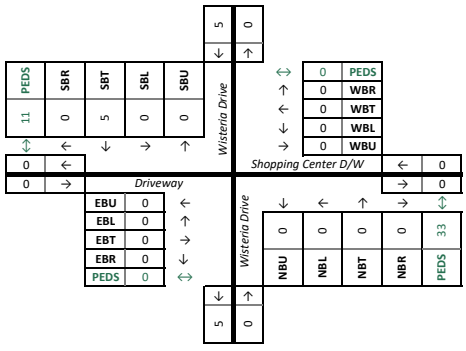
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:15 PM to 05:15 PM
System Peak Hour (all vehicles): 04:30 PM to 05:30 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Wisteria Drive & Shopping Center D/W/Driveway

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Wisteria Drive					Shopping Center D/W					Wisteria Drive					Driveway				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	10	101	2	0	0	2	0	22	3	0	1	118	1	0	0	2	0	2	5
04:15 PM to 04:30 PM	0	20	97	5	0	0	1	0	8	1	0	0	101	5	0	0	4	1	1	1
04:30 PM to 04:45 PM	0	4	104	1	0	0	0	0	9	0	0	2	122	6	0	0	3	0	2	1
04:45 PM to 05:00 PM	0	11	106	2	0	0	5	0	13	3	0	0	103	6	0	0	4	0	2	3
05:00 PM to 05:15 PM	0	14	98	4	0	0	1	0	17	1	0	0	133	4	1	0	7	0	7	2
05:15 PM to 05:30 PM	0	10	94	0	0	0	6	0	11	1	0	1	109	7	0	0	3	0	0	0
05:30 PM to 05:45 PM	0	7	104	0	0	0	4	0	12	1	0	1	106	8	0	0	1	0	0	0
05:45 PM to 06:00 PM	0	12	79	3	0	0	0	0	12	0	0	2	88	9	0	0	3	0	2	1
06:00 PM to 06:15 PM	0	23	84	3	0	0	2	0	11	2	0	0	96	6	0	0	5	1	1	2
06:15 PM to 06:30 PM	0	14	77	0	0	0	5	0	15	2	0	0	68	6	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	10	74	0	0	0	6	0	19	2	0	1	94	5	0	0	0	0	1	0
06:45 PM to 07:00 PM	0	11	82	1	1	0	1	0	11	1	0	0	73	4	0	0	1	0	1	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	466				0	54				5	482				1	31				7
04:15 PM to 05:15 PM	0	49	405	12		0	7	0	47		0	2	459	21		0	18	1	12	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.91**	n/a	0.61	0.96	0.60	**0.95**	n/a	0.35	n/a	0.69	**0.75**	n/a	0.25	0.86	0.88	**0.88**	n/a	0.64	0.25	0.43	**0.55**

HEAVY VEHICLES (FHWA 4+)

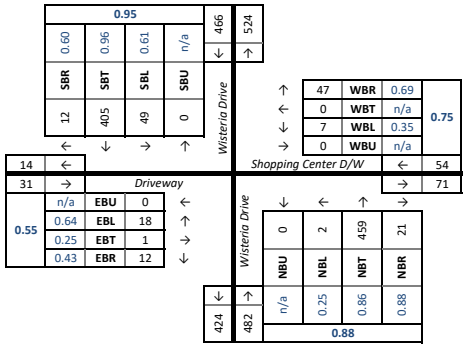
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Shopping Center D/W				Wisteria Drive				Driveway			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	8				1				5				0			
04:15 PM to 05:15 PM	0	0	8	0	0	0	0	1	0	0	5	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	2.0%	0.0%	**1.7%**	0.0%	0.0%	0.0%	2.1%	**1.9%**	0.0%	0.0%	1.1%	0.0%	**1.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	11				1				6				0			
04:00 PM to 05:00 PM	0	0	11	0	0	0	0	1	0	0	6	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	2.7%	0.0%	**2.4%**	0.0%	0.0%	0.0%	1.9%	**1.7%**	0.0%	0.0%	1.4%	0.0%	**1.3%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

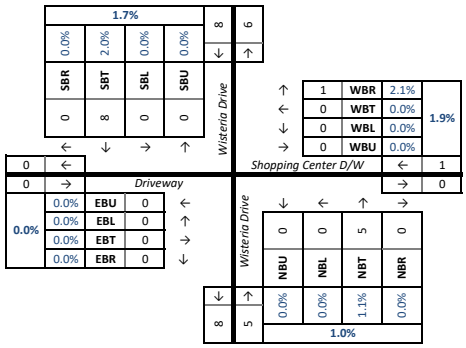
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Shopping Center D/W				Wisteria Drive				Driveway			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	1				0				0				0			
04:15 PM to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				1				0			
04:00 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

DATA COLLECTION NOTES :

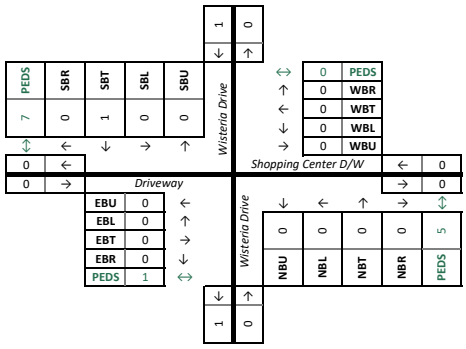
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Bowman Mill Drive & Shopping Center D/W South/Parking Lot Entrance

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W South					Bowman Mill Drive					Parking Lot Entrance				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	2	8	0	0	0	0	0	0	0	0	0	6	2	0	0	0	1	0	0
06:45 AM to 07:00 AM	0	1	7	2	0	0	1	0	1	0	0	0	2	1	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	2	2	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
07:15 AM to 07:30 AM	0	0	11	0	0	0	1	0	2	0	0	0	2	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	1	17	0	0	0	1	0	0	1	0	0	6	2	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	10	0	0	0	3	0	1	1	0	0	3	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	3	13	1	0	0	0	0	1	0	0	0	6	2	0	0	1	0	0	0
08:15 AM to 08:30 AM	0	1	10	1	0	0	2	0	3	0	0	0	9	8	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	1	10	0	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	0
08:45 AM to 09:00 AM	0	1	6	1	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	1	7	0	0	0	3	0	0	0	0	0	4	1	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	8	0	0	0	2	0	2	0	0	0	4	1	0	0	1	0	0	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	57				0	11				2	36				0	1				0
07:30 AM to 08:30 AM	0	5	50	2		0	6	0	5		0	0	24	12		0	1	0	0	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) 0.77	n/a	0.42	0.74	0.50	**0.79**	n/a	0.50	n/a	0.42	**0.55**	n/a	n/a	0.67	0.38	**0.53**	n/a	0.25	n/a	n/a	**0.25**

HEAVY VEHICLES (FHWA 4+)

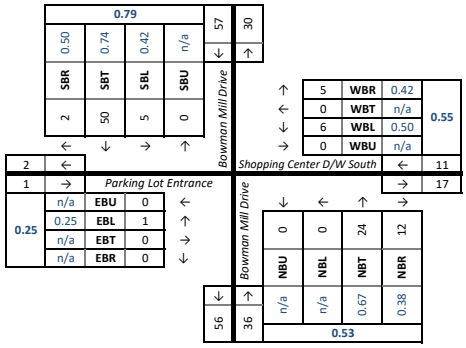
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W South					Bowman Mill Drive					Parking Lot Entrance				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:30 AM to 06:45 AM																				
06:45 AM to 07:00 AM																				
07:00 AM to 07:15 AM																				
07:15 AM to 07:30 AM																				
07:30 AM to 07:45 AM																				
07:45 AM to 08:00 AM																				
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10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	0					0					0					0				
07:30 AM to 08:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	0					0					0					0				
06:30 AM to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

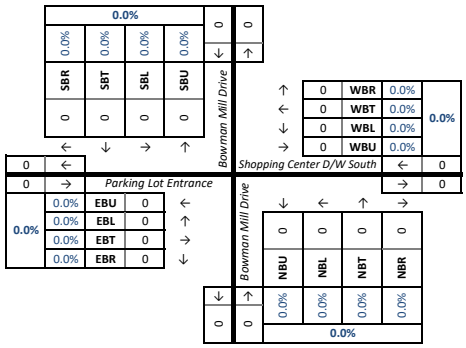
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Bowman Mill Drive				Shopping Center D/W South				Bowman Mill Drive				Parking Lot Entrance			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM																
06:45 AM to 07:00 AM																
07:00 AM to 07:15 AM																
07:15 AM to 07:30 AM																
07:30 AM to 07:45 AM																
07:45 AM to 08:00 AM																
08:00 AM to 08:15 AM																
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08:30 AM to 08:45 AM																
08:45 AM to 09:00 AM																
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				0			
06:30 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

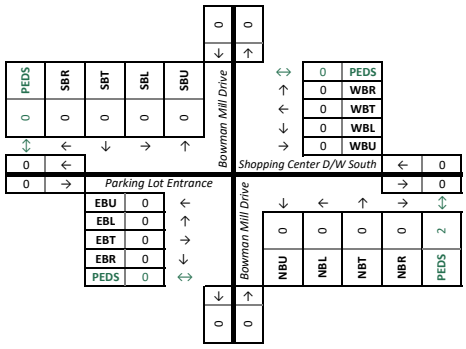
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:00 PM to 06:00 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Bowman Mill Drive & Shopping Center D/W South/Parking Lot Entrance

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W South					Bowman Mill Drive					Parking Lot Entrance				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	1	6	3	0	0	8	0	0	1	0	0	11	3	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	1	5	1	0	0	3	0	0	0	0	0	7	2	0	0	1	0	0	0
04:30 PM to 04:45 PM	0	5	4	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	1	7	0	0	0	0	1	0	0	0	0	3	2	0	0	1	0	0	0
05:00 PM to 05:15 PM	0	2	6	0	0	0	3	0	2	1	0	0	19	2	0	0	2	0	0	0
05:15 PM to 05:30 PM	0	1	4	0	0	0	1	2	0	1	0	1	12	1	0	0	5	0	1	0
05:30 PM to 05:45 PM	0	1	2	1	0	0	1	0	2	0	0	0	10	1	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	2	6	0	0	0	2	0	0	0	0	0	6	1	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	3	3	0	0	3	0	0	0	0	0	10	2	0	0	1	0	0	0
06:15 PM to 06:30 PM	0	1	3	0	0	0	1	0	1	0	0	0	9	1	0	0	1	0	0	0
06:30 PM to 06:45 PM	0	0	3	3	0	0	1	0	3	0	0	0	1	1	0	0	1	0	1	0
06:45 PM to 07:00 PM	0	0	5	0	0	0	0	0	2	0	0	0	5	1	0	0	1	0	0	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	25				0	13				2	53				0	8				0
05:00 PM to 06:00 PM	0	6	18	1		0	7	2	4		0	1	47	5		0	7	0	1	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.69**	n/a	0.75	0.75	0.25	**0.78**	n/a	0.58	0.25	0.50	**0.65**	n/a	0.25	0.62	0.63	**0.63**	n/a	0.35	n/a	0.25	**0.33**

HEAVY VEHICLES (FHWA 4+)

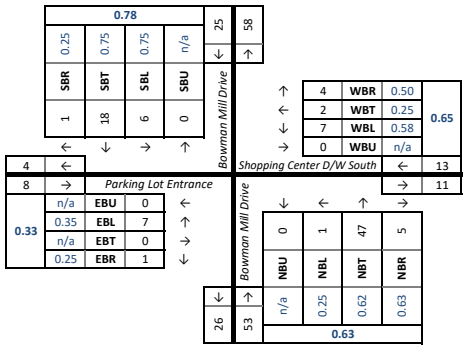
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Bowman Mill Drive					Shopping Center D/W South					Bowman Mill Drive					Parking Lot Entrance				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
04:00 PM to 04:15 PM																				
04:15 PM to 04:30 PM																				
04:30 PM to 04:45 PM																				
04:45 PM to 05:00 PM																				
05:00 PM to 05:15 PM																				
05:15 PM to 05:30 PM																				
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07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	0					0					0					0				
05:00 PM to 06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	0					0					0					0				
04:00 PM to 05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

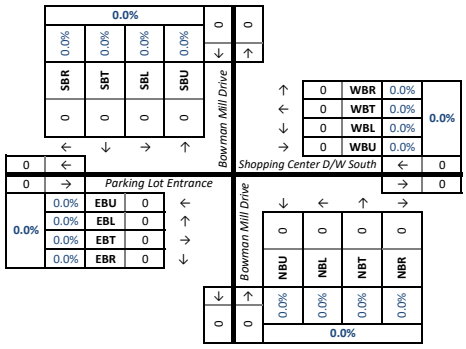
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Bowman Mill Drive				Shopping Center D/W South				Bowman Mill Drive				Parking Lot Entrance			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM																
04:15 PM to 04:30 PM																
04:30 PM to 04:45 PM																
04:45 PM to 05:00 PM																
05:00 PM to 05:15 PM																
05:15 PM to 05:30 PM																
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07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
05:00 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				0			
04:00 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

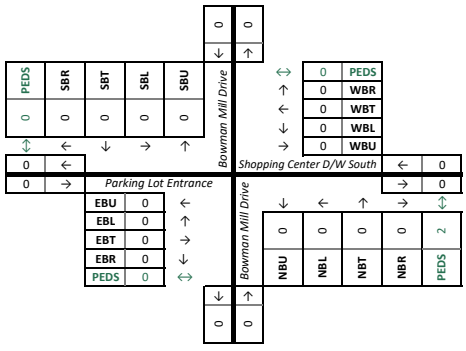
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Wisteria Drive & Crystal Rock Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Wisteria Drive					Crystal Rock Drive					Wisteria Drive					Crystal Rock Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	5	13	0	0	0	8	1	6	1	0	0	15	8	0	0	0	0	0	3
06:45 AM to 07:00 AM	0	10	22	1	2	0	9	0	8	2	0	0	22	11	0	0	0	0	0	1
07:00 AM to 07:15 AM	0	24	44	0	1	0	9	1	11	4	0	0	24	22	2	0	0	1	1	1
07:15 AM to 07:30 AM	0	42	68	0	8	0	15	1	12	24	0	1	60	41	6	0	1	0	1	2
07:30 AM to 07:45 AM	0	30	110	7	2	0	21	2	33	47	0	3	118	41	21	0	3	2	0	10
07:45 AM to 08:00 AM	0	20	71	5	0	0	25	2	37	8	0	3	72	24	2	0	0	0	0	1
08:00 AM to 08:15 AM	0	10	72	6	2	0	21	0	17	1	0	2	56	16	0	0	0	0	1	3
08:15 AM to 08:30 AM	0	15	67	4	0	0	7	0	22	1	0	6	43	16	0	0	0	0	1	0
08:30 AM to 08:45 AM	0	14	63	4	1	0	15	1	23	5	0	1	44	13	0	0	1	0	0	2
08:45 AM to 09:00 AM	0	12	60	3	0	0	12	3	16	1	0	0	67	16	0	0	0	1	0	1
09:00 AM to 09:15 AM	0	17	52	0	0	0	14	0	21	1	0	0	51	8	2	0	0	0	1	0
09:15 AM to 09:30 AM	0	11	65	1	0	0	17	0	21	2	0	2	49	7	0	0	1	0	0	1
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	441				12	186				80	437				29	8				16
07:15 AM to 08:15 AM	0	102	321	18		0	82	5	99		0	9	306	122		0	4	2	2	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.72**	n/a	0.61	0.73	0.64	**0.75**	n/a	0.82	0.63	0.67	**0.73**	n/a	0.75	0.65	0.74	**0.67**	n/a	0.33	0.25	0.50	**0.40**

HEAVY VEHICLES (FHWA 4+)

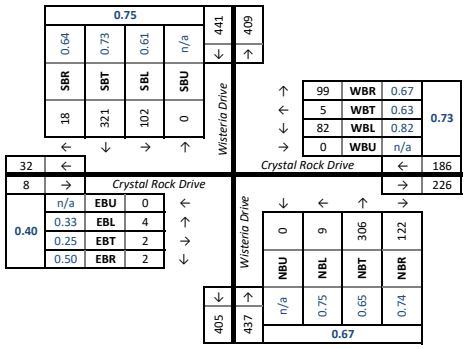
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Crystal Rock Drive				Wisteria Drive				Crystal Rock Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
06:45 AM to 07:00 AM	0	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	1	0	0	0	1	0	0	0	0	2	0	0	1	1
07:15 AM to 07:30 AM	0	2	1	0	0	1	1	1	0	0	1	4	0	1	0	0
07:30 AM to 07:45 AM	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	1	2	0	0	2	0	0	0	0	4	1	0	0	0	0
08:00 AM to 08:15 AM	0	1	6	0	0	3	0	0	0	0	4	0	0	0	0	0
08:15 AM to 08:30 AM	0	1	7	0	0	0	0	1	0	0	2	2	0	0	0	0
08:30 AM to 08:45 AM	0	2	3	1	0	5	0	1	0	0	3	1	0	0	0	0
08:45 AM to 09:00 AM	0	0	3	0	0	1	0	0	0	0	5	2	0	0	1	0
09:00 AM to 09:15 AM	0	0	4	0	0	4	0	1	0	0	3	2	0	0	0	0
09:15 AM to 09:30 AM	0	1	3	0	0	2	0	1	0	0	2	1	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	16				10				14				1			
07:15 AM to 08:15 AM	0	7	9	0	0	6	1	3	0	0	9	5	0	1	0	0
Heavy Vehicle % (PHV):	0.0%	6.9%	2.8%	0.0%	**3.6%**	0.0%	7.3%	20.0%	3.0%	**5.4%**	0.0%	0.0%	2.9%	4.1%	**3.2%**	0.0%	25.0%	0.0%	0.0%	**12.5%**
INT. PEAK HR (HV ONLY)	24				11				19				1			
08:00 AM to 09:00 AM	0	4	19	1	0	9	0	2	0	0	14	5	0	0	1	0
Heavy Vehicle % (PHV):	0.0%	7.8%	7.3%	5.9%	**7.3%**	0.0%	16.4%	0.0%	2.6%	**8.0%**	0.0%	0.0%	6.7%	8.2%	**6.8%**	0.0%	0.0%	100.0%	0.0%	**25.0%**

BICYCLES

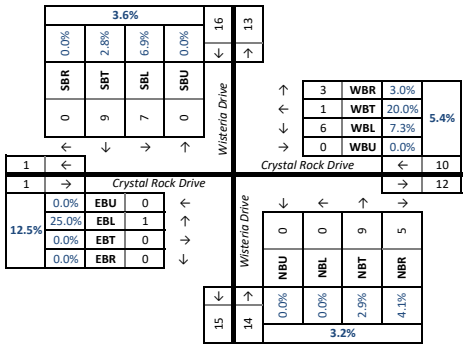
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Wisteria Drive				Crystal Rock Drive				Wisteria Drive				Crystal Rock Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				0			
07:15 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				0			
06:30 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

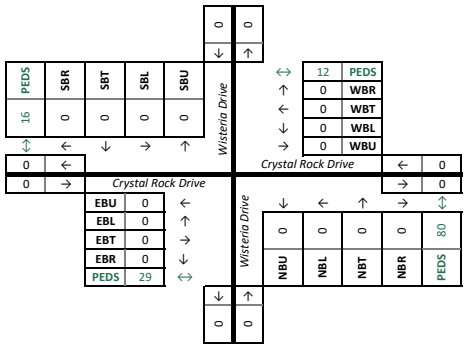
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Germantown Lidl
Project # : 2856-004
Location Montgomery County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 14, 2021
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:45 PM to 05:45 PM
System Peak Hour (all vehicles): 04:30 PM to 05:30 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Wisteria Drive & Crystal Rock Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Wisteria Drive					Crystal Rock Drive					Wisteria Drive					Crystal Rock Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM	to 04:15 PM	0	20	86	1	1	0	34	0	32	5	0	0	65	11	0	0	0	0	1	2
04:15 PM	to 04:30 PM	0	25	82	2	3	0	22	0	29	5	0	0	77	11	1	0	2	0	0	8
04:30 PM	to 04:45 PM	0	21	80	0	1	0	19	1	24	2	0	1	82	20	2	0	0	0	1	4
04:45 PM	to 05:00 PM	0	28	74	1	0	0	26	0	32	3	0	1	86	23	2	0	0	1	0	4
05:00 PM	to 05:15 PM	0	34	100	4	2	0	19	1	24	1	0	3	93	18	0	0	2	1	1	5
05:15 PM	to 05:30 PM	0	21	93	2	0	0	28	0	26	1	0	1	85	15	0	0	0	1	0	4
05:30 PM	to 05:45 PM	0	20	78	1	0	0	30	2	23	3	0	1	96	13	0	0	3	0	2	3
05:45 PM	to 06:00 PM	0	17	75	3	2	0	21	0	25	3	0	1	79	17	0	0	4	0	0	3
06:00 PM	to 06:15 PM	0	19	77	4	0	0	30	0	16	0	0	1	63	26	0	0	2	0	5	1
06:15 PM	to 06:30 PM	0	8	84	0	0	0	20	1	16	0	0	0	79	20	0	0	2	0	0	1
06:30 PM	to 06:45 PM	0	17	80	1	0	0	20	1	16	3	0	0	62	19	2	0	1	0	1	3
06:45 PM	to 07:00 PM	0	7	81	0	1	0	12	1	13	0	0	0	59	12	0	0	0	0	1	4
07:00 PM	to 07:15 PM																				
07:15 PM	to 07:30 PM																				
07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		456				2	211				8	435				2	11				16
04:45 PM	to 05:45 PM	0	103	345	8		0	103	3	105		0	6	360	69		0	5	3	3	
Peak Hour Factor (PHF)	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.93	n/a	0.76	0.86	0.50	**0.83**	n/a	0.86	0.38	0.82	**0.91**	n/a	0.50	0.94	0.75	**0.95**	n/a	0.42	0.75	0.38	**0.55**

HEAVY VEHICLES (FHWA 4+)

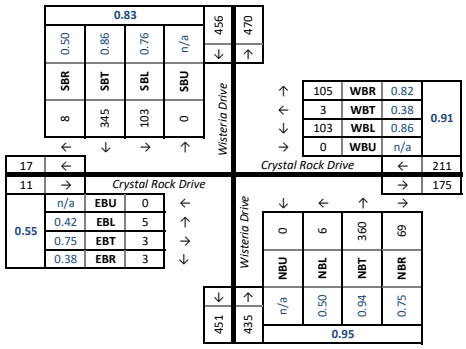
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Wisteria Drive					Crystal Rock Drive					Wisteria Drive					Crystal Rock Drive				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
04:00 PM	to 04:15 PM	0	0	2	1		0	0	0	1		0	0	0	0		0	0	0	0	
04:15 PM	to 04:30 PM	0	4	5	0		0	1	0	1		0	0	3	2		0	0	0	0	
04:30 PM	to 04:45 PM	0	0	0	0		0	1	0	0		0	0	1	0		0	0	0	0	
04:45 PM	to 05:00 PM	0	0	0	0		0	2	0	0		0	0	0	1		0	0	0	0	
05:00 PM	to 05:15 PM	0	0	0	1		0	0	1	2		0	1	0	0		0	0	0	0	
05:15 PM	to 05:30 PM	0	0	0	2		0	1	0	0		0	1	1	0		0	0	1	0	
05:30 PM	to 05:45 PM	0	0	0	1		0	1	1	0		0	1	1	0		0	0	0	1	
05:45 PM	to 06:00 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
06:00 PM	to 06:15 PM	0	0	1	2		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM	to 06:30 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	1		0	0	0	0	
06:45 PM	to 07:00 PM	0	0	2	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 PM	to 07:15 PM																				
07:15 PM	to 07:30 PM																				
07:30 PM	to 07:45 PM																				
07:45 PM	to 08:00 PM																				
08:00 PM	to 08:15 PM																				
08:15 PM	to 08:30 PM																				
08:30 PM	to 08:45 PM																				
08:45 PM	to 09:00 PM																				
INT. PEAK HR (ALL VEH)		4					8					6					2				
04:45 PM	to 05:45 PM	0	0	0	4		0	4	2	2		0	3	2	1		0	0	1	1	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	50.0%	**0.9%**	0.0%	3.9%	66.7%	1.9%	**3.8%**	0.0%	50.0%	0.6%	1.4%	**1.4%**	0.0%	0.0%	33.3%	33.3%	**18.2%**
INT. PEAK HR (HV ONLY)		10					8					8					0				
04:15 PM	to 05:15 PM	0	4	5	1		0	4	1	3		0	1	4	3		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	3.7%	1.5%	14.3%	**2.2%**	0.0%	4.7%	50.0%	2.8%	**4.1%**	0.0%	20.0%	1.2%	4.2%	**1.9%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

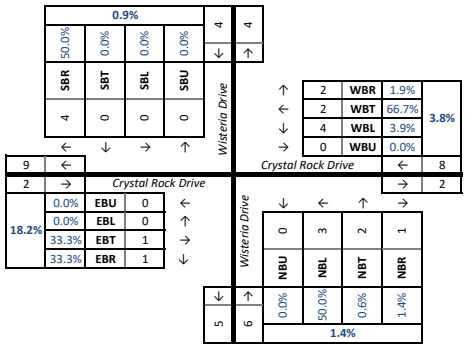
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Wisteria Drive				Crystal Rock Drive				Wisteria Drive				Crystal Rock Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM	to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	to 04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
04:45 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:15 PM	to 06:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	to 07:15 PM																
07:15 PM	to 07:30 PM																
07:30 PM	to 07:45 PM																
07:45 PM	to 08:00 PM																
08:00 PM	to 08:15 PM																
08:15 PM	to 08:30 PM																
08:30 PM	to 08:45 PM																
08:45 PM	to 09:00 PM																
INT. PEAK HR (ALL VEH)		0				0				1				0			
04:45 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
INT. PEAK HR (BIKES)		5				0				2				0			
06:00 PM	to 07:00 PM	0	1	4	0	0	0	0	0	0	0	2	0	0	0	0	0

DATA COLLECTION NOTES :

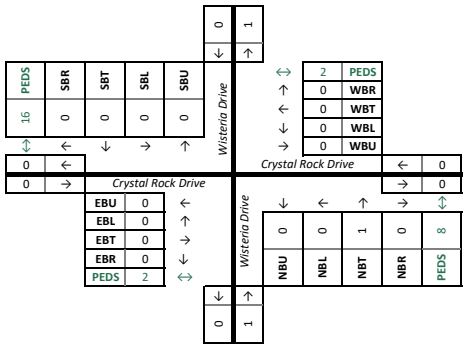
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



H. MDOT SHA AADT Data

Road	Location	LIDL Germantown; Historical AADT's (Source: Maryland SHA)									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Middlebrook Road	MD 118 to MD 119 (.1 mi. east of MD 118)	--	20680	20521	20562	22350	22931	23372	24410	24191	24192
Wisteria Drive	MD 118 to MD 119 (.05 mi. west of Walter Johnson Rd.)	--	11801	11712	12120	12081	12402	12100	12391	12282	12050
Father Hurley Boulevard	Dawson Farm Road to MD 118	--	4542	7710	7731	7712	10080	10271	10522	9170	9171
Germantown Road	MD 117 to Father Hurley Boulevard (.1 mi. north of MD 117)	--	24870	24671	24722	23880	24501	24972	22340	22141	23472
Walter Johnson Road	Bowman Mill Drive to Wisteria Drive (.1 mi. north of Mateny Hill Rd.)	--	891	882	860	861	882	990	1011	1002	1020

Sources:

Middlebrook Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150014
Wisteria Drive	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150048
Father Hurley Boulevard	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150110
Germantown Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B2768
Walter Johnson Road	https://maps.roads.maryland.gov/itms_public/AADT_AAWDT_Detail.aspx?station_id=B150047

Road	Location	Annual Growth								Avg Annual Growth Between 2011-2019
		2011-2019	2012-2019	2013-2019	2014-2019	2015-2019	2016-2019	2017-2019	2018-2019	
Middlebrook Road	MD 118 to MD 119 (.1 mi. east of MD 118)	1.98%	2.38%	2.75%	1.60%	1.35%	1.16%	-0.45%	0.00%	1.3%
Wisteria Drive	MD 118 to MD 119 (.05 mi. west of Walter Johnson Rd.)	0.26%	0.41%	-0.10%	-0.05%	-0.72%	-0.14%	-1.39%	-1.89%	-0.5%
Father Hurley Boulevard	Dawson Farm Road to MD 118	9.18%	2.51%	2.89%	3.53%	-2.33%	-3.71%	-6.64%	0.01%	0.7%
Germantown Road	MD 117 to Father Hurley Boulevard (.1 mi. north of MD 117)	-0.72%	-0.71%	-0.86%	-0.34%	-1.07%	-2.04%	2.50%	6.01%	0.3%
Walter Johnson Road	Bowman Mill Drive to Wisteria Drive (.1 mi. north of Mateny Hill Rd.)	1.70%	2.10%	2.88%	3.45%	3.70%	1.00%	0.44%	1.80%	2.1%

I. Study Intersection Signal Timing and Phasing Settings

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
902	Cobalt TS2	TSS	BOWMAN MILL DR, GERMANTOWN RD (MD 118) & WATERS RD	B.0
	S-Cabinet		Hubbette: LB	

2-1 CONTROLLER TIMING DATA

	NBLT GERMANTOWN RD (MD 118)	SB GERMANTOWN RD (MD 118)		EB WATERS RD	SBLT GERMANTOWN RD (MD 118)	NB GERMANTOWN RD (MD 118)		WB BOWMAN MILL DR								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7		5	5	7		5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN																
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		12		23		12		23								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	3.0			3.0	3.0			3.0								
VEHICLE EXTENSION 2																
MAX1	20	50		30	20	50		30								
MAX2	30	60		40	30	60		40								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5		3.5	3.5	4.5		3.5								
RED CLEARANCE	1.0	1.0		3.0	1.0	1.0		3.0								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*TIMING PURPOSES ONLY

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan _____

Spec. Action Plan _____

Submitted by / Date: GBURLEY 01-21-2020 Checked by / Date KHamud 6/11/20 Approved by / Date KHamud 6/11/20

In Service by / Date/Time JGG 6/10/20 11:30

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A NOTH-SOUTH DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 902 B

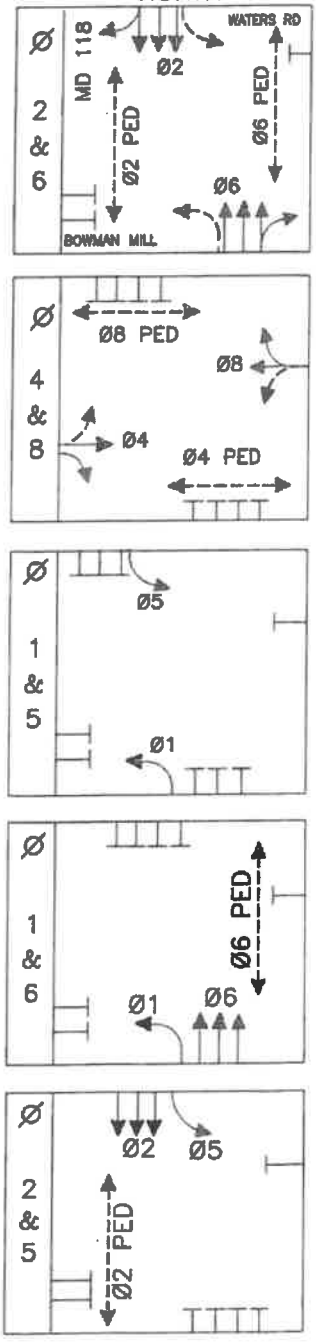
INTERSECTION: GERMANTOWN ROAD (MD 118) & WATERS RD/BOWMAN MILL DR

	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1,2,5,6	3,4,7–14				15–22
TOTAL:	4	10				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	12"	12"				12" 16"

SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	FLASH
1	FLs-R	FLs-R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←Y	←R	←R	←R	←R	←R
2	FLs-R	FLs-R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←Y	←R	←R	←R	←R	←R
3	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	Y
5	FLs-R	FLs-R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←G	←Y	←R	←R
6	FLs-R	FLs-R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←G	←Y	←R	←R
7	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
9	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
11	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
12	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
13	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
14	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	DARK
17	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	DARK
18	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
19	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
20	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
21	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
22	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
23																			
24																			
25																			
26																			
27																			
PHASE	2 & 6			ALL RED	4 & 8				ALL RED	1&5		ALL RED	1&6		ALL RED	2&5		ALL RED	

NOTES: B : CHANGE EBLT & WBLT TO FLASHING RED ARROW DURING PH 2 & 6

PHASING
NORTH



SUBMITTED: GBURLEY 01-21-2020 CHECKED: KHamed APPROVED: KHamed 6/1/20

IN SERVICE BY: 766 DATE: 6/10/20 TIME: 11:30

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
802	TS2-2	TSS	Father Hurley Blvd & Germantown Rd (MD 118)	B.0
	Base Mount		Hubbette: LB	

2-1 CONTROLLER TIMING DATA	EBLT MD 118	WB MD 118		SB Father Hurley Blvd		EB MD 118										
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7		5		7										
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN																
WALK		7		7												
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		17		23												
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	4.0			4.0												
VEHICLE EXTENSION 2																
MAX1	15	60		40		60										
MAX2	25	60		40		60										
MAX3	50															
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5		4.0		4.5										
RED CLEARANCE	1.5	1.5		2.5		1.5										
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*** TIMING PURPOSES ONLY**

TOD (Late) Flash 24 Hour Color

Spec. Action Plan _____

Spec. Action Plan _____

Submitted by / Date: GBURLEY 06-22-2020 **Checked by / Date** KHammd 6/23/20 **Approved by / Date** KHammd 6/23/20

In Service by / Date/Time 764 714.779 07-01430

SEQUENCE OF OPERATION SHEET

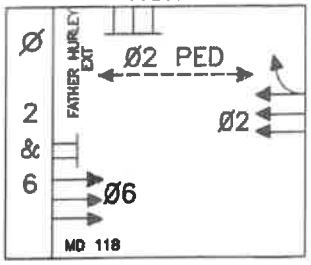
MD 118 RUNS IN A NORTH–SOUTH DIRECTION

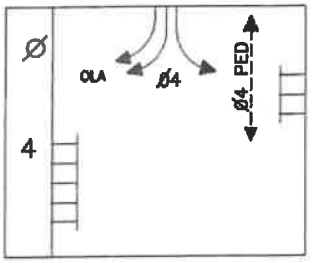
TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

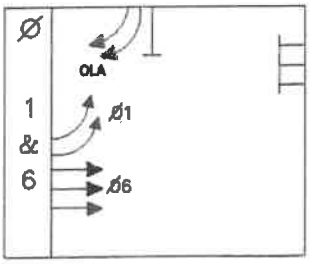
NO. 802 B

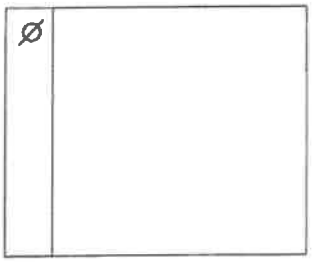
INTERSECTION: GERMANTOWN ROAD (MD 118) AT FATHER HURLEY BLVD EXT.

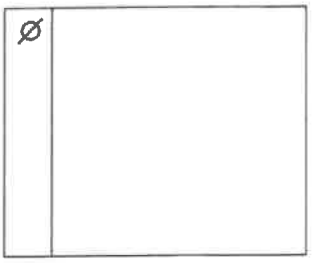
PHASING NORTH











SIGNAL NO.	SIGNAL HEAD INDICATIONS 1,2,3	4–8, 10–12	9,13,14			15–18
TOTAL:	3	8	3			4
	12"	12"	12"			12" 16"

LEGEND
OPTICALLY LIMITED
R RED
Y YELLOW
G GREEN
ARROW
F FLASHING

SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	FLASH
1	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R
2	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R
3	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R
4	G	G	Y	R	R	R	R	R	R	G	G	G	Y
5	G	G	Y	R	R	R	R	R	R	G	G	G	Y
6	G	G	Y	R	R	R	R	R	R	R	R	R	Y
7	G	G	Y	R	R	R	R	R	R	R	R	R	Y
8	G	G	Y	R	R	R	R	R	R	R	R	R	Y
9	R→	R→	R→	R→	G→	G→	G→	Y→	R→	G→	Y→	R→	R→
10	R	R	R	R	G	G	G	Y	R	R	R	R	R
11	R	R	R	R	G	G	G	Y	R	R	R	R	R
12	R	R	R	R	G	G	G	Y	R	R	R	R	R
13	R→	R→	R→	R→	G→	G→	G→	Y→	R→	G→	Y→	R→	R→
14	R→	R→	R→	R→	G→	G→	G→	Y→	R→	G→	Y→	R→	R→
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
17	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DARK
18	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DARK
19													
20													
21													
22													
23													
24													
25													
26													
27													
PHASE	2 & 6			ALL RED	4				ALL RED	1 & 6		ALL RED	

NOTES: B: CHANGE PH 1 FROM EPRT TO EXCLUSIVE RT–OLA

SUBMITTED: GBURLEY 06–22–2020 CHECKED: KHamud 6/23/20 APPROVED: KHamud 6/23/20

IN SERVICE BY: _____ DATE: _____ TIME: _____

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
790	TS2-2	TSS	Father Hurley Boulevard and Wisteria Drive	A.2
			Hubbette:	

2-1 CONTROLLER TIMING DATA	NBLT Father Hurley Boulevard	SB Father Hurley Boulevard		EB Wisteria Drive	SBLT Father Hurley Boulevard	NB Father Hurley Boulevard		WB Wisteria Drive								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	5		5	5	5		5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN																
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		15		26		15		26								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	3.0			8.0	3.0			8.0								
VEHICLE EXTENSION 2																
MAX1	15	25		45	25	25		45								
MAX2	20	60		50	40	60		50								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.0		4.0	3.5	4.0		4.0								
RED CLEARANCE	1.0	1.0		2.5	1.0	1.0		2.5								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*** TIMING PURPOSES ONLY**

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan _____

Spec. Action Plan _____

Submitted by / Date: VP 04/19/2016 Checked by / Date KH 3/22/2017 Approved by / Date KH 3/22/2017

In Service by / Date/Time 767752 3/23/2017 10:35

FATHER HURLEY RUNS IN A NORTH–SOUTH DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

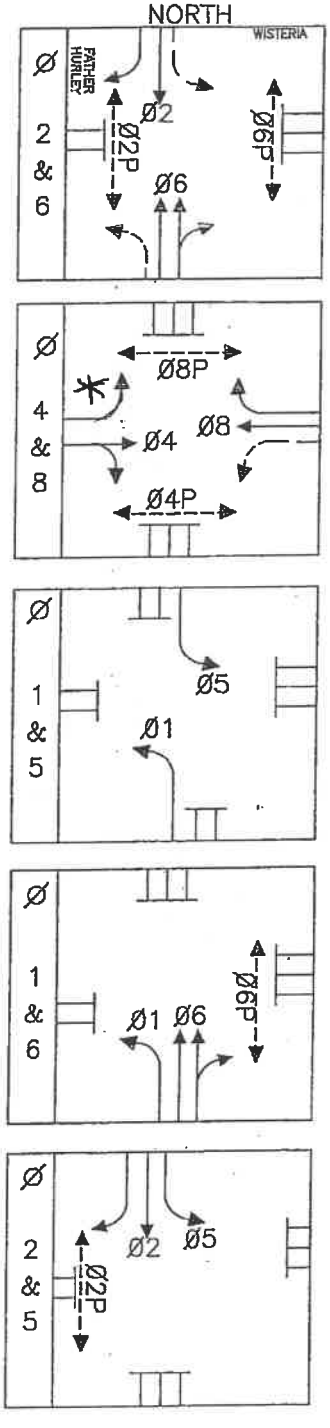
NO. 790– A.0
SHEET 1 OF 1

INTERSECTION: FATHER HURLEY BLVD. AND WISTERIA DRIVE

	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	3,4,,7, 8, 9 10,11,12,13	1,2,5,6				14–21
TOTAL:	9	4				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	R Y G 12"	R Y G 12"	R Y G 12"	R Y G 12"		ØØ 12" 16"

SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL																	FLASH
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	G	G	Y	R	R	R	R	R	R	G R	Y R	R	G R	Y R	G	R	R	R	R
2	G	G	Y	R	R	R	R	R	R	G R	Y R	R	G R	Y R	G	R	R	R	R
3	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R
4	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R
5	G	G	Y	R	R	R	R	R	R	G R	Y R	R	R	R	R	G R	Y R	R	R
6	G	G	Y	R	R	R	R	R	R	G R	Y R	R	R	R	R	G R	Y R	R	R
7	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	R
8	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
9	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
11	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
12	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
13	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	DARK
17	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
18	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
19	DW	DW	DW	DW	W	FDW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
20	DW	DW	DW	DW	W	FDW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
21	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	2 & 6			ALL RED	4 & 8				ALL RED	1 & 5		ALL RED	1 & 6		ALL RED	2 & 5		ALL RED	

PHASING
NORTH



NOTES: A.0 = NEW TRAFFIC SIGNAL WITH APS, CPS & LED SIGNALS.
*-update lane use to match existing condition, STW 4/20/11

SUBMITTED: TSET 11-21-08 CHECKED: GB 11-21-08 APPROVED: KHamad 12/29/08
IN SERVICE BY: 764, 782 DATE: 12-31-08 TIME: 0941

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
711	TS1	TSS	Germantown Road (MD 118) & Dawson Farm Road	B.2
			Hubbette:	

2-1 CONTROLLER TIMING DATA

TIMING PLAN 1	EBLT MD 118	WB MD 118		SB Dawson Farm Road	WBLT MD 118	EB MD 118	SBLT Dawson Farm Road	NB Dawson Farm Road								
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7		5	5	7	5	5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN																
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		15		29		15		29								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	3.0			3.0	3.0		3.0	3.0								
VEHICLE EXTENSION 2																
MAX1	15	60		35	15	60	15	35								
MAX2	30	60		40	30	60	25	40								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5		4.0	3.5	4.5	3.5	4.0								
RED CLEARANCE	1.5	1.0		3.0	1.5	1.0	3.0	3.0								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

* TIMING PURPOSES ONLY

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan Action Plan 30/31 - Activates Phase 1 & 5 Flashing Red Left Turn Arrows from 0000-0700 and 2000-2400; 7 Days.

Spec. Action Plan

Submitted by / Date: VP 04/14/2016 Checked by / Date K Hammad 3/10/17 Approved by / Date K Hammad 3/10/17

In Service by / Date/Time 767/755 3/17/17 9:36

MD 118 RUNS IN A EAST–WEST DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

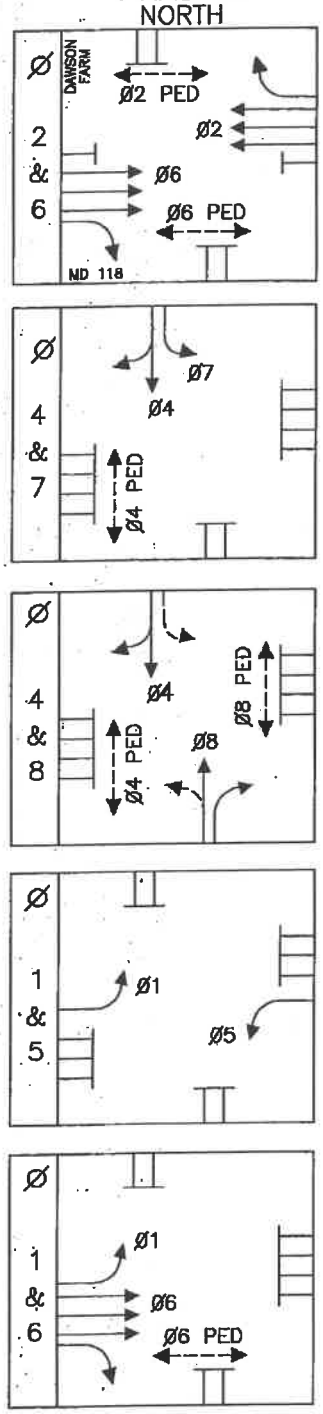
NO. 711–B.0
SHT. 1 OF 2

INTERSECTION: GERMANTOWN ROAD (MD 118) & DAWSON FARM ROAD

	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1,2,5,6	3,4,7,8,11, 12,13,14	9,10			15–22
TOTAL:	4	8	2			8
LEGEND	◄R	R	R			
O OPTICALLY LIMITED	◄Y	Y	◄Y Y			ØØ
R RED	◄G	G	◄G G			
Y YELLOW						12"or16"
G GREEN						
◄ ARROW						
F FLASHING	12"	12"	12"			

SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	FLASH
1	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R	◄R
2	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R	◄R
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
5	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R
6	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R
7	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
9	R	R	R	R	◄G G	◄Y G	G	G	G	G	Y	R	R	R	R	R	R	R	R
10	R	R	R	R	◄G G	◄Y G	G	G	G	G	Y	R	R	R	R	R	R	R	R
11	R	R	R	R	G	G	G	G	G	G	Y	R	R	R	R	R	R	R	R
12	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
13	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
14	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
17	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
18	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
19	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
20	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
21	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
22	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	2 & 6			ALL RED	4 & 7		ALL RED	4 & 8				ALL RED	1 & 5		ALL RED	1 & 6		ALL RED	

PHASING
NORTH



NOTES: B.0 = UPGRADE EB/WB MD 118 TO EXCLUSIVE LEFT TURN PHASING, ADD CDP, APS, & LEDs
ADD EXCLUSIVE PERMISSIVE LEFT TURN PHASING FOR SB DAWSON FARM RD.
MD 118 LEFT TURNS WILL OPERATE AS FLASHING RED ARROW FROM 8:00 PM TO 7:00 AM.
** ADD TOD PROGRAM FOR SPEC FUNCTION 1 TO TURN ON FRA M–F FROM 12 AM TO 7 AM & 8 PM TO 12 MIDNIGHT 7 DAYS

SUBMITTED: MCG 8/28/08 CHECKED: GB 8-28-08 APPROVED: _____
IN SERVICE BY: 781,782,764 DATE: 4-21-09 TIME: 1325

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A EAST–WEST DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

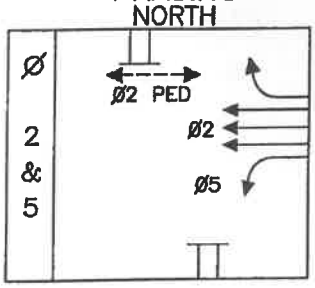
NO. 711–B.0
SHT. 2 OF 2

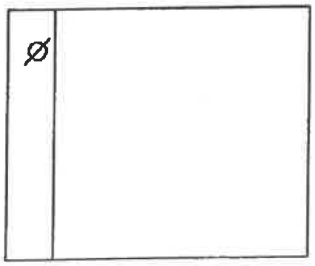
INTERSECTION: GERMANTOWN ROAD (MD 118) & DAWSON FARM ROAD

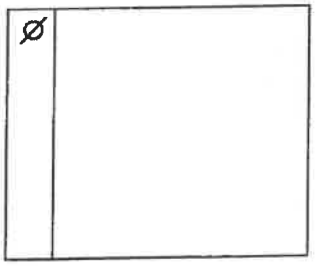
SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	1,2,5,6	3,4,7,8,11, 12,13,14	9,10			15–22
TOTAL:	4	8	2			8
LEGEND	◄R	R	R			ØØ
O OPTICALLY LIMITED	◄Y	Y	◄Y Y			
R RED	◄G	G	◄G G			12"or16"
Y YELLOW	12"	12"	12"			
G GREEN						
◄ ARROW						
F FLASHING						

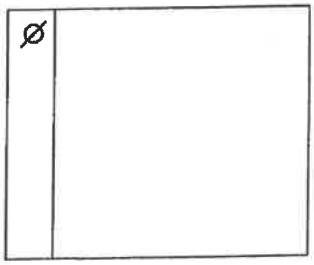
SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL																	FLASH
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	◄R	◄R	◄R																◄R
2	◄R	◄R	◄R																◄R
3	R	R	R																Y
4	R	R	R																Y
5	◄G	◄Y	◄R																◄R
6	◄G	◄Y	◄R																◄R
7	G	G	G																Y
8	G	G	G																Y
9	R	R	R																R
10	R	R	R																R
11	R	R	R																R
12	R	R	R																R
13	R	R	R																R
14	R	R	R																R
15	W	W	W																DARK
16	DW	DW	DW																DARK
17	DW	DW	DW																DARK
18	W	W	W																DARK
19	DW	DW	DW																DARK
20	DW	DW	DW																DARK
21	DW	DW	DW																DARK
22	DW	DW	DW																DARK
PHASE	2 & 5		ALL RED																

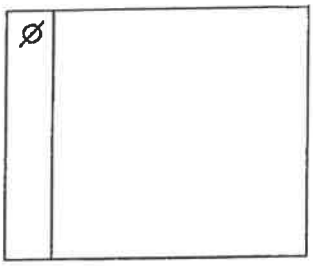
PHASING
NORTH











NOTES: B.0 = UPGRADE EB/WB MD 118 TO EXCLUSIVE / FLASHING RED ARROW LEFT TURN PHASING, SB DAWSON FARM TO EXCLUSIVE PERMISSIVE LEFT TURN PHASING.
FL/RA = FLASHING RED ARROW

SUBMITTED: MCG 8/28/08 CHECKED: GB 8-28-08 APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
373	TS2-2	TSS	GERMANTOWN RD (MD 118) & MIDDLEBROOK RD	I.0
	S-Cabinet		Hubbette: GC	

2-1 CONTROLLER TIMING DATA	NBLT MD 118	SB MD 118	WBLT MIDDLEBROOK RD	EB MIDDLEBROOK RD	SBLT MD 118	NB MD 118	EBLT MIDDLEBROOK RD	WB MIDDLEBROOK RD								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	10	5	5	5	10	5	5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN		5		5		5		5								
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		25		26		25		26								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	5.0	8.0	5.0	5.0	5.0	8.0	5.0	5.0								
VEHICLE EXTENSION 2																
MAX1	20	50	20	30	20	50	20	30								
MAX2	30	60	40	50	50	60	40	50								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5								
RED CLEARANCE	2.5	2.0	2.5	2.0	2.5	2.0	2.5	2.0								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*** TIMING PURPOSES ONLY**

TOD (Late) Flash 24 Hour Color

Spec. Action Plan _____

Spec. Action Plan _____

Submitted by / Date: GBURLEY 04/07/2020 **Checked by / Date** KHamud 7/29/20 **Approved by / Date** KHamud 7/29/20

In Service by / Date/Time 7/04/20 09-05-20 1500

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A NORTH–SOUTH DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

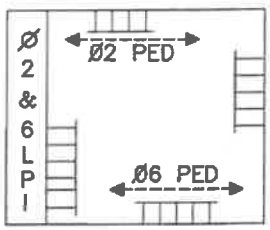
INTERSECTION: GERMANTOWN ROAD (MD 118) AT MIDDLEBROOK ROAD

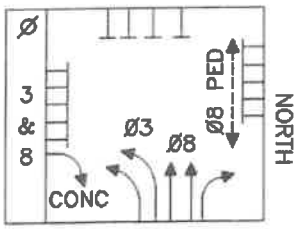
NO. 373-1
SHEET 1 OF 2

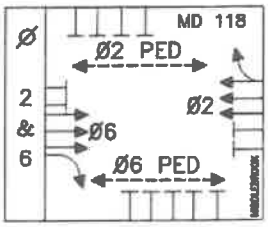
SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	1,2,3,6,7,8,11 12,13,16,17,18	4,9,10 14,19,20	5, 15		21–28
TOTAL:	12	6	2		8
	12"	12"	12"		12" 16"

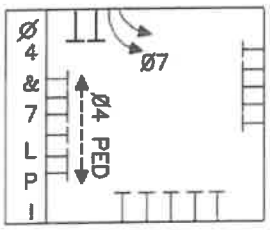
LEGEND
- OPTICALLY LIMITED
- R RED
- Y YELLOW
- G GREEN
- ← ARROW
- F FLASHING

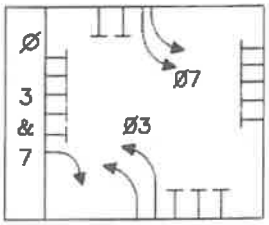
PHASING

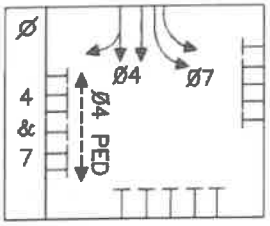


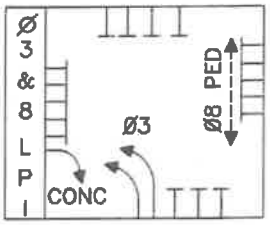












SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL																FLASH
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
2	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
3	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
4	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
5	R	G	G	Y	R	R/←R	R/←Y	R	R/←R	R/←Y	R/←Y	R	R	R	R	R	Y
6	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
7	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
8	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
9	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
10	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
11	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
12	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
13	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
14	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R	R
15	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R	R
16	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
17	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
18	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
19	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	R
20	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	R
21	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
22	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
23	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
24	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
25	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DARK
26	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DARK
27	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DW	DW	DW	DW	DARK
28	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DW	DW	DW	DW	DARK
PHASE	2&6 LPI	2 & 6			ALL RED	3 & 7		ALL RED	3&8 LPI	3 & 8		ALL RED	4&7 LPI	4 & 7		ALL RED	

NOTES: 1: SIGNAL RECONSTRUCTION APS, CPS, VIDEO DETECTION

SUBMITTED: GBURLEY 04-06-2020 CHECKED: KHamud APPROVED: KHamud 7/29/20

IN SERVICE BY: 7/31/2020 DATE: 08-05-20 TIME: 1500

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A NORTH–SOUTH DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

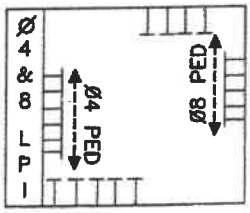
NO. 373–1
SHEET 2 OF 2
PHASING

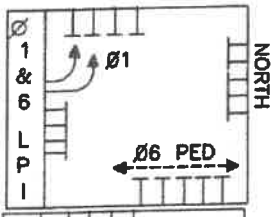
INTERSECTION: GERMANTOWN ROAD (MD 118) AT MIDDLEBROOK ROAD

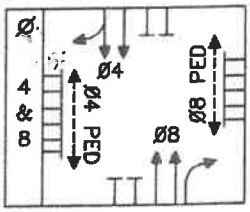
SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	1,2,3,6,7,8,11 12,13,16,17,18	4,9,10 14,19,20	5, 15			21–28
TOTAL:	12	6	2			8
LEGEND						
OPTICALLY LIMITED						
R RED						
Y YELLOW						
G GREEN						
← ARROW						
F FLASHING	12"	12"	12"			12" 16"

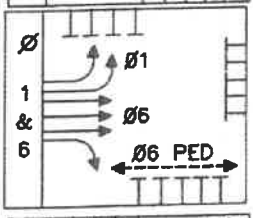
SEQUENCE OF OPERATION

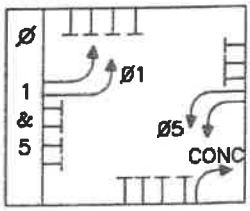
SIGNAL NO.	INTERVAL 17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	FLASH
1	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
2	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
3	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←G	←Y	←R	←R	←R	←R	←R	←R
4	R	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R	Y
5	R	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	R	Y
6	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
7	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
8	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←G	←G	←Y	←R	←R
9	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
10	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	Y
11	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
12	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
13	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
14	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
15	R	G	G	G	Y	R	~~R~~	~~R~~	R	R	R	R	R	~~R~~	~~R~~	~~R~~	R	R
16	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
17	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
18	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
19	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
20	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
21	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DARK
22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DARK
23	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DW	DW	DW	DW	DARK
24	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	DW	DW	DW	DW	DARK
25	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
26	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
27	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
28	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	4&8 LPI	4 & 8			ALL RED	1 & 5		ALL RED	1&6 LPI	1 & 6		ALL RED	2&5 LPI	2 & 5		ALL RED		

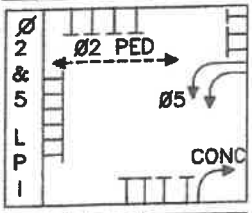


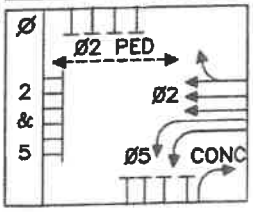












NOTES:

SUBMITTED: GBURLEY 04–06–2020 CHECKED: _____ APPROVED: _____

IN SERVICE BY: 764 702 DATE: 04-06-20 TIME: 1500

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
282	ASC3 TS1	TSS	Great Seneca Hwy. (MD.119), Wisteria Dr.	E.0
	Base Mount		Hubbette: GC	

2-1 CONTROLLER TIMING DATA	NBLT Great Seneca Hwy (MD.119)	SB Great Seneca Hwy (MD.119)		WB Wisteria Dr.	SBLT Great Seneca Hwy. (MD.119)	NB Great Seneca Hwy. (MD.119)		EB Wisteria Dr.								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7		5	5	7		5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN				5				5								
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		20		28		20		28								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	3.0			4.0	3.0			4.0								
VEHICLE EXTENSION 2																
MAX1	25	60		50	25	60		50								
MAX2	35	50		40	35	50		50								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	4.0	5.0		4.0	4.0	5.0		4.0								
RED CLEARANCE	2.0	2.0		3.0	2.0	2.0		3.0								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*** TIMING PURPOSES ONLY**

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan _____

Spec. Action Plan _____

Submitted by / Date: VP 01/26/2021 Checked by / Date KHamud 1/26/21 Approved by / Date KHamud 1/26/21

In Service by / Date/Time 766/785 2/24/2021 1105

MD 119
RUNS IN A
NORTH–SOUTH
DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 282–E
SHT 1 OF 2

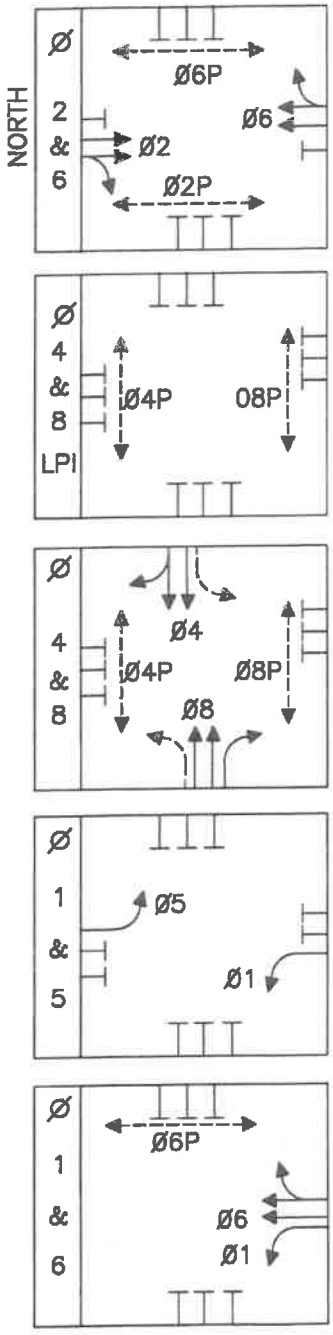
INTERSECTION: MD 119 (GREAT SENECA HIGHWAY) & WISTERIA DRIVE

	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1,2,5,6	3,4,7,8,9,10 11,12,13,14				15–22
TOTAL:	4	10				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	◄R ◄Y ◄G 12"	R Y G 12"				ØØ 12"or 16"

	SEQUENCE OF OPERATION																	FLASH
SIGNAL NO.	INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R		◄R
2	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R		◄R
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	G	G	G		Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	G	G	G		Y
5	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R		◄R
6	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R		◄R
7	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R		Y
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R		Y
9	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
10	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
11	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
12	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
13	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
14	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R		R
15	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
16	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
17	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
18	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
19	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W		DARK
20	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W		DARK
21	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
22	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW		DARK
PHASE	2 & 6			ALL RED	4&8 LPI	4 & 8				ALL RED	1 & 5		ALL RED	1 & 6		ALL RED		

NOTES: E – ADD Ø4 & Ø8 LPI

PHASING



SUBMITTED: VP 01/26/2021
IN SERVICE BY: Mod TS

CHECKED: KHamud 1/26/21
DATE: 2/24/2021

APPROVED: KHamud 1/26/21
TIME: 1104

MD 119
RUNS IN A
NORTH–SOUTH
DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 282–E
SHT 2 OF 2

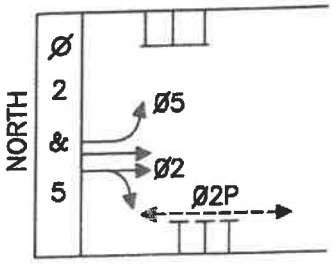
INTERSECTION: MD 119 (GREAT SENECA HIGHWAY) & WISTERIA DRIVE

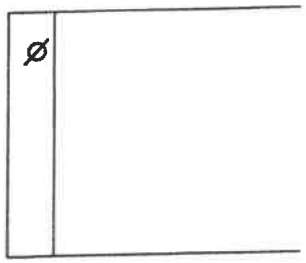
	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1,2,5,6	3,4,7,8,9,10 11,12,13,14				15–22
TOTAL:	4	10				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	◄R ◄Y ◄G 12"	R Y G 12"				ØØ 12"or 16"

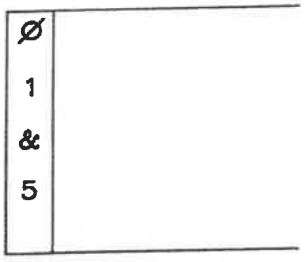
	SEQUENCE OF OPERATION																			FLASH
SIGNAL NO.	INTERVAL 17	18	19																	
1	◄R	◄R	◄R																	◄R
2	◄R	◄R	◄R																	◄R
3	R	R	R																	Y
4	R	R	R																	Y
5	◄G	◄Y	◄R																	◄R
6	◄G	◄Y	◄R																	◄R
7	G	G	G																	Y
8	G	G	G																	Y
9	R	R	R																	R
10	R	R	R																	R
11	R	R	R																	R
12	R	R	R																	R
13	R	R	R																	R
14	R	R	R																	R
15	DW	DW	DW																	DARK
16	DW	DW	DW																	DARK
17	DW	DW	DW																	DARK
18	DW	DW	DW																	DARK
19	DW	DW	DW																	DARK
20	DW	DW	DW																	DARK
21	W	W	W																	DARK
22	W	W	W																	DARK
PHASE	2 & 5		ALL RED																	

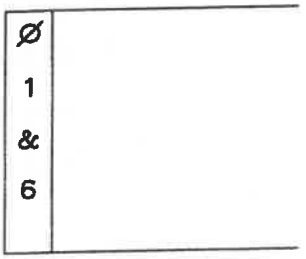
NOTES: E – ADD Ø4 & Ø8 LPI

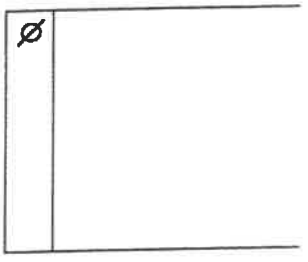
PHASING











SUBMITTED: VP 01/26/2021 CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
228	ASC3 TS2	TSS	GREAT SENECA HWY AND MIDDLEBROOK RD	H.0
	S-Cabinet		Hubbette: GC	

2-1 CONTROLLER TIMING DATA	WBLT MIDDLEBROOK RD	EB MIDDLEBROOK		NB GREAT SENECA	EBLT MIDDLEBROOK	WB MIDDLEBROOK RD										
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7		5	5	7										
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN		5		5												
WALK		7		7												
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		30		20												
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	4.0			4.0	4.0											
VEHICLE EXTENSION 2																
MAX1	50	50		40	30	50										
MAX2	50	50		40	40	50										
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5		5.0	3.5	4.5										
RED CLEARANCE	1.5	3.0		1.0	1.5	3.0										
RED MAX																
RED REVERT	5.0	2.0	5.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

*** TIMING PURPOSES ONLY**

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan

Spec. Action Plan

Submitted by / Date: VP 01/24/2020 Checked by / Date KHamud 1/28/20 Approved by / Date KHamud 1/28/20

In Service by / Date/Time 766/778/770 1/29/2020 10:20

SHA = Mike Chaney

* MIDDLEBROOK RUNS IN A EAST–WEST DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 228–H
SHT. 1 OF 2

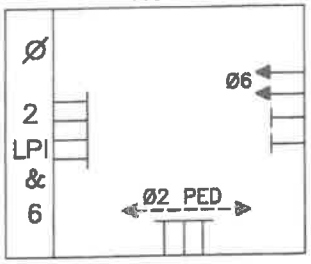
INTERSECTION: MD 119 (GREAT SENECA HIGHWAY) AT MIDDLEBROOK RD.

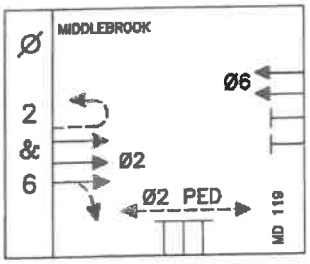
	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	7,8,9	4,5,6	1,2	3,10		11–14
TOTAL:	3	3	2	2		4
LEGEND O OPTICALLY LIMITED R RED Y YELLOW G GREEN ← ARROW F FLASHING	R Y G 12"	R Y G 12"	R Y G G 12"	R Y Y G G 12"		Ø Ø 12" 16"

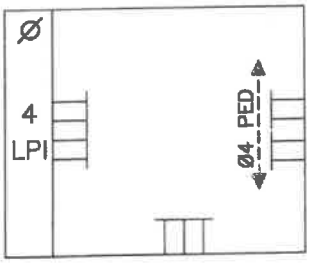
	SEQUENCE OF OPERATION																				FLASH
	INTERVAL																				
SIGNAL NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14							
1	R	G	G	Y	R	R	R	R	R	R	R	R/G	R/Y	R							Y
2	R	G	G	Y	R	R	R	R	R	R	R	R/G	R/Y	R							Y
3	R	R	R	R	R	R	R/G	R/Y	R	R	R	R	R	R							Y
4	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R							←R
5	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R							←R
6	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R							←R
7	G	G	G	Y	R	R	R	R	R	R	R	R	R	R							R
8	G	G	G	Y	R	R	R	R	R	R	R	R	R	R							R
9	R	R	R	R	R	R	G	G	G	Y	R	R	R	R							R
10	R	R	R	R	R	R	G	G	G	Y	R	R/G	R/Y	R							R
11	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							DARK
12	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							DARK
13	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW							DARK
14	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW	DW	DW	DW							DARK
	2&6 LPI	2 & 6			ALL RED	4 LPI	4				ALL RED	1 & 5		ALL RED							

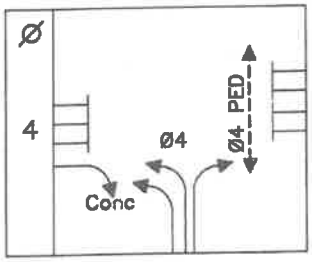
NOTES: H – ADDS NBRT CONCURRENT ARROW (W/ Ø1 WBLT)

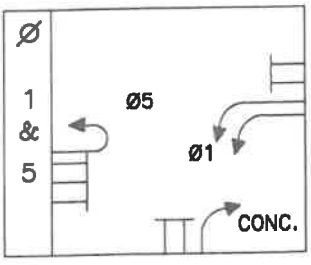
PHASING
NORTH











SUBMITTED: VP 01/24/2020
IN SERVICE BY: TGG/TTP/TTO

CHECKED: KHamud 1/28/20 APPROVED: KHamud 1/28/20
DATE: 1/29/2020 TIME: 10:20

MIDDLEBROOK RUNS IN A EAST–WEST DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 228–H
SHT. 2 OF 2

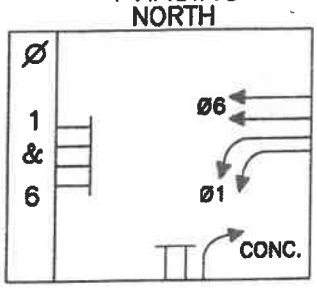
INTERSECTION: MD 119 (GREAT SENECA HIGHWAY) AT MIDDLEBROOK RD.

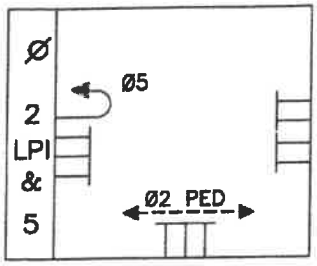
SIGNAL NO.	SIGNAL HEAD INDICATIONS 7,8,9	4,5,6	1,2	3,10		11–14
TOTAL:	3	3	2	2		4
LEGEND: O OPTICALLY LIMITED; R RED; Y YELLOW; G GREEN; ← ARROW; F FLASHING	R Y G 12"	←R ←Y ←G 12"	R Y (Y) G (G) 12"	R Y (Y) G (G) 12"		ØØ 12" 16"

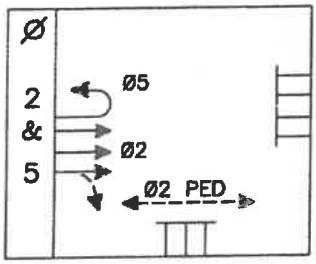
SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL 15	16	17	18	19	20	21	FLASH
1	R	R	R	R Y	G	G Y	G	Y
2	R	R	R	R Y	G	G Y	G	Y
3	R	R	R	R	G	G	G	Y
4	←G	←Y	←R	←R	←R	←R	←R	←R
5	←G	←Y	←R	←R	←R	←R	←R	←R
6	←G	←Y	←R	←R	←R	←R	←R	←R
7	G	G	G	R	R	R	R	R
8	G	G	G	R	R	R	R	R
9	R	R	R	R	R	R	R	R
10	R ←G	R ←Y	R	R	R	R	R	R
11	DW	DW	DW	W	W	W	W	DARK
12	DW	DW	DW	W	W	W	W	DARK
13	DW	DW	DW	DW	DW	DW	DW	DARK
14	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	1 & 6		ALL RED	2&5 LPI	2 & 5		ALL RED	

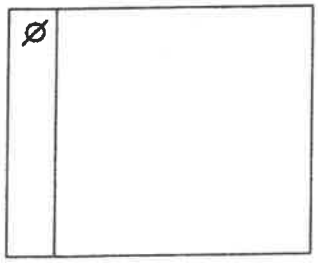
NOTES: H – ADDS NBRT CONCURRENT ARROW (W/ Ø1 WBLT)

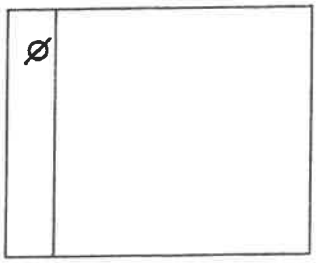
PHASING
NORTH











SUBMITTED: VP 01/24/2020 CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
376	TS1	TSS	GERMANTOWN RD (MD 118) & WISTERIA DR	E.1
			Hubbette:	

2-1 CONTROLLER TIMING DATA

	NBLT MD 118	SB MD 118	WBLT WISTERIA DR	EB WISTERIA DR	SBLT MD 118	NB MD 118	EBLT WISTERIA DR	WB WISTERIA DR								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	7	5	5	5	7	5	5								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN																
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		18		24		18		24								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	5.0		5.0	5.0	5.0		5.0	5.0								
VEHICLE EXTENSION 2																
MAX1	15	60	20	40	15	60	20	40								
MAX2	50	60	30	40	50	60	30	40								
MAX3	70															
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.5	4.5	3.5	4.0	3.5	4.5	3.5	4.0								
RED CLEARANCE	1.0	1.5	1.5	2.5	1.0	1.5	1.5	2.5								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

* TIMING PURPOSES ONLY

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan

Spec. Action Plan

Submitted by / Date: VP 04/28/2016

Checked by / Date K Hamud 3/10/17

Approved by / Date K Hamud 3/10/17

In Service by / Date/Time 7/67/755 3/17/17 10:00

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A NORTH–SOUTH DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 376–E.0
sheet 1 of 2

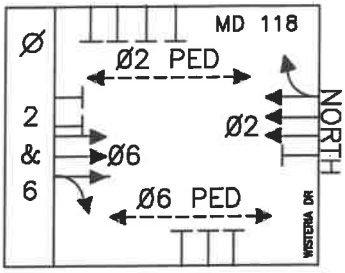
INTERSECTION: GERMANTOWN ROAD (MD 118) AT WISTERIA ROAD

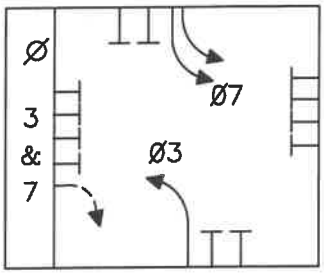
	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1,2,3,6,7,10,11 14,15,16	4,5,8,9 12,13,17.18				19–26
TOTAL:	11	8				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	◄R ◄Y ◄G 12"	R Y G 12"				ØØ 12" 16"

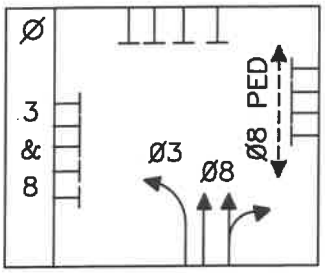
	SEQUENCE OF OPERATION																		FLASH
SIGNAL NO.	INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
2	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
3	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
6	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
7	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
9	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
10	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
11	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R	◄R
12	R	R	R	R	R	R	R	G	G	G	R	R	R	G	G	G	Y	R	R
13	R	R	R	R	R	R	R	G	G	G	R	R	R	G	G	G	Y	R	R
14	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R	◄R	◄R
15	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R	◄R	◄R
16	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄G	◄Y	◄R	◄R	◄R	◄R	◄R	◄R	◄R
17	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	Y	R	R
18	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	Y	R	R
19	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
20	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	W	FDW	DW	DW	DW	DARK
21	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW	DW	DW	W	FDW	DW	DW	DW	DARK
22	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
23	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
24	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DARK
25	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DARK
26	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
PHASE	2 & 6			ALL RED	3 & 7		ALL RED	3 & 8		ALL RED	4 & 7		ALL RED	4 & 8				ALL RED	

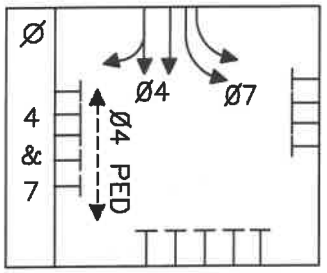
NOTES: E.0= NORTHBOUND INSTALL SECOND LEFT TURN LANE

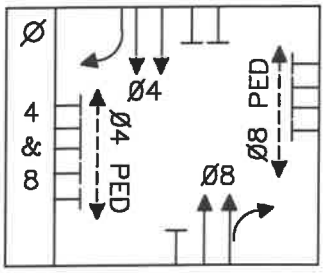
PHASING











SUBMITTED: RSC 12/12/011 CHECKED: _____ APPROVED: _____

IN SERVICE BY: _____ DATE: _____ TIME: _____

SEQUENCE OF OPERATION SHEET

MD 118 RUNS IN A NORTH–SOUTH DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

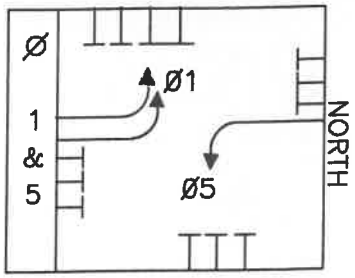
NO. 376–E.0
sheet 2 of 2

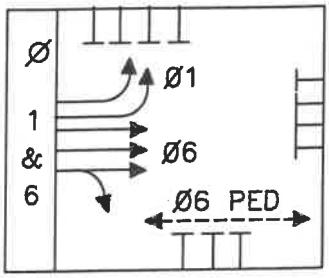
INTERSECTION: GERMANTOWN ROAD (MD 118) AT WISTERIA ROAD

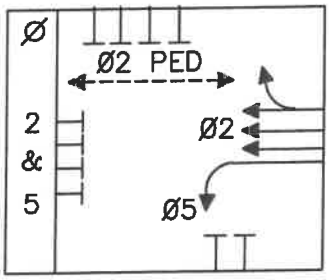
SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	1,2,5,6,7,10,11 12,15,16,17	3,4,8,9,13 14,18,19				20–27
TOTAL:	11	8				8
LEGEND OPTICALLY LIMITED R RED Y YELLOW G GREEN ARROW F FLASHING	←R ←Y ←G 12"	R Y G 12"				ØØ 12" 16"

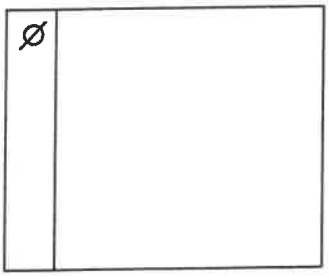
SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL									FLASH
	19	20	21	22	23	24	25	26	27	
1	←G	←Y	←R	←G	←Y	←R	←R	←R	←R	←R
2	←G	←Y	←R	←G	←Y	←R	←R	←R	←R	←R
3	←G	←Y	←R	←G	←Y	←R	←R	←R	←R	←R
4	R	R	R	G	G	G	R	R	R	Y
5	R	R	R	G	G	G	R	R	R	Y
6	←G	←Y	←R	←R	←R	←R	←G	←Y	←R	←R
7	←G	←Y	←R	←R	←R	←R	←G	←Y	←R	←R
8	R	R	R	R	R	R	G	G	G	Y
9	R	R	R	R	R	R	G	G	G	Y
10	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
11	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
12	R	R	R	R	R	R	R	R	R	R
13	R	R	R	R	R	R	R	R	R	R
14	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
15	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
16	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
17	R	R	R	R	R	R	R	R	R	R
18	R	R	R	R	R	R	R	R	R	R
19	DW	DW	DW	DW	DW	DW	W	W	W	DARK
20	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
21	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
22	DW	DW	DW	W	W	W	DW	DW	DW	DARK
23	DW	DW	DW	W	W	W	DW	DW	DW	DARK
24	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
25	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
26	DW	DW	DW	DW	DW	DW	W	W	W	DARK
27										
PHASE	1 & 5		ALL RED	1 & 6		ALL RED	2 & 5		ALL RED	

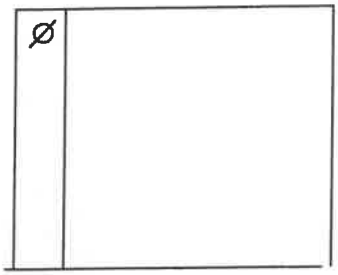
PHASING











NOTES:

SUBMITTED: RSC 12/12/2011 CHECKED: _____ APPROVED: _____

IN SERVICE BY: _____ DATE: _____ TIME: _____

INT.#	Cabinet Type	System	INTERSECTION NAME:	TS.#
940	ASC3 TS2	TSS	Crystal Rock Dr & Wisteria Dr	B.0
	Base Mount		Hubbette: GC	

2-1 CONTROLLER TIMING DATA

		EB WISTERIA DR		NB POST OFFICE DRWY		WB WISTERIA DR		SB CRYSTAL ROCK DR								
TIMING PLAN 1																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN		15		3		15		3								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MINIMUM GREEN																
DELAYED GREEN		5		5		5		5								
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		13		14		13		14								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION				5.0				5.0								
VEHICLE EXTENSION 2																
MAX1		30		25		30		25								
MAX2		40		25		40		30								
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE		4.0		4.0		4.0		4.0								
RED CLEARANCE		1.5		2.0		1.5		2.0								
RED MAX																
RED REVERT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION																
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP																

* TIMING PURPOSES ONLY

TOD (Late) Flash 00:30 - 05:30 7 Days

Spec. Action Plan

Spec. Action Plan

Submitted by / Date: VP 06/22/21 Checked by / Date KHamud 6/22/2021 Approved by / Date KHamud 2021

In Service by / Date/Time 7166 6/23/2021 1320

10-8 @13/7 2c @1219

WISTERIA DR RUNS IN A EAST–WEST DIRECTION

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 940 B
SHT. 1 OF 1

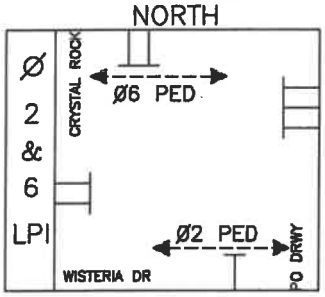
INTERSECTION: CRYSTAL ROCK DR & WISTERIA DR

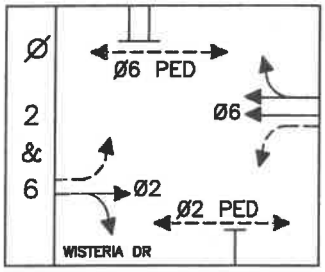
	SIGNAL HEAD INDICATIONS					
SIGNAL NO.	1–9					10–17
TOTAL:	9					8
LEGEND: ○ OPTICALLY LIMITED; R RED; Y YELLOW; G GREEN; ← ARROW; F FLASHING	R Y G 12"					ØØ 12" 16"

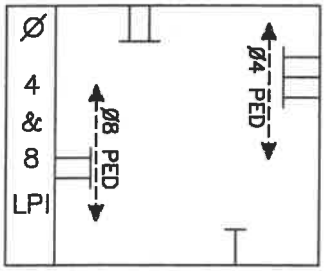
	SEQUENCE OF OPERATION																		FLASH
SIGNAL NO.	INTERVAL 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	R	G	G	Y	R	R	R	R	R	R	R								Y
2	R	G	G	Y	R	R	R	R	R	R	R								Y
3	R	G	G	Y	R	R	R	R	R	R	R								Y
4	R	G	G	Y	R	R	R	R	R	R	R								Y
5	R	G	G	Y	R	R	R	R	R	R	R								Y
6	R	R	R	R	R	R	G	G	G	Y	R								R
7	R	R	R	R	R	R	G	G	G	Y	R								R
8	R	R	R	R	R	R	G	G	G	Y	R								R
9	R	R	R	R	R	R	G	G	G	Y	R								R
10	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW								DARK
11	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW								DARK
12	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW								DARK
13	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW								DARK
14	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW								DARK
15	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW								DARK
16	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW								DARK
17	DW	DW	DW	DW	DW	W	W	FDW	DW	DW	DW								DARK
18																			
19																			
20																			
PHASE	2&6 LPI	2 & 6			ALL RED	4&8 LPI	4 & 8				ALL RED								

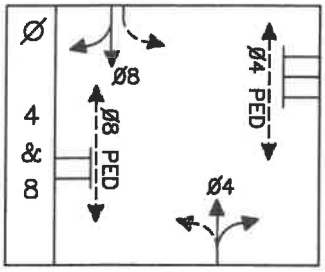
NOTES: B– ADD LPI ALL PED PHASES

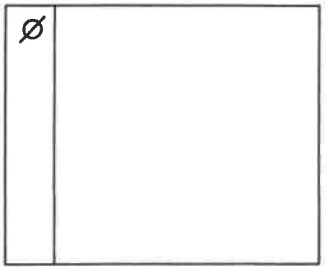
PHASING
NORTH











SUBMITTED: VP 06/22/2021 CHECKED: KHamud 6/22/2021 APPROVED: KHamud 6/22/2021
IN SERVICE BY: 766 DATE: 6-23-2021 TIME: 1320

SIG#0228 Hub-GC

August 28, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	5	7	0	0	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	30	0	20	0	0	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	4.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	50	50	0	40	30	50	0	0	0	0	0	0	0	0	0	0
MAX2	50	50	0	40	40	50	0	0	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	3.0	5.0	3.5	4.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.5	3.0	0.0	1.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	2.0	5.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG#0228 Hub-GC

August 28, 2021

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	135	SEQUENCE	1
OFFSET VAL	57	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	1
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	0	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	120	ACT WALK REST	
OFFSET VAL	5	PHASE RESERVICE	

NextEdit

SIG#0228 Hub-GC

COORDINATOR PATTERN 2

MAX SELECT	NONE
STD (COS)	0
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0

FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	135
OFFSET VAL	121
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	0
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0228 Hub-GC

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	120
OFFSET VAL	5
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	0
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	29	56	0	50	29	56	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0228 Hub-GC

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	54	0	36	20	64	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	40	55	0	40	40	55	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	54	0	36	20	64	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

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ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

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ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	5	7	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	20	0	28	0	20	0	28	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	0.0	4.0	3.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	25	60	0	50	25	60	0	50	0	0	0	0	0	0	0	0
MAX2	35	50	0	40	35	50	0	50	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	4.0	5.0	3.0	4.0	4.0	5.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	2.0	2.0	0.0	3.0	2.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET	X			X	X			X								
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG#0282 Hub-GC

August 28, 2021

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	120	ACT WALK REST	
OFFSET VAL	115	PHASE RESERVICE	

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COORDINATOR PATTERN 2

MAX SELECT	NONE
STD (COS)	121
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0

FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	120
OFFSET VAL	12
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	131
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	120
OFFSET VAL	115
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	26	52	0	42	26	52	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	33	45	0	42	33	45	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	26	52	0	42	26	52	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	33	45	0	42	33	45	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

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ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

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ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0373 HubGC

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X	X	X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	10	5	5	5	10	5	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	5	0	5	0	5	0	5	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	25	0	26	0	25	0	26	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	5.0	8.0	5.0	5.0	5.0	8.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	50	20	30	20	50	20	30	0	0	0	0	0	0	0	0
MAX2	30	60	40	50	50	60	40	50	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.5	2.0	2.5	2.5	1.5	2.0	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET				X	X		X									
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

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COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	0	PHASE RESERVICE	

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COORDINATOR PATTERN 2

MAX SELECT	NONE
STD (COS)	121
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0

FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	150
OFFSET VAL	0
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	131
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG0373 HubGC

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	150
OFFSET VAL	0
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	59	21	40	30	59	21	40
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG0373 HubGC

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	33	53	24	40	33	53	24	40
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	36	49	24	41	36	49	24	41
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	33	53	24	40	33	53	24	40
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

SIG0373 HubGC

ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG0373 HubGC

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

SIG0373 HubGC

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0373 HubGC

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG0373 HubGC

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	10	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	11	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0376 Hub-GC

September 9, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X	X	X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	5	5	5	7	5	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	18	0	24	0	18	0	24	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	5.0	0.0	5.0	5.0	5.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	60	20	40	15	60	20	40	0	0	0	0	0	0	0	0
MAX2	25	60	30	40	50	60	30	40	0	0	0	0	0	0	0	0
MAX3	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	3.5	4.0	3.5	4.5	3.5	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.5	1.5	2.5	1.0	1.5	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET			X					X								
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG#0376 Hub-GC

September 9, 2021

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	9	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	0	PHASE RESERVICE	

NextEdit

SIG#0376 Hub-GC

COORDINATOR PATTERN 2

MAX SELECT	NONE
STD (COS)	121
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0

FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	150
OFFSET VAL	147
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	131
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0376 Hub-GC

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	150
OFFSET VAL	0
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	22	63	27	38	22	63	27	38
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0376 Hub-GC

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	54	27	39	30	54	27	39
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	33	54	24	39	33	54	24	39
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	54	27	39	30	54	27	39
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

SIG#0376 Hub-GC

ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG#0376 Hub-GC

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3	X															
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

SIG#0376 Hub-GC

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 31

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL				X			X									

NextEdit

SIG#0376 Hub-GC

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 32

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL				X			X									
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

NextEdit

SIG#0376 Hub-GC

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0376 Hub-GC

September 9, 2021

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0376 Hub-GC

September 9, 2021

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	2	4	32	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	10	22	18	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	2	4	32	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	11	22	18	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0711 HubLB

August 28, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X	X	X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	5	7	5	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	15	0	29	0	15	0	29	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	60	0	35	15	60	15	35	0	0	0	0	0	0	0	0
MAX2	30	60	0	40	30	60	25	40	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	0.0	4.0	3.5	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	1.5	1.0	0.0	3.0	1.5	1.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET	X				X											
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

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COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	96	ACTION PLAN	0
ACTUATED COORD		VEH PERM 1	0
ACT WALK REST		VEH PERM 2	0
PHASE RESERVICE		VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	PHASE RESERVICE	
CYCLE	120	STD (COS)	121
OFFSET VAL	108	TIMING PLAN	1
ACTUATED COORD		SEQUENCE	1
ACT WALK REST		ACTION PLAN	0

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COORDINATOR PATTERN 2

VEH PERM 1	0	VEH PERM 2 - DISP	0
VEH PERM 2	0	XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	57	ACTION PLAN	0
ACTUATED COORD		VEH PERM 1	0
ACT WALK REST		VEH PERM 2	0
PHASE RESERVICE		VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	108	ACTION PLAN	0
ACTUATED COORD		VEH PERM 1	0
ACT WALK REST		VEH PERM 2	0
PHASE RESERVICE		VEH PERM 2 - DISP	0
STD (COS)	141	XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	57	0	75	18	57	30	45
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	16	40	0	64	16	40	21	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	63	0	69	30	51	24	45
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	16	40	0	64	16	40	21	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE			
VEH DET PLAN	0	SEQUENCE	1		
FLASH		DET LOG	0		
VEH DET DIAG PLN	0	RED REST			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE			
VEH DET PLAN	0	SEQUENCE	1		
FLASH		DET LOG	0		
VEH DET DIAG PLN	0	RED REST			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3
TIMING PLAN	1
VEH DET PLAN	0
FLASH	
VEH DET DIAG PLN	0

DIMMING ENABLE	
SYS OVERRIDE	
SEQUENCE	1
DET LOG	0
RED REST	

PED DET DIAG PLN	0

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 4

PATTERN	4
TIMING PLAN	1
VEH DET PLAN	0
FLASH	
VEH DET DIAG PLN	0

DIMMING ENABLE	
SYS OVERRIDE	
SEQUENCE	1
DET LOG	0
RED REST	

PED DET DIAG PLN	0

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 30

PATTERN	4	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE			
VEH DET PLAN	0	SEQUENCE	1		
FLASH		DET LOG	0		
VEH DET DIAG PLN	0	RED REST			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT	X															
AUX FCT																

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LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 31

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE			
VEH DET PLAN	0	SEQUENCE	1		
FLASH		DET LOG	0		
VEH DET DIAG PLN	0	RED REST			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT	X															
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE			
VEH DET PLAN	0	SEQUENCE	1		
FLASH	X	DET LOG	0		
VEH DET DIAG PLN	0	RED REST			

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	31	1	2	3	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	7	9	15	19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	31	1	2	3	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	7	9	15	19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	31	1	2	3	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	7	9	15	19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	31	1	2	3	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	7	9	15	19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	31	1	2	3	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	7	9	15	19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	7	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG0711 HubLB

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	30	100	30	4	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	7	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0790 Hub-GC

August 28, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	5	0	5	5	5	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	15	0	26	0	15	0	26	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	0.0	8.0	3.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	25	0	45	25	25	0	45	0	0	0	0	0	0	0	0
MAX2	20	60	0	50	40	60	0	50	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.0	0.0	4.0	3.5	4.0	0.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	0.0	2.5	1.0	1.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG#0790 Hub-GC

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

ACTION PLAN 99

PATTERN	FREE	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	VEH DET PLAN	0	VEH DET DIAG PLN	0
TIMING PLAN	1	FLASH	X	DIMMING ENABLE	

NextEdit

SIG#0790 Hub-GC

ACTION PLAN 100

SYS OVERRIDE		RED REST		PED PR RETURN	
SEQUENCE	1	PED DET DIAG PLN	0	QUEUE DELAY	
DET LOG	0	PRIORITY RETURN		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0790 Hub-GC

August 28, 2021

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0790 Hub-GC

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0802 Hub-LB

August 28, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X		X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	0	7	0	0	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	17	0	23	0	0	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	60	0	40	0	60	0	0	0	0	0	0	0	0	0	0
MAX2	25	60	0	40	0	60	0	0	0	0	0	0	0	0	0	0
MAX3	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	3.0	4.0	3.0	4.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.5	1.5	0.0	2.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TYPE/TIMES

OVERLAP	A	B	C	D
TYPE	OTHER/ECONOLITE	NORMAL	NORMAL	NORMAL
LAG GRN (DELAY START CLEAR)	0.0	0.0	0.0	0.0
YEL	0.0	0.0	0.0	0.0
RED	0.0	0.0	0.0	0.0
ADV GRN	0.0	0.0	0.0	0.0
PROTECTED PHASE	0	0	0	0
PERMISSIVE PHASE	0	0	0	0
FLASHING ARROW OUTPUT	GRN OLP	GRN OLP	GRN OLP	GRN OLP

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TYPE/TIMES

OVERLAP	A	B	C	D
DELAY START FYA	0.0	0.0	0.0	0.0

OVERLAP	A	B	C	D
ACTION PLAN SF BIT DISABLE	0	0	0	0

TYPE/TIMES

OVERLAP	E	F	G	H	I	J	K	L
TYPE	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
LAG GRN (DELAY START CLEAR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADV GRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROTECTED PHASE	0	0	0	0	0	0	0	0
PERMISSIVE PHASE	0	0	0	0	0	0	0	0
FLASHING ARROW OUTPUT	GRN OLP	GRN OLP	GRN OLP	GRN OLP	GRN OLP	GRN OLP	GRN OLP	GRN OLP
DELAY START FYA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACTION PLAN SF BIT DISABLE	0	0	0	0	0	0	0	0

TYPE/TIMES

OVERLAP	M	N	O	P
TYPE	NORMAL	NORMAL	NORMAL	NORMAL
LAG GRN (DELAY START CLEAR)	0.0	0.0	0.0	0.0
YEL	0.0	0.0	0.0	0.0
RED	0.0	0.0	0.0	0.0
ADV GRN	0.0	0.0	0.0	0.0
PROTECTED PHASE	0	0	0	0
PERMISSIVE PHASE	0	0	0	0
FLASHING ARROW OUTPUT	GRN OLP	GRN OLP	GRN OLP	GRN OLP
DELAY START FYA	0.0	0.0	0.0	0.0
ACTION PLAN SF BIT DISABLE	0	0	0	0

OVERLAP A

PHASE	1	2	3	4	5	6	7	8
INCLUDED	X			X				
PROTECT								
MODIFIER								
PED PRTC								
NOT OVLP								
FLSH GRN	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
LAG X PH								
LAG 2 PH								

OVERLAP A

PHASE	9	10	11	12	13	14	15	16
INCLUDED								
PROTECT								
MODIFIER								
PED PRTC								

PHASE	9	10	11	12	13	14	15	16
NOT OVLP								
FLSH GRN	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
LAG X PH								
LAG 2 PH								

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VEH/PED OVERLAPS

OVERLAP	INCLUDED VEH															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	X			X												
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																

VEH/PED OVERLAPS

OVERLAP	INCLUDED PED															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A																
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																

NextEdit

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PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI CALC																

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO
SYSTEM SOURCE	SYS
SPLITS IN	SECONDS
TRANSITION	SMOOTH
DWELL/ADD TIME	255
DLY COORD WK-LZ	
OFFSET REF	LAG
PED RECALL	X
LOCAL ZERO OVRD	
RE-SYNC COUNT	1

ECPI COORD	X
SYSTEM FORMAT	STD
OFFSET IN	SECONDS
MAX SELECT	MAX2
FORCE OFF	FIXED
CAL USE PED TM	X
PED RESERVE	
FO ADD INI GRN	
MULTISYNC	

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1
CYCLE	150
OFFSET VAL	120
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	111
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

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COORDINATOR PATTERN 2

USE SPLIT PATTERN	2
CYCLE	120
OFFSET VAL	6
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	121
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	150
OFFSET VAL	87
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	131
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

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SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	120
OFFSET VAL	6
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

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Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	45	60	0	45	0	105	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	36	47	0	37	0	83	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	45	60	0	45	0	105	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	36	47	0	37	0	83	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								

PHASE	9	10	11	12	13	14	15	16
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

NextEdit

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ACTION PLAN 1

PATTERN	1	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0802 Hub-LB

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0902 HubLB

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	5	7	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	12	0	23	0	12	0	23	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	0.0	5.0	3.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	50	0	30	20	50	0	30	0	0	0	0	0	0	0	0
MAX2	40	60	0	50	40	60	0	50	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	0.0	3.5	3.5	4.5	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	1.0	1.0	0.0	3.0	1.0	1.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG0902 HubLB

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	6	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	0	PHASE RESERVICE	

NextEdit

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COORDINATOR PATTERN 2

MAX SELECT	NONE
STD (COS)	121
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0

FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3
CYCLE	150
OFFSET VAL	16
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	131
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

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PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4
CYCLE	120
OFFSET VAL	0
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0

TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG

RING	1	2	3	4
SPLT EXT	0	0	0	0

RING	1	2	3	4
SPLIT DEMAND PTRN.	0	0		

RING	1	2	3	4
RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	32	81	0	37	32	81	0	37
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG0902 HubLB

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	35	73	0	42	35	73	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	80	0	50	20	80	0	50
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	35	73	0	42	35	73	0	42
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

SIG0902 HubLB

ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

SIG0902 HubLB

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																

NextEdit

SIG0902 HubLB

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0902 HubLB

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG0902 HubLB

August 28, 2021

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	4	100	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0940 [Hub-GC]

September 8, 2021

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE		X		X		X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	0	15	0	3	0	15	0	3	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	5	0	5	0	5	0	5	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	13	0	14	0	13	0	14	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	5.0	0.0	5.0	3.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	0	30	0	15	0	30	0	15	0	0	0	0	0	0	0	0
MAX2	0	40	0	25	0	40	0	30	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	60	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	0.0	4.0	0.0	4.0	0.0	4.0	0.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	0.0	1.5	0.0	2.0	0.0	1.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL																
SF RCALL																
NO REST																
AI CALC																

NextEdit

SIG#0940 [Hub-GC]

ACTION PLAN 99

PATTERN	FREE	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																

NextEdit

SIG#0940 [Hub-GC]

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0940 [Hub-GC]

September 8, 2021

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0940 [Hub-GC]

September 8, 2021

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

J. Background Developments Trip Generation

Table 1
Chestnut Ridge
Site Trip Generation [1, 2]

Land Use	LUC	Amount	Unit	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Approved[3]									
Office	LATR	4,980	SF	6	1	7	2	9	11
Fast-Food w/ Drive Through	934	5,000	SF	120	107	227	86	77	163
Pass-By Reduction	934			-59	-52	-111	-43	-39	-82
Subtotal Existing Site Trips		**9,980**	**SF**	**67**	**56**	**123**	**45**	**47**	**92**
Proposed Site Plan w/ Auto Parts Store (retail use)									
Retail	LATR	6,816	SF	11	11	22	44	41	85
Pass-By Reduction (Retail)	820	AM: 0% / PM: 34%		0	0	0	-15	-14	-29
Subtotal Proposed Site Trips		**6,816**	**SF**	**11**	**11**	**22**	**29**	**27**	**56**
Net Total Site Trips (Proposed vs. Approved)		-3,164	SF	-115	-97	-212	-44	-45	-89
Net Site Trips after Pass-By Reduction (Proposed vs. Approved)		-3,164	SF	-56	-45	-101	-16	-20	-36

Notes:

1. Trip generation methodology based on 2013 LATR & TPAR Guidelines, consistent with the approved LATR study.

2. Institute of Transportation Engineer's "Trip Generation Manual, 9th Edition" used, consistent with the appoved LATR for the site.

3. Trip generation for approved condition taken from July 10, 2014 approved LATR study.

4. 2013 LATR rates/equations for retail under 50,000 sf used for the auto parts trip generation calculation and the average pass-by rate for retail from ITE's Trip Generation Handbook were used to calculate pass-by trips.

2. Participate in improvements to the Great Seneca Highway/Middlebrook Road intersection;

3. Participate construction of a right-turn lane on southbound Great Seneca Highway to westbound Clopper Road;

4. Participate in construction of A-254 between Great Seneca Highway and existing Md. 118.

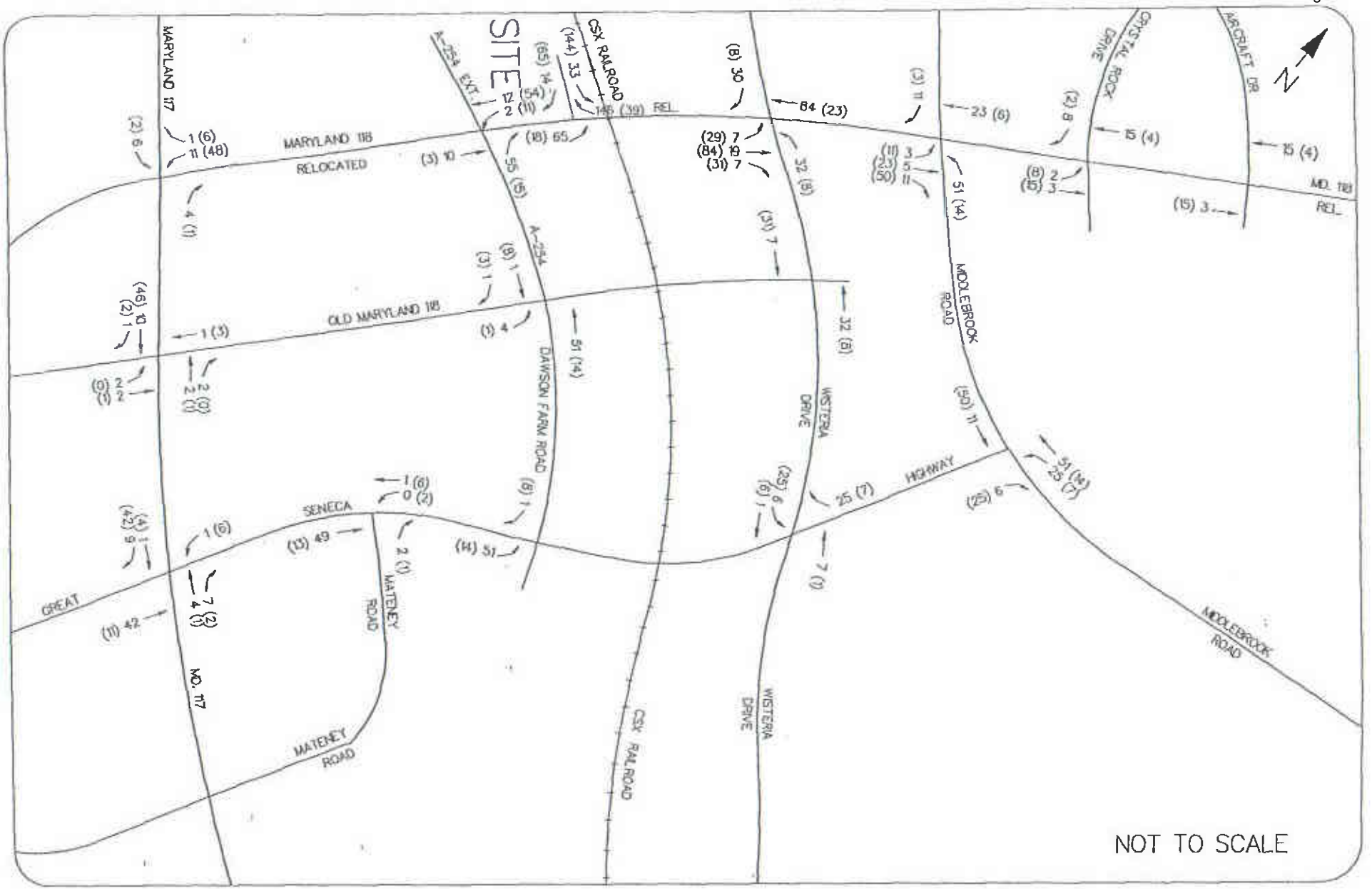
Improvements 1, 2, and 4 have been implemented. Improvements 1 and 2 were associated with the trip generation equivalent of up to a 50,000 SF office building. Improvement No. 4 (which is also open to traffic) is associated with the trip equivalent of the last 187,000 SF of office (213,000 SF to 400,000 SF). Therefore improvements have been completed which are associated with 237,000 SF of office development.

The trip generation of three office buildings approximately 80,000 SF each (i.e., 80,000 SF/80,000 SF/77,000 SF) that total 237,000 SF is compared to the 300,000 SF (130,000 SF R&D/99,000 SF Manufacturing/71,000 SF Warehouse) of Qiagen as shown in Table A. {Peak hour trips for the 300,000 SF mix of uses were generated using the trip equations/rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (6th Edition), and the M-NCPPC Local Area Transportation Review (LATR) trip generation rates were used to generate peak hour trips associated with the office use}.

Table A
Trip Generation
(300,000 SF Qiagen vs. 237,000 SF Office)

Density/Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
130,000 SF R&D	143	29	172	25	140	165
71,000 SF Warehouse	26	6	32	9	28	37
99,000 SF Manufacturing	42	12	54	23	41	64
Qiagen Total Trips (Maximum)	211	47	258	57	209	266
237,000 SF Office (80,000 SF/80,000 SF/77,000 SF)	329	50	379	72	329	401
Difference	118	3	121	15	120	135

Roadway improvements associated with a significantly higher trip level than that generated by Qiagen (i.e., an excess of 121 AM/135 PM trips) have been completed, providing adequate traffic capacity within the overall staging program. However, the trip assignment reflected in this memorandum



INTEGRATED
TRANSPORTATION
SOLUTIONS, INC.

EXHIBIT 3

QIAGEN SITE TRIPS
AM (PM) PEAK HOUR

Trip Generation - Retail

Background Development - Germantown Town Center East
Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	820	10,567 sf	6 veh/hr	4 veh/hr	10 veh/hr	49 veh/hr	54 veh/hr	103 veh/hr	1304 veh/hr
		Calculation Details:	*62%*	*38%*	*=0.94(X/1000)*	*48%*	*52%*	*Ln(T)=0.74Ln(X/1000)+2.89*	*Ln(T)=0.68Ln(X/1000)+5.57*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	89%	5 veh/hr	4 veh/hr	9 veh/hr	44 veh/hr	48 veh/hr	92 veh/hr	1161 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	64.5%	8 ppl/hr	6 ppl/hr	14 ppl/hr	68 ppl/hr	75 ppl/hr	143 ppl/hr	1800 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	64.5%	5 ppl/hr	4 ppl/hr	9 ppl/hr	44 ppl/hr	48 ppl/hr	92 ppl/hr	1161 ppl/hr
Retail	Auto Passenger	26.5%	2 ppl/hr	2 ppl/hr	4 ppl/hr	18 ppl/hr	20 ppl/hr	38 ppl/hr	477 ppl/hr
Retail	Transit	2.5%	0 ppl/hr	0 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr	45 ppl/hr
Retail	Non-Motorized	6.5%	1 ppl/hr	0 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	9 ppl/hr	117 ppl/hr
	Total	100.0%							

Trip Gen Summary for Retail

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	5 veh/hr	4 veh/hr	9 veh/hr	44 veh/hr	48 veh/hr	92 veh/hr	1161 veh/hr
Auto Passenger	2 ppl/hr	2 ppl/hr	4 ppl/hr	18 ppl/hr	20 ppl/hr	38 ppl/hr	477 ppl/hr
Transit	0 ppl/hr	0 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr	45 ppl/hr
Bicycle (Non-motorized)	1 ppl/hr	0 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	9 ppl/hr	117 ppl/hr
Walk (Transit and other walk trips)	1 ppl/hr	0 ppl/hr	1 ppl/hr	6 ppl/hr	7 ppl/hr	13 ppl/hr	162 ppl/hr

Table 3A
Arden Courts of Germantown
Site Trip Generation - AM and PM Street Peak Hours

Land Use	Rate Source	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Assisted Living Facilities	ITE	254	64	Beds	6	3	9	6	8	14

Notes: (1)Trip generation is based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition.
(2) Based on ITE AM & PM Peak Hour of Adjacent Street Traffic.

Trip Generation - Background Office

Background Development - Century Technology Campus
Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	710	94,920 sf	100 veh/hr	16 veh/hr	116 veh/hr	17 veh/hr	91 veh/hr	108 veh/hr
		Calculation Details:	*86%*	*14%*	*=0.94(X/1000)+26.49*	*16%*	*84%*	*Ln(T)=0.95Ln(X/1000)+0.36*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	91%	91 veh/hr	15 veh/hr	106 veh/hr	15 veh/hr	83 veh/hr	98 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	69.2%	132 ppl/hr	21 ppl/hr	153 ppl/hr	22 ppl/hr	120 ppl/hr	142 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	Auto Driver	69.2%	91 ppl/hr	15 ppl/hr	106 ppl/hr	15 ppl/hr	83 ppl/hr	98 ppl/hr
Office	Auto Passenger	20.4%	27 ppl/hr	4 ppl/hr	31 ppl/hr	4 ppl/hr	25 ppl/hr	29 ppl/hr
Office	Transit	4.5%	6 ppl/hr	1 ppl/hr	7 ppl/hr	1 ppl/hr	5 ppl/hr	6 ppl/hr
Office	Non-Motorized	5.9%	8 ppl/hr	1 ppl/hr	9 ppl/hr	2 ppl/hr	7 ppl/hr	9 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	91 veh/hr	15 veh/hr	106 veh/hr	15 veh/hr	83 veh/hr	98 veh/hr
Auto Passenger	27 ppl/hr	4 ppl/hr	31 ppl/hr	4 ppl/hr	25 ppl/hr	29 ppl/hr
Transit	6 ppl/hr	1 ppl/hr	7 ppl/hr	1 ppl/hr	5 ppl/hr	6 ppl/hr
Bicycle (Non-motorized)	8 ppl/hr	1 ppl/hr	9 ppl/hr	2 ppl/hr	7 ppl/hr	9 ppl/hr
Walk (Transit and other walk trips)	14 ppl/hr	2 ppl/hr	16 ppl/hr	3 ppl/hr	12 ppl/hr	15 ppl/hr

Table 3-4
Montgomery College Germantown
Site Trip Generation Summary

Development/Use	Rate Source	Amount	Units	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Office	MNCPPC	150,000	SF	215	32	247	40	196	236
Total Trips				**215**	**32**	**247**	**40**	**196**	**236**

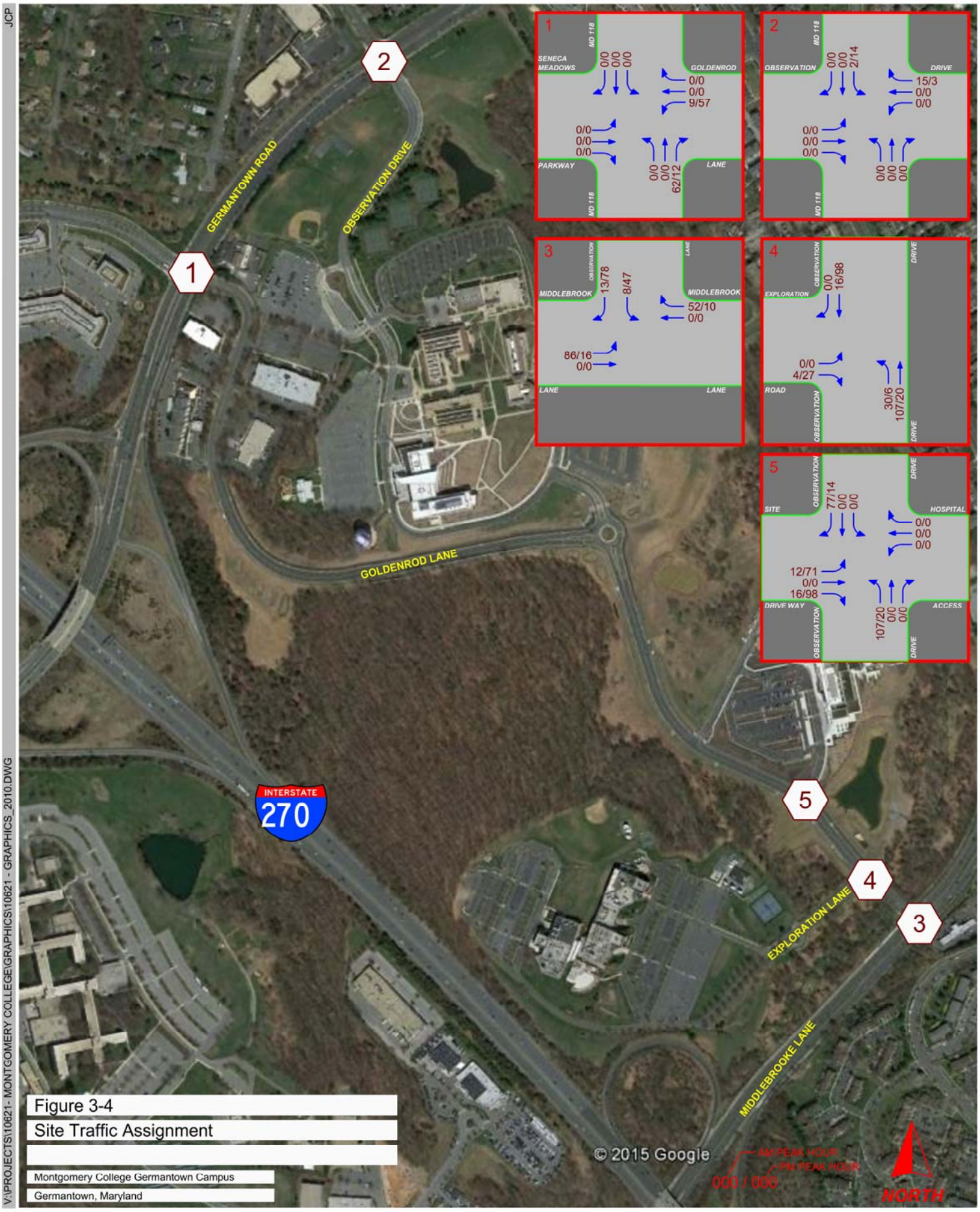


Figure 3-4
Site Traffic Assignment

Montgomery College Germantown Campus
Germantown, Maryland

Trip Generation - Background Office

Background Development - Seneca Meadows
Policy Area: 14. Germantown East

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	710	366,619 sf	319 veh/hr	52 veh/hr	371 veh/hr	63 veh/hr	328 veh/hr	391 veh/hr
		Calculation Details:	*86%*	*14%*	*=0.94(X/1000)+26.49*	*16%*	*84%*	*Ln(T)=0.95Ln(X/1000)+0.36*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	91%	290 veh/hr	48 veh/hr	338 veh/hr	57 veh/hr	299 veh/hr	356 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	72.1%	402 ppl/hr	67 ppl/hr	469 ppl/hr	79 ppl/hr	415 ppl/hr	494 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	Auto Driver	72.1%	290 ppl/hr	48 ppl/hr	338 ppl/hr	57 ppl/hr	299 ppl/hr	356 ppl/hr
Office	Auto Passenger	21.1%	85 ppl/hr	14 ppl/hr	99 ppl/hr	17 ppl/hr	87 ppl/hr	104 ppl/hr
Office	Transit	1.8%	7 ppl/hr	1 ppl/hr	8 ppl/hr	1 ppl/hr	8 ppl/hr	9 ppl/hr
Office	Non-Motorized	5.0%	20 ppl/hr	4 ppl/hr	24 ppl/hr	4 ppl/hr	21 ppl/hr	25 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	290 veh/hr	48 veh/hr	338 veh/hr	57 veh/hr	299 veh/hr	356 veh/hr
Auto Passenger	85 ppl/hr	14 ppl/hr	99 ppl/hr	17 ppl/hr	87 ppl/hr	104 ppl/hr
Transit	7 ppl/hr	1 ppl/hr	8 ppl/hr	1 ppl/hr	8 ppl/hr	9 ppl/hr
Bicycle (Non-motorized)	20 ppl/hr	4 ppl/hr	24 ppl/hr	4 ppl/hr	21 ppl/hr	25 ppl/hr
Walk (Transit and other walk trips)	27 ppl/hr	5 ppl/hr	32 ppl/hr	5 ppl/hr	29 ppl/hr	34 ppl/hr

Corporate Center traffic to result in total future traffic volumes and with the widening of Route 355 in place, the impact of Seneca Meadows traffic is mitigated. This illustrates the improvement in traffic conditions resulting from the roadway widening.

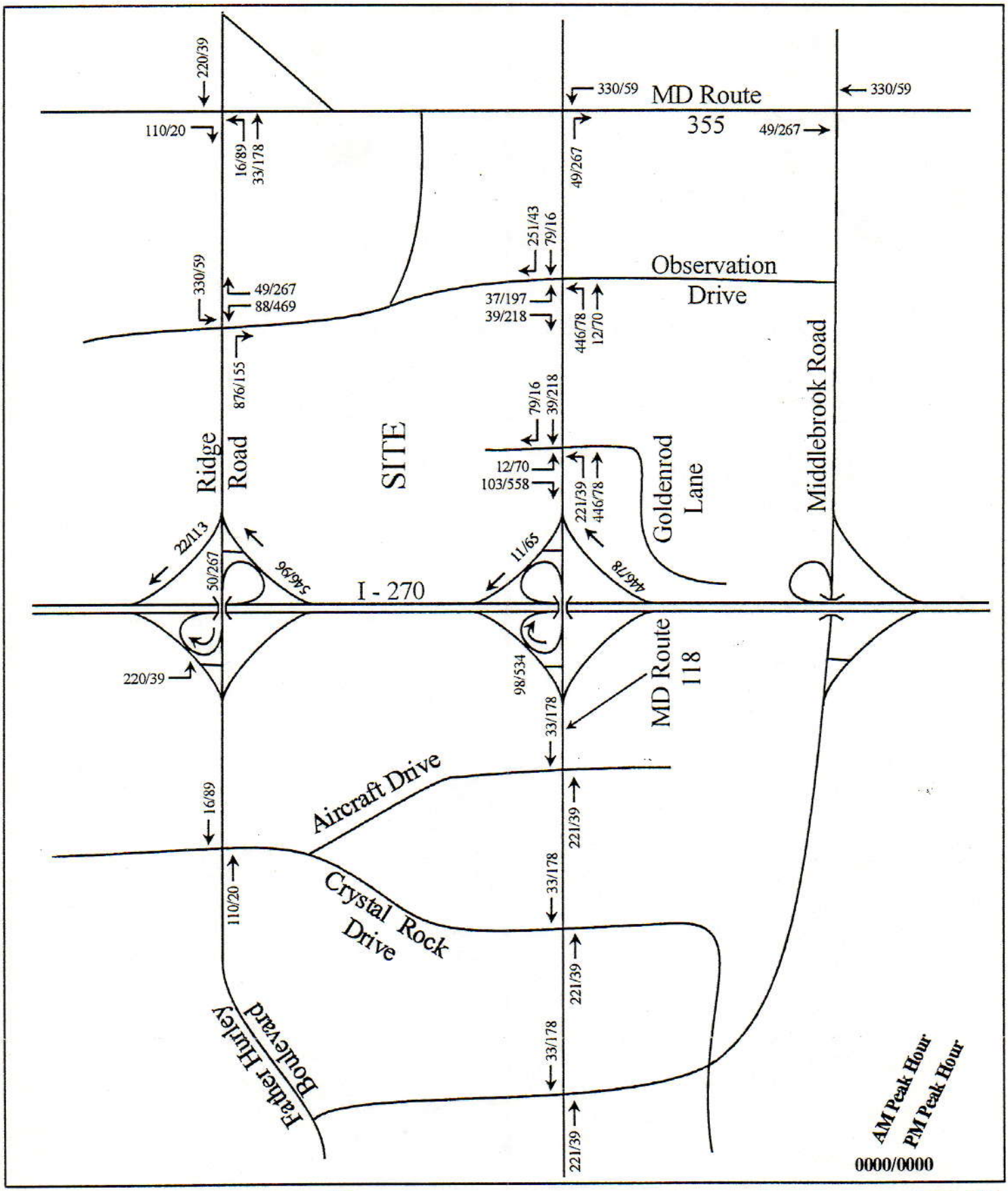
The concern was raised that the AM and PM peak hour total of Seneca Meadows traffic and the remaining 340,000 square feet of Marriott traffic is slightly more than the AM and PM peak hour total of Marriott traffic that was assumed for the earlier Marriott approval. The reason for this discrepancy was that the previous study assumed 20 percent internal trips to reflect the corporate nature of the Marriott proposal while the August 1997 study assumed 10 percent internal trips to reflect a realistic level of interaction of the proposed development with the different nature of the office space and nearby residential developments. The request was made to test the previous study performed for the combined Marriott and Milestone approval with the slightly higher traffic volumes generated by the current proposal.

Table 1 shows the comparison of AM and PM peak hour trips generated by the previous proposal for the Marriott property with the current proposal for the Seneca Meadows and the Marriott property.

Table 1
Comparison of Peak Hour Trips

	AM		PM	
	IN	OUT	IN	OUT
Previous Study				
1,533,000.00 SF Marriott	1808	270	321	1462
467,000.00 SF Bendix Tract	547	82	100	454
Total	2355	352	421	1916
Current Study				
1,660,000 SF Seneca Meadows	2204	329	390	1779
340,000 SF Marriott Property	446	67	83	376
Total	2650	396	473	2155
Difference	295	44	52	239

The additional trips generated by the current proposal compared to the previous approval were added to the total future traffic volumes contained in the November, 1990 traffic study prepared for the previous approval, based upon the direction of approach used in that study. Figure 1 shows the calculation of traffic at this intersection.



SENECA MEADOWS CORPORATE CENTER
GERMANTOWN, MARYLAND

BARTON-ASCHMAN ASSOCIATES, INC.
WASHINGTON, D.C.

FIGURE 2
ASSIGNMENT OF SITE GENERATED TRAFFIC VOLUMES

N
SCHEMATIC

TRIP GENERATION

This section outlines the transportation demand of the proposed 20220 Frederick Road development. It summarizes the projected trip generation of the site, which forms the basis for the chapters that follow. The proposed development plan includes three (3) buildings that will house 128 multifamily residential units, 5,000 square feet of ground-floor retail, 43,450 square feet of office space, and 283 parking spaces.

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition.* This methodology was supplemented in accordance with the M-NCPPC Local Area Transportation Review (LATR) guidelines to account for the context-sensitive multimodal trip generation adjustment factors associated with each policy area in Montgomery County.

To account for trips that traveled to the existing land uses on site, existing trip generation was collected using driveway during the morning and afternoon peak hours.

Residential trip generation was calculated using ITE Land Use Code 221, *Multifamily (Mid-rise)*. Office trip generation was calculated based on ITE Land Use 710, *General Office* Retail trip generation was calculated based on ITE Land Use 820, *Shopping Center*. All land uses were then adjusted for Policy Area 14, Germantown East, based on Appendix Table 1a of the M-NCPPC Fall 2017 LATR Guidelines, as shown in Table 2.

Mode splits for the proposed development, shown in Table 3 are based on Appendix Table 1b of M-NCPPC Fall LATR Guidelines using Policy Area 14 (Germantown East).

A retail pass-by reduction of 43% was assumed in the afternoon peak hour, per ITE *Trip Generation Handbook, 3rd Edition*.

Following the removal of existing driveway trips, the proposed development will generate 104 net new trips during the morning peak hour and 106 net new trips during the afternoon peak hour, as detailed in Table 4. Detailed calculations are provided in the Technical Attachments.

Table 2: LATR Trip Generation Adjustment Factors (PA 14)

Development Type	Trip Generation Rate Adjustment Factor
Residential	95%
Retail	97%
Office	95%

Table 3: Mode Split Factors (Policy Area 14)

Development Type	Mode			
	Auto Driver	Auto Passenger	Transit	Non-Motorized
Residential	61.5%	26.9%	4.3%	7.4%
Retail	70.1%	25.3%	1.1%	3.5%
Office	72.1%	21.1%	1.8%	5.0%

Table 4: 20220 Frederick Road Trip Generation Summary

20220 Frederick Road Trip Generation									
Land Use	Size			AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Existing Trips									
Existing Trips			Existing Counts	4	3	7	3	3	6
Proposed Trips									
Residential	128	Residential Units	LATR Rate	10	32	42	32	21	53
Office	43,450	Square Feet	LATR Rate	55	9	64	8	41	49
Retail	5,000	Square Feet	LATR Rate	3	2	5	9	9	18
			43% Pass By Reduction	--	--	--	*-4*	*-4*	*-8*
			Total Trips, Without Reduction	*68*	*43*	*111*	*49*	*71*	*120*
			Total Pass By Trips	*0*	*0*	*0*	*-4*	*-4*	*-8*
			Total Proposed Trips	68	43	111	45	67	112
			Net New Trips without Reductions	64	40	104	46	68	114
			Net New Trips with Reductions	**64**	**40**	**104**	**42**	**64**	**106**

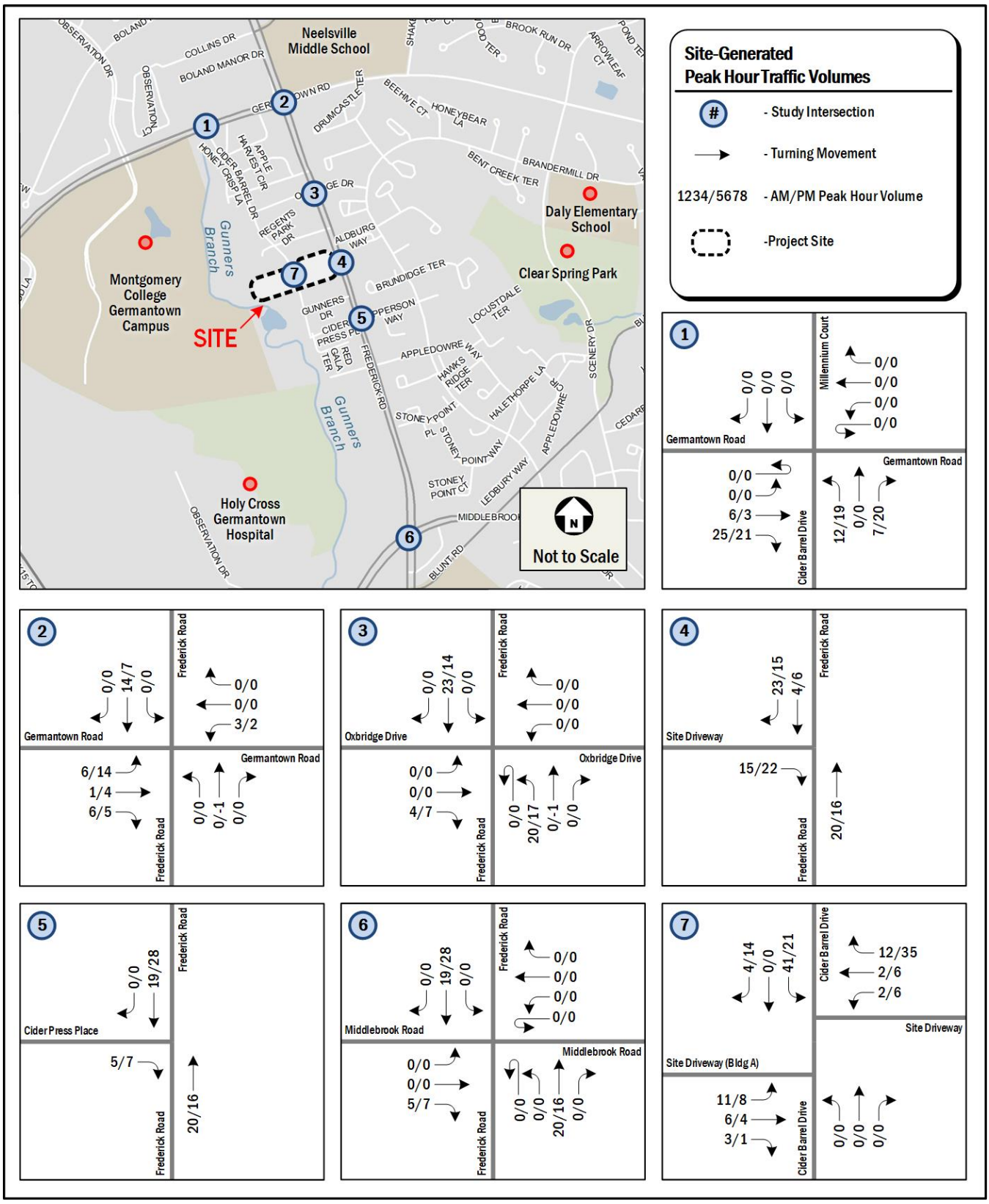


Figure 15: Site-Generated Peak Hour Traffic Volumes

TRIP GENERATION FOR BLACK HILLS

TRIP RATES / FORMULAE	IN/OUT
General Office (Montgomery County, ≥ 25 ksf)	
Morning Trips = (1.70 x KSF) - 8	87/13
Evening Trips = (1.44 x KSF) + 20	17/83
Hotel Rooms (ITE-310)	
Morning Trips = 0.56 x Rooms	61/39
Evening Trips = 0.59 x Rooms	53/47
Assisted Living Facilities (Beds, Montgomery County)	
Morning Trips = 0.03 x Beds	65/35
Evening Trips = 0.06 x Beds	44/56
Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)	
Morning Trips = (0.40 x Units) + 3	20/80
Evening Trips = (0.47 x Units) + 1	66/34

TRIP TOTALS	MORNING PEAK HOUR			EVENING PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
General Office (Montgomery County, ≥ 25 ksf)						
1,097,800 sq.ft.	1616	242	1858	272	1329	1601
Neighborhood Retail, 91,400 SF, No external trips, service site only.						
Hotel Rooms (ITE-310)						
350 rooms	120	76	196	110	97	207
Assisted Living Facilities (Beds, Montgomery County)						
140 beds	3	1	4	4	4	8
Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)						
440 units	36	143	179	137	71	208
Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)						
649 units	53	210	263	202	104	306
Total Trips	**1828**	**672**	**2500**	**725**	**1605**	**2330**

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EXHIBIT 7
TRIP GENERATION FOR
SUBJECT SITE

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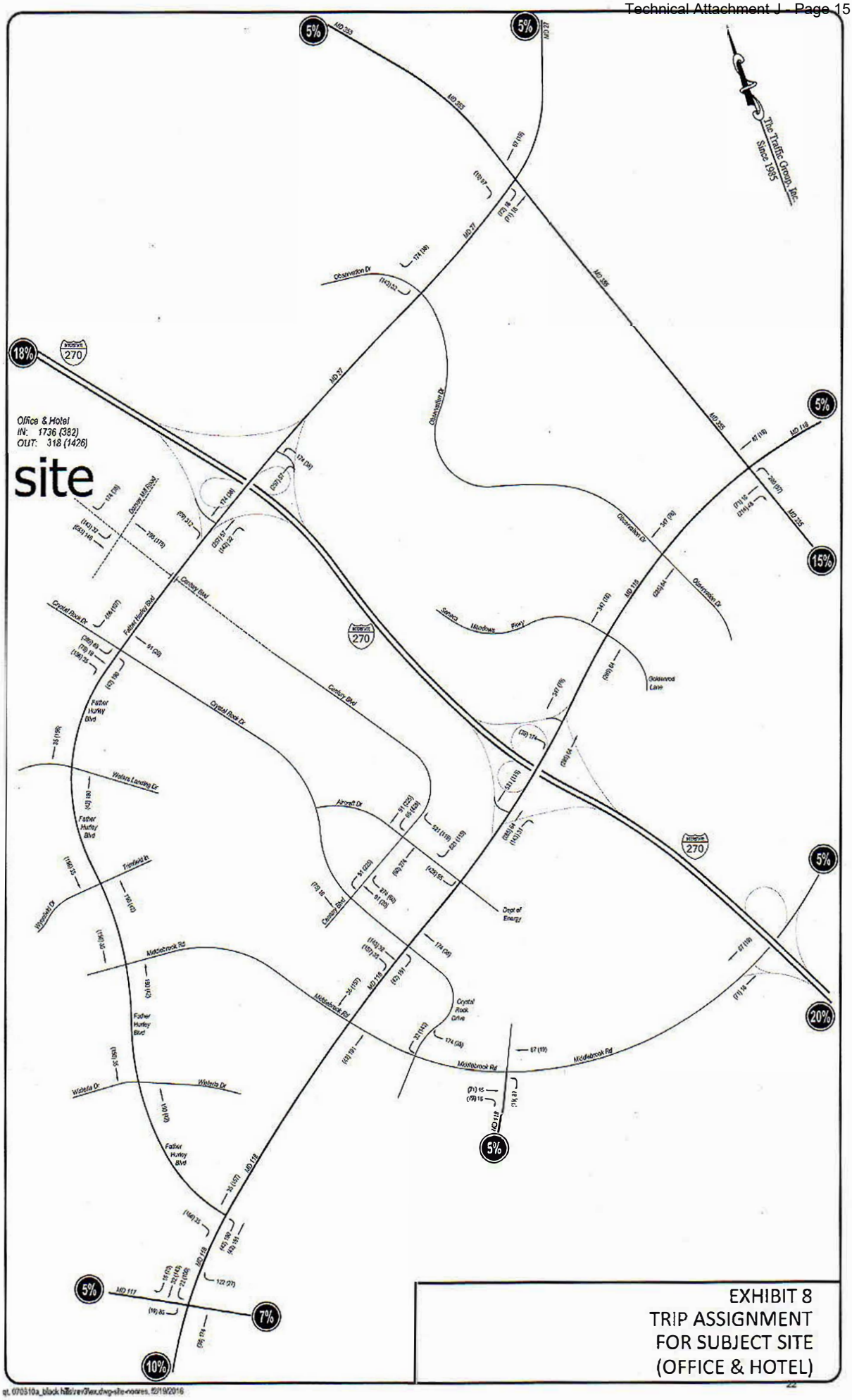


EXHIBIT 8
TRIP ASSIGNMENT
FOR SUBJECT SITE
(OFFICE & HOTEL)

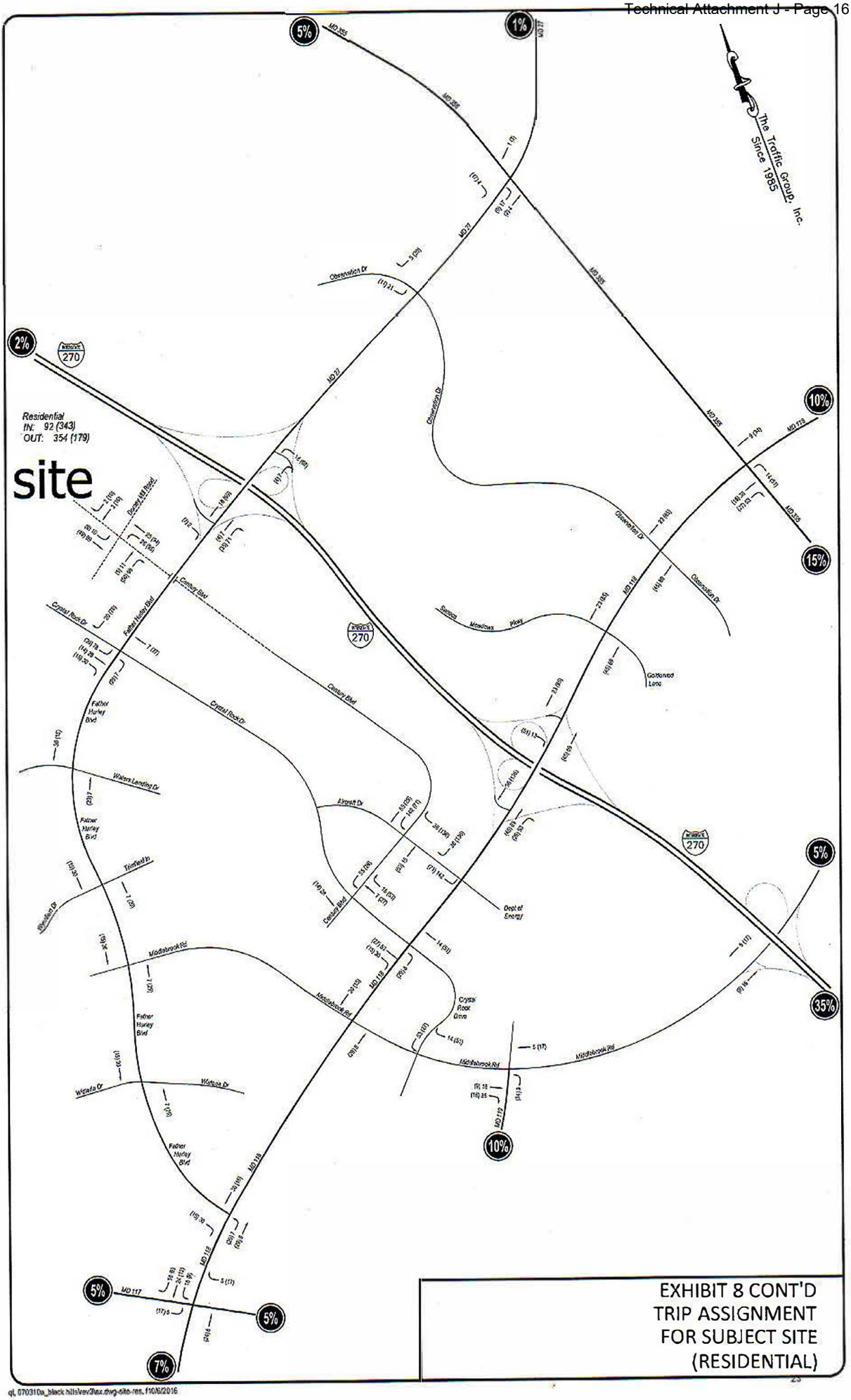


EXHIBIT 8 CONT'D
TRIP ASSIGNMENT
FOR SUBJECT SITE
(RESIDENTIAL)

Preliminary Plan / Site Plan Density Trip Generation

The peak hour vehicle trips generated by the proposed Preliminary Plan / Site Plan densities were also calculated in accordance with approved PAPF methodologies. The trips are shown in Table 2.

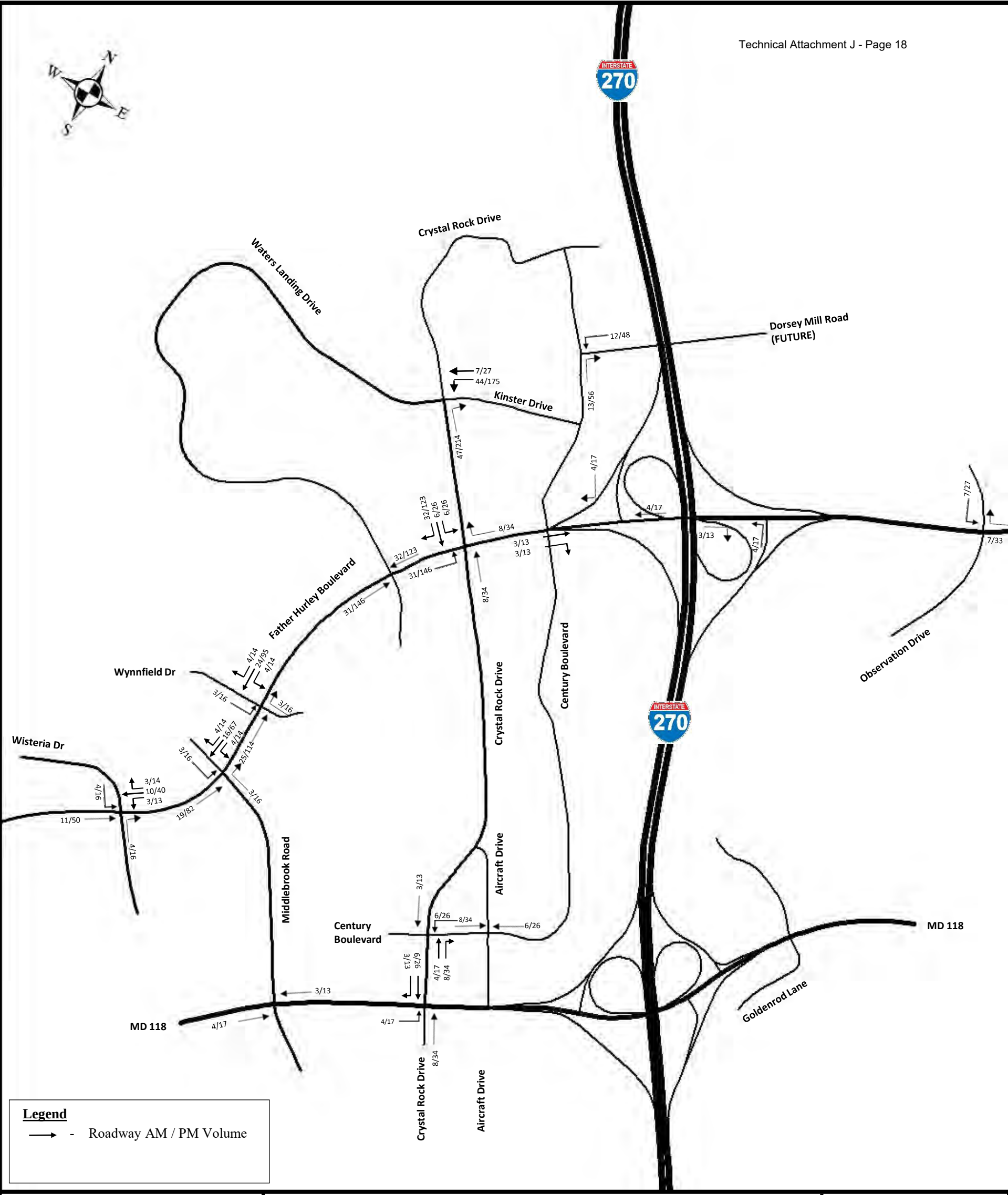
Land Use Code	Description	Intensity		AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
820	General Retail (>50 KSF) w/ Grocery	60,000	SF	173	90	83	693	360	333
	Internal Capture w/ Residential			*-3*	*-2*	*-1*	*-123*	*-36*	*-87*
	Internal Capture w/ Office			*-52*	*-28*	*-24*	*-36*	*-29*	*-7*
	External Retail Trips			118	60	58	534	295	239
	Pass-By	*@*	34%	*-40*	*-20*	*-20*	*-181*	*-100*	*-81*
	Net External Retail Trips			**78**	**40**	**38**	**353**	**195**	**158**
710	General Office	460,000	SF	774	673	101	682	116	566
	Internal Capture w/ Residential			*-4*	*-4*	*0*	*-12*	*-4*	*-8*
	Internal Capture w/ Retail			*-52*	*-24*	*-28*	*-36*	*-7*	*-29*
	External Office Trips			**718**	**645**	**73**	**634**	**105**	**529**
221	Mid-Rise Apartments (>75 units)	350	DU	143	29	114	166	110	56
220	Townhouses (>100 units)	190	DU	96	16	80	126	84	42
	Combined Residential Trips			239	45	194	292	194	98
	Internal Capture w/ Retail			*-3*	*-1*	*-2*	*-123*	*-87*	*-36*
	Internal Capture w/ Office			*-4*	*0*	*-4*	*-12*	*-8*	*-4*
	External Residential Trips			**232**	**44**	**188**	**157**	**99**	**58**
Total Site-Generated Trips				**1028**	**729**	**299**	**1325**	**499**	**826**

Table 2: Total Peak Hour Trips based on Preliminary Plan / Site Plan Densities and Approved PAPF Methodology

As shown in Table 2, when applying approved PAPF Methodology to the proposed Preliminary Plan / Site Plan densities, a total of 1,028 AM peak hour trips and 1,325 PM peak hour trips is anticipated. This represents 530 less AM peak hour trips and 437 less PM peak hour trips compared to the trip cap approved as part of the PAPF process. The trip generation and internal capture methodology/calculations are included as an attachment.

Conclusion

The proposed Preliminary Plan / Site Plan densities will result in 1,028 and 1,325 AM and PM peak hour vehicle trips. This is well below the trip cap threshold established at based on approved PAPF densities. Accordingly, we maintain that, consistent with sketch plan approval, a full APF traffic study is still not warranted. It is noted that additional analysis of site access, circulation, and signal warrants will be provided as part of the Preliminary Plan review process.



Kimley»Horn

KHA Job #110389000

Site-Generated Primary Retail Peak Hour Traffic Volumes

Symmetry at Cloverleaf PAPF
Germantown, MD

Figure
11



Kimley»Horn

KHA Job #110389000

Site-Generated Residential Peak Hour Traffic Volumes

Symmetry at Cloverleaf PAPF
Germantown, MD

Figure
13



Kimley»Horn

KHA Job #110389000

Site-Generated Office Peak Hour Traffic Volumes

Symmetry at Cloverleaf PAPF
Germantown, MD

Figure
14

TRIP GENERATION RATES

LAND USE	FORMULA	IN/OUT
General Office (Montgomery County)		
	Morning Trips = (1.70 x KSF) + 115	87/13
	Evening Trips = (1.44 x KSF) + 127	17/83
Garden Apartments (Montgomery County, ≥75 Units)		
	Morning Trips = (0.40 x Units) + 3	20/80
	Evening Trips = (0.47 x Units) + 1	66/34
Retail, No Major Food Chain (Montgomery County, <50 ksf)		
	Morning Trips = 25% x Evening Trips	52/48
	Evening Trips = ((12.36xKSF))x(1-.05+.002(200-KSF))	52/48

TRIP GENERATION TOTALS

	MORNING PEAK HOUR			EVENING PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Milestone Center						
Existing Approved Plan						
253,000 sq. ft. General Office	474	55	545	83	408	491
Proposed Plan						
485 Apartment Units	39	158	197	151	78	229
28,250 sq. ft. of retail space	28	25	53	110	102	212
Pass-by Trips (ITE rate, PM: 56%)				-62	-57	-119
New Trips	**28**	**25**	**53**	**48**	**45**	**93**
Total Difference (Proposed Plan - Existing Approved Plan)			-295			-169

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EXHIBIT 2

TRIP GENERATION TOTALS

FOR SUBJECT SITE

Trip Generation - Background Residential

Background Development - Liberty Mill
Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	210	3 du	2 veh/hr	5 veh/hr	7 veh/hr	2 veh/hr	2 veh/hr	4 veh/hr
		Calculation Details:	*25%*	*75%*	*=0.71X+4.8*	*63%*	*37%*	*Ln(T)=0.96Ln(X)+0.2*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single Family	93%	2 veh/hr	5 veh/hr	7 veh/hr	2 veh/hr	2 veh/hr	4 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single Family	60.4%	3 ppl/hr	9 ppl/hr	12 ppl/hr	3 ppl/hr	4 ppl/hr	7 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	Auto Driver	60.4%	2 ppl/hr	5 ppl/hr	7 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr
Single Family	Auto Passenger	26.9%	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr
Single Family	Transit	4.1%	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Single Family	Non-Motorized	8.6%	0 ppl/hr	2 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	2 veh/hr	5 veh/hr	7 veh/hr	2 veh/hr	2 veh/hr	4 veh/hr
Auto Passenger	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr
Transit	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Bicycle (Non-motorized)	0 ppl/hr	2 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Walk (Transit and other walk trips)	0 ppl/hr	2 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr

Trip Generation - Background Office

Background Development - Germantown Estates
Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	710	15,600 sf	35 veh/hr	6 veh/hr	41 veh/hr	3 veh/hr	16 veh/hr	19 veh/hr
		Calculation Details:	*86%*	*14%*	*=0.94(X/1000)+26.49*	*16%*	*84%*	*Ln(T)=0.95Ln(X/1000)+0.36*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	90%	32 veh/hr	5 veh/hr	37 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Office	68.2%	47 ppl/hr	7 ppl/hr	54 ppl/hr	4 ppl/hr	21 ppl/hr	25 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	Auto Driver	68.2%	32 ppl/hr	5 ppl/hr	37 ppl/hr	3 ppl/hr	14 ppl/hr	17 ppl/hr
Office	Auto Passenger	22.9%	11 ppl/hr	1 ppl/hr	12 ppl/hr	1 ppl/hr	5 ppl/hr	6 ppl/hr
Office	Transit	3.2%	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Office	Non-Motorized	5.7%	2 ppl/hr	1 ppl/hr	3 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
	Total	100.0%						

Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	32 veh/hr	5 veh/hr	37 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr
Auto Passenger	11 ppl/hr	1 ppl/hr	12 ppl/hr	1 ppl/hr	5 ppl/hr	6 ppl/hr
Transit	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Bicycle (Non-motorized)	2 ppl/hr	1 ppl/hr	3 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
Walk (Transit and other walk trips)	4 ppl/hr	1 ppl/hr	5 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr

Trip Generation - Background Residential

Background Development - Kingsview Knolls
Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	210	4 du	2 veh/hr	6 veh/hr	8 veh/hr	3 veh/hr	2 veh/hr	5 veh/hr
		Calculation Details:	*25%*	*75%*	*=0.71X+4.8*	*63%*	*37%*	*Ln(T)=0.96Ln(X)+0.2*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single Family	93%	2 veh/hr	5 veh/hr	7 veh/hr	3 veh/hr	2 veh/hr	5 veh/hr

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single Family	60.4%	3 ppl/hr	9 ppl/hr	12 ppl/hr	5 ppl/hr	3 ppl/hr	8 ppl/hr

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	Auto Driver	60.4%	2 ppl/hr	5 ppl/hr	7 ppl/hr	3 ppl/hr	2 ppl/hr	5 ppl/hr
Single Family	Auto Passenger	26.9%	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr
Single Family	Transit	4.1%	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Single Family	Non-Motorized	8.6%	0 ppl/hr	2 ppl/hr	2 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr
	Total	100.0%						

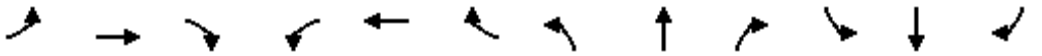
Trip Gen Summary for Existing Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver	2 veh/hr	5 veh/hr	7 veh/hr	3 veh/hr	2 veh/hr	5 veh/hr
Auto Passenger	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr
Transit	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Bicycle (Non-motorized)	0 ppl/hr	2 ppl/hr	2 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr
Walk (Transit and other walk trips)	0 ppl/hr	2 ppl/hr	2 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr

K. Existing Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	575	62	104	212	113	75	888	199	211	730	95
Future Volume (vph)	85	575	62	104	212	113	75	888	199	211	730	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3488		3433	3539	1583	3433	5085	1583	3433	4998	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3488		3433	3539	1583	3433	5085	1583	3433	4998	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.98	0.98	0.98	0.93	0.93	0.93
Adj. Flow (vph)	92	625	67	121	247	131	77	906	203	227	785	102
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	92	687	0	121	247	131	77	906	203	227	878	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	11.3	36.0		12.5	37.2	54.4	10.7	59.3	71.8	17.2	65.8	
Effective Green, g (s)	11.3	36.0		12.5	37.2	54.4	10.7	59.3	71.8	17.2	65.8	
Actuated g/C Ratio	0.08	0.24		0.08	0.25	0.36	0.07	0.40	0.48	0.11	0.44	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	258	837		286	877	574	244	2010	757	393	2192	
v/s Ratio Prot	0.03	c0.20		c0.04	0.07	0.03	0.02	c0.18	0.02	c0.07	0.18	
v/s Ratio Perm						0.06			0.11			
v/c Ratio	0.36	0.82		0.42	0.28	0.23	0.32	0.45	0.27	0.58	0.40	
Uniform Delay, d1	65.9	53.9		65.3	45.6	33.2	66.2	33.4	23.4	63.0	28.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.15	0.65	0.79	1.00	1.00	
Incremental Delay, d2	1.8	7.2		2.1	0.4	0.4	1.5	0.7	0.4	3.3	0.5	
Delay (s)	67.7	61.2		67.4	46.0	33.6	77.9	22.4	18.7	66.2	29.2	
Level of Service	E	E		E	D	C	E	C	B	E	C	
Approach Delay (s)		61.9			47.9			25.4			36.8	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	185	243	74	30	190	136	1	106	840	90	1	115
Future Volume (vph)	185	243	74	30	190	136	1	106	840	90	1	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.97	0.91	1.00		1.00
Frt	1.00	0.97		1.00	0.94			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	3467	3272		1736	3243			3502	5085	1495		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	3467	3272		1736	3243			3502	5085	1495		1736
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	208	273	83	32	202	145	1	109	866	93	1	125
RTOR Reduction (vph)	0	19	0	0	94	0	0	0	0	47	0	0
Lane Group Flow (vph)	208	337	0	32	253	0	0	110	866	46	0	126
Heavy Vehicles (%)	1%	6%	8%	4%	6%	2%	0%	0%	2%	8%	0%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		1	1	6		5	5
Permitted Phases										6		
Actuated Green, G (s)	16.2	30.5		6.9	21.2			12.0	74.6	74.6		16.0
Effective Green, g (s)	16.2	30.5		6.9	21.2			12.0	74.6	74.6		16.0
Actuated g/C Ratio	0.11	0.20		0.05	0.14			0.08	0.50	0.50		0.11
Clearance Time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	0.2	0.2		5.0
Lane Grp Cap (vph)	374	665		79	458			280	2528	743		185
v/s Ratio Prot	c0.06	c0.10		0.02	0.08			0.03	c0.17			c0.07
v/s Ratio Perm										0.03		
v/c Ratio	0.56	0.51		0.41	0.55			0.39	0.34	0.06		0.68
Uniform Delay, d1	63.5	53.1		69.6	60.0			65.5	22.8	19.6		64.5
Progression Factor	1.00	1.00		1.00	1.00			0.88	0.74	1.60		1.32
Incremental Delay, d2	3.0	1.3		7.0	2.4			1.9	0.4	0.2		11.6
Delay (s)	66.5	54.3		76.5	62.4			59.7	17.2	31.4		96.9
Level of Service	E	D		E	E			E	B	C		F
Approach Delay (s)		58.8			63.6				22.8			
Approach LOS		E			E				C			

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	582	198
Future Volume (vph)	582	198
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	4810	
Flt Permitted	1.00	
Satd. Flow (perm)	4810	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	633	215
RTOR Reduction (vph)	31	0
Lane Group Flow (vph)	817	0
Heavy Vehicles (%)	4%	3%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	78.6	
Effective Green, g (s)	78.6	
Actuated g/C Ratio	0.52	
Clearance Time (s)	6.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	2520	
v/s Ratio Prot	c0.17	
v/s Ratio Perm		
v/c Ratio	0.32	
Uniform Delay, d1	20.5	
Progression Factor	0.57	
Incremental Delay, d2	0.3	
Delay (s)	11.9	
Level of Service	B	
Approach Delay (s)	22.9	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	38	73	28	9	71	24	940	146	67	610	10
Future Volume (vph)	26	38	73	28	9	71	24	940	146	67	610	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00	1.00	0.91	
Frt		1.00	0.85		0.91		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1825	1583		1676		1770	5085	1583	1770	5072	
Flt Permitted		0.65	1.00		0.89		0.39	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1214	1583		1509		731	5085	1583	489	5072	
Peak-hour factor, PHF	0.90	0.90	0.90	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	42	81	30	10	76	25	989	154	71	642	11
RTOR Reduction (vph)	0	0	74	0	52	0	0	0	33	0	0	0
Lane Group Flow (vph)	0	71	7	0	64	0	25	989	121	71	653	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		
Actuated Green, G (s)		12.3	12.3		12.3		118.3	114.7	114.7	124.1	117.6	
Effective Green, g (s)		12.3	12.3		12.3		118.3	114.7	114.7	124.1	117.6	
Actuated g/C Ratio		0.08	0.08		0.08		0.79	0.76	0.76	0.83	0.78	
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)		99	129		123		601	3888	1210	460	3976	
v/s Ratio Prot							0.00	c0.19		c0.01	0.13	
v/s Ratio Perm		c0.06	0.00		0.04		0.03		0.08	0.12		
v/c Ratio		0.72	0.05		0.52		0.04	0.25	0.10	0.15	0.16	
Uniform Delay, d1		67.2	63.5		66.0		3.4	5.2	4.5	2.5	4.0	
Progression Factor		1.00	1.00		1.00		0.38	0.41	0.30	0.62	0.57	
Incremental Delay, d2		21.8	0.2		3.6		0.0	0.2	0.2	0.2	0.1	
Delay (s)		89.0	63.6		69.7		1.3	2.3	1.5	1.7	2.4	
Level of Service		F	E		E		A	A	A	A	A	
Approach Delay (s)		75.5			69.7			2.2			2.3	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	409	14	25	339	16	6	0	30	7	0	11
Future Vol, veh/h	14	409	14	25	339	16	6	0	30	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	64	64	64	90	90	90	75	75	75
Heavy Vehicles, %	0	3	7	8	2	6	16	0	0	14	0	18
Mvmt Flow	18	518	18	39	530	25	7	0	33	9	0	15

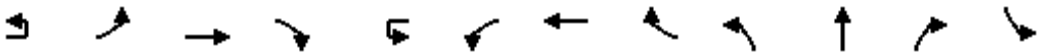
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	555	0	0	536	0	0	897	1187	518	1201	1193	278
Stage 1	-	-	-	-	-	-	554	554	-	621	621	-
Stage 2	-	-	-	-	-	-	343	633	-	580	572	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.54	6.5	6.2	7.51	6.5	7.17
Critical Hdwy Stg 1	-	-	-	-	-	-	6.34	5.5	-	6.71	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.5	-	6.31	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.652	4	3.3	3.633	4	3.471
Pot Cap-1 Maneuver	1026	-	-	995	-	-	229	190	562	140	188	680
Stage 1	-	-	-	-	-	-	486	517	-	419	482	-
Stage 2	-	-	-	-	-	-	614	476	-	474	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1026	-	-	995	-	-	215	179	562	126	177	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	179	-	126	177	-
Stage 1	-	-	-	-	-	-	477	508	-	411	463	-
Stage 2	-	-	-	-	-	-	577	457	-	438	499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.6	13.6	20.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	215	562	1026	-	-	995	-	-	251
HCM Lane V/C Ratio	0.031	0.059	0.017	-	-	0.039	-	-	0.096
HCM Control Delay (s)	22.3	11.8	8.6	-	-	8.8	-	-	20.9
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.2	0.1	-	-	0.1	-	-	0.3

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	31	268	51	21	226	294	49	31	78	148	95
Future Volume (vph)	1	31	268	51	21	226	294	49	31	78	148	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Lane Util. Factor		1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00
Frt		1.00	0.98			1.00	1.00	0.85	1.00	0.90		1.00
Flt Protected		0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1805	1797			1805	1810	1583	1703	3053		1703
Flt Permitted		0.54	1.00			0.53	1.00	1.00	0.63	1.00		0.33
Satd. Flow (perm)		1022	1797			1001	1810	1583	1134	3053		588
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.84
Adj. Flow (vph)	1	34	298	57	24	263	342	57	37	94	178	113
RTOR Reduction (vph)	0	0	3	0	0	0	0	25	0	160	0	0
Lane Group Flow (vph)	0	35	352	0	0	287	342	32	37	112	0	113
Heavy Vehicles (%)	0%	0%	3%	4%	0%	0%	5%	2%	6%	6%	7%	6%
Turn Type	Perm	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt
Protected Phases			4				8		1	6		5
Permitted Phases	4	4			8	8		8	6			2
Actuated Green, G (s)		43.6	43.6			43.6	43.6	43.6	12.0	7.7		22.0
Effective Green, g (s)		43.6	43.6			43.6	43.6	43.6	12.0	7.7		22.0
Actuated g/C Ratio		0.57	0.57			0.57	0.57	0.57	0.16	0.10		0.29
Clearance Time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Vehicle Extension (s)		8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0
Lane Grp Cap (vph)		577	1016			566	1023	895	208	304		309
v/s Ratio Prot			0.20				0.19		0.01	0.04		c0.05
v/s Ratio Perm		0.03				c0.29		0.02	0.02			c0.06
v/c Ratio		0.06	0.35			0.51	0.33	0.04	0.18	0.37		0.37
Uniform Delay, d1		7.5	9.1			10.2	9.0	7.4	28.1	32.4		21.3
Progression Factor		1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.2	0.9			3.0	0.8	0.1	0.4	0.3		0.7
Delay (s)		7.7	9.9			13.2	9.8	7.5	28.5	32.7		22.0
Level of Service		A	A			B	A	A	C	C		C
Approach Delay (s)			9.7				11.0			32.2		
Approach LOS			A				B			C		

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

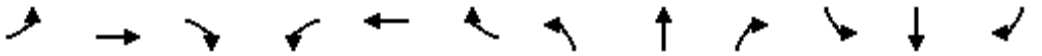
03/27/2022

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	107	52
Future Volume (vph)	107	52
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.0	
Lane Util. Factor	0.95	
Frt	0.95	
Flt Protected	1.00	
Satd. Flow (prot)	3198	
Flt Permitted	1.00	
Satd. Flow (perm)	3198	
Peak-hour factor, PHF	0.84	0.84
Adj. Flow (vph)	127	62
RTOR Reduction (vph)	51	0
Lane Group Flow (vph)	138	0
Heavy Vehicles (%)	6%	10%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.17	
Clearance Time (s)	5.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	547	
v/s Ratio Prot	0.04	
v/s Ratio Perm		
v/c Ratio	0.25	
Uniform Delay, d1	27.7	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	27.8	
Level of Service	C	
Approach Delay (s)	25.6	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	321	18	9	306	122	4	2	2	82	5	99
Future Volume (vph)	102	321	18	9	306	122	4	2	2	82	5	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1703	1850		1805	1863	1553		1592		1687	1569	
Flt Permitted	0.43	1.00		0.44	1.00	1.00		0.83		0.74	1.00	
Satd. Flow (perm)	774	1850		831	1863	1553		1356		1322	1569	
Peak-hour factor, PHF	0.75	0.75	0.75	0.67	0.67	0.67	0.40	0.40	0.40	0.73	0.73	0.73
Adj. Flow (vph)	136	428	24	13	457	182	10	5	5	112	7	136
RTOR Reduction (vph)	0	2	0	0	0	106	0	4	0	0	97	0
Lane Group Flow (vph)	136	450	0	13	457	76	0	16	0	112	46	0
Heavy Vehicles (%)	6%	2%	0%	0%	2%	4%	25%	0%	0%	7%	20%	3%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	16.1	16.1		16.1	16.1	16.1		11.1		11.1	11.1	
Effective Green, g (s)	16.1	16.1		16.1	16.1	16.1		11.1		11.1	11.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42		0.29		0.29	0.29	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	322	769		345	775	646		388		379	450	
v/s Ratio Prot		0.24			c0.25						0.03	
v/s Ratio Perm	0.18			0.02		0.05		0.01		c0.08		
v/c Ratio	0.42	0.58		0.04	0.59	0.12		0.04		0.30	0.10	
Uniform Delay, d1	8.0	8.7		6.7	8.7	6.9		10.0		10.8	10.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.7		0.0	0.7	0.0		0.1		0.9	0.2	
Delay (s)	8.3	9.5		6.7	9.5	7.0		10.1		11.7	10.3	
Level of Service	A	A		A	A	A		B		B	B	
Approach Delay (s)		9.2			8.7			10.1			10.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	15.5
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
11: Walter Johnson Rd & Site

03/27/2022

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	3	35	37	2
Future Vol, veh/h	1	0	3	35	37	2
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	25	25	73	73	73	73
Heavy Vehicles, %	0	0	0	11	10	0
Mvmt Flow	4	0	4	48	51	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	109	53	54	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	56	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	893	1020	1564	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	890	1020	1564	-	-	-
Mov Cap-2 Maneuver	890	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	890	-	-
HCM Lane V/C Ratio	0.003	-	0.004	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 2010 TWSC
12: Site Driveway & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	433	6	1	351	4	0	0	2	2	0	5
Future Vol, veh/h	9	433	6	1	351	4	0	0	2	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	10	471	7	1	382	4	0	0	2	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	478	0	0	688	883	239	642	884	193
Stage 1	-	-	-	-	-	-	495	495	-	386	386	-
Stage 2	-	-	-	-	-	-	193	388	-	256	498	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1184	-	-	1095	-	-	336	287	768	363	286	822
Stage 1	-	-	-	-	-	-	530	549	-	614	614	-
Stage 2	-	-	-	-	-	-	796	612	-	732	548	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1184	-	-	1095	-	-	331	284	768	359	283	822
Mov Cap-2 Maneuver	-	-	-	-	-	-	331	284	-	359	283	-
Stage 1	-	-	-	-	-	-	526	545	-	609	613	-
Stage 2	-	-	-	-	-	-	790	611	-	724	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	9.7	11.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	768	1184	-	-	1095	-	-	601
HCM Lane V/C Ratio	0.003	0.008	-	-	0.001	-	-	0.013
HCM Control Delay (s)	9.7	8.1	-	-	8.3	-	-	11.1
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	187	2	0	38	12	1	0	0	6	0	5
Future Vol, veh/h	5	187	2	0	38	12	1	0	0	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	203	2	0	41	13	1	0	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	205	0	0	264	268	204	262	263	48
Stage 1	-	-	-	-	-	-	214	214	-	48	48	-
Stage 2	-	-	-	-	-	-	50	54	-	214	215	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1366	-	-	689	638	837	691	642	1021
Stage 1	-	-	-	-	-	-	788	725	-	965	855	-
Stage 2	-	-	-	-	-	-	963	850	-	788	725	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1551	-	-	1366	-	-	683	635	837	689	639	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	683	635	-	689	639	-
Stage 1	-	-	-	-	-	-	785	722	-	961	855	-
Stage 2	-	-	-	-	-	-	958	850	-	785	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	10.3	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	683	1551	-	-	1366	-	-	809
HCM Lane V/C Ratio	0.002	0.004	-	-	-	-	-	0.015
HCM Control Delay (s)	10.3	7.3	0	-	0	-	-	9.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022

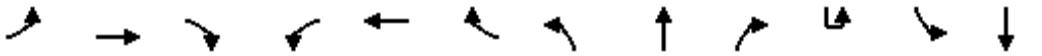
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	323	117	215	614	200	153	892	129	261	992	164
Future Volume (vph)	152	323	117	215	614	200	153	892	129	261	992	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3398		3433	3539	1583	3433	5085	1583	3433	4977	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3398		3433	3539	1583	3433	5085	1583	3433	4977	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	163	347	126	236	675	220	172	1002	145	281	1067	176
RTOR Reduction (vph)	0	24	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	163	449	0	236	675	220	172	1002	145	281	1231	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	14.3	34.1		16.5	36.3	56.4	14.8	54.3	70.8	20.1	59.6	
Effective Green, g (s)	14.3	34.1		16.5	36.3	56.4	14.8	54.3	70.8	20.1	59.6	
Actuated g/C Ratio	0.10	0.23		0.11	0.24	0.38	0.10	0.36	0.47	0.13	0.40	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	327	772		377	856	595	338	1840	747	460	1977	
v/s Ratio Prot	0.05	0.13		c0.07	c0.19	0.05	0.05	0.20	0.02	c0.08	c0.25	
v/s Ratio Perm						0.09			0.07			
v/c Ratio	0.50	0.58		0.63	0.79	0.37	0.51	0.54	0.19	0.61	0.62	
Uniform Delay, d1	64.4	51.6		63.8	53.3	33.9	64.2	38.0	23.0	61.3	36.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.34	0.52	0.55	1.00	1.00	
Incremental Delay, d2	2.5	1.7		4.5	5.6	0.8	2.2	1.0	0.2	3.4	1.5	
Delay (s)	66.9	53.3		68.3	58.9	34.7	88.1	20.6	12.8	64.7	37.7	
Level of Service	E	D		E	E	C	F	C	B	E	D	
Approach Delay (s)		56.8			56.2			28.6			42.7	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	168	236	128	64	346	128	208	874	93	4	140	906
Future Volume (vph)	168	236	128	64	346	128	208	874	93	4	140	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Lane Util. Factor	0.97	0.95		1.00	0.95		0.97	0.91	1.00		1.00	0.91
Frt	1.00	0.95		1.00	0.96		1.00	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	3376		1805	3464		3467	5085	1599		1805	4957
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	3376		1805	3464		3467	5085	1599		1805	4957
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85
Adj. Flow (vph)	183	257	139	73	393	145	260	1092	116	5	165	1066
RTOR Reduction (vph)	0	49	0	0	26	0	0	0	59	0	0	30
Lane Group Flow (vph)	183	347	0	73	512	0	260	1093	57	0	170	1358
Heavy Vehicles (%)	3%	2%	0%	0%	0%	0%	1%	2%	1%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases									6			
Actuated Green, G (s)	15.3	31.5		13.3	29.5		18.4	62.0	62.0		21.2	64.8
Effective Green, g (s)	15.3	31.5		13.3	29.5		18.4	62.0	62.0		21.2	64.8
Actuated g/C Ratio	0.10	0.21		0.09	0.20		0.12	0.41	0.41		0.14	0.43
Clearance Time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	0.2	0.2		5.0	0.2
Lane Grp Cap (vph)	346	708		160	681		425	2101	660		255	2141
v/s Ratio Prot	c0.05	0.10		0.04	c0.15		0.07	0.21			c0.09	c0.27
v/s Ratio Perm									0.04			
v/c Ratio	0.53	0.49		0.46	0.75		0.61	0.52	0.09		0.67	0.63
Uniform Delay, d1	63.9	52.2		64.9	56.8		62.4	32.9	26.8		61.1	33.3
Progression Factor	1.00	1.00		1.00	1.00		1.31	0.74	0.45		1.19	0.69
Incremental Delay, d2	2.8	1.1		4.3	5.6		3.6	0.9	0.2		7.1	1.2
Delay (s)	66.7	53.3		69.2	62.4		85.3	25.2	12.4		79.9	24.3
Level of Service	E	D		E	E		F	C	B		E	C
Approach Delay (s)		57.5			63.2			34.9				30.4
Approach LOS		E			E			C				C

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	274
Future Volume (vph)	274
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	322
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	10	32	56	20	152	75	996	58	1	33	1009
Future Volume (vph)	26	10	32	56	20	152	75	996	58	1	33	1009
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00		1.00	0.91
Frt		1.00	0.85		0.91		1.00	1.00	0.85		1.00	0.99
Flt Protected		0.97	1.00		0.99		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1798	1583		1675		1770	5085	1583		1770	5046
Flt Permitted		0.55	1.00		0.90		0.22	1.00	1.00		0.24	1.00
Satd. Flow (perm)		1029	1583		1532		403	5085	1583		454	5046
Peak-hour factor, PHF	0.93	0.93	0.93	0.67	0.67	0.67	0.96	0.96	0.96	0.98	0.98	0.98
Adj. Flow (vph)	28	11	34	84	30	227	78	1038	60	1	34	1030
RTOR Reduction (vph)	0	0	26	0	52	0	0	0	21	0	0	3
Lane Group Flow (vph)	0	39	8	0	289	0	78	1038	39	0	35	1083
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	Prot	pm+pt	NA
Protected Phases		4			8		1	6		5	5	2
Permitted Phases	4		4	8			6		6		2	
Actuated Green, G (s)		33.1	33.1		33.1		102.7	95.0	95.0		98.1	92.7
Effective Green, g (s)		33.1	33.1		33.1		102.7	95.0	95.0		98.1	92.7
Actuated g/C Ratio		0.22	0.22		0.22		0.68	0.63	0.63		0.65	0.62
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2		3.0	0.2
Lane Grp Cap (vph)		227	349		338		346	3220	1002		344	3118
v/s Ratio Prot							c0.01	0.20			0.00	c0.21
v/s Ratio Perm		0.04	0.00		c0.19		0.14		0.02		0.06	
v/c Ratio		0.17	0.02		0.85		0.23	0.32	0.04		0.10	0.35
Uniform Delay, d1		47.3	45.8		56.1		8.5	12.7	10.3		9.3	13.9
Progression Factor		1.00	1.00		1.00		2.11	1.85	4.38		0.56	0.45
Incremental Delay, d2		0.4	0.0		18.5		0.3	0.3	0.1		0.1	0.2
Delay (s)		47.7	45.8		74.7		18.2	23.7	45.3		5.4	6.6
Level of Service		D	D		E		B	C	D		A	A
Approach Delay (s)		46.8			74.7			24.4				6.5
Approach LOS		D			E			C				A

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	56
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	378	8	42	438	36	19	5	37	34	3	39
Future Vol, veh/h	41	378	8	42	438	36	19	5	37	34	3	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	94	94	94	83	83	83	84	84	84
Heavy Vehicles, %	0	1	11	4	1	0	0	0	3	0	0	0
Mvmt Flow	48	445	9	45	466	38	23	6	45	40	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	504	0	0	454	0	0	866	1135	445	1146	1125	252
Stage 1	-	-	-	-	-	-	541	541	-	575	575	-
Stage 2	-	-	-	-	-	-	325	594	-	571	550	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.245	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	1071	-	-	1093	-	-	263	204	610	167	207	754
Stage 1	-	-	-	-	-	-	529	524	-	475	506	-
Stage 2	-	-	-	-	-	-	667	496	-	509	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	1093	-	-	228	187	610	141	190	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	187	-	141	190	-
Stage 1	-	-	-	-	-	-	505	500	-	454	485	-
Stage 2	-	-	-	-	-	-	596	476	-	445	496	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.7	16.4	27.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	218	610	1071	-	-	1093	-	-	246
HCM Lane V/C Ratio	0.133	0.073	0.045	-	-	0.041	-	-	0.368
HCM Control Delay (s)	24	11.4	8.5	-	-	8.4	-	-	27.9
HCM Lane LOS	C	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.5	0.2	0.1	-	-	0.1	-	-	1.6

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	62	424	51	12	191	402	69	103	163	364	55	72
Future Volume (vph)	62	424	51	12	191	402	69	103	163	364	55	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	0.90		1.00	0.96
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1853			1772	1900	1615	1805	3214		1805	3415
Flt Permitted	0.45	1.00			0.38	1.00	1.00	0.51	1.00		0.53	1.00
Satd. Flow (perm)	850	1853			708	1900	1615	973	3214		1000	3415
Peak-hour factor, PHF	0.87	0.87	0.87	0.88	0.88	0.88	0.88	0.97	0.97	0.97	0.80	0.80
Adj. Flow (vph)	71	487	59	14	217	457	78	106	168	375	69	90
RTOR Reduction (vph)	0	2	0	0	0	0	33	0	326	0	0	30
Lane Group Flow (vph)	71	544	0	0	231	457	45	106	217	0	69	93
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases		4				8		1	6		5	2
Permitted Phases	4			8	8		8	6			2	
Actuated Green, G (s)	43.6	43.6			43.6	43.6	43.6	18.9	10.0		14.1	7.6
Effective Green, g (s)	43.6	43.6			43.6	43.6	43.6	18.9	10.0		14.1	7.6
Actuated g/C Ratio	0.57	0.57			0.57	0.57	0.57	0.25	0.13		0.19	0.10
Clearance Time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Vehicle Extension (s)	8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0	0.2
Lane Grp Cap (vph)	486	1061			405	1088	925	338	422		254	341
v/s Ratio Prot		0.29				0.24		c0.04	c0.07		0.02	0.03
v/s Ratio Perm	0.08				c0.33		0.03	0.04			0.03	
v/c Ratio	0.15	0.51			0.57	0.42	0.05	0.31	0.51		0.27	0.27
Uniform Delay, d1	7.6	9.8			10.3	9.1	7.1	22.9	30.8		26.3	31.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	1.7			5.3	1.1	0.1	0.5	0.4		0.6	0.2
Delay (s)	8.2	11.5			15.6	10.3	7.2	23.4	31.2		26.9	31.9
Level of Service	A	B			B	B	A	C	C		C	C
Approach Delay (s)		11.1				11.6			30.0			30.1
Approach LOS		B				B			C			C

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

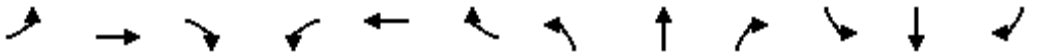
03/27/2022

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	26
Future Volume (vph)	26
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.80
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	345	8	6	360	69	5	3	3	103	3	105
Future Volume (vph)	103	345	8	6	360	69	5	3	3	103	3	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1805	1871		1203	1900	1599		1525		1752	1580	
Flt Permitted	0.54	1.00		0.49	1.00	1.00		0.81		0.75	1.00	
Satd. Flow (perm)	1020	1871		625	1900	1599		1271		1374	1580	
Peak-hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.55	0.55	0.55	0.91	0.91	0.91
Adj. Flow (vph)	124	416	10	6	379	73	9	5	5	113	3	115
RTOR Reduction (vph)	0	1	0	0	0	40	0	4	0	0	89	0
Lane Group Flow (vph)	124	425	0	6	379	33	0	15	0	113	29	0
Heavy Vehicles (%)	0%	0%	50%	50%	0%	1%	0%	33%	33%	3%	66%	1%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	16.7	16.7		16.7	16.7	16.7		8.4		8.4	8.4	
Effective Green, g (s)	16.7	16.7		16.7	16.7	16.7		8.4		8.4	8.4	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46		0.23		0.23	0.23	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	465	853		285	866	729		291		315	362	
v/s Ratio Prot		c0.23			0.20						0.02	
v/s Ratio Perm	0.12			0.01		0.02		0.01		c0.08		
v/c Ratio	0.27	0.50		0.02	0.44	0.05		0.05		0.36	0.08	
Uniform Delay, d1	6.2	7.0		5.5	6.8	5.5		11.0		11.8	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.0	0.1	0.0		0.2		1.5	0.2	
Delay (s)	6.3	7.2		5.5	6.9	5.5		11.2		13.3	11.3	
Level of Service	A	A		A	A	A		B		B	B	
Approach Delay (s)		7.0			6.7			11.2			12.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	36.6	Sum of lost time (s)	15.5
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	3	3	53	47	6
Future Vol, veh/h	8	3	3	53	47	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	75	75	88	88
Heavy Vehicles, %	0	0	0	10	0	0
Mvmt Flow	16	6	4	71	53	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	136	57	60	0	-	0
Stage 1	57	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	862	1015	1556	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	859	1015	1556	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1556	-	897	-	-
HCM Lane V/C Ratio	0.003	-	0.025	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 2010 TWSC
12: Site Driveway & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	408	12	2	473	21	18	1	12	7	0	47
Future Vol, veh/h	49	408	12	2	473	21	18	1	12	7	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	55	55	55	75	75	75
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	2
Mvmt Flow	52	429	13	2	538	24	33	2	22	9	0	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	442	0	0	813	1106	221	874	1100	281
Stage 1	-	-	-	-	-	-	540	540	-	554	554	-
Stage 2	-	-	-	-	-	-	273	566	-	320	546	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.32
Pot Cap-1 Maneuver	1019	-	-	1129	-	-	274	212	789	247	214	716
Stage 1	-	-	-	-	-	-	499	524	-	489	517	-
Stage 2	-	-	-	-	-	-	715	511	-	672	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1019	-	-	1129	-	-	240	201	789	229	203	716
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	201	-	229	203	-
Stage 1	-	-	-	-	-	-	474	497	-	464	516	-
Stage 2	-	-	-	-	-	-	651	510	-	618	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	18.3	12.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	326	1019	-	-	1129	-	-	561
HCM Lane V/C Ratio	0.173	0.051	-	-	0.002	-	-	0.128
HCM Control Delay (s)	18.3	8.7	-	-	8.2	-	-	12.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.4

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	32	1	1	153	5	7	0	1	7	2	4
Future Vol, veh/h	6	32	1	1	153	5	7	0	1	7	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	63	63	63	33	33	33	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	41	1	2	243	8	21	0	3	11	3	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	42	0	0	314	313	42	310	309	247
Stage 1	-	-	-	-	-	-	58	58	-	251	251	-
Stage 2	-	-	-	-	-	-	256	255	-	59	58	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1567	-	-	639	602	1029	642	605	792
Stage 1	-	-	-	-	-	-	954	847	-	753	699	-
Stage 2	-	-	-	-	-	-	749	696	-	953	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1567	-	-	628	598	1029	637	601	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	628	598	-	637	601	-
Stage 1	-	-	-	-	-	-	948	842	-	748	698	-
Stage 2	-	-	-	-	-	-	739	695	-	944	842	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	10.7	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	660	1314	-	-	1567	-	-	671
HCM Lane V/C Ratio	0.037	0.006	-	-	0.001	-	-	0.03
HCM Control Delay (s)	10.7	7.8	0	-	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

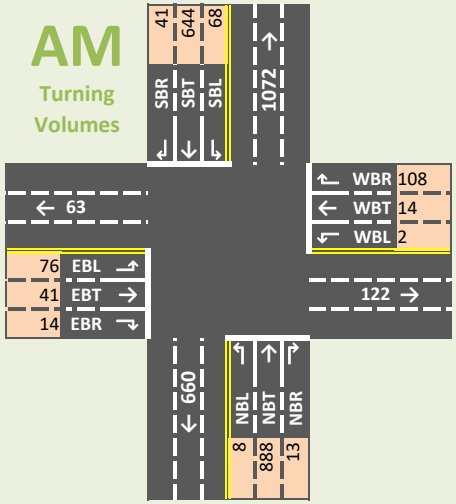
GOROVE SLADE
Transportation Planners and Engineers

Critical Lane Volume Analysis

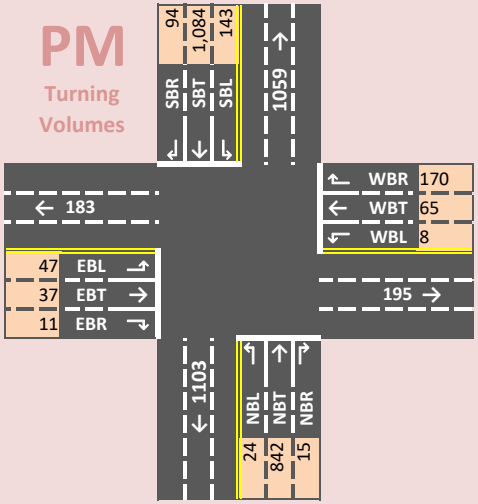
Turning Movement Summary and Level of Service

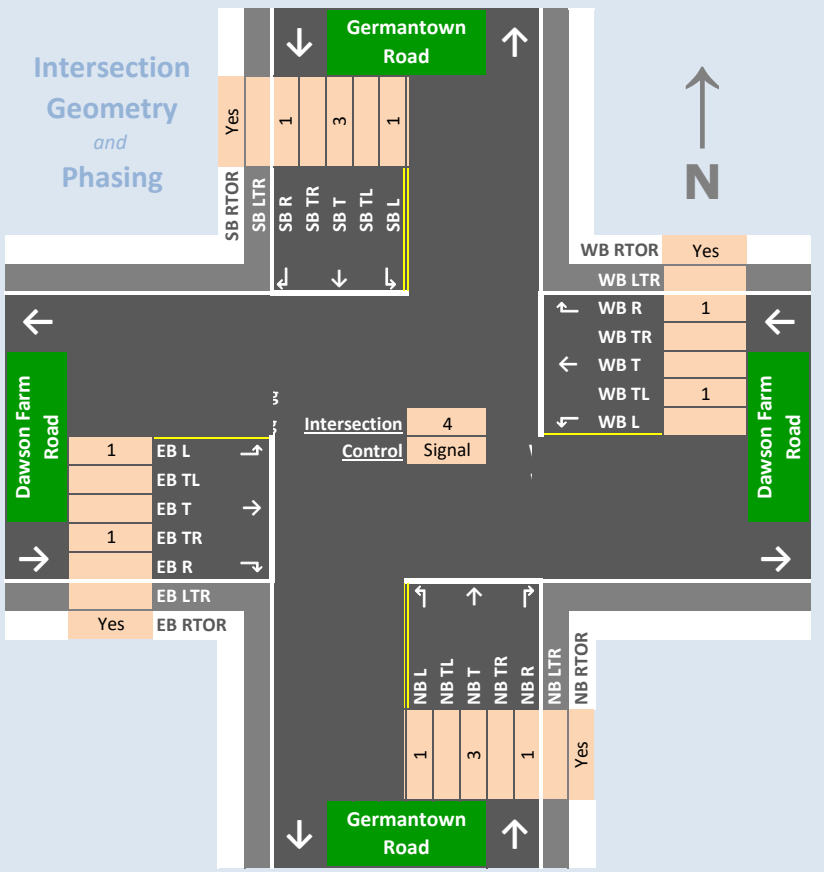
Project: LIDL Germantown
Project Number: 2856-004
Condition: Existing Conditions
Location: Montgomery County, MD
Count Date: 6/10/2021

AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm





	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)		MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	R	0	1.00	0	8	**8**			SB	R	47	1.00	47	24	**71**	
		T	644	0.37	238	8	**246**				T	1084	0.37	401	24	**425**	
		L	68	1.00	68		**68**				L	143	1.00	143		**143**	
	WB	R	40	1.00	40	76	**116**	√		WB	R	27	1.00	27	47	**74**	
		TL	16	1.00	16	76	**92**				TL	73	1.00	73	47	**120**	√
	NB	R	11	1.00	11	68	**79**			NB	R	7	1.00	7	143	**150**	
		T	888	0.37	329	68	**397**	√			T	842	0.37	312	143	**455**	√
		L	8	1.00	8		**8**				L	24	1.00	24		**24**	
	EB	TR	55	1.00	55	2	**57**			EB	TR	48	1.00	48	8	**56**	
		L	76	1.00	76		**76**				L	47	1.00	47		**47**	
					TOTAL AM CRITICAL VOLUME:		**513**	**LOS A**						**TOTAL PM CRITICAL VOLUME:**		**575**	**LOS A**

P:\2856-004 LIDL Germantown (7301-3050)\Analysis\LOS & Queue Summary 3.25.22.xlsm

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

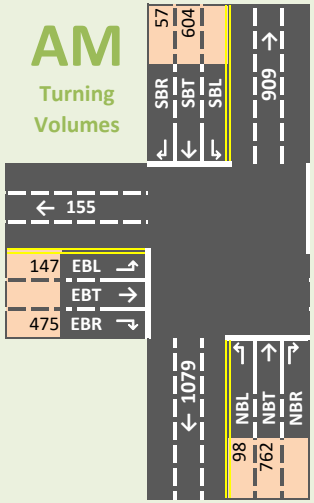
GOROVE SLADE
Transportation Planners and Engineers

Critical Lane Volume Analysis

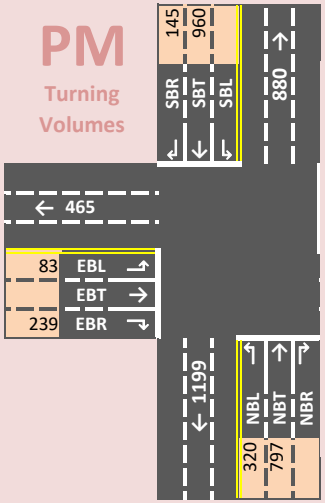
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Existing Conditions
Count Date: 9/5/2019

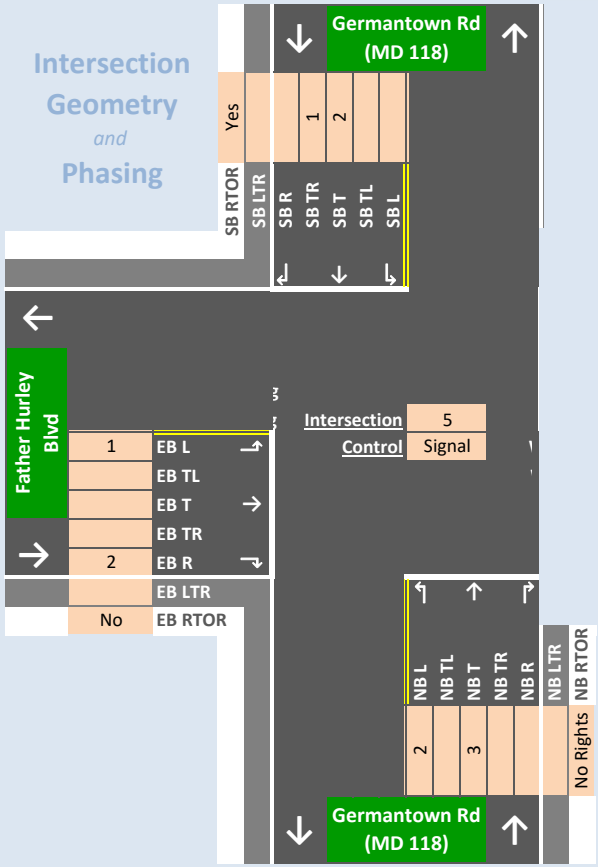
AM Peak Hour: 7:15am-8:15am



PM Peak Hour: 5:00pm-6:00pm



Intersection Geometry and Phasing



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	661	0.37	245	52	**297**	√
	NB	T	762	0.37	282		**282**	
		L	98	0.53	52		**52**	
	EB	R	475	0.53	252		**252**	√
		L	147	1.00	147		**147**	
						TOTAL AM CRITICAL VOLUME:	**549**	**LOS A**

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	1105	0.37	409	170	**579**	√
	NB	T	797	0.37	295		**295**	
		L	320	0.53	170		**170**	
	EB	R	239	0.53	127		**127**	√
		L	83	1.00	83		**83**	
						TOTAL PM CRITICAL VOLUME:	**706**	**LOS A**

P:\2856-004 LIDL Germantown (7301-3050)\Analysis\LOS & Queue Summary 3.25.22.xlsm

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

GOROVE SLADE
Transportation Planners and Engineers

Critical Lane Volume Analysis

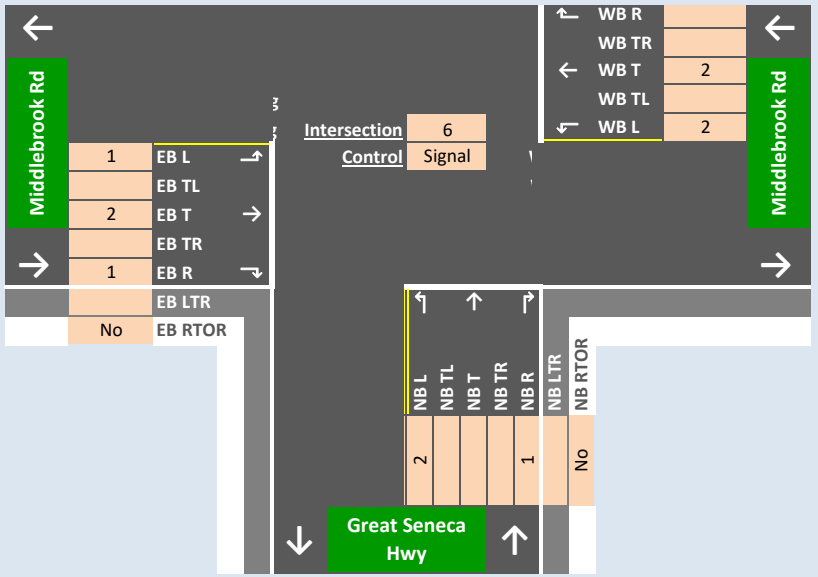
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Existing Conditions
Count Date: 1/8/2019

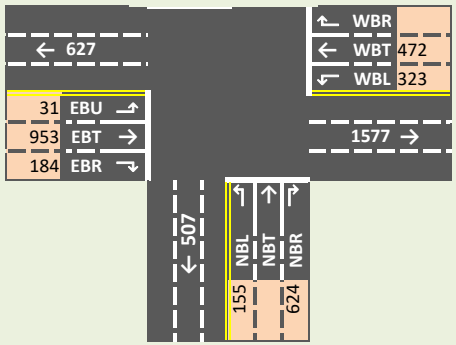
AM Peak Hour: 7:30am-8:30am

PM Peak Hour: 4:45pm-5:45pm

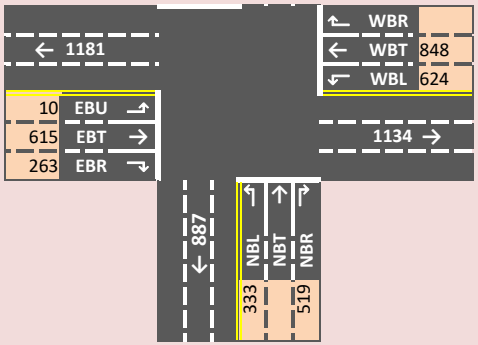
Intersection Geometry and Phasing



AM Turning Volumes



PM Turning Volumes



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	WB	T	472	0.53	250	31	**281**	
		L	323	0.53	171		**171**	
	NB	R	624	1.00	624		**624**	√
		L	155	0.53	82		**82**	
	EB	R	184	1.00	184	171	**355**	
		T	953	0.53	505	171	**676**	√
		L	31	1.00	31		**31**	
						TOTAL AM CRITICAL VOLUME:	**1300**	LOS C

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	WB	T	848	0.53	449	10	**459**	
		L	624	0.53	331		**331**	
	NB	R	519	1.00	519		**519**	√
		L	333	0.53	176		**176**	
	EB	R	263	1.00	263	331	**594**	
		T	615	0.53	326	331	**657**	√
		L	10	1.00	10		**10**	
						TOTAL PM CRITICAL VOLUME:	**1176**	LOS C

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

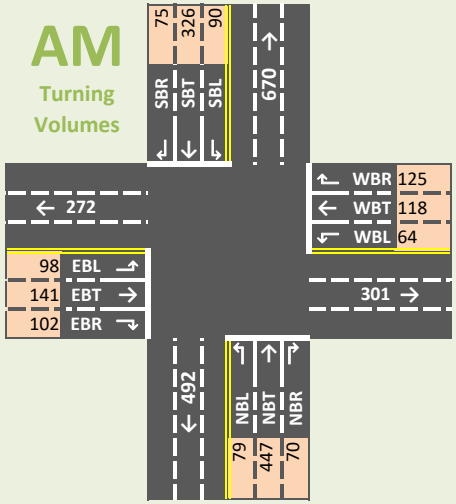
GOROVE SLADE
Transportation Planners and Engineers

Critical Lane Volume Analysis

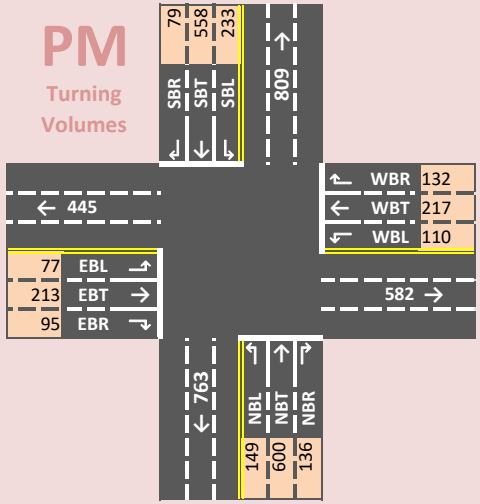
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Existing Conditions
Count Date: 6/10/2021

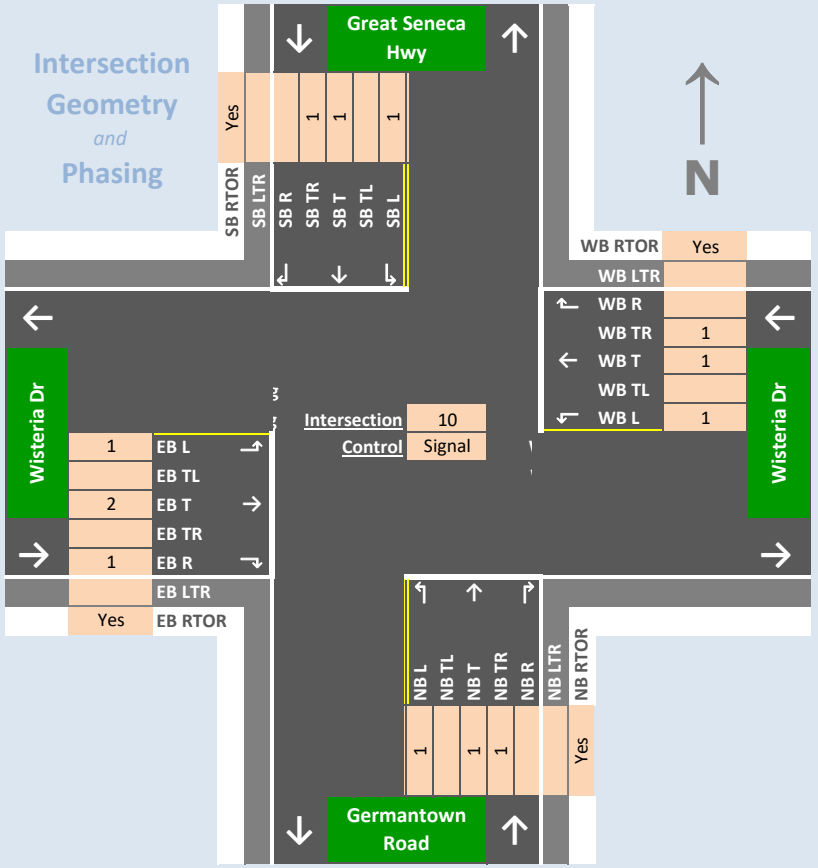
AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm



Intersection Geometry and Phasing



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	401	0.53	213	79	**292**	
		L	90	1.00	90		**90**	
	WB	TR	243	0.53	129	98	**227**	√
		L	64	1.00	64		**64**	
	NB	TR	517	0.53	274	90	**364**	√
		L	79	1.00	79		**79**	
	EB	R	23	1.00	23	64	**87**	
		T	141	0.53	75	64	**139**	
		L	98	1.00	98		**98**	
						TOTAL AM CRITICAL VOLUME:	**591**	LOS A

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	637	0.53	338	149	**487**	
		L	233	1.00	233		**233**	
	WB	TR	349	0.53	185	77	**262**	√
		L	110	1.00	110		**110**	
	NB	TR	736	0.53	390	233	**623**	√
		L	149	1.00	149		**149**	
	EB	R	0	1.00	0	110	**110**	
		T	213	0.53	113	110	**223**	
		L	77	1.00	77		**77**	
						TOTAL PM CRITICAL VOLUME:	**885**	LOS A

P:\2856-004 LIDL Germantown (7301-3050)\Analysis\LOS & Queue Summary 3.25.22.xlsm

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

Queuing and Blocking Report
Existing - AM Peak Hour

03/27/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	118	286	438	408	88	128	149	169	159	85	99	157
Average Queue (ft)	21	75	253	237	30	55	71	83	68	26	51	83
95th Queue (ft)	67	188	385	363	67	101	127	140	134	66	91	137
Link Distance (ft)			1454	1454			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)			4			0						
Queuing Penalty (veh)			4			0						

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	194	209	155	152	168	229	228	190
Average Queue (ft)	107	125	64	63	98	136	119	94
95th Queue (ft)	170	189	124	134	158	207	196	175
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report
Existing - AM Peak Hour

03/27/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	UL	L	T	T	T
Maximum Queue (ft)	129	215	277	242	114	199	224	96	104	186	208	257
Average Queue (ft)	61	97	152	105	37	111	130	36	54	102	122	152
95th Queue (ft)	111	167	243	212	98	180	207	82	96	170	196	234
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						2	4					
Queuing Penalty (veh)						3	7					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)			1		1	23				0		1
Queuing Penalty (veh)			2		1	7				0		1

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	206	196	128	100	147
Average Queue (ft)	31	105	40	36	58
95th Queue (ft)	108	179	98	79	115
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	3	0		
Queuing Penalty (veh)	0	5	0		

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	L	T	T	TR
Maximum Queue (ft)	159	70	130	36	111	118	140	72	63	56	58	62
Average Queue (ft)	66	32	63	8	26	25	33	8	25	18	19	15
95th Queue (ft)	130	61	121	26	79	83	99	39	52	50	49	47
Link Distance (ft)	658		182		1900	1900	1900			723	723	723
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)							0					
Queuing Penalty (veh)							0					

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	L	T	T	T	R	UL	T	T
Maximum Queue (ft)	170	108	56	105	48	130	144	142	29	146	67	68
Average Queue (ft)	74	45	14	44	12	59	62	60	2	63	8	8
95th Queue (ft)	141	95	43	81	38	111	122	123	14	119	39	36
Link Distance (ft)	699	699	766	766		1808	1808	1808			1900	1900
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	71	29
Average Queue (ft)	17	2
95th Queue (ft)	52	13
Link Distance (ft)	1900	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	191	299	282	138	164	174	149	121	151	177	208
Average Queue (ft)	107	193	152	31	76	88	68	37	49	52	76
95th Queue (ft)	179	275	251	92	136	155	135	92	113	129	154
Link Distance (ft)		977				1356	1356	1356	1808	1808	1808
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	U	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	155	493	508	275	198	208	182	193	248	382	438
Average Queue (ft)	41	233	248	101	107	129	93	92	72	200	296
95th Queue (ft)	114	445	462	290	174	188	155	160	187	371	433
Link Distance (ft)		2143	2143			3766	3766	3766		639	639
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			250	275				560		
Storage Blk Time (%)		17	12	0							
Queuing Penalty (veh)		6	23	0							

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	L	LT	R	LTR
Maximum Queue (ft)	26	6	45	36	50	60
Average Queue (ft)	4	0	7	5	17	15
95th Queue (ft)	19	5	30	23	42	47
Link Distance (ft)		148		211		481
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	145		180		220	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	48	164	225	185	44	78	98	158	118	112	69
Average Queue (ft)	14	76	94	70	14	29	46	58	43	34	21
95th Queue (ft)	38	139	174	146	41	64	86	110	89	79	53
Link Distance (ft)		1034		2266	2266		889	889		1207	1207
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		225			300			220		
Storage Blk Time (%)		0	0	0							
Queuing Penalty (veh)		0	1	0							

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	162	213	48	160	66	50	105	88
Average Queue (ft)	57	89	5	62	17	6	34	31
95th Queue (ft)	119	182	28	125	44	29	75	63
Link Distance (ft)		722		1581	1581	521		618
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)	0	2		2			0	0
Queuing Penalty (veh)	0	2		0			0	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	TR	UL	T
Maximum Queue (ft)	158	69	74	38	123	115	158	119	148	151	129	163
Average Queue (ft)	66	20	24	4	43	42	51	55	84	74	45	49
95th Queue (ft)	140	54	62	22	98	91	121	103	140	139	102	123
Link Distance (ft)		1581	1581			1434	1434		1980	1980		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	535			325	150			325			300	
Storage Blk Time (%)					0	0						
Queuing Penalty (veh)					0	0						

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	180
Average Queue (ft)	73
95th Queue (ft)	146
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Walter Johnson Rd & Site

Movement	EB
Directions Served	LR
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	96
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	WB	WB	WB	NB	SB
Directions Served	L	L	T	TR	LTR	LTR
Maximum Queue (ft)	31	6	12	28	12	29
Average Queue (ft)	2	0	0	1	1	5
95th Queue (ft)	15	4	6	15	9	22
Link Distance (ft)			148	148	205	153
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	70	30				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	17	29
Average Queue (ft)	1	10
95th Queue (ft)	8	31
Link Distance (ft)	191	433
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 63

Queuing and Blocking Report
Existing - PM Peak Hour

03/27/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	142	168	243	256	154	250	424	424	299	134	145	142
Average Queue (ft)	51	104	142	160	83	150	235	247	117	65	85	70
95th Queue (ft)	119	161	217	239	146	272	363	364	225	117	134	121
Link Distance (ft)			1426	1426			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)					0	2	21					0
Queuing Penalty (veh)					1	5	45					0

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	169	184	106	213	251	336	316	310
Average Queue (ft)	92	106	33	94	134	208	194	188
95th Queue (ft)	148	161	83	178	211	292	279	277
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Queuing and Blocking Report
Existing - PM Peak Hour

03/27/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	L	L	T	T	T
Maximum Queue (ft)	130	163	204	229	114	245	242	164	196	264	256	313
Average Queue (ft)	60	86	119	134	80	173	191	85	98	136	151	179
95th Queue (ft)	112	142	194	214	134	259	258	149	165	233	236	277
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						14	20					
Queuing Penalty (veh)						38	55					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)			0		15	35		0		1		3
Queuing Penalty (veh)			0		27	22		0		2		3

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	245	209	276	311	353
Average Queue (ft)	50	137	121	142	191
95th Queue (ft)	178	221	219	254	310
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	6	2		
Queuing Penalty (veh)	0	20	3		

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	UL	T	T	TR
Maximum Queue (ft)	82	56	199	120	223	213	234	170	57	95	92	118
Average Queue (ft)	27	22	129	31	90	82	89	19	14	32	38	55
95th Queue (ft)	64	51	208	82	190	183	197	91	42	76	78	108
Link Distance (ft)	875		185		1901	1901	1901			723	723	723
Upstream Blk Time (%)			5									
Queuing Penalty (veh)			12									
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)					0		3	0				
Queuing Penalty (veh)					0		2	0				

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	UL	T	T	T	R	L	T	T
Maximum Queue (ft)	107	97	135	115	70	160	162	163	30	241	146	107
Average Queue (ft)	42	35	61	48	24	78	81	74	4	126	40	29
95th Queue (ft)	89	80	113	86	57	143	139	136	22	215	110	75
Link Distance (ft)	1031	1031	766	766		1809	1809	1809			1901	1901
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)										0		
Queuing Penalty (veh)										2		

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	115	26
Average Queue (ft)	30	4
95th Queue (ft)	82	16
Link Distance (ft)	1901	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	UL	L	T	T	T	UT	T	TR
Maximum Queue (ft)	164	201	174	220	270	139	130	112	172	190	199
Average Queue (ft)	70	115	56	122	162	63	49	28	63	63	83
95th Queue (ft)	132	184	146	208	232	127	109	79	135	144	165
Link Distance (ft)		977				1356	1356	1356	1809	1809	1809
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	U	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	139	336	359	274	298	374	265	251	262	324	417
Average Queue (ft)	13	165	176	108	210	229	111	123	123	174	229
95th Queue (ft)	59	281	299	245	291	320	195	204	209	279	357
Link Distance (ft)		2143	2143			2557	2557	2557		639	639
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			250	275				560		
Storage Blk Time (%)		7	2	0	1	2					
Queuing Penalty (veh)		1	6	1	2	6					

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	62	22	23	53	11	23	46	44	100
Average Queue (ft)	15	1	1	12	1	2	16	21	38
95th Queue (ft)	45	15	15	39	8	13	41	42	70
Link Distance (ft)		148	148		724		211		481
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	145			180		200		220	
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	133	226	218	272	54	109	148	270	78	84	59
Average Queue (ft)	33	105	100	103	17	49	68	118	30	32	15
95th Queue (ft)	82	186	189	210	46	85	120	211	63	69	39
Link Distance (ft)		1013		2266	2266		889	889		1096	1096
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		220			300			220		
Storage Blk Time (%)		1	0	1							
Queuing Penalty (veh)		1	1	1							

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	157	249	60	198	51	46	100	101
Average Queue (ft)	58	93	6	79	12	8	36	30
95th Queue (ft)	124	188	34	160	33	32	72	69
Link Distance (ft)		724		1578	1578	443		606
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)	0	1		4			0	
Queuing Penalty (veh)	0	2		0			0	

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	UL	T	TR	UL	T
Maximum Queue (ft)	117	109	122	35	148	170	194	194	238	243	320	320
Average Queue (ft)	37	34	38	4	68	73	76	105	141	136	174	129
95th Queue (ft)	90	82	90	20	133	140	151	179	213	219	296	287
Link Distance (ft)		1578	1578			1509	1509		1687	1687		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			300	150			325			300	
Storage Blk Time (%)	0				1	0					1	0
Queuing Penalty (veh)	0				1	0					4	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	283
Average Queue (ft)	148
95th Queue (ft)	284
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Walter Johnson Rd & Site

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	96
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	71	41	10	12	98	90	52	84
Average Queue (ft)	21	3	0	1	14	15	21	30
95th Queue (ft)	54	26	8	8	64	62	49	64
Link Distance (ft)		178	178		148	148	205	167
Upstream Blk Time (%)					0			
Queuing Penalty (veh)					0			
Storage Bay Dist (ft)	70			30				
Storage Blk Time (%)	0	0		0	3			
Queuing Penalty (veh)	0	0		0	0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	29	105	42	29
Average Queue (ft)	1	11	6	8
95th Queue (ft)	13	57	28	29
Link Distance (ft)	185	197	138	433
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

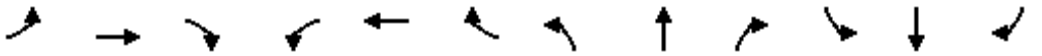
Network Summary

Network wide Queuing Penalty: 263

L. Background Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	575	73	158	212	153	78	1227	211	218	878	95
Future Volume (vph)	85	575	73	158	212	153	78	1227	211	218	878	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3480		3433	3539	1583	3433	5085	1583	3433	5011	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3480		3433	3539	1583	3433	5085	1583	3433	5011	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.98	0.98	0.98	0.93	0.93	0.93
Adj. Flow (vph)	92	625	79	184	247	178	80	1252	215	234	944	102
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	92	698	0	184	247	178	80	1252	215	234	1039	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	11.3	34.4		14.1	37.2	54.9	10.8	58.8	72.9	17.7	65.7	
Effective Green, g (s)	11.3	34.4		14.1	37.2	54.9	10.8	58.8	72.9	17.7	65.7	
Actuated g/C Ratio	0.08	0.23		0.09	0.25	0.37	0.07	0.39	0.49	0.12	0.44	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	258	798		322	877	579	247	1993	769	405	2194	
v/s Ratio Prot	0.03	c0.20		c0.05	0.07	c0.04	0.02	c0.25	0.03	c0.07	c0.21	
v/s Ratio Perm						0.08			0.11			
v/c Ratio	0.36	0.87		0.57	0.28	0.31	0.32	0.63	0.28	0.58	0.47	
Uniform Delay, d1	65.9	55.7		65.1	45.6	34.0	66.1	36.8	22.9	62.6	29.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.17	0.56	0.59	1.00	1.00	
Incremental Delay, d2	1.8	11.3		3.9	0.4	0.6	1.4	1.4	0.4	3.2	0.7	
Delay (s)	67.7	67.0		68.9	46.0	34.6	78.8	21.8	13.9	65.8	30.6	
Level of Service	E	E		E	D	C	E	C	B	E	C	
Approach Delay (s)		67.1			49.6			23.7			37.0	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	185	246	106	62	193	136	1	113	1194	97	1	115
Future Volume (vph)	185	246	106	62	193	136	1	113	1194	97	1	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.97	0.91	1.00		1.00
Frt	1.00	0.95		1.00	0.94			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	3467	3233		1736	3245			3502	5085	1495		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	3467	3233		1736	3245			3502	5085	1495		1736
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	208	276	119	66	205	145	1	116	1231	100	1	125
RTOR Reduction (vph)	0	34	0	0	91	0	0	0	0	48	0	0
Lane Group Flow (vph)	208	361	0	66	259	0	0	117	1231	52	0	126
Heavy Vehicles (%)	1%	6%	8%	4%	6%	2%	0%	0%	2%	8%	0%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		1	1	6		5	5
Permitted Phases										6		
Actuated Green, G (s)	16.2	27.0		11.2	22.0			12.3	73.8	73.8		16.0
Effective Green, g (s)	16.2	27.0		11.2	22.0			12.3	73.8	73.8		16.0
Actuated g/C Ratio	0.11	0.18		0.07	0.15			0.08	0.49	0.49		0.11
Clearance Time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	0.2	0.2		5.0
Lane Grp Cap (vph)	374	581		129	475			287	2501	735		185
v/s Ratio Prot	c0.06	c0.11		0.04	0.08			0.03	c0.24			c0.07
v/s Ratio Perm										0.03		
v/c Ratio	0.56	0.62		0.51	0.54			0.41	0.49	0.07		0.68
Uniform Delay, d1	63.5	56.8		66.8	59.4			65.4	25.5	20.0		64.5
Progression Factor	1.00	1.00		1.00	1.00			0.91	0.68	1.21		1.32
Incremental Delay, d2	3.0	2.9		6.7	2.2			1.9	0.7	0.2		11.0
Delay (s)	66.5	59.7		73.4	61.6			61.6	18.0	24.5		96.1
Level of Service	E	E		E	E			E	B	C		F
Approach Delay (s)		62.1			63.5				21.9			
Approach LOS		E			E				C			

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	795	198
Future Volume (vph)	795	198
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	4848	
Flt Permitted	1.00	
Satd. Flow (perm)	4848	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	864	215
RTOR Reduction (vph)	22	0
Lane Group Flow (vph)	1057	0
Heavy Vehicles (%)	4%	3%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	77.5	
Effective Green, g (s)	77.5	
Actuated g/C Ratio	0.52	
Clearance Time (s)	6.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	2504	
v/s Ratio Prot	c0.22	
v/s Ratio Perm		
v/c Ratio	0.42	
Uniform Delay, d1	22.4	
Progression Factor	0.59	
Incremental Delay, d2	0.5	
Delay (s)	13.7	
Level of Service	B	
Approach Delay (s)	22.3	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	38	73	28	9	71	24	1308	146	67	887	10
Future Volume (vph)	26	38	73	28	9	71	24	1308	146	67	887	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00	1.00	0.91	
Frt		1.00	0.85		0.91		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1825	1583		1676		1770	5085	1583	1770	5076	
Flt Permitted		0.65	1.00		0.89		0.29	1.00	1.00	0.17	1.00	
Satd. Flow (perm)		1214	1583		1509		541	5085	1583	311	5076	
Peak-hour factor, PHF	0.90	0.90	0.90	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	42	81	30	10	76	25	1377	154	71	934	11
RTOR Reduction (vph)	0	0	74	0	52	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	71	7	0	64	0	25	1377	130	71	945	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		
Actuated Green, G (s)		12.3	12.3		12.3		118.3	114.7	114.7	124.1	117.6	
Effective Green, g (s)		12.3	12.3		12.3		118.3	114.7	114.7	124.1	117.6	
Actuated g/C Ratio		0.08	0.08		0.08		0.79	0.76	0.76	0.83	0.78	
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)		99	129		123		456	3888	1210	320	3979	
v/s Ratio Prot							0.00	c0.27		c0.01	0.19	
v/s Ratio Perm		c0.06	0.00		0.04		0.04		0.08	0.17		
v/c Ratio		0.72	0.05		0.52		0.05	0.35	0.11	0.22	0.24	
Uniform Delay, d1		67.2	63.5		66.0		3.4	5.7	4.5	2.9	4.3	
Progression Factor		1.00	1.00		1.00		0.34	0.38	0.12	0.78	0.54	
Incremental Delay, d2		21.8	0.2		3.6		0.0	0.2	0.2	0.3	0.1	
Delay (s)		89.0	63.6		69.7		1.2	2.4	0.7	2.5	2.5	
Level of Service		F	E		E		A	A	A	A	A	
Approach Delay (s)		75.5			69.7			2.2			2.5	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	419	14	25	374	16	6	0	30	7	0	11
Future Vol, veh/h	14	419	14	25	374	16	6	0	30	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	64	64	64	90	90	90	75	75	75
Heavy Vehicles, %	0	3	7	8	2	6	16	0	0	14	0	18
Mvmt Flow	18	530	18	39	584	25	7	0	33	9	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	609	0	0	548	0	0	936	1253	530	1267	1259	305
Stage 1	-	-	-	-	-	-	566	566	-	675	675	-
Stage 2	-	-	-	-	-	-	370	687	-	592	584	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.54	6.5	6.2	7.51	6.5	7.17
Critical Hdwy Stg 1	-	-	-	-	-	-	6.34	5.5	-	6.71	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.5	-	6.31	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.652	4	3.3	3.633	4	3.471
Pot Cap-1 Maneuver	979	-	-	984	-	-	215	174	553	125	172	652
Stage 1	-	-	-	-	-	-	478	511	-	388	456	-
Stage 2	-	-	-	-	-	-	591	450	-	466	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	979	-	-	984	-	-	201	164	553	112	162	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	164	-	112	162	-
Stage 1	-	-	-	-	-	-	469	502	-	381	438	-
Stage 2	-	-	-	-	-	-	555	432	-	430	492	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	13.8	22.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	553	979	-	-	984	-	-	227
HCM Lane V/C Ratio	0.033	0.06	0.018	-	-	0.04	-	-	0.106
HCM Control Delay (s)	23.5	11.9	8.7	-	-	8.8	-	-	22.7
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.2	0.1	-	-	0.1	-	-	0.3

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	34	298	51	21	226	301	52	31	375	148	100
Future Volume (vph)	1	34	298	51	21	226	301	52	31	375	148	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Lane Util. Factor		1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00
Frt		1.00	0.98			1.00	1.00	0.85	1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1805	1801			1805	1810	1583	1703	3253		1703
Flt Permitted		0.49	1.00			0.45	1.00	1.00	0.55	1.00		0.16
Satd. Flow (perm)		927	1801			858	1810	1583	991	3253		285
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.84
Adj. Flow (vph)	1	38	331	57	24	263	350	60	37	452	178	119
RTOR Reduction (vph)	0	0	3	0	0	0	0	31	0	34	0	0
Lane Group Flow (vph)	0	39	385	0	0	287	350	29	37	596	0	119
Heavy Vehicles (%)	0%	0%	3%	4%	0%	0%	5%	2%	6%	6%	7%	6%
Turn Type	Perm	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt
Protected Phases			4				8		1	6		5
Permitted Phases	4	4			8	8		8	6			2
Actuated Green, G (s)		43.7	43.7			43.7	43.7	43.7	24.9	20.7		36.3
Effective Green, g (s)		43.7	43.7			43.7	43.7	43.7	24.9	20.7		36.3
Actuated g/C Ratio		0.48	0.48			0.48	0.48	0.48	0.27	0.23		0.40
Clearance Time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Vehicle Extension (s)		8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0
Lane Grp Cap (vph)		442	860			409	864	756	302	735		285
v/s Ratio Prot			0.21				0.19		0.01	c0.18		c0.05
v/s Ratio Perm		0.04				c0.33		0.02	0.03			0.11
v/c Ratio		0.09	0.45			0.70	0.41	0.04	0.12	0.81		0.42
Uniform Delay, d1		13.0	15.9			18.8	15.5	12.7	24.8	33.5		19.5
Progression Factor		1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.4	1.6			9.7	1.3	0.1	0.2	6.4		1.0
Delay (s)		13.4	17.5			28.4	16.8	12.8	25.0	40.0		20.5
Level of Service		B	B			C	B	B	C	D		C
Approach Delay (s)			17.1				21.3			39.1		
Approach LOS			B				C			D		

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

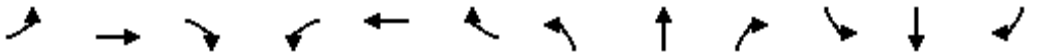
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Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	222	55
Future Volume (vph)	222	55
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.0	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3280	
Flt Permitted	1.00	
Satd. Flow (perm)	3280	
Peak-hour factor, PHF	0.84	0.84
Adj. Flow (vph)	264	65
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	309	0
Heavy Vehicles (%)	6%	10%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	27.6	
Effective Green, g (s)	27.6	
Actuated g/C Ratio	0.30	
Clearance Time (s)	5.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	989	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.31	
Uniform Delay, d1	24.6	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	24.7	
Level of Service	C	
Approach Delay (s)	23.6	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	331	18	9	341	122	4	2	2	82	5	99
Future Volume (vph)	102	331	18	9	341	122	4	2	2	82	5	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1703	1850		1805	1863	1553		1592		1687	1569	
Flt Permitted	0.38	1.00		0.42	1.00	1.00		0.83		0.74	1.00	
Satd. Flow (perm)	676	1850		805	1863	1553		1360		1322	1569	
Peak-hour factor, PHF	0.75	0.75	0.75	0.67	0.67	0.67	0.40	0.40	0.40	0.73	0.73	0.73
Adj. Flow (vph)	136	441	24	13	509	182	10	5	5	112	7	136
RTOR Reduction (vph)	0	2	0	0	0	104	0	4	0	0	97	0
Lane Group Flow (vph)	136	463	0	13	509	78	0	16	0	112	46	0
Heavy Vehicles (%)	6%	2%	0%	0%	2%	4%	25%	0%	0%	7%	20%	3%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	17.0	17.0		17.0	17.0	17.0		11.4		11.4	11.4	
Effective Green, g (s)	17.0	17.0		17.0	17.0	17.0		11.4		11.4	11.4	
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.43		0.29		0.29	0.29	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	288	788		342	793	661		388		377	448	
v/s Ratio Prot		0.25			c0.27						0.03	
v/s Ratio Perm	0.20			0.02		0.05		0.01		c0.08		
v/c Ratio	0.47	0.59		0.04	0.64	0.12		0.04		0.30	0.10	
Uniform Delay, d1	8.2	8.8		6.7	9.0	6.9		10.3		11.1	10.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.7		0.0	1.3	0.0		0.1		0.9	0.2	
Delay (s)	8.7	9.5		6.7	10.4	6.9		10.4		12.0	10.7	
Level of Service	A	A		A	B	A		B		B	B	
Approach Delay (s)		9.3			9.4			10.4			11.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	15.5
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
11: Walter Johnson Rd & Site

03/27/2022

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	3	35	37	2
Future Vol, veh/h	1	0	3	35	37	2
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	25	25	73	73	73	73
Heavy Vehicles, %	0	0	0	11	10	0
Mvmt Flow	4	0	4	48	51	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	109	53	54	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	56	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	893	1020	1564	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	890	1020	1564	-	-	-
Mov Cap-2 Maneuver	890	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1564	-	890	-	-
HCM Lane V/C Ratio	0.003	-	0.004	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 2010 TWSC
12: Site Driveway & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	443	6	1	386	4	0	0	2	2	0	5
Future Vol, veh/h	9	443	6	1	386	4	0	0	2	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	10	482	7	1	420	4	0	0	2	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	424	0	0	489	0	0	718	932	245	685	933	212
Stage 1	-	-	-	-	-	-	506	506	-	424	424	-
Stage 2	-	-	-	-	-	-	212	426	-	261	509	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1146	-	-	1085	-	-	320	269	762	338	268	800
Stage 1	-	-	-	-	-	-	522	543	-	584	590	-
Stage 2	-	-	-	-	-	-	776	589	-	727	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1146	-	-	1085	-	-	316	266	762	335	265	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	266	-	335	265	-
Stage 1	-	-	-	-	-	-	517	538	-	579	589	-
Stage 2	-	-	-	-	-	-	770	588	-	719	536	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	9.7	11.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	762	1146	-	-	1085	-	-	573
HCM Lane V/C Ratio	0.003	0.009	-	-	0.001	-	-	0.013
HCM Control Delay (s)	9.7	8.2	-	-	8.3	-	-	11.4
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	187	2	0	38	12	1	0	0	6	0	5
Future Vol, veh/h	5	187	2	0	38	12	1	0	0	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	203	2	0	41	13	1	0	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	205	0	0	264	268	204	262	263	48
Stage 1	-	-	-	-	-	-	214	214	-	48	48	-
Stage 2	-	-	-	-	-	-	50	54	-	214	215	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1366	-	-	689	638	837	691	642	1021
Stage 1	-	-	-	-	-	-	788	725	-	965	855	-
Stage 2	-	-	-	-	-	-	963	850	-	788	725	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1551	-	-	1366	-	-	683	635	837	689	639	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	683	635	-	689	639	-
Stage 1	-	-	-	-	-	-	785	722	-	961	855	-
Stage 2	-	-	-	-	-	-	958	850	-	785	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	10.3	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	683	1551	-	-	1366	-	-	809
HCM Lane V/C Ratio	0.002	0.004	-	-	-	-	-	0.015
HCM Control Delay (s)	10.3	7.3	0	-	0	-	-	9.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022

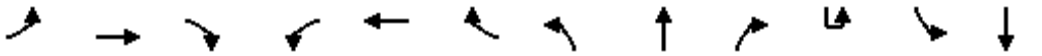
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	323	120	229	614	207	164	1048	180	298	1305	164
Future Volume (vph)	152	323	120	229	614	207	164	1048	180	298	1305	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3395		3433	3539	1583	3433	5085	1583	3433	5000	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3395		3433	3539	1583	3433	5085	1583	3433	5000	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	163	347	129	252	675	227	184	1178	202	320	1403	176
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	163	451	0	252	675	227	184	1178	202	320	1571	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	14.3	33.8		16.9	36.4	58.5	15.3	52.2	69.1	22.1	59.0	
Effective Green, g (s)	14.3	33.8		16.9	36.4	58.5	15.3	52.2	69.1	22.1	59.0	
Actuated g/C Ratio	0.10	0.23		0.11	0.24	0.39	0.10	0.35	0.46	0.15	0.39	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	327	765		386	858	617	350	1769	729	505	1966	
v/s Ratio Prot	0.05	0.13		c0.07	c0.19	0.05	0.05	0.23	0.03	c0.09	c0.31	
v/s Ratio Perm						0.09			0.10			
v/c Ratio	0.50	0.59		0.65	0.79	0.37	0.53	0.67	0.28	0.63	0.80	
Uniform Delay, d1	64.4	51.9		63.7	53.2	32.6	63.9	41.5	25.0	60.1	40.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.34	0.54	0.42	1.00	1.00	
Incremental Delay, d2	2.5	1.8		5.3	5.6	0.8	2.1	1.6	0.3	3.6	3.5	
Delay (s)	66.9	53.7		69.0	58.7	33.4	87.7	23.9	11.0	63.7	43.8	
Level of Service	E	D		E	E	C	F	C	B	E	D	
Approach Delay (s)		57.1			56.0			29.7			47.1	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	168	246	137	72	356	128	238	1092	124	4	140	1236
Future Volume (vph)	168	246	137	72	356	128	238	1092	124	4	140	1236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Lane Util. Factor	0.97	0.95		1.00	0.95		0.97	0.91	1.00		1.00	0.91
Frt	1.00	0.95		1.00	0.96		1.00	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	3373		1805	3467		3467	5085	1599		1805	4996
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	3373		1805	3467		3467	5085	1599		1805	4996
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85
Adj. Flow (vph)	183	267	149	82	405	145	298	1365	155	5	165	1454
RTOR Reduction (vph)	0	52	0	0	25	0	0	0	63	0	0	20
Lane Group Flow (vph)	183	364	0	82	525	0	298	1365	92	0	170	1756
Heavy Vehicles (%)	3%	2%	0%	0%	0%	0%	1%	2%	1%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases									6			
Actuated Green, G (s)	15.3	31.0		14.1	29.8		20.0	61.7	61.7		21.2	62.9
Effective Green, g (s)	15.3	31.0		14.1	29.8		20.0	61.7	61.7		21.2	62.9
Actuated g/C Ratio	0.10	0.21		0.09	0.20		0.13	0.41	0.41		0.14	0.42
Clearance Time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	0.2	0.2		5.0	0.2
Lane Grp Cap (vph)	346	697		169	688		462	2091	657		255	2094
v/s Ratio Prot	c0.05	0.11		0.05	c0.15		0.09	0.27			c0.09	c0.35
v/s Ratio Perm									0.06			
v/c Ratio	0.53	0.52		0.49	0.76		0.65	0.65	0.14		0.67	0.84
Uniform Delay, d1	63.9	52.9		64.5	56.8		61.6	35.5	27.6		61.1	39.0
Progression Factor	1.00	1.00		1.00	1.00		1.35	0.70	0.30		1.18	0.79
Incremental Delay, d2	2.8	1.3		4.5	5.9		3.9	1.5	0.4		6.1	3.0
Delay (s)	66.7	54.3		69.0	62.7		87.2	26.3	8.7		78.2	33.7
Level of Service	E	D		E	E		F	C	A		E	C
Approach Delay (s)		58.1			63.5			34.8				37.6
Approach LOS		E			E			C				D

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	274
Future Volume (vph)	274
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	322
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	10	32	56	20	152	75	1275	58	1	33	1356
Future Volume (vph)	26	10	32	56	20	152	75	1275	58	1	33	1356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00		1.00	0.91
Frt		1.00	0.85		0.91		1.00	1.00	0.85		1.00	0.99
Flt Protected		0.97	1.00		0.99		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1798	1583		1675		1770	5085	1583		1770	5056
Flt Permitted		0.55	1.00		0.90		0.14	1.00	1.00		0.17	1.00
Satd. Flow (perm)		1029	1583		1532		252	5085	1583		313	5056
Peak-hour factor, PHF	0.93	0.93	0.93	0.67	0.67	0.67	0.96	0.96	0.96	0.98	0.98	0.98
Adj. Flow (vph)	28	11	34	84	30	227	78	1328	60	1	34	1384
RTOR Reduction (vph)	0	0	26	0	52	0	0	0	21	0	0	2
Lane Group Flow (vph)	0	39	8	0	289	0	78	1328	39	0	35	1438
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	Prot	pm+pt	NA
Protected Phases		4			8		1	6		5	5	2
Permitted Phases	4		4	8			6		6		2	
Actuated Green, G (s)		33.1	33.1		33.1		102.7	95.0	95.0		98.1	92.7
Effective Green, g (s)		33.1	33.1		33.1		102.7	95.0	95.0		98.1	92.7
Actuated g/C Ratio		0.22	0.22		0.22		0.68	0.63	0.63		0.65	0.62
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2		3.0	0.2
Lane Grp Cap (vph)		227	349		338		250	3220	1002		257	3124
v/s Ratio Prot							c0.02	0.26			0.00	c0.28
v/s Ratio Perm		0.04	0.00		c0.19		0.20		0.02		0.08	
v/c Ratio		0.17	0.02		0.85		0.31	0.41	0.04		0.14	0.46
Uniform Delay, d1		47.3	45.8		56.1		9.7	13.6	10.3		9.7	15.3
Progression Factor		1.00	1.00		1.00		1.89	1.74	3.80		0.45	0.33
Incremental Delay, d2		0.4	0.0		18.5		0.7	0.4	0.1		0.1	0.3
Delay (s)		47.7	45.8		74.7		19.0	24.1	39.3		4.5	5.4
Level of Service		D	D		E		B	C	D		A	A
Approach Delay (s)		46.8			74.7			24.5				5.4
Approach LOS		D			E			C				A

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	56
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	419	8	42	456	36	19	5	37	34	3	39
Future Vol, veh/h	41	419	8	42	456	36	19	5	37	34	3	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	94	94	94	83	83	83	84	84	84
Heavy Vehicles, %	0	1	11	4	1	0	0	0	3	0	0	0
Mvmt Flow	48	493	9	45	485	38	23	6	45	40	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	523	0	0	502	0	0	924	1202	493	1213	1192	262
Stage 1	-	-	-	-	-	-	589	589	-	594	594	-
Stage 2	-	-	-	-	-	-	335	613	-	619	598	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.245	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	1054	-	-	1048	-	-	239	186	573	150	189	743
Stage 1	-	-	-	-	-	-	498	499	-	463	496	-
Stage 2	-	-	-	-	-	-	658	486	-	480	494	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1054	-	-	1048	-	-	206	170	573	126	173	743
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	170	-	126	173	-
Stage 1	-	-	-	-	-	-	475	476	-	442	475	-
Stage 2	-	-	-	-	-	-	586	465	-	417	471	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.7	17.5	31.6
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	573	1054	-	-	1048	-	-	224
HCM Lane V/C Ratio	0.147	0.078	0.046	-	-	0.043	-	-	0.404
HCM Control Delay (s)	26.4	11.8	8.6	-	-	8.6	-	-	31.6
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.5	0.3	0.1	-	-	0.1	-	-	1.8

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	432	51	12	191	431	80	103	302	364	66	351
Future Volume (vph)	75	432	51	12	191	431	80	103	302	364	66	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	0.92		1.00	0.99
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1853			1772	1900	1615	1805	3296		1805	3496
Flt Permitted	0.39	1.00			0.34	1.00	1.00	0.25	1.00		0.26	1.00
Satd. Flow (perm)	739	1853			625	1900	1615	478	3296		490	3496
Peak-hour factor, PHF	0.87	0.87	0.87	0.88	0.88	0.88	0.88	0.97	0.97	0.97	0.80	0.80
Adj. Flow (vph)	86	497	59	14	217	490	91	106	311	375	82	439
RTOR Reduction (vph)	0	2	0	0	0	0	38	0	182	0	0	8
Lane Group Flow (vph)	86	554	0	0	231	490	53	106	504	0	83	476
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases		4				8		1	6		5	2
Permitted Phases	4			8	8		8	6			2	
Actuated Green, G (s)	43.7	43.7			43.7	43.7	43.7	26.3	17.4		22.5	15.5
Effective Green, g (s)	43.7	43.7			43.7	43.7	43.7	26.3	17.4		22.5	15.5
Actuated g/C Ratio	0.52	0.52			0.52	0.52	0.52	0.31	0.21		0.27	0.18
Clearance Time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Vehicle Extension (s)	8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0	0.2
Lane Grp Cap (vph)	383	962			324	987	839	289	681		240	644
v/s Ratio Prot		0.30				0.26		c0.04	c0.15		0.03	0.14
v/s Ratio Perm	0.12				c0.37		0.03	0.08			0.06	
v/c Ratio	0.22	0.58			0.71	0.50	0.06	0.37	0.74		0.35	0.74
Uniform Delay, d1	11.0	13.8			15.4	13.1	10.0	21.6	31.2		24.3	32.4
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	2.3			12.6	1.7	0.1	0.8	3.8		0.9	3.8
Delay (s)	12.3	16.2			28.0	14.8	10.2	22.3	35.0		25.1	36.2
Level of Service	B	B			C	B	B	C	D		C	D
Approach Delay (s)		15.6				18.0			33.3			34.6
Approach LOS		B				B			C			C

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

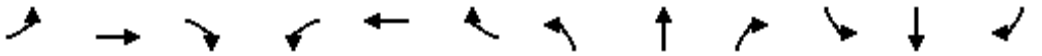


Movement	SBR
Lane Configurations	
Traffic Volume (vph)	36
Future Volume (vph)	36
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.80
Adj. Flow (vph)	45
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	386	8	6	378	69	5	3	3	103	3	105
Future Volume (vph)	103	386	8	6	378	69	5	3	3	103	3	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1805	1874		1203	1900	1599		1525		1752	1580	
Flt Permitted	0.52	1.00		0.44	1.00	1.00		0.82		0.75	1.00	
Satd. Flow (perm)	990	1874		561	1900	1599		1276		1374	1580	
Peak-hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.55	0.55	0.55	0.91	0.91	0.91
Adj. Flow (vph)	124	465	10	6	398	73	9	5	5	113	3	115
RTOR Reduction (vph)	0	1	0	0	0	39	0	4	0	0	89	0
Lane Group Flow (vph)	124	474	0	6	398	34	0	15	0	113	29	0
Heavy Vehicles (%)	0%	0%	50%	50%	0%	1%	0%	33%	33%	3%	66%	1%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	17.3	17.3		17.3	17.3	17.3		8.6		8.6	8.6	
Effective Green, g (s)	17.3	17.3		17.3	17.3	17.3		8.6		8.6	8.6	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46		0.23		0.23	0.23	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	457	866		259	878	739		293		315	363	
v/s Ratio Prot		c0.25			0.21						0.02	
v/s Ratio Perm	0.13			0.01		0.02		0.01		c0.08		
v/c Ratio	0.27	0.55		0.02	0.45	0.05		0.05		0.36	0.08	
Uniform Delay, d1	6.2	7.2		5.5	6.8	5.5		11.2		12.1	11.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		0.0	0.1	0.0		0.2		1.5	0.2	
Delay (s)	6.3	7.6		5.5	7.0	5.5		11.4		13.5	11.5	
Level of Service	A	A		A	A	A		B		B	B	
Approach Delay (s)		7.3			6.7			11.4			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	15.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	3	3	53	47	6
Future Vol, veh/h	8	3	3	53	47	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	75	75	88	88
Heavy Vehicles, %	0	0	0	10	0	0
Mvmt Flow	16	6	4	71	53	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	136	57	60	0	-	0
Stage 1	57	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	862	1015	1556	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	859	1015	1556	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1556	-	897	-	-
HCM Lane V/C Ratio	0.003	-	0.025	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	449	12	2	491	21	18	1	12	7	0	47
Future Vol, veh/h	49	449	12	2	491	21	18	1	12	7	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	55	55	55	75	75	75
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	2
Mvmt Flow	52	473	13	2	558	24	33	2	22	9	0	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	582	0	0	486	0	0	867	1170	243	916	1164	291
Stage 1	-	-	-	-	-	-	584	584	-	574	574	-
Stage 2	-	-	-	-	-	-	283	586	-	342	590	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.32
Pot Cap-1 Maneuver	1002	-	-	1087	-	-	250	195	764	230	196	706
Stage 1	-	-	-	-	-	-	470	501	-	476	506	-
Stage 2	-	-	-	-	-	-	706	500	-	652	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1002	-	-	1087	-	-	219	184	764	213	185	706
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	184	-	213	185	-
Stage 1	-	-	-	-	-	-	446	475	-	451	505	-
Stage 2	-	-	-	-	-	-	642	499	-	598	472	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	19.8	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	1002	-	-	1087	-	-	543
HCM Lane V/C Ratio	0.188	0.051	-	-	0.002	-	-	0.133
HCM Control Delay (s)	19.8	8.8	-	-	8.3	-	-	12.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	0.5

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	32	1	1	153	5	7	0	1	7	2	4
Future Vol, veh/h	6	32	1	1	153	5	7	0	1	7	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	63	63	63	33	33	33	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	41	1	2	243	8	21	0	3	11	3	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	42	0	0	314	313	42	310	309	247
Stage 1	-	-	-	-	-	-	58	58	-	251	251	-
Stage 2	-	-	-	-	-	-	256	255	-	59	58	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1567	-	-	639	602	1029	642	605	792
Stage 1	-	-	-	-	-	-	954	847	-	753	699	-
Stage 2	-	-	-	-	-	-	749	696	-	953	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1567	-	-	628	598	1029	637	601	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	628	598	-	637	601	-
Stage 1	-	-	-	-	-	-	948	842	-	748	698	-
Stage 2	-	-	-	-	-	-	739	695	-	944	842	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	10.7	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	660	1314	-	-	1567	-	-	671
HCM Lane V/C Ratio	0.037	0.006	-	-	0.001	-	-	0.03
HCM Control Delay (s)	10.7	7.8	0	-	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

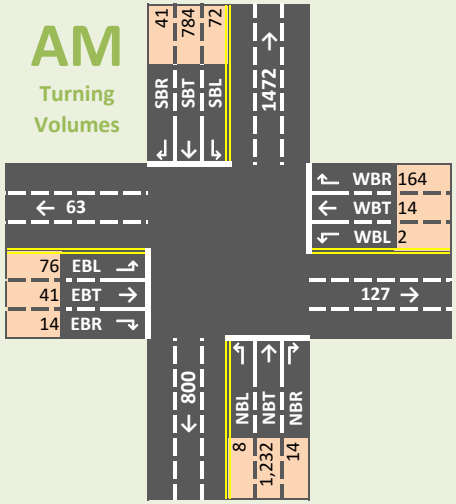
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Critical Lane Volume Analysis

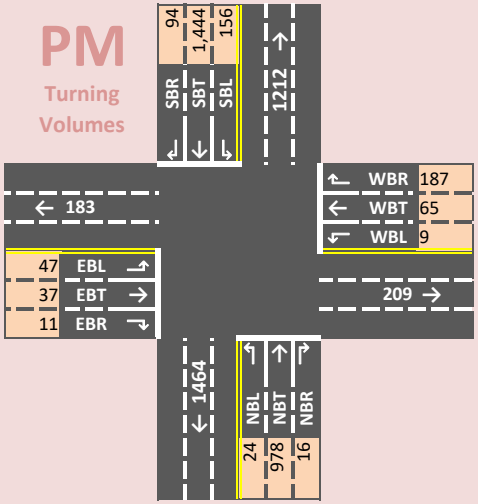
Turning Movement Summary and Level of Service

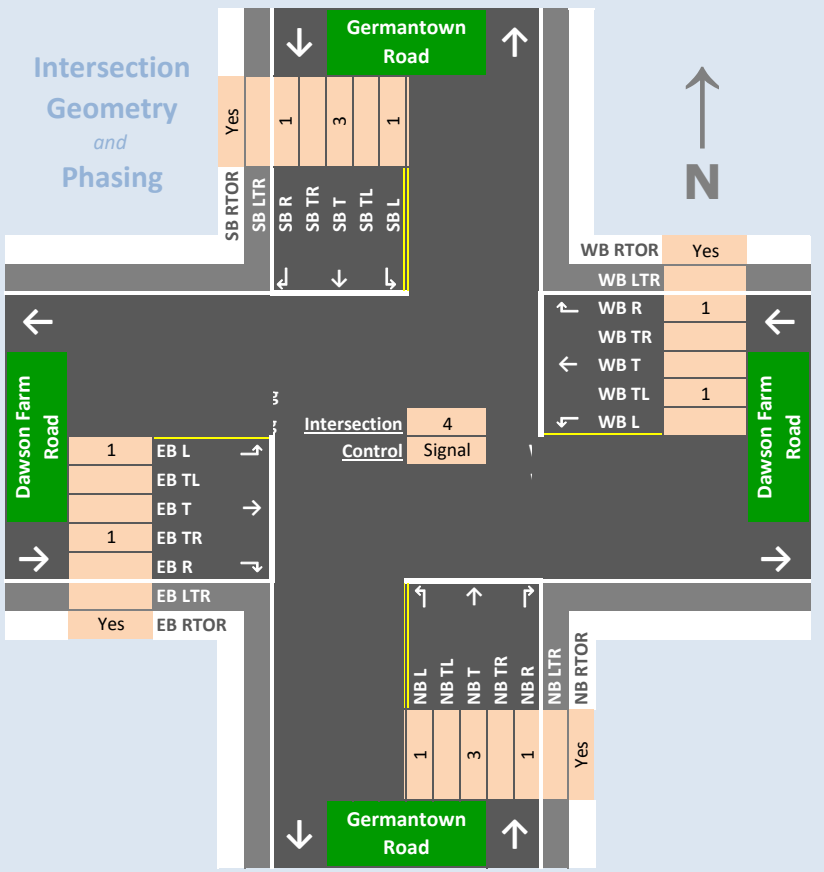
Project: LIDL Germantown
Project Number: 2856-004
Condition: Background Conditions
Location: Montgomery County, MD
Count Date: 6/10/2021

AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm





	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)		MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	R	0	1.00	0	8	**8**			SB	R	47	1.00	47	24	**71**	
		T	784	0.37	290	8	**298**				T	1444	0.37	534	24	**558**	√
		L	72	1.00	72		**72**				L	156	1.00	156		**156**	
	WB	R	92	1.00	92	76	**168**	√		WB	R	31	1.00	31	47	**78**	
		TL	16	1.00	16	76	**92**				TL	74	1.00	74	47	**121**	√
	NB	R	12	1.00	12	72	**84**			NB	R	7	1.00	7	156	**163**	
		T	1232	0.37	456	72	**528**	√			T	978	0.37	362	156	**518**	
		L	8	1.00	8		**8**				L	24	1.00	24		**24**	
	EB	TR	55	1.00	55	2	**57**			EB	TR	48	1.00	48	9	**57**	
		L	76	1.00	76		**76**				L	47	1.00	47		**47**	
					TOTAL AM CRITICAL VOLUME:		**696**	**LOS A**						**TOTAL PM CRITICAL VOLUME:**		**679**	**LOS A**

P:\2856-004 LIDL Germantown (7301-3050)\Analysis\LOS & Queue Summary 3.25.22.xlsm

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

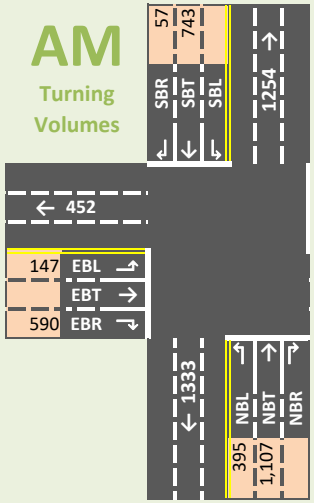
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Critical Lane Volume Analysis

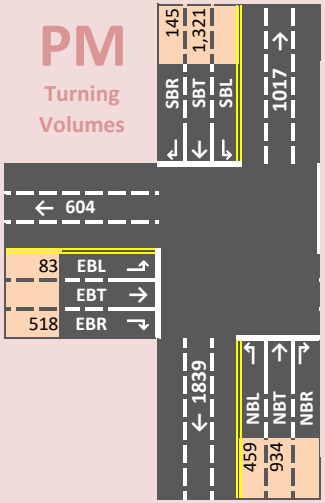
Turning Movement Summary and Level of Service

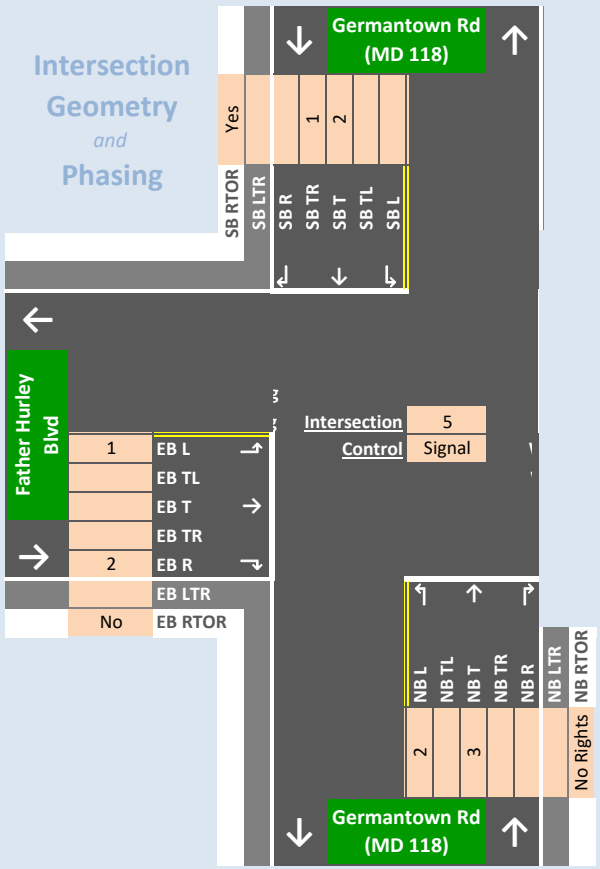
Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Background Conditions
Count Date: 9/5/2019

AM Peak Hour: 7:15am-8:15am



PM Peak Hour: 5:00pm-6:00pm





	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)		MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	800	0.37	296	209	**505**	√		SB	TR	1466	0.37	542	243	**785**	√
	NB	T	1107	0.37	410		**410**			NB	T	934	0.37	346		**346**	
		L	395	0.53	209		**209**				L	459	0.53	243		**243**	
	EB	R	590	0.53	313		**313**	√		EB	R	518	0.53	275		**275**	√
		L	147	1.00	147		**147**				L	83	1.00	83		**83**	
							TOTAL AM CRITICAL VOLUME:									**TOTAL PM CRITICAL VOLUME:**	
							818	**LOS A**								**1060**	**LOS B**

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

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Critical Lane Volume Analysis

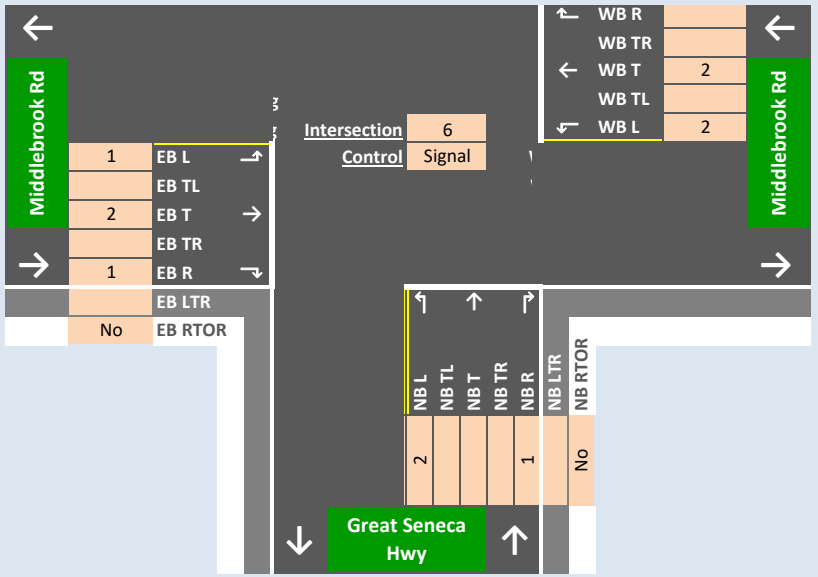
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Project Number: 2856-004
Condition: Background Conditions
Location: Montgomery County, MD
Count Date: 1/8/2019

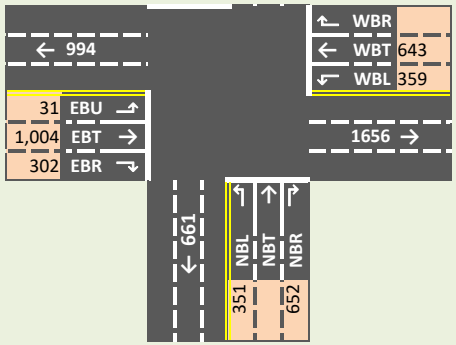
AM Peak Hour: 7:30am-8:30am

PM Peak Hour: 4:45pm-5:45pm

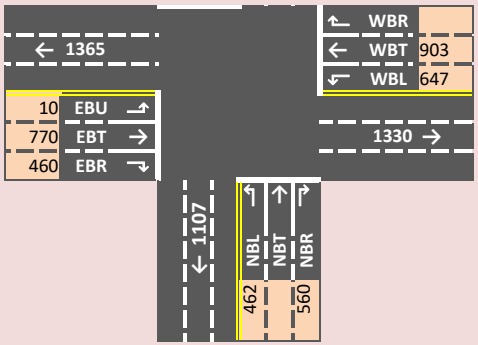
Intersection Geometry and Phasing



AM Turning Volumes



PM Turning Volumes



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)		MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	WB	T	643	0.53	341	31	**372**			WB	T	903	0.53	479	10	**489**	
		L	359	0.53	190		**190**				L	647	0.53	343		**343**	
	NB	R	652	1.00	652		**652**	√		NB	R	560	1.00	560		**560**	√
		L	351	0.53	186		**186**				L	462	0.53	245		**245**	
	EB	R	302	1.00	302	190	**492**			EB	R	460	1.00	460	343	**803**	√
		T	1004	0.53	532	190	**722**	√			T	770	0.53	408	343	**751**	
		L	31	1.00	31		**31**				L	10	1.00	10		**10**	
					TOTAL AM CRITICAL VOLUME:		**1374**	**LOS D**						**TOTAL PM CRITICAL VOLUME:**		**1363**	**LOS D**

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

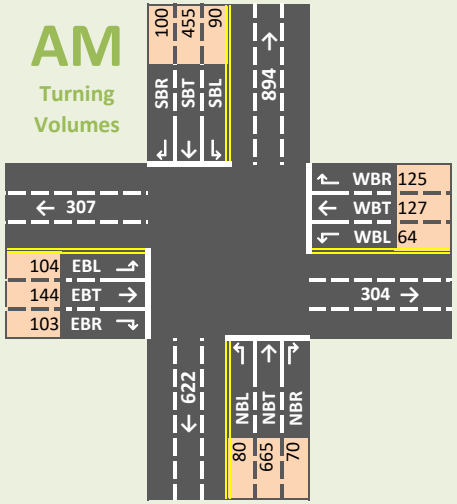
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Transportation Planners and Engineers

Critical Lane Volume Analysis

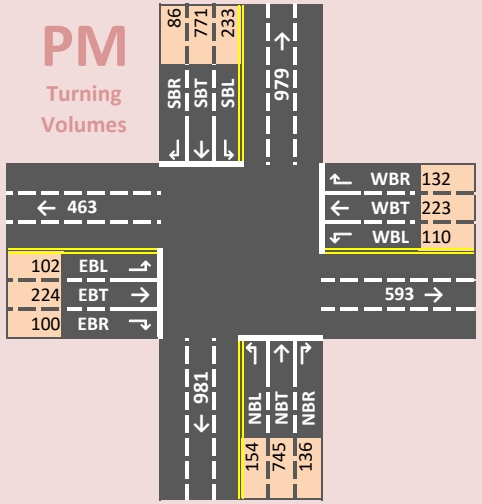
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Project Number: 2856-004
Condition: Background Conditions
Location: Montgomery County, MD
Design Year: 6/10/2021

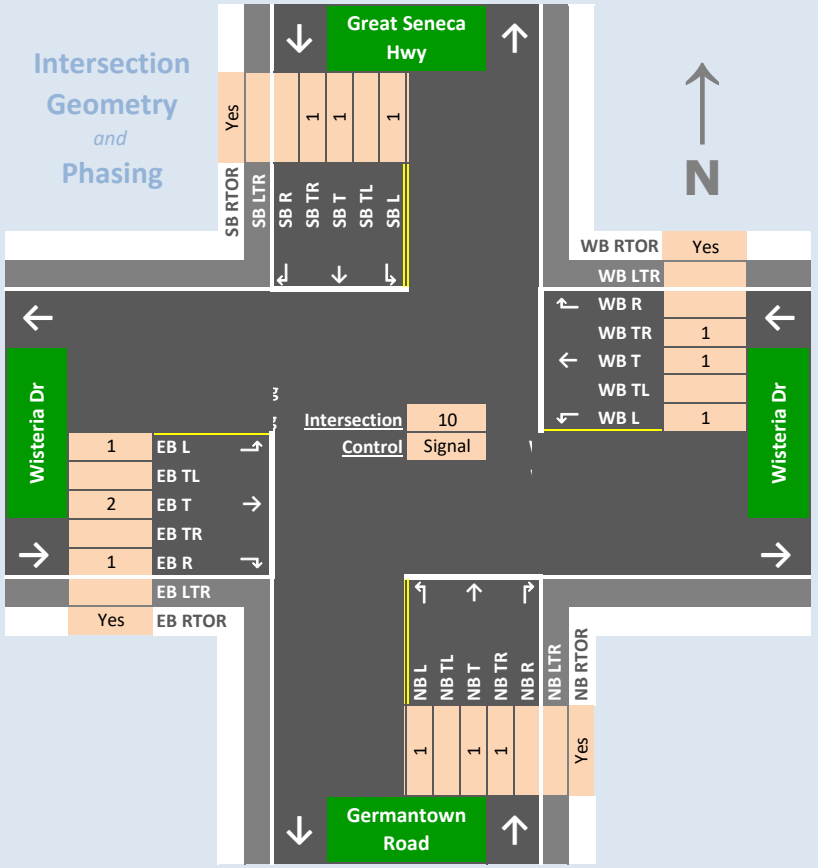
AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm



Intersection Geometry and Phasing



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	555	0.53	294	80	**374**	
		L	90	1.00	90		**90**	
	WB	TR	252	0.53	134	104	**238**	√
		L	64	1.00	64		**64**	
	NB	TR	735	0.53	390	90	**480**	√
		L	80	1.00	80		**80**	
	EB	R	23	1.00	23	64	**87**	
		T	144	0.53	76	64	**140**	
		L	104	1.00	104		**104**	
						TOTAL AM CRITICAL VOLUME:	**718**	LOS A

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	857	0.53	454	154	**608**	
		L	233	1.00	233		**233**	
	WB	TR	355	0.53	188	102	**290**	√
		L	110	1.00	110		**110**	
	NB	TR	881	0.53	467	233	**700**	√
		L	154	1.00	154		**154**	
	EB	R	0	1.00	0	110	**110**	
		T	224	0.53	119	110	**229**	
		L	102	1.00	102		**102**	
						TOTAL PM CRITICAL VOLUME:	**990**	LOS A

P:\2856-004 LIDL Germantown (7301-3050)\Analysis\LOS & Queue Summary 3.25.22.xlsm

Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/28/2022

Queuing and Blocking Report
Background - AM Peak Hour

03/27/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	92	170	378	362	124	129	144	146	172	99	109	206
Average Queue (ft)	20	68	255	244	53	74	71	83	76	33	55	127
95th Queue (ft)	60	131	347	335	100	118	127	136	144	76	93	189
Link Distance (ft)			1454	1454			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)			3				0					0
Queuing Penalty (veh)			2				0					0

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	245	253	126	156	181	285	257	241
Average Queue (ft)	156	170	58	69	108	177	158	131
95th Queue (ft)	225	242	114	151	172	255	240	217
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report
Background - AM Peak Hour

03/27/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	UL	L	T	T	T
Maximum Queue (ft)	146	189	282	236	114	207	229	104	114	248	269	321
Average Queue (ft)	63	97	154	119	71	121	139	40	55	148	174	207
95th Queue (ft)	121	170	241	223	127	193	219	83	96	227	249	297
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						2	5					
Queuing Penalty (veh)						4	11					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)		0	1		9	23				1		6
Queuing Penalty (veh)		0	2		9	14				1		6

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	244	201	195	188	152
Average Queue (ft)	48	108	64	63	84
95th Queue (ft)	168	187	150	130	144
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	3			
Queuing Penalty (veh)	0	8			

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	L	T	T	TR
Maximum Queue (ft)	142	90	149	40	146	157	181	140	66	92	101	106
Average Queue (ft)	61	34	69	9	36	41	51	11	30	28	34	32
95th Queue (ft)	118	66	130	28	105	121	144	67	60	71	80	84
Link Distance (ft)	658		182		1900	1900	1900			723	723	723
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)							1	0				
Queuing Penalty (veh)							1	0				

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	L	T	T	T	R	UL	T	T
Maximum Queue (ft)	139	99	78	150	51	200	215	229	30	177	84	50
Average Queue (ft)	67	40	16	62	9	88	102	109	4	77	13	9
95th Queue (ft)	126	85	52	109	33	170	186	197	20	147	51	36
Link Distance (ft)	699	699	766	766		1808	1808	1808			1900	1900
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	80	28
Average Queue (ft)	21	2
95th Queue (ft)	61	13
Link Distance (ft)	1900	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	237	333	302	296	308	207	192	182	224	243	261
Average Queue (ft)	110	197	144	158	189	107	105	79	110	123	148
95th Queue (ft)	198	288	259	249	269	179	176	154	200	219	242
Link Distance (ft)		977				1356	1356	1356	1808	1808	1808
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	U	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	204	537	558	275	239	240	239	225	428	525	592
Average Queue (ft)	50	264	272	122	123	149	128	123	178	279	356
95th Queue (ft)	154	460	481	301	197	217	201	198	356	476	556
Link Distance (ft)		2143	2143			3766	3766	3766		639	639
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	2
Storage Bay Dist (ft)	180			250	275				560		
Storage Blk Time (%)	0	21	12	0	0					0	
Queuing Penalty (veh)	0	7	37	1	0					0	

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	L	LT	R	LTR
Maximum Queue (ft)	30	9	60	29	48	59
Average Queue (ft)	4	0	12	4	19	17
95th Queue (ft)	21	5	40	21	44	48
Link Distance (ft)		148		211		481
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	145		180		220	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	53	249	222	283	54	74	307	290	131	125	104
Average Queue (ft)	18	98	112	95	18	24	157	141	48	60	38
95th Queue (ft)	46	193	201	206	47	59	250	244	96	113	84
Link Distance (ft)		1034		2266	2266		889	889		1207	1207
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		225			300			220		
Storage Blk Time (%)		1	1	0			0				
Queuing Penalty (veh)		0	4	0			0				

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	163	317	44	204	62	56	96	105
Average Queue (ft)	56	83	4	68	20	6	37	33
95th Queue (ft)	114	184	25	149	46	29	77	69
Link Distance (ft)		722		1581	1581	521		618
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)	0	2		3			0	0
Queuing Penalty (veh)	0	2		0			0	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	TR	UL	T
Maximum Queue (ft)	160	67	79	28	112	154	158	136	223	220	122	230
Average Queue (ft)	69	20	21	2	41	51	55	52	128	117	42	68
95th Queue (ft)	138	53	61	14	94	110	132	109	205	200	95	165
Link Distance (ft)		1581	1581			1434	1434		1980	1980		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	535			325	150			325			300	
Storage Blk Time (%)					0	0						0
Queuing Penalty (veh)					0	0						0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	242
Average Queue (ft)	96
95th Queue (ft)	188
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Walter Johnson Rd & Site

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	6	6
Average Queue (ft)	0	0
95th Queue (ft)	4	0
Link Distance (ft)	96	250
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	WB	WB	NB	SB
Directions Served	L	T	TR	LTR	LTR
Maximum Queue (ft)	28	22	43	18	29
Average Queue (ft)	3	1	3	1	4
95th Queue (ft)	16	10	23	10	21
Link Distance (ft)		148	148	205	153
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	70				
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	11	29
Average Queue (ft)	0	1	9
95th Queue (ft)	4	7	32
Link Distance (ft)	182	191	433
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 113

Queuing and Blocking Report
Background - PM Peak Hour

03/28/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	138	171	247	270	191	250	396	400	245	147	170	213
Average Queue (ft)	43	92	152	165	89	137	231	240	117	78	94	92
95th Queue (ft)	107	150	229	253	154	239	348	345	212	136	150	169
Link Distance (ft)			1426	1426			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)					0	1	20				0	1
Queuing Penalty (veh)					1	4	45				0	1

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	216	238	112	202	288	431	422	403
Average Queue (ft)	114	129	47	108	155	284	278	257
95th Queue (ft)	186	207	93	186	243	384	379	366
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)					0	1		
Queuing Penalty (veh)					0	4		

Queuing and Blocking Report
Background - PM Peak Hour

03/28/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	L	L	T	T	T
Maximum Queue (ft)	119	139	240	239	114	236	236	179	235	321	335	363
Average Queue (ft)	58	87	128	149	85	171	187	93	112	151	166	190
95th Queue (ft)	110	132	206	228	140	248	257	163	187	260	275	303
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						13	18					
Queuing Penalty (veh)						39	53					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)			0		19	34		0	0	2		4
Queuing Penalty (veh)			0		34	25		0	1	4		5

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	245	215	415	445	476
Average Queue (ft)	67	130	221	251	285
95th Queue (ft)	215	226	375	402	438
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	5	18		
Queuing Penalty (veh)	0	22	28		

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	UL	T	T	TR
Maximum Queue (ft)	111	70	199	137	294	310	344	168	56	119	125	142
Average Queue (ft)	32	20	129	31	105	99	112	24	15	36	45	65
95th Queue (ft)	77	51	208	84	231	235	254	108	41	88	97	119
Link Distance (ft)	875		185		1901	1901	1901			723	723	723
Upstream Blk Time (%)			4									
Queuing Penalty (veh)			10									
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)					1		5	0				
Queuing Penalty (veh)					1		3	0				

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	UL	T	T	T	R	L	T	T
Maximum Queue (ft)	100	95	143	114	74	178	182	196	30	261	234	166
Average Queue (ft)	42	36	61	56	24	97	103	100	4	146	59	43
95th Queue (ft)	87	79	115	94	59	166	168	171	20	245	170	127
Link Distance (ft)	1031	1031	766	766		1809	1809	1809			1901	1901
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)										2		
Queuing Penalty (veh)										9		

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	130	16
Average Queue (ft)	37	4
95th Queue (ft)	98	14
Link Distance (ft)	1901	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	UL	L	T	T	T	UT	T	TR
Maximum Queue (ft)	148	317	268	302	318	183	174	144	286	305	326
Average Queue (ft)	63	179	134	171	205	87	83	50	149	156	181
95th Queue (ft)	124	265	243	269	296	159	148	113	258	263	295
Link Distance (ft)		977				1356	1356	1356	1809	1809	1809
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	U	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	173	396	441	275	300	438	276	240	339	395	437
Average Queue (ft)	20	215	227	178	214	245	132	141	181	236	286
95th Queue (ft)	84	339	380	313	305	376	223	220	292	366	433
Link Distance (ft)		2143	2143			2557	2557	2557		639	639
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			250	275				560		
Storage Blk Time (%)		15	5	1	1	4					
Queuing Penalty (veh)		2	22	5	4	13					

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	L	T	TR	LT	R	LTR
Maximum Queue (ft)	45	14	51	18	22	55	47	90
Average Queue (ft)	11	1	12	1	1	15	21	37
95th Queue (ft)	34	9	38	11	10	42	43	69
Link Distance (ft)		148		724		211		481
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	145		180		200		220	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	133	267	230	342	53	114	279	328	86	194	179
Average Queue (ft)	41	121	113	127	20	50	117	157	34	112	87
95th Queue (ft)	92	225	210	245	48	90	209	280	67	173	158
Link Distance (ft)		1013		2266	2266		889	889		1096	1096
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		220			300			220		
Storage Blk Time (%)		2	2	1						0	
Queuing Penalty (veh)		2	11	1						0	

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	174	268	62	250	38	58	92	98
Average Queue (ft)	55	96	5	84	11	9	36	30
95th Queue (ft)	122	192	30	193	28	36	69	67
Link Distance (ft)		724		1578	1578	443		606
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)		2	0	4			0	0
Queuing Penalty (veh)		2	0	0			0	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	UL	T	TR	UL	T
Maximum Queue (ft)	144	94	101	45	167	161	170	213	293	288	329	339
Average Queue (ft)	52	32	35	6	65	73	73	107	178	173	166	170
95th Queue (ft)	112	71	78	28	128	133	144	189	267	266	294	319
Link Distance (ft)		1578	1578			1509	1509		1687	1687		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			300	150			325			300	
Storage Blk Time (%)	0				0	0			0		2	1
Queuing Penalty (veh)	0				0	1			0		8	3

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	330
Average Queue (ft)	188
95th Queue (ft)	321
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Walter Johnson Rd & Site

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	10
95th Queue (ft)	33
Link Distance (ft)	96
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	62	3	3	11	119	114	66	77
Average Queue (ft)	19	0	0	1	14	25	21	29
95th Queue (ft)	49	2	2	7	69	91	54	61
Link Distance (ft)		178	178		148	148	205	167
Upstream Blk Time (%)					0	0		
Queuing Penalty (veh)					0	0		
Storage Bay Dist (ft)	70			30				
Storage Blk Time (%)	0			0	3			
Queuing Penalty (veh)	1			0	0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	108	39	30
Average Queue (ft)	1	8	8	12
95th Queue (ft)	12	49	30	35
Link Distance (ft)	185	197	138	433
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

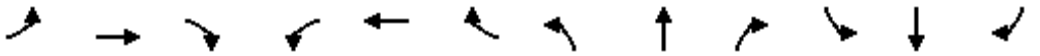
Network Summary

Network wide Queuing Penalty: 363

M. Total Future Vehicular Capacity (HCM and CLV) Analysis and Queuing Worksheets

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	575	73	158	212	153	78	1235	211	218	887	95
Future Volume (vph)	85	575	73	158	212	153	78	1235	211	218	887	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3480		3433	3539	1583	3433	5085	1583	3433	5012	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3480		3433	3539	1583	3433	5085	1583	3433	5012	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.86	0.86	0.98	0.98	0.98	0.93	0.93	0.93
Adj. Flow (vph)	92	625	79	184	247	178	80	1260	215	234	954	102
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	92	698	0	184	247	178	80	1260	215	234	1049	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	11.3	34.4		14.1	37.2	54.9	10.8	58.8	72.9	17.7	65.7	
Effective Green, g (s)	11.3	34.4		14.1	37.2	54.9	10.8	58.8	72.9	17.7	65.7	
Actuated g/C Ratio	0.08	0.23		0.09	0.25	0.37	0.07	0.39	0.49	0.12	0.44	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	258	798		322	877	579	247	1993	769	405	2195	
v/s Ratio Prot	0.03	c0.20		c0.05	0.07	c0.04	0.02	c0.25	0.03	c0.07	c0.21	
v/s Ratio Perm						0.08			0.11			
v/c Ratio	0.36	0.87		0.57	0.28	0.31	0.32	0.63	0.28	0.58	0.48	
Uniform Delay, d1	65.9	55.7		65.1	45.6	34.0	66.1	36.9	22.9	62.6	30.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.16	0.56	0.59	1.00	1.00	
Incremental Delay, d2	1.8	11.3		3.9	0.4	0.6	1.4	1.4	0.4	3.2	0.7	
Delay (s)	67.7	67.0		68.9	46.0	34.6	78.1	22.0	14.0	65.8	30.7	
Level of Service	E	E		E	D	C	E	C	B	E	C	
Approach Delay (s)		67.1			49.6			23.8			37.1	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	185	252	106	62	198	144	1	113	1194	97	1	124
Future Volume (vph)	185	252	106	62	198	144	1	113	1194	97	1	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.97	0.91	1.00		1.00
Frt	1.00	0.96		1.00	0.94			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	3467	3236		1736	3242			3502	5085	1495		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	3467	3236		1736	3242			3502	5085	1495		1736
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	208	283	119	66	211	153	1	116	1231	100	1	135
RTOR Reduction (vph)	0	32	0	0	94	0	0	0	0	49	0	0
Lane Group Flow (vph)	208	370	0	66	270	0	0	117	1231	51	0	136
Heavy Vehicles (%)	1%	6%	8%	4%	6%	2%	0%	0%	2%	8%	0%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		1	1	6		5	5
Permitted Phases										6		
Actuated Green, G (s)	16.2	27.6		11.2	22.6			12.3	72.8	72.8		16.4
Effective Green, g (s)	16.2	27.6		11.2	22.6			12.3	72.8	72.8		16.4
Actuated g/C Ratio	0.11	0.18		0.07	0.15			0.08	0.49	0.49		0.11
Clearance Time (s)	5.0	6.5		5.0	6.5			4.5	6.0	6.0		4.5
Vehicle Extension (s)	5.0	5.0		5.0	5.0			5.0	0.2	0.2		5.0
Lane Grp Cap (vph)	374	595		129	488			287	2467	725		189
v/s Ratio Prot	c0.06	c0.11		0.04	0.08			0.03	c0.24			c0.08
v/s Ratio Perm										0.03		
v/c Ratio	0.56	0.62		0.51	0.55			0.41	0.50	0.07		0.72
Uniform Delay, d1	63.5	56.4		66.8	59.0			65.4	26.2	20.6		64.6
Progression Factor	1.00	1.00		1.00	1.00			0.92	0.68	1.21		1.33
Incremental Delay, d2	3.0	2.9		6.7	2.3			1.9	0.7	0.2		13.3
Delay (s)	66.5	59.3		73.4	61.3			61.7	18.5	25.0		98.9
Level of Service	E	E		E	E			E	B	C		F
Approach Delay (s)		61.7			63.2				22.5			
Approach LOS		E			E				C			

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

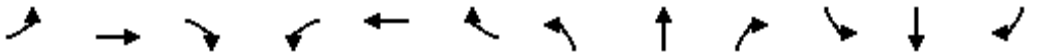
03/27/2022

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	795	198
Future Volume (vph)	795	198
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.91	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	4848	
Flt Permitted	1.00	
Satd. Flow (perm)	4848	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	864	215
RTOR Reduction (vph)	22	0
Lane Group Flow (vph)	1057	0
Heavy Vehicles (%)	4%	3%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	76.9	
Effective Green, g (s)	76.9	
Actuated g/C Ratio	0.51	
Clearance Time (s)	6.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	2485	
v/s Ratio Prot	c0.22	
v/s Ratio Perm		
v/c Ratio	0.43	
Uniform Delay, d1	22.8	
Progression Factor	0.59	
Incremental Delay, d2	0.5	
Delay (s)	13.8	
Level of Service	B	
Approach Delay (s)	23.3	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	38	73	33	9	71	24	1308	152	67	887	10
Future Volume (vph)	26	38	73	33	9	71	24	1308	152	67	887	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00	1.00	0.91	
Frt		1.00	0.85		0.92		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1825	1583		1680		1770	5085	1583	1770	5076	
Flt Permitted		0.66	1.00		0.88		0.29	1.00	1.00	0.17	1.00	
Satd. Flow (perm)		1227	1583		1496		541	5085	1583	311	5076	
Peak-hour factor, PHF	0.90	0.90	0.90	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	29	42	81	35	10	76	25	1377	160	71	934	11
RTOR Reduction (vph)	0	0	74	0	47	0	0	0	25	0	0	0
Lane Group Flow (vph)	0	71	7	0	74	0	25	1377	135	71	945	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6		6	2		
Actuated Green, G (s)		12.9	12.9		12.9		117.7	114.1	114.1	123.5	117.0	
Effective Green, g (s)		12.9	12.9		12.9		117.7	114.1	114.1	123.5	117.0	
Actuated g/C Ratio		0.09	0.09		0.09		0.78	0.76	0.76	0.82	0.78	
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5	4.5	5.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2	3.0	0.2	
Lane Grp Cap (vph)		105	136		128		454	3867	1204	319	3959	
v/s Ratio Prot							0.00	c0.27		c0.01	0.19	
v/s Ratio Perm		c0.06	0.00		0.05		0.04		0.09	0.17		
v/c Ratio		0.68	0.05		0.58		0.06	0.36	0.11	0.22	0.24	
Uniform Delay, d1		66.5	62.9		66.0		3.5	5.9	4.7	3.0	4.5	
Progression Factor		1.00	1.00		1.00		0.34	0.39	0.13	0.79	0.54	
Incremental Delay, d2		15.9	0.2		6.6		0.0	0.2	0.2	0.3	0.1	
Delay (s)		82.4	63.1		72.5		1.2	2.6	0.8	2.7	2.5	
Level of Service		F	E		E		A	A	A	A	A	
Approach Delay (s)		72.1			72.5			2.4			2.5	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	423	14	51	374	16	19	0	48	7	0	11
Future Vol, veh/h	14	423	14	51	374	16	19	0	48	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	64	64	64	90	90	90	75	75	75
Heavy Vehicles, %	0	3	7	8	2	6	16	0	0	14	0	18
Mvmt Flow	18	535	18	80	584	25	21	0	53	9	0	15

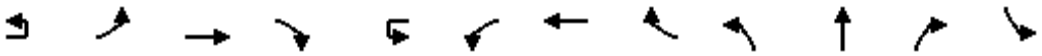
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	609	0	0	553	0	0	1023	1340	535	1364	1346	305
Stage 1	-	-	-	-	-	-	571	571	-	757	757	-
Stage 2	-	-	-	-	-	-	452	769	-	607	589	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.54	6.5	6.2	7.51	6.5	7.17
Critical Hdwy Stg 1	-	-	-	-	-	-	6.34	5.5	-	6.71	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.5	-	6.31	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.652	4	3.3	3.633	4	3.471
Pot Cap-1 Maneuver	979	-	-	980	-	-	186	154	549	106	153	652
Stage 1	-	-	-	-	-	-	475	508	-	346	419	-
Stage 2	-	-	-	-	-	-	527	413	-	457	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	979	-	-	980	-	-	168	139	549	89	138	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	139	-	89	138	-
Stage 1	-	-	-	-	-	-	466	499	-	340	385	-
Stage 2	-	-	-	-	-	-	473	379	-	405	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	17.2	26.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	549	979	-	-	980	-	-	188
HCM Lane V/C Ratio	0.126	0.097	0.018	-	-	0.081	-	-	0.128
HCM Control Delay (s)	29.5	12.3	8.7	-	-	9	-	-	26.9
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0.3	0.1	-	-	0.3	-	-	0.4

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	34	299	51	21	227	302	55	31	375	149	104
Future Volume (vph)	1	34	299	51	21	227	302	55	31	375	149	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Lane Util. Factor		1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00
Frt		1.00	0.98			1.00	1.00	0.85	1.00	0.96		1.00
Flt Protected		0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1805	1802			1805	1810	1583	1703	3251		1703
Flt Permitted		0.49	1.00			0.45	1.00	1.00	0.55	1.00		0.16
Satd. Flow (perm)		923	1802			854	1810	1583	991	3251		285
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.83	0.83	0.83	0.84
Adj. Flow (vph)	1	38	332	57	24	264	351	64	37	452	180	124
RTOR Reduction (vph)	0	0	3	0	0	0	0	34	0	35	0	0
Lane Group Flow (vph)	0	39	386	0	0	288	351	30	37	597	0	124
Heavy Vehicles (%)	0%	0%	3%	4%	0%	0%	5%	2%	6%	6%	7%	6%
Turn Type	Perm	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt
Protected Phases			4				8		1	6		5
Permitted Phases	4	4			8	8		8	6			2
Actuated Green, G (s)		43.7	43.7			43.7	43.7	43.7	24.9	20.7		36.6
Effective Green, g (s)		43.7	43.7			43.7	43.7	43.7	24.9	20.7		36.6
Actuated g/C Ratio		0.48	0.48			0.48	0.48	0.48	0.27	0.23		0.40
Clearance Time (s)		6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5
Vehicle Extension (s)		8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0
Lane Grp Cap (vph)		439	857			406	861	753	301	733		289
v/s Ratio Prot			0.21				0.19		0.01	c0.18		c0.05
v/s Ratio Perm		0.04				c0.34		0.02	0.03			0.12
v/c Ratio		0.09	0.45			0.71	0.41	0.04	0.12	0.81		0.43
Uniform Delay, d1		13.2	16.0			19.0	15.6	12.8	24.9	33.7		19.5
Progression Factor		1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		0.4	1.6			10.0	1.3	0.1	0.2	6.6		1.0
Delay (s)		13.5	17.6			29.1	17.0	12.9	25.1	40.3		20.5
Level of Service		B	B			C	B	B	C	D		C
Approach Delay (s)			17.3				21.6			39.5		
Approach LOS			B				C			D		

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

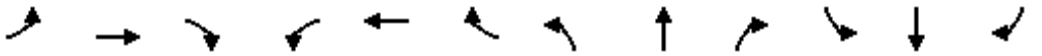
03/27/2022

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	222	55
Future Volume (vph)	222	55
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.0	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3280	
Flt Permitted	1.00	
Satd. Flow (perm)	3280	
Peak-hour factor, PHF	0.84	0.84
Adj. Flow (vph)	264	65
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	309	0
Heavy Vehicles (%)	6%	10%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	27.9	
Effective Green, g (s)	27.9	
Actuated g/C Ratio	0.30	
Clearance Time (s)	5.0	
Vehicle Extension (s)	0.2	
Lane Grp Cap (vph)	996	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.31	
Uniform Delay, d1	24.6	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	24.6	
Level of Service	C	
Approach Delay (s)	23.5	
Approach LOS	C	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	339	18	9	350	122	4	2	2	82	5	116
Future Volume (vph)	116	339	18	9	350	122	4	2	2	82	5	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1703	1850		1805	1863	1553		1592		1687	1569	
Flt Permitted	0.36	1.00		0.41	1.00	1.00		0.83		0.74	1.00	
Satd. Flow (perm)	651	1850		780	1863	1553		1353		1322	1569	
Peak-hour factor, PHF	0.75	0.75	0.75	0.67	0.67	0.67	0.40	0.40	0.40	0.73	0.73	0.73
Adj. Flow (vph)	155	452	24	13	522	182	10	5	5	112	7	159
RTOR Reduction (vph)	0	2	0	0	0	104	0	4	0	0	113	0
Lane Group Flow (vph)	155	474	0	13	522	78	0	16	0	112	53	0
Heavy Vehicles (%)	6%	2%	0%	0%	2%	4%	25%	0%	0%	7%	20%	3%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	17.6	17.6		17.6	17.6	17.6		11.8		11.8	11.8	
Effective Green, g (s)	17.6	17.6		17.6	17.6	17.6		11.8		11.8	11.8	
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.43		0.29		0.29	0.29	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	280	796		335	801	668		390		381	452	
v/s Ratio Prot		0.26			c0.28						0.03	
v/s Ratio Perm	0.24			0.02		0.05		0.01		c0.08		
v/c Ratio	0.55	0.60		0.04	0.65	0.12		0.04		0.29	0.12	
Uniform Delay, d1	8.7	8.9		6.7	9.2	7.0		10.5		11.3	10.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.8		0.0	1.5	0.0		0.1		0.9	0.2	
Delay (s)	10.1	9.7		6.8	10.7	7.0		10.6		12.2	11.0	
Level of Service	B	A		A	B	A		B		B	B	
Approach Delay (s)		9.8			9.7			10.6			11.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	15.5
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
11: Walter Johnson Rd & Site

03/27/2022

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	0	3	35	37	28
Future Vol, veh/h	32	0	3	35	37	28
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	25	25	73	73	73	73
Heavy Vehicles, %	0	0	0	11	10	0
Mvmt Flow	128	0	4	48	51	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	126	70	89	0	-	0
Stage 1	70	-	-	-	-	-
Stage 2	56	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	874	998	1519	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	871	998	1519	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1519	-	871	-	-
HCM Lane V/C Ratio	0.003	-	0.147	-	-
HCM Control Delay (s)	7.4	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM 2010 TWSC
12: Site Driveway & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	443	21	1	399	4	0	0	6	2	0	5
Future Vol, veh/h	9	443	21	1	399	4	0	0	6	2	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	3	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	10	482	23	1	434	4	0	0	7	2	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	438	0	0	505	0	0	733	954	253	699	963	219
Stage 1	-	-	-	-	-	-	514	514	-	438	438	-
Stage 2	-	-	-	-	-	-	219	440	-	261	525	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1133	-	-	1070	-	-	312	261	753	330	258	791
Stage 1	-	-	-	-	-	-	517	539	-	573	582	-
Stage 2	-	-	-	-	-	-	769	581	-	727	533	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1133	-	-	1070	-	-	308	258	753	325	255	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	258	-	325	255	-
Stage 1	-	-	-	-	-	-	512	534	-	568	581	-
Stage 2	-	-	-	-	-	-	763	580	-	714	528	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	9.8	11.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1133	-	-	1070	-	-	561
HCM Lane V/C Ratio	0.009	0.009	-	-	0.001	-	-	0.014
HCM Control Delay (s)	9.8	8.2	-	-	8.4	-	-	11.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	11	187	2	0	38	12	1	0	0	6	0	10
Future Vol, veh/h	11	187	2	0	38	12	1	0	0	6	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	203	2	0	41	13	1	0	0	7	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	205	0	0	281	282	204	276	277	48
Stage 1	-	-	-	-	-	-	228	228	-	48	48	-
Stage 2	-	-	-	-	-	-	53	54	-	228	229	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1366	-	-	671	627	837	676	631	1021
Stage 1	-	-	-	-	-	-	775	715	-	965	855	-
Stage 2	-	-	-	-	-	-	960	850	-	775	715	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1551	-	-	1366	-	-	660	621	837	671	625	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	621	-	671	625	-
Stage 1	-	-	-	-	-	-	768	709	-	956	855	-
Stage 2	-	-	-	-	-	-	950	850	-	768	709	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10.5	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	660	1551	-	-	1366	-	-	854
HCM Lane V/C Ratio	0.002	0.008	-	-	-	-	-	0.02
HCM Control Delay (s)	10.5	7.3	0	-	0	-	-	9.3
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM Signalized Intersection Capacity Analysis
1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	323	120	229	614	207	164	1063	180	298	1322	164
Future Volume (vph)	152	323	120	229	614	207	164	1063	180	298	1322	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3395		3433	3539	1583	3433	5085	1583	3433	5001	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3395		3433	3539	1583	3433	5085	1583	3433	5001	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	163	347	129	252	675	227	184	1194	202	320	1422	176
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	163	451	0	252	675	227	184	1194	202	320	1590	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	14.3	33.8		16.9	36.4	58.5	15.3	52.2	69.1	22.1	59.0	
Effective Green, g (s)	14.3	33.8		16.9	36.4	58.5	15.3	52.2	69.1	22.1	59.0	
Actuated g/C Ratio	0.10	0.23		0.11	0.24	0.39	0.10	0.35	0.46	0.15	0.39	
Clearance Time (s)	6.0	6.5		6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0	
Lane Grp Cap (vph)	327	765		386	858	617	350	1769	729	505	1967	
v/s Ratio Prot	0.05	0.13		c0.07	c0.19	0.05	0.05	0.23	0.03	c0.09	c0.32	
v/s Ratio Perm						0.09			0.10			
v/c Ratio	0.50	0.59		0.65	0.79	0.37	0.53	0.67	0.28	0.63	0.81	
Uniform Delay, d1	64.4	51.9		63.7	53.2	32.6	63.9	41.7	25.0	60.1	40.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.28	0.58	0.46	1.00	1.00	
Incremental Delay, d2	2.5	1.8		5.3	5.6	0.8	2.0	1.6	0.3	3.6	3.7	
Delay (s)	66.9	53.7		69.0	58.7	33.4	84.0	25.6	11.9	63.7	44.2	
Level of Service	E	D		E	E	C	F	C	B	E	D	
Approach Delay (s)		57.1			56.0			30.7			47.4	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	168	258	137	72	366	161	238	1074	124	4	178	1215
Future Volume (vph)	168	258	137	72	366	161	238	1074	124	4	178	1215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Lane Util. Factor	0.97	0.95		1.00	0.95		0.97	0.91	1.00		1.00	0.91
Frt	1.00	0.95		1.00	0.95		1.00	1.00	0.85		1.00	0.97
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3400	3378		1805	3445		3467	5085	1599		1805	4994
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3400	3378		1805	3445		3467	5085	1599		1805	4994
Peak-hour factor, PHF	0.92	0.92	0.92	0.88	0.88	0.88	0.80	0.80	0.80	0.85	0.85	0.85
Adj. Flow (vph)	183	280	149	82	416	183	298	1342	155	5	209	1429
RTOR Reduction (vph)	0	46	0	0	33	0	0	0	67	0	0	21
Lane Group Flow (vph)	183	383	0	82	566	0	298	1343	88	0	214	1730
Heavy Vehicles (%)	3%	2%	0%	0%	0%	0%	1%	2%	1%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases									6			
Actuated Green, G (s)	15.3	31.9		14.1	30.7		20.0	58.0	58.0		24.0	62.0
Effective Green, g (s)	15.3	31.9		14.1	30.7		20.0	58.0	58.0		24.0	62.0
Actuated g/C Ratio	0.10	0.21		0.09	0.20		0.13	0.39	0.39		0.16	0.41
Clearance Time (s)	5.0	6.5		5.0	6.5		4.5	6.0	6.0		4.5	6.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	0.2	0.2		5.0	0.2
Lane Grp Cap (vph)	346	718		169	705		462	1966	618		288	2064
v/s Ratio Prot	c0.05	0.11		0.05	c0.16		0.09	0.26			c0.12	c0.35
v/s Ratio Perm									0.06			
v/c Ratio	0.53	0.53		0.49	0.80		0.65	0.68	0.14		0.74	0.84
Uniform Delay, d1	63.9	52.4		64.5	56.8		61.6	38.3	29.9		60.1	39.5
Progression Factor	1.00	1.00		1.00	1.00		1.33	0.67	0.27		1.23	0.79
Incremental Delay, d2	2.8	1.4		4.5	7.5		3.9	1.8	0.4		8.5	3.0
Delay (s)	66.7	53.8		69.0	64.2		85.8	27.4	8.5		82.4	34.2
Level of Service	E	D		E	E		F	C	A		F	C
Approach Delay (s)		57.7			64.8			35.4				39.4
Approach LOS		E			E			D				D

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: Germantown Rd & Wisteria Dr

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	274
Future Volume (vph)	274
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	322
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	1%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	10	32	85	20	152	75	1257	88	1	33	1335
Future Volume (vph)	26	10	32	85	20	152	75	1257	88	1	33	1335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Lane Util. Factor		1.00	1.00		1.00		1.00	0.91	1.00		1.00	0.91
Frt		1.00	0.85		0.92		1.00	1.00	0.85		1.00	0.99
Flt Protected		0.97	1.00		0.98		0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)		1798	1583		1686		1770	5085	1583		1770	5055
Flt Permitted		0.61	1.00		0.87		0.13	1.00	1.00		0.17	1.00
Satd. Flow (perm)		1133	1583		1499		247	5085	1583		310	5055
Peak-hour factor, PHF	0.93	0.93	0.93	0.67	0.67	0.67	0.96	0.96	0.96	0.98	0.98	0.98
Adj. Flow (vph)	28	11	34	127	30	227	78	1309	92	1	34	1362
RTOR Reduction (vph)	0	0	25	0	36	0	0	0	25	0	0	3
Lane Group Flow (vph)	0	39	9	0	348	0	78	1309	67	0	35	1415
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	Prot	pm+pt	NA
Protected Phases		4			8		1	6		5	5	2
Permitted Phases	4		4	8			6		6		2	
Actuated Green, G (s)		38.4	38.4		38.4		97.5	89.6	89.6		92.7	87.2
Effective Green, g (s)		38.4	38.4		38.4		97.5	89.6	89.6		92.7	87.2
Actuated g/C Ratio		0.26	0.26		0.26		0.65	0.60	0.60		0.62	0.58
Clearance Time (s)		6.5	6.5		6.5		4.5	5.5	5.5		4.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0		3.0	0.2	0.2		3.0	0.2
Lane Grp Cap (vph)		290	405		383		240	3037	945		245	2938
v/s Ratio Prot							c0.02	0.26			0.01	c0.28
v/s Ratio Perm		0.03	0.01		c0.23		0.19		0.04		0.08	
v/c Ratio		0.13	0.02		0.91		0.33	0.43	0.07		0.14	0.48
Uniform Delay, d1		43.0	41.7		54.1		11.8	16.4	12.7		11.9	18.3
Progression Factor		1.00	1.00		1.00		1.84	1.68	2.83		0.45	0.33
Incremental Delay, d2		0.2	0.0		24.4		0.8	0.4	0.1		0.2	0.3
Delay (s)		43.2	41.8		78.5		22.5	27.9	36.1		5.5	6.4
Level of Service		D	D		E		C	C	D		A	A
Approach Delay (s)		42.5			78.5			28.1				6.3
Approach LOS		D			E			C				A

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Germantown Rd & Waters Road/Bowman Milll Drive

03/27/2022



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	55
Future Volume (vph)	55
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	56
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM 2010 TWSC
7: Walter Johnson Rd & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	424	8	98	448	36	70	5	74	34	3	39
Future Vol, veh/h	41	424	8	98	448	36	70	5	74	34	3	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	0	180	-	200	-	-	220	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	94	94	94	83	83	83	84	84	84
Heavy Vehicles, %	0	1	11	4	1	0	0	0	3	0	0	0
Mvmt Flow	48	499	9	104	477	38	84	6	89	40	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	508	0	0	1044	1318	499	1351	1308	258
Stage 1	-	-	-	-	-	-	595	595	-	704	704	-
Stage 2	-	-	-	-	-	-	449	723	-	647	604	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.245	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	1061	-	-	1043	-	-	197	159	568	119	161	747
Stage 1	-	-	-	-	-	-	494	496	-	398	443	-
Stage 2	-	-	-	-	-	-	564	434	-	463	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1061	-	-	1043	-	-	162	137	568	87	138	747
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	137	-	87	138	-
Stage 1	-	-	-	-	-	-	472	474	-	380	399	-
Stage 2	-	-	-	-	-	-	472	391	-	368	469	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.5	33	51.1
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	160	568	1061	-	-	1043	-	-	164
HCM Lane V/C Ratio	0.565	0.157	0.045	-	-	0.1	-	-	0.552
HCM Control Delay (s)	53.3	12.5	8.6	-	-	8.8	-	-	51.1
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.9	0.6	0.1	-	-	0.3	-	-	2.8

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	75	434	51	12	193	433	86	103	302	366	74	351
Future Volume (vph)	75	434	51	12	193	433	86	103	302	366	74	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.98			1.00	1.00	0.85	1.00	0.92		1.00	0.99
Flt Protected	0.95	1.00			0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	1853			1772	1900	1615	1805	3295		1805	3496
Flt Permitted	0.39	1.00			0.33	1.00	1.00	0.26	1.00		0.25	1.00
Satd. Flow (perm)	733	1853			619	1900	1615	496	3295		478	3496
Peak-hour factor, PHF	0.87	0.87	0.87	0.88	0.88	0.88	0.88	0.97	0.97	0.97	0.80	0.80
Adj. Flow (vph)	86	499	59	14	219	492	98	106	311	377	92	439
RTOR Reduction (vph)	0	2	0	0	0	0	39	0	182	0	0	8
Lane Group Flow (vph)	86	556	0	0	233	492	59	106	506	0	93	476
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	2%
Turn Type	Perm	NA		Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA
Protected Phases		4				8		1	6		5	2
Permitted Phases	4			8	8		8	6			2	
Actuated Green, G (s)	43.7	43.7			43.7	43.7	43.7	26.4	17.5		23.2	15.9
Effective Green, g (s)	43.7	43.7			43.7	43.7	43.7	26.4	17.5		23.2	15.9
Actuated g/C Ratio	0.52	0.52			0.52	0.52	0.52	0.31	0.21		0.27	0.19
Clearance Time (s)	6.5	6.5			6.5	6.5	6.5	4.5	5.0		4.5	5.0
Vehicle Extension (s)	8.0	8.0			8.0	8.0	8.0	3.0	0.2		3.0	0.2
Lane Grp Cap (vph)	379	958			320	982	835	292	682		245	657
v/s Ratio Prot		0.30				0.26		c0.04	c0.15		0.03	0.14
v/s Ratio Perm	0.12				c0.38		0.04	0.08			0.07	
v/c Ratio	0.23	0.58			0.73	0.50	0.07	0.36	0.74		0.38	0.72
Uniform Delay, d1	11.2	14.1			15.8	13.3	10.2	21.6	31.4		24.1	32.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	2.4			13.6	1.7	0.2	0.8	3.8		1.0	3.4
Delay (s)	12.5	16.4			29.4	15.0	10.4	22.4	35.2		25.1	35.6
Level of Service	B	B			C	B	B	C	D		C	D
Approach Delay (s)		15.9				18.5			33.5			33.9
Approach LOS		B				B			C			C

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Father Hurley Blvd & Wisteria Dr

03/27/2022

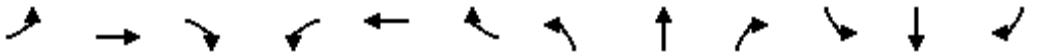


Movement	SBR
Lane Configurations	
Traffic Volume (vph)	36
Future Volume (vph)	36
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.80
Adj. Flow (vph)	45
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Wisteria Dr & Crystal Rock Dr

03/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	401	8	6	394	69	5	3	3	103	3	137
Future Volume (vph)	130	401	8	6	394	69	5	3	3	103	3	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1805	1875		1203	1900	1599		1525		1752	1585	
Flt Permitted	0.48	1.00		0.39	1.00	1.00		0.84		0.75	1.00	
Satd. Flow (perm)	909	1875		499	1900	1599		1308		1374	1585	
Peak-hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.55	0.55	0.55	0.91	0.91	0.91
Adj. Flow (vph)	157	483	10	6	415	73	9	5	5	113	3	151
RTOR Reduction (vph)	0	1	0	0	0	42	0	4	0	0	108	0
Lane Group Flow (vph)	157	492	0	6	415	31	0	15	0	113	46	0
Heavy Vehicles (%)	0%	0%	50%	50%	0%	1%	0%	33%	33%	3%	66%	1%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	16.6	16.6		16.6	16.6	16.6		11.2		11.2	11.2	
Effective Green, g (s)	16.6	16.6		16.6	16.6	16.6		11.2		11.2	11.2	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42		0.28		0.28	0.28	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5		6.0		6.0	6.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2	0.2		5.0		5.0	5.0	
Lane Grp Cap (vph)	383	791		210	802	675		372		391	451	
v/s Ratio Prot		c0.26			0.22						0.03	
v/s Ratio Perm	0.17			0.01		0.02		0.01		c0.08		
v/c Ratio	0.41	0.62		0.03	0.52	0.05		0.04		0.29	0.10	
Uniform Delay, d1	7.9	8.9		6.6	8.4	6.7		10.2		10.9	10.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.1		0.0	0.2	0.0		0.1		0.9	0.2	
Delay (s)	8.2	10.0		6.7	8.6	6.7		10.3		11.8	10.6	
Level of Service	A	A		A	A	A		B		B	B	
Approach Delay (s)		9.6			8.3			10.3			11.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	39.3	Sum of lost time (s)	15.5
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
11: Walter Johnson Rd & Site

03/27/2022

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	96	3	3	53	47	62
Future Vol, veh/h	96	3	3	53	47	62
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	50	50	75	75	88	88
Heavy Vehicles, %	0	0	0	10	0	0
Mvmt Flow	192	6	4	71	53	70

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	167	88	123	0	-	0
Stage 1	88	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	828	976	1477	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	826	976	1477	-	-	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1477	-	830	-	-
HCM Lane V/C Ratio	0.003	-	0.239	-	-
HCM Control Delay (s)	7.4	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

HCM 2010 TWSC
12: Site Driveway & Wisteria Dr

03/27/2022

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	444	67	2	534	21	18	1	22	7	0	47
Future Vol, veh/h	49	444	67	2	534	21	18	1	22	7	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	30	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	55	55	55	75	75	75
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	2
Mvmt Flow	52	467	71	2	607	24	33	2	40	9	0	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	538	0	0	915	1242	269	962	1265	316
Stage 1	-	-	-	-	-	-	607	607	-	623	623	-
Stage 2	-	-	-	-	-	-	308	635	-	339	642	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.32
Pot Cap-1 Maneuver	961	-	-	1040	-	-	231	176	735	213	171	680
Stage 1	-	-	-	-	-	-	455	489	-	445	481	-
Stage 2	-	-	-	-	-	-	683	476	-	655	472	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	961	-	-	1040	-	-	201	166	735	191	161	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	166	-	191	161	-
Stage 1	-	-	-	-	-	-	430	463	-	421	480	-
Stage 2	-	-	-	-	-	-	619	475	-	584	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	19.2	13.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	961	-	-	1040	-	-	511
HCM Lane V/C Ratio	0.228	0.054	-	-	0.002	-	-	0.141
HCM Control Delay (s)	19.2	9	-	-	8.5	-	-	13.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0	-	-	0.5

HCM 2010 TWSC
13: Bowman Milll Drive & Site Driveway

03/27/2022

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	36	32	1	1	153	5	7	0	1	7	2	33
Future Vol, veh/h	36	32	1	1	153	5	7	0	1	7	2	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	63	63	63	33	33	33	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	41	1	2	243	8	21	0	3	11	3	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	42	0	0	412	389	42	386	385	247
Stage 1	-	-	-	-	-	-	134	134	-	251	251	-
Stage 2	-	-	-	-	-	-	278	255	-	135	134	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1567	-	-	550	546	1029	573	549	792
Stage 1	-	-	-	-	-	-	869	785	-	753	699	-
Stage 2	-	-	-	-	-	-	728	696	-	868	785	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1567	-	-	498	526	1029	555	529	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	526	-	555	529	-
Stage 1	-	-	-	-	-	-	838	757	-	726	698	-
Stage 2	-	-	-	-	-	-	678	695	-	834	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0	12.1	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	532	1314	-	-	1567	-	-	723
HCM Lane V/C Ratio	0.046	0.035	-	-	0.001	-	-	0.089
HCM Control Delay (s)	12.1	7.8	0	-	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

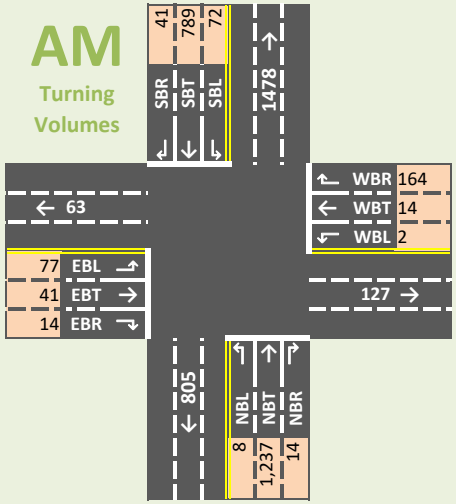
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Critical Lane Volume Analysis

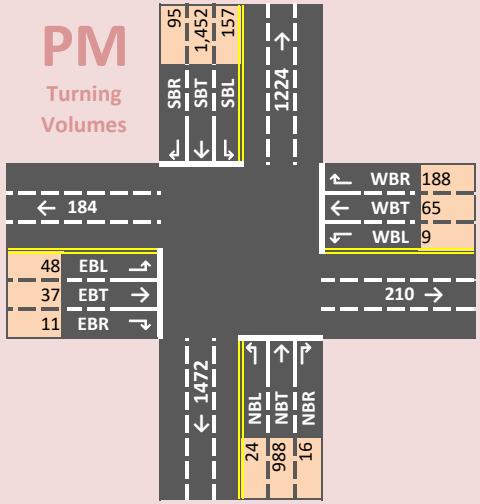
Turning Movement Summary and Level of Service

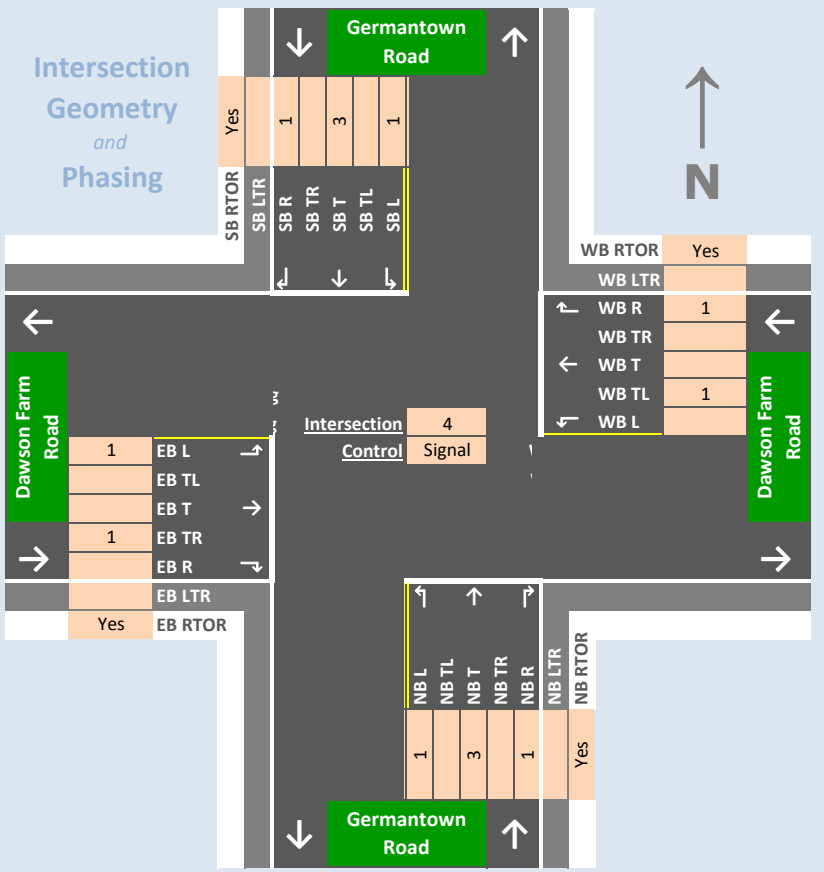
Project: LIDL Germantown
Project Number: 2856-004
Condition: Total Future Conditions
Location: Montgomery County, MD
Design Year: 2023

AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm





	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	R	0	1.00	0	8	**8**	
		T	789	0.37	292	8	**300**	
		L	72	1.00	72		**72**	
	WB	R	92	1.00	92	77	**169**	√
		TL	16	1.00	16	77	**93**	
	NB	R	12	1.00	12	72	**84**	
		T	1237	0.37	458	72	**530**	√
		L	8	1.00	8		**8**	
	EB	TR	55	1.00	55	2	**57**	
		L	77	1.00	77		**77**	
	TOTAL AM CRITICAL VOLUME:						**699**	LOS A

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	R	47	1.00	47	24	**71**	
		T	1452	0.37	537	24	**561**	√
		L	157	1.00	157		**157**	
	WB	R	31	1.00	31	48	**79**	
		TL	74	1.00	74	48	**122**	√
	NB	R	7	1.00	7	157	**164**	
		T	988	0.37	366	157	**523**	
		L	24	1.00	24		**24**	
	EB	TR	48	1.00	48	9	**57**	
		L	48	1.00	48		**48**	
	TOTAL PM CRITICAL VOLUME:						**683**	LOS A

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/29/2022

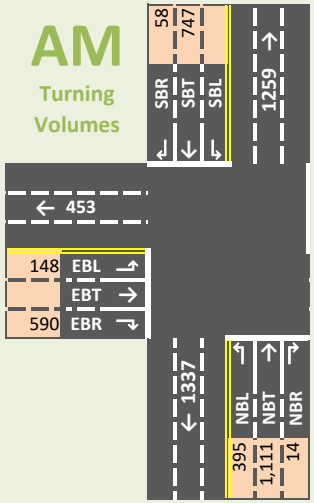
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Transportation Planners and Engineers

Critical Lane Volume Analysis

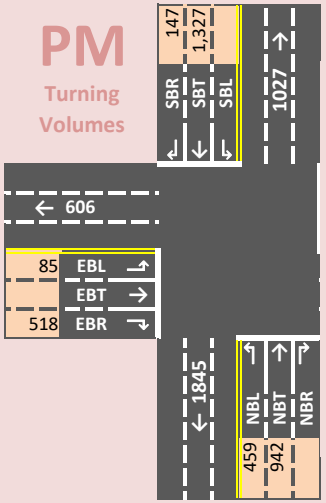
Turning Movement Summary and Level of Service

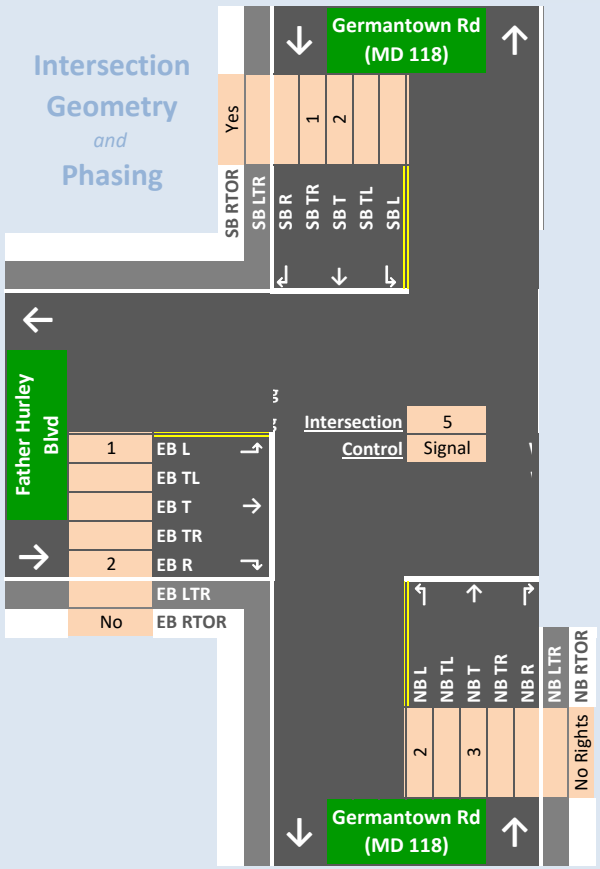
Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Total Future Conditions
Design Year: 2023

AM Peak Hour: 7:15am-8:15am



PM Peak Hour: 5:00pm-6:00pm





	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	805	0.37	298	209	**507**	√
	NB	T	1111	0.37	411		**411**	
		L	395	0.53	209		**209**	
	EB	R	590	0.53	313		**313**	√
		L	148	1.00	148		**148**	
						TOTAL AM CRITICAL VOLUME:	**820**	**LOS A**

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	1474	0.37	545	243	**788**	√
	NB	T	942	0.37	349		**349**	
		L	459	0.53	243		**243**	
	EB	R	518	0.53	275		**275**	√
		L	85	1.00	85		**85**	
						TOTAL PM CRITICAL VOLUME:	**1063**	**LOS B**

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/29/2022

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Transportation Planners and Engineers

Critical Lane Volume Analysis

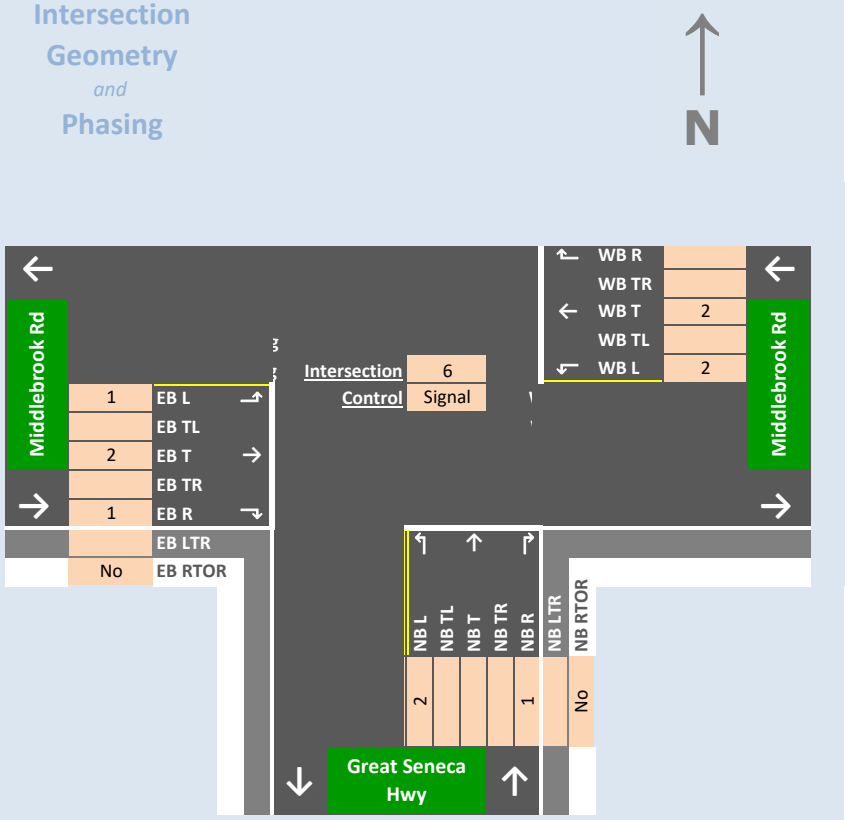
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Location: Montgomery County, MD
Project Number: 2856-004
Condition: Total Future Conditions
Design Year: 2023

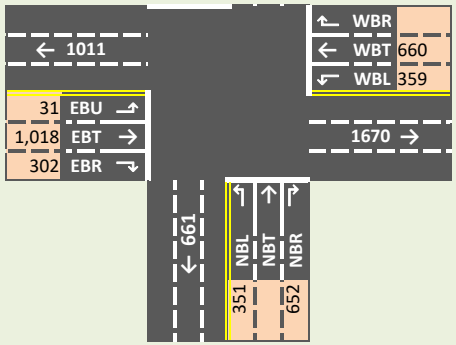
AM Peak Hour: 7:30am-8:30am

PM Peak Hour: 4:45pm-5:45pm

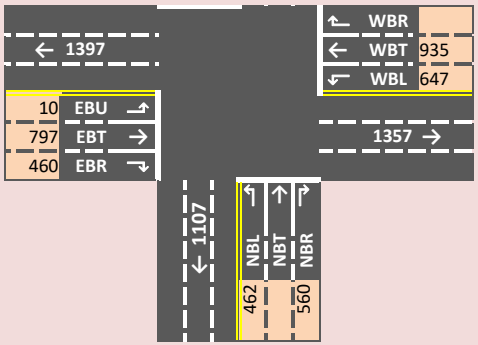
Intersection Geometry and Phasing



AM Turning Volumes



PM Turning Volumes



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)		MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	WB	T	660	0.53	350	31	**381**			WB	T	935	0.53	496	10	**506**	
		L	359	0.53	190		**190**				L	647	0.53	343		**343**	
	NB	R	652	1.00	652		**652**	√		NB	R	560	1.00	560		**560**	√
		L	351	0.53	186		**186**				L	462	0.53	245		**245**	
	EB	R	302	1.00	302	190	**492**			EB	R	460	1.00	460	343	**803**	√
		T	1018	0.53	540	190	**730**	√			T	797	0.53	422	343	**765**	
		L	31	1.00	31		**31**				L	10	1.00	10		**10**	
					TOTAL AM CRITICAL VOLUME:		**1382**	**LOS D**						**TOTAL PM CRITICAL VOLUME:**		**1363**	**LOS D**

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/29/2022

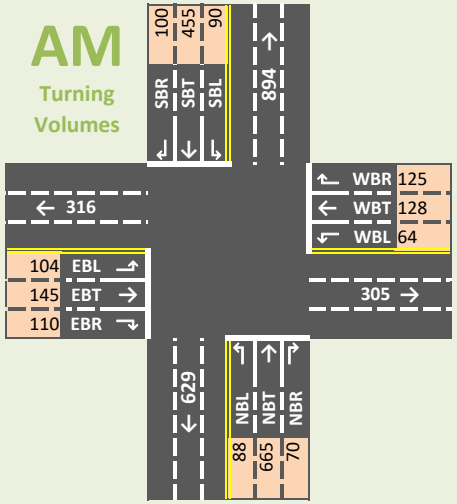
GOROVE SLADE
Transportation Planners and Engineers

Critical Lane Volume Analysis

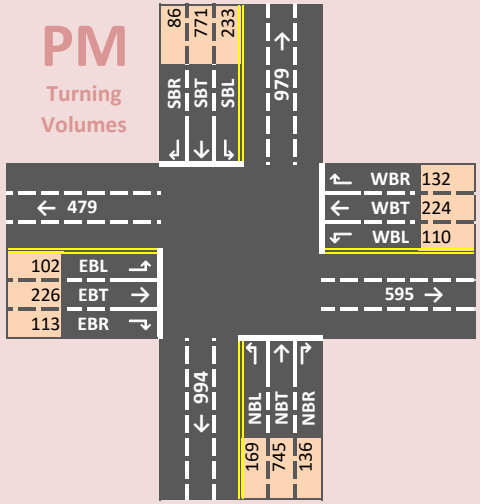
Turning Movement Summary and Level of Service

Project: LIDL Germantown
Project Number: 2856-004
Condition: Total Future Conditions
Location: Montgomery County, MD
Design Year: 2023

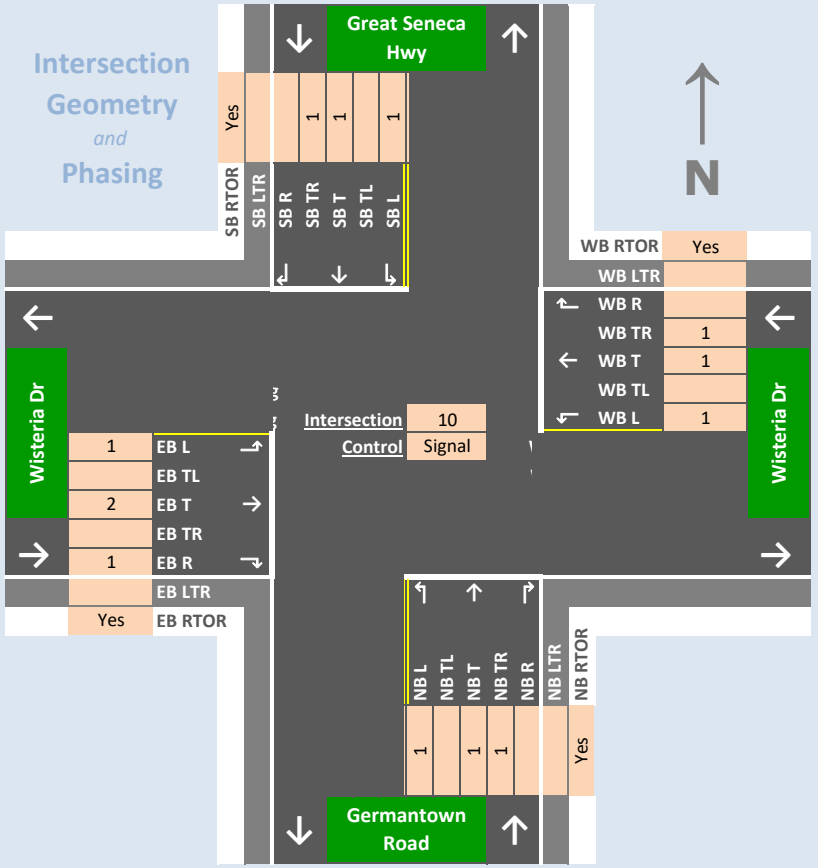
AM Peak Hour: 8:15am-9:15am



PM Peak Hour: 5:15pm- 6:15pm



Intersection Geometry and Phasing



	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	555	0.53	294	88	**382**	
		L	90	1.00	90		**90**	
	WB	TR	253	0.53	134	104	**238**	√
		L	64	1.00	64		**64**	
	NB	TR	735	0.53	390	90	**480**	√
		L	88	1.00	88		**88**	
	EB	R	22	1.00	22	64	**86**	
		T	145	0.53	77	64	**141**	
		L	104	1.00	104		**104**	
						TOTAL AM CRITICAL VOLUME:	**718**	**LOS A**

	MOVEMENT		VOLUME	LANE USE FACTOR	LANE VOLUME	OPP L (+)	CRITICAL LANE VOLUME	√ (CRITICAL)
	SB	TR	857	0.53	454	169	**623**	
		L	233	1.00	233		**233**	
	WB	TR	356	0.53	189	102	**291**	√
		L	110	1.00	110		**110**	
	NB	TR	881	0.53	467	233	**700**	√
		L	169	1.00	169		**169**	
	EB	R	0	1.00	0	110	**110**	
		T	226	0.53	120	110	**230**	
		L	102	1.00	102		**102**	
						TOTAL PM CRITICAL VOLUME:	**991**	**LOS A**

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Note: Yellow cells indicate lane groups where single, high-volume movement overrides the lane group volume.

Computed By:

Date: 3/29/2022

Queuing and Blocking Report
Total Future - AM Peak Hour

03/27/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	87	292	417	371	127	138	136	161	209	80	106	255
Average Queue (ft)	23	72	267	258	56	80	75	87	96	28	52	137
95th Queue (ft)	64	166	388	373	106	124	129	141	184	66	88	220
Link Distance (ft)			1454	1454			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)			5									2
Queuing Penalty (veh)			5									1

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	288	301	157	181	203	269	255	250
Average Queue (ft)	163	178	62	81	111	162	145	120
95th Queue (ft)	248	265	118	163	177	237	219	204
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report
Total Future - AM Peak Hour

03/27/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	UL	L	T	T	T
Maximum Queue (ft)	138	210	254	253	114	226	229	96	106	257	308	358
Average Queue (ft)	67	96	154	119	72	122	145	38	52	154	181	211
95th Queue (ft)	121	160	240	217	128	206	234	79	92	233	263	306
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						3	8					
Queuing Penalty (veh)						7	17					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)			1		9	21				1		6
Queuing Penalty (veh)			1		9	13				1		6

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	245	194	165	134	172
Average Queue (ft)	55	105	59	66	93
95th Queue (ft)	191	173	118	118	158
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	2			
Queuing Penalty (veh)	0	5			

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	L	T	T	TR
Maximum Queue (ft)	128	78	143	34	131	161	173	108	81	89	105	98
Average Queue (ft)	62	34	70	9	34	38	49	9	28	31	35	31
95th Queue (ft)	115	67	124	25	97	115	132	55	61	73	78	78
Link Distance (ft)	658		182		1900	1900	1900			723	723	723
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)							0	0				
Queuing Penalty (veh)							1	0				

Queuing and Blocking Report
Total Future - AM Peak Hour

03/27/2022

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	L	T	T	T	R	UL	T	T
Maximum Queue (ft)	169	120	78	127	55	195	214	259	29	167	79	84
Average Queue (ft)	75	46	19	64	10	94	108	118	4	70	14	11
95th Queue (ft)	141	99	55	113	35	177	191	215	19	129	51	48
Link Distance (ft)	699	699	766	766		1808	1808	1808			1900	1900
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)						0		0		0		
Queuing Penalty (veh)						0		0		1		

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	91	31
Average Queue (ft)	23	2
95th Queue (ft)	64	13
Link Distance (ft)	1900	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	219	319	278	289	313	216	203	176	215	234	275
Average Queue (ft)	107	201	154	163	196	107	104	84	111	129	152
95th Queue (ft)	194	290	265	253	279	186	184	167	195	226	253
Link Distance (ft)		977				1356	1356	1356	1808	1808	1808
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Queuing and Blocking Report
Total Future - AM Peak Hour

03/27/2022

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	B20
Directions Served	U	T	T	R	L	L	T	T	L	L	R	T
Maximum Queue (ft)	178	614	598	275	229	254	241	271	358	485	564	14
Average Queue (ft)	49	295	302	147	125	151	133	143	172	278	356	1
95th Queue (ft)	145	529	534	336	201	227	216	230	333	459	547	10
Link Distance (ft)		2143	2143			3766	3766	3766		639	639	617
Upstream Blk Time (%)										0	0	
Queuing Penalty (veh)										0	2	
Storage Bay Dist (ft)	180			250	275				560			
Storage Blk Time (%)		23	14	0		0						
Queuing Penalty (veh)		7	45	1		0						

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	L	LT	R	LTR
Maximum Queue (ft)	26	3	59	59	55	61
Average Queue (ft)	4	0	15	17	24	16
95th Queue (ft)	20	2	43	47	49	46
Link Distance (ft)		148		211		481
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	145		180		220	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	57	220	213	229	49	64	268	268	122	135	118
Average Queue (ft)	20	92	105	84	17	22	150	137	49	60	41
95th Queue (ft)	49	170	185	167	45	54	233	233	95	108	85
Link Distance (ft)		1034		2266	2266		889	889		1207	1207
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		225			300			220		
Storage Blk Time (%)		1	1	0			0				
Queuing Penalty (veh)		0	3	0			0				

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	157	268	48	214	59	50	118	86
Average Queue (ft)	60	87	5	80	20	6	38	34
95th Queue (ft)	123	181	27	172	44	29	84	67
Link Distance (ft)		722		1581	1581	521		618
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)	0	2		4			0	0
Queuing Penalty (veh)	1	2		0			0	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	TR	UL	T
Maximum Queue (ft)	160	60	77	36	115	141	155	137	225	222	124	225
Average Queue (ft)	64	18	19	3	41	51	55	62	125	118	51	75
95th Queue (ft)	128	47	53	19	92	111	124	121	202	195	107	177
Link Distance (ft)		1581	1581			1434	1434		1980	1980		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	535			325	150			325			300	
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	248
Average Queue (ft)	103
95th Queue (ft)	202
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report
Total Future - AM Peak Hour

03/27/2022

Intersection: 11: Walter Johnson Rd & Site

Movement	EB
Directions Served	LR
Maximum Queue (ft)	71
Average Queue (ft)	11
95th Queue (ft)	46
Link Distance (ft)	96
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	WB	WB	WB	NB	SB
Directions Served	L	L	T	TR	LTR	LTR
Maximum Queue (ft)	28	6	42	66	31	34
Average Queue (ft)	2	0	2	4	8	6
95th Queue (ft)	14	4	22	29	30	25
Link Distance (ft)			148	148	205	153
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)	70	30				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	17	30
Average Queue (ft)	1	12
95th Queue (ft)	9	35
Link Distance (ft)	191	433
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 130

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	153	170	254	277	193	250	431	441	332	157	167	217
Average Queue (ft)	52	101	146	161	88	139	241	253	121	80	95	92
95th Queue (ft)	123	157	225	248	159	251	377	377	235	140	154	168
Link Distance (ft)			1426	1426			2143	2143	2143			949
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	310	310			180	180				200	200	
Storage Blk Time (%)					0	2	22					0
Queuing Penalty (veh)					1	5	50					0

Intersection: 1: Germantown Rd & Middlebrook Rd/Middlebrook Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	TR
Maximum Queue (ft)	227	236	120	242	306	405	401	404
Average Queue (ft)	116	128	47	112	152	287	271	257
95th Queue (ft)	186	199	99	202	251	385	370	367
Link Distance (ft)	949	949				1458	1458	1458
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			370	370	370			
Storage Blk Time (%)				0	0	1		
Queuing Penalty (veh)				0	0	2		

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	T	TR	L	L	T	T	T
Maximum Queue (ft)	132	184	233	254	114	234	257	177	192	286	317	363
Average Queue (ft)	57	90	133	156	86	179	203	92	106	148	162	193
95th Queue (ft)	112	147	214	237	137	250	258	155	173	258	270	311
Link Distance (ft)			2266	2266		178	178			723	723	723
Upstream Blk Time (%)						15	22					
Queuing Penalty (veh)						47	66					
Storage Bay Dist (ft)	245	245			90			220	220			
Storage Blk Time (%)		0	0		15	36				2		5
Queuing Penalty (veh)		0	0		29	26				5		6

Intersection: 2: Germantown Rd & Wisteria Dr

Movement	NB	SB	SB	SB	SB
Directions Served	R	UL	T	T	TR
Maximum Queue (ft)	245	214	454	465	476
Average Queue (ft)	62	164	238	256	287
95th Queue (ft)	203	249	411	417	440
Link Distance (ft)			949	949	949
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	220	190			
Storage Blk Time (%)	0	15	18		
Queuing Penalty (veh)	0	62	35		

Intersection: 3: Germantown Rd & Waters Road/Bowman Milll Drive

Movement	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	T	T	R	UL	T	T	TR
Maximum Queue (ft)	82	73	200	88	291	336	339	170	58	132	118	142
Average Queue (ft)	30	22	140	33	109	112	122	29	17	38	50	70
95th Queue (ft)	68	58	221	70	234	257	271	119	47	94	102	131
Link Distance (ft)	875		185		1901	1901	1901			723	723	723
Upstream Blk Time (%)			7									
Queuing Penalty (veh)			17									
Storage Bay Dist (ft)		310		220				145	220			
Storage Blk Time (%)					1		5	0				
Queuing Penalty (veh)					1		5	0				

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	LT	R	UL	T	T	T	R	L	T	T
Maximum Queue (ft)	127	91	162	120	74	195	193	212	31	235	115	132
Average Queue (ft)	43	31	67	57	25	96	100	101	5	137	47	47
95th Queue (ft)	93	72	129	99	63	162	167	175	22	228	99	105
Link Distance (ft)	1031	1031	766	766		1809	1809	1809			1901	1901
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					260				300	260		
Storage Blk Time (%)										1		
Queuing Penalty (veh)										3		

Intersection: 4: Germantown Rd & Dawson Farm Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	142	24
Average Queue (ft)	46	5
95th Queue (ft)	114	16
Link Distance (ft)	1901	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Germantown Rd & Father Hurley Blvd

Movement	EB	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	R	UL	L	T	T	T	UT	T	TR
Maximum Queue (ft)	165	279	232	296	327	187	177	155	302	302	345
Average Queue (ft)	65	174	128	174	210	79	79	47	146	151	184
95th Queue (ft)	132	260	230	273	298	149	144	109	263	273	302
Link Distance (ft)		977				1356	1356	1356	1809	1809	1809
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	380		920	530	530						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 6: Great Sceneca Highway & Middlebrook Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	U	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	173	432	455	275	300	439	299	306	320	379	431
Average Queue (ft)	19	223	231	176	221	251	134	151	187	239	277
95th Queue (ft)	88	360	388	308	308	372	231	240	313	377	424
Link Distance (ft)		2143	2143			2557	2557	2557		639	639
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			250	275				560		
Storage Blk Time (%)		16	6	1	1	3					
Queuing Penalty (veh)		2	26	5	4	11					

Intersection: 7: Walter Johnson Rd & Wisteria Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	41	28	34	71	41	37	136	127	104
Average Queue (ft)	13	1	1	26	2	4	41	34	42
95th Queue (ft)	36	15	15	58	20	21	93	80	78
Link Distance (ft)		148	148		724		211		481
Upstream Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	
Storage Bay Dist (ft)	145			180		200		220	
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 8: Father Hurley Blvd & Wisteria Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	UL	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	178	306	236	279	109	126	254	360	131	211	185
Average Queue (ft)	48	130	107	115	24	50	117	169	36	112	82
95th Queue (ft)	115	234	193	217	64	91	194	295	82	182	161
Link Distance (ft)		1013		2266	2266		889	889		1096	1096
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180		220			300			220		
Storage Blk Time (%)		3	0	1			0			0	
Queuing Penalty (veh)		2	1	1			0			0	

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 9: Wisteria Dr & Crystal Rock Dr

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	LTR	L	TR
Maximum Queue (ft)	174	231	50	212	44	54	90	89
Average Queue (ft)	63	99	2	90	11	7	41	36
95th Queue (ft)	132	183	16	180	27	31	75	72
Link Distance (ft)		724		1578	1578	443		606
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		100				120	
Storage Blk Time (%)	0	2	0	5			0	0
Queuing Penalty (veh)	0	2	0	0			0	0

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	UL	T	TR	UL	T
Maximum Queue (ft)	147	86	99	59	158	153	154	213	298	297	266	315
Average Queue (ft)	54	33	37	6	67	67	67	122	177	173	155	171
95th Queue (ft)	117	73	83	32	133	127	127	198	262	259	252	302
Link Distance (ft)		1578	1578			1509	1509		1687	1687		617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			300	150			325			300	
Storage Blk Time (%)	1				1	0			0		0	0
Queuing Penalty (veh)	1				1	0			0		0	1

Intersection: 10: Great Seneca Hwy & Wisteria Dr

Movement	SB
Directions Served	TR
Maximum Queue (ft)	319
Average Queue (ft)	192
95th Queue (ft)	314
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report
Total Future - PM Peak Hour

03/27/2022

Intersection: 11: Walter Johnson Rd & Site

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	75	12
Average Queue (ft)	35	0
95th Queue (ft)	63	6
Link Distance (ft)	96	250
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Site Driveway & Wisteria Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	64	11	18	11	125	161	75	94
Average Queue (ft)	19	0	1	1	18	29	30	35
95th Queue (ft)	50	8	10	7	82	106	65	77
Link Distance (ft)		178	178		148	148	205	167
Upstream Blk Time (%)					0	1		
Queuing Penalty (veh)					1	2		
Storage Bay Dist (ft)	70			30				
Storage Blk Time (%)	0	0		0	5			
Queuing Penalty (veh)	1	0		1	0			

Intersection: 13: Bowman Milll Drive & Site Driveway

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	118	39	72
Average Queue (ft)	5	15	6	23
95th Queue (ft)	24	66	27	53
Link Distance (ft)	185	197	138	433
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 424

N. Signal Warrant Worksheets

Trip Generation - Qiagen

Land Use Code: 760 R&D Center

Appendix A

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic
6:00 AM	to	7:00 AM	1.7%	23	0.6%	7
7:00 AM	to	8:00 AM	5.3%	73	1.8%	24
8:00 AM	to	9:00 AM	6.6%	91	2.2%	31
9:00 AM	to	10:00 AM	4.1%	56	1.4%	19
10:00 AM	to	11:00 AM	4.4%	61	1.5%	21
11:00 AM	to	12:00 PM	6.3%	87	2.1%	29
12:00 PM	to	1:00 PM	1.6%	22	8.8%	122
1:00 PM	to	2:00 PM	1.2%	17	7.0%	96
2:00 PM	to	3:00 PM	1.1%	16	6.4%	88
3:00 PM	to	4:00 PM	1.1%	15	6.3%	87
4:00 PM	to	5:00 PM	1.5%	21	8.6%	119
5:00 PM	to	6:00 PM	1.6%	22	8.8%	122
6:00 PM	to	7:00 PM	0.4%	5	2.0%	28
7:00 PM	to	8:00 PM	0.3%	4	1.4%	19
8:00 PM	to	9:00 PM	0.2%	2	0.9%	12
9:00 PM	to	10:00 PM	0.2%	2	0.9%	12
10:00 PM	to	6:00 AM	0.3%	5	1.9%	25
			37.62%	522	62.38%	860

1,382 TOTAL TRIPS (After Mode Split Reduction)

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

R&D data is not available in ITE manual. General Office data is used instead.

% of 24-hour Traffic*	AM IB %	PM IB%
2.2%	75%	
7.0%	75%	
8.8%	75%	
5.4%	75%	
5.9%	75%	
8.4%	75%	
10.4%		15%
8.2%		15%
7.5%		15%
7.4%		15%
10.1%		15%
10.4%		15%
2.4%		15%
1.7%		15%
1.0%		15%
1.0%		15%
2.2%		15%

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Outbound	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%
6:00 AM	to	7:00 AM		0	0	0	0	3	0	0	0	0	0	1	0
7:00 AM	to	8:00 AM		0	0	0	0	11	0	0	0	0	0	4	0
8:00 AM	to	9:00 AM		0	0	0	0	14	0	0	0	0	0	5	0
9:00 AM	to	10:00 AM		0	0	0	0	8	0	0	0	0	0	3	0
10:00 AM	to	11:00 AM		0	0	0	0	9	0	0	0	0	0	3	0
11:00 AM	to	12:00 PM		0	0	0	0	13	0	0	0	0	0	4	0
12:00 PM	to	1:00 PM		0	0	0	0	3	0	0	0	0	0	18	0
1:00 PM	to	2:00 PM		0	0	0	0	3	0	0	0	0	0	14	0
2:00 PM	to	3:00 PM		0	0	0	0	2	0	0	0	0	0	13	0
3:00 PM	to	4:00 PM		0	0	0	0	2	0	0	0	0	0	13	0
4:00 PM	to	5:00 PM		0	0	0	0	3	0	0	0	0	0	18	0
5:00 PM	to	6:00 PM		0	0	0	0	3	0	0	0	0	0	18	0
6:00 PM	to	7:00 PM		0	0	0	0	1	0	0	0	0	0	4	0
7:00 PM	to	8:00 PM		0	0	0	0	1	0	0	0	0	0	3	0
8:00 PM	to	9:00 PM		0	0	0	0	0	0	0	0	0	0	2	0
9:00 PM	to	10:00 PM		0	0	0	0	0	0	0	0	0	0	2	0
10:00 PM	to	6:00 AM		0	0	0	0	1	0	0	0	0	0	4	0

Trip Generation - Qiagen

Land Use Code: 140 Manufactoring

Appendix A

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic
6:00 AM	to	7:00 AM	7.5%	34	2.2%	10
7:00 AM	to	8:00 AM	6.5%	29	2.0%	9
8:00 AM	to	9:00 AM	3.2%	15	1.0%	4
9:00 AM	to	10:00 AM	2.5%	11	0.7%	3
10:00 AM	to	11:00 AM	2.3%	10	0.7%	4
11:00 AM	to	12:00 PM	4.2%	19	1.3%	6
12:00 PM	to	1:00 PM	2.3%	10	5.2%	24
1:00 PM	to	2:00 PM	2.1%	10	4.8%	21
2:00 PM	to	3:00 PM	1.9%	8	4.1%	19
3:00 PM	to	4:00 PM	4.7%	21	10.4%	47
4:00 PM	to	5:00 PM	2.4%	11	5.2%	23
5:00 PM	to	6:00 PM	1.9%	9	4.2%	18
6:00 PM	to	7:00 PM	0.6%	3	1.2%	5
7:00 PM	to	8:00 PM	0.4%	2	1.0%	4
8:00 PM	to	9:00 PM	0.4%	2	0.9%	4
9:00 PM	to	10:00 PM	0.5%	2	1.1%	5
10:00 PM	to	6:00 AM	3.3%	15	7.3%	33
			46.69%	211	53.31%	239

450 TOTAL TRIPS (After Mode Split Reduction)

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

% of 24-hour Traffic*	AM IB %	PM IB%
9.7%	77%	
8.5%	77%	
4.2%	77%	
3.2%	77%	
3.0%	77%	
5.5%	77%	
7.5%		31%
6.9%		31%
6.0%		31%
15.1%		31%
7.6%		31%
6.1%		31%
1.8%		31%
1.4%		31%
1.3%		31%
1.6%		31%
10.6%		31%

			Southbound			Westbound			Northbound			Eastbound		
Direction:														
Movement:			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Inbound			0.0%	0.0%	0.0%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outbound			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%
6:00 AM	to	7:00 AM	0	0	0	0	5	0	0	0	0	0	1	0
7:00 AM	to	8:00 AM	0	0	0	0	4	0	0	0	0	0	1	0
8:00 AM	to	9:00 AM	0	0	0	0	2	0	0	0	0	0	1	0
9:00 AM	to	10:00 AM	0	0	0	0	2	0	0	0	0	0	1	0
10:00 AM	to	11:00 AM	0	0	0	0	2	0	0	0	0	0	1	0
11:00 AM	to	12:00 PM	0	0	0	0	3	0	0	0	0	0	1	0
12:00 PM	to	1:00 PM	0	0	0	0	2	0	0	0	0	0	4	0
1:00 PM	to	2:00 PM	0	0	0	0	2	0	0	0	0	0	3	0
2:00 PM	to	3:00 PM	0	0	0	0	1	0	0	0	0	0	3	0
3:00 PM	to	4:00 PM	0	0	0	0	3	0	0	0	0	0	7	0
4:00 PM	to	5:00 PM	0	0	0	0	2	0	0	0	0	0	3	0
5:00 PM	to	6:00 PM	0	0	0	0	1	0	0	0	0	0	3	0
6:00 PM	to	7:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
7:00 PM	to	8:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
8:00 PM	to	9:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
9:00 PM	to	10:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
10:00 PM	to	6:00 AM	0	0	0	0	2	0	0	0	0	0	5	0

Trip Generation - Qiagen

Land Use Code: 150 Warehousing

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic
6:00 AM	to	7:00 AM	4.9%	7	1.4%	2
7:00 AM	to	8:00 AM	5.6%	8	1.7%	2
8:00 AM	to	9:00 AM	4.6%	6	1.4%	2
9:00 AM	to	10:00 AM	5.0%	7	1.5%	2
10:00 AM	to	11:00 AM	5.0%	7	1.5%	2
11:00 AM	to	12:00 PM	5.9%	8	1.7%	3
12:00 PM	to	1:00 PM	2.3%	3	6.3%	9
1:00 PM	to	2:00 PM	1.8%	2	4.8%	7
2:00 PM	to	3:00 PM	1.9%	3	5.1%	7
3:00 PM	to	4:00 PM	2.7%	4	7.3%	10
4:00 PM	to	5:00 PM	2.1%	3	5.7%	8
5:00 PM	to	6:00 PM	1.8%	2	4.8%	7
6:00 PM	to	7:00 PM	0.7%	1	2.0%	3
7:00 PM	to	8:00 PM	0.2%	0	0.7%	1
8:00 PM	to	9:00 PM	0.2%	0	0.4%	1
9:00 PM	to	10:00 PM	0.2%	0	0.5%	1
10:00 PM	to	6:00 AM	2.2%	3	6.1%	9
			47.10%	64	52.90%	75

139 TOTAL TRIPS (After Mode Split Reduction)

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

Appendix A

% of 24-hour Traffic*	AM IB %	PM IB%
6.3%	77%	
7.3%	77%	
6.0%	77%	
6.5%	77%	
6.5%	77%	
7.6%	77%	
8.6%		27%
6.6%		27%
7.0%		27%
10.0%		27%
7.8%		27%
6.6%		27%
2.7%		27%
0.9%		27%
0.6%		27%
0.7%		27%
8.3%		27%

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Outbound	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%
6:00 AM	to	7:00 AM		0	0	0	0	1	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	1	0	0	0	0	0	0	0
8:00 AM	to	9:00 AM		0	0	0	0	1	0	0	0	0	0	0	0
9:00 AM	to	10:00 AM		0	0	0	0	1	0	0	0	0	0	0	0
10:00 AM	to	11:00 AM		0	0	0	0	1	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM		0	0	0	0	1	0	0	0	0	0	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	0	0	0	0	0	1	0
1:00 PM	to	2:00 PM		0	0	0	0	0	0	0	0	0	0	1	0
2:00 PM	to	3:00 PM		0	0	0	0	0	0	0	0	0	0	1	0
3:00 PM	to	4:00 PM		0	0	0	0	1	0	0	0	0	0	1	0
4:00 PM	to	5:00 PM		0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM	to	6:00 PM		0	0	0	0	0	0	0	0	0	0	1	0
6:00 PM	to	7:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	to	8:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	to	9:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	to	10:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	0	0	0	0	1	0

Trip Generation - Poplar Grove

Land Use Code: 820 Retail

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic	Primary Inbound	Primary Outbound	66%	Pass-by Inbound	Pass-by Outbound	34%
6:00 AM	to	7:00 AM	0.1%	5	0.1%	3	5	3		0	0	
7:00 AM	to	8:00 AM	0.7%	27	0.4%	16	27	16		0	0	
8:00 AM	to	9:00 AM	1.2%	48	0.8%	30	48	30		0	0	
9:00 AM	to	10:00 AM	2.2%	87	1.4%	53	87	53		0	0	
10:00 AM	to	11:00 AM	3.5%	136	2.1%	83	136	83		0	0	
11:00 AM	to	12:00 PM	5.1%	201	3.2%	123	201	123		0	0	
12:00 PM	to	1:00 PM	4.8%	188	5.2%	203	188	203		0	0	
1:00 PM	to	2:00 PM	4.5%	174	4.8%	189	174	189		0	0	
2:00 PM	to	3:00 PM	4.3%	169	4.7%	183	169	183		0	0	
3:00 PM	to	4:00 PM	4.2%	165	4.6%	179	109	118		56	61	
4:00 PM	to	5:00 PM	4.4%	173	4.8%	187	114	123		59	64	
5:00 PM	to	6:00 PM	4.5%	174	4.8%	189	115	125		59	64	
6:00 PM	to	7:00 PM	3.8%	150	4.2%	163	99	108		51	55	
7:00 PM	to	8:00 PM	2.9%	114	3.2%	124	75	82		39	42	
8:00 PM	to	9:00 PM	2.1%	83	2.3%	89	55	59		28	30	
9:00 PM	to	10:00 PM	1.4%	54	1.5%	59	36	39		18	20	
10:00 PM	to	6:00 AM	1.1%	41	1.1%	45	27	30		14	15	
			50.91%	1989	49.09%	1918	1665	1567	3232	324	351	675

3,908 TOTAL TRIPS (After Mode Split Reduction)

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

Appendix A

% of 24-hour Traffic	AM IB %	PM IB%
0.2%	62%	
1.1%	62%	
2.0%	62%	
3.6%	62%	
5.6%	62%	
8.3%	62%	
10.0%		48%
9.3%		48%
9.0%		48%
8.8%		48%
9.2%		48%
9.3%		48%
8.0%		48%
6.1%		48%
4.4%		48%
2.9%		48%
2.2%		48%

Primary Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Outbound	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	1	0	0	0	0	0	1	0
8:00 AM	to	9:00 AM		0	0	0	0	2	0	0	0	0	0	2	0
9:00 AM	to	10:00 AM		0	0	0	0	4	0	0	0	0	0	3	0
10:00 AM	to	11:00 AM		0	0	0	0	7	0	0	0	0	0	4	0
11:00 AM	to	12:00 PM		0	0	0	0	10	0	0	0	0	0	6	0
12:00 PM	to	1:00 PM		0	0	0	0	9	0	0	0	0	0	10	0
1:00 PM	to	2:00 PM		0	0	0	0	9	0	0	0	0	0	9	0
2:00 PM	to	3:00 PM		0	0	0	0	8	0	0	0	0	0	9	0
3:00 PM	to	4:00 PM		0	0	0	0	5	0	0	0	0	0	6	0
4:00 PM	to	5:00 PM		0	0	0	0	6	0	0	0	0	0	6	0
5:00 PM	to	6:00 PM		0	0	0	0	6	0	0	0	0	0	6	0
6:00 PM	to	7:00 PM		0	0	0	0	5	0	0	0	0	0	5	0
7:00 PM	to	8:00 PM		0	0	0	0	4	0	0	0	0	0	4	0
8:00 PM	to	9:00 PM		0	0	0	0	3	0	0	0	0	0	3	0
9:00 PM	to	10:00 PM		0	0	0	0	2	0	0	0	0	0	2	0
10:00 PM	to	6:00 AM		0	0	0	0	1	0	0	0	0	0	2	0

Pass-by Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
			Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	to	9:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	to	10:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	to	11:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	to	2:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	to	3:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	to	4:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	to	5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	to	6:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	to	7:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	to	8:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	to	9:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	to	10:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	0	0	0	0	0	0

Trip Generation - Milestone

Land Use Code: 820 Retail

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic	Primary Inbound	Primary Outbound	44%	Pass-by Inbound	Pass-by Outbound	56%
6:00 AM	to	7:00 AM	0.1%	3	0.1%	2	3	2		0	0	
7:00 AM	to	8:00 AM	0.7%	17	0.4%	10	17	10		0	0	
8:00 AM	to	9:00 AM	1.2%	31	0.8%	19	31	19		0	0	
9:00 AM	to	10:00 AM	2.2%	55	1.4%	34	55	34		0	0	
10:00 AM	to	11:00 AM	3.5%	86	2.1%	53	86	53		0	0	
11:00 AM	to	12:00 PM	5.1%	127	3.2%	78	127	78		0	0	
12:00 PM	to	1:00 PM	4.8%	119	5.2%	128	119	128		0	0	
1:00 PM	to	2:00 PM	4.5%	110	4.8%	119	110	119		0	0	
2:00 PM	to	3:00 PM	4.3%	107	4.7%	116	107	116		0	0	
3:00 PM	to	4:00 PM	4.2%	104	4.6%	113	46	50		58	63	
4:00 PM	to	5:00 PM	4.4%	109	4.8%	118	48	52		61	66	
5:00 PM	to	6:00 PM	4.5%	110	4.8%	119	48	52		62	67	
6:00 PM	to	7:00 PM	3.8%	95	4.2%	103	42	45		53	58	
7:00 PM	to	8:00 PM	2.9%	72	3.2%	78	32	34		40	44	
8:00 PM	to	9:00 PM	2.1%	52	2.3%	56	23	25		29	31	
9:00 PM	to	10:00 PM	1.4%	34	1.5%	37	15	16		19	21	
10:00 PM	to	6:00 AM	1.1%	26	1.1%	28	11	12		15	16	
			50.91%	1257	49.09%	1211	920	845	1765	337	366	703

2,469 TOTAL TRIPS (After Mode Split Reduction)

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

Appendix A

% of 24-hour Traffic	AM IB %	PM IB%
0.2%	62%	
1.1%	62%	
2.0%	62%	
3.6%	62%	
5.6%	62%	
8.3%	62%	
10.0%		48%
9.3%		48%
9.0%		48%
8.8%		48%
9.2%		48%
9.3%		48%
8.0%		48%
6.1%		48%
4.4%		48%
2.9%		48%
2.2%		48%

Primary Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Outbound	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	1	0	0	0	0	0	1	0
8:00 AM	to	9:00 AM		0	0	0	0	2	0	0	0	0	0	1	0
9:00 AM	to	10:00 AM		0	0	0	0	3	0	0	0	0	0	2	0
10:00 AM	to	11:00 AM		0	0	0	0	4	0	0	0	0	0	3	0
11:00 AM	to	12:00 PM		0	0	0	0	6	0	0	0	0	0	4	0
12:00 PM	to	1:00 PM		0	0	0	0	6	0	0	0	0	0	6	0
1:00 PM	to	2:00 PM		0	0	0	0	6	0	0	0	0	0	6	0
2:00 PM	to	3:00 PM		0	0	0	0	5	0	0	0	0	0	6	0
3:00 PM	to	4:00 PM		0	0	0	0	2	0	0	0	0	0	3	0
4:00 PM	to	5:00 PM		0	0	0	0	2	0	0	0	0	0	3	0
5:00 PM	to	6:00 PM		0	0	0	0	2	0	0	0	0	0	3	0
6:00 PM	to	7:00 PM		0	0	0	0	2	0	0	0	0	0	2	0
7:00 PM	to	8:00 PM		0	0	0	0	2	0	0	0	0	0	2	0
8:00 PM	to	9:00 PM		0	0	0	0	1	0	0	0	0	0	1	0
9:00 PM	to	10:00 PM		0	0	0	0	1	0	0	0	0	0	1	0
10:00 PM	to	6:00 AM		0	0	0	0	1	0	0	0	0	0	1	0

Pass-by Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
			Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	to	9:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	to	10:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	to	11:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	to	2:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	to	3:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	to	4:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	to	5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	to	6:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	to	7:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	to	8:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	to	9:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	to	10:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	0	0	0	0	0	0

Trip Generation - Existing Office

Land Use Code: 710 Office

Appendix A

Hour			% of 24-hour Entering Traffic*	Inbound Traffic	% of 24-hour Exiting Traffic*	Outbound Traffic
6:00 AM	to	7:00 AM	1.9%	3	0.3%	0
7:00 AM	to	8:00 AM	6.0%	9	1.0%	2
8:00 AM	to	9:00 AM	7.6%	12	1.2%	1
9:00 AM	to	10:00 AM	4.6%	7	0.8%	1
10:00 AM	to	11:00 AM	5.1%	8	0.8%	1
11:00 AM	to	12:00 PM	7.2%	11	1.2%	2
12:00 PM	to	1:00 PM	1.7%	3	8.7%	13
1:00 PM	to	2:00 PM	1.3%	2	6.9%	11
2:00 PM	to	3:00 PM	1.2%	2	6.3%	9
3:00 PM	to	4:00 PM	1.2%	2	6.2%	9
4:00 PM	to	5:00 PM	1.6%	2	8.5%	13
5:00 PM	to	6:00 PM	1.7%	3	8.7%	13
6:00 PM	to	7:00 PM	0.4%	1	2.0%	3
7:00 PM	to	8:00 PM	0.3%	0	1.4%	3
8:00 PM	to	9:00 PM	0.2%	0	0.8%	2
9:00 PM	to	10:00 PM	0.2%	0	0.8%	2
10:00 PM	to	6:00 AM	0.4%	1	1.8%	2
			42.39%	66	57.61%	87

153 TOTAL TRIPS

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

% of 24-hour Traffic*	AM IB %	PM IB%
2.2%	86%	
7.0%	86%	
8.8%	86%	
5.4%	86%	
5.9%	86%	
8.4%	86%	
10.4%		16%
8.2%		16%
7.5%		16%
7.4%		16%
10.1%		16%
10.4%		16%
2.4%		16%
1.7%		16%
1.0%		16%
1.0%		16%
2.2%		16%

	Direction:		Southbound			Westbound			Northbound			Eastbound		
	Movement:		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	Inbound		0%	0%	0%	55%	0%	0%	0%	0%	0%	0%	0%	0%
	Outbound		0%	0%	0%	0%	0%	0%	32%	0%	45%	0%	10%	0%
6:00 AM	to	7:00 AM	0	0	0	2	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM	0	0	0	5	0	0	1	0	1	0	0	0
8:00 AM	to	9:00 AM	0	0	0	7	0	0	0	0	1	0	0	0
9:00 AM	to	10:00 AM	0	0	0	4	0	0	0	0	1	0	0	0
10:00 AM	to	11:00 AM	0	0	0	4	0	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM	0	0	0	6	0	0	1	0	1	0	0	0
12:00 PM	to	1:00 PM	0	0	0	2	0	0	4	0	6	0	1	0
1:00 PM	to	2:00 PM	0	0	0	1	0	0	3	0	5	0	1	0
2:00 PM	to	3:00 PM	0	0	0	1	0	0	3	0	4	0	1	0
3:00 PM	to	4:00 PM	0	0	0	1	0	0	3	0	4	0	1	0
4:00 PM	to	5:00 PM	0	0	0	1	0	0	4	0	6	0	1	0
5:00 PM	to	6:00 PM	0	0	0	2	0	0	4	0	6	0	1	0
6:00 PM	to	7:00 PM	0	0	0	1	0	0	1	0	1	0	0	0
7:00 PM	to	8:00 PM	0	0	0	0	0	0	1	0	1	0	0	0
8:00 PM	to	9:00 PM	0	0	0	0	0	0	0	0	1	0	0	0
9:00 PM	to	10:00 PM	0	0	0	0	0	0	0	0	1	0	0	0
10:00 PM	to	6:00 AM	0	0	0	1	0	0	1	0	1	0	0	0

Trip Generation - Site Grocery

Land Use Code: 850 Supermarket

Hour			% of 24-hour Entering Traffic*	Inbound Traffic		% of 24-hour Entering Traffic*	Outbound Traffic		Primary Inbound	Primary Outbound	64%	Pass-by Inbound	Pass-by Outbound	36%
6:00 AM	to	7:00 AM	0.4%	11		0.2%	7		11	7		0	0	
7:00 AM	to	8:00 AM	1.9%	55		1.2%	37		55	37		0	0	
8:00 AM	to	9:00 AM	3.2%	96		2.2%	64		96	64		0	0	
9:00 AM	to	10:00 AM	3.2%	95		2.1%	63		95	63		0	0	
10:00 AM	to	11:00 AM	3.1%	93		2.1%	62		93	62		0	0	
11:00 AM	to	12:00 PM	4.0%	118		2.6%	78		118	78		0	0	
12:00 PM	to	1:00 PM	3.7%	111		3.6%	106		111	106		0	0	
1:00 PM	to	2:00 PM	3.7%	111		3.6%	106		111	106		0	0	
2:00 PM	to	3:00 PM	3.7%	111		3.6%	106		111	106		0	0	
3:00 PM	to	4:00 PM	4.1%	123		4.0%	118		79	76		44	42	
4:00 PM	to	5:00 PM	5.3%	158		5.1%	151		101	97		57	54	
5:00 PM	to	6:00 PM	5.1%	152		4.9%	146		97	93		55	53	
6:00 PM	to	7:00 PM	4.6%	136		4.4%	131		87	84		49	47	
7:00 PM	to	8:00 PM	3.2%	94		3.0%	90		60	58		34	32	
8:00 PM	to	9:00 PM	2.0%	61		2.0%	58		39	37		22	21	
9:00 PM	to	10:00 PM	2.1%	62		2.0%	60		40	38		22	22	
10:00 PM	to	6:00 AM	0.1%	2		0.0%	1		1	1		1	0	
			53.36%	1589		46.64%	1384		1305	1113	2418	284	271	555

2,972 TOTAL TRIPS

*From ITE Trip Generation Manual, 10th ed. Time-of-day distribution data supplemented with trip generation directional distribution data

Appendix A

% of 24-hour Traffic*	AM IB %	PM IB%
0.6%	60%	
3.1%	60%	
5.4%	60%	
5.3%	60%	
5.2%	60%	
6.6%	60%	
7.3%		51%
7.3%		51%
7.3%		51%
8.1%		51%
10.4%		51%
10.0%		51%
9.0%		51%
6.2%		51%
4.0%		51%
4.1%		51%
0.1%		51%

Primary Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0%	0%	0%	55%	0%	0%	0%	0%	0%	0%	0%	0%
			Outbound	0%	0%	0%	0%	0%	0%	32%	0%	45%	0%	10%	0%
6:00 AM	to	7:00 AM		0	0	0	6	0	0	2	0	3	0	1	0
7:00 AM	to	8:00 AM		0	0	0	30	0	0	12	0	17	0	4	0
8:00 AM	to	9:00 AM		0	0	0	53	0	0	20	0	29	0	6	0
9:00 AM	to	10:00 AM		0	0	0	52	0	0	20	0	28	0	6	0
10:00 AM	to	11:00 AM		0	0	0	51	0	0	20	0	28	0	6	0
11:00 AM	to	12:00 PM		0	0	0	65	0	0	25	0	35	0	8	0
12:00 PM	to	1:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
1:00 PM	to	2:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
2:00 PM	to	3:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
3:00 PM	to	4:00 PM		0	0	0	43	0	0	24	0	34	0	8	0
4:00 PM	to	5:00 PM		0	0	0	56	0	0	31	0	44	0	10	0
5:00 PM	to	6:00 PM		0	0	0	53	0	0	30	0	42	0	9	0
6:00 PM	to	7:00 PM		0	0	0	48	0	0	27	0	38	0	8	0
7:00 PM	to	8:00 PM		0	0	0	33	0	0	19	0	26	0	6	0
8:00 PM	to	9:00 PM		0	0	0	21	0	0	12	0	17	0	4	0
9:00 PM	to	10:00 PM		0	0	0	22	0	0	12	0	17	0	4	0
10:00 PM	to	6:00 AM		0	0	0	1	0	0	0	0	0	0	0	0

Pass-by Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
			Inbound	0%	0%	0%	16%	-16%	0%	0%	0%	0%	0%	-9%	0%
			Outbound	0%	0%	0%	0%	0%	0%	51%	0%	5%	0%	5%	0%
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	to	9:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	to	10:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	to	11:00 AM		0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	to	2:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	to	3:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	to	4:00 PM		0	0	0	7	-7	0	21	0	2	0	-2	0
4:00 PM	to	5:00 PM		0	0	0	9	-9	0	28	0	2	0	-3	0
5:00 PM	to	6:00 PM		0	0	0	9	-9	0	27	0	2	0	-3	0
6:00 PM	to	7:00 PM		0	0	0	8	-8	0	24	0	2	0	-2	0
7:00 PM	to	8:00 PM		0	0	0	5	-5	0	16	0	1	0	-2	0
8:00 PM	to	9:00 PM		0	0	0	4	-4	0	11	0	1	0	-1	0
9:00 PM	to	10:00 PM		0	0	0	4	-4	0	11	0	1	0	-1	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	0	0	0	0	0	0

NET Primary Site Trips

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
6:00 AM	to	7:00 AM		0	0	0	4	0	0	2	0	3	0	1	0
7:00 AM	to	8:00 AM		0	0	0	25	0	0	11	0	16	0	4	0
8:00 AM	to	9:00 AM		0	0	0	46	0	0	20	0	28	0	6	0
9:00 AM	to	10:00 AM		0	0	0	48	0	0	20	0	27	0	6	0
10:00 AM	to	11:00 AM		0	0	0	47	0	0	20	0	28	0	6	0
11:00 AM	to	12:00 PM		0	0	0	59	0	0	24	0	34	0	8	0
12:00 PM	to	1:00 PM		0	0	0	59	0	0	30	0	42	0	10	0
1:00 PM	to	2:00 PM		0	0	0	60	0	0	31	0	43	0	10	0
2:00 PM	to	3:00 PM		0	0	0	60	0	0	31	0	44	0	10	0
3:00 PM	to	4:00 PM		0	0	0	42	0	0	21	0	30	0	7	0
4:00 PM	to	5:00 PM		0	0	0	55	0	0	27	0	38	0	9	0
5:00 PM	to	6:00 PM		0	0	0	51	0	0	26	0	36	0	8	0
6:00 PM	to	7:00 PM		0	0	0	47	0	0	26	0	37	0	8	0
7:00 PM	to	8:00 PM		0	0	0	33	0	0	18	0	25	0	6	0
8:00 PM	to	9:00 PM		0	0	0	21	0	0	12	0	16	0	4	0
9:00 PM	to	10:00 PM		0	0	0	22	0	0	12	0	16	0	4	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	-1	0	-1	0	0	0

Site - Primary Trips

			Direction:	Southbound				Westbound				Northbound				Eastbound		
			Movement:	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
6:00 AM	to	7:00 AM		0	0	0	0	6	0	0	0	2	0	3	0	0	1	0
7:00 AM	to	8:00 AM		0	0	0	0	30	0	0	0	12	0	17	0	0	4	0
8:00 AM	to	9:00 AM		0	0	0	0	53	0	0	0	20	0	29	0	0	6	0
9:00 AM	to	10:00 AM		0	0	0	0	52	0	0	0	20	0	28	0	0	6	0
10:00 AM	to	11:00 AM		0	0	0	0	51	0	0	0	20	0	28	0	0	6	0
11:00 AM	to	12:00 PM		0	0	0	0	65	0	0	0	25	0	35	0	0	8	0
12:00 PM	to	1:00 PM		0	0	0	0	61	0	0	0	34	0	48	0	0	11	0
1:00 PM	to	2:00 PM		0	0	0	0	61	0	0	0	34	0	48	0	0	11	0
2:00 PM	to	3:00 PM		0	0	0	0	61	0	0	0	34	0	48	0	0	11	0
3:00 PM	to	4:00 PM		0	0	0	0	43	0	0	0	24	0	34	0	0	8	0
4:00 PM	to	5:00 PM		0	0	0	0	56	0	0	0	31	0	44	0	0	10	0
5:00 PM	to	6:00 PM		0	0	0	0	53	0	0	0	30	0	42	0	0	9	0
6:00 PM	to	7:00 PM		0	0	0	0	48	0	0	0	27	0	38	0	0	8	0
7:00 PM	to	8:00 PM		0	0	0	0	33	0	0	0	19	0	26	0	0	6	0
8:00 PM	to	9:00 PM		0	0	0	0	21	0	0	0	12	0	17	0	0	4	0
9:00 PM	to	10:00 PM		0	0	0	0	22	0	0	0	12	0	17	0	0	4	0
10:00 PM	to	6:00 AM		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Site - Pass-by Trips

			Direction:	Southbound				Westbound				Northbound				Eastbound		
			Movement:	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
6:00 AM	to	7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	to	8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	to	9:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	to	10:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	to	11:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	to	12:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	to	2:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	to	3:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	to	4:00 PM		0	0	0	0	7	-7	0	0	21	0	2	0	0	-2	0
4:00 PM	to	5:00 PM		0	0	0	0	9	-9	0	0	28	0	2	0	0	-3	0
5:00 PM	to	6:00 PM		0	0	0	0	9	-9	0	0	27	0	2	0	0	-3	0
6:00 PM	to	7:00 PM		0	0	0	0	8	-8	0	0	24	0	2	0	0	-2	0
7:00 PM	to	8:00 PM		0	0	0	0	5	-5	0	0	16	0	1	0	0	-2	0
8:00 PM	to	9:00 PM		0	0	0	0	4	-4	0	0	11	0	1	0	0	-1	0
9:00 PM	to	10:00 PM		0	0	0	0	4	-4	0	0	11	0	1	0	0	-1	0
10:00 PM	to	6:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Site Proposed

			Direction:	Southbound			Westbound			Northbound			Eastbound		
			Movement:	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
6:00 AM	to	7:00 AM		0	0	0	6	0	0	2	0	3	0	1	0
7:00 AM	to	8:00 AM		0	0	0	30	0	0	12	0	17	0	4	0
8:00 AM	to	9:00 AM		0	0	0	53	0	0	20	0	29	0	6	0
9:00 AM	to	10:00 AM		0	0	0	52	0	0	20	0	28	0	6	0
10:00 AM	to	11:00 AM		0	0	0	51	0	0	20	0	28	0	6	0
11:00 AM	to	12:00 PM		0	0	0	65	0	0	25	0	35	0	8	0
12:00 PM	to	1:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
1:00 PM	to	2:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
2:00 PM	to	3:00 PM		0	0	0	61	0	0	34	0	48	0	11	0
3:00 PM	to	4:00 PM		0	0	0	50	-7	0	45	0	36	0	6	0
4:00 PM	to	5:00 PM		0	0	0	65	-9	0	59	0	46	0	7	0
5:00 PM	to	6:00 PM		0	0	0	62	-9	0	57	0	44	0	6	0
6:00 PM	to	7:00 PM		0	0	0	56	-8	0	51	0	40	0	6	0
7:00 PM	to	8:00 PM		0	0	0	38	-5	0	35	0	27	0	4	0
8:00 PM	to	9:00 PM		0	0	0	25	-4	0	23	0	18	0	3	0
9:00 PM	to	10:00 PM		0	0	0	26	-4	0	23	0	18	0	3	0
10:00 PM	to	6:00 AM		0	0	0	1	0	0	0	0	0	0	0	0

Gorove/Slade Associates

Project Name :	19430 Walter Johnson Road
Project # :	2856-004
Location	Wisteria Drive & Walter Johnson Road
Data Source:	Gorove Slade Associates, Inc.

Intersection:																	
		Direction:	Southbound				Westbound				Northbound				Eastbound			
		Roadway:	**Walter Johnson Road**				**Wisteria Drive**				**Walter Johnson Road**				**Wisteria Drive**			
		Movement:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
6:15 AM	to	6:30 AM	1	0	0		4	17	0		0	0	2		0	13	0	
6:30 AM	to	6:45 AM	0	0	2		5	24	1		1	0	3		0	29	1	
6:45 AM	to	7:00 AM	0	0	2		5	22	0		0	0	4		0	20	1	
7:00 AM	to	7:15 AM	0	0	0		5	24	1		0	0	4		0	33	2	
7:15 AM	to	7:30 AM	0	0	0		3	37	1		0	0	3		0	57	2	
7:30 AM	to	7:45 AM	0	0	3		3	72	0		1	0	9		3	131	3	
7:45 AM	to	8:00 AM	2	0	3		9	135	3		2	0	7		3	104	3	
8:00 AM	to	8:15 AM	3	0	3		7	73	11		1	0	7		3	92	4	
8:15 AM	to	8:30 AM	2	0	2		6	58	2		2	0	7		5	78	4	
8:30 AM	to	8:45 AM	3	0	5		4	51	0		1	1	10		4	91	9	
8:45 AM	to	9:00 AM	1	0	2		3	46	1		1	1	4		7	90	3	
9:00 AM	to	9:15 AM	3	1	2		5	58	3		3	0	3		6	61	6	
9:15 AM	to	9:30 AM	4	1	4		8	65	2		5	1	7		8	61	5	
9:30 AM	to	9:45 AM	5	0	7		6	62	4		1	0	9		6	79	2	
9:45 AM	to	10:00 AM	2	0	8		3	50	4		3	0	5		5	56	3	
10:00 AM	to	10:15 AM	3	0	6		2	70	5		2	0	4		8	65	4	
10:15 AM	to	10:30 AM	3	0	6		4	57	5		2	0	0		8	64	2	
10:30 AM	to	10:45 AM	3	0	6		5	68	6		2	0	5		8	64	4	
10:45 AM	to	11:00 AM	3	0	8		5	58	7		5	1	6		7	64	1	
11:00 AM	to	11:15 AM	2	0	6		3	49	4		3	0	4		3	43	6	
11:15 AM	to	11:30 AM	4	1	12		3	57	5		1	1	5		4	61	1	
11:30 AM	to	11:45 AM	7	1	6		7	71	10		4	1	2		7	53	4	
11:45 AM	to	12:00 PM	10	0	6		2	52	7		3	0	2		10	57	1	
12:00 PM	to	12:15 PM	6	0	5		5	69	7		3	1	7		6	51	3	
12:15 PM	to	12:30 PM	5	0	7		1	69	7		0	0	4		8	52	3	
12:30 PM	to	12:45 PM	6	1	14		1	74	5		1	1	2		6	72	0	
12:45 PM	to	1:00 PM	4	0	9		4	64	5		7	0	7		10	69	3	
1:00 PM	to	1:15 PM	5	0	10		2	59	9		4	1	3		4	58	4	
1:15 PM	to	1:30 PM	3	0	9		7	64	5		2	0	2		10	75	1	
1:30 PM	to	1:45 PM	4	0	6		1	68	7		1	0	5		5	72	2	
1:45 PM	to	2:00 PM	5	1	10		2	46	8		2	1	8		13	65	7	
2:00 PM	to	2:15 PM	7	2	8		4	58	9		2	1	4		6	54	3	
2:15 PM	to	2:30 PM	10	3	8		1	75	8		1	1	10		12	70	2	
2:30 PM	to	2:45 PM	12	0	9		4	63	3		1	0	7		5	97	2	
2:45 PM	to	3:00 PM	11	1	8		9	156	4		2	0	3		12	75	2	
3:00 PM	to	3:15 PM	5	0	10		6	99	10		3	0	5		8	85	4	
3:15 PM	to	3:30 PM	4	0	11		4	95	5		1	0	3		6	74	2	
3:30 PM	to	3:45 PM	4	0	12		5	107	8		4	1	9		14	90	4	
3:45 PM	to	4:00 PM	10	1	11		3	91	9		1	1	5		6	78	2	
4:00 PM	to	4:15 PM	10	0	7		6	99	15		3	0	7		10	88	1	
4:15 PM	to	4:30 PM	7	1	21		5	97	8		2	1	11		2	100	3	
4:30 PM	to	4:45 PM	5	0	15		3	86	11		5	1	7		4	91	3	
4:45 PM	to	5:00 PM	4	0	14		5	113	12		3	1	5		6	100	0	
5:00 PM	to	5:15 PM	8	2	5		8	104	6		0	2	8		12	99	3	
5:15 PM	to	5:30 PM	13	0	9		6	119	11		8	0	11		13	91	2	
5:30 PM	to	5:45 PM	9	0	11		11	102	7		4	1	4		10	88	1	
5:45 PM	to	6:00 PM	12	0	12		3	100	8		2	0	4		11	96	1	
6:00 PM	to	6:15 PM	12	1	11		2	86	4		2	1	7		11	67	3	
6:15 PM	to	6:30 PM	15	0	14		4	86	12		3	0	8		4	81	2	
6:30 PM	to	6:45 PM	7	0	6		3	68	7		0	0	6		1	79	1	
6:45 PM	to	7:00 PM	11	0	9		1	91	6		0	0	4		8	72	1	
7:00 PM	to	7:15 PM	9	0	7		7	70	6		0	0	7		5	77	2	
TOTAL			275	17	380	0	223	3684	298	0	110	21	278	0	328	3655	136	0

Time Period: Typical Weekday

EXISTING TRAFFIC

		Direction:	Southbound				Westbound				Northbound				Eastbound			
		Roadway:	**Walter Johnson Road**				**Wisteria Drive**				**Walter Johnson Road**				**Wisteria Drive**			
		Movement:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	to	8:00 AM	2	0	6	0	20	268	5	0	3	0	23	0	6	325	10	0
8:00 AM	to	9:00 AM	9	0	12	0	20	228	14	0	5	2	28	0	19	351	20	0
9:00 AM	to	10:00 AM	14	2	21	0	22	235	13	0	12	1	24	0	25	257	16	0
10:00 AM	to	11:00 AM	12	0	26	0	16	253	23	0	11	1	15	0	31	257	11	0
11:00 AM	to	12:00 PM	23	2	30	0	15	229	26	0	11	2	13	0	24	214	12	0
12:00 PM	to	1:00 PM	21	1	35	0	11	276	24	0	11	2	20	0	30	244	9	0
1:00 PM	to	2:00 PM	17	1	35	0	12	237	29	0	9	2	18	0	32	270	14	0
2:00 PM	to	3:00 PM	40	6	33	0	18	352	24	0	6	2	24	0	35	296	9	0
3:00 PM	to	4:00 PM	23	1	44	0	18	392	32	0	9	2	22	0	34	327	12	0
4:00 PM	to	5:00 PM	26	1	57	0	19	395	46	0	13	3	30	0	22	379	7	0
5:00 PM	to	6:00 PM	42	2	37	0	28	425	32	0	14	3	27	0	46	374	7	0
6:00 PM	to	7:00 PM	45	1	40	0	10	331	29	0	5	1	25	0	24	299	7	0

BACKGROUND DEVELOPMENT TRIPS

			Direction:	Southbound				Westbound				Northbound				Eastbound			
			Roadway:	Walter Johnson Road				Wisteria Drive				Walter Johnson Road				Wisteria Drive			
			Movement:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
6:00 AM	to	7:00 AM		0	0	0	0	0	9	0	0	0	0	0	0	0	2	0	0
7:00 AM	to	8:00 AM		0	0	0	0	0	18	0	0	0	0	0	0	0	7	0	0
8:00 AM	to	9:00 AM		0	0	0	0	0	21	0	0	0	0	0	0	0	9	0	0
9:00 AM	to	10:00 AM		0	0	0	0	0	18	0	0	0	0	0	0	0	9	0	0
10:00 AM	to	11:00 AM		0	0	0	0	0	23	0	0	0	0	0	0	0	11	0	0
11:00 AM	to	12:00 PM		0	0	0	0	0	33	0	0	0	0	0	0	0	15	0	0
12:00 PM	to	1:00 PM		0	0	0	0	0	20	0	0	0	0	0	0	0	39	0	0
1:00 PM	to	2:00 PM		0	0	0	0	0	20	0	0	0	0	0	0	0	33	0	0
2:00 PM	to	3:00 PM		0	0	0	0	0	16	0	0	0	0	0	0	0	32	0	0
3:00 PM	to	4:00 PM		0	0	0	0	0	13	0	0	0	0	0	0	0	30	0	0
4:00 PM	to	5:00 PM		0	0	0	0	0	13	0	0	0	0	0	0	0	31	0	0
5:00 PM	to	6:00 PM		0	0	0	0	0	12	0	0	0	0	0	0	0	31	0	0
6:00 PM	to	7:00 PM		0	0	0	0	0	8	0	0	0	0	0	0	0	12	0	0

TOTAL BACKGROUND (EXISTING + BACKGROUND PROJECTS)

			Direction:	Southbound				Westbound				Northbound				Eastbound			
			Roadway:	Walter Johnson Road				Wisteria Drive				Walter Johnson Road				Wisteria Drive			
			Movement:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
6:00 AM	to	7:00 AM		1	0	4	0	14	74	1	0	1	0	9	0	0	66	2	0
7:00 AM	to	8:00 AM		2	0	6	0	20	292	5	0	3	0	24	0	6	340	10	0
8:00 AM	to	9:00 AM		9	0	12	0	20	255	14	0	5	2	29	0	19	369	20	0
9:00 AM	to	10:00 AM		14	2	22	0	23	259	13	0	12	1	25	0	26	272	16	0
10:00 AM	to	11:00 AM		12	0	27	0	16	282	24	0	11	1	15	0	32	274	11	0
11:00 AM	to	12:00 PM		24	2	31	0	15	268	27	0	11	2	13	0	25	234	12	0
12:00 PM	to	1:00 PM		22	1	36	0	11	303	25	0	11	2	20	0	31	289	9	0
1:00 PM	to	2:00 PM		17	1	36	0	12	263	30	0	9	2	18	0	33	310	14	0
2:00 PM	to	3:00 PM		41	6	34	0	18	377	25	0	6	2	25	0	36	335	9	0
3:00 PM	to	4:00 PM		24	1	45	0	18	414	33	0	9	2	23	0	35	365	12	0
4:00 PM	to	5:00 PM		27	1	58	0	19	418	47	0	13	3	31	0	23	419	7	0
5:00 PM	to	6:00 PM		43	2	38	0	29	447	33	0	14	3	28	0	47	414	7	0
6:00 PM	to	7:00 PM		46	1	41	0	10	347	30	0	5	1	26	0	25	318	7	0

TOTAL PROJECTED TRAFFIC (EXISTING + BACKGROUND PROJECTS + NET PROPOSED)

			Direction:	Southbound				Westbound				Northbound				Eastbound			
			Roadway:	Walter Johnson Road				Wisteria Drive				Walter Johnson Road				Wisteria Drive			
			Movement:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM	to	8:00 AM		2	0	6	0	45	292	5	0	14	0	40	0	6	344	10	0
8:00 AM	to	9:00 AM		9	0	12	0	66	255	14	0	25	2	57	0	19	375	20	0
9:00 AM	to	10:00 AM		14	2	22	0	71	259	13	0	32	1	52	0	26	278	16	0
10:00 AM	to	11:00 AM		12	0	27	0	63	282	24	0	31	1	43	0	32	280	11	0
11:00 AM	to	12:00 PM		24	2	31	0	74	268	27	0	35	2	47	0	25	242	12	0
12:00 PM	to	1:00 PM		22	1	36	0	70	303	25	0	41	2	62	0	31	299	9	0
1:00 PM	to	2:00 PM		17	1	36	0	72	263	30	0	40	2	61	0	33	320	14	0
2:00 PM	to	3:00 PM		41	6	34	0	78	377	25	0	37	2	69	0	36	345	9	0
3:00 PM	to	4:00 PM		24	1	45	0	67	407	33	0	51	2	55	0	35	370	12	0
4:00 PM	to	5:00 PM		27	1	58	0	83	409	47	0	68	3	71	0	23	425	7	0
5:00 PM	to	6:00 PM		43	2	38	0	89	438	33	0	67	3	66	0	47	419	7	0
6:00 PM	to	7:00 PM		46	1	41	0	65	339	30	0	55	1	65	0	25	324	7	0

	Major Street Volume	Minor Street Volume	TOTAL	Major Confl Peds
7:00 - 8:00	702	54	756	0
8:00 - 9:00	749	84	833	0
9:00 - 10:00	663	85	748	0
10:00 - 11:00	692	75	767	0
11:00 - 12:00	648	84	732	0
12:00 - 1:00	737	105	842	0
1:00 - 2:00	732	103	835	0
2:00 - 3:00	870	108	978	0
3:00 - 4:00	924	108	1032	0
4:00 - 5:00	994	142	1136	0
5:00 - 6:00	1033	136	1169	0
6:00 - 7:00	790	121	911	0

	Major Street	Minor Street
# of Lanes	2	2
Speed Limit	30	25

Trip Generation - R&D
130,000 SF
Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
R&D	760	130,000 sf	41 veh/hr	14 veh/hr	55 veh/hr	10 veh/hr	54 veh/hr	64 veh/hr	1535 veh
		Calculation Details:	*75%*	*25%*	*=0.42(X/1000)*	*15%*	*85%*	*=0.49(X/1000)*	*=10.23(X/1000)+204.68*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
R&D	90%	37 veh/hr	13 veh/hr	50 veh/hr	9 veh/hr	49 veh/hr	58 veh/hr	1382 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
R&D	68.2%	54 ppl/hr	19 ppl/hr	73 ppl/hr	13 ppl/hr	72 ppl/hr	85 ppl/hr	2026 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
R&D	Auto Driver	68.2%	37 ppl/hr	13 ppl/hr	50 ppl/hr	9 ppl/hr	49 ppl/hr	58 ppl/hr	1382 ppl
R&D	Auto Passenger	22.9%	12 ppl/hr	5 ppl/hr	17 ppl/hr	3 ppl/hr	16 ppl/hr	19 ppl/hr	464 ppl
R&D	Transit	3.2%	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	3 ppl/hr	3 ppl/hr	65 ppl
R&D	Non-Motorized	5.7%	3 ppl/hr	1 ppl/hr	4 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	115 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	37 veh/hr	13 veh/hr	50 veh/hr	9 veh/hr	49 veh/hr	58 veh/hr	1382 veh
Auto Passenger	12 ppl/hr	5 ppl/hr	17 ppl/hr	3 ppl/hr	16 ppl/hr	19 ppl/hr	464 ppl
Transit	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	3 ppl/hr	3 ppl/hr	65 ppl
Bicycle (Non-motorized)	3 ppl/hr	1 ppl/hr	4 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	115 ppl
Walk (Transit and other walk trips)	5 ppl/hr	1 ppl/hr	6 ppl/hr	1 ppl/hr	7 ppl/hr	8 ppl/hr	180 ppl

Trip Generation - Manufacturing
99,000 SF
Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Manufacturing	140	130,000 sf	62 veh/hr	19 veh/hr	81 veh/hr	27 veh/hr	60 veh/hr	87 veh/hr	511 veh
		Calculation Details:	*77%*	*23%*	*=0.62(X/1000)*	*31%*	*69%*	*=0.67(X/1000)*	*=3.93(X/1000)*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Manufacturing	88%	55 veh/hr	16 veh/hr	71 veh/hr	24 veh/hr	53 veh/hr	77 veh/hr	450 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Manufacturing	67.0%	82 ppl/hr	24 ppl/hr	106 ppl/hr	36 ppl/hr	79 ppl/hr	115 ppl/hr	672 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Manufacturing	Auto Driver	67.0%	55 ppl/hr	16 ppl/hr	71 ppl/hr	24 ppl/hr	53 ppl/hr	77 ppl/hr	450 ppl
Manufacturing	Auto Passenger	23.5%	19 ppl/hr	6 ppl/hr	25 ppl/hr	8 ppl/hr	19 ppl/hr	27 ppl/hr	158 ppl
Manufacturing	Transit	3.3%	3 ppl/hr	0 ppl/hr	3 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr	22 ppl
Manufacturing	Non-Motorized	6.2%	5 ppl/hr	2 ppl/hr	7 ppl/hr	3 ppl/hr	4 ppl/hr	7 ppl/hr	42 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	55 veh/hr	16 veh/hr	71 veh/hr	24 veh/hr	53 veh/hr	77 veh/hr	450 veh
Auto Passenger	19 ppl/hr	6 ppl/hr	25 ppl/hr	8 ppl/hr	19 ppl/hr	27 ppl/hr	158 ppl
Transit	3 ppl/hr	0 ppl/hr	3 ppl/hr	1 ppl/hr	3 ppl/hr	4 ppl/hr	22 ppl
Bicycle (Non-motorized)	5 ppl/hr	2 ppl/hr	7 ppl/hr	3 ppl/hr	4 ppl/hr	7 ppl/hr	42 ppl
Walk (Transit and other walk trips)	8 ppl/hr	2 ppl/hr	10 ppl/hr	4 ppl/hr	7 ppl/hr	11 ppl/hr	64 ppl

Trip Generation - Warehouse

71,000 sf

Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Warehouse	150	71,000 sf	26 veh/hr	8 veh/hr	34 veh/hr	10 veh/hr	26 veh/hr	36 veh/hr	158 veh
		Calculation Details:	*77%*	*23%*	*=0.12(X/1000)+25.32*	*27%*	*73%*	*=0.12(X/1000)+27.82*	*=1.58(X/1000)+45.54*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Warehouse	88%	23 veh/hr	7 veh/hr	30 veh/hr	9 veh/hr	23 veh/hr	32 veh/hr	139 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Warehouse	67.0%	34 ppl/hr	11 ppl/hr	45 ppl/hr	13 ppl/hr	35 ppl/hr	48 ppl/hr	207 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Warehouse	Auto Driver	67.0%	23 ppl/hr	7 ppl/hr	30 ppl/hr	9 ppl/hr	23 ppl/hr	32 ppl/hr	139 ppl
Warehouse	Auto Passenger	23.5%	8 ppl/hr	3 ppl/hr	11 ppl/hr	3 ppl/hr	8 ppl/hr	11 ppl/hr	49 ppl
Warehouse	Transit	3.3%	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	7 ppl
Warehouse	Non-Motorized	6.2%	2 ppl/hr	1 ppl/hr	3 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	12 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	23 veh/hr	7 veh/hr	30 veh/hr	9 veh/hr	23 veh/hr	32 veh/hr	139 veh
Auto Passenger	8 ppl/hr	3 ppl/hr	11 ppl/hr	3 ppl/hr	8 ppl/hr	11 ppl/hr	49 ppl
Transit	1 ppl/hr	0 ppl/hr	1 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	7 ppl
Bicycle (Non-motorized)	2 ppl/hr	1 ppl/hr	3 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	12 ppl
Walk (Transit and other walk trips)	3 ppl/hr	1 ppl/hr	4 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	19 ppl

Trip Generation - Retail

Background Development - Poplar Grove

Policy Area: 16. Germantown West

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	820	60,000 sf	35 veh/hr	21 veh/hr	56 veh/hr	179 veh/hr	193 veh/hr	372 veh/hr	4248 veh
		Calculation Details:	*62%*	*38%*	*=0.94(X/1000)*	*48%*	*52%*	*Ln(T)=0.74Ln(X/1000)+2.89*	*Ln(T)=0.68Ln(X/1000)+5.57*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	92%	32 veh/hr	20 veh/hr	52 veh/hr	165 veh/hr	177 veh/hr	342 veh/hr	3908 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	66.4%	48 ppl/hr	30 ppl/hr	78 ppl/hr	248 ppl/hr	267 ppl/hr	515 ppl/hr	5886 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	66.4%	32 ppl/hr	20 ppl/hr	52 ppl/hr	165 ppl/hr	177 ppl/hr	342 ppl/hr	3908 ppl
Retail	Auto Passenger	27.6%	13 ppl/hr	9 ppl/hr	22 ppl/hr	68 ppl/hr	74 ppl/hr	142 ppl/hr	1625 ppl
Retail	Transit	1.2%	1 ppl/hr	0 ppl/hr	1 ppl/hr	3 ppl/hr	3 ppl/hr	6 ppl/hr	71 ppl
Retail	Non-Motorized	4.8%	2 ppl/hr	1 ppl/hr	3 ppl/hr	12 ppl/hr	13 ppl/hr	25 ppl/hr	282 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	32 veh/hr	20 veh/hr	52 veh/hr	165 veh/hr	177 veh/hr	342 veh/hr	3908 veh
Auto Passenger	13 ppl/hr	9 ppl/hr	22 ppl/hr	68 ppl/hr	74 ppl/hr	142 ppl/hr	1625 ppl
Transit	1 ppl/hr	0 ppl/hr	1 ppl/hr	3 ppl/hr	3 ppl/hr	6 ppl/hr	71 ppl
Bicycle (Non-motorized)	2 ppl/hr	1 ppl/hr	3 ppl/hr	12 ppl/hr	13 ppl/hr	25 ppl/hr	282 ppl
Walk (Transit and other walk trips)	3 ppl/hr	1 ppl/hr	4 ppl/hr	15 ppl/hr	16 ppl/hr	31 ppl/hr	353 ppl

Trip Generation - Retail

Background Development - Milestone

Policy Area: 14. Germantown East

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	820	28,250 sf	17 veh/hr	10 veh/hr	27 veh/hr	102 veh/hr	111 veh/hr	213 veh/hr	2545 veh
		Calculation Details:	*62%*	*38%*	*=0.94(X/1000)*	*48%*	*52%*	*Ln(T)=0.74Ln(X/1000)+2.89*	*Ln(T)=0.68Ln(X/1000)+5.57*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	97%	16 veh/hr	10 veh/hr	26 veh/hr	99 veh/hr	108 veh/hr	207 veh/hr	2469 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	70.1%	23 ppl/hr	14 ppl/hr	37 ppl/hr	141 ppl/hr	154 ppl/hr	295 ppl/hr	3522 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	70.1%	16 ppl/hr	10 ppl/hr	26 ppl/hr	99 ppl/hr	108 ppl/hr	207 ppl/hr	2469 ppl
Retail	Auto Passenger	25.3%	6 ppl/hr	3 ppl/hr	9 ppl/hr	36 ppl/hr	39 ppl/hr	75 ppl/hr	891 ppl
Retail	Transit	1.1%	0 ppl/hr	0 ppl/hr	0 ppl/hr	2 ppl/hr	1 ppl/hr	3 ppl/hr	39 ppl
Retail	Non-Motorized	3.5%	1 ppl/hr	1 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	10 ppl/hr	123 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	16 veh/hr	10 veh/hr	26 veh/hr	99 veh/hr	108 veh/hr	207 veh/hr	2469 veh
Auto Passenger	6 ppl/hr	3 ppl/hr	9 ppl/hr	36 ppl/hr	39 ppl/hr	75 ppl/hr	891 ppl
Transit	0 ppl/hr	0 ppl/hr	0 ppl/hr	2 ppl/hr	1 ppl/hr	3 ppl/hr	39 ppl
Bicycle (Non-motorized)	1 ppl/hr	1 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	10 ppl/hr	123 ppl
Walk (Transit and other walk trips)	1 ppl/hr	1 ppl/hr	2 ppl/hr	6 ppl/hr	7 ppl/hr	13 ppl/hr	162 ppl

Trip Generation - Office

15,000 sf office space

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Office	710	15,000 sf	35 veh/hr	6 veh/hr	41 veh/hr	3 veh/hr	16 veh/hr	19 veh/hr	168 veh
		Calculation Details:	*86%*	*14%*	*=0.94(X/1000)+26.49*	*16%*	*84%*	*Ln(T)=0.95Ln(X/1000)+0.36*	*Ln(T)=0.97Ln(X/1000)+2.5*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Office	91%	32 veh/hr	5 veh/hr	37 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr	153 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Office	69.2%	46 ppl/hr	7 ppl/hr	53 ppl/hr	4 ppl/hr	21 ppl/hr	25 ppl/hr	221 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Office	Auto Driver	69.2%	32 ppl/hr	5 ppl/hr	37 ppl/hr	3 ppl/hr	14 ppl/hr	17 ppl/hr	153 ppl
Office	Auto Passenger	20.4%	9 ppl/hr	2 ppl/hr	11 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	45 ppl
Office	Transit	4.5%	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	10 ppl
Office	Non-Motorized	5.9%	3 ppl/hr	0 ppl/hr	3 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	13 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	32 veh/hr	5 veh/hr	37 veh/hr	3 veh/hr	14 veh/hr	17 veh/hr	153 veh
Auto Passenger	9 ppl/hr	2 ppl/hr	11 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr	45 ppl
Transit	2 ppl/hr	0 ppl/hr	2 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	10 ppl
Bicycle (Non-motorized)	3 ppl/hr	0 ppl/hr	3 ppl/hr	0 ppl/hr	2 ppl/hr	2 ppl/hr	13 ppl
Walk (Transit and other walk trips)	5 ppl/hr	0 ppl/hr	5 ppl/hr	0 ppl/hr	3 ppl/hr	3 ppl/hr	23 ppl

Trip Generation - Retail

Site Development - Grocery

Policy Area: 15. Germantown Town Center

Step 1: Base trip generation using ITEs' *Trip Generation* 10th Edition

Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	850	30,000 sf	69 veh/hr	46 veh/hr	115 veh/hr	162 veh/hr	156 veh/hr	318 veh/hr	3339 veh
		Calculation Details:	*60%*	*40%*	*=3.82(X/1000)*	*51%*	*49%*	*Ln(T)=0.75Ln(X/1000)+3.21*	*=70.89(X/1000)+1212.64*

Step 2: Convert to policy area vehicle trips

Land Use	ITE Vehicle-Trip generation Rate Adjustment Factor (Appendix Table 1a)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	89%	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	2972 veh

Step 3: Convert to total person trips, before applying mode splits

Land Use	People/Car (Appendix Table 1b)	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	Total
Retail	64.5%	95 ppl/hr	63 ppl/hr	158 ppl/hr	223 ppl/hr	216 ppl/hr	439 ppl/hr	4608 ppl

Step 4: Split between modes, per assumed Mode Splits by Policy Area

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Retail	Auto Driver	64.5%	61 ppl/hr	41 ppl/hr	102 ppl/hr	144 ppl/hr	139 ppl/hr	283 ppl/hr	2972 ppl
Retail	Auto Passenger	26.5%	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	1221 ppl
Retail	Transit	2.5%	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	115 ppl
Retail	Non-Motorized	6.5%	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	300 ppl
	Total	100.0%							

Trip Gen Summary for Office

Mode	AM Peak Hour			PM Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
Auto Driver	61 veh/hr	41 veh/hr	102 veh/hr	144 veh/hr	139 veh/hr	283 veh/hr	2972 veh
Auto Passenger	25 ppl/hr	17 ppl/hr	42 ppl/hr	59 ppl/hr	57 ppl/hr	116 ppl/hr	1221 ppl
Transit	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	115 ppl
Bicycle (Non-motorized)	7 ppl/hr	3 ppl/hr	10 ppl/hr	14 ppl/hr	15 ppl/hr	29 ppl/hr	300 ppl
Walk (Transit and other walk trips)	9 ppl/hr	5 ppl/hr	14 ppl/hr	20 ppl/hr	20 ppl/hr	40 ppl/hr	415 ppl

Attachment 5

Department of Permitting Services
Fire Department Access and Water Supply Comments

DATE: 16-Mar-22

TO: Stephen Crum - scrum@mhgpa.com
Macris, Hendricks & Glascock

FROM: Marie LaBaw

RE: Lidl Germantown
120220030 820220080

PLAN APPROVED

1. Review based only upon information contained on the plan submitted **15-Mar-22** .Review and approval does not cover unsatisfactory installation resulting from errors, omissions, or failure to clearly indicate conditions on this plan.

2. Correction of unsatisfactory installation will be required upon inspection and service of notice of violation to a party responsible for the property.

***** 5/4/2022 Revised driveway *****

MHG
Civil Engineers
Land Planners
Land Surveyors
Landscape Architects

9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
(301) 670-0840
www.mhgpa.com

April 27, 2022

Dr. Marie LaBaw, PhD, P.E.
Montgomery County
Department of Permitting Services
Fire Department Access & Water Supply
2425 Reedie Drive, 7th Floor
Wheaton, MD 20902

Wisteria Business Park (Lidl Germantown)
MNCPPC #120220030 & 820220080
MHG Project No. 1985.136.53

Dr. LaBaw,

On behalf of our client, Lidl US Operations, LLC, we hereby submit an amendment to the approved Fire Department Access Plan dated March 16, 2022. The site is located at 19430 Walter Johnson Road in Germantown, Maryland and is currently under MNCPPC Preliminary/Site Plan review for a new 32,000 square foot grocery store. MNCPPC Transportation Staff recently requested narrowing of drive aisles and curb radii due to community concerns for pedestrian safety. We have made the requested adjustments to the plan while maintaining compliance with the applicable portions of Montgomery County Executive Regulation 8-16, Fire Safety Code.

For your use in reviewing this request, we have included a revised Fire Department Access Plan.

We appreciate your assistance with this matter. Please let us know if you have any questions or need additional information.

STATE OF MARYLAND
STEPHEN EDWARD CRUM
No. 16905
PROFESSIONAL ENGINEER

E=scrum@mhgpa.com, CN=Stephen E. Crum, O="Macris, Hendricks, and Glascock, P.A.", L=Montgomery Village, S=Maryland, C=US
2022.04.28 05:08:30-04'00'

Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the state of Maryland, License No. 16905, Expiration Date: 04.21.2024

Sincerely,

FIRE CODE ENFORCEMENT
Stephen E. Crum, P.E.
Fire Department Access Review

Review based only upon information contained on this plan. Does not cover unsatisfactory layout resulting from ommisions, errors or failure to clearly indicate conditions on this plan. Correction of such unsatisfactory layout to afford required access will be required if found upon inspection after installation

BY: SMC FM: 43 DATE: 5/4/2022
original 3/16/2022

GERMANTOWN ROAD (MD-118)
SPEED LIMIT POSTED 40 M.P.H.

BOWMAN MILL DRIVE
NO POSTED SPEED LIMIT

WALTER JOHNSON ROAD
NO POSTED SPEED LIMIT

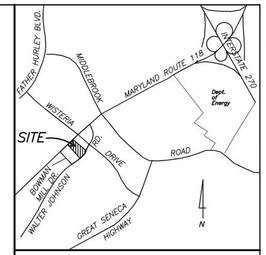
WISTERIA DRIVE
SPEED LIMIT POSTED 30 M.P.H.

WALTER JOHNSON ROAD
SPEED LIMIT POSTED 30 M.P.H.

CAR SHARE
FUT EV
FUT EV
NEW FH
BOLLARDS
ACCESS PATH EDGE AT FACE OF CURB
500 FT TO NEAREST HYDRANT
20.0'
42'
R50'
R30'
ACCESS PATH ON DEPRESSED CURB (SEE DETAIL)
EGRESS DOOR
FDC
MAIN ENTRANCE
125' ACCESS PATH
RETAINING WALL
HATCHING DENOTES CLEAR AND WALKABLE GRADE AROUND EXTERIOR OF BUILDING
LOADING DOCK
15.0'
8.0'
20.0'
CONCRETE STREET PARKING
115' ACCESS PATH
EGRESS DOOR
SWM PLANTER (AT GRADE) MAX DEPTH = 18"
SWM PLANTER (AT GRADE) MAX DEPTH = 18"
EX. FH
SEAT WALL (12" STEPS)
24.0'
STREET PARKING
8.0'
NEW FH
400 FT TO NEAREST HYDRANT
INGRESS/EGRESS & UTILITY ESMT L.14232 F.362
GRADING ZONE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

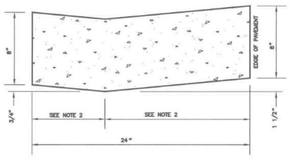
FIRE CODE ENFORCEMENT
Fire Department Access Review
Review based only upon information contained on this plan. Does not cover unsatisfactory layout resulting from ommisions, errors or failure to clearly indicate conditions on this plan. Correction of such unsatisfactory layout to afford required access will be required if found upon inspection after installation
BY: SAC FM: 43 DATE: 5/4/2022
original 3/16/2022



VICINITY MAP
SCALE 1" = 2,000'

LEGEND

- FIRE DEPARTMENT ACCESS PATH
- 15' CLEAR AND WALKABLE GRADE AROUND BUILDING
- MAIN EXTERIOR DOORS
- FIRE ACCESS PATH



GENERAL NOTES

1. REFER TO MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR MATERIALS, METHODS OF CONSTRUCTION AND EXPANSION JOINT LOCATIONS.
2. THE DISTANCES FROM THE FLOWLINE TO THE FRONT AND BACK EDGE OF CURB SHALL BE ADJUSTED TO MATCH EXISTING CONDITIONS.
3. THE STANDARD DISTANCE BETWEEN JOINTS SHALL BE TEN FEET (MAXIMUM AND MINIMUM DISTANCES SHALL BE THIRTEEN FEET AND FIVE FEET RESPECTIVELY).
4. EXPANSION JOINT MATERIAL SHALL BE 1/2 INCH PREFORMED CORK, TRIMMED AND SEALED WITH NON-STAINING TWO-COMPONENT, POLYSULFIDE OR POLYURETHANE ELASTOMERIC TYPE SEALANT COMPLYING WITH ASTM-C920. ⚠

APPROVED 14 APR 06 DATE	REVISED	MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
DIRECTOR, DEPT. OF PUBLIC WORKS & TRANSPORTATION	⚠ ASTM-C920 4/2006	DEPRESSED CURB
for CHIEF, DIV. OF CAP. DEV.		STANDARD NO. MC-102.01

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors

9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
Phone: 301.670.0840
www.mhgpa.com

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STATE OF MARYLAND
STEPHEN EDWARD CRUM
No. 16905
REGISTERED PROFESSIONAL ENGINEER

Digitally signed by Stephen E. Crum, O=Macris, Hendricks, and Glascock, P.A., L=Montgomery Village, S=Maryland, C=US
2022.04.28 11:35:13 -04'00'

Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the Laws of the State of Maryland, Lic. No. 16905 Exp. Date. 04.21.2024

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU341, 342 WSSC 226NW13, 227NW13

PLATS 20037, 21066 &
L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

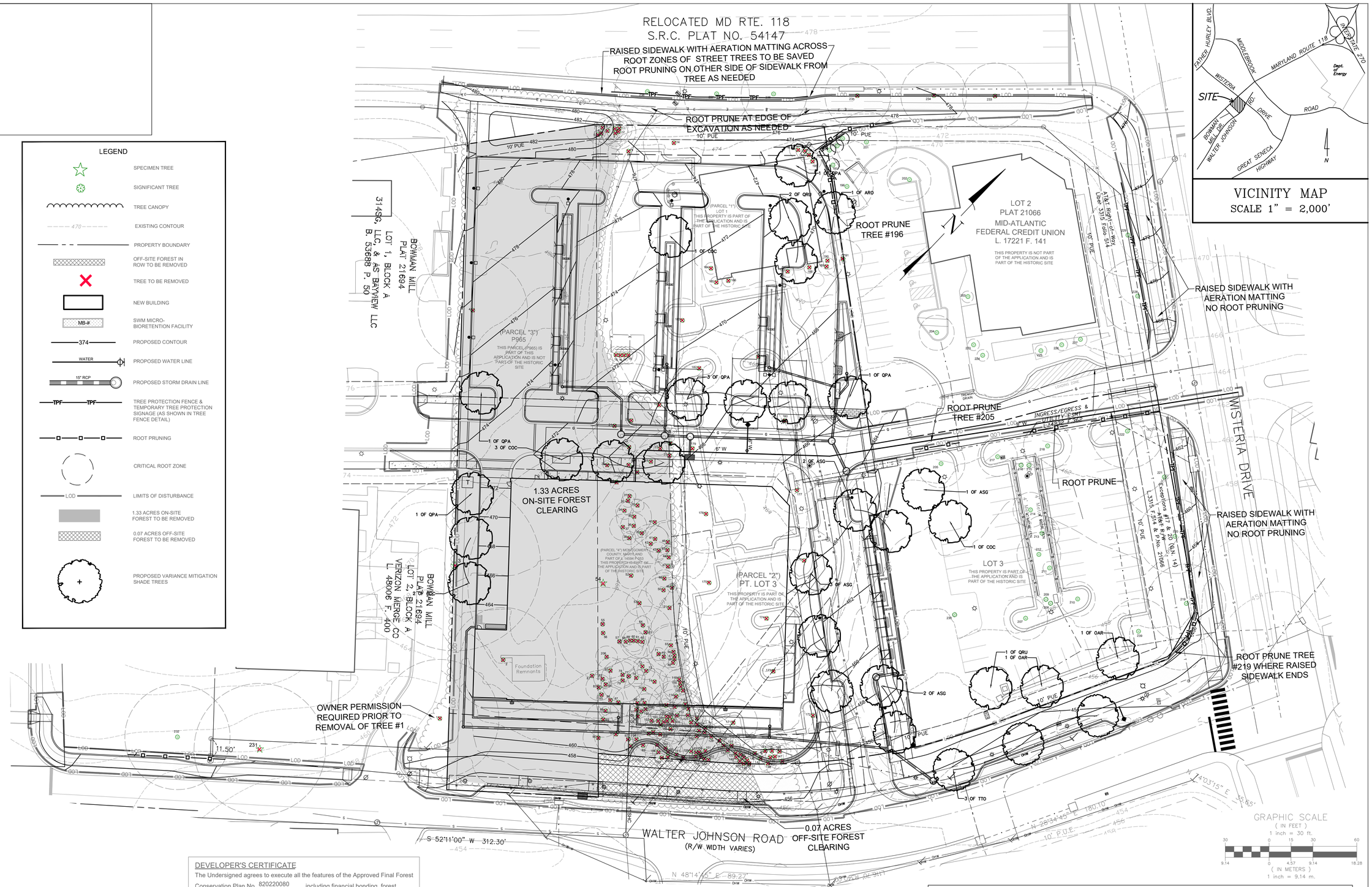
19430 WALTER JOHNSON RD
GERMANTOWN, MD

PROJ. MGR	PGL
DRAWN BY	JDP
SCALE	1"= 30'
DATE	04.27.2022

LIDL GERMANTOWN
FIRE APPARATUS ACCESS PLAN

PROJECT NO.	85.136.51
SHEET NO.	1 OF 1

I:\85136\CIVIL\FIRE_EX_01.dwg, Fire Access Plan, 4/28/2022 10:51:15 AM, lenglys, Copyright © 2022 Macris, Hendricks & Glascock, P.A.



VICINITY MAP
SCALE 1" = 2,000'

811 Know what's below. Call before you dig.

FOR UTILITY LOCATIONS CONTACT "ONE CALL" AT 811 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. 820220080 , including financial bonding, forest planting, maintenance and all other applicable agreements.

Developer's Name: LIDL US OPERATIONS, LLC (Company) CONNOR BEVANS (Contact Person)

Address: 3500 S. CLARKS STREET ARLINGTON, VA 22202

Phone: 703-424-8741

Email: CONNOR.BEVANS@LIDL.US

Signature: _____

THIS APPLICATION INCLUDES ALL OF LOTS 1 & 3 AND ALSO INCLUDES P965 AND THE PROPERTY LABELED AS "PARCEL 4 MONTGOMERY COUNTY, MARYLAND PART OF L 14594 F 053".

THIS FOREST CONSERVATION PLAN SUPERSEDES THE PREVIOUSLY APPROVED FOREST CONSERVATION PLANS #119900680 AND #819960130

VARIANCE TREE MITIGATION LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	CAL	HGT	ROOT	SPACING
SHADE TREES							
ASG	8	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	3"		B&B	AS SHOWN
COC	7	Celtis occidentalis	Common Hackberry	3"		B&B	AS SHOWN
QPA	7	Quercus palustris	Pin Oak	3"		B&B	AS SHOWN
QRU	3	Quercus rubra	Red Oak	3"		B&B	AS SHOWN
ARO	1	Acer rubrum 'October Glory'	October Glory Red Maple	3"		B&B	AS SHOWN
TTO	3	Tilia tomentosa 'Sterling Silver'	Sterling Silver Linden	3"		B&B	AS SHOWN
OAR	2	Oxydendrum arboreum	Sourwood	3"		B&B	AS SHOWN

MHG
Civil Engineers
Land Planners
Landscape Architects
Land Surveyors

9220 Wightman Road, Suite 120
Montgomery Village, MD 20886
Phone: 301.670.0840
www.mhgpa.com

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FRANK C. JOHNSON
06/22/2022
DATE
RECOGNIZED AS QUALIFIED PROFESSIONAL BY MD DEPT. OF NATURAL RESOURCES
COMAR 08.19.06.01

Qualified Professional Certification
I hereby certify that the information shown hereon is correct and that this plan has been prepared in accordance with the requirements of the existing state and county forest conservation legislation.

LIDL US OPERATIONS, LLC
3500 S. CLARKS STREET
ARLINGTON, VA 22202
703-424-8741
CONNOR.BEVANS@LIDL.US

REVISIONS

NO.	DESCRIPTION	DATE

TAX MAP EU42 WSSC 227NW13

PLATS 20037, 21066 & L.23973 F.138
2ND ELECTION DISTRICT
MONTGOMERY COUNTY
MARYLAND

LOT 1 & 3 WISTERIA BUSINESS PARK, PARCEL 965, & LAND DEED L.14594 F.53

PROJ. MGR	PGL
DRAWN BY	FCJ
SCALE	1"= 30'
DATE	10.21.2021

PRELIMINARY/FINAL FOREST CONSERVATION PLAN #820220080

L9.01

PROJECT NO.	85.136.53
SHEET NO.	1 OF 3

I:\85136\DWG\FC_53_01.dwg, 1 of 3, 6/22/2022 9:46:33 AM, Copyright © 2022 Macris, Hendricks & Glascock, P.A.

Attachment 7

Macris, Hendricks & Glascock, P.A.
Engineers ▪ Planners ▪ Surveyors ▪ Landscape Architects

9220 Wightman Road, Suite 120
Montgomery Village, Maryland
20886-1279

MHG

Phone 301.670.0840
Fax 301.948.0693

June 22, 2022

Montgomery Planning Department
2425 Reedie Drive
Wheaton, MD 20902

Re: Lidl Wisteria
PFCP/FFCP
MHG Project No. 85.136.53

To Whom It May Concern:

On behalf of Lidl US Operations, LLC, the applicant of the above referenced Forest Conservation Plan, we hereby request a variance for the impact of fifteen specimen/variance tree and removal of one hundred ninety-six specimen/variance trees, as required by the Maryland Natural Resources Article, Title 5, Subtitle 16, Forest Conservation, Section 5-1611, and in accordance with Chapter 22A-21(b) of the Montgomery County Code. In accordance with Chapter 22A-21(b) of the Montgomery County Code, the proposed impact of fifteen specimen/variance trees and removal of one hundred ninety-six specimen/variance trees would satisfy the variance requirements.

1. *Describe the special conditions peculiar to the property which would cause the unwarranted hardship;*

   The subject property is 3.75 acres. The property is partially developed with a forested area on one side and an office building with parking on the other side. There is an approved forest conservation plan for the developed part of the site that takes credit for landscaping trees. This forest conservation plan supersedes the existing plan and proposes to meet the forest conservation requirements off-site. The office building and some parking and the existing forest is to be removed with part of the parking area to remain. A Lidl grocery store is proposed for the site.

   The property is zoned CR-1.0, C-0.75, R-0.75, H-75 and the proposed grocery store conforms to the zoning requirements. In order to develop these properties into a grocery store it is necessary to remove and impact the subject trees. In addition the master plan calls for Walter Johnson Drive to cut through the middle of the property and connect south to Walther Johnson Road. There are no feasible alternatives to the design that would allow the necessary square footage for the grocery store, the parking requirements, and the proposed road while protecting the trees on-site. The properties to be developed are shown on the plan as Parcels 1, 2, 3, and 4. Parcels 1, 2, and 4 are designated as historic which makes all trees on those properties that are 1" dbh and greater subject to the variance requirements. Trees to be removed on these parcels include trees #5 thru #195 and #206. Although this part of the site is listed as historic, the property has been

developed and does not maintain any historic features. Parcels 1 and 2 are developed with an office building and parking lot that are proposed to be removed. The trees on Parcel 1 and 2 to be removed were planted around the office building and around the parking lot and will not be able to be saved both due to demolition as well as the development requirements. There is a section of forest to be removed on Parcel 4 resulting in the largest number trees requiring a variance, most trees with dbh less than 8" dbh. This section of the property was previously dedicated to the county when the developed side of the property was originally subdivided and is now going through the abandonment process with the county to be part of the proposed development. This section of the property was previously proposed to be developed as public right of way and was deemed at that time to not have any trees of a historic significance. It sat undeveloped and unmaintained resulting in many small trees growing into a forested area. The original historic property was bisected by MD Route 118. Staff has determined that the historic designation remains for the area where 118 crosses the original historic property footprint. Therefore the planted street trees within the right of way are also to be considered historic and in need of a variance for mitigation. Due to the county requirement to expand the sidewalk along 118, six trees will be impacted but saved (#198, 200, 201, 236, 237, and 238) and two trees #233 and #235 are to be removed. Tree #234 is also being removed from the right of way but does not require a variance because it is dead. These impacts cannot be avoided while providing the requested sidewalk and the necessary grading. Parcel 3 is not historic and is completely forested and has one specimen tree in need of a variance, tree #3. This tree is a 39" Silver Maple in poor condition, topped and almost dead. It sits at the edge of the development with its critical root zone extending over halfway across Parcel 3. As with the other trees, the grocery store square footage and parking requirements are such that impacts cannot be avoided. If it were saved it would be a hazard to any development. Tree #231 is being impacted by a sidewalk expansion along Walter Johnson Rd which is being required by the county. The proximity of the tree to the disturbance as well as the condition of the tree require that it be removed.

The configuration of the individual properties is such that developing any of them on their own or combined would result in the subject tree removals. The forest is a moderate priority forest due to the historic status but is low quality forest that has a high amount of invasive species present. The forest is surrounded by development on two sides and has a road on the other two sides. The building square footage requirements as well as parking requirements for the grocery store take up a considerable amount of square footage resulting in the majority of tree impacts. There is no vehicular access to MD Route 118 making the main entrance from Walter Johnson Drive. Secondary access is via an access drive that is proposed to traverse the property between Wisteria Drive and Bowman Mill Drive. The size and shape of the lot and the access drive requirements dictate much of the design. These factors combined with the fact that the vast majority of the variance trees are located in the central area of the property restrict any opportunities to save trees while developing the property.

Nine other variance trees are proposed to be impacted but saved. Tree #196 is along the edge of the proposed development and is impacted by the parking area. Trees #205, #218, and #222 are impacted by construction of a water line. The water line connects to the existing water main in Wisteria Drive. An existing parallel gas line also comes off Wisteria Drive which must be avoided resulting in the location of the proposed line that

goes through the subject trees root zones. Trees #219, #220, #221, #228, and #229 are being impacted by a sidewalk expansion along Wisteria Drive. The sidewalk expansions are being required by the county. The new sidewalk will be a raised sidewalk with aeration matting in order to save these trees. Impacts to trees to remain have been minimized and will be mitigated with all stress reduction requirements necessary including root pruning, aeration matting, mulching and sanitation pruning as needed.

Given the design needs for developing the store and the property, not allowing the impacts would be a hardship that is not warranted in light of the special conditions particular to the property.

2. *Describe how enforcement of these rules will deprive the landowner of rights commonly enjoyed by others in similar areas;*

   Tree impacts consist of reasonable improvements for the maintenance and betterment of the property. The proposed development is designed to meet current design standards. The inability to impact/remove the subject trees would limit the development of the property. This creates a significant disadvantage for the applicant and deprives the applicant of the rights enjoyed by the neighboring and/or similar properties not subject to this approval process.

3. *Verify that State water quality standards will not be violated or that a measurable degradation in water quality will not occur as a result of the granting of the variance;*

   A Stormwater Management Concept has been submitted for the improvements. The approval of the Stormwater Management Concept will confirm that the goals and objectives of the current state water quality standards are being met. The sites SWM requirement is met with micro-bioretention facilities. Runoff from the parking areas is conveyed to the micro-bioretention facilities within the parking lot islands. Runoff from the roof is also directed to facilities.

4. *Provide any other information appropriate to support the request.*

   Pursuant to Section 22A 21(d) Minimum Criteria for Approval.
   (1) <u>The Applicant will receive no special privileges or benefits by the granting of the requested variance that would not be available by any other applicants</u>.
   The variance will not confer a special privilege because the impacts are due to the development of the site and are the minimum necessary in order to provide needed improvements to the property. The site constraints are explained above. The constraints constrict the development area of the property and do not leave a reasonable alternative to meet the needs of the property per design requirements and county code.
   (2) <u>The variance request is not based on conditions or circumstances which result from the actions of the applicant.</u>
   The variance is based upon site conditions and development constraints that developed and existed before the enactment of the specimen tree legislation and are not based on conditions or circumstances which are a result of actions of the Applicant. The variance

is based on the existing conditions of the site, and the design is utilizing the only areas that are available for the proposed improvements that meet the design needs of the property.

(3) The variance is not based on a condition relating to the land or building use, either permitted or nonconforming on a neighboring property.

The location of the trees and the development constraints are dictating the need for the variance. The requested variance is a result of the existing on-site conditions and necessary proposed improvements for the property as detailed above and not a result of land or building on a neighboring property.

(4) Will not violate State water standards or cause measurable degradation in water quality. Full ESD stormwater management will be provided as part of the proposed development.

The Montgomery County Department of Permitting Services approval of the Concept will demonstrate that the variance will not violate State water quality standards or cause measurable degradation in water quality and will actually improve water quality by the introduction of stormwater management treatment to the property as summarized, where it currently does not exist. The specimen trees being impacted are not within a special protection area.

A copy of the Forest Conservation Plan showing variance tree information has been provided as part of this variance request. Please let us know if any other information is necessary to support this request.

Please contact me via email, at fjohnson@mhgpa.com, or by phone, at (301) 670-0840 should you have any additional comments or concerns.

Thank you,

Frank Johnson

Frank Johnson

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Marc Elrich
County Executive

Adriana Hochberg
Acting Director

July 1, 2022

Casey Anderson, Chair
Montgomery County Planning Board
Maryland National Capital Park & Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910

RE: Wisteria Business Park, ePlan 120220030 – revised

Dear Mr. Anderson:

All applications for a variance from the requirements of Chapter 22A of the County Code submitted after October 1, 2009 are subject to Section 22A-12(b)(3)(A) or (B). Accordingly, given that the application for the above referenced request was submitted after that date and must comply with Chapter 22A, and the Montgomery County Planning Department ("Planning Department") has completed all review required under applicable law, I am providing the following recommendation pertaining to the revised request for a variance.

Section 22A-21(d) of the Forest Conservation Law states that a variance must not be granted if granting the request:

1. Will confer on the applicant a special privilege that would be denied to other applicants;
2. Is based on conditions or circumstances which are the result of the actions by the applicant;
3. Arises from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property; or
4. Will violate State water quality standards or cause measurable degradation in water quality.

Applying the above conditions to the plan submitted by the applicant, I make the following findings as the result of my review:

1. The granting of a variance in this case would not confer a special privilege on this applicant that would be denied other applicants as long as the same criteria are applied in each case. Therefore, the variance can be granted under this criterion.

2. Based on a discussion on March 19, 2010 between representatives of the County, the Planning Department, and the Maryland Department of Natural Resources Forest Service, the disturbance of trees, or other vegetation, as a result of development activity is not, in and of itself, interpreted as a condition or circumstance that is the result of the actions by the applicant. Therefore, the variance can be granted under this criterion, as long as appropriate mitigation is provided for the resources disturbed.

3. The disturbance of trees, or other vegetation, by the applicant does not arise from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property. Therefore, the variance can be granted under this criterion.

4. The disturbance of trees, or other vegetation, by the applicant will not result in a violation of State water quality standards or cause measurable degradation in water quality. Therefore, the variance can be granted under this criterion.

Therefore, I recommend a finding by the Planning Board that this applicant qualifies for a variance conditioned upon meeting all 'conditions of approval' pertaining to variance trees recommended by Planning staff, as well as the applicant mitigating for the loss of resources due to removal or disturbance to trees, and other vegetation, subject to the law based on the limits of disturbance (LOD) recommended during the review by the Planning Department. In the case of removal, the entire area of the critical root zone (CRZ) should be included in mitigation calculations regardless of the location of the CRZ (i.e., even that portion of the CRZ located on an adjacent property). When trees are disturbed, any area within the CRZ where the roots are severed, compacted, etc., such that the roots are not functioning as they were before the disturbance must be mitigated. Exceptions should not be allowed for trees in poor or hazardous condition because the loss of CRZ eliminates the future potential of the area to support a tree or provide stormwater management. Tree protection techniques implemented according to industry standards, such as trimming branches or installing temporary mulch mats to limit soil compaction during construction without permanently reducing the critical root zone, are acceptable mitigation to limit disturbance. Techniques such as root pruning should be used to improve survival rates of impacted trees but they should not be considered mitigation for the permanent loss of critical root zone. I recommend requiring mitigation based on the number of square feet of the critical root zone lost or disturbed. The mitigation can be met using any currently acceptable method under Chapter 22A of the Montgomery County Code.

In the event that minor revisions to the impacts to trees subject to variance provisions are approved by the Planning Department, the mitigation requirements outlined above should apply to the removal or disturbance to the CRZ of all trees subject to the law as a result of the revised LOD.

If you have any questions, please do not hesitate to contact me directly.

Sincerely,



Laura Miller
County Arborist

cc: Mary Jo Kishter, Environmental Planner III

DEPARTMENT OF PERMITTING SERVICES

Marc Elrich
County Executive

Mitra Pedoeem
Director

May 27, 2022

Mr. Patrick La Vay
Macris, Hendricks & Glascock, P.A.
9220 Wightman Road, Suite 120
Montgomery Village, MD 20886

Re: **COMBINED STORMWATER MANAGEMENT CONCEPT/*SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN*** for
LIDL Germantown, 19430 Walter Johnson Road
Preliminary Plan #: 120220030
SM File #: 287578
Tract Size/Zone: 2,78 Ac/121,265 sq ft;
CR-1.0, C-075, R-0.75, H-075
Total Concept Area: 3.73 Ac/162,355 sq ft
Lots/Block: Wisteria Business Park, Lot 1, Lot 3,
Lot of Germantown,
Parcel(s): P965
Watershed: Seneca Creek, Class I-P

Dear Mr. LaVay:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above-mentioned site is **acceptable.** The stormwater management concept proposes to meet required stormwater management goals via microbioretention planter boxes. A partial stormwater management waiver has been requested due to site constraints and is hereby conditionally granted.

The following items will need to be addressed during the detailed sediment control/stormwater management plan stage:

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review.

2. An engineered sediment control plan must be submitted for this development.

3. All filtration media for manufactured best management practices, whether for new development or redevelopment, must consist of MDE approved material.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is required**.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Jean Kapusnick, P.E. at jean.kapusnick@montgomerycountymd.gov at 240-777-6345.

Sincerely,

Mark Etheridge

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: jak

cc: N. Braunstein
SM File # 287578

ESD: Required/Provided 21,556 cf /12,855 cf
PE: Target/Achieved: 2.2"/1.31"
STRUCTURAL: 0.0 cf
WAIVED: 8,701 cf./ 1.5 ac

[EXTERNAL EMAIL] Exercise caution when opening attachments, clicking links, or responding.

Hi Jonathan. Hope you're doing well.

I did some research and exchanged some emails with Lynn Robeson Hannan at OZAH about whether the development plan connected to the 1990 rezoning of part of Lidl's Germantown site should be amended to reflect the fact that part of the site is to be sold. As you can see from the email exchange below, she agreed with my conclusion that a DPA is not necessary in connection with Lidl's applications.

Would you like me to submit a letter for the record with the email train below as an attachment?

Françoise

BBS&G Attorneys

Françoise M. Carrier
BREGMAN, BERBERT, SCHWARTZ & GILDAY, LLC
7315 Wisconsin Avenue, Suite 800 West
Bethesda, Maryland 20814
301-656-2707 **PHONE** | 301-961-6525 **FAX** | 240-428-4671 **MOBILE**
Email: fcarrier@bregmanlaw.com
https://link.edgepilot.com/s/26ed93a8/NdlxOLGc6kmgU09EQGnipQ?u=http://www.bregmanlaw.com/

From: Francoise Carrier
Sent: Tuesday, October 19, 2021 3:02 PM
To: 'Robeson Hannan, Lynn' <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

Lynn,

Thank you very much. You've been most helpful.

Françoise

BBS&G Attorneys

Françoise M. Carrier
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7315 Wisconsin Avenue, Suite 800 West
Bethesda, Maryland 20814
301-656-2707 **PHONE** | 301-961-6525 **FAX** | 240-428-4671 **MOBILE**
Email: fcarrier@bregmanlaw.com
https://link.edgepilot.com/s/26ed93a8/NdlxOLGc6kmgU09EQGnipQ?u=http://www.bregmanlaw.com/

From: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Sent: Tuesday, October 19, 2021 2:50 PM
To: Francoise Carrier <fcarrier@bregmanlaw.com>

Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

Francoise, I agree with you that the applicant does not need to amend it's development plan if it intends to abandon the old zoning. However, the citation below creates two prongs that must be met to proceed under the SMA zoning: (1) that the property was zoned by LMA on 10/29/14 and (2) that improvements have been made under a SMA. This was not zoned by LMA on October 29, 2014 and from what you've indicated, no improvements have been made to the property since that time.

Even though not applicable, Section 7.7.1.B. does suggest that once a property has been rezoned by SMA, you may proceed with new development under the SMA zoning—otherwise, how would you ever meet the second prong of the test?

Neither the old or new Zoning Ordinance contained a specific provision for "unwinding" a LMA/Development Plan approval. I know of one case in the past where a property owner requested that the District Council revoke the LMA/DPS approval. OZAH recommended approval of a request and forwarded it to the District Council. The District Council agreed with OZAH's recommendation and approved a resolution revoking the LMA approval and explicitly abandoning the covenants to clarify the land records.

I do not think this would have to be done *before* processing a development application. For your purposes, however, I do not think that you need to amend a development plan approval that you are essentially abandoning. However, you may wish to request the District Council to formally revoke the original approval so that future improvements do not need to consider this question.

This is based only on the information provided and is not binding if the issue is raised at a public hearing before OZAH.

Lynn Robeson Hannan
Director
Office of Zoning and Administrative Hearings
100 Maryland Avenue, Room 200
Rockville, MD 20850
(240) 777-6660

From: Francoise Carrier <fcarrier@bregmanlaw.com>
Sent: Monday, October 18, 2021 3:36 PM
To: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

[EXTERNAL EMAIL]

Hi Lynn. I am finally coming back to the issue discussed in our emails below. I found a zoning code provision that I believe supports my original supposition that the approved DPS no longer applies to this property because the zoning was changed by Sectional Map Amendment before the comprehensive rezoning in 2014 took place.

Please review the following from the zoning code:

59.7.7.1.B.5 Development with a Development Plan or Schematic Development Plan Approved before October 30, 2014

a. Any development allowed on property where the zoning classification on October 29, 2014 was the result of a Local Map Amendment must satisfy any binding elements until:

   i. the property is subject to a Sectional Map Amendment that implements a master plan approved after October 30, 2014 and obtains approval for development under the SMA-approved zoning;
   ii. the property is rezoned by Local Map Amendment; or
   iii. the binding element is revised by a development plan amendment under the procedures in effect on October 29, 2014.

This provision requires that a project or property continue following the binding elements of an LMA approval "where the zoning classification on October 29, 2014 was the result of a Local Map Amendment." In this case, the property that was rezoned to the O-M zone by LMA in 1990 was no longer under that zoning classification on October 29, 2014. It had already been rezoned to the TMX-2 zone by SMA in 2009. It seems to me that this confirms that the development plan that was in effect when the property was in the O-M zone is no longer applicable. It is clear that the covenants no longer apply because by their terms they were no longer applicable once the zoning changed in 2009. Accordingly, it seems unnecessary to amend the DPA to reflect a change in use for a portion of the site.

Please let me know whether you agree with this conclusion. I believe that your email concurrence will be sufficient for planning staff's purposes.

Thanks,

Françoise

BBS&G Attorneys

Françoise M. Carrier
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301-656-2707 **PHONE** | 301-961-6525 **FAX** | 240-428-4671 **MOBILE**
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https://link.edgepilot.com/s/5fca2f22/guG7CfG_mEeltg6lMCxFUQ?u=http://www.bregmanlaw.com/

From: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Sent: Tuesday, September 28, 2021 9:33 AM
To: Francoise Carrier <fcarrier@bregmanlaw.com>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

All right, that would be good as I am trying to get a decision out in a contested case.

Lynn Robeson Hannan
Director
Office of Zoning and Administrative Hearings
100 Maryland Avenue, Room 200
Rockville, MD 20850
(240) 777-6660

From: Francoise Carrier <fcarrier@bregmanlaw.com>
Sent: Tuesday, September 28, 2021 9:30 AM
To: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

[EXTERNAL EMAIL]

Thank you very much, Lynn. It looks like we are not going to be filing this week for other reasons, so I'm not in a huge rush.

Best,

Françoise

BBS&G Attorneys

Françoise M. Carrier
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Email: fcarrier@bregmanlaw.com
https://link.edgepilot.com/s/d38a27a6/TRM75snQCUegKC7It2by3Q?u=http://www.bregmanlaw.com/

From: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Sent: Tuesday, September 28, 2021 9:28 AM
To: Francoise Carrier <fcarrier@bregmanlaw.com>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

Francoise, I believe this is the last of what I have. The Council Action Packet (3/4/14) lists all amendments made to the ZTA from introduction.

I will try to take a look at your question in detail in the next few days.

Best,

Lynn Robeson Hannan
Director
Office of Zoning and Administrative Hearings
100 Maryland Avenue, Room 200
Rockville, MD 20850
(240) 777-6660

From: Francoise Carrier <fcarrier@bregmanlaw.com>
Sent: Monday, September 27, 2021 8:53 PM

To: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

[EXTERNAL EMAIL]

Thank you Lynn. That is super helpful.

Françoise

BBS&G Attorneys

Françoise M. Carrier
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Email: fcarrier@bregmanlaw.com
https://link.edgepilot.com/s/c202e669/8WkKxacG8UGvFzw9u1vjAA?u=http://www.bregmanlaw.com/

From: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Sent: Monday, September 27, 2021 12:44 PM
To: Francoise Carrier <fcarrier@bregmanlaw.com>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

I have all of the PHED and Council packets and will forward to you in the next few days. The PHED packets on grandfathering are from September, 2013, but there are some Council packets as well from 2014.

It's my recollection (but again, haven't been able to verify) that DPAs ended up being eliminated unless an applicant wished to proceed under the 2004 Ordinance. When I get a chance, I'll forward the packets to you.

Lynn Robeson Hannan
Director
Office of Zoning and Administrative Hearings
100 Maryland Avenue, Room 200
Rockville, MD 20850
(240) 777-6660

From: Francoise Carrier <fcarrier@bregmanlaw.com>
Sent: Monday, September 27, 2021 1:39 PM
To: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

[EXTERNAL EMAIL]

Hi Lynn. We are all doing well, thanks for asking.

I am not in a huge hurry for your answer. We do plan to file our applications on Friday, but I can outline the issue in my submission and let staff know that I will supplement my submission once this question has been resolved.

If answering this question requires reading the PHED packets from 2013, that should be my job, not yours. I will be traveling for the next three days but will figure out when I get back how one can review that kind of information with the COB closed to the public. Maybe the Legislative Reference staff scans documents and emails them. There was a time when I had all of those packets, but sadly I didn't keep them.

Thanks for the quick response. Best,

Françoise

BBS&G Attorneys

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https://link.edgepilot.com/s/5cbb6ace/8OLeSsG3AEyfyjkFC_QB2g?u=http://www.bregmanlaw.com/

From: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Sent: Monday, September 27, 2021 12:45 PM
To: Francoise Carrier <fcarrier@bregmanlaw.com>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>; Baumgardner, Derek <Derek.Baumgardner@montgomerycountymd.gov>
Subject: RE: Procedural question

Good afternoon, Francoise. I hope you and your family are well.

Unfortunately, I am tied up in some appointments and meetings today and tomorrow.

I recall that 7.7.1.B permits the option to proceed the new Zoning Ordinance. After 2029, of course, everyone must proceed under the new ZO.\

That being said, I do recall discussion at the PHED Committee when the 2014 Zoning Ordinance was adopted about the validity of DPAs upon which the community relied, but do not recall the outcome. I will have to look through the PHED packets, but would not be able to do this until Wednesday.

We have in the past actually taken cases abandoning DPAs when the use called for will not be developed, but I am not sure you need that here, as my instinct is that you may proceed under the comprehensive rezoning.

If you need an answer sooner, I'm sure that Legislative Reference has all of the PHED packets on the Zoning Rewrite, which I believe was ZTA 13-04.

Lynn Robeson Hannan
Director

Office of Zoning and Administrative Hearings
100 Maryland Avenue, Room 200
Rockville, MD 20850
(240) 777-6660

From: Francoise Carrier <fcarrier@bregmanlaw.com>
Sent: Monday, September 27, 2021 10:53 AM
To: Robeson Hannan, Lynn <Lynn.RobesonHannan@montgomerycountymd.gov>
Cc: Behanna, Sara <Sara.Behanna@montgomerycountymd.gov>
Subject: Procedural question

[EXTERNAL EMAIL]

Hi Lynn. I hope this message finds you well.

A client of mine is preparing to file an application for a preliminary plan and site plan that will encompass a small part of a tract that was the subject of a rezoning in 1990 and a DPA in 1995, and was later rezoned by Sectional Map Amendment in 2009 and rezoned again by the 2013 comprehensive rezoning. Jonathan Casey is the lead reviewer for my client's applications at Planning, and he asked me to confirm with your office that there is no need for a DPA to reflect that a portion of the tract in question (currently part of a parking lot) will be sold and converted to another use. I was not able to find any provisions in either the 2004 zoning code or the current code indicating that a DPA is no longer required if the property has been rezoned, although logic suggests that should be the case. The covenants in the land records from the time of the rezoning state that they terminated automatically when the property was rezoned, which (as you know) is a standard provision in such covenants.

I have asked Sara to pull some of the approval documents for the rezoning. For the moment, what I know is from Planning Board approvals and from the 1995 DPA approval resolution, which is attached at page 15 of the attached PDF. The property was rezoned to the O-M zone via LMA G-649 in 1990, using the optional method of application. The SDP was amended in 1995 by DPA 95-1. The original LMA contemplated office and bank use. The DPA approved a change in use for part of the site to allow a child daycare center, which was never built. The Council Resolution approving DPA 95-1 refers to revised covenants, but neither I nor the project engineer found them in the land records, so it is possible they were never filed.

In 2003, a site plan was approved for the bank that provided for construction of bank parking on the portion of the O-M property that was designated in the DPA for childcare use. As best I can tell, the SDP was not amended to reflect this change. The Council rezoned the property to TSX-2 in 2009 and to CR in 2013. The owner of the property has contracted to sell a small portion of the parking area to my client, Lidl, for construction of a grocery store.

Please let me know if you would like any additional information or if a phone call would be helpful. I look forward to your response.

Best,

Françoise

BBS&G Attorneys

Françoise M. Carrier
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7315 Wisconsin Avenue, Suite 800 West
Bethesda, Maryland 20814

Françoise M. Carrier, Of Counsel (MD DC CA)
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BBS&G Attorneys
Bregman, Berbert, Schwartz & Gilday, LLC

T: 301-656-2707 F: 301-961-6525

Preliminary Plan Application No. 120220030 and Site Plan Application No. 820220080

Lidl Food Market

19430 Walter Johnson Road, Germantown, Maryland

Applicant's Fifth Amended Statement of Justification

June 22, 2022

Introduction

Lidl US LLC ("Lidl" or the "Applicant") proposes to build a 32,000-square-foot grocery store and associated surface parking and open space at 19430 Walter Johnson Road, Germantown, located between Bowman Mill Drive and Wisteria Drive a few blocks north of the Germantown MARC Station (the "Lidl Project Site"). The Lidl Project Site is a consolidation of several parcels containing a total of approximately 2.8 acres and is classified in the CR-1, C-0.75, R-0.75, H-75 zone. The proposed project is proceeding under the standard method of development.

The proposed development will introduce Germantown residents to Lidl, the world's fifth-largest grocery store chain. Lidl is a German company with its U.S. headquarters in Arlington, Virginia. Lidl aims to deliver superior quality products, with a focus on organic produce and meats, at the lowest possible price. Its stores emphasize an efficient, modern layout.

The proposed project will promote the County's goals for the local area by providing a community-serving grocery store amenity; significant connectivity improvements for vehicular, pedestrian and bicycle transportation; and pedestrian-friendly open space along Walter Johnson Road with seating, public art, historic resource signage, lighting and extensive landscaping.

Existing Conditions and Site History

The Lidl Project Site is bordered by Walter Johnson Road to the southeast and Germantown Road (Rte. 118) to the northwest. To the east and northeast it abuts the Mid-Atlantic Federal Credit Union (the "Credit Union"), which has contracted to sell a portion of its property to Lidl as part of the Lidl Project Site. To the west and southwest, the Lidl Project Site abuts a 7-11 retail store and a Verizon sub-station that are separated from one another by a roadway which, confusingly, is also called Walter Johnson Road. From this point forward we will refer to the road between the 7-11 and the Verizon site as "Walter Johnson Road North" and to the road that borders the site to the southeast as "Walter Johnson Road" or, when needed for clarity, "Walter Johnson Road South," as shown on Figure 1 below. Across Walter Johnson Road South are a series of commercial uses in one- and two-story buildings. Across Route 118 are commercial and industrial uses including a tire store and an auto body shop. As shown in the aerial photo below, the Lidl Project Site is currently partially forested. The developed portion of the site is occupied by a single-story office building fronting on Route 118 and parking and an entrance drive associated with the Credit Union.

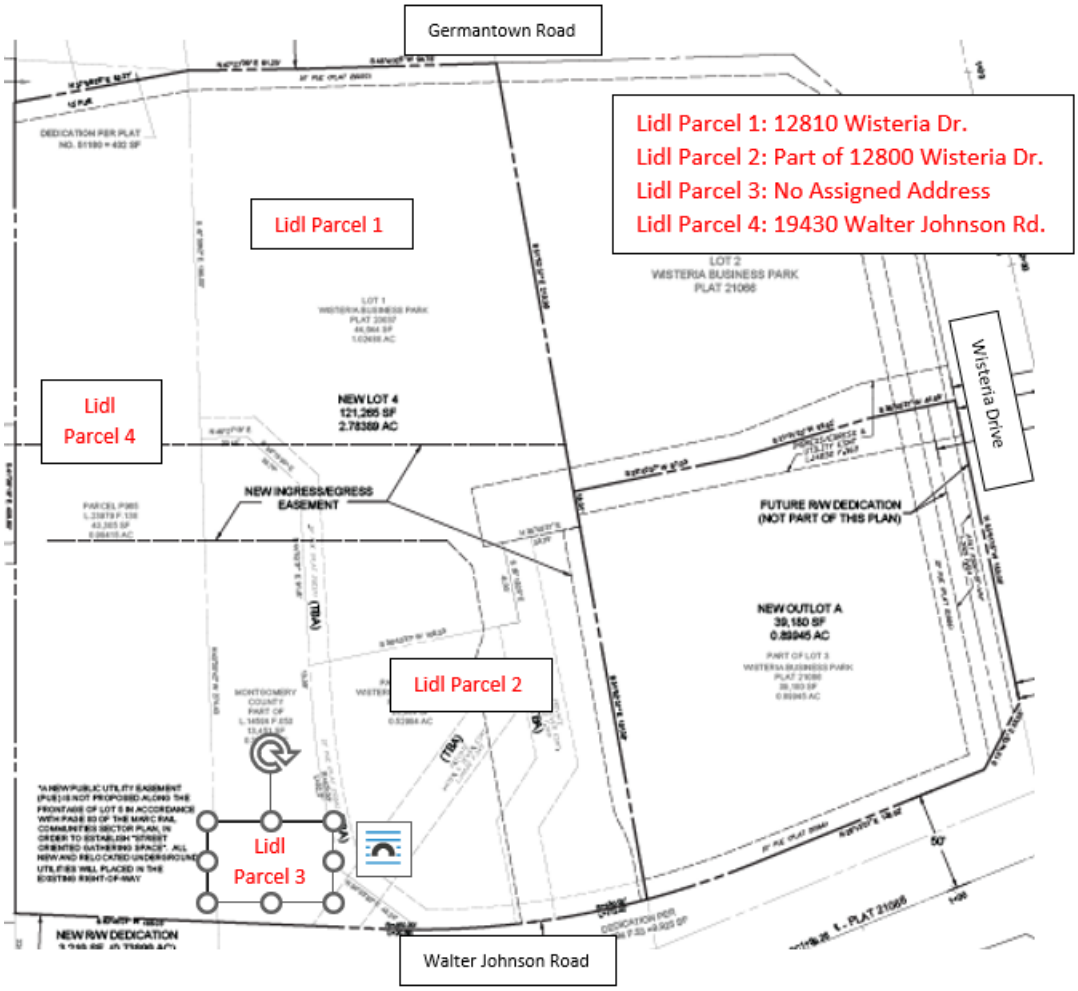
Figure 1 – The Project Site



The lotting diagram excerpted below from the submitted preliminary plan identifies the four pieces of land that make up the Lidl Project Site:

- Parcel 1: 12810 Wisteria Drive, Lot 1, Wisteria Business Park subdivision, 1.02 acre. Current use: office building/copy center.
- Parcel 2: part of 12800 Wisteria Drive, Lot 3, Wisteria Business Park Subdivision, 0.53 acre to be acquired by Lidl. Current use: parking associated with Credit Union.
- Parcel 3: unused County-owned property, 13,451 SF. Vacant.
- Parcel 4: 19430 Walter Johnson Road, parcel P965, one acre. Vacant.

Figure 2 – The Lotting Diagram



Lidl has contracts to purchase Parcels 1, 2 and 4 identified in red on the lotting diagram above (Figure 2), and has requested that the County abandon and convey to Lidl Parcel 3 identified in red above. Lidl fully expects both requests to be approved. In the event that the abandonment and disposition are not approved before the date of the Planning Board hearing on these applications, the Applicant requests approval of the preliminary plan and site plan contingent on County approval of the abandonment and disposition.

Procedural Posture

The Applicant has submitted two applications simultaneously: (1) an application for approval of Preliminary Plan No. 120220030 covering the Lidl Project Site and the portion of Lot 3 of the Wisteria Business Park that Lidl is not acquiring, referred to on the lotting diagram above as New Outlot A, which is included in the proposed preliminary plan to avoid creating a remnant land area that is neither a parcel nor a lot but "part of" Lot 3; and (2) Site Plan No. 820220080 covering the Lidl Project Site.

Lot 1 of the Wisteria Business Park subdivision (Parcel 1 on the lotting diagram) is currently subject to Site Plan 819960130 and Final Forest Conservation Plans 819990068 and 819996013, all of which will be superseded by approval of the present applications. Lot 2 of the Wisteria Business Park subdivision, which houses the credit union building, will remain unchanged. As noted, the existing Final Forest Conservation Plans for the Wisteria Business Park subdivision will be superseded by approval of the present applications. Stormwater management for Lot 2 and Outlot A will remain in place.

Moreover, parking for the credit union will remain adequate and legally permitted because "Surface Parking for Use Allowed in Zone" is permitted in the CR zone as a limited use on a business district street where, as here, the parking satisfies applicable landscaping standards, is utilized for a land use on an abutting lot, and was approved via a process that included a site plan finding that the use substantially conforms to the applicable master plan.

Project Description

The project proposes a Lidl Food Market located proximate to Walter Johnson Road South with associated surface parking behind the building, between the building and Germantown Road. Lidl's initial concept plan for this location used a more typical, strongly rectangular Lidl store design, with a wall of 12-foot windows facing Walter Johnson Road, the main store entrance steps from the Walter Johnson Road South sidewalk, and parking to the side and rear of the store. In response to planning staff suggestions that the most important master plan priority for this site is vehicular and pedestrian connectivity between Bowman Mill Road and Wisteria Drive, Lidl redesigned the store and the site to bisect the site with a private drive running roughly east/west through the middle of the site. This also required the store to be redesigned, departing from Lidl's standard template, with the façade

that operates as the front of the store located in the interior of the site, facing the surface parking. It will be separated from the parking lot by a private drive bordered by sidewalks on both sides and designed with specialty paving to emphasize its character as a pedestrian crossing for shoppers and a through-street for area pedestrians and bicyclists. As is typical of Lidl's design standards, 110 feet of the building façade will be enlivened with 12-foot windows. Due to the redesign to meet connectivity goals, the 12-foot windows will primarily face the north/south entrance drive and the rear façade will face Walter Johnson Road South. The main store entrance will sit at an angle, at the northern corner of the building, to maximize visibility and easy pedestrian access from Walter Johnson Road South. As shown in the below image, the store will be connected to Walter Johnson Road South by a landscaped, well-lit private drive with sidewalks, on-street parking and an attractive public plaza. The exterior material palette includes two brick veneer colors, two groundface CMU colors, a water table with stone veneer below and accent wood-look phenolic panels. The variety of materials serves to create visual interest across the building facades. The brick colors are carbon black and aspen white. The color of the stone base running along the perimeter of the building is granite. All metal trim is charcoal gray to match the aluminum storefront entry and windows.

The redesign of the site layout to satisfy connectivity goals created an imperative to activate the Walter Johnson Road façade. Lidl has made it a priority to enliven what is normally a blank wall. The proposed layout includes pedestrian-friendly open space along Walter Johnson Road South offering a plaza with a stepped concrete seat wall and a large mural, extensive landscaping including a grove of birch trees, a new sidepath, varied architectural materials for visual interest, windows spaced along the entire frontage except the area reserved for the mural, and signage commemorating the historic Madeline V. Waters House that once stood nearby. Many of these features are shown below on a conceptual open space exhibit (mural image is illustrative only – Lidl envisions a mural depicting images from Germantown history), a detailed plaza plan and an elevation drawing.

Figure 3 – Conceptual Open Space Exhibit (excerpt)



Figure 4 – Detailed Plaza Plan

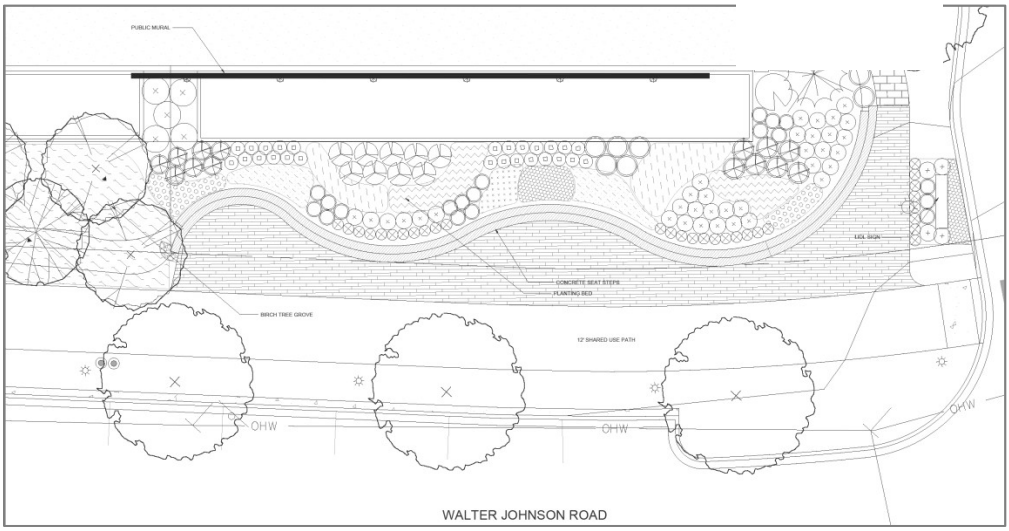
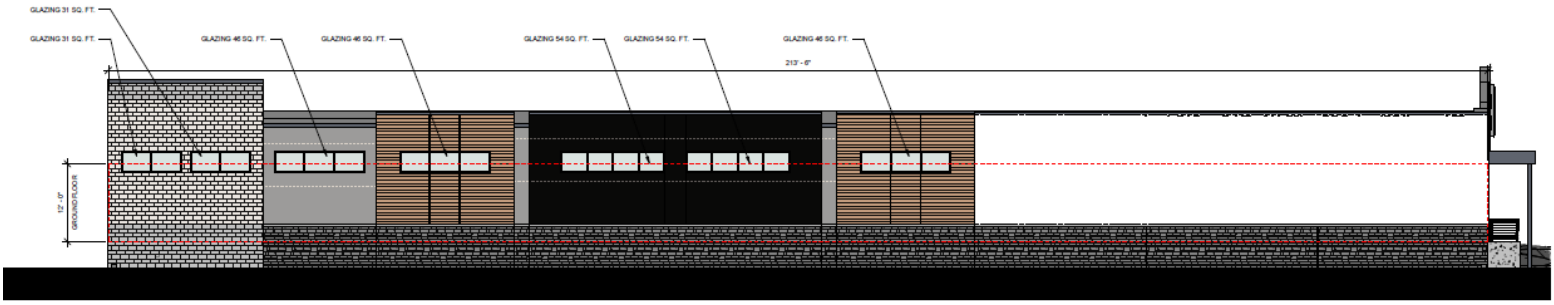
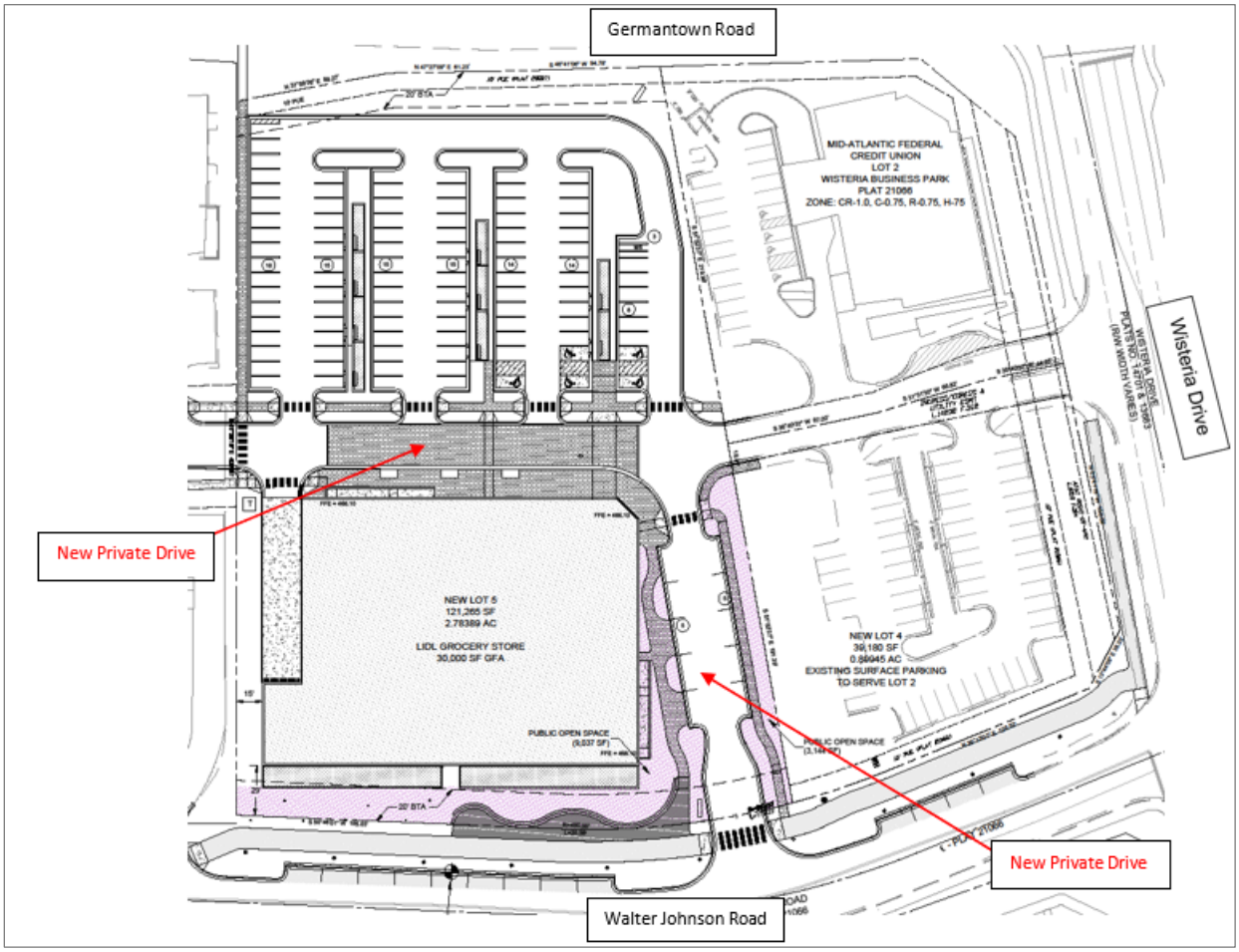


Figure 5 – Elevation



As shown on Figure 6 on the next page, the project will complete the street network for the block by building (1) a private drive connecting Walter Johnson Road North with the credit union drive that leads to Wisteria Drive; and (2) a new, improved entrance drive using the credit union's existing curb cut on Walter Johnson Road South. These two roadways will connect Walter Johnson Road North with Walter Johnson Road South.

Figure 6 –Site Plan (excerpt)



The site access drive from Walter Johnson Road South will have sidewalks, lighting, landscaping, and on-street parallel parking. Together, the new internal drives provide safe, comfortable vehicular, pedestrian, and bicycle connections between Bowman Mill Drive, Wisteria Drive and Walter Johnson Road South.

Each of the internal drives will have comfortable sidewalks to promote pedestrian/bicycle connectivity, and the segment between the store and its parking lot will have specialty paving to slow traffic. These roadway connections will fulfill longstanding transportation goals that appear in the 2019 *MARC Rail Communities Sector Plan* (the "Sector Plan"), the 2009 *Germantown Forward* sector plan and a 1990 *Germantown Town Center Design Study.* The project will also provide a new pedestrian connection from Walter Johnson Road North and the new cross-street through the Lidl site to Route118. Moreover, it will enhance pedestrian, bicyclist and transit user safety and comfort by installing three sidepaths: a sidepath with lighting and a planted buffer strip along the entire Walter

Johnson Road frontage from Bowman Mill Drive to Wisteria Drive; a second sidepath with lighting and a buffer strip on Wisteria Drive from Walter Johnson Road to Germantown Road (MD-118); and a third side path along MD-118 from Wisteria Drive to the western corner of the site frontage.

The Applicant will make a right-of-way dedication along Walter Johnson Road South as called for in the Bicycle Master Plan. The Applicant requests approval to defer until a later time the 12- to 15-foot dedication that the Bicycle Master Plan calls for along Wisteria Drive, which would result in dedicating a portion of the credit union's landscaping. These applications are not the appropriate time for a dedication along Wisteria Drive for several reasons. First, the Wisteria Drive frontage of the area covered by the preliminary plan application is associated with New Outlot A, which will remain under Credit Union ownership and will continue to serve as a portion of the Credit Union's parking lot. No redevelopment activity will take place on New Outlot A in connection with the present applications. Moreover, any future development of New Outlot A will require a preliminary plan amendment to convert the outlot into a lot, which would be the appropriate time to consider a new dedication.

In addition to internal and frontage transportation improvements, the Applicant proposes a package of off-site multimodal transportation improvements in compliance with the County's Growth and Infrastructure Plan consisting of:

- 540 linear feet of pathway improvements providing widened sidewalks and/or buffers
- 90 linear feet of improved crossings providing high visibility crosswalks and median refuges
- 4 curb ramp improvements providing detectable warning surfaces

Vehicular access to the parking lot will be available from Walter Johnson Road South via the improved entrance drive, from Wisteria Drive via the credit union access drive, and from Bowman Mill Road via Walter Johnson Road North and the new east-west road internal to the Lidl Project Site. The project will have 121 parking spaces, consistent with zoning code standards: 102 spaces in the surface parking lot, ten parallel parking spaces along the entrance drive from Walter Johnson Road South, and nine parallel parking spaces along Walter Johnson Road South in the public right-of-way. The loading and trash removal area will be located at the western corner of the store, opposite the parking lot and not visible from any of the surrounding public roads. Lidl's standard operating procedure typically limits merchandise delivery to once per day, very early in the morning (well before

the peak hour), via a single truck. Typically, Lidl uses a 53-foot tractor trailer. The same truck carts away recycling, resulting in an efficient, environmentally friendly process that minimizes visual and noise impacts. Trash pick-up will be handled separately by a trash contractor, but will also be picked up from the loading dock area, eliminating the need for a dumpster enclosure

Master Plan Conformance

The Sector Plan envisions the plan area as a compact, connected and walkable neighborhood with a mix of land uses including community- and commuter-serving retail. The vision includes a revitalized Walter Johnson Road South serving as a neighborhood main street, while an enhanced street network improves access to the MARC station and provides a safer and more comfortable environment for walking and bicycling. The Sector Plan's priorities also include ensuring context-sensitive development and transportation improvements to reinforce the historic character of the area.

The proposed Lidl project will make important contributions towards implementing the Sector Plan's vision, including:

- Community-serving grocery store, fully compatible with non-residential uses and an important addition to any mixed-use environment.
- Completion of street grid with two new private roads, enhancing connectivity for all forms of transportation. (Shown on Figure 6.)
- Installation of 12-foot-wide buffered sidepath along Water Johnson Road from Lidl Project Site to the corner of Walter Johnson Road and Wisteria Drive. (Shown on Fig.6.)
- Installation of 8-foot-wide buffered sidepath along Walter Johnson Road South from Bowman Mill Drive to the Lidl Project Site.
- Installation of 10-foot-wide buffered sidepath along Wisteria Drive from Walter Johnson Road to Germantown Road (MD-118). (Shown on Figure 6.)
- Installation of 10-foot-wide buffered sidepath along Germantown Road (MD-118) from Wisteria Drive to end of Lidl Project Site frontage.
- Installation of sidewalk connecting Walter Johnson Road North to Germantown Road.
- Store building located close to Walter Johnson Road with activated open space along the road including seating, a public plaza, public art and extensive landscaping. (Shown on Figures 3 and 4.)
- Main store entrance visible from Walter Johnson Road and accessible to pedestrians, bicyclists and motor vehicles from Walter Johnson Road, Wisteria Drive and Bowman Mill Road. (Shown on Figure 6.)
- Parking located behind the building except for limited on-street parallel parking.
- Building height compatible with historic district scale.
- Mural to depict elements of Germantown history.
- Signage to commemorate former Madeline V. Waters House historic site.

Preliminary Plan Findings

The proposed preliminary plan satisfies the findings required for approval in Montgomery County Code Chapter 50, Section 4.2.D., quoted below in bold and italics.

1. ***The layout of the subdivision, including size, width, shape, orientation, and density of lots, and location and design of roads is appropriate for the subdivision given its location and the type of development or use contemplated and the applicable requirements of Chapter 59.***

The proposed preliminary plan satisfies these requirements. The layout and density are appropriate for the use and the area. This project will consolidate four pieces of land, three of which are unused or used only for excess parking, to create a lot for a community-serving grocery store with vibrant public open space and significant improvements to the local transportation network for pedestrians, bicyclists, transit users and motorists.

2. ***The preliminary plan substantially conforms to the master plan.***

As discussed in detail above, the proposed project substantially conforms to the Sector Plan.

3. ***Public facilities will be adequate to support and service the area of the subdivision.***

All necessary public facilities will be adequate for the area of the subdivision. As a non-residential project, the proposed grocery store will have no impact on school capacity. The Subject Property is served by public water and sewer systems as well as electric, gas, and telecommunications services. The proposed project is expected to have no impact on the adequacy of other public facilities, such as police and fire stations.

As discussed in the submitted Local Area Transportation Report (the "LATR Study"), the Lidl Project Site is an area with ample transportation resources.

- The site is surrounded by a well-connected regional and local transportation system that will accommodate the patrons and staff of the proposed development.
- The site is well-served by public transportation with access to the Brunswick Line of the MARC rail system.
- The site is surrounded by a well-connected pedestrian environment. In the vicinity of the site, sidewalks generally meet Montgomery County guidelines with some gaps in the system.
- The site has access to existing bicycle facilities, including sidepaths on Wisteria Drive, Great Seneca Highway, and Middlebrook Road. Bicycle lanes are also available on Middlebrook Road and Dawson Farm.

In keeping with the County's Growth and Infrastructure Policy (the "GIP"), the LATR Study presents a comprehensive review of existing conditions related to pedestrian, bicycle, transit and motor vehicle transportation in the area of the Lidl Project Site, as well as a Vision Zero analysis. As noted above, Lidl is providing a series of off-site improvements to resolve the most pressing pedestrian/bicycle facility deficiencies in the immediate area. These improvements fulfill Lidl's contribution requirement under the Local Area Transportation Review Guidelines (the "LATR Guidelines"). The Applicant's LATR Study identified no improvements or mitigation called for as a result of the Vision Zero Statement. Similarly, the LATR Study's review of roadway capacity found that the proposed grocery store will cause no adverse impacts on roadway capacity requiring mitigation. Finally, the study concluded that assuming all proposed site design elements and transportation improvements are implemented, the proposed project will have a beneficial impact on connectivity and on the safety and efficiency of all modes of transportation in the vicinity of the Lidl Project Site.

4. All Forest Conservation Law, Chapter 22A requirements are satisfied.

The submitted Preliminary/Final Forest Conservation Plan demonstrates that the applicant will satisfy forest conservation requirements via off-site mitigation. All stormwater management, water quality plan, and floodplain requirements of Chapter 19 are satisfied.

A Stormwater Management Concept Plan is being submitted to the Department of Permitting Services for concurrent review.

5. Any burial site of which the applicant has actual notice or constructive notice or that is included in the Montgomery County Cemetery Inventory and located within the subdivision boundary is approved under Subsection 50-4.3M.

The Applicant is not aware of any burial site within the subdivision boundary, nor is any such burial site listed in the Montgomery County Cemetery Inventory.

6. Any other applicable provision specific to the property and necessary for approval of the subdivision is satisfied.

Not applicable.

Site Plan Findings under Zoning Code Section 59.7.3.4.E

1. When reviewing an application, the approval findings apply only to the site covered by the application.

The submitted site plan application covers only the Lidl Project Site.

2. To approve a site plan, the Planning Board must find that the proposed development:

a. satisfies any previous approval that applies to the site;

Portions of the Lidl Project Site are subject to approved Preliminary Plan 119900680; all

conditions of approval pertinent to the Lidl Project Site either have been satisfied or will be superseded by approval of the proposed Preliminary Plan. Portions of the Lidl Project Site are also covered by Final Forest Conservation Plans 819990068 and 819996013 and Site Plan 819960130, all of which will be superseded by approval of the present applications.

b. satisfies under Section 7.7.1.B.5 the binding elements of any development plan or schematic development plan in effect on October 29, 2014;

The portion of the tract that is currently part of the Wisteria Business Park subdivision (the "Rezoning Tract") was the subject of a schematic development plan that was approved in 1990 as part of Local Map Amendment G-649 and amended in 1995 by DPA 95-1. The Rezoning Tract was rezoned to the TSX-2 zone in 2009 by the Sectional Map Amendment that implemented the 2009 *Germantown Forward* sector plan and was rezoned again to the CR zone in 2014 by the District Map Amendment associated with the County's comprehensive rezoning. As a result of the 2009 rezoning, the schematic development plan was no longer in effect on October 29, 2014. The applicant has received confirmation from the Office of Zoning and Administrative Hearings that no further action is required with regard to LMA G-649 and DPA 95-1 in connection with the present applications. *See* email exchange at Exhibit A.

c. satisfies under Section 7.7.1.B.5 any green area requirement in effect on October 29, 2014 for a property where the zoning classification on October 29, 2014 was the result of a Local Map Amendment;

Not applicable.

d. satisfies applicable use standards, development standards, and general requirements under this Chapter;

Use and Building Type Standards

A retail establishment with between 15,001 and 50,000 square feet is a permitted use in the CR zone under Section 59.3.1.6. A general building such as a grocery store is a permitted building type in the CR zone under Section 59.4.1.5.

Development Standards and General Requirements

As detailed in the date table provided on the submitted Site Plan, the proposed project satisfies nearly all applicable development standards: minimum lot area and open space; maximum density, lot coverage and height; minimum building setbacks; minimum front parking setback along Walter Johnson Road South; minimum side and rear parking setbacks; minimum parking lot landscaping and tree canopy; number/type of parking spaces, and minimum loading space. The minimum number of vehicular spaces required is 112 and the maximum allowed is 192; the project proposes 121 vehicular spaces, well within the required parameters.

The Lidl Project Site is considered a through lot, and a financially viable grocery store at this location requires surface parking. It is not possible to situate surface parking behind the front building line, as called for in the CR zone, with relationship to both Walter Johnson Road South and Germantown Road, because only one of the two roads will have a front building line. At planning staff's suggestion, the proposed building has been located proximate to Walter Johnson Road South, with surface parking between the store and Germantown Road. Accordingly, the standard requirement to locate parking behind the front building line does not apply with regard to Germantown Road.

The applicant requests Planning Board approval for a relaxation of build-to-area requirements on both road frontages, as well as transparency and blank wall requirements along the building facade facing Walter Johnson Road, as permitted under Section 59.4.5.3.C. Relaxation of build-to requirements is necessary due to the constraints of building on a through lot and providing a vehicular access road through the middle of the site to increase connectivity. A modification of transparency and blank wall standards along Walter Johnson Road is necessary because building a private drive through the middle of the site required turning the typically blank rear wall of the store to face Walter Johnson Road. As discussed in detail earlier, the Applicant is adding multiple significant features to activate this façade, including a variety of architectural materials, a grove of birch trees, a mural, accent lighting, and a public plaza containing seating, a pedestrian path and extensive landscaping. Windows are difficult to accommodate along Walter Johnson Road South due to store fixtures and back-of-house functions along the interior of this façade inside the store, the elevation of the building

floor relative to Walter Johnson Road South, and a large expanse of wall that will be devoted to a mural. Nonetheless, Lidl proposes windows along the entire façade except the area reserved for the mural. Transparency is maximized where building function will allow, with a 12- foot-tall storefront window system that wraps 110 linear feet of the building.

The table below shows the proposed building's level of compliance with the design standards for transparency and blank wall for a building façade facing a street or open space.

Building Transparency and Blank Wall		
Zoning Standard	**Permitted/ Required**	**Proposed Side Façade and Full Walter Johnson Road Façade (215 ft.)**
Minimum Building Transparency, ground floor side, Sect. 59.4.5.3.C.5	25%	84.7% (open space)
Maximum Blank Wall, side, Sect. 59.4.5.3.C.5	35 ft.	25 ft. (open space)
Minimum Building Transparency, ground floor front, Sect. 59.4.5.3.C.5	40%	12% (Walter Johnson Rd.)
Maximum Blank Wall, front, Sect. 59.4.5.3.C.5	35 ft.	80ft. (Walter Johnson Rd.)

The 80-foot maximum blank wall figure represents the area reserved for the mural. Excluding the site for the mural, the maximum blank wall width along the Walter Johnson Road frontage is 45 feet.

e. satisfies the applicable requirements of:

i. Chapter 19, Erosion, Sediment Control, and Stormwater Management; and

ii. Chapter 22A, Forest Conservation.

A stormwater management concept plan is being submitted to the Department of Permitting Services for concurrent review. The submitted Preliminary/Final Forest Conservation Plan demonstrates that the applicant will satisfy forest conservation requirements via off-site mitigation.

f. provides safe, well-integrated parking, circulation patterns, building massing and, where required, open spaces and site amenities;

The site design prioritizes connectivity and open space. Lidl established the locations of the two private roads as prioritized in the Sector Plan, one parallel to and one intersecting Walter Johnson Road South, and departed from its standard store templates to fit a store within the remaining available space. Both roads are designed with sidewalks for pedestrian safety. The entrance drive from Walter Johnson Road South also has on-street parallel parking. In addition, Lidl designed the road through the

middle of the site with special pavers to slow through-traffic in light of the expected heavy pedestrian crossings by shoppers going to and from their cars. Lidl also provided a sidewalk along the western/southwestern property line to connect Walter Johnson Road North and the new cross-street with Germantown Road, and will install over 500 feet of sidepaths along all four sides of the block where its project site sits. This site design creates safe, well-integrated parking, circulation patterns and building massing while dramatically improving vehicular, pedestrian and bicycle connectivity.

Lidl further customized the building design to maximize activation of Walter Johnson Road South by creating a substantial open space that includes a grove of birch trees, public art in the form of a large mural, lighting, a plaza with seating, varied architectural materials for visual interest,and historic site signage. To maximize the utility and activation of this open space for pedestrians, the Applicant proposes not to provide a public utility easement along Walter Johnson Road South.

g. substantially conforms with the recommendations of the applicable master plan and any guidelines approved by the Planning Board that implement the applicable plan;

As discussed in some detail above, the proposed project substantially conforms with the Sector Plan's recommendations.

h. will be served by adequate public services and facilities including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage, and other public facilities. If an approved adequate public facilities test is currently valid and the impact of the development is equal to or less than what was approved, a new adequate public facilities test is not required. If an adequate public facilities test is required the Planning Board must find that the proposed development will be served by adequate public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, and storm drainage;

The Subject Property is non-residential and is adequately served by all necessary public services and facilities including water and sewer. As explained in detail above, the proposed grocery store will be served by adequate public roads, and will have a beneficial impact on connectivity and on the safety and efficiency of all modes of transportation in the vicinity of the Lidl Project Site.

i. on a property in a Rural Residential or Residential zone, is compatible with the character of the residential neighborhood; and

Not applicable.

j. on a property in all other zones, is compatible with existing and approved or pending adjacent development.

The proposed project will be fully compatible with the surrounding area, which is dominated by commercial and industrial uses and large surface parking lots. A grocery store will be a positive addition at this location, which is well served by transit and also has good visibility and access for passing motorists. The project will also complement the mixed-use development that Lidl understands has been proposed nearby. The grocery store will be an important amenity for existing and new residents in the area as well as for MARC train riders, and the significant improvements to local transportation facilities that Lidl proposes will benefit people using all modes of transportation.

3. * * *

Not applicable.

4. * * *

Not applicable.

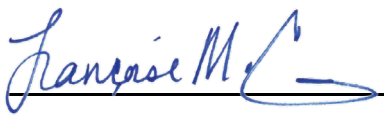
Conclusion

The proposed project will consolidate four pieces of land, three of which are unused or underused, to create a lot for a community-serving grocery store with vibrant public open space and significant improvements to the local transportation network for pedestrians, bicyclists, transit users and motorists. The project will make significant contributions to achieving the Sector Plan vision for this area as pedestrian friendly with a high degree of connectivity, improved safety for all forms of transportation, and a mix of residential uses and community- and commuter-serving non-residential uses. Lidl looks forward to completing the review of these applications and bringing a new grocery store option to Germantown.

This submission is intended to satisfy the requirements of the Code and the Planning Board's submission standards for preliminary plan and site plan applications. If amended or supplemental information becomes necessary to support the present application, the Applicant will make a supplemental submission in a timely fashion.

Respectfully submitted,

BREGMAN, BERBERT, SCHWARTZ & GILDAY, LLC

By: 

Françoise M. Carrier

From: Pereira, Sandra
To: Casey, Jonathan; Van Alstyne, Chris
Subject: FW: application for Lidl in Germantown
Date: Wednesday, April 6, 2022 12:39:45 PM
Attachments: image005.png
image004.png
image003.png
image002.png
image001.png
image005.png
image004.png
image003.png
image002.png
image001.png

Chris,
Thanks for scheduling a quick call to discuss yesterday's site visit meeting. I'm copying Jonathan to loop him into the discussion. We'll need to follow-up on crosswalks, curb radii, and raised crosswalk/pavement on private street.

Thanks,
Sandra

From: M Schoenbaum <mwschoenbaum@yahoo.com>
Sent: Wednesday, April 6, 2022 9:34 AM
To: Duke, Roberto <Roberto.Duke@montgomeryplanning.org>; Van Alstyne, Chris <chris.vanalstyne@montgomeryplanning.org>; Pereira, Sandra <sandra.pereira@montgomeryplanning.org>; Kutty Menon <kutty.menon@montgomerycountymd.gov>; Whelan, William <william.whelan@montgomerycountymd.gov>
Cc: Christopher Or Melissa Regan <reganfamilyof5@verizon.net>; Erik Herron <erikherron@gmail.com>; Andrew Saundry <adsaundry@gmail.com>; LSaville <lsaville@gmail.com>
Subject: Re: application for Lidl in Germantown

[EXTERNAL EMAIL] Exercise caution when opening attachments, clicking links, or responding.

Hi all,

Thank you very much for meeting on site yesterday!

I am just following up to put the concerns/discussion into an e-mail (going generally clockwise around the site, not in order of priority).

1. 7-Elevens are known hot spots for drivers hitting pedestrians and bicyclists, and the truck entrance will increase the danger. Per the urban road code, the curb radii should be no more than 15'. Also, all of the crossings should be marked crosswalks.

2. Drivers will use the new road between Bowman Mill Drive and Wisteria Drive as a cut-through/shortcut, so it needs effective engineering/design measures for traffic

calming, including (at minimum) raised crosswalks/speed tables for the 2 marked crosswalks on the updated plan -- even if this requires Lidl to change their plans for truck deliveries and/or stormwater management facilities.

3. The peak motor-vehicle and pedestrian traffic times on Wisteria Drive east of Germantown Road are at Seneca Valley High School arrival and dismissal.

4. Pedestrians, bicyclists, and drivers will cross Wisteria Drive at the new intersection created by the new road between Bowman Mill Drive and Wisteria Drive (i.e., between the Lidl and the CVS), and they must be able to do so safely. Unmarked crosswalks will not make this crossing safe for pedestrians and bicyclists, and neither will multiple-threat uncontrolled marked crosswalks with or without a pedestrian median refuge. Driver confusion about the center lane, and the downhill slope for drivers going east, add to the hazards.

5. Drivers will likely primarily use the credit union driveway on Wisteria Drive as the entrance to the Lidl. Seneca Valley High School students cross this driveway on their way to and from school. Per the urban road code, the curb radii at this driveway should be no more than 15'. Also, the crossings should be marked crosswalks.

6. The Walter Johnson Road/Wisteria Drive intersection should have a traffic signal, with all four legs with a marked/signalized crosswalk (with leading pedestrian intervals), and curb radii no more than 15' per the urban road code. The traffic signal will serve Lidl, the wide asphalt sidewalk to the Germantown MARC station whose design is being funded by MWCOG TPB, and Seneca Valley High School foot, bicycle, and motor-vehicle traffic.

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And finally, the Seneca Valley High School student who was killed was sophomore Christina Morris Ward, 15, on October 31, 2012, around 7 am. She was crossing Germantown Road at Wisteria Drive, in the direction of Walter Johnson Road.

Please let me know if you have questions!

Miriam Schoenbaum
15004 Clopper Rd
Boyds MD 20841

On Thursday, March 24, 2022, 04:22:52 PM EDT, Van Alstyne, Chris <chris.vanalstyne@montgomeryplanning.org> wrote:

Hi all, we got confirmation from DOT that the afternoon after 1:00 on Tuesday April 5 works. Could you let me know if you can attend? Just to confirm, this will be on-site in Germantown.

Chris

Montgomery Planning

Chris Van Alstyne

Transportation Planner

Upcounty Division

Chris.VanAlstyne@Montgomeryplanning.org

301.495.4629

From: Van Alstyne, Chris
Sent: Thursday, March 17, 2022 3:53 PM
To: M Schoenbaum <mwschoenbaum@yahoo.com>; Duke, Roberto

<Roberto.Duke@montgomeryplanning.org>
Cc: Christopher Or Melissa Regan <reganfamilyof5@verizon.net>; Erik Herron <erikherron@gmail.com>; Andrew Saundry <adsaundry@gmail.com>; LSaville <lsaville@gmail.com>
Subject: RE: application for Lidl in Germantown

Hi Miriam,

We're reaching out to DOT to try and schedule a meeting with you all on site. This will likely be an afternoon the first or second week of April. Let me know if any days do not work for you.

Chris



Chris Van Alstyne

Transportation Planner

Upcounty Division

Chris.VanAlstyne@Montgomeryplanning.org

301.495.4629

From: M Schoenbaum <mwschoenbaum@yahoo.com>
Sent: Tuesday, March 15, 2022 1:55 PM
To: Van Alstyne, Chris <chris.vanalstyne@montgomeryplanning.org>; Duke, Roberto <Roberto.Duke@montgomeryplanning.org>
Cc: Christopher Or Melissa Regan <reganfamilyof5@verizon.net>; Erik Herron <erikherron@gmail.com>; Andrew Saundry <adsaundry@gmail.com>; LSaville <lsaville@gmail.com>
Subject: application for Lidl in Germantown

[EXTERNAL EMAIL] Exercise caution when opening attachments, clicking links, or responding.

Hi Chris and Roberto,

Would it be possible to meet on site to look at the places where the proposed transportation plan for the Lidl will endanger people who are walking, rolling, or bicycling in the area, including Seneca Valley HS students?

Specific issues include:

-the proposed new street connecting Bowman Mill Drive and Wisteria Drive

-the proposed future unmarked crosswalk across Wisteria Drive resulting from this proposed new street

-the uncontrolled marked crosswalk across Wisteria Drive at Walter Johnson Drive

-urban road code requirements for curb radii

-connections between the bus stops on Germantown Road and the store entrance

-major/minor driver entrances and delivery entrances

-2019 sector plan recommendations for the siting of buildings

Thank you very much!

Miriam Schoenbaum
15004 Clopper Rd
Boyds MD 20841

15004 Clopper Rd
Boyds MD 20841

October 10, 2021

Sandra Pereira
Supervisor, Upcounty Planning
Montgomery County Planning Department

Dear Ms. Pereira,

This communication is about the Lidl supermarket proposed for Walter Johnson Road in Germantown. As you know, the pre-submittal community meeting for this proposal was on September 20, 2021.

Unfortunately, the design presented in the pre-submittal community meeting does not conform to the requirements of the MARC Rail Communities sector plan.

Please work with the community, including the Germantown Historical Society and safe streets advocates, to make the Lidl proposal conform to the requirements of the MARC Rail Communities sector plan.

Non-conforming aspects of the Lidl design include the following:

- The MARC Rail Communities sector plan requires the store building to face onto and have an entrance on Walter Johnson Road.
    - Walter Johnson Road, the historic alignment of MD 118 (Germantown Road), is revitalized as a neighborhood main street (p. 18, p. 80).
    - Locate the building to define the street edge and create an active street front (p. 78).
    - Orient the primary building facade and entrance to face the public street and improve pedestrian accessibility (p. 78).

- The MARC Rail Communities sector plan requires maintenance of the Madeline V. Waters House historic site, including a historic row of trees and a publicly-accessible, grassy open space, as well as commemorative signage.
    - The portion of the site south of Germantown Road must maintain the historic row [allée] of trees (including replanting as necessary) and existing commemorative signage within a publicly accessible, grassy open space (p. 92). *Note that replanting is necessary, because all of the trees (white pines) in the row are gone.*
    - Commemorative signage must be erected along the street frontage of every parcel and the existing environmental setting, and these requirements will remain in place even if there is parcel assemblage, resubdivision or redevelopment of the

site (p. 92). *The street frontage includes Walter Johnson Road as well as Bowman Mill Road Extended (if that is to be a public street), and the environmental setting includes the side of the site that is parallel to Wisteria Drive*.

- The MARC Rail Communities sector plan requires better infrastructure for pedestrian and bicyclist access and safety, including

    1. Multiple raised crosswalks across proposed Bowman Mill Road Extended to slow motor-vehicle traffic on Bowman Mill Drive for pedestrians going to and from the 7-11, the Saul-owned shopping center (including CVS and the beer/wine store), the proposed Lidl, and Seneca Valley High School. The draft Complete Streets Design Guide (p. 213) recommends speed tables/raised crosswalks and raised intersections for downtown streets and town center streets.

    2. Sidewalks on both sides of all proposed streets and driveways, so that pedestrians can walk safely on both sides of the streets and driveways.

    3. Design/infrastructure for safe pedestrian crossings of Wisteria Drive at the intersections with Walter Johnson Road and proposed Bowman Mill Road Extended, because they are/will be legal crossings where pedestrians and bicyclists must contend with increased motor-vehicle traffic related to the Lidl.

        - The site is in the Germantown Town Center Urban Road Code area.
        - The MARC Rail Communities sector plan recommends the site for inclusion in the Germantown Bicycle and Pedestrian Priority Area to help achieve the goals and objectives of Montgomery County's Vision Zero and complete streets policies (pp. 52, 99-100).
        - Walter Johnson Road as a neighborhood main street provides a safer and more comfortable environment for walking and bicycling (p. 18).
        - The interconnected street grid and redesigned streets near a newly rebuilt Seneca Valley High School supports increased walking, biking and student safety (p.18).
        - Wisteria Drive, Walter Johnson Road, Bowman Mill Drive, and Bowman Mill Drive Extended are all business-district streets with target speeds of 25 mph (p. 55). According to the draft Complete Streets Design Guide (p. 253), the target speed is the desired operating speed for motor vehicles on the road.

Community members in Germantown and Boyds devoted much time and effort, over several years, to participate in the MARC Rail Communities sector plan process.

If Lidl cannot operate at this site while conforming to the intent and requirements of the MARC Rail Communities sector plan, then Lidl should not be allowed to operate at this site.

Sincerely,

Miriam Schoenbaum

Casey, Jonathan

From: M Schoenbaum <mwschoenbaum@yahoo.com>
Sent: Sunday, October 10, 2021 5:13 PM
To: Pereira, Sandra
Cc: Casey, Jonathan; Duke, Roberto; Susan Soderberg
Subject: Proposed Lidl in Germantown
Attachments: Lidl application.pdf

Follow Up Flag: Follow up
Flag Status: Completed

[EXTERNAL EMAIL] Exercise caution when opening attachments, clicking links, or responding.

Dear Ms. Pereira,

I have attached a letter about the proposed Lidl in Germantown. Unfortunately, the design presented in the September 20, 2021, pre-submittal community meeting does not conform to the requirements of the MARC Rail Communities sector plan. Please work with the community, including the Germantown Historical Society and safe streets advocates, to make the Lidl proposal conform to the requirements of the MARC Rail Communities sector plan.

Sincerely,

Miriam Schoenbaum
15004 Clopper Rd
Boyds MD 20841

Casey, Jonathan

From: Pereira, Sandra
Sent: Wednesday, April 6, 2022 12:40 PM
To: Casey, Jonathan; Van Alstyne, Chris
Subject: FW: application for Lidl in Germantown
Attachments: image005.png; image004.png; image003.png; image002.png; image001.png

Chris,
Thanks for scheduling a quick call to discuss yesterday's site visit meeting. I'm copying Jonathan to loop him into the discussion. We'll need to follow-up on crosswalks, curb radii, and raised crosswalk/pavement on private street.

Thanks,
Sandra

From: M Schoenbaum <mwschoenbaum@yahoo.com>
Sent: Wednesday, April 6, 2022 9:34 AM
To: Duke, Roberto <Roberto.Duke@montgomeryplanning.org>; Van Alstyne, Chris <chris.vanalstyne@montgomeryplanning.org>; Pereira, Sandra <sandra.pereira@montgomeryplanning.org>; Kutty Menon <kutty.menon@montgomerycountymd.gov>; Whelan, William <william.whelan@montgomerycountymd.gov>
Cc: Christopher Or Melissa Regan <reganfamilyof5@verizon.net>; Erik Herron <erikherron@gmail.com>; Andrew Saundry <adsaundry@gmail.com>; LSaville <lsaville@gmail.com>
Subject: Re: application for Lidl in Germantown

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Hi all,

Thank you very much for meeting on site yesterday!

I am just following up to put the concerns/discussion into an e-mail (going generally clockwise around the site, not in order of priority).

1. 7-Elevens are known hot spots for drivers hitting pedestrians and bicyclists, and the truck entrance will increase the danger. Per the urban road code, the curb radii should be no more than 15'. Also, all of the crossings should be marked crosswalks.

2. Drivers will use the new road between Bowman Mill Drive and Wisteria Drive as a cut-through/shortcut, so it needs effective engineering/design measures for traffic calming, including (at minimum) raised crosswalks/speed tables for the 2 marked crosswalks on the updated plan -- even if this requires Lidl to change their plans for truck deliveries and/or stormwater management facilities.

3. The peak motor-vehicle and pedestrian traffic times on Wisteria Drive east of Germantown Road are at Seneca Valley High School arrival and dismissal.

4. Pedestrians, bicyclists, and drivers will cross Wisteria Drive at the new intersection created by the new road between Bowman Mill Drive and Wisteria Drive (i.e., between the Lidl and the CVS), and they must be able to do so safely. Unmarked crosswalks will not make this crossing safe for

pedestrians and bicyclists, and neither will multiple-threat uncontrolled marked crosswalks with or without a pedestrian median refuge. Driver confusion about the center lane, and the downhill slope for drivers going east, add to the hazards.

5. Drivers will likely primarily use the credit union driveway on Wisteria Drive as the entrance to the Lidl. Seneca Valley High School students cross this driveway on their way to and from school. Per the urban road code, the curb radii at this driveway should be no more than 15'. Also, the crossings should be marked crosswalks.

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Transportation Planner

Upcounty Division

Chris.VanAlstyne@Montgomeryplanning.org

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Boyds MD 20841

DPS-ROW CONDITIONS OF APPROVAL July 14, 2022

***Revision: The conditions hereon supersede previous conditions of approval dated April 18, 2022.

820220080 Lidl Germantown

Contact: Sam Farhadi at 240 777-6333

We have reviewed site and landscape plan files:

"**07-SITE-820220080-004.pdf V3**" uploaded on/ dated "**4/7/2022**" and
"**08-LL-820220080-001.pdf V3**" uploaded on/ dated "**4/7/2022**" and

The following needs to be addressed prior to the certification of site plan:

1. The consistency of the proposed (frontage and GIP) improvements for items including but not limited to side path and continuity, green panel and furnishing street trees needs to be approved by MCDOT and MNCPPC.