



**Board of Appeals
Regular Meeting
November 13, 2024, 6:00 PM**

Agenda

1. Call to Order

1.1. Pledge of Allegiance

1.2. Roll Call

2. Approval of Minutes

2.1. Approval of minutes from meeting on January 10, 2024.

3. Public Hearing

Add Description

3.1. Review of Public Hearing Procedures (Town Clerk)

3.2. Call to Order (Presiding Officer/Chair)

3.3. Review of Public Notices (Town Clerk)

3.4. Summary of Town Staff Report and Recommendation

3.5. Applicant/Petitioner Presentation and Testimony

3.6. Questions from the Board to the Applicant/Petitioner or Town Staff

3.7. Written Documents are Entered into the Record

Written testimony may be submitted in advance via email to legislative@townoflaplata.org or postal mail to Legislative Services Department, Town of La Plata, 305 Queen Anne St Box 2268, La Plata MD 20646, and must be received no later than 12:00 PM, two business days prior to the scheduled meeting.

Written documents for the record will be presented to the presiding officer prior to the opening of the public hearing.

3.8. Public Comment

- Speakers (signed up) are called on by the presiding officer.

- Those wishing to provide in-person testimony may sign up in advance no later than 3:00 PM on the day of the public hearing, via the town webpage (<https://townoflaplata.org/209/Public-Communications>), or upon arrival at the Council Chambers via sign-up sheet.
- Speakers who register in advance will be recognized prior to speakers who register upon arrival at the public hearing.
- In-person registration to speak will end when the relevant public hearing is opened.
- At the discretion of the presiding officer, time may be limited to 3 minutes and may not be yielded.

3.9. Additional Questions from the Board

3.10. Closing of Public Hearing

When the hearing is concluded, the Board will not hear further comments or questions during the meeting.

4. Motion for a Closed Session

4.1. Motion for a Closed Session

Tentatively Scheduled at the Discretion of the Board and Town Attorney

STATUTORY AUTHORITY TO CLOSE SESSION: State Government Article §3-305(b) (7) To consult with counsel to obtain legal advice on a legal matter.

Subject: Case Number SE-0001-2024

5. Deliberations Regarding Application

5.1. Findings of the Board

6. Other Business

7. Adjourn

7.1. Adjournment



TOWN OF LA PLATA

Board of Appeals Minutes
January 10, 2024 @ 6:00 PM
Council Chambers/Hybrid

PRESENT: Maynard Mark Thorn, A. Hugh Williams, and Jonathan Burruss

ABSENT:

TOWN Jack (Jay) Gullo, Jr., Town Attorney, Linda Grigsby, , Kelly Phipps, Director of
STAFF: Legislative Services, David Winkler, Councilman Ward I, and Jeanine Harrington,
Director of Planning

GUESTS: See Roster

1. Call to Order

1.1. Call to Order

Chairman Williams called the meeting to order at 6:00 PM.

2. Pledge of Allegiance

2.1. Pledge of Allegiance

Chairman Williams led all assembled in the Pledge of Allegiance.

3. Approval of Minutes

3.1. Approval of Minutes from Meeting on October 25, 2023.

3.1.a. Moved By: Maynard Mark Thorn, seconded by Jonathan Burruss.
Motion to approve minutes as presented.

Passed Unanimously

4. Public Hearing (BOA-000647-2023, Harford Street Development)

4.1. Review of Public Hearing Procedures (Kelly Phipps, Executive Secretary)

Director Phipps reviewed the public hearing procedures.

4.2. Call to Order (Chair)

Chairman Williams opened the public hearing at 06:00:00 PM

4.3. Review of Public Notices (Executive Secretary)

Director Phipps reported that notice of the public hearing was published in accordance with Town Code and that letters had been sent via registered mail to the owners of properties opposite and adjacent to the subject property.

4.4. Summary of Town Staff Report and Recommendation (Jeanine Harrington, Director of Planning)

Director Harrington provided a summary of the staff report and recommendations.

4.5. Applicant/Petitioner Presentation and Testimony

Ms. Sue Greer of the Greer Law Firm and Edward Van Arsdale of ArroConsulting, Inc., spoke on behalf of the applicant. Sue Davis and Mike McCooke of SE Davis Construction and owners of Harford Development LLC, and Lisa Holmes, architect and co-owner of Harford Development LLC, also provided testimony.

4.6. Questions from the Board to the Applicant/Petitioner or Town Staff

Mr. Burruss asked for a summary of changes from the previous submission. Mr. Van Arsdale explained the changes related to setback and buffer zones.

Chairman Williams asked about the entrance (Parcel 3) from Harford Street. Mr. Van Arsdale explained that no structures are present on the parcel and the parcel meets dimensional requirements for frontage.

Chairman Williams asked about water and sewer needs and availability. Director Harrington explained that sufficient water and sewer resources were available at the time of application. Ms. Greer clarified with Ms. Holmes that water and sewer resources might not be available following the development process.

The applicant answered additional questions of clarification from the Board, including the preservation of large trees marked on the site plan and planned green space and landscaping.

4.7. Written Documents are Entered into the Record

Director Phipps reported that no written documents were submitted for the record.

4.8. Public Comment

There were no public speakers.

4.9. Additional Questions from the Board

4.10. Closing of Public Hearing

Chairman Williams closed the public hearing at 6:57 PM.

5. Deliberations Regarding Application

5.1. Findings of the Board

The Board came to a consensus that based on the evidence in the record, the proposed development will not cause a traffic nuisance and that there is adequate water and sewer.

Chairman Williams proposed two conditions for approval of the application for Special Exception. The Board reached a consensus to include the two conditions.

1. Only the minimum amount of existing vegetation should be removed to allow for installation of required fencing.
2. The large trees and central open green space indicated in the applicant's preliminary plan must be retained in the final plan to the extent that is feasible.

5.1.a. Moved By: A. Hugh Williams, seconded by Jonathan Burruss.

Motion to approve application for Special Exception with two conditions:

1. Only the minimum amount of existing vegetation should be removed to allow for installation of required fencing.
2. The large trees and central open green space indicated in the applicant's preliminary plan must be retained in the final plan to the extent that is feasible.

Roll call vote on the motion:

	Ayes	Nays	Abstained	Absent
Maynard Mark Thorn	x			
A. Hugh Williams	x			
Jonathan Burruss	x			
	3	0	0	0

Passed Unanimously

6. Adjourn

6.1. Adjournment

Chairman Williams closed the public hearing and adjourned the meeting at 7:06 PM.

Submitted by:

Kelly Phipps, Department of
Legislative Services

PUBLIC HEARING PROCEDURES

Public Hearings of the Board of Appeals for the Town of La Plata scheduled for November 13, 2024, will be conducted in the following manner:

1. Call to Order
2. Review of Public Notices
3. Summary of Town Staff report and recommendation
4. Applicant/Petitioner presentation and testimony
5. Questions from the Board to the Applicant/Petitioner or Town staff
6. Written documents are entered into the record
 - Written testimony may be submitted in advance via email to legislative@townoflaplata.org or postal mail to Legislative Services Department, Town of La Plata, 305 Queen Anne St Box 2268, La Plata MD 20646, and must be received no later than 12:00 PM on Monday, November 11, 2024.
 - Written documents for the record will be presented to the presiding officer prior to the opening of the public hearing.
7. Public Comment
 - Speakers (signed up) are called on by the presiding officer.
 - Those wishing to provide in-person testimony may sign up in advance no later than 3:00 PM on Tuesday, November 12, 2024, via the town webpage: <https://townoflaplata.org/publichearings>, or upon arrival at the Council Chambers via sign-up sheet.
 - Speakers who register in advance will be recognized prior to speakers who register upon arrival at the public hearing.
 - In-person registration to speak will end when the relevant public hearing is opened.
 - At the discretion of the presiding officer, time may be limited to 3 minutes and may not be yielded.
8. Additional questions from the Board
9. Closing of Public Hearing
 - When the hearing is concluded, the Board will not hear further comments or questions during the meeting.

BOARD OF APPEALS OF THE TOWN OF LA PLATA, MARYLAND

IN THE MATTER OF THE APPLICATION OF:

CASE NUMBER: SE-0001-2024

APPLICANT: DR HORTON, INC.

PROPERTY ADDRESS: Pinegrove Neighborhood C, La Plata, Maryland

APPLICATION FOR A Special Exception

CURRENT ZONING: TDX

AFFIDAVIT

I HEREBY AFFIRM under the penalties of perjury that the following is true to the best of my knowledge, information and belief:

Publication in Newspaper

I caused to be published in the Southern Maryland News, a newspaper of general circulation in the Town of La Plata, a notice of the public hearing in this case scheduled for November 13, 2024. The Notice was published on October 25, 2024. The Certificate of Publication from APG Media of Chesapeake containing a copy of the published notice is attached as Exhibit A of the case file.

Notification via Certified Mail

I caused a notice of the time and place of the public hearing in this case scheduled for November 13, 2024, to be mailed, by certified mail, to the owners of properties contiguous to and opposite the property which is the subject of the application in this case. A copy of the notice and a list of the persons to whom the notice was sent are attached as Exhibits B and C of the case file.

Posting of Sign

I caused sign(s) giving notice of the time and place of the public hearing in this case scheduled for November 13, 2024, to be posted by **DR Horton, Inc.**, in a conspicuous place on the subject property, visible from the adjoining public rights-of-way of Rosewick Road and La Plata Parkway. The signs were posted on **October 25, 2024**, and are still in place today. The Affidavit of **Garrett McLendon** regarding the posting of the signs is attached Exhibit D of the case file. Photos of posted signs are attached as Exhibit E of the case file.



Kelly Phipps
Director of Legislative Services
Executive Secretary to the Board of Appeals

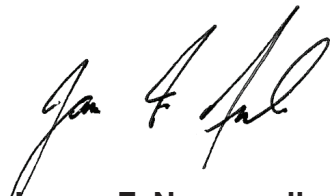
Date: November 8, 2024

CERTIFICATE OF PUBLICATION

STATE OF : MARYLAND
COUNTY OF: Charles County

This is to certify that the annexed legal advertisement has been published in the publications and insertions listed below. "PUB HEARING -#BOA-SE-1-2024..." was published in the:

Southern Maryland News 10/25/24



James F. Normandin
President & Publisher

NOTICE OF PUBLIC HEARING
TOWN OF LA PLATA BOARD OF APPEALS
November 13, 2024

The Town of La Plata Board of Appeals has received a petition from D. R. Horton, Inc., requesting a special exception approval for a senior living community with three hundred eighty- six (386) dwelling units, comprising two hundred eighty-two (282) single-family detached and one hundred four (104) single-family attached, upon three parcels totaling approximately one hundred sixty-seven (167) acres of land, otherwise shown as Parcels 0043, 0163, and 0440 upon Charles County Tax Map 0033, described in Liber 11334 at Folio 470, and located on the east side of the CSX rail, north of Maryland Route 6, north and south of Rosewick road, and west of the Agricopia Subdivision, as recorded among the Land Records of Charles County ("Subject Property"). Because the Subject Property is zoned Traditional Development Mixed Use Zone (TDX), special exception approval is required pursuant to § 191-52 of the Zoning Ordinance for the Town of La Plata.

The Board of Appeals will hold a public hearing on this petition in the La Plata Town Hall, 305 Queen Anne Street, La Plata, Maryland, on November 13, 2024, at 6:00 PM, or as soon thereafter as possible. At the public hearing all parties in interest and citizens will have an opportunity to be heard. Special accommodations for persons with disabilities will be made upon request.

Copies of the petition and site plan are on file at the La Plata Town Hall and are available for review during normal business hours, 9:00 AM to 4:00 PM.

Kelly Phipps
Director of Legislative Services

3066022 IN

10/25/2024

Town of La Plata

Mayor
Jeannine E. James

Council
David L. Winkler
Matthew D. Trollinger
Evalyne L. Bryant-Ward
David M. Jenkins



Town Manager
- Vacant -

Assistant Town Manager
Michelle D. Miner

June 23, 2023

TO: Property owners contiguous to and opposite Parcels 0043, 0163, and 0440 upon Charles County Tax Map 0033, located on the east side of the CSX rail, north of Maryland Route 6, north and south of Rosewick road, and west of the Agricopia Subdivision, La Plata, Maryland 20646

RE: CASE NUMBER: SE-0001-2024
PETITIONER: D.R. Horton, Inc.
APPLICATION FOR Special Exception

The Town of La Plata Board of Appeals has received a petition from D. R. Horton, Inc., requesting a special exception approval for a senior living community with three hundred eighty-six (386) dwelling units, comprising two hundred eighty-two (282) single-family detached and one hundred four (104) single-family attached, upon three parcels totaling approximately one hundred sixty-seven (167) acres of land, otherwise shown as Parcels 0043, 0163, and 0440 upon Charles County Tax Map 0033, described in Liber 11334 at Folio 470, and located on the east side of the CSX rail, north of Maryland Route 6, north and south of Rosewick road, and west of the Agricopia Subdivision, as recorded among the Land Records of Charles County ("Subject Property"). Because the Subject Property is zoned Traditional Development Mixed Use Zone (TDX), special exception approval is required pursuant to § 191-52 of the Zoning Ordinance for the Town of La Plata.

The Board of Appeals will hold a public hearing on this petition in the La Plata Town Hall, 305 Queen Anne Street, La Plata, Maryland, on November 13, 2024, at 6:00 PM, or as soon thereafter as possible. At the public hearing all parties in interest and citizens will have an opportunity to be heard. Special accommodations for persons with disabilities will be made upon request.

Copies of the petition and site plan are on file at the La Plata Town Hall and are available for review during normal business hours, 9:00 AM to 4:00 PM.

Sincerely,

Kelly Phipps, Director of Legislative Services
Executive Secretary to the Board of Appeals
khipps@townoflaplata.org

List of Adjacent Property Owners:

Fraternal Order of Police Lodge 24
P.O. Box 1927
LaPlata, MD 20646
Tax Map 23, Grid 23, Parcel 376

Rosewick Storage and RV LLC
204 Washington Ave, Suite 201
LaPlata, MD 20646
Tax Map 33, Grid 5, Parcel 497, Lot 1R

Charles County Court House
P.O. Box 2150
LaPlata, MD 20646
Tax Map 33, Grid 5, Parcel 534

Board of Education of Charles County MD
Attn: Facilities Department
P. O. Box 2770
LaPlata, MD 20646
Tax Map 33, Grid 12, Parcel 130

NOTE: THIS FORM TO BE USED, UNLESS ONE IS PROVIDED BY PETITIONER WHICH IS SUBSTANTIALLY THE SAME AS THIS FORM.

BEFORE THE BOARD OF APPEALS OF
THE TOWN OF LA PLATA, MARYLAND
IN THE MATTER OF THE APPLICATION OF

D.R. Horton, Inc.

137 Mitchells Chance Road Suite 300, Edgewater MD 21037

AFFIDAVIT

I HEREBY AFFIRM under the penalties of perjury that the following is true to the best of my knowledge, information, and belief:

I posted, or caused to be posted, signs giving notice of the time and place of the public hearing in this case scheduled for November 13, 2024, at 6:00 PM, in a conspicuous place on the property which is the subject of this special exception petition, clearly visible from Rosewick Road and La Plata Parkway, the adjoining public rights-of-way, no later than October 30, 2024. The signs were posted on October 25th, 2024.


Signature

Garrett M'Lendon
Printed Name

DR Horton, Inc.
Business Name

October 25th, 2024
Date

Pinegrove Neighborhood C
Se-0001-2024
Project ID # 25-005

Kelly Phipps

From: Steve Scott <sscott@scottlawllc.com>
Sent: Wednesday, November 6, 2024 10:26 AM
To: Kelly Phipps
Cc: Brian Christopher Georg; Danielle Conrow
Subject: FW: Pinegrove Signs

CAUTION: This email originated from OUTSIDE of the Town of La Plata email system. If the senders name displayed is a Town user, it is NOT legitimate and should be deleted immediately. Do not click links or open attachments unless you are certain this is a legitimate message.

Hi Kelly. Submitting photos to supplement the affidavit of posting for the record in this case. We are monitoring to make sure that the signs stay up and legible through the hearing date.

From: Danielle Conrow <DConrow@rodgers.com>
Sent: Tuesday, November 5, 2024 4:05 PM
To: Steve Scott <sscott@scottlawllc.com>
Subject: Pinegrove Signs

Pictures as of yesterday







Danielle Conrow, P.E.



1101 Mercantile Ln, Ste. 280, Largo, MD
20774

o.301.948.4700 c.443.624.5649

www.rodgers.com

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TOWN OF LA PLATA
305 Queen Anne Street
Post Office Box 2268
La Plata, Maryland 20646

MEMORANDUM

To: Board of Appeals
From: Jeanine Harrington, AICP, Director of Planning
Date: September 16, 2024
Subject: **Pinegrove Neighborhood C – Special Exception Request**

PROJECT NAME: Pinegrove Neighborhood C

REQUEST: Special Exception request for a Senior Living Community in the TDX Zone

APPLICANT/OWNER: D.R. Horton Inc.

ENGINEER: Rodger's Consulting Inc.

PROJECT REVIEW:

D.R. Horton Inc. is applying for a Special Exception to develop a senior living community in the TDX zone accordance with the Code of the Town of La Plata Section §191-10 Use # 7, subject to the special provisions listed for such uses in §191-52.H.(28).

SITE INFORMATION:

Tax Map, Block, Parcel	Tax Map 33, Parcel(s) 43, 163, 440
Existing Zoning	TDX
Size	166.826 Acres
Existing Land Use	Undeveloped
Comprehensive Plan Designation	Mixed Use

SURROUNDING ZONING AND LAND USE:

Location	Land Use	Zoning
North	Existing Residential	TDX
South	Existing Residential	TDX
East	Government Facility	Charles County
West	Proposed Residential (Pinegrove)	TDX

BACKGROUND/DISCUSSION:

The Applicant is requesting a special exception approval for a senior living community containing 386 dwelling units. Because the Subject Property is zoned TDX, special exception approval is required pursuant to §191-52 of the Zoning Ordinance for the Town of La Plata ("Zoning Ordinance").

If the Special Exception use is approved, the project will need to proceed with a Major Subdivision in

order to review for water, sewer, stormwater management, forest conservation and other zoning requirements.

CRITERIA FOR APPROVAL AND FINDINGS:

Chapter [191-52](#) of the Town Code: *“The Board of Appeals shall have the power to approve special exceptions for any of the uses for which this chapter requires obtaining such exceptions and for no other use or purpose. The Planning Commission shall consider each application for special exception and shall submit a written report and recommendations on the application to the Board. The Board of Appeals shall consider the report and recommendations of the Planning Commission, but shall not be bound by such recommendations, prior to rendering a decision. The report and recommendations of the Planning Commission shall be made a part of the record of the proceedings before the Board.”*

191-52.G – Findings

1. The Board of Appeals shall not grant any special exception unless it finds from the evidence of record that:

a. The proposed use does not violate or adversely affect the Town of La Plata Comprehensive Plan, this chapter or any other applicable law;

Staff Comment: The proposed use does not violate or adversely affect the Comprehensive Plan. The property is zoned TDX and has a designation of mixed use on the Town’s Land Use Map.

b. The tract shall be suitable for the development proposed. suitability of the tract shall be determined by reference to the La Plata Comprehensive Plan; size, topography and other physical features of the tract; accessibility of the tract to services and facilities required by the use; and other information as reasonably deemed necessary;

Staff Comment: The tract has been found to be suitable for the proposed development. The proposed use meets all of the required dimensional standards of the zoning code.

c. The proposed use will satisfy all use standards for the use set forth in subsection H.;

Staff Comment: The proposed use satisfies all use standards set forth in subsection H. Please refer to the “SE-0001-2024 Memo” for detailed information.

d. The proposed use at the location selected will not:

- 1) Adversely affect the health and safety of residents or workers in the area;**
- 2) Overburden existing and planned public facilities;**
- 3) Be detrimental to the use or development of adjacent properties or the neighborhood;**
- 4) Change the character of the neighborhood in which the use is proposed considering services currently provided, population density, character, and number of similar uses; and**
- 5) Constitute a nuisance because of noise, traffic, number of people, or type of physical activity.**

2. The Board of Appeals may impose other requirements, not specifically listed in this article, to ensure the health, safety and welfare of all persons within the Town of La

Plata.

191-52.H – Special Exception Use Standards

28. Senior living communities.

a. This use is permitted by special exception in the R21, R10, R8, R5, R3, CB, CBT, CH, TDX and NCX Zones in accordance with the following criteria:

(1) Each senior living community tract must have direct access to a collector, arterial or primary local street.

Staff Comment: The proposed development will have access to a primary local street.

(2) Each senior living community shall consist of a tract of not less than four (4) acres of land under single ownership or unified control, or, in the case of land in the CB zone, not less than two (2) acres of land under single ownership or unified control.

Staff Comment: The tract of land contains 166 acres which exceeds the minimum of 4 acres.

(3) Frontage—The lot must have one hundred (100) feet of frontage on a street as listed in item (1) above.

Staff Comment: The proposed development will have at least 100 feet of frontage on La Plata Parkway.

(4) Side and rear yard setbacks—All structures on the site, which are adjacent to a residential use, must be set back at least twice the minimum setback required in the zone or the height of the building, whichever is greater.

Staff Comment: The proposed development meets all of the required side and rear yard setbacks.

(5) Maximum overall density shall not exceed fifteen (15) dwellings per acre within the senior living community. For assisted living facilities and life care facilities where residents do not occupy separate dwelling, each sleeping room shall be considered a dwelling for purposes of determining density and required parking.

Staff Comment: The proposed development will not exceed the maximum density of 15 dwelling units per acre. The density proposed is 8.795 units per acre.

(6) There shall be no requirement for a mix of housing types within a senior living community. Each senior living community may have any combination of housing types as long as all dimensional and density requirements are met.

Staff Comment: The applicant is proposing 284 single family dwellings and 104 townhome units (Attached Dwellings) and is therefore in compliance with this section.

(7) A building permit may not be issued for construction in a senior living community unless a declaration of covenants, conditions and restrictions, containing provisions substantially similar, and not inconsistent with, paragraph (5) has first been prepared by the owner of the tract, approved by the town attorney, and then recorded by the owner among the land records of Charles County.

Staff Comment: The declaration of covenants will be required along with the final plat. Building Permits will not be issued until the final plat and declaration of covenants are recorded.

(8) Dimensional requirements.

(a) The requirements in table 20 apply to uses within a senior living community:

Table 20

	Minimum lot area (square feet)	Minimum lot width (feet)	Minimum front setback (feet)	Minimum side setback (feet)	Minimum rear setback (feet)	Maximum height (feet)*	Open space	
							Green space*	Public use space*
Detached dwelling unit	4,000	50	20	8	15	35	None	None
Two-family dwelling	6,000 (not less than three thousand (3,000) square feet per dwelling unit)	60 (not less than thirty (30) feet per dwelling unit)	20	8	15	35	None	None
Attached dwelling	1,400	20	20	8	15	35	50%	NONE
Multi-family dwelling	18,000	100	25	15	20	45	60%	15%
* FOR NON-RESIDENTIAL ZONES, REQUIREMENTS REVERT TO THE BASE ZONE.								

(b) Front setback shall be forty-five (45) feet or the underlying zone's setback, whichever is greater.

(c) The Board of Appeals may reduce the rear yard to no less than five (5) feet based on a finding that the yard is adjacent to common open space of appropriate size and character (minimum thirty (30) feet width) to provide adequate usable space for the residents.

(9) Buffer yard requirements.

(a) Except as provided in sub-paragraph (D) and (E) of this paragraph (9), a buffer yard shall be provided within and along the entire outer perimeter of a senior living community. The buffer yard shall not be part of any subdivided lot, but shall be the maintenance responsibility of the abutting property owner or the homeowners association as governed by covenants within the senior living community.

(b) The buffer yard shall be installed before the issuance of the first occupancy permit within the senior living community, or its installation guaranteed by a bond, letter of credit, or other security, in such form and amount as approved by the Chief Executive Officer.

(c) The buffer yard shall meet the minimum requirements of buffer yard "F" as depicted in Article V of the code. For purposes of determining the location of any fence which may be allowed as part of buffer yard "F", the senior living community shall be

deemed to be the higher density use.

(d) Where a senior living community consists solely of detached dwellings, the Board of Appeals may waive the buffer yards requirement where the properties abutting the senior living community are fully developed and devoted solely to detached dwellings.

(e) Buffer yards are not required between senior living communities and adjacent uses on the same parcel.

(10) Residency and occupancy restrictions.

(a) The proposed facilities shall meet all applicable requirements of county, state and/or federal law and regulations, including age-based occupancy restrictions and limitations under federal or state law that would qualify the housing to be exempt from prohibitions against discriminating against families with children.

(b) Subject to paragraph (10)(a) of this subsection, a person may not reside, or occupy a dwelling, in a senior living community, or permit another person to reside, or occupy a dwelling, in a senior living community, unless the person residing, or occupying a dwelling unit, in the senior living community is:

[1] A senior person;

[2] The spouse of a senior person even if such spouse is less than fifty-five (55) years of age, as long as they remain married and living together in the senior living community. Spouses who reside in, or occupy, different residential or nursing facilities of a life care facility for senior persons shall be deemed to be living together for purposes of this section;

[3] A member of the family of a senior person, or the spouse of a senior person, while visiting the senior person or spouse on a temporary basis for purposes of family vacations or visits. As used in this paragraph, "temporary basis" means not more than fourteen (14) consecutive days at one (1) time. The aggregate of such visits shall not exceed twenty-eight (28) days in any (52) fifty-two-week period; or

[4] A maximum of two (2) adults, related or unrelated by blood or marriage to a senior person, and providing ancillary supportive services, supervision, personalized assistance, health related services or a combination thereof, to meet the needs of the senior person who is unable to perform, or who needs assistance in performing, the activities of daily living, or instrumental activities of daily living.

(c) As long as the spouse of a senior person is less than fifty-five (55) years of age, the spouse may not continue to reside, or occupy a dwelling, in a senior living community for more than one (1) year after the senior person and spouse cease living together as a couple.

(d) A child, grandchild, or ward of a resident of a senior living community may not reside, or occupy a dwelling, in a senior living community, except as a temporary visitor in accordance with subsection 10.b.[3] of this section.

(e) Prior to settlement, sale or rental of a dwelling, the homeowner's association, management company or other person responsible for administering the senior living community shall verify the age of the prospective occupants of the dwelling and compliance with other provisions of this subsection.

(f) Limitations upon and effects of transfers of title.

[1] A person may not convey, or contract to convey, a dwelling in a senior living community to a person who is not a senior person for purpose of the grantee's residence, except that this does not prohibit conveying, or contracting to convey, such a dwelling to a senior person's spouse to enable the spouse to live with the senior person.

[2] If title to a dwelling in a senior living community becomes vested in a person who is less than fifty-five (55) years of age, that person may not reside in, or occupy, the dwelling until he or she becomes a senior person, or the spouse of a senior person who resides in, or occupies, the dwelling.

Staff Comment: The residency and occupancy restrictions will be included in deeds for each lot in the development.

STAFF RECOMMENDATION: Staff recommends that the Planning Commission review the proposed Special Exception request and provide a recommendation to the Board of Appeals.

PLANNING COMMISSION RECOMMENDATION (for consideration): The Planning Commission recommends approval of SE-0001-2024 in accordance with Town Code Section 191-52.

Reference documents are attached to the agenda.

MEMORANDUM

TO: Jeanine Harrington, AICP
FROM: Rodgers Consulting, Inc.
SUBJ: Pinegrove – SE-00001-2024 (Neighborhood C – Senior Living Community)
DATE: September 16, 2024

To Whom it May Concern,

On behalf of the Applicant, D.R. Horton, Inc., and the Pinegrove Project, Rodgers Consulting, Inc. would like to thank the Town of La Plata for their review of the Pinegrove – Neighborhood C Senior Living Community Application (SE-00001-2024) for 386-senior living dwelling units (282 single family detached and 104-single family attached) and respectfully submits this summary of justification on how this Senior Living Community meets and/or exceeds the requirements set forth in the Town of La Plata Code Section §191-52.

§191-52.F – Application

- §191-52.F.1.a – A Tax Map Displaying the Property & Properties Contiguous to & Opposite the Subject Property

Justification: See Exhibit A – Tax Map Exhibit.

- §191-52.F.1.b – A Detailed Site Plan Showing Current & Proposed Improvements, Including:
 - o §191-52.F.1b(1) – The Location of All Structures
 - o §191-52.F.1b(2) – Location & Number of All Parking Spaces
 - o §191-52.F.1b(3) – All Recorded Easements &/or Right-of-Ways
 - o §191-52.F.1b(4) – Names of Property Owners & Parcel/Lot Numbers of Properties Contiguous to & Opposite the Property

Justification: See Exhibit B - Preliminary Plat of Subdivision Plan

- §191-52.F.1.c
 - o §191-52.F.1.c.1 – Days & Hours of Operation
 - o §191-52.F.1.c.2 – Use of Amplification, Noise Levels, & Need for Noise Proofing
 - o §191-52.F.1.c.3 – Limits on the Size of the Establishment or on the Size, Location, Configuration of the Entertainment or Dancing Venue within the Establishment
 - o §191-52.F.1.c.4 – Number of Seats Proposed for Outdoor Table Service
 - o §191-52.F.1.c.5 – Exterior Lighting
 - o §191-52.F.1.c.6 – The Proximity of Residences, Schools, Religious Institutions, or Parks to the Establishment
 - o §191-52.F.1.c.7 – The Maximum Estimated Occupant Load of the Establishment
 - o §191-52.F.1.c.8 – The Volumes & Types of Vehicular & Pedestrian Traffic in the Area of the Establishment
 - o §191-52.F.1.c.9.a – The Establishment & Maintenance of a Traffic Management Plan
-

- o §191-52.F.1.c.9.b – The Establishment & Maintenance of a Parking Management Plan
- o §191-52.F.1.c.9.c – The Establishment & Maintenance of an Indoor & Outdoor Security Plan
- o §191-52.F.1.c.9.d – The Establishment & Maintenance of a Sanitation Plan

Justification:

- §191-52.F.1.c.1 – The Senior Living Community subdivision design is consistent with the other areas of single-family attached & detached units within the Pinegrove Development & is not subject to a defined set of days/hours of operation
- §191-52.F.1.c.2 – The Senior Living Community will be comprised of standard single-family detached & attached dwelling units. No additional noise management measures will be necessary outside of general standard residential building code requirements.
- §191-52.F.1.c.3 – Entertainment &/or Dancing Venues are not proposed within this Senior Living Community Application.
- §191-52.F.1.c.4 – Outdoor Dining Areas are not proposed within this Senior Living Community Application.
- §191-52.F.1.c.5 – A Preliminary Street Lighting Plan has been prepared & provided as part of the Preliminary Plat of Subdivision Plan (see Exhibit B). A photometric analysis & further Street Lighting designs will be a part of the Neighborhood's final Major Site Plan Application.
- §191-52.F.1.c.6 – The Senior Living Community will be surrounded by residential uses on it's northern, western, & southern boundaries (Pinegrove Neighborhood B to the north, Pinegrove Neighborhood's A, D, & G to the west, & Pinegrove Neighborhood N to the south). The Community is directly adjacent to the Charles County Board of Education property on its eastern boundary & to the south is a portion of the Pinegrove Development that has been identified for future dedication to the Charles County Board of Education (Pinegrove Neighborhood M). Open space/recreational parcels will be provided as shown on the provided Preliminary Plat of Subdivision Plan, with an amenity feature to be provided within Parcel 'A'. Further details on the amenity feature will be a part of the Neighborhood's final Major Site Plan Application.
- §191-52.F.1.c.7 – The Senior Living Community will be comprised of 386 single-family residential units, (104)-28' front loaded single-family attached units & (282)-50' front loaded single-family detached units, & will be in compliance with all occupancy regulations associated with these types of residential units.
- §191-52.F.1.c.8 – The Senior Living Community is anticipated to generate vehicular & pedestrian volumes consistent with the other areas of single-family attached & detached units within the Pinegrove Development. The Pinegrove Development, as established by the Project's Master Site Development Plan (MSDP-000478-2020), has been designed as a compact, mixed-use, walkable Development that focuses on pedestrian safety by more clearly defining pedestrian spaces, improving pedestrian crossings with enhanced street lighting, & strategic design measures that promote traffic calming.

An updated Traffic Impact Analysis (TIA) is performed for the Pinegrove Development every proposed 750 units or every 3 years, whichever comes first. A copy of the most updated TIA has been provided as Exhibit C.

- §191-52.F.1.c.9.a – The Senior Living Community will be subject to the Town of La Plata's Street & Road Design Criteria & the public right-of-ways will be dedicated to the Town of La Plata upon completion. The proposed roadway network within the community is comprised of 11-residential local streets & 1-residential alley. Entrances for the Neighborhood are located off LaPlata Parkway on the north end and proposed Street C11 on the south end; with an emergency, secondary fire access connection is provided from Neighborhood C to (Neighborhood B).

An updated Traffic Impact Analysis (TIA) is performed for the Pinegrove Development every proposed 750 units or every 3 years, whichever comes first. A copy of the most updated TIA has been provided as Exhibit C.

- §191-52.F.1.c.9.b – The Senior Living Community has been prepared & is in compliance with all Town of La Plata parking requirements. Preliminary parking requirement calculations & proposed number of parking spaces has been provided as part of the Preliminary Plat of Subdivision Plan. Further parking details & designs will be a part of the Neighborhood's final Major Site Plan Application.
- §191-52.F.1.c.9.c – The Senior Living Community subdivision design is consistent with the other areas of single-family attached & detached units within the Pinegrove Development. Ample street lighting will be provided within the Community & the proposed amenity feature to be provided within Parcel 'A'. Further details on the amenity feature will be a part of the Neighborhood's final Major Site Plan Application.
- §191-52.F.1.c.9.d – The Senior Living Community will be subject to the Town of La Plata's public sanitation services.

§191-52.G – Findings

- §191-52.G.1.a – The Proposed Use Does not Violate or Adversely Affect the Town of La Plata Comprehensive Plan, This Chapter or Any Other Applicable Law

Justification: The Senior Living Community Application does not violate or adversely affect the Town of LaPlata 2020 Comprehensive Plan & highlights Goal No.'s 24 and 25 by encouraging a diverse range of housing density that welcomes a diverse range of population to support the Town's aging in place initiatives. The Application is also consistent with the Project's Master Site Development Plan (MSDP-000478-2020), provided as Exhibit D.

- §191-52.G.1.b – The Tract Shall be Suitable for the Development Proposed. Suitability of a Tract shall be Determined by Reference to the La Plata Comprehensive Plan, Size, Topography, & Other Physical Features of the Tract; Accessibility of the Tract to Services & Facilities Required by the Use

Justification: The Tract is suitable for the proposed Development as shown in the Preliminary Plat of Subdivision Plan (Exhibit B) and as indicated in the Project's Master Site Development Plan (MSDP-000478-2020) (Exhibit D), and as proposed is in accordance with the 2020 Town of LaPlata Comprehensive Plan.

- §191-52.G.1.c – The Proposed Use will Satisfy all Use Standards for the Use Set Forth in Subsection H

Justification: See below detailed justification for Subsection H.

- §191-52.G.1.d – The Proposed Use at the Location Selected will not:

- o §191-52.G.1.d.1 – Adversely Affect the Health & Safety of Residents or Workers in the Area
- o §191-52.G.1.d.2 – Overburden Existing & Planned Public Facilities
- o §191-52.G.1.d.3 – Be Detrimental to the Use or Development of Adjacent Properties or the Neighborhood
- o §191-52.G.1.d.4 – Change the Character of the Neighborhood in which the Use is Proposed Considering Services Currently Provided, Population Density, Character, & Number of Similar Uses
- o §191-52.G.1.d.5 – Constitute a Nuisance Because of Noise, Traffic, Number of People, or Type of Physical Activity

Justification:

- §191-52.G.1.d.1 – The Senior Living Community Application will not adversely affect the health and safety of existing residents or workers in this area. The housing types as proposed as part of this Application are consistent in shape, size, & unit product types with the other Neighborhoods within the Pinegrove Development.

§191-52.G.1.d.2 – The Senior Living Community Application does not have the intention of overburdening any existing or proposed public facilities. The proposed utilities associated with this Project can be seen on the Preliminary Plat of Subdivision Plan (Exhibit B) with further sizing, modeling, and impacts identified as part of Neighborhoods the Major Site Plan Application. An updated Traffic Impact Analysis (TIA) is performed for the Pinegrove Development every proposed 750 units or every 3 years, whichever comes first. A copy of the most updated TIA has been provided as Exhibit C.

- §191-52.G.1.d.3 – The Senior Living Community Application will not be detrimental to the adjacent properties/uses. The Community will be surrounded by residential uses on it's northern, western, & southern boundaries (Pinegrove Neighborhood B to the north, Pinegrove Neighborhood's A, D, & G to the west, & Pinegrove Neighborhood N to the south). The Community is directly adjacent to the Charles County Board of Education property on its eastern boundary & to the south is a portion of the Pinegrove Development that has been identified for future dedication to the Charles County Board of Education (Pinegrove Neighborhood M). Open space/recreational parcels will be provided as shown on the provided Preliminary Plat of Subdivision Plan, with an amenity feature to be provided within Parcel 'A'. Further details on the amenity feature will be a part of the Neighborhood's final Major Site Plan Application.
- §191-52.G.1.d.4 – The Senior Living Community Application will not change the character of the Neighborhood in which the use is proposed, rather supports/compliments the remainder of the Pinegrove Development by proposing lots that are consistent in shape, size, & unit product types with the other Neighborhoods within the overall Development.
- §191-52.G.1.d.5 – The Senior Living Community Application will not constitute a nuisance to the community and is consistent with the surrounding proposed Development types.

§191-52.H.28 – Standards for Senior Living Communities

- §191-52.H.28.a – This Use is Permitted by Special Exception in the TDX Zone in Accordance with the Following Criteria:
 - o §191-52.H.28.a.1 – Each Senior Living Community Tract Must Have Direct Access to a Collector, Arterial, or Primary Local Street.
 - o §191-52.H.28.a.2 – Each Senior Living Community Shall Consist of a Tract of not less than Four (4) Acres of Land Under Single Ownership or Unified Control

- o §191-52.H.28.a.3 – Frontage – The Lot Must Have One Hundred (100) Feet of Frontage on a Street as Listed in Item (1) Above
- o §191-52.H.28.a.4 – Side & Rear Setbacks – All Structures on the Site, Which are Adjacent to a Residential Use, Must be Set Back at Least Twice the Minimum Setback Required in the Zone or the Height of the Building, Whichever is Greater
- o §191-52.H.28.a.5 – Maximum Overall Density shall not Exceed (15) Dwellings per Acre within the Senior Living Community. For Assisted Living Facilities & Life Care Facilities where Residents do not Occupy Separate Dwelling, Each Sleeping Room shall be Considered a Dwelling for the Purposes of Determining Density & Required Parking
- o §191-52.H.28.a.6 – There shall be no Requirement for a Mix of Housing Types within a Senior Living Community. Each Senior Living Community may have any Combination of Housing Types as long as all Dimensional & Density Requirements are met.
- o §191-52.H.28.a.7 – A Building Permit may not be Issued for Construction for a Senior Living Community Unless a Declaration of Covenants, Conditions, & Restrictions, Containing Provisions Substantially Similar, & not Inconsistent with, Paragraph (5) has First Been Prepared by the Owner of the Tract, Approved by the Town Attorney, & the Recorded by the Owner Among the Land Records of Charles County.
- o §191-52.H.28.a.8.a – Dimensional Requirements:

Single-Family Detached		
	Required	Provided
Minimum Lot Area	4,000 SF	5,250 SF
Minimum Lot Width	50'	50'
Minimum Front Setback	20'	20'
Minimum Side Setback	8'	5' *
Minimum Rear Setback	15'	20'
Maximum Height	35'	35'
Open Space, Green	None	102.14 Acres (Open Space / Rec)
Open Space, Public Use	None	102.14 Acres (Open Space / Rec)

Single-Family Attached		
	Required	Provided
Minimum Lot Area	1,400 SF	3,024 SF
Minimum Lot Width	20'	28'
Minimum Front Setback	20'	20'
Minimum Side Setback	8'	5' *
Minimum Rear Setback	15'	20'
Maximum Height	35'	35'
Open Space, Green	50%	102.14 Acres (Open Space / Rec)
Open Space, Public Use	None	102.14 Acres (Open Space / Rec)

* - The proposed side setback of this Neighborhood is proposed at 5' to remain consistent and to support / compliment the remainder of the Pinegrove Development by proposing lots that are consistent in shape, size, & unit product types with the other Neighborhoods within the overall Development.

- o §191-52.H.28.a.8.b – Front Setback Shall be Forty-Five (45) Feet or the Underlying Zone's Setback, Whichever is Greater
- o §191-52.H.28.a.8.c – The Board of Appeals may Reduce the Rear Yard to no less than Five (5) Feet Based on a Finding that the Yard is Adjacent to Common Open Space or Appropriate Size & Character (Minimum Thirty (30) Feet Width) to Provide Adequate Usable Space for the Residents

- o §191-52.H.28.a.9.a – Except as Provided in Sub-Paragraph (D) & (E) of this Paragraph (9), a Buffer Yard shall be Provided within & Along the Entire Perimeter of a Senior Living Community. The Buffer Yard shall not be Part of Any Subdivided Lot but shall be the Maintenance Responsibility of the Abutting Property Owner or the Homeowner's Association as Governed by Covenants within the Senior Living Community.
- o §191-52.H.28.a.9.b – The Buffer Yard shall be Installed Before the Issuance of the First Occupancy Permit within the Senior Living Community, or its Installation Guaranteed by a Bond, Letter of Credit, or other Security in such a form & Amount as Approved by the Chief Executive Officer
- o §191-52.H.28.a.9.c –The Buffer Yard shall Meet the Minimum Requirements of Buffer Yard 'F' as Depicted in Article V of the Code. For Purposes of Determining the Location of any Fence which may be Allowed as part of the Buffer Yard 'F', the Senior Living Community shall be deemed to be the Higher Density Use
- o §191-52.H.28.a.9.d – When a Senior Living Community Consists Soley of Detached Dwellings, the Board of Appeals may Waive the Buffer Yard Requirements where the Properties Abutting the Senior Living Community are Fully Developed & Devoted to Soley Detached Dwellings
- o §191-52.H.28.a.9.e – Buffer Yards are not Required Between Senior Living Communities & Adjacent Uses on the Same Parcel
- o §191-52.H.28.a.10.a – The Proposed Facilities shall meet all Applicable Requirements of County, State, &/or Federal Lay & Regulations, Including Age-Based Occupancy Restrictions & Limitations Under Federal or State Law that would Qualify the Housing to be Exempt from Prohibitions Against Discriminating Against Families with Children
- o §191-52.H.28.a.10.b – Subject to Paragraph (10)(a) of this Subsection, a Person may not Reside, or Occupy a Dwelling, in a Senior Living Community, or Permit Another Person to Reside, or Occupy a Dwelling, in a Senior Living Community, unless the Person Residing, or Occupying a Dwelling Unit, in the Senior Living Community is:
 - §191-52.H.28.a.10.b.1 – A Senior Person
 - §191-52.H.28.a.10.b.2 – The Spouse of a Senior Person Even if such Spouse is less than Fifty-Five (55) Years of Age, as long as they Remain Married & Living Together in the Senior Living Community. Spouses who Reside in, or Occupy, Different Residential or Nursing Facilities of a Life Care Facility for Senior Persons shall be Deemed to be Living Together for Purposes of this Section
 - §191-52.H.28.a.10.b.3 – A Member of the Family of a Senior Person, or the Spouse of a Senior Person, while Visiting the Senior Person or Spouse on a Temporary Basis for Purposes of Family Vacations or Visits. As used in this Paragraph, "Temporary Basis" means not more than Fourteen (14) Consecutive Days at One (1) Time. The Aggregate of such Visits shall not Exceed Twenty-Eight (28) Days in any (52) Fifty-Two Week Period
 - §191-52.H.28.a.10.b.4 – A Maximum of Two (2) Adults, Related or Unrelated by Blood or Marriage to a Senior Person, & Providing Ancillary Supportive Services, Supervision, Personalized Assistance, Health Related Services or a Combination Thereof to Meet the Needs of the Senior Person who is Unable to Perform, or who Needs Assistance in Performing the Activities of Daily Living or Instrumental Activities of Daily Living.
- o §191-52.H.28.a.10.c – As long as the Spouse of a Senior Person is less than Fifty-Five (55) Years of Age, the Spouse may not Continue to Reside, or Occupy a Dwelling in a Senior Living Community for more than One (1) Year after the Senior Person & Spouse Cease Living Together as a Couple
- o §191-52.H.28.a.10.d – A Child, Grandchild, or Ward of a Resident of a Senior Living Community may not Reside or Occupy a Dwelling in a Senior Living Community Except as a Temporary Visitor in Accordance with Subsection 10.b.3 of this Section
- o §191-52.H.28.a.10.e – Prior to Settlement, Sale, or Rental of a Dwelling, the Homeowner's Association, Management Company, or other Person Responsible for Administering the Senior Living Community shall verify the Age of the Prospective Occupants of the Dwelling & Compliance with other Provisions of this Subsection

- o §191-52.H.28.a.10.f.1 – A Person may not Convey, or Contract to Convey, a Dwelling in a Senior Living Community to a Person who is not a Senior Person for Purpose of the Grantee's Residence, Except that this does not Prohibit Conveying, or Contracting to Convey, Such a Dwelling to a Senior Person's Spouse to Enable the Spouse to Live with the Senior Person
- o §191-52.H.28.a.10.f.2 – If Title to a Dwelling in a Senior Living Community Becomes Vested in a Person who is less than Fifty-Five (55) Years of Age, That Person may not Reside in, or Occupy, the Dwelling Until He or She Becomes a Senior Person, or the Spouse of a Senior Person who Resides in, or Occupies, the Dwelling

Justification:

- §191-52.H.28.a.1 – The subject Property has frontage along Rosewick Road, LaPlata Parkway, and proposed Street C11 as shown on the Preliminary Plat of Subdivision Plan (Exhibit B).
- §191-52.H.28.a.2 – The subject Property is approximately 166.8 acres.
- §191-52.H.28.a.3 – The subject Property meets and/or exceeds the minimum 100' frontage along Rosewick Road, LaPlata Parkway, and proposed Street C11 as shown on the Preliminary Plat of Subdivision Plan (Exhibit B).
- §191-52.H.28.a.4 – All proposed structures on-site that are directly adjacent to residential uses are set back at least 30 feet from the Neighborhood boundary line. 30 feet is established by twice the minimum rear setback for a detached & attached dwelling unit per §191-52.H.28.a.8.a
- §191-52.H.28.a.5 – The proposed density of Neighborhood C is 8.795 dwelling units per acre.
- §191-52.H.28.a.6 – Understood and noted.
- §191-52.H.28.a.7 – Understood and noted.
- §191-52.H.28.a.8.a – See proposed dimensional items in the tables above. The proposed side setback of this Neighborhood is proposed at 5' to remain consistent and to support/compliment the remainder of the Pinegrove Development by proposing lots that are consistent in shape, size, & unit product types with the other Neighborhoods within the overall Development.
- §191-52.H.28.a.8.c – No reduction in rear yard setbacks is requested.
- §191-52.H.28.a.9.a – A buffer area has been provided along the Neighborhood's perimeter in parcels to be dedicated to the HOA that consists primarily of areas of forest retention and areas of proposed reforestation. Additional information will be provided as part of the Neighborhood's Final Forest Conservation Plan to be prepared concurrently with the Neighborhood's Major Site Plan Application.
- §191-52.H.28.a.9.b – Understood and noted.
- §191-52.H.28.a.9.c – The buffer area will comply with the requirements of buffer yard 'F' as depicted in Article V of the code and consists primarily of areas of forest retention and areas of proposed reforestation. Additional information will be provided as part of the Neighborhood's Final Forest Conservation Plan to be prepared concurrently with the Neighborhood's Major Site Plan Application.

- **§191-52.H.28.a.9.d – N/A, this Application consists of both attached and detached proposed dwelling units.**
- **§191-52.H.28.a.9.e – Understood and noted.**
- **§191-52.H.28.a.10.a - §191-52.H.28.a.10.f.2 – The proposed Application will comply with all items in this section upon approval.**

Once again, thank you for your time in reviewing the Pinegrove – Neighborhood C Senior Living Community Application (SE-00001-2024)) & the above summary of justification on how this Senior Living Community meets &/or exceeds the requirements set forth in the Town of La Plata Code Section §191-52. As such, & on behalf of the Applicant, Rodgers Consulting, Inc. respectfully asks for your support & favorable consideration for this Special Exception request.

Sincerely,
Rodgers Consulting, Inc.

Exhibits.

Exhibit A – Tax Map Exhibit

Exhibit B – Preliminary Plat of Subdivision Plan

Exhibit C – Traffic Impact Analysis (TIA)

Exhibit D – Master Site Development Plan (MSDP-000478-2020)

cc.

Brian Georg, D.R. Horton, Inc.

Garrett McLendon, D.R. Horton, Inc.

Alex Villegas, Rodgers Consulting, Inc.

Danielle Conrow, Rodgers Consulting, Inc.

Nicole Reedy, Rodgers Consulting, Inc.

Joshua Levy, Rodgers Consulting, Inc.



Board of Appeals Application

Town of La Plata
305 Queen Anne Street • P.O. Box 2268
La Plata, MD 20646
301-934-8421 • Fax: 301-934-3965
www.townoflaplata.org

FOR BOARD OF APPEALS USE ONLY

Received with Application Fee: Amount \$ _____	Hearing Date: _____
Date: _____ Check # _____	
☐ Complete on _____	Case Number: _____
☐ Incomplete/With Deficiencies on: _____	Board of Appeals Action: _____
Returned to applicant on: _____	_____

Planning Commission Recommendation: _____	Resolution Prepared for Signature on: _____
_____	Date: _____
_____	_____
Date: _____	_____

Please complete the information below prior to Board of Appeals submission. This application will be required in order to accept and process your submission. **All information must be complete or the submission will be returned to the applicant. You are encouraged to contact Town Staff to discuss your application prior to your submission with all required copies.**

A. Project Information:

File Number: SE-00001-2024 (To be completed by The Town of La Plata)

Project Name: Pinegrove - Neighborhood C Date: September 16, 2024

Action Requested: (Please check appropriate box)

- | | |
|--|---|
| ☐ Variance (§ 191-51) | ☐ Height |
| ☐ Density | ☐ Other _____ |
| ☐ Lot Area | ☐ Appeal of Administrator's Decision |
| ☐ Lot Width | ☐ Appeal of Design Review Board Decision |
| ☐ Front Yard | ☒ Special Exception |
| ☐ Side Yard | ☐ Special Exception for Home Occupation |
| ☐ Rear Yard | |
| ☐ Lot Coverage | |

Owner/Contract Purchaser: D. R. Horton, Inc. (Brian Georg)

Address: 137 Mitchells Chance Road, Suite 300, Edgewater, MD 21037

Phone #: 667-204-0485

E-Mail Address: BGeorg@drhorton.com

Authorized Agent: Rodgers Consulting, Inc. (Chris Lazration)

Address: 1101 Mercantile Lane, Suite 280, Largo, MD 20774

Phone #: 814-248-9218

E-Mail Address: CLazration@rodgers.com

B. Site Information:

Address: Parcel No. 43, 163, & 440 on the East Side of the CSX Rail, North of MD 6, North & South of Rosewick Rd, West of Agricopia

Tax ID Account Number: 01-010875

Election District: 1st

Tax Map: 33 Block: _____ Parcel (s): 43, 163, & 440

Lot: _____

Zoning: TDX

Zoning Overlays (if applicable): _____

Acreage: +/- 167

C. Submission Requirements:

- ☒ Complete application form
- ☒ 16 copies and 1 electronic file of all documents and exhibits.
- ☐ Non-refundable application fee in the amount of \$315.00 plus a deposit for actual expenses with application package. Make checks payable to the Town of La Plata. The applicant shall pay actual expenses to process the application, including legal fees, advertising fees, and any other related costs, which shall be deducted from the deposit amount. Any amounts in excess of the deposit will be invoiced by the Town Finance Department and shall be due upon receipt. Funds remaining following the close of the case will be refunded once all expenses have been paid.
- ☒ Tax Map displaying the subject property and properties contiguous to and opposite the subject property.
- ☐ The written decision of the Town Zoning Administrator requiring that a variance be obtained.
- ☒ Detailed Site Plan showing current and proposed improvement(s) and clearly showing how the Code requirement is requested to be varied or how special exception standards are being met.
 - ☒ **Site plan must include:** details to indicate compliance with all other requirements for the current or proposed improvement to the property, including location of all structures, parking spaces (parking spaces must meet Code size requirements and all parking areas must be all-weather surfaced), all recorded easements and/or rights-of-way; and names of property owners and parcel/lot numbers of properties contiguous to and opposite the property for which the variance or special exception is asked.
- ☒ Current Recorded Deed of the subject property
- ☒ Relevant Portion of the Town Zoning Map (*zoning map available from Town staff or website*)
- ☒ Provide a list of owner's names, their mailing addresses, and the lot or parcel numbers of properties contiguous to and opposite the property for which the variance is being requested, and the current use of each of those properties. Applicants are encouraged to provide copies of the data pages located on the State Department of Assessment's (SDAT) web site located at <http://www.dat.state.md.us/> for each property on the list.
- ☐ Provide pre-addressed and postage paid (1st class mail) #10 (business size) envelopes for each of the property owners on the list requested.

I (We) D. R. Horton, Inc., are the ☒ Owner(s), ☐ Contract Purchaser(s), ☐ Tenant/Lessee,) ☐ Other (specify), of property whose address is Tax Map 33, Parcels 43, 163, & 440 containing 167 acres of land ☐ unimproved or improved by a ☒ single family detached, ☐ single family attached, ☐ multi-family dwelling, ☐ other structure: _____ located

in the subdivision (if any) known as Pinegrove - Neighborhood C. The deed describing this property is recorded in the Land Records of Charles County, Maryland at Liber 11334, folio 470.

The action requested is described as:

Approval of a Special Exception for age-restricted single family attached and detached dwelling units in Pinegrove Neighborhood C

_____, which is provided for in Town Code Section 191-10, which requires a special exception be obtained from the Board of Appeals.

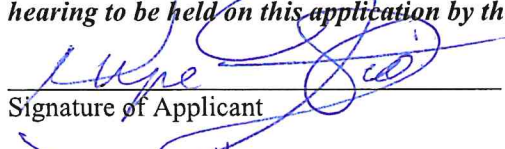
Considering the terms and conditions under which ☐ variances ☒ special exceptions may be approved, as outlined in Town Code, explain how the action requested complies with those terms and conditions:

As required per this application and in Section 191-52. Special Exceptions, a justification statement is attached along with corresponding exhibits.

Has the property in question been subject to previous petition? No If so, give date of petition or hearing and action requested and taken:

D. Authorization:

By my/our signature(s) below, I/we certify under the penalties of perjury that the statements contained in this application for a variance to the Town Code or special exception are true and complete to the best of my/our knowledge, information and belief. Further, I/we understand that this application will be entered as evidence in a hearing to be held on this application by the Town of La Plata Board of Appeals.


Signature of Applicant

DWAYNE HILL
Printed Name

Date: 9/16/24

Mailing Address:

137 MITCHELLS CHANCE RD STE 300
EDGEWATER, MD 21037

Telephone number:

(Daytime) 667-204-0485

Signature of Applicant

Printed Name

Date: _____

Mailing Address:

Telephone number:

(Daytime) _____

►SIGNATURE(S) OF PROPERTY OWNER(S) IF APPLICANT NOT OWNER. All owners of the property must sign this application (use other side if more space is needed):

Signature of Applicant

Printed Name

Date: _____

Mailing Address:

Telephone number:
(Daytime)_____

Signature of Applicant

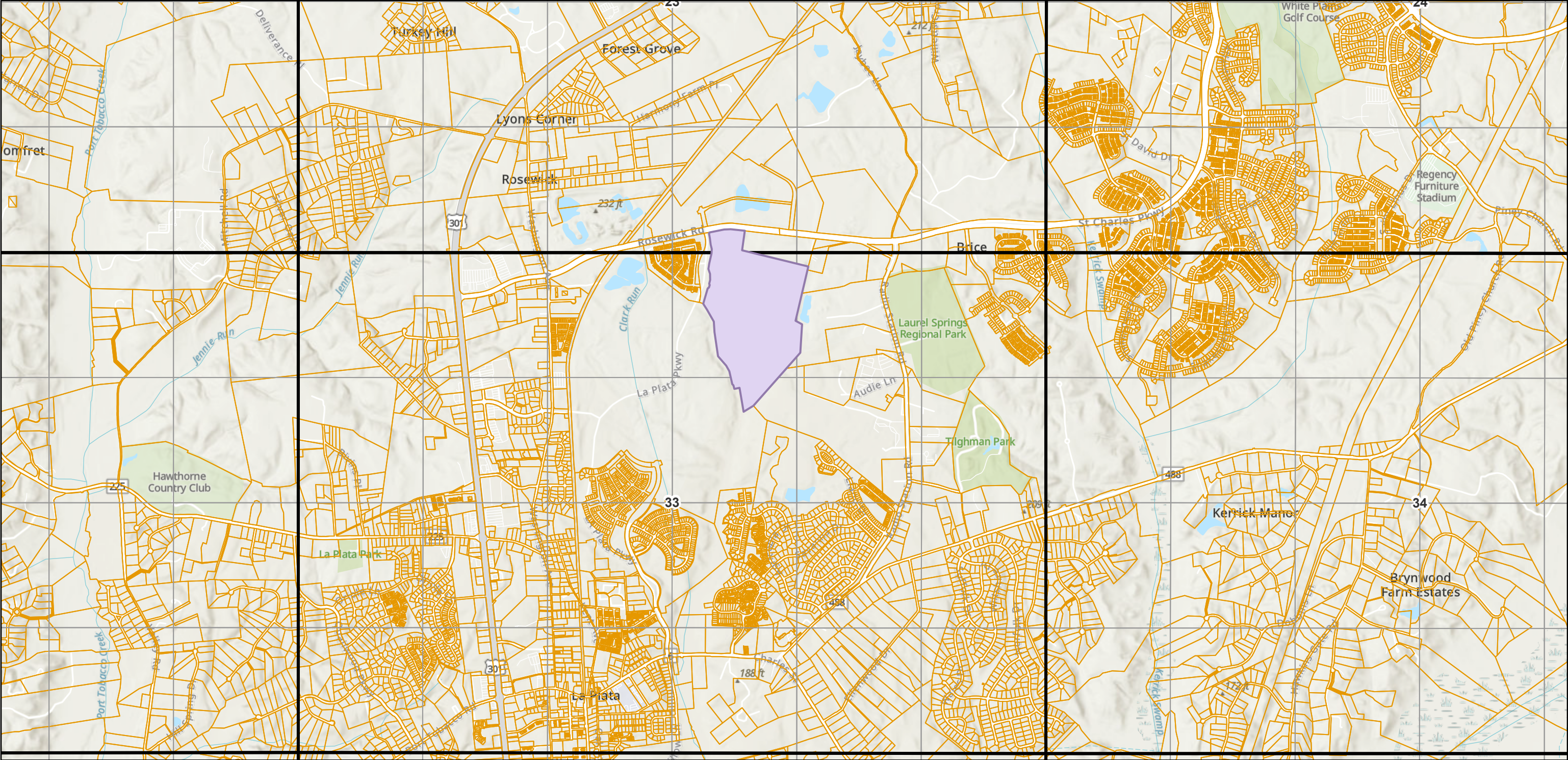
Printed Name

Date: _____

Mailing Address:

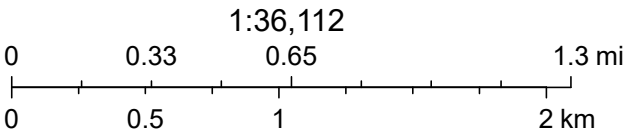
Telephone number:
(Daytime) _____

Exhibit A - Pinegrove Neighborhood C Tax Map



9/14/2024, 4:53:43 PM

-  Tax Map Outline
-  Tax Map Grid
-  Tax Parcel Data - Charles County



Esri, NASA, NGA, USGS, FEMA, M-NCPPC, VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The site plan for Neighborhood 'B' (MJSUB-0002-2024) is bounded by Rosewick Road to the north, La Plata Parkway to the west, and a future connectivity to Radio Station Rd. to the south. The plan includes several streets: Street C1, Street C2, Street C3, Street C4, Street C5, Street C6, Street C7, Street C8, Street C9, Street C10, Street C11, and an Alley. The streets are arranged in a grid-like pattern with various lot sizes and shapes. A large area in the center is marked with an asterisk (*). The plan also shows surrounding areas: Neighborhood 'Q' (MJSUB-000670-2023) to the north, and a future connectivity to Radio Station Rd. to the south.

PRELIMINARY PLAT LEGEND

TOWN OF LA PLATA APPROVAL

PROJECT NUMBER: _____

PLANNING COMMISSION APPROVAL DATE: _____

APPROVAL SIGNATURE: _____

APPROVAL SIGNATURE EXPIRATION DATE: _____

"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. 54348, Expiration Date: 05/15/2025."

BOARD OF APPEALS EXHIBIT 'B' COVER SHEET

RODGERS
CONSULTING

	BY	DATE
BASE DATA		
DESIGNED		
DRAWN		
REVIEWED		

RODGERS CONTACT:

RELEASE FOR _____ ☐

BY _____ DATE _____

PREVIOUS APPROVALS AND/OR ASSOCIATED PLANS:

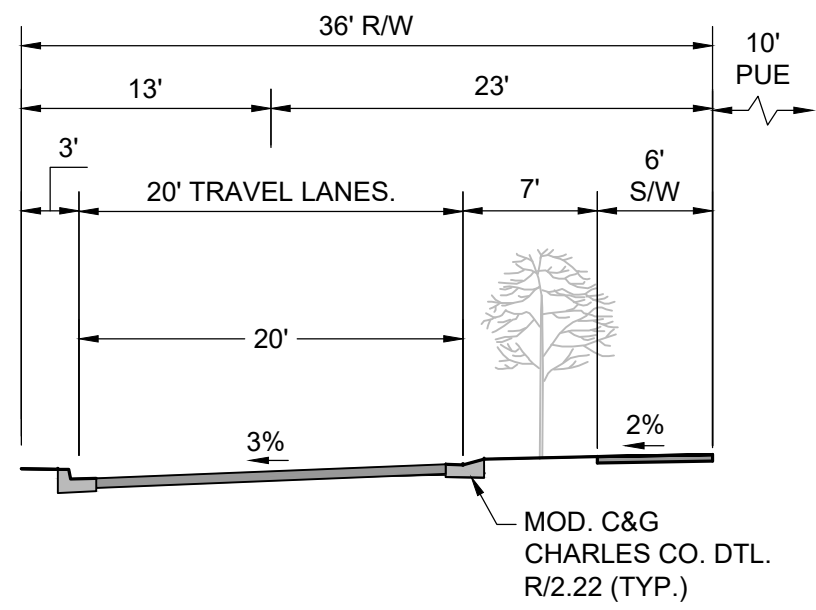
- FSD-000382-2019 - NATURAL RESOURCE INVENTORY / FOREST STAND DELINEATION PLAN
- FCP-0005-2024 - OVERALL FINAL FOREST CONSERVATION PLAN
- MAP-000379-2019 - SEWER TRUNKLINE
- MSWP-000478-2020 - MASTER SITE DEVELOPMENT PLAN
- SMD-000530-2021 - OVERALL STORMWATER MANAGEMENT CONCEPT
- UIP-000686-2023 - LA PLATA PARKWAY - PHASE 2 ROADWAY CONSTRUCTION PLANS
- SMD-0000XX-2024 - NEIGHBORHOOD C STORMWATER MANAGEMENT PLAN

1. PINEGROVE - NEIGHBORHOOD 'C'
TAX MAP NO. 33, PARCEL NO.'S 43, 163, & 440,
1ST ELECTION DISTRICT
LOCATED WITHIN THE INCORPORATED LIMITS OF THE TOWN OF LA PLATA
CHARLES COUNTY, MARYLAND
2. TOTAL TRACT AREA: +/- 1,021 ACRES. THIS PROPOSED PRELIMINARY PLAT OF SUBDIVISION CONSISTS OF NEIGHBORHOOD 'C'
TRACT AREA: 166.826 ACRES.
3. PROPOSED USE: 104 - 28' FRONT LOAD SINGLE FAMILY ATTACHED DWELLING UNITS
202 - 50' SINGLE FAMILY DETACHED DWELLING UNITS
TOTAL NUMBER OF UNITS PROVIDED: 386
4. ZONING: TDX (TRADITIONAL DEVELOPMENT MIXED-USE) - 166.826 ACRES.
5. DIMENSIONAL REQUIREMENTS PER §191-33 (TDX) & MSDP-000478-2020:
 - 5.1. THERE ARE NO LOT COVERAGE REQUIREMENTS.
 - 5.2. THERE ARE NO MINIMUM LOT AREA OR LOT WIDTH REQUIREMENTS.
 - 5.3. MAXIMUM HEIGHT SHALL BE (6) STORIES.
 - 5.4. THE FOLLOWING BUILDING ENVELOPES ARE BEING PROPOSED FOR SINGLE FAMILY ATTACHED:
 - 5.4.1. 20' FRONT
 - 5.4.2. 20' REAR
 - 5.4.3. 5' SIDE
 - 5.5. THE FOLLOWING BUILDING ENVELOPES ARE BEING PROPOSED FOR SINGLE FAMILY DETACHED:
 - 5.5.1. 20' FRONT
 - 5.5.2. 20' REAR
 - 5.5.3. 5' SIDE
 - 5.6. BUILDING ENVELOPES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY & SHALL NOT BE CONSIDERED A GOVERNING CRITERIA. PER §191-33.D & PER MSDP-000478-2020, FRONT, REAR, & SIDE SETBACKS HAVE BEEN ESTABLISHED TO BE 0'.
6. DENSITY REQUIREMENTS PER §191-33 (TDX) & PER MSDP-000478-2020:
 - 6.4. TOTAL TRACT AREA = 166.826 ACRES.
 - 6.5. TOTAL AREA REMOVED FOR ROADS (905,753 SQUARE FEET OR 20.793 ACRES) & OPEN SPACE/RECREATIONAL PARCELS (4,449,393 SQUARE FEET OR 102.144 ACRES) = +/- 5,355,146 SQUARE FEET OR +/- 122.937 ACRES.
 - 6.6. ALLOWABLE DENSITY: PINEGROVE (OVERALL DEVELOPMENT) MUST PROVIDE A MINIMUM OF 6.5 DU/AC & A MAXIMUM OF 12 DU/AC. INDIVIDUAL NEIGHBORHOOD DENSITIES MAY VARY.
 - 6.7. PROVIDED DENSITY = NUMBER OF UNITS / NET ACREAGE.
 - 6.7.1. TOTAL NUMBER OF UNITS PER THIS APPLICATION = 386.
 - 6.7.2. NET ACREAGE = TOTAL TRACT AREA (166.826 ACRES) - ROADS (20.793 ACRES) - OPEN SPACE/RECREATIONAL PARCELS (102.144 ACRES) = +/- 43.889 ACRES.
 - 6.8. PROVIDED DENSITY = 386 / 43.889 = 8.795 DU/AC.
7. PARKING REQUIREMENTS PER §191-43:
 - 7.1. MINIMUM NUMBER OF REQUIRED PARKING SPACES, SINGLE FAMILY ATTACHED & DETACHED DWELLING = 2 PER DWELLING
 - 7.2. PARKING SPACES REQUIRED = NUMBER OF DWELLINGS * 2 SPACES PER DWELLING.
 - 7.2.1. TOTAL NUMBER OF DWELLINGS PER THIS APPLICATION = 386.
 - 7.3. PARKING SPACES REQUIRED = 386 * 2 = 772 SPACES.
 - 7.4. PARKING SPACES PROVIDED (ON-LOT) = 1,158 SPACES.
 - 7.4.1. 28' SINGLE FAMILY ATTACHED UNITS (104):
 - 7.4.1.1. 2-CAR GARAGE = 1 SPACE
 - 7.4.1.2. 2-CAR DRIVEWAY = 2 SPACE
 - 7.4.2. 50' SINGLE FAMILY DETACHED UNITS (282):
 - 7.4.2.1. 2-CAR GARAGE = 1 SPACE
 - 7.4.2.2. 2-CAR DRIVEWAY = 2 SPACE
 - 7.5. PARKING SPACES PROVIDED (ON-STREET) = 70
 - 7.6. PARKING SPACES PROVIDED (TOTAL) = 1,228

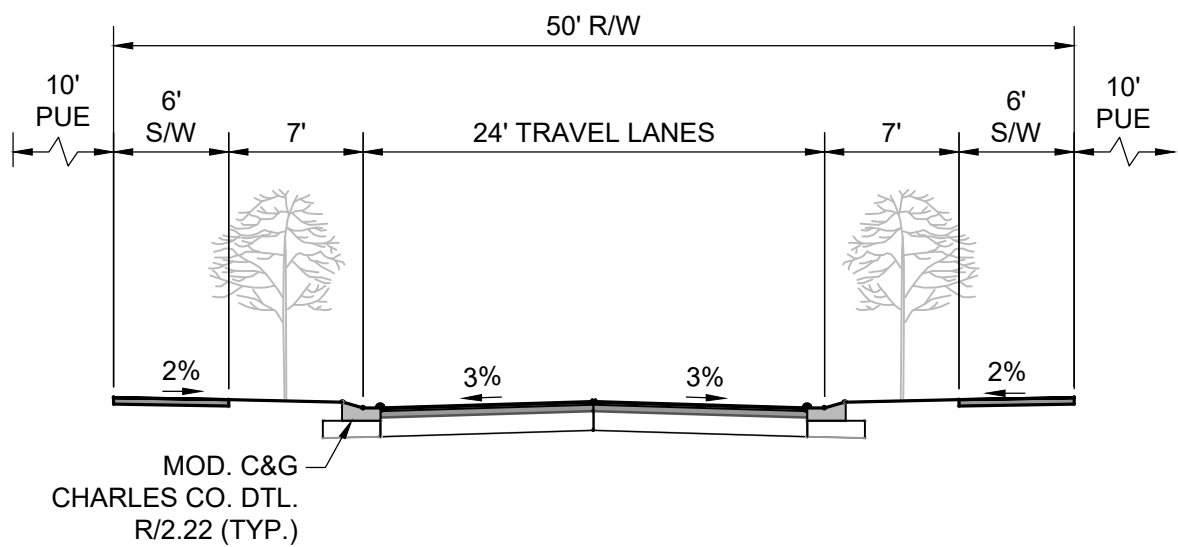
Owner/Applicant/Developer

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

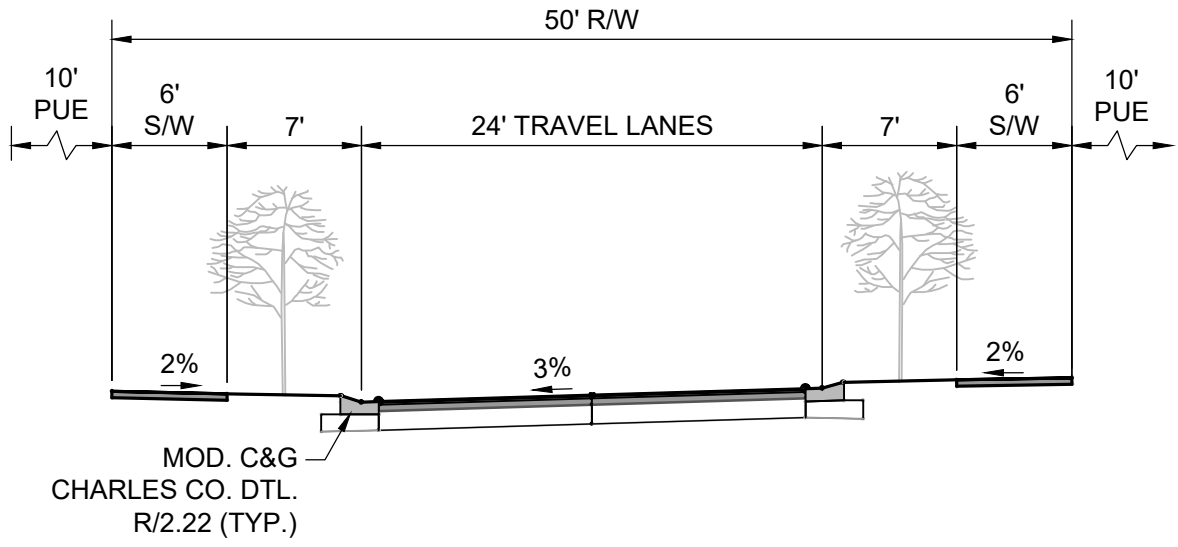
ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND



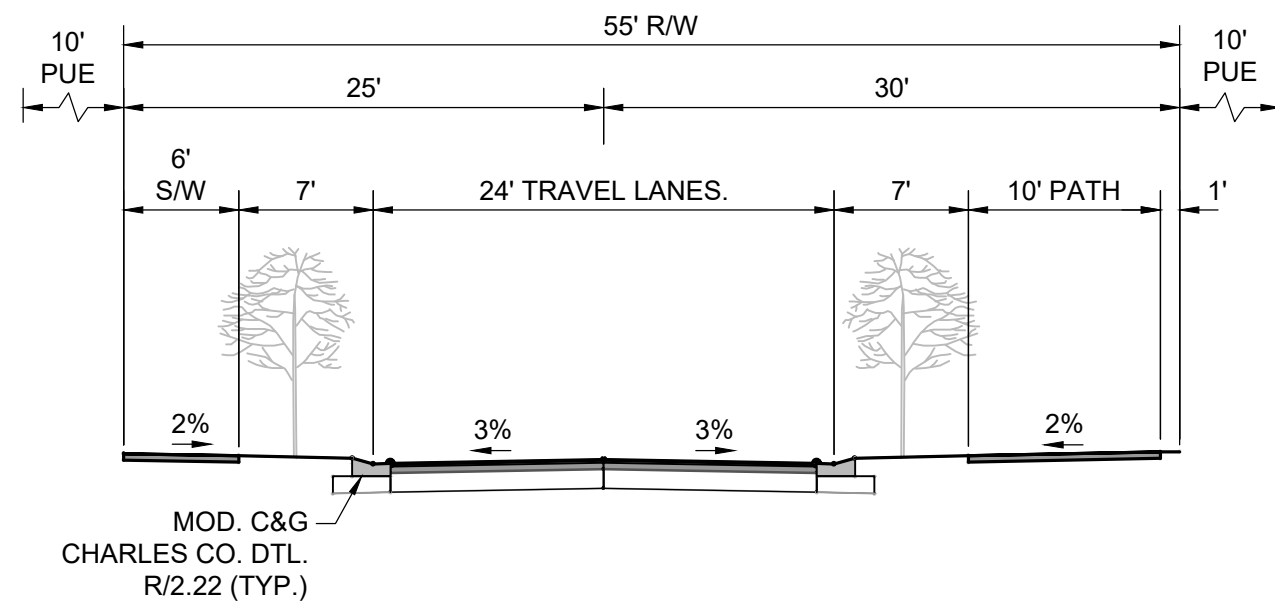
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
20' PUBLIC STREET
(SUPERELEVATED LEFT)
ALLEY C1 STA 00+45± - 02+82±



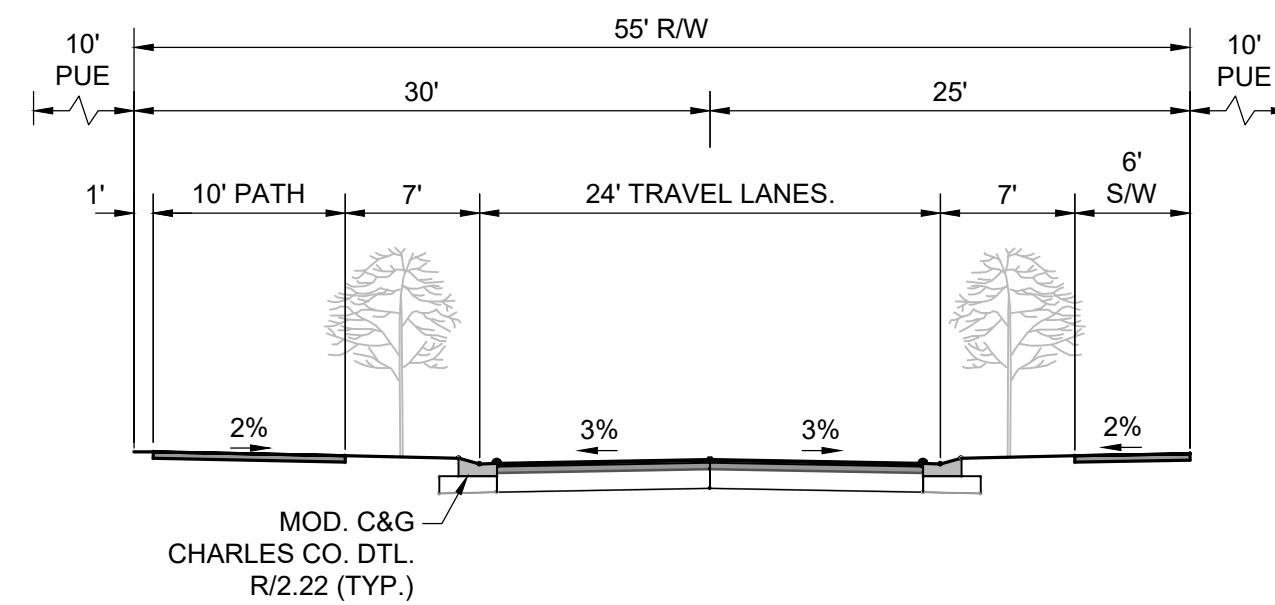
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET
STREET C2 STA 11+96± - 19+42±
STREET C3 STA 01+26± - 15+50±
STREET C6 STA 00+49± - 05+47±
STREET C7 STA 04+59± - 13+33±
STREET C7 STA 21+24± - 32+19±
STREET C8 STA 00+45± - 12+56±
STREET C9 STA 00+45± - 08+76±



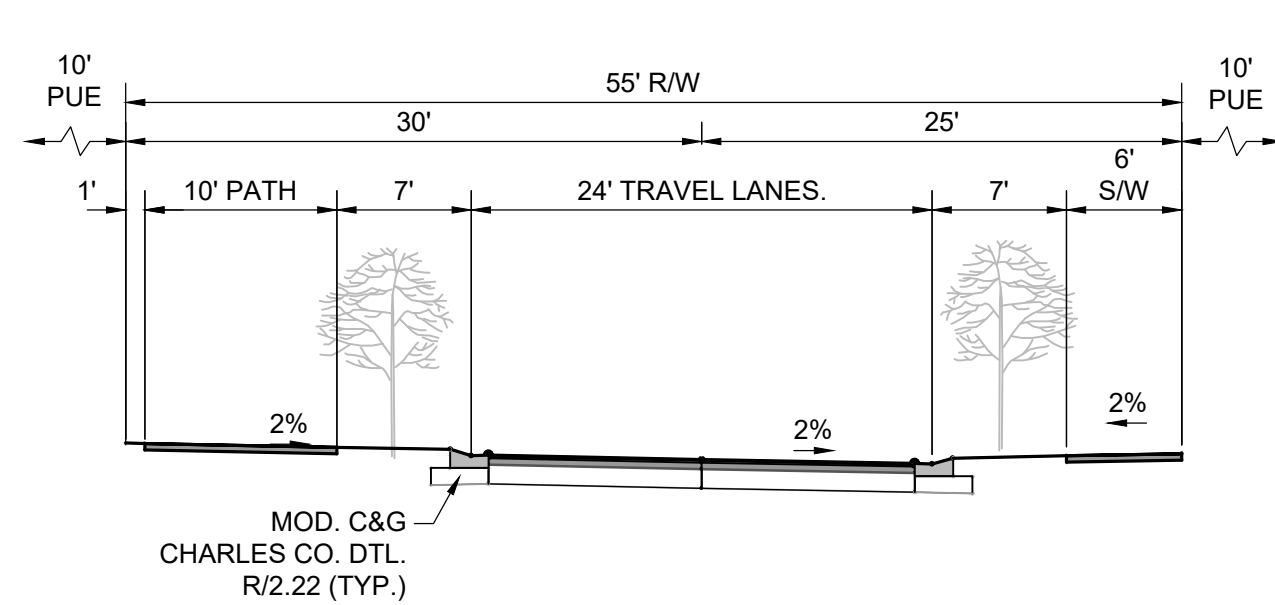
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24' PUBLIC STREET
(SUPERELEVATED LEFT)
STREET C4 STA 00+45± - 03+16±



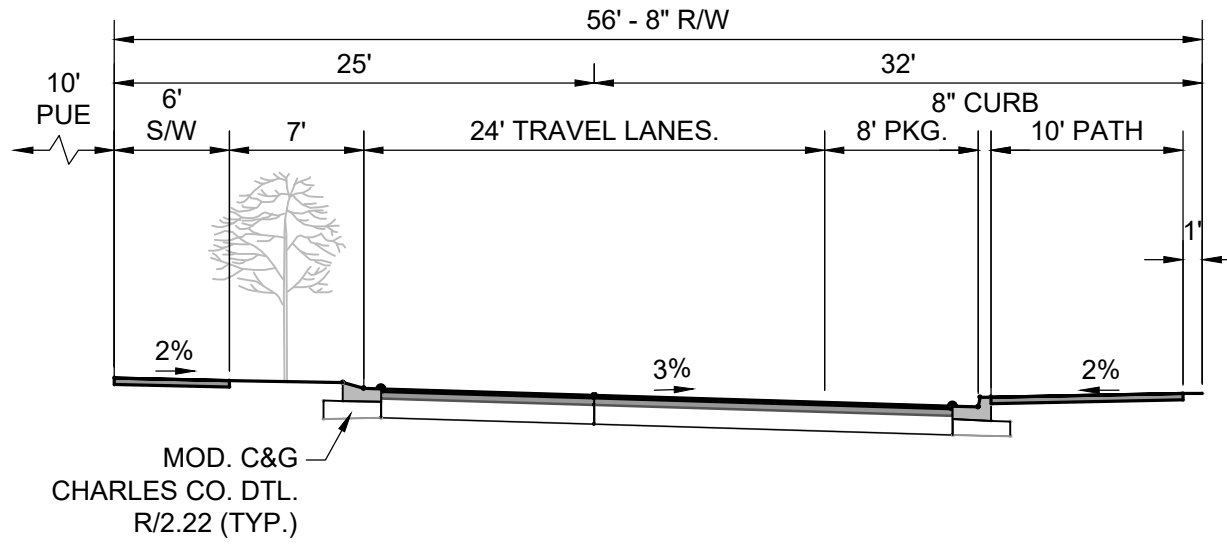
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/10' PATH ON ONE SIDE
STREET C2 STA 00+48± - 11+26±
STREET C5 STA 00+45± - 03+48±



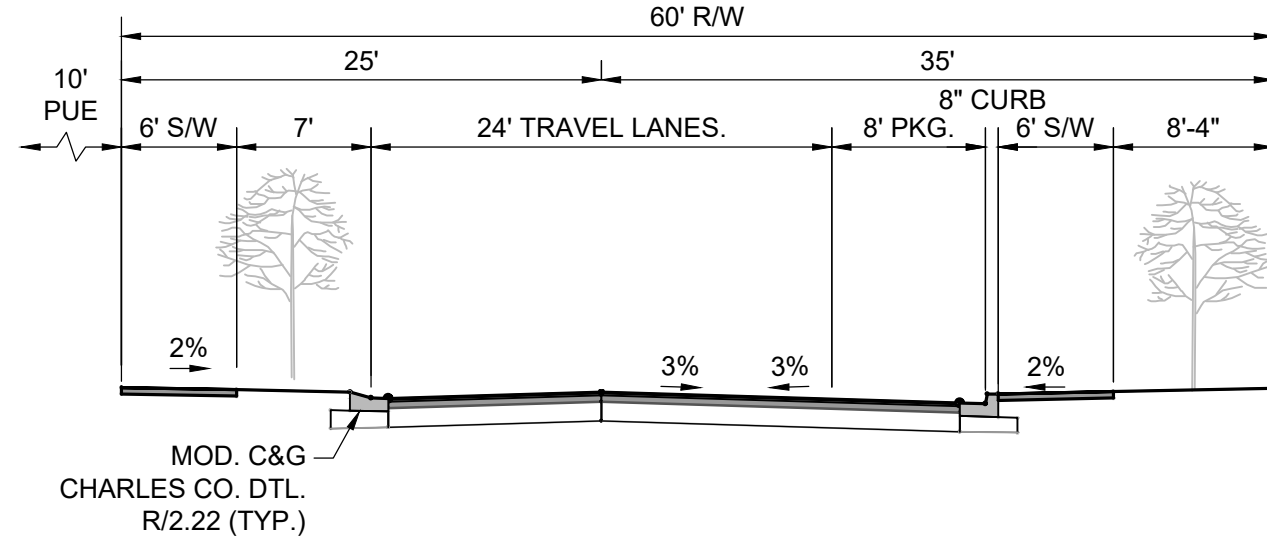
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/10' PATH ON ONE SIDE
STREET C1 STA 02+14± - 23+87±



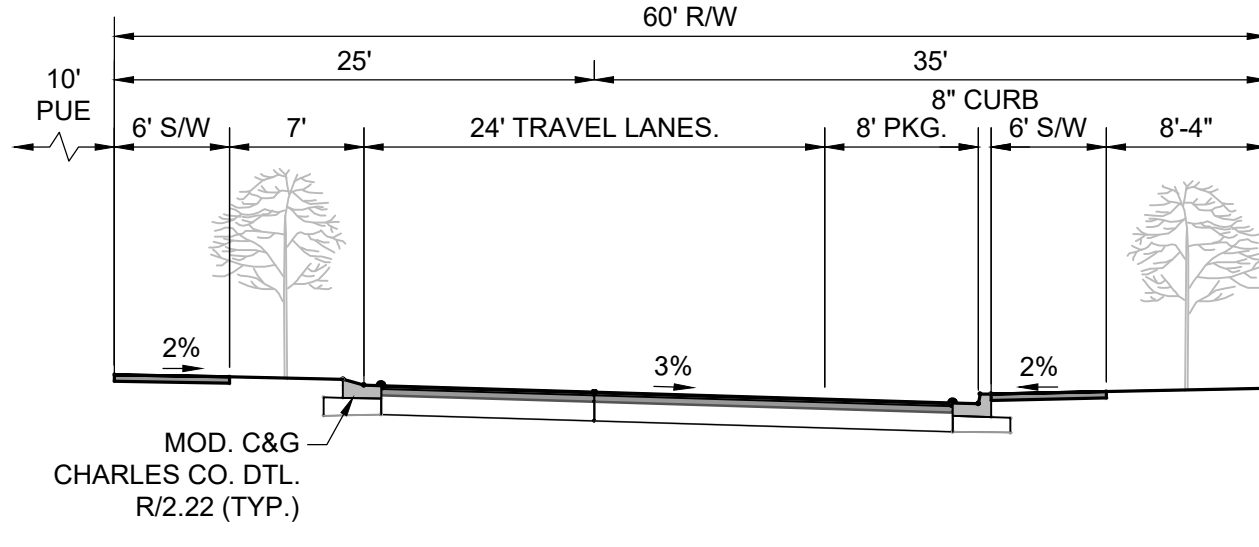
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/10' PATH ON ONE SIDE
(SUPERELEVATED RIGHT)
STREET C2 STA 20+22± - 22+43±



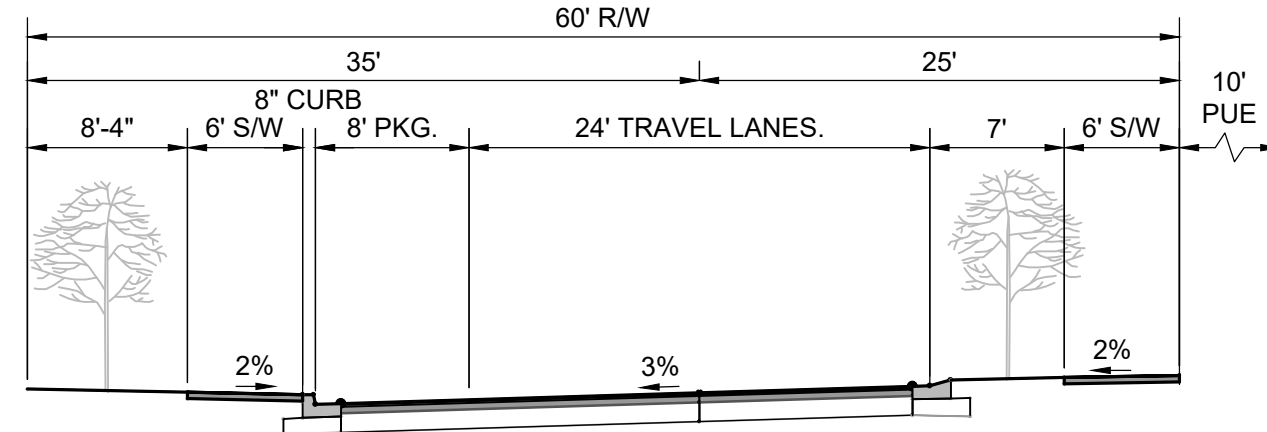
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/10' PATH & PARKING ONE SIDE
(SUPERELEVATED RIGHT)
STREET C5 STA 04+49± - 06+26±



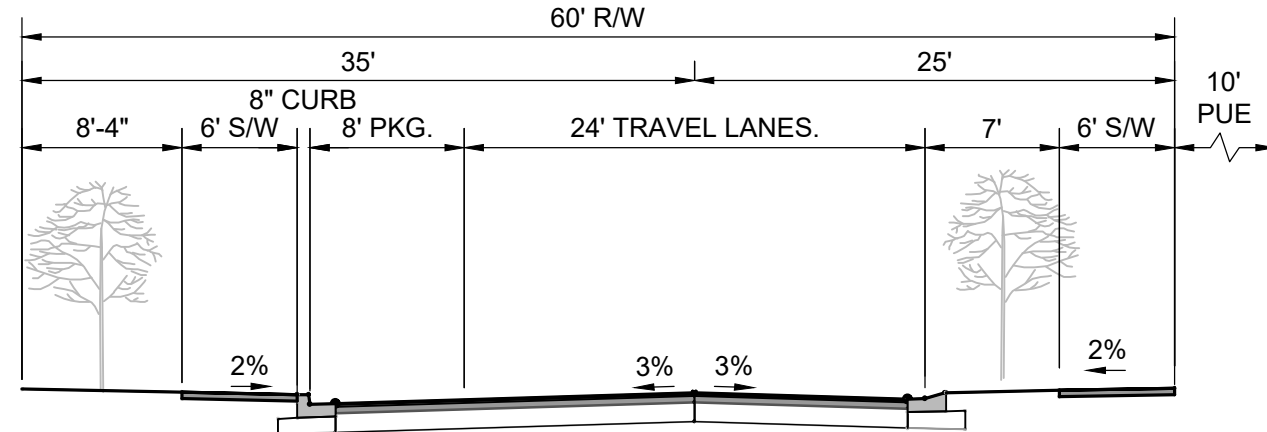
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/PARKING ONE SIDE
STREET C7 STA 00+45± - 01+90±
STREET C7 STA 14+52± - 20+19±



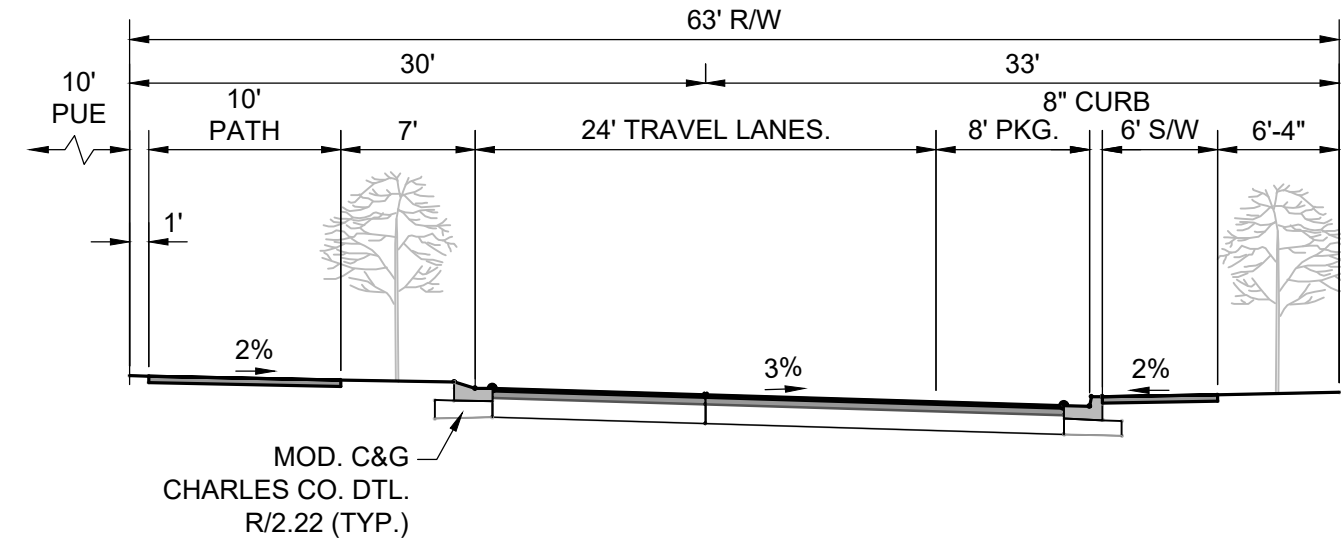
TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/PARKING ONE SIDE
(SUPERELEVATED RIGHT)
STREET C5 STA 07+23± - 08+77±



TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/PARKING ONE SIDE
(SUPERELEVATED LEFT)
STREET C10 STA 00+65± - 05+00±



TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/PARKING ONE SIDE
STREET C7 SPUR STA 00+45± - 02+52±

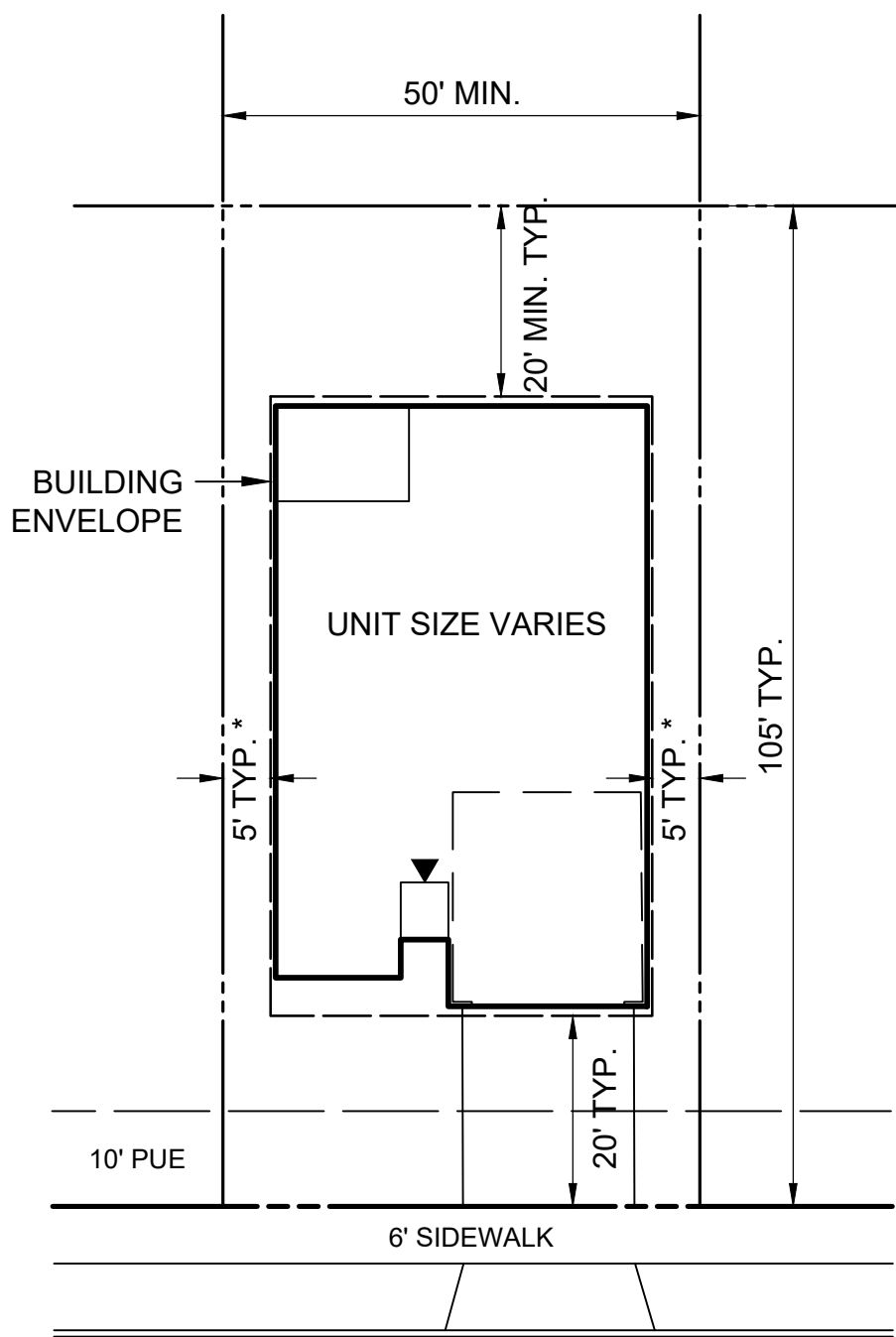


TYPICAL RESIDENTIAL LOCAL ROADWAY SECTION
24' PUBLIC STREET W/10' PATH & PARKING ONE SIDE
(SUPERELEVATED RIGHT)
STREET C2 STA 23+13± - 27+23±

ROAD CLASSIFICATION LIST:

STREET C1 - RESIDENTIAL LOCAL (R2.16'')
STREET C2 - RESIDENTIAL LOCAL (R2.16'')
STREET C3 - RESIDENTIAL LOCAL (R2.16'')
STREET C4 - RESIDENTIAL LOCAL (R2.16'')
STREET C5 - RESIDENTIAL LOCAL (R2.16'')
STREET C6 - RESIDENTIAL LOCAL (R2.16'')
STREET C7 - RESIDENTIAL LOCAL (R2.16'')
STREET C8 - RESIDENTIAL LOCAL (R2.16'')
STREET C9 - RESIDENTIAL LOCAL (R2.16'')
STREET C10 - RESIDENTIAL LOCAL (R2.16'')
STREET C11 - RESIDENTIAL LOCAL (R2.16'')
ALLEY C1 - RESIDENTIAL ALLEY (R2.15'')

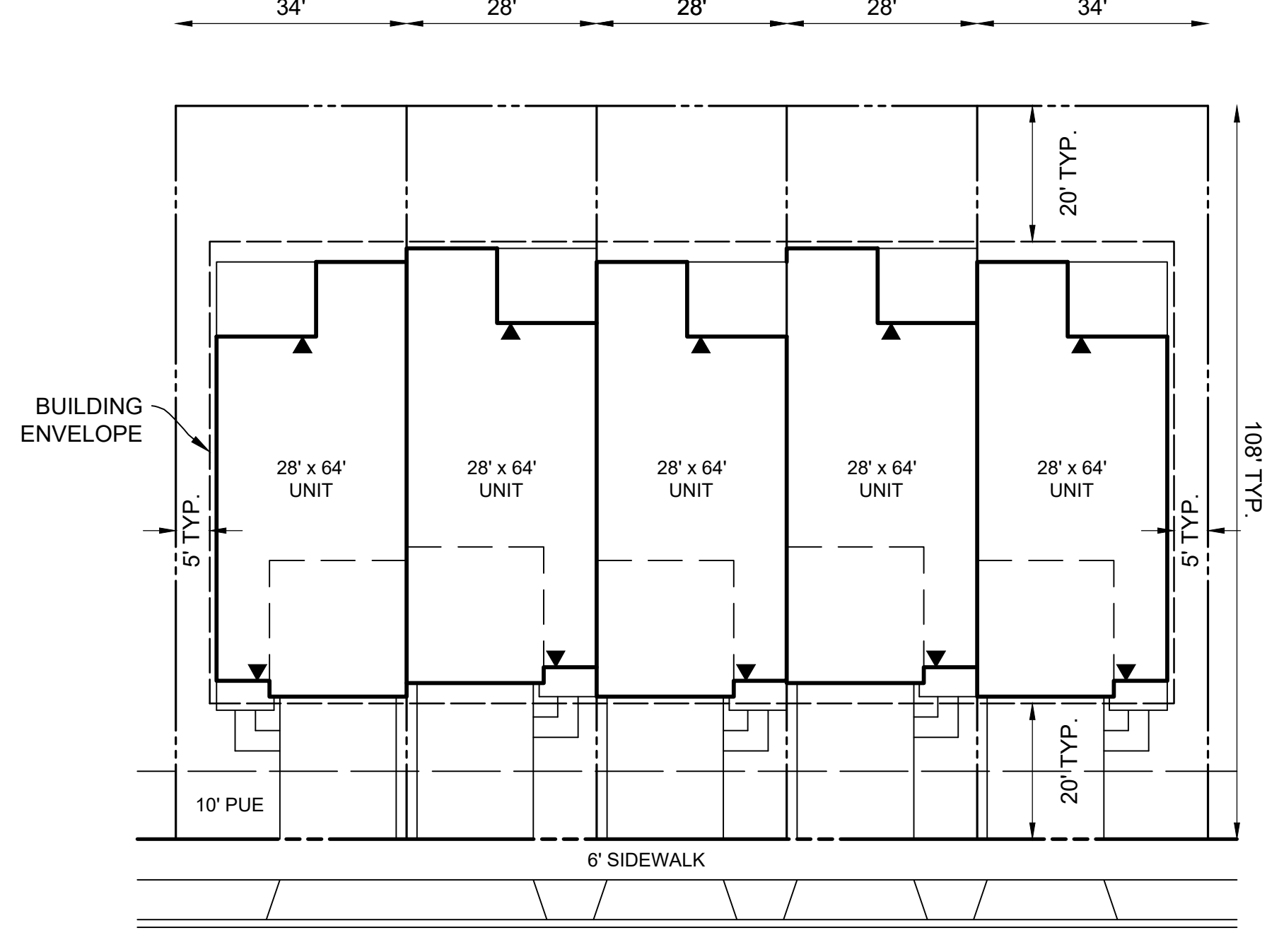
** CHARLES COUNTY STANDARD DETAILS MODIFIED TO MEET THE REQUIREMENTS OF THE TOWN OF LA PLATA & THE TDX ZONING.
ALL PROPOSED STREETS ARE TO BE PUBLIC.



PUBLIC ROAD

TYPICAL 50' SF LOT

LOT SIZE: 50' x 105' = 5,250 SF (TYP)



PUBLIC ROAD

TYPICAL FRONT LOAD TOWNHOUSES

LOT SIZE: 34' x 108' = 3,672 SF (TYP. END UNIT)
28' X 108' = 3,024 SF (TYP. INTERNAL UNIT)

TOWN OF LA PLATA APPROVAL

PROJECT NUMBER: _____
PLANNING COMMISSION APPROVAL DATE: _____
APPROVAL SIGNATURE: _____
APPROVAL SIGNATURE EXPIRATION DATE: _____

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. 54348, Expiration Date: 05/15/2025."



PRELIMINARY PLAT - NOT TO BE RECORDED

REVISION	DATE	REVISION	DATE	REVISION	DATE

Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF LA PLATA PLAN No. MJSUB-00XX-2024

ELECTION DISTRICT No. 1
TOWN OF LA PLATA, CHARLES COUNTY, MARYLAND

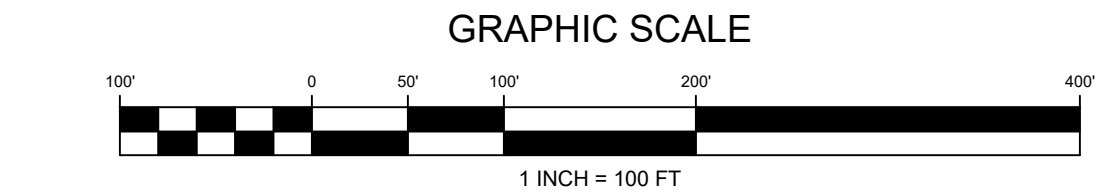
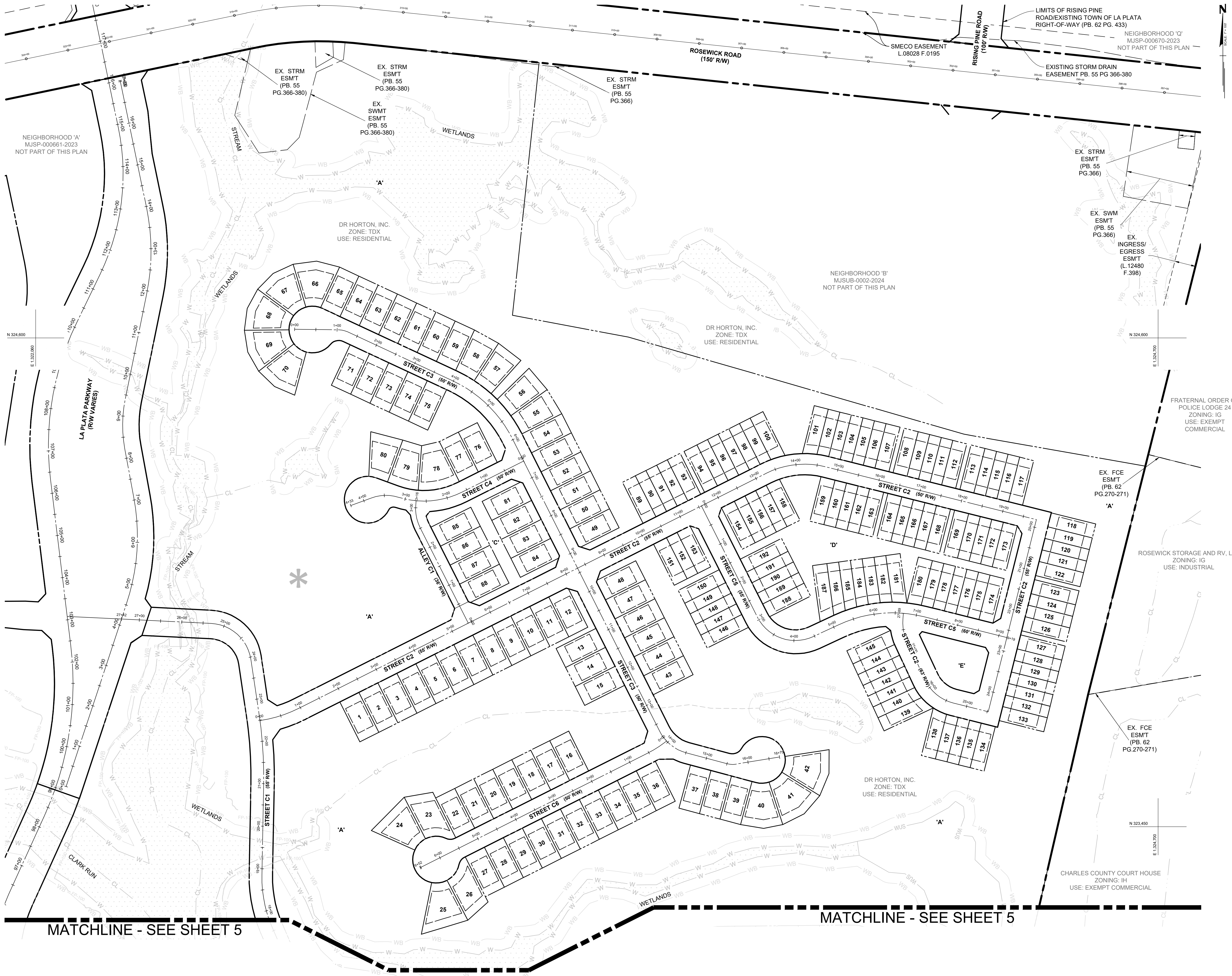
RODGERS
CONSULTING

1101 Mercantile Lane, Suite 200, Largo, Maryland 20774
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

	BY	DATE
BASE DATA		
DESIGNED		
DRAWN		
REVIEWED		
RODGERS CONTACT:		
RELEASE FOR ☐		
BY: _____ DATE: _____		

NOTES AND DETAILS

SCALE	AS SHOWN
JOB No.	0832AA14
DATE:	AUG 2024
SHEET No.	3 OF 13



TOWN OF LA PLATA APPROVAL

PROJECT NUMBER: _____

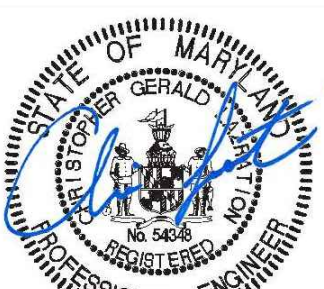
PLANNING COMMISSION APPROVAL DATE: _____

APPROVAL SIGNATURE: _____

APPROVAL SIGNATURE EXPIRATION DATE: _____

PROFESSIONAL CERTIFICATION

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PRELIMINARY PLAT - NOT TO BE RECORDED

* FUTURE AMENITY FEATURE. DESIGN & PROGRAMMING TO BE PROVIDED AT MAJOR SITE PLAN

N:\MD\CharlesCounty\Greenland\Plat Plans\Preliminary Plans\Lotting Plan C.dwg, 2 Aug 28, 2024, 2:10pm

REVISION	DATE	REVISION	DATE	REVISION	DATE

Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
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PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND

RODGERS CONSULTING

1101 Mercantile Lane, Suite 280, Largo, Maryland 20774
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

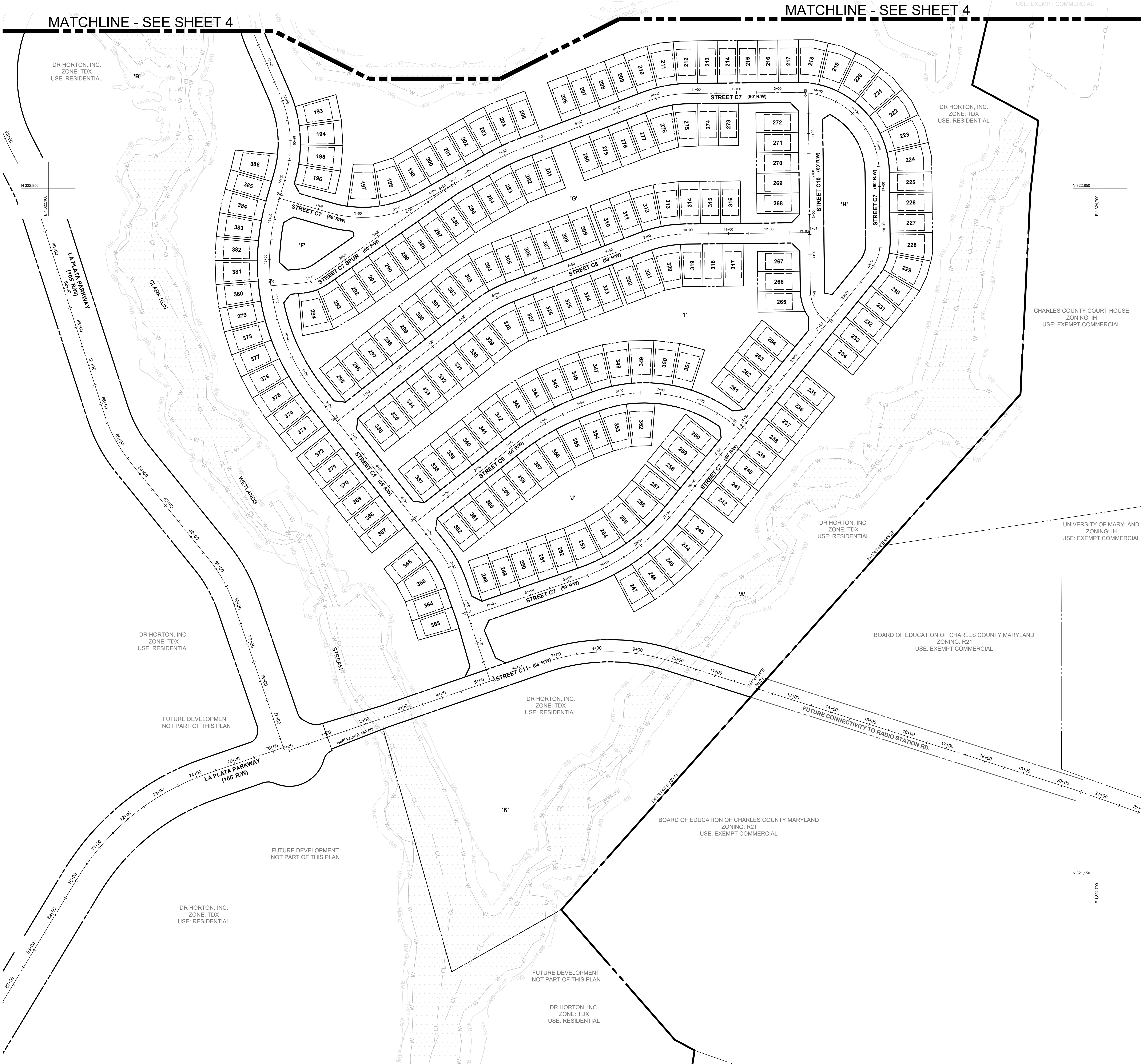
BASE DATA	BY	DATE
DESIGNED		
DRAWN		
REVIEWED		
RODGERS CONTACT:		
RELEASE FOR		
BY: _____	DATE: _____	

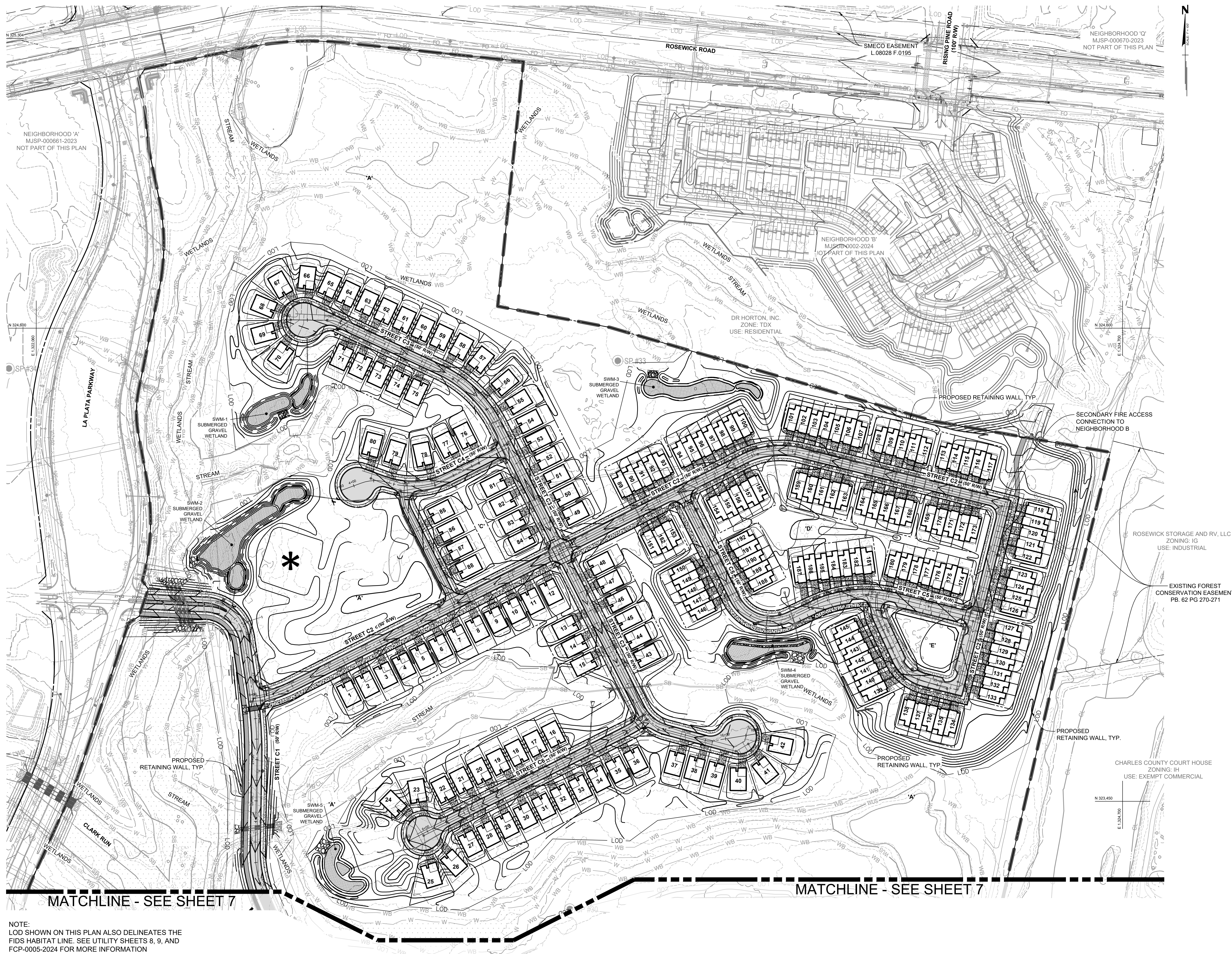
LOTING PLAN

SCALE:	1" = 100'
JOB No.	0832AA14
DATE:	AUG 2024
SHEET No.	4 OF 13

MATCHLINE - SEE SHEET 4

MATCHLINE - SEE SHEET 4





NOTE:
LOD SHOWN ON THIS PLAN ALSO DELINEATES THE
FIDS HABITAT LINE. SEE UTILITY SHEETS 8, 9, AND
FCP-0005-2024 FOR MORE INFORMATION

* FUTURE AMENITY FEATURE,
DESIGN & PROGRAMMING TO BE
PROVIDED AT MAJOR SITE PLAN

GRAPHIC SCALE

A horizontal graphic scale bar with alternating black and white segments. Above the bar, tick marks are labeled 100', 0, 50', 100', 200', and 400'. Below the bar, the text "1 INCH = 100 FT" is centered.

<u>TOWN OF LA PLATA APPROVAL</u>	
PROJECT NUMBER:	_____
PLANNING COMMISSION APPROVAL DATE:	_____
APPROVAL SIGNATURE:	_____
APPROVAL SIGNATURE EXPIRATION DATE:	_____

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. 54348, Expiration Date: 05/15/2025."



PRELIMINARY PLAT - NOT TO BE RECORDED

[illegible]

Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND

RODGERS
CONSULTING

1101 Mercantile Lane, Suite 280, Largo, Maryland 20774
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

	BY	DATE
BASE DATA		
DESIGNED		
DRAWN		
REVIEWED		

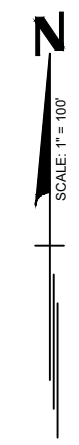
RODGERS CONTACT:

RELEASE FOR _____ ☐

BY _____ DATE _____

COMPOSITE PLAN

SCALE:	1" = 100'
JOB No.	0832AA14
DATE:	AUG 2024
SHEET No.	6 OF 13



UNIVERSITY OF MARYLAND
ZONING: IH
USE: EXEMPT COMMERCIAL

BOARD OF EDUCATION OF CHARLES
COUNTY MARYLAND
ZONING: R21
USE: EXEMPT COMMERCIAL

NOTE:
LOD SHOWN ON THIS PLAN ALSO DELINEATES THE
FIDS HABITAT LINE. SEE UTILITY SHEETS 8, 9, AND
FCP-0005-2024 FOR MORE INFORMATION

"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. 54348, Expiration Date: 05/15/2025."



COMPOSITE PLAN

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'

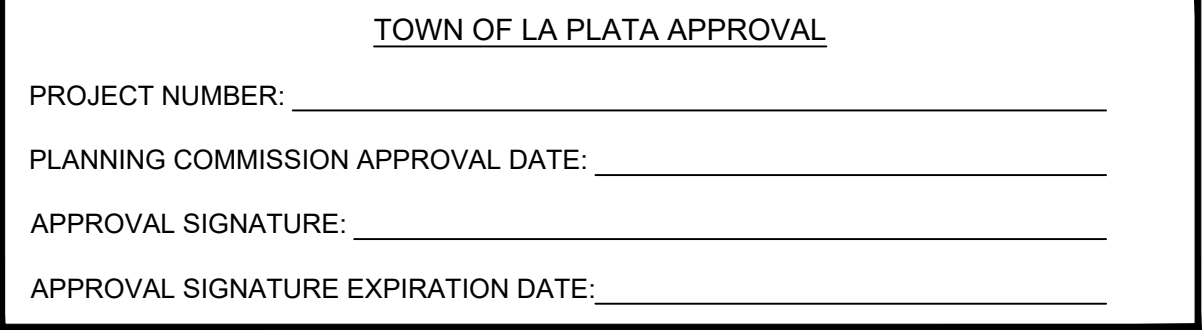
1101 Mercantile Lane, Suite 280, Largo, Maryland 20774
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

SCALE:
1" = 100'

JOB No.
0832AA14

DATE:
AUG 2024

SHEET No.
7 OF 13



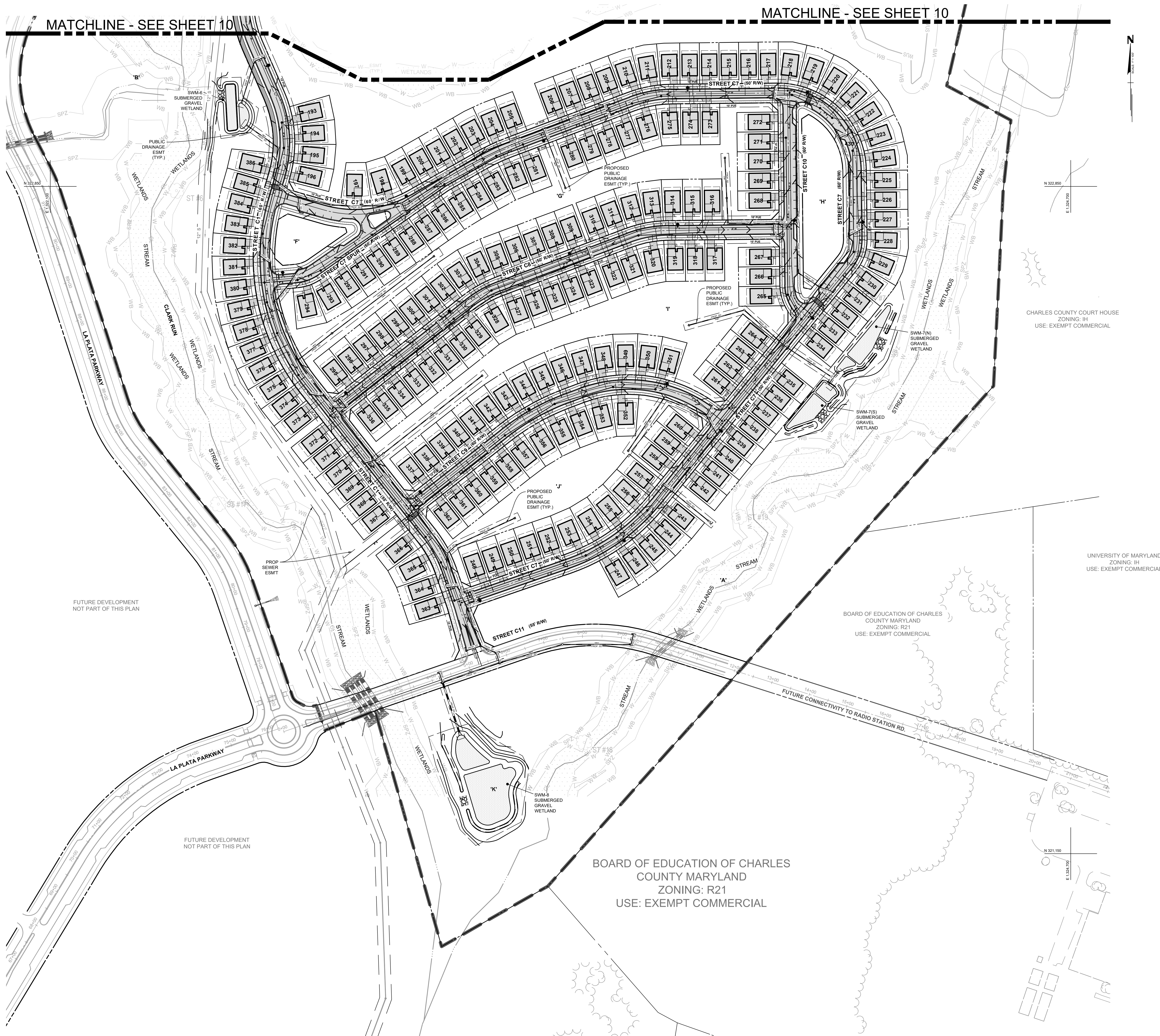
8/28/2024

SCALE:
1" = 100'

DB No.
0832AA14

DATE:
AUG 2024

SHEET No.
8 OF 13



PRELIMINARY PLAT - NOT TO BE RECORDED

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. 54348, Expiration Date: 05/15/2025."

TOWN OF LA PLATA APPROVAL

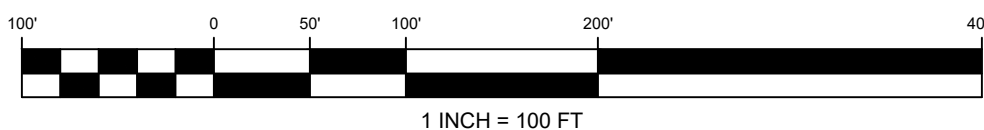
PROJECT NUMBER: _____

PLANNING COMMISSION APPROVAL DATE: _____

APPROVAL SIGNATURE: _____

APPROVAL SIGNATURE EXPIRATION DATE: _____

GRAPHIC SCALE



PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND

RODGERS
CONSULTING

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Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

	BY	DATE
BASE DATA		
DESIGNED		
DRAWN		
REVIEWED		

RODGERS CONTACT:

RELEASE FOR _____ ☐

BY _____ DATE _____

UTILITY & EASEMENT PLAN

[illegible]

Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg



GRAPHIC SCALE

100' 0 50' 100' 200' 400'

1 INCH = 100 FT

TOWN OF LA PLATA APPROVAL

PROJECT NUMBER: _____

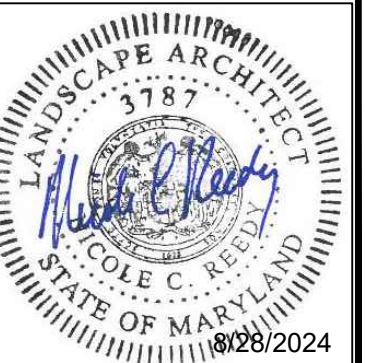
PLANNING COMMISSION APPROVAL DATE: _____

APPROVAL SIGNATURE: _____

APPROVAL SIGNATURE EXPIRATION DATE: _____

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the State of Maryland, License No. 3787, Expiration Date: 06/30/2008.



PRELIMINARY PLAT - NOT TO BE RECORDED

[illegible]

Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND

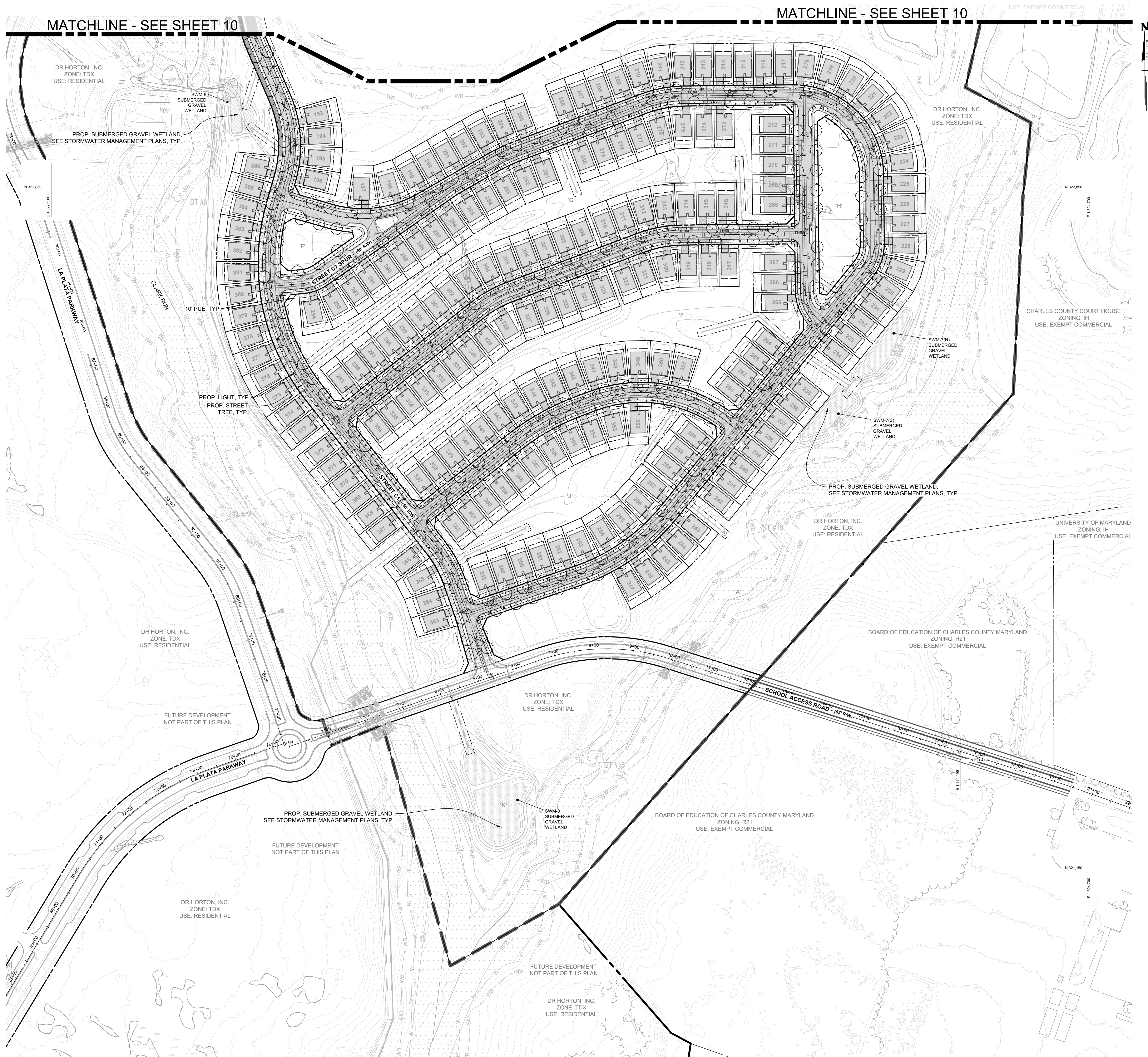
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STREET TREE & LIGHTING PLAN

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DATE:	AUG 2024
SHEET No.	10 OF 13



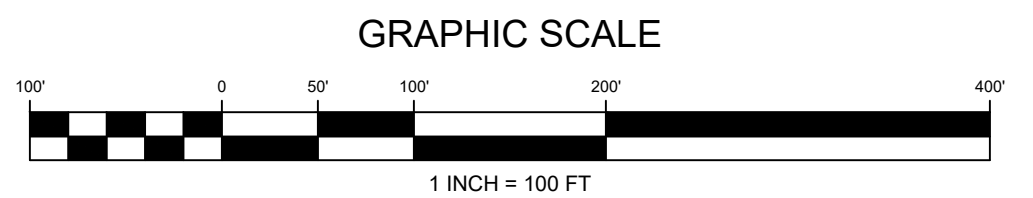
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NOTE: UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES AND ARE SUBJECT TO CHANGE AT FINAL ENGINEERING.

NOTE: LOT SIZES ARE SUBJECT TO MINOR MODIFICATIONS AT TIME OF RECORD PLAT REVIEW, BUT WILL REMAIN GENERALLY CONSISTENT WITH THE SITE PLAN AND SHALL COMPLY WITH THE STATED MINIMUM/MAXIMUM DEVELOPMENT STANDARDS.



<u>TOWN OF LA PLATA APPROVAL</u>
PROJECT NUMBER: _____
PLANNING COMMISSION APPROVAL DATE: _____
APPROVAL SIGNATURE: _____
APPROVAL SIGNATURE EXPIRATION DATE: _____

PROFESSIONAL CERTIFICATION

"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional landscape architect under the laws of the State of Maryland, License No. 3787, Expiration Date: 06/30/2026."



PRELIMINARY PLAT - NOT TO BE RECORDED

[illegible]Owner/Applicant/Developer

D.R. Horton, Inc.
137 Mitchells Chance Road, Suite 300
Edgewater, MD 21037
Phone: (301) 407-2600
Contact: Brian Georg

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'
PRELIMINARY PLAT - TOWN OF La PLATA PLAN No. MJSUB-00XX-2024

PINEGROVE
(FORMERLY KNOWN AS HERITAGE GREEN)
NEIGHBORHOOD 'C'

ELECTION DISTRICT No. 1
TOWN OF La PLATA, CHARLES COUNTY, MARYLAND

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	BY	DATE
BASE DATA		
DESIGNED		
DRAWN		
REVIEWED		
RODGERS CONTACT:		
RELEASE FOR _____ ☐ BY _____ DATE _____		

STREET TREE & LIGHTING PLAN

SCALE:
1" = 100'

JOB No.
0832AA14

DATE:
AUG 2024

SHEET No.
11 OF 13

SCALE:	AS SHOWN
JOB No.	0832AA14
DATE:	AUG 2024
SHEET No.	13 OF 1

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Memorandum:

Date: August 3, 2023

TO: MDOT SHA
District 5 Office
138 Defense Highway
Annapolis, MD 21401

FROM: Mike Lenhart

RE: Pinegrove Development – MDOT SHA Tracking No. 20APCH00721

A point-by-point response to the comments dated May 24, 2023 is below.

District Five Comments (Provided by Ms. Amy Morris):

Comment #1: Signal warrant analysis: Rosewick Rd at La Plata Pkwy: since the warrants are not yet met, recommend going ahead and constructing a new signal but to just put it in flash until thresholds are exceeded for needing signal control.

Response: *Noted.*

Comment #2: Signal warrant analysis: Rosewick Rd at East Site Access: Agree with TSWA methodology and conclusions. Recommend approval of new signal with construction to be alongside construction of Neighborhood Q.

Response: *Noted.*

Comment #3: The curb ramp work in the NE and SE quadrants will affect pedestrian poles/signals/PB on both of these corners, as well as the signal poles. If this signal has been constructed already, then a signal modification plan would be required to show new signal and pedestal pole installation, etc. as needed. If this is intended to be a redline/greenlined plan, please revise signal equipment locations affected by the greenlined curb/ADA changes.

Response: *Comments #3 through #7 appear to be directed toward the design of proposed improvements, rather than the TIS. These comments will be addressed separately to the comments directed toward the TIS.*

Comment #4: Sign 17 on EB MD 6 (with callout Z) should be sign 19, not 17.

Response: *Comments #3 through #7 appear to be directed toward the design of*

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proposed improvements, rather than the TIS. These comments will be addressed separately to the comments directed toward the TIS.

Comment #5: Sign 18 on mast arm (beside signal head 3) should be sign 20,
Response: *Comments #3 through #7 appear to be directed toward the design of proposed improvements, rather than the TIS. These comments will be addressed separately to the comments directed toward the TIS.*

Comment #6: Check all PB sign numbering on plan - do not match 34-39 push buttons shown.
Response: *Comments #3 through #7 appear to be directed toward the design of proposed improvements, rather than the TIS. These comments will be addressed separately to the comments directed toward the TIS.*

Comment #7: Signal pole C appears to be right under low comm overhead lines. Does this pole need to be moved to avoid overhead conflicts?
Response: *Comments #3 through #7 appear to be directed toward the design of proposed improvements, rather than the TIS. These comments will be addressed separately to the comments directed toward the TIS.*

Traffic Development and Support Division Comments (Provided by Mr. Alex Yelin):

Comment #1: TDSD agrees with the conclusions of the TSWA if buildout progresses as forecasted.
Response: *Noted.*

Comment #2: TDSD typically requires the subject intersection to meet warrants before approving any DRs regarding the construction of a traffic signal to ensure that buildout is similar to the traffic forecast. However, because both subject intersections are along Rosewick Road, a County roadway, TDSD will defer to the County regarding these two intersections.
Response: *Noted.*

Travel Forecasting and Analysis Division Comments (Provided by Ms. Caroline Peaker):

Comment #1: Exhibit 12c lists signalization of Intersection 8 (MD 6 at Washington Avenue) as a Full Build improvement. This location is signalized already. This is probably instead referring to Intersection 10 (MD 6 at Site Access/Willow Road)?
Response: *The listed improvement to signalize Intersection 8 is incorrect as noted above. This improvement is intended for Intersection 17, MD 488 & Radio Station Road, rather than Intersection 8. Discussion of the*

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potential signalization of Intersection 17 is located on Page 29 of the TIS.

Comment #2: TFAD does not have any comments on the Traffic Signal Warrant Analysis (TWSA) for the Rosewick Road access points.

Response: *Noted.*

Comment #3: Consider performing a TSWA for the two intersections noted as likely to require signalization at some point during the Build Out, Heritage Green Parkway at Washington Avenue and MD 488 at Radio Station Road.

Response: *The intersections of Heritage Green Parkway & Washington Avenue and MD 488 & Radio Station Road meet adequacy requirements with the development of Neighborhood Q, the primary focus of this TIS, and are signalization of these intersections is not currently proposed/recommended. Updates to the TIS are required at regular intervals throughout the development of the Pinegrove development. These intersections will continue to be monitored to determine the appropriate time to provide signalization.*

Comment #4: Provide the Synchro files for the project review with future submissions. Given the size of this development, the number of trips that will be generated, and the number of intersections scoped to be analyzed, this TIS should not be approved before the Synchro models are checked and approved.

Response: *The Synchro files have been provided with this comment response.*

Comment #5: TFAD assumes that design of bicycle and pedestrian facilities at new intersections and improvements to existing intersections where additional pedestrians might be present with the development will occur during the design stages.

Response: *We concur with this assumption.*

Comment #6: Proposed improvements to MD 6 in LaPlata should be coordinated with the MDOT SHA Highway Design Division who is conducting a concept study for improvements to the corridor from US 301 to Willow Lane. Please contact Mr. Sean Boyle.

Response: *Noted.*

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A point-by-point response to the Town of La Plata comments, provided by Mead & Hunt, received on May 22, 2023 is below.

Comment #1: The analysis does not transparently show the full effects of Pine Grove generated traffic on the local street network. This is meant in several ways:

- First and foremost, while the intended audience of a traffic impact analysis is typically trained planners and engineers, a development of this magnitude demands a report that is legible and accessible to a lay audience. The format of the TIA must be improved significantly before it can be put before the Planning Commission and Town Council as part of further development approvals. Rather than re-creating the report, however, we believe it would be beneficial to convert the SYNCHRO analysis to SimTraffic so that the existing, partial, and full build out scenarios can be visualized and more readily understood.
- Second, it is necessary to perform and show analysis beyond the confines of an intersection – especially on county and town roads that are only a single through lane in each direction – to show how traffic flows overall through the network. For example, creating a dual left turn from W/B Rosewick Road to Radio Station Road without widening Radio Station Road to Matula Lane would result in even more severe operational issues that exist today.
 - An additional comment on the W/B Rosewick Road dual left turn was received in an email from Jamie Kendrick, dated July 12, 2023, as follows: As to Radio Station Road at Rosewick, I left out the predicate. Our review indicates that a double left turn is warranted both NB to WB and WB to SB. At a minimum we would like to see the queuing for the intersection. (Maybe its there but I couldn't find it.) Once that double left occurs, it triggers the County moving in the direction of a full scale widening at least to Matula Lane. The school system is already concerned about turning movements in and out of its complex just north of Matula and the schools. We think its worth of a discussion among the developer, Town and County about moving forward with the ultimate Radio Station Road cross section here and elsewhere).
- Third, continuing to show only the cumulative intersection level of service as the primary indicator masks the significant delays that will be felt by residents and workers in the Town

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who must access, for example, MD 6 from an unsignalized intersection. For example, the model shows that motorists traveling on Kent Avenue seeking to turn west on MD 6 would face 1017 seconds (nearly 17 minutes) of delay. Obviously, this is untenable for the several hundred residents, county office workers, and others who use Kent Avenue every day.

Response: *Responses to the above points are provided below:*

- *This Traffic Impact Study was completed based on a scope of study coordinated with MDOT SHA and Charles County Staff, and in accordance with the relevant Traffic Impact Study Guidelines - just like all other traffic studies completed for projects in the Town of La Plata. Planning Commission and Town Council have experience in deciphering the results of Traffic Impact Studies and can rely on the expert reviews provided by MDOT SHA, Charles County, and Town of La Plata engineers. We do not believe there it is necessary to provide a simulation model of the analyses, when all the analyses included in the traffic study are typical and consistent with all other traffic impact studies.*
- *Double left-turns at the intersection of Rosewick Road & Radio Station Road were not recommended in the Traffic Impact Study. There are no 'warrants' for the construction of a double left-turn lane. The Highway Capacity Manual states that double left-turns should be considered where left-turn volumes exceed 300 vehicles/hour. This is a recommendation, rather than a requirement, and should be dependent on other factors such as queuing and delay in addition to volume. 95th percentile queuing analyses were conducted using SimTraffic simulation software for the intersection of Rosewick Road & Radio Station Road during the morning and evening peak hours of the partial build out condition. The results of the simulation analyses indicate that adequate storage is provided with a single left-turn lane for the westbound and northbound left-turns at the intersection of Rosewick Road & Radio Station Road. The SimTraffic queuing report sheets have been included in Appendix H of the updated TIS. Additionally, these movements operate with LOS "C" or better during both the morning and evening peak hours. This intersection will continue to be monitored as the development progresses, but there is no need for a double left-turn with the development of Phase 1 of Neighborhood Q, which was the primary focus of this study.*
- *The cumulative level of service and delays have been provided in accordance with the Traffic Impact Study guidelines of Charles County. However, it is noted that excessive minor*

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street delay at unsignalized intersections, while technically not part of the adequacy analysis, is untenable for the Town of La Plata. The results of the HCM analyses for the partial build out condition were reviewed, and the results indicate that minor street delays are generally reasonable with the exception of the intersection of MD 6 & Kent Avenue. However, upon review of the Synchro file it was found that the two-way left-turn lane along MD 6, specifically at the intersection with Kent Avenue, was not included in the analysis. This has a profound impact on the minor street delay along Kent Avenue, as vehicles are able to utilize the center two-way left-turn lane to make a two-stage movement to MD 6. The HCM analyses have been updated in the revised TIS and show that the minor street delay along Kent Avenue is much more tenable under the partial build out condition (22.6 seconds during the morning peak hour and 34.9 seconds for the evening peak hour).

Comment #2: Many of the mitigation options are only of short-term benefit if they can be implemented at all. For example, the proposed dual left turn from S/B US 3d01 to E/B MD 6 is of limited benefit because there is only 350' of receiving lane with no opportunity to widen or repurpose MD 6 in this area.

Response: *It is common practice to have limited receiving lanes in areas with physical restrictions, and it works very well. It should be noted that there is roughly 350' receiving for the double left plus a roughly 200' taper back to one lane. The purpose of the double left is to minimize the green time for that movement so more green time can be added back to the mainline on US 301. The southbound left turn volume at full buildout is a maximum of 360 vehicles in the PM peak hour which can easily occur in a double left turn movement and then merge back into one lane. Widening or repurposing MD 6 will not be required with this improvement, nor should it be considered.*

Comment #3: The development phasing results in too many neighborhoods having only one way in and out (see notes throughout Exhibit 7) such that if future phases were never built connecting the northern and southern portions of Pine Grove.

Response: *As is shown in the level of service results for the partial build out condition, each of the study intersections operate adequately, or have improvements proffered that will improve the level of service. It is understood that the Town of La Plata is concerned about congestion along MD 6 and therefore would like alternative connections to the development completed sooner rather than later. However, as shown on the trip assignment exhibits for the partial build out, the proposed Neighborhoods K and B will not generate any trips along MD 6 as they*

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are accessed exclusively along Rosewick Road. The only neighborhoods generating traffic along MD 6 are Neighborhoods A and O, which combined generate 51 westbound trips and 17 eastbound trips during the morning peak hour and 36 eastbound and 36 westbound trips during the evening peak hour. This is a relatively low number of trips being added to the MD 6 corridor, increasing volumes by approximately 5% from the background conditions. Based on this, and the fact that intersections along MD 6 were found to operate acceptably based on CLV and HCM analyses, internal site connections to provide alternate travel routes are not required at this time. The operation of the MD 6 corridor will continue to be monitored with future traffic studies, and the development team will continue working with Town Staff to develop an appropriate roadway phasing plan.

If you have any questions regarding this matter, please do not hesitate to contact me at the number below.

Thanks,
Mike

TRAFFIC IMPACT ANALYSIS FOR PINEGROVE DEVELOPMENT

Prepared by:

LENHART TRAFFIC CONSULTING, INC.

TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

March 10, 2023

Revised: August 3, 2023



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Section 1 Introduction

1.1 Project Description

A Traffic Impact Analysis (TIA) was previously approved for the Pinegrove development (previously referred to as Heritage Green). This approval includes a condition to update the TIA prior to the issuance of every 750 residential unit building permits, or every three years, whichever occurs first. The previous approval included 236 units in Neighborhood A, 176 units in Neighborhood K, and 68 units in Neighborhood O, for a total of 480 approved units. The applicant is now pursuing approval for Phase 1 of Neighborhood Q, which will include 288 multifamily units, thus exceeding the 750-unit threshold to require an updated TIA. Neighborhood Q will be accessed with a full movement access point along Rosewick Road.

This TIA analyzes the development in two scenarios; a partial build out, to secure approval of Phase 1 of Neighborhood Q, and the full build out of the development, to ensure that adequate roadway improvements are identified to mitigate the impacts of the development on intersections failing to reach adequate level of service. The partial build out scenario, which, again, is the primary purpose of this TIA, includes the entirety of Neighborhood Q (rather than just the 288 multifamily units of Phase 1) and Neighborhood B in addition to approved Neighborhoods A, K, and O, for the reasons discussed below.

The design plan for Neighborhood B has been modified since the approval of the previous TIA. Due to changing market conditions, Neighborhood B is now proposed to include 89 build to rent townhomes and 105 build to rent single family detached units, rather than the previously proposed age-restricted units. With this modification, access to Neighborhood B is now proposed along Rosewick Road, directly across from the proposed full movement access for Neighborhood Q, creating a 4-leg intersection. A concept plan for the entire site is included in Appendix A, and shows the proposed access point discussed above. In order to assess the ultimate design requirements for this access point, the entirety of the Neighborhood Q, which will include up to 846 multifamily units, and Neighborhood B are included in the analysis along with the previously approved Neighborhoods A, K, and O.

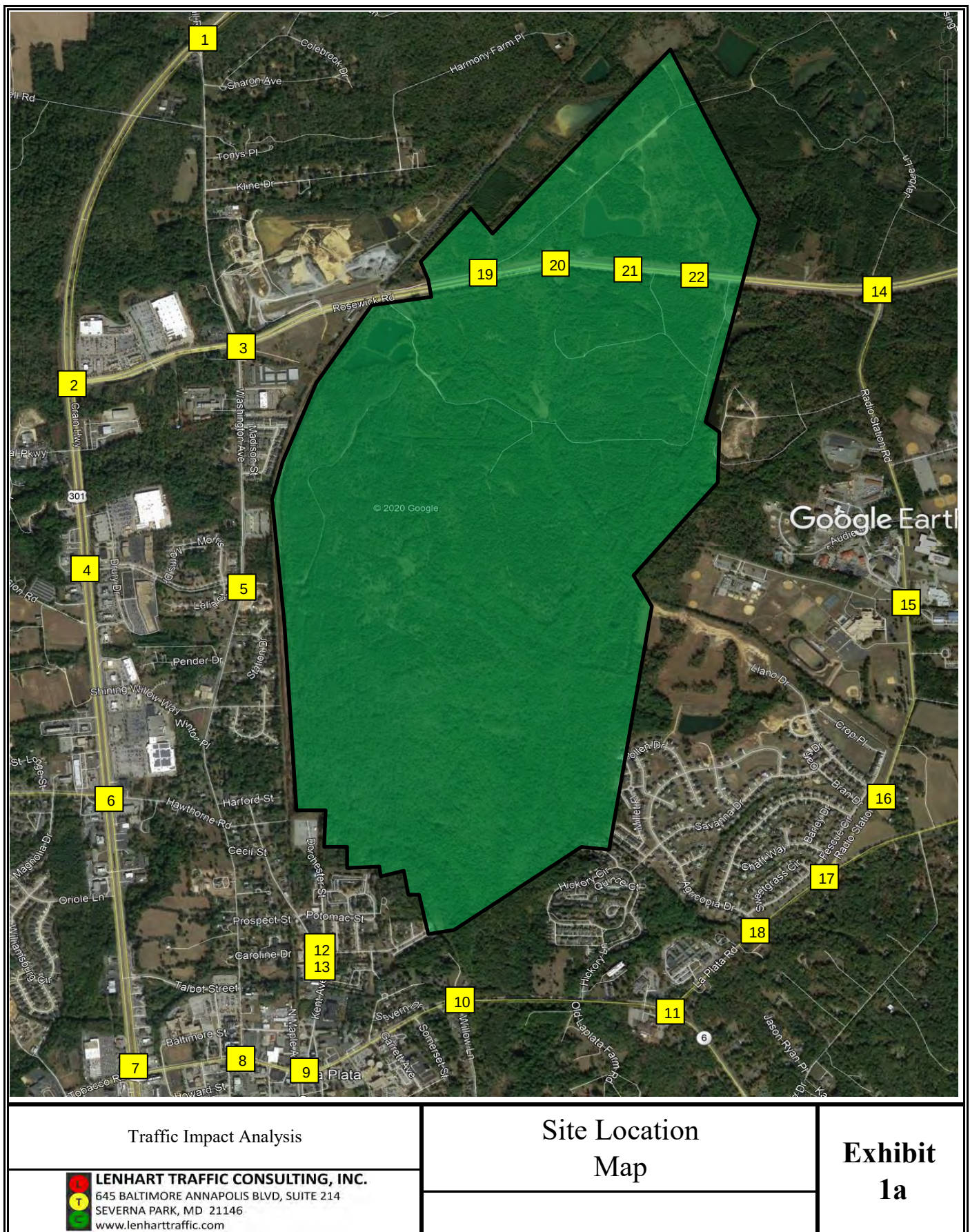
The Pinegrove development (previously referred to as Heritage Green) is located in La Plata, Maryland, as shown on **Exhibit 1a**. A list of study intersections is provided on **Exhibit 1b** and is consistent with the previously approved TIA. For reference, a map showing the location of each neighborhood is included as **Exhibit 1c**.

1.2 Scope of Study

This Traffic Impact Study has been conducted in accordance with Maryland State Highway Administration (SHA) Guidelines, in addition to the Charles County Adequate Public Facilities (APF) Manual requirements. SHA requires the use of the Critical Lane Volume (CLV) methodology for intersection analyses.

In addition, the Highway Capacity Manual (HCM) was utilized as supplemental analysis as documented in the Charles County Adequate Public Facilities Ordinance.

It should be noted that the proposed development is located within the city limits of La Plata, which does not provide an adequate public facilities requirement.



Study Intersections

1. US 301 & Washington Ave/Turkey Hill Rd	<i>Unsignalized</i>
2. US 301 & Rosewick Rd	<i>Signalized</i>
3. Rosewick Rd & Washington Ave	<i>Signalized</i>
4. US 301 & Heritage Green Pkwy	<i>Unsignalized</i>
5. Heritage Green Pkwy & Washington Ave	<i>Unsignalized</i>
6. US 301 & MD 225/Hawthorne Rd	<i>Unsignalized</i>
7. US 301 & MD 6	<i>Unsignalized</i>
8. MD 6 & Washington Ave	<i>Signalized</i>
9. MD 6 & Kent Ave	<i>Unsignalized</i>
10. MD 6 & Willow Rd/La Plata Parkway	<i>Signalized</i>
11. MD 6 & MD 488	<i>Unsignalized</i>
12. Kent Ave & Caroline Dr	<i>Signalized</i>
13. Kent Ave & Dorchester Ave	<i>Signalized</i>
14. Rosewick Rd & Radio Station Rd	<i>Signalized</i>
15. Radio Station Rd & Mary Matula Driveway	<i>Signalized</i>
16. Radio Station Rd & Llano Drive	<i>Unsignalized</i>
17. MD 488 & Radio Station Rd	<i>Unsignalized</i>
18. MD 488 & Agricopia Dr	<i>Unsignalized</i>
19. Rosewick Rd & Site Access	<i>Unsignalized</i>
20. Rosewick Rd & La Plata Parkway	<i>Unsignalized</i>
21. Rosewick Rd & Site Access	<i>Unsignalized</i>
22. Rosewick Rd & Site Access/Neighborhood B Access	<i>Unsignalized</i>

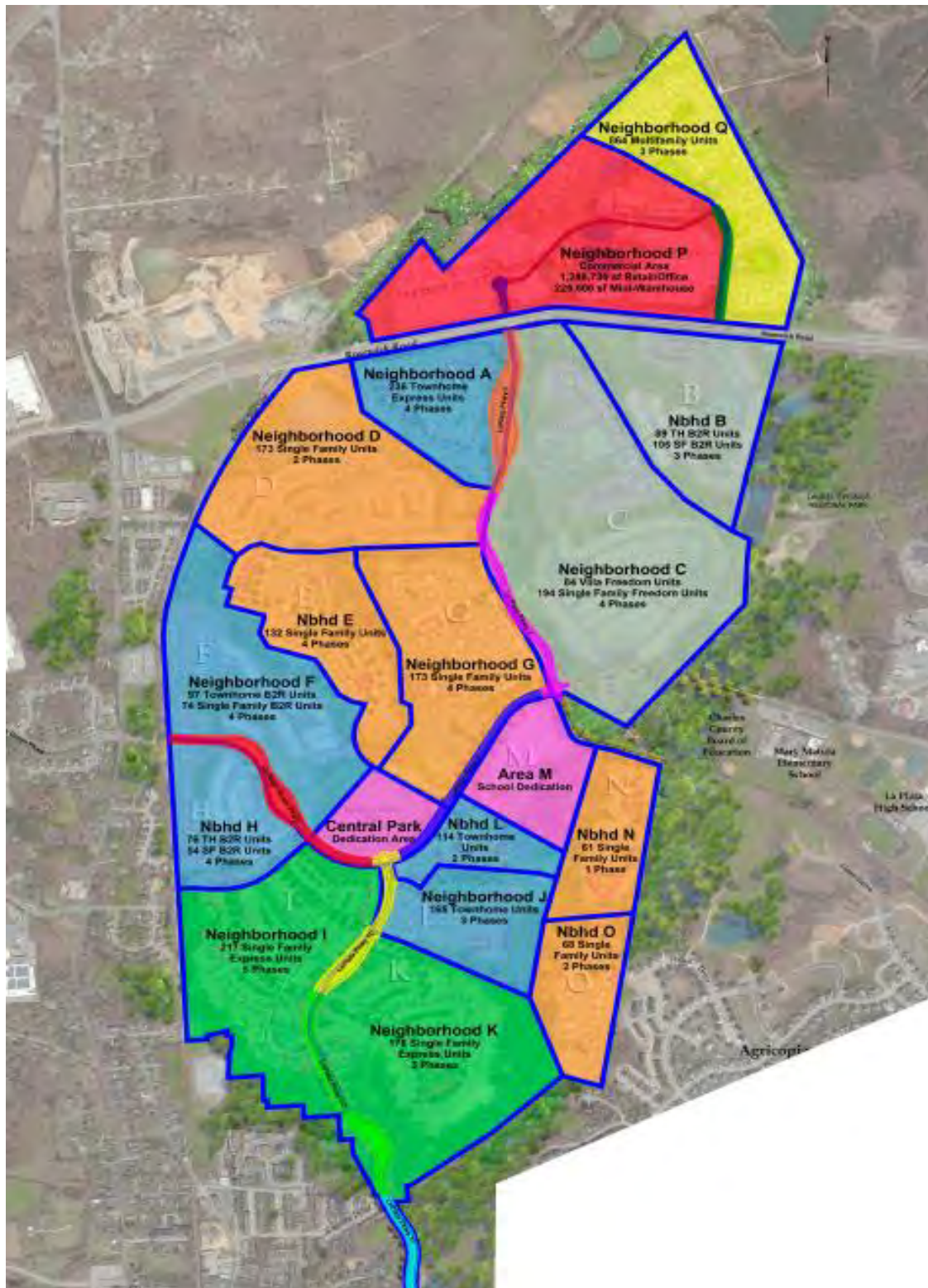
Traffic Impact Analysis



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

List of Study Intersections

**Exhibit
1b**



Traffic Impact Analysis

Neighborhood Location Map

**Exhibit
1c**



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SEVERNA PARK, MD 21146
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Section 2 Existing Conditions

2.1 Description of Roadway Network

The key roads in the study area are:

- US 301 is a four-lane roadway (two in each direction) classified as a principal arterial. The posted speed limit is 55 mph.
- Rosewick Road is a four-lane roadway (two in each direction). The posted speed limit is 30 MPH.
- MD 6 is a two-lane roadway (one in each direction). The posted speed limit is 30 MPH.

Intersection aerials and condition diagrams are contained in Appendix A.

2.2 Lane Configurations

The Lane Use & Traffic Control Devices are shown on **Exhibit 2**.

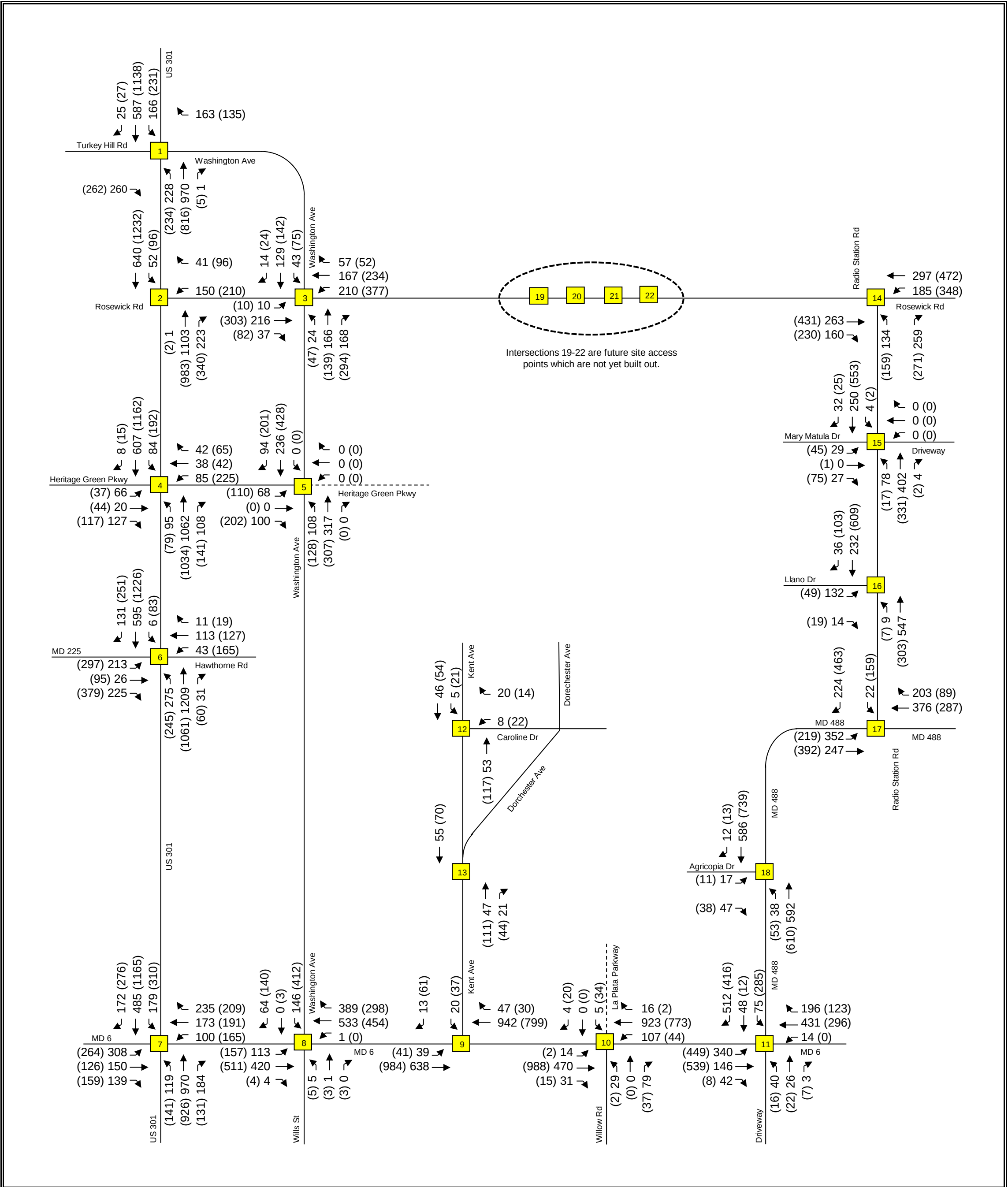
It is assumed that the actual number of ingress/egress lanes at each site access point will be determined in the future with coordination between the applicant and Town/County Staff.

2.3 Existing Traffic Counts

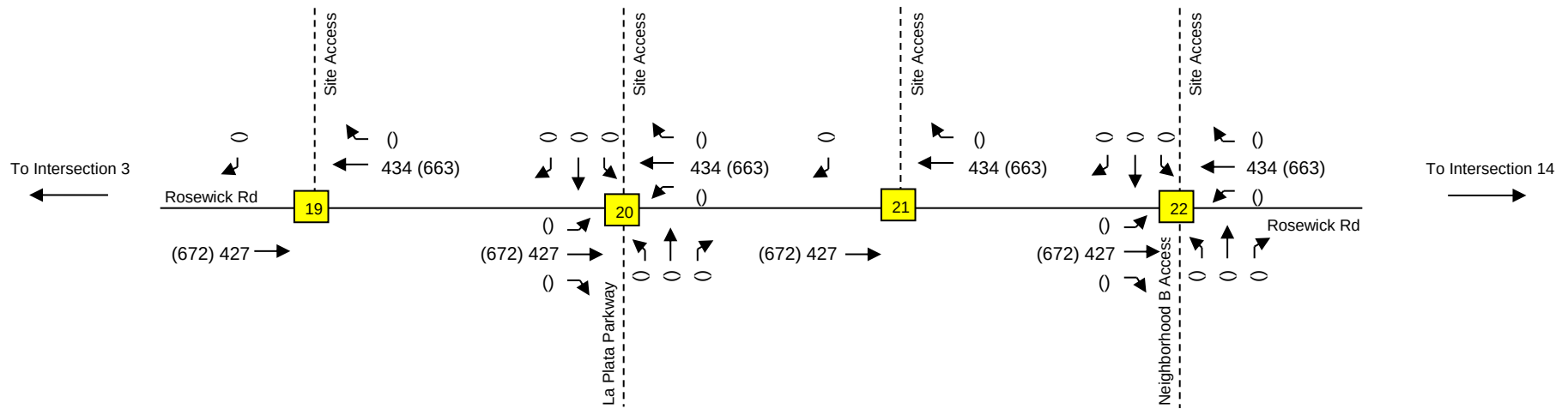
Exhibit 3a shows the existing peak hour volumes for Study Intersections 1-18.

Exhibit 3b shows the existing peak hour volumes for Study Intersections 19-22.

The turning movement sheets have been included in Appendix A.



Traffic Impact Analysis  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Existing Peak Hour Volumes Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 3a
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Existing Peak Hour Volumes through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
3b**

Section 3 Background Conditions

3.1 Annual Growth

As mentioned previously, this TIS analyzes the development after the partial completion of development as well as the full build out. It is assumed that partial build out will be completed in 5 years and the full build out in 15 years.

ADTS data was analyzed along US 301, north of MD 225, over the previous 10 years. The data shows a negative growth over this period. However, to provide a conservative analysis a 1% growth rate was applied to the volumes on Exhibits 3a and 3b to obtain the base peak hour volumes. The ADTS analysis is provided in Appendix A.

Exhibit 4a and **Exhibit 4b** show the base peak hour volumes for the partial build out (5 years of growth). **Exhibit 4c** and **Exhibit 4d** show the base peak hour volumes for the full build out of the development (15 years of growth).

3.2 Approved Background Developments

The following background developments were identified that would impact the study intersections:

1. Villages of Rosewick
2. Schultz Property
3. Rosewick Corner
4. Sagepoint
5. Stagecoach Crossing
6. Villages of Steeplechase

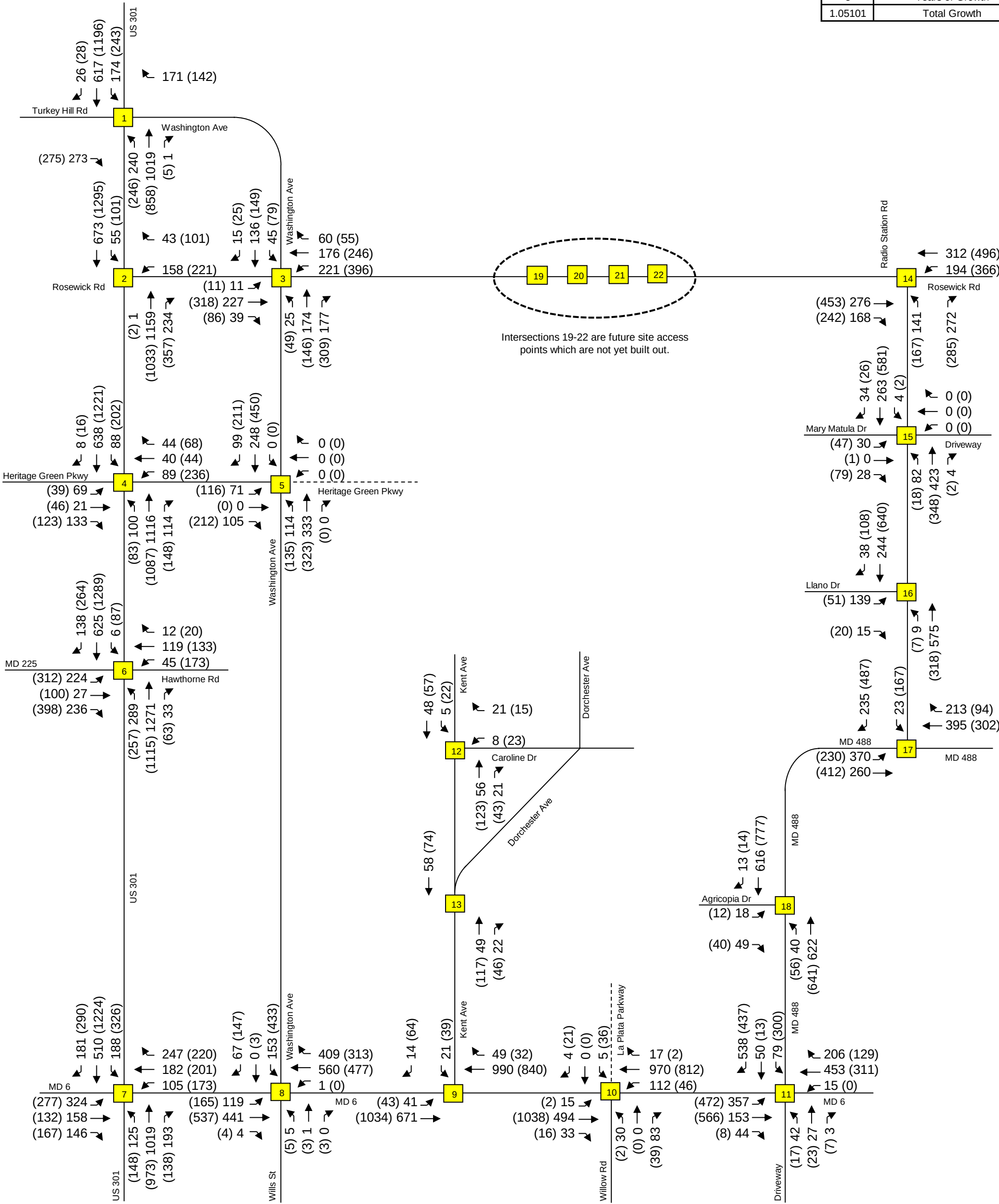
The trip generation and assignments for the background developments have been provided as Appendix D. The combined background development trips are shown on Exhibits D-9 and D-10.

3.3 Background Peak Hour Volumes

Exhibit 5a and **Exhibit 5b** display the background peak hour volumes for the partial build out, which combines the base volumes on Exhibits 4a and 4b with the combined background development trips on Exhibits D-9 and D-10, respectively.

Exhibit 5c and **Exhibit 5d** display the background peak hour volumes for the full build out. These volumes were obtained by combining the base volumes on Exhibits 4c and 4d with the combined background development trips on Exhibit D-9 and D-10, respectively.

1%	Growth Rate
5	Years of Growth
1.05101	Total Growth



Traffic Impact Analysis

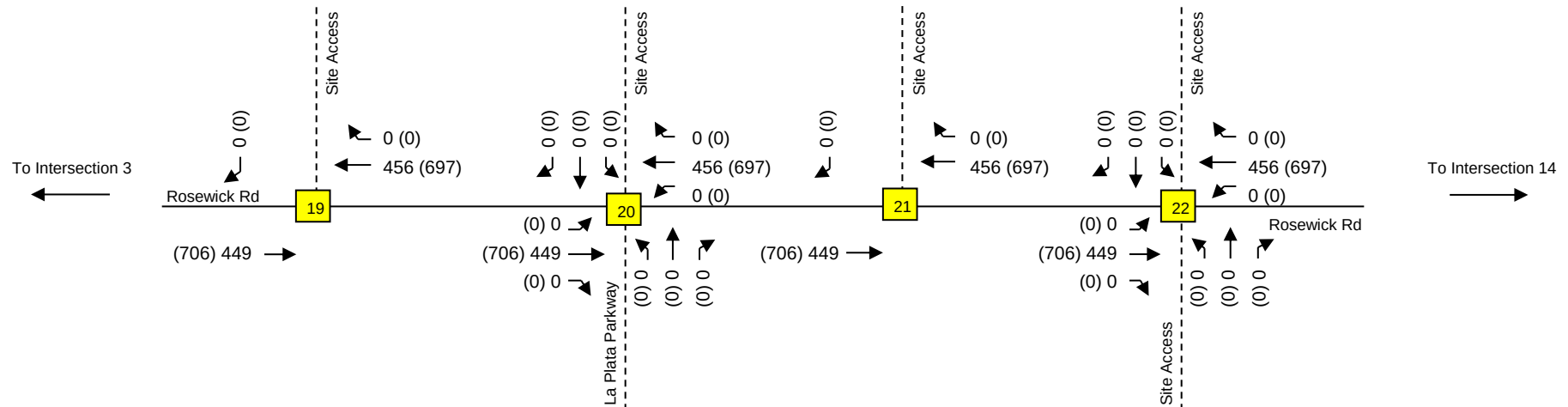


Base Peak Hour Volumes Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

Exhibit
3a

1%	Growth Rate
5	Years of Growth
1.051	Total Growth



Traffic Impact Analysis



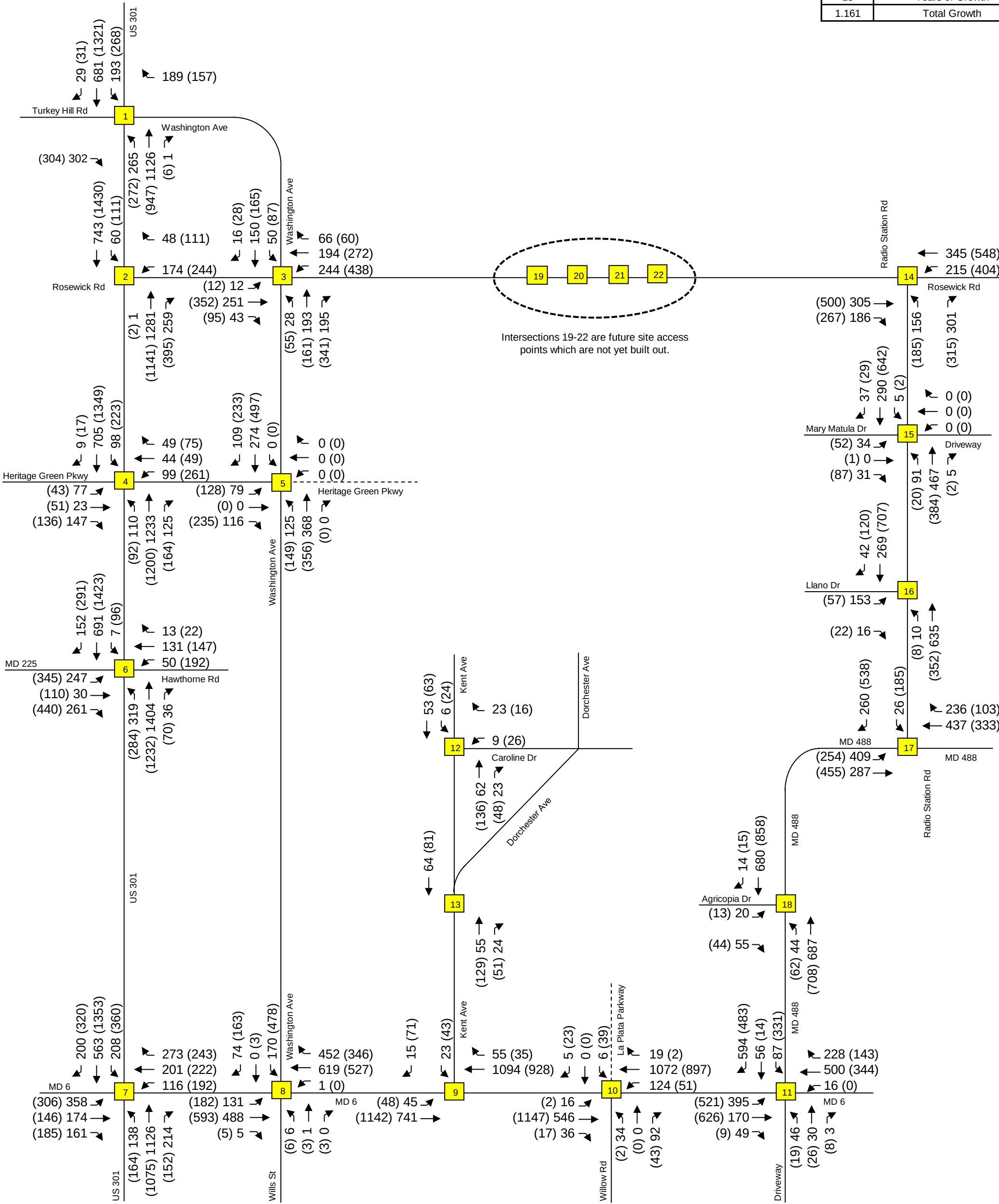
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Base Peak Hour Volumes through Site Access Points - Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
4b**

1%	Growth Rate
15	Years of Growth
1.161	Total Growth



Traffic Impact Analysis

Base Peak Hour Volumes
Full Build Out

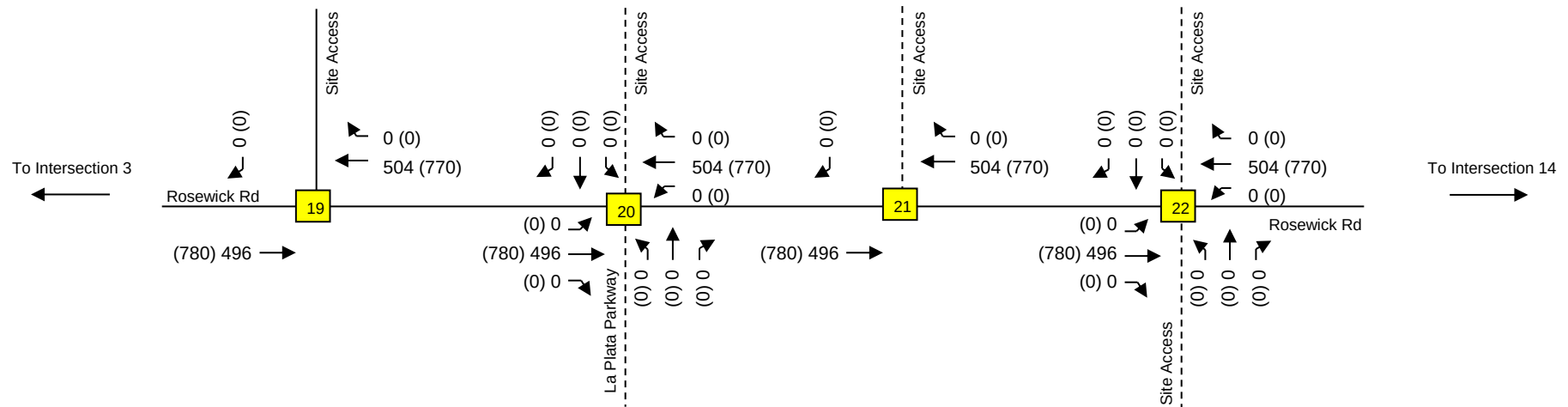
Exhibit
4c



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Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

1%	Growth Rate
15	Years of Growth
1.1610	Total Growth



Traffic Impact Analysis

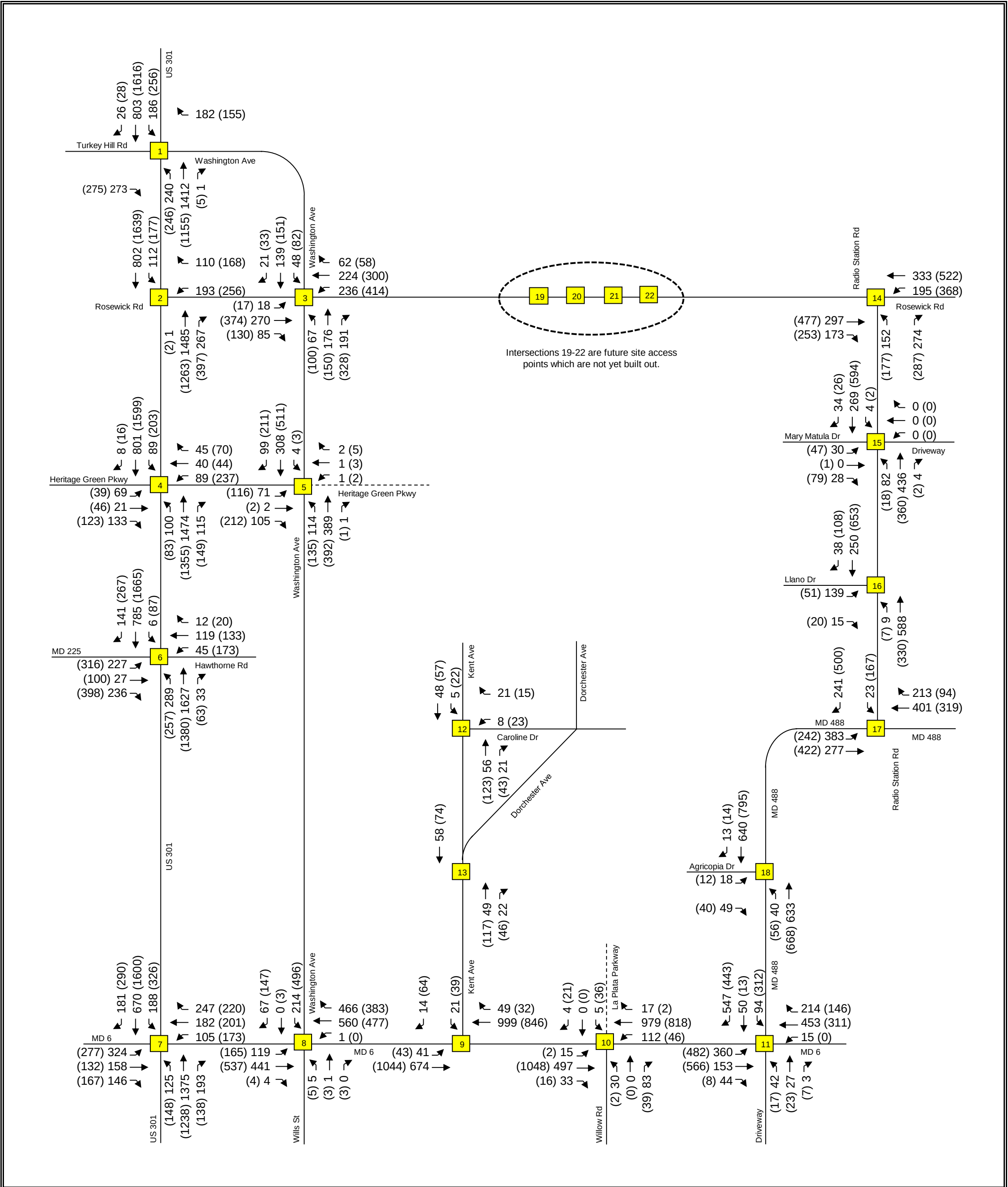


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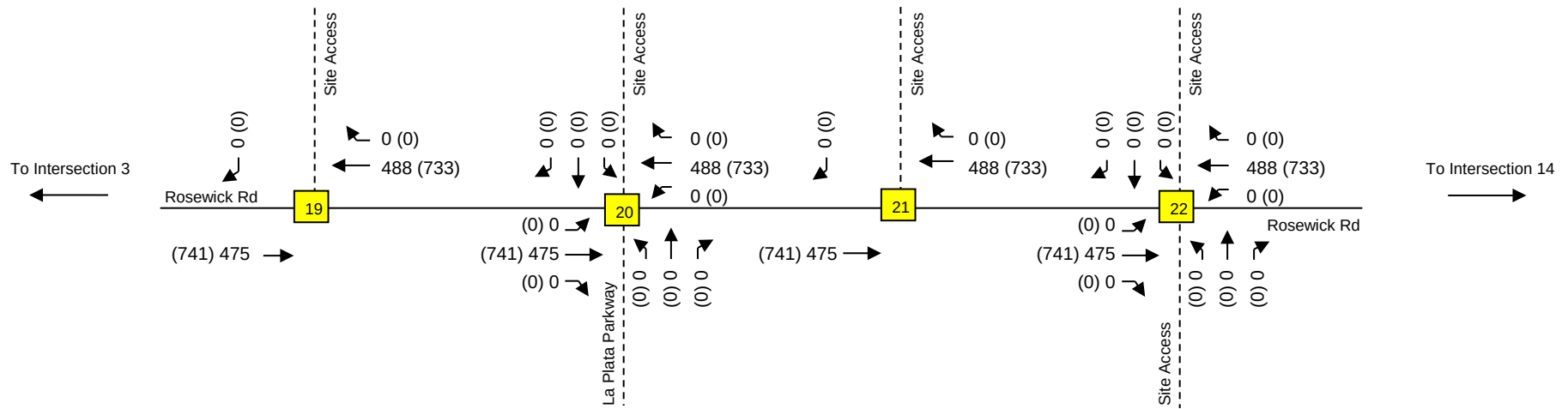
Base Peak Hour Volumes through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
4d**



Traffic Impact Analysis		Background Peak Hour Volumes Partial Build Out	Exhibit 5a
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Traffic Impact Analysis

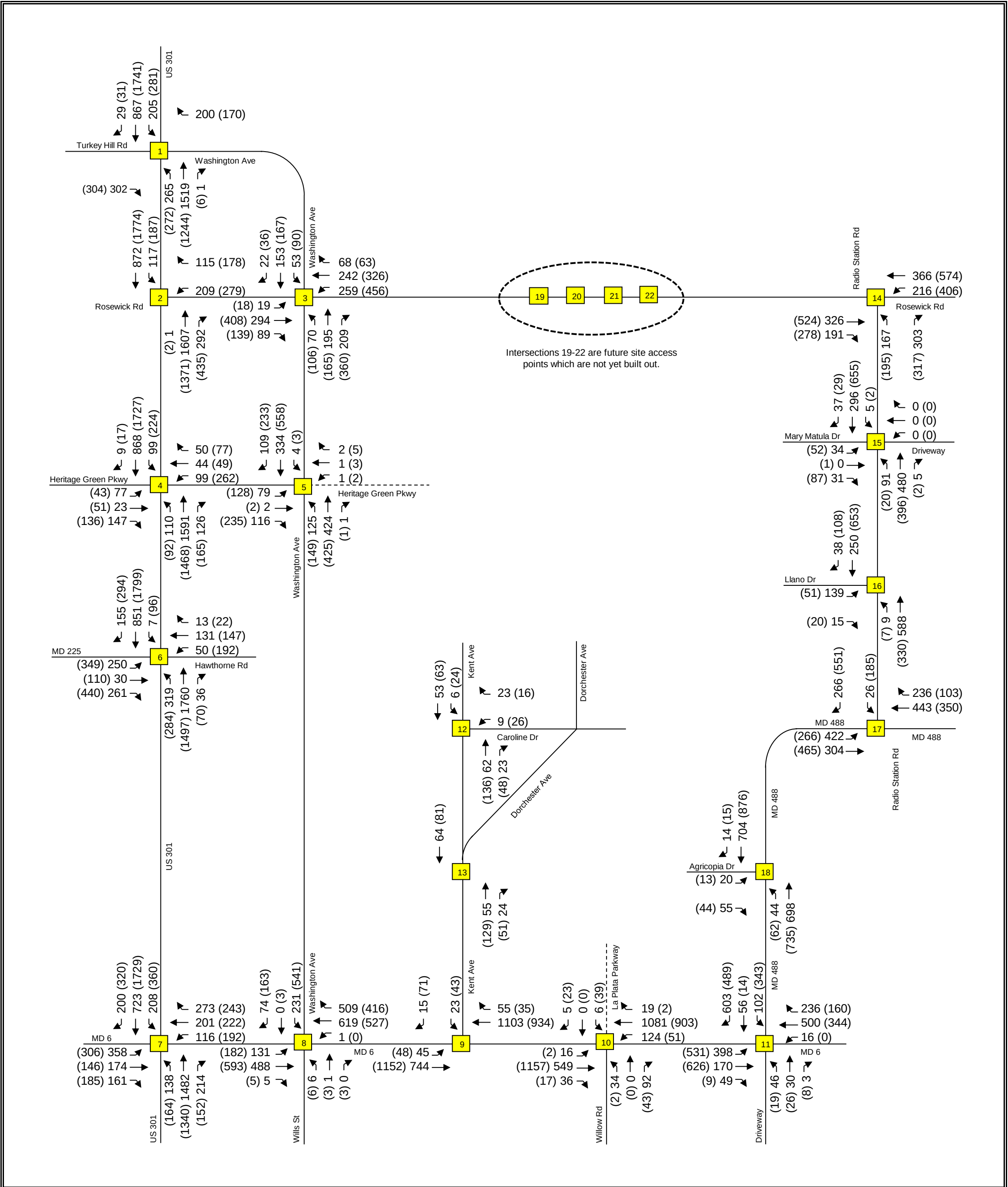


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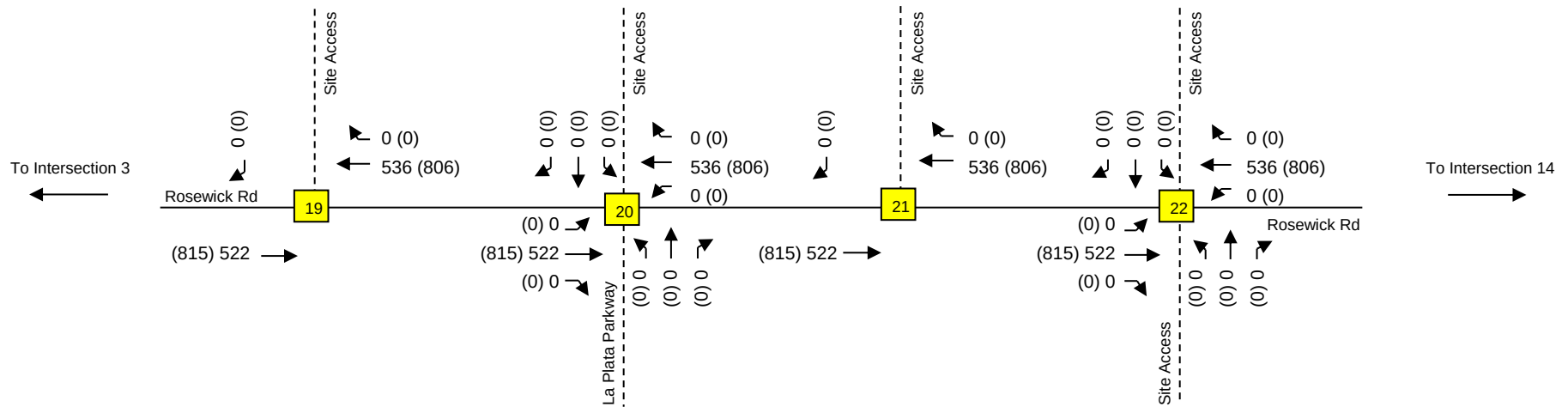
Background Peak Hour Volumes through Site Access Points - Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
5b**



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Background Peak Hour Volumes Full Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 5c
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Traffic Impact Analysis



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Background Peak Hour Volumes through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
5d**

Section 4 Projected Conditions with Site

4.1 Site Trip Generation

The site is currently undeveloped and is proposed to be developed as a multi-use development. This TIA analyzes the development in two scenarios; a partial build out, to secure approval of Phase 1 of Neighborhood Q, and the full build out of the development, to ensure that adequate roadway improvements are identified to mitigate the impacts of the development on intersections failing to reach adequate level of service. The partial build out scenario, which, again, is the primary purpose of this TIA, includes the entirety of Neighborhood Q (rather than just the 288 multifamily units of Phase 1) and Neighborhood B in addition to approved Neighborhoods A, K, and O.

Exhibit 6a displays the equations used to generate the trips for the site. The trip generation for the partial build out is shown on **Exhibit 6b** and the trip generation for the full build out is shown on **Exhibit 6c**. The trip generation rates are obtained from the ITE Trip Generation Manual, 11th Edition. The trip generation for the full build out includes trips from the partial build out. The trips shown for the full build out are *NOT* the net increase from partial build out to full build out.

Internal trip reductions were applied to the full build out of the site. With the construction of the internal La Plata Parkway, interconnectivity will be provided between all the proposed neighborhoods, except for Neighborhoods N and O, which have exclusive access points. The internal trips associated with the residential portion of the development is distributed between the neighborhood groups based on the number of residential trips generated by each neighborhood group. The internal trip calculation worksheets are included in Appendix E.

4.2 Partial Build Out Trip Assignment

The trip assignment for each neighborhood group of the partial build out is shown on **Exhibits 7a – 7i**. Detailed trip assignment percentages have been approved by County Staff and are shown in Appendix F.

4.3 Partial Build Out Total Peak Hour Volumes

The Total Peak Hour Volumes for the partial build out are shown on **Exhibit 8a** and **Exhibit 8b**.

4.4 Partial Build Out Projected Level of Service

The existing, background, and total peak hour volumes for the partial build out were evaluated using the CLV and HCM methodology. Results CLV analyses are shown on **Exhibit 9a** and the results of the HCM analyses are shown on **Exhibit 9b**.

Please note, the intersections of MD 6 & La Plata Parkway/Willow Lane, Rosewick Road & La Plata Parkway, and Rosewick Road/Neighborhood B/Q Access were analyzed as signalized intersections. The design of the traffic signal at MD 6 & La Plata Parkway/Willow Lane is currently being reviewed for approval. While the Traffic Signal Warrant Analyses (TSWA) for the site access points have not yet been approved, we believe traffic signals will ultimately be approved at these intersections prior to or during the construction of the 288 multifamily units proposed for Neighborhood Q (the subject of this TIA).

All study intersections operate with LOS “D” or better with the exception of the following:

- Intersection 6 (US 301 & MD 225/Hawthorne Road): Does not operate with LOS “D” or better using CLV and HCM methodology during the evening peak hour under background and total conditions. An improvement for this intersection is currently in the design and permitting process.
- Intersection 7 (US 301 & MD 6): Does not operate with LOS “D” or better using CLV and HCM methodology during the evening peak hour under total conditions. An improvement for this intersection is currently in the design and permitting process.
- Intersection 8 (MD 6 & Washington Avenue): Does not operate with LOS “D” or better using HCM methodology during the evening peak hour under total conditions. Mitigation should be considered for the partial build out.
- Intersection 17 (MD 488 & Radio Station Road): Does not operate with LOS “D” or better using HCM methodology during the morning and evening peak hours under total conditions.
 - This intersection operates adequately based on CLV methodology and is expected to be signalized at some point of the development.

Partial Build Out Potential Improvements

Potential Improvements for the above intersections are outlined on **Exhibits 9c and 9d** and are as follows:

- Intersection 6 (US 301 & MD 225): Widen MD 225 on the northern side and restripe to provide an additional eastbound left turn lane. This improvement is currently in the permitting process. The developer is aggressively pursuing the approval of this improvement.
- Intersection 7 (US 301 & MD 6): Construct an additional southbound left lane. This improvement is currently in the permitting process. The developer is aggressively pursuing the approval of this improvement.
- Intersection 8 (MD 6 & Washington Avenue): Restripe westbound approach to include a dedicated left turn lane, through lane, and shared through/right turn lane. There are currently 2 receiving lanes for westbound traffic along MD 6 and only 1 through lane. This improvement was identified in a previous TIA for this project. MDOT SHA approval was not provided at that time and is now requested to begin the design and permitting process for this improvement.

The partial build out total peak hour volumes at these intersections were reanalyzed using CLV and HCM methodology with the implementation of the potential improvements. The results of this analysis are as follows:

- Intersection 6 (US 301 & MD 225): The approved improvement for Intersection 6 completely mitigates the site impacts and improves the CLV and overall delay from the background conditions.
- Intersection 7 (US 301 & MD 6): The additional southbound left turn lane mitigates the site impacts and improves the overall intersection delay from 90.0 seconds under background conditions to 69.0 seconds under total conditions during the evening peak hour. During the morning peak hour, the proposed improvement improves the intersection to LOS “D” under total conditions.
- Intersection 8 (MD 6 & Washington Avenue): The potential improvement for this intersection improves the intersection to LOS “D” during the evening peak hour. It should be noted that the intersection operates with LOS “D” or better without the improvement using the CLV methodology.

4.5 Full Build Out Trip Assignment

The trip assignment for each neighborhood group of the partial build out is shown on **Exhibits 10a – 10dd**. Detailed trip assignment percentages have been approved by County Staff and are shown in Appendix G.

The internal trips associated with the residential portions of the site located south of Rosewick Road travelling to/from the retail and office portion of Neighborhood P located north of Rosewick Road are assumed to travel along La Plata Parkway at Intersection 20. Internal trips between Neighborhood B and the retail/office portion of Neighborhood P are assumed to travel across Rosewick Road at Intersection 22. Internal trips between Neighborhoods B/Q and the elementary school are assumed to travel along Rosewick Road between Intersections 20 and 22 to access La Plata Parkway. These internal trips are shown on **Exhibit 10ee**.

With the completion of La Plata Parkway and the site access at Heritage Green Parkway, it is assumed that 25% of traffic currently travelling north and south along Washington Avenue to/from MD 6 will utilize La Plata Parkway to avoid congestion along MD 6. These diversions are shown on **Exhibit 10ff**.

4.6 Full Build Out Total Peak Hour Volumes

The Total Peak Hour Volumes for the full build out are shown on **Exhibit 11a** and **Exhibit 11b**.

4.7 Full Build Out Projected Level of Service

The existing, background, and total peak hour volumes for the full build out were evaluated using the CLV and HCM methodology. Results CLV analyses are shown on **Exhibit 12a** and the results of the HCM analyses are shown on **Exhibit 12b**.

All study intersections operate with LOS “D” or better under total conditions with the exception of the following:

- Intersection 2 (US 301 & Rosewick Road): Does not operate with LOS “D” or better using CLV methodology during the evening peak hour under total conditions. HCM analyses indicate that the intersection operates with LOS “C” under total conditions. Mitigation should be considered and is discussed below.

- Intersection 5 (Heritage Green Parkway & Washington Avenue): Does not operate with LOS “D” or better using CLV and HCM methodology during the evening peak hour under total conditions. This intersection is anticipated to be signalized at some point of the development.
- Intersection 6 (US 301 & Heritage Green Parkway): Does not operate with LOS “D” or better using CLV or HCM methodology during the evening peak hour under background and total conditions. An improvement for this intersection is currently in the design and permitting process.
- Intersection 7 (US 301 & MD 6): Does not operate with LOS “D” or better using CLV or HCM methodology during the morning and evening peak hours under background and total conditions. An improvement for this intersection is currently in the design and permitting process.
- Intersection 8 (MD 6 & Washington Avenue): Does not operate with LOS “D” or better using CLV and HCM methodology during the evening peak hour under background and total conditions. A potential improvement was recommended as part of the partial build out.
- Intersection 9 (MD 6 & Kent Avenue): Does not operate with LOS “D” or better using HCM methodology during the evening peak hour under total conditions.
 - The intersection is located along a MDOT SHA controlled roadway and should therefore be analyzed primarily using CLV methodology. The intersection operates with LOS “B” or better using CLV methodology and should be considered to operate adequately.

Note: The existing two-way left-turn lane along MD 6 was not considered in the initial analysis. With the inclusion of the two-way left-turn lane in the analyses, the HCM analyses indicate adequate LOS for the overall intersection as well as the minor street approach along Kent Avenue.

- Intersection 17 (MD 488 & Radio Station Road): Does not operate with LOS “D” or better using HCM methodology during the morning and evening peak hours under total conditions.
 - This intersection operates adequately based on CLV methodology and is expected to be signalized at some point of the development.

Full Build Out Potential Improvements

Potential Improvements for Intersections 2, 4, 6, 7, and 8 are outlined on **Exhibits 12c and 12d** and are as follows. It should be noted that these improvements are not being recommended at this time. These are merely potential improvements that can be evaluated at future phases of the Traffic Impact Study to determine if or when improvements might be needed at these locations.

- Intersection 2 (US 301 & Rosewick Road): Construct an additional southbound left lane. This improvement improves the CLV to LOS “D” or better during the morning and evening peak hours.
- Intersection 4 (US 301 & Heritage Green Parkway): Construct an additional 125 foot westbound left lane (plus 40 foot taper) in the median area of Heritage Green Parkway. This would also require the construction of a 380' receiving lane in median plus a 180' taper to receive the third turning lane and taper it back to the two existing lanes. This improvement was identified in a previous TIA. While the intersection was found to operate adequately in this TIA, the intersection should continue to be monitored in future analyses.
- Intersection 6 (US 301 & MD 225): Widen MD 225 on the northern side and re-stripe to provide an additional eastbound left turn lane. This improvement was identified for the partial build out and is currently in the design and permitting process.
- Intersection 7 (US 301 & MD 6): Construct an additional southbound left lane. This improvement was identified for the partial build out and is currently in the design and permitting process.
- Intersection 8 (MD 6 & Washington Avenue): Restripe westbound approach to include a dedicated left turn lane, through lane, and shared through/right turn lane. This improvement was identified for the partial build out.

The Full Build Out total peak hour volumes at these intersections were reanalyzed using CLV and HCM methodology with the implementation of the potential improvements. The results of this analysis are as follows:

- Intersection 2 (US 301 & Rosewick Road): The potential improvement reduces the LOS of the intersection from LOS “E” to LOS “D” using CLV methodology during the evening peak hour. The morning peak hour operates acceptably without the proposed improvement.

- Intersection 6 (US 301 & MD 225/Hawthorne Road): The approved improvement fully mitigates the site impacts using HCM methodology.
- Intersection 7 (US 301 & MD 6): The approved improvement fully mitigates the site impacts during the morning peak hour and nearly mitigates the entirety of the site impact during the evening peak hour using HCM methodology. It should be noted that the HCM methodology provides more sophisticated analysis of an intersection, specifically those that are signalized. As the southbound left-turn movement (which is being improved) is not a critical movement under total conditions, the CLV of the intersection is not improved. The HCM methodology, however, accounts for the delay of each movement in the analysis. Based on the HCM methodology, the proposed improvement mitigates the impact of the site on the intersection.
- Intersection 8 (MD 6 & Washington Avenue): The potential improvement fully mitigates the site impacts during the evening peak hour using CLV and HCM methodology. This improvement was identified in a previous TIA for this project. MDOT SHA approval was not provided at that time and is now requested to begin the design and permitting process for this improvement.

Trip Generation Equations

Single-Family Attached Housing (ITE-215, Units)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.52 x Units - 5.70	31/69
Evening Trips = 0.60 x Units - 3.93	57/43
Senior Adult Housing - Single Family (ITE-251, Units)	<u>Trip Distribution (In/Out)</u>
Ln(Morning Trips) = 0.76 x Ln(Units) + 0.16	33/67
Ln(Evening Trips) = 0.78 x Ln(Units) + 0.20	61/39
Single-Family Detached Housing (ITE-210, Units)	<u>Trip Distribution (In/Out)</u>
Ln(Morning Trips) = 0.91 x Ln(Units) + 0.12	26/74
Ln(Evening Trips) = 0.94 x Ln(Units) + 0.27	63/37
Elementary School (Students, ITE-520)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.74 x Students	54/46
Evening Trips = 0.16 x Students	46/54
Shopping Center (ksf, ITE-820)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.59 x ksf + 133.55	62/38
Ln(Evening Trips) = 0.72 x Ln(ksf) + 3.02	48/52
General Office (ksf, ITE-710)	<u>Trip Distribution (In/Out)</u>
Ln(Evening Trips) = 0.86 x Ln(ksf) + 1.16	88/12
Ln(Evening Trips) = 0.83 x Ln(ksf) + 1.29	17/83
Mini-Warehouse (ksf-Gross Floor Area, ITE-151)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.09 x ksf	59/41
Evening Trips = 0.15 x ksf	47/53
Multifamily Housing, Low-Rise (ITE-220, Units) [Not Close to Rail Transit]	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.31 x Units + 22.85	24/76
Evening Trips = 0.43 x Units + 20.55	63/37
Medical-Dental Office (ksf, ITE-720)	<u>Trip Distribution (In/Out)</u>
Ln(Morning Trips) = 0.90 x Ln(ksf) + 1.34	79/21
Evening Trips = 4.07 x (ksf) - 3.17	30/70
Convenience Store / Gas Station w/16-24 VFP (ksf, ITE-945)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 91.35 x ksf	50/50
Evening Trips = 78.95 x ksf	50/50
Day Care Center (ksf, ITE-565)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 11.00 x ksf	53/47
Evening Trips = 11.12 x ksf	47/53
Assisted Living (ITE-254, Beds)	<u>Trip Distribution (In/Out)</u>
Morning Trips = 0.18 x Beds	60/40
Evening Trips = 0.24 x Beds	39/61

NOTES: 1. Trip Generation Equations obtained from the ITE Trip Generation Manual, 11th Edition.

Traffic Impact Analysis	Trip Generation Equations	Exhibit 6a
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Partial Build Out (Neighborhoods A, B, K, O, Q) Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Approved	Neighborhood A	Single-Family Attached Housing (ITE-215, Units)	236 units	36	81	117	79	59	138
	Neighborhood B	Single-Family Attached Housing (ITE-215, Units)	89 units	13	28	41	28	21	49
		Single-Family Detached Housing (ITE-210, Units)	105 units	20	58	78	66	38	104
Approved	Neighborhood K	Single-Family Detached Housing (ITE-210, Units)	176 units	32	93	125	106	63	169
Approved	Neighborhood O	Single-Family Detached Housing (ITE-210, Units)	68 units	14	38	52	43	26	69
	Neighborhood Q	Multifamily Housing, Low-Rise (ITE-220, Units)	864 units	70	221	291	247	145	392
Neighborhood A Primary Trips:				36	81	117	79	59	138
Neighborhood B Primary Trips:				33	86	119	94	59	153
Neighborhood K Primary Trips:				32	93	125	106	63	169
Neighborhood O Primary Trips:				14	38	52	43	26	69
Neighborhood Q Primary Trips:				70	221	291	247	145	392
Total Partial Build Out Primary Trips:				185	519	704	569	352	921

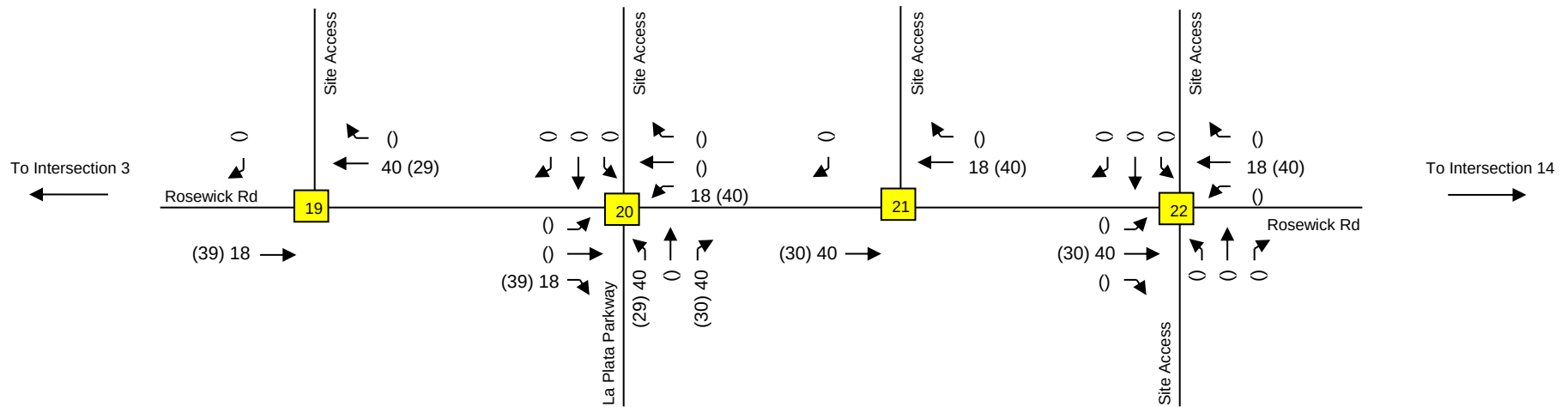
NOTES: 1. Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition.

Traffic Impact Analysis	Trip Generation for Partial Build Out	Exhibit 6b
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Full Build Out Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Approved	Neighborhoods A and C	Single-Family Attached Housing (ITE-215, Units)	236 units	36	81	117	79	59	138
		Senior Adult Housing - Single Family (ITE-251, Units)	278 units	28	57	85	60	38	98
		Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-1	-2	-3	-13	-9	-22
		Internal Trips To/From Elementary School (From Neighborhood A Only):		-21	-20	-41	-3	-3	-6
	Neighborhood B	Single-Family Attached Housing (ITE-215, Units)	89 units	13	28	41	28	21	49
		Single-Family Detached Housing (ITE-210, Units)	105 units	20	58	78	66	38	104
		Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-1	-1	-2	-9	-5	-14
		Internal Trips To/From Elementary School:		-19	-21	-40	-3	-3	-6
	Neighborhoods D, E, G, and L	Single-Family Detached Housing (ITE-210, Units)	478 units	80	229	309	272	160	432
		Single-Family Attached Housing (ITE-215, Units)	114 units	17	37	54	36	28	64
		Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-2	-4	-6	-28	-17	-45
		Internal Trips To/From Elementary School:		-55	-64	-119	-10	-9	-19
Neighborhoods F and H	Single-Family Detached Housing (ITE-210, Units)	128 units	24	69	93	79	46	125	
	Single-Family Attached Housing (ITE-215, Units)	173 units	26	58	84	57	43	100	
	Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-1	-2	-3	-12	-8	-20	
	Internal Trips To/From Elementary School:		-14	-17	-31	-3	-2	-5	
Neighborhoods I and J	Single-Family Detached Housing (ITE-210, Units)	223 units	40	115	155	133	78	211	
	Single-Family Attached Housing (ITE-215, Units)	159 units	24	53	77	52	39	91	
	Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-1	-1	-2	-17	-10	-27	
	Internal Trips To/From Elementary School:		-36	-41	-77	-7	-6	-13	
Approved	Neighborhood K	Single-Family Detached Housing (ITE-210, Units)	176 units	32	93	125	106	63	169
		Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		-1	-1	-2	-10	-6	-16
		Internal Trips To/From Elementary School:		-19	-23	-42	-4	-3	-7
	Neighborhood M	Elementary School (Students, ITE-520)	750 students	300	255	555	55	65	120
Internal Trips (80% AM/60% PM):		-240	-204	-444	-33	-39	-72		
Neighborhood N	Single-Family Detached Housing (ITE-210, Units)	61 units	12	36	48	39	23	62	
	Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):		0	0	0	0	0	0	
	Internal Trips To/From Elementary School:		0	0	0	0	0	0	
	Approved	Neighborhood O	Single-Family Detached Housing (ITE-210, Units)	68 units	14	38	52	43	26
Internal Trips To/From Office/Retail (Assigned Across Rosewick Road):			0	0	0	0	0	0	
Internal Trips To/From Elementary School:			0	0	0	0	0	0	
Neighborhood P		Shopping Center (ksf, ITE-820)	162,500 sq.ft.	142	87	229	384	417	801
	Internal Trips To/From Residential/Office:		-19	-14	-33	-69	-116	-185	
	Pass-by Trips (0% AM/29% PM):		0	0	0	-92	-87	-179	
	General Office (ksf, ITE-710)	34,000 sq.ft.	58	8	66	12	56	68	
	Internal Trips To/From Residential/Retail:		-4	-2	-6	-8	-11	-19	
	Medical-Dental Office (ksf, ITE-720)	40,000 sq.ft.	84	22	106	48	112	160	
	Internal Trips To/From Residential/Retail:		-6	-6	-12	-30	-23	-53	
	Convenience Store / Gas Station w/16-24 VFP (ksf, ITE-945)	6,000 sq.ft.	274	274	548	237	237	474	
	Pass-by Trips (76% AM/75% PM):		-205	-207	-412	-171	-170	-341	
	Day Care Center (ksf, ITE-565)	12,000 sq.ft.	70	62	132	63	70	133	
Neighborhood Q	Assisted Living (ITE-254, Beds)	224 beds	24	16	40	21	33	54	
	Mini-Warehouse (ksf-Gross Floor Area, ITE-151)	60,000 sq.ft.	3	2	5	4	5	9	
	Multifamily Housing, Low-Rise (ITE-220, Units)	864 units	70	221	291	247	145	392	
	Internal Trips To/From Office/Retail:		-1	-3	-4	-23	-13	-36	
Internal Trips To/From Elementary School (Assigned Across Rosewick Road):		-40	-54	-94	-9	-7	-16		
Neighborhoods A and C Primary Trips:				42	116	158	123	85	208
Neighborhood B Primary Trips:				13	64	77	82	51	133
Neighborhoods D, E, G, and L Primary Trips:				40	198	238	270	162	432
Neighborhoods F and H Primary Trips:				35	108	143	121	79	200
Neighborhoods I and J Primary Trips:				27	126	153	161	101	262
Neighborhood K Primary Trips:				12	69	81	92	54	146
Neighborhood M Primary Trips:				60	51	111	22	26	48
Neighborhood N Primary Trips:				12	36	48	39	23	62
Neighborhood O Primary Trips:				14	38	52	43	26	69
Neighborhood P Primary Trips:				421	242	663	399	523	922
Neighborhood Q Primary Trips:				29	164	193	215	125	340
Total Full Build Out Primary Trips:				705	1212	1917	1567	1255	2822

- NOTES: 1. Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition.
2. Trips associated with the full build out also include the trips from Phase 1.
3. ITE Internal Capture worksheets are located in Appendix E. The residential portion of the internal trips is distributed among the various residential units based on the amount of total trips generated.
4. Neighborhoods N and O will be accessed exclusively along Radio Station Road and MD 488, respectively, and are therefore excluded from internal trip calculations.



Traffic Impact Analysis

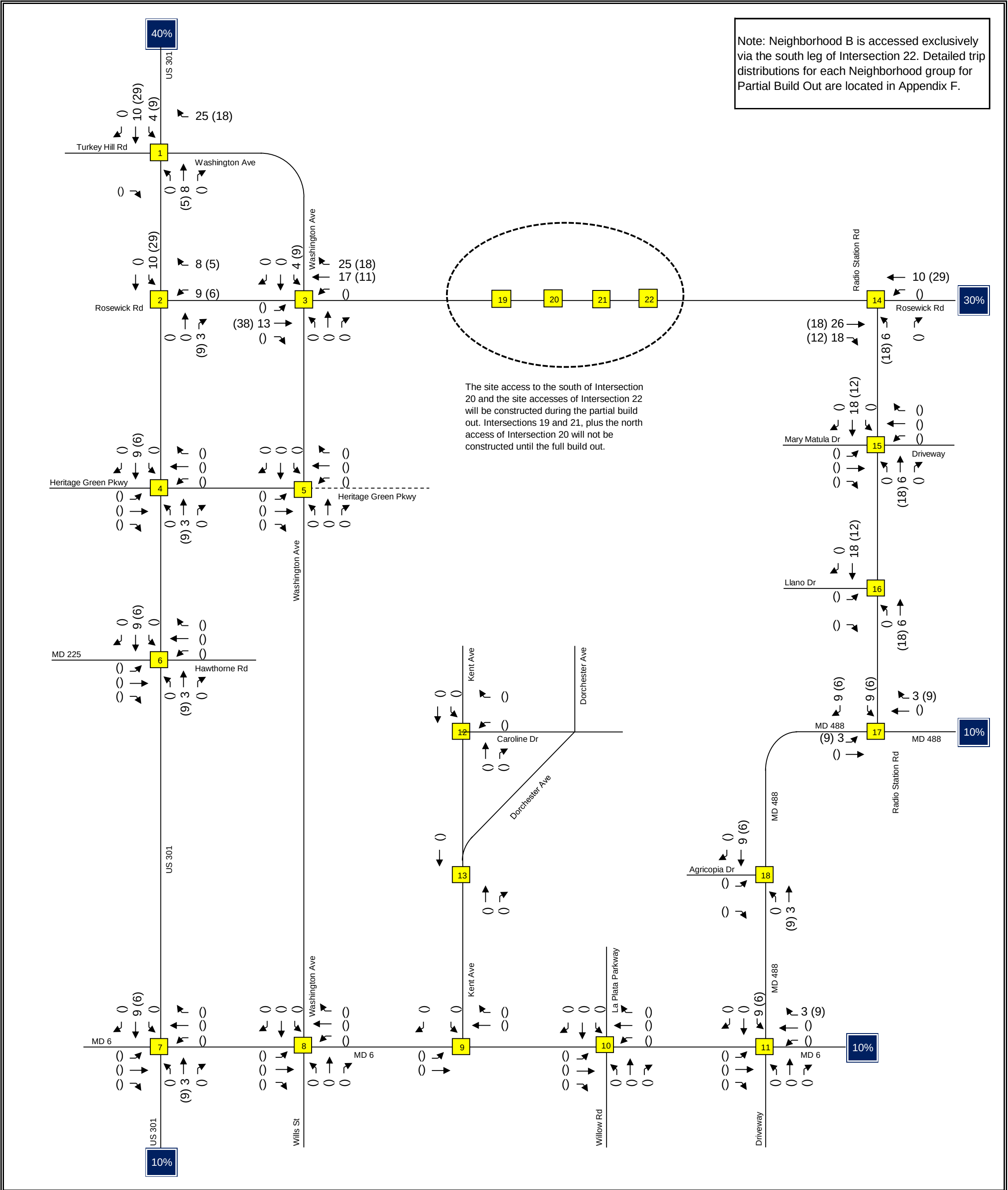


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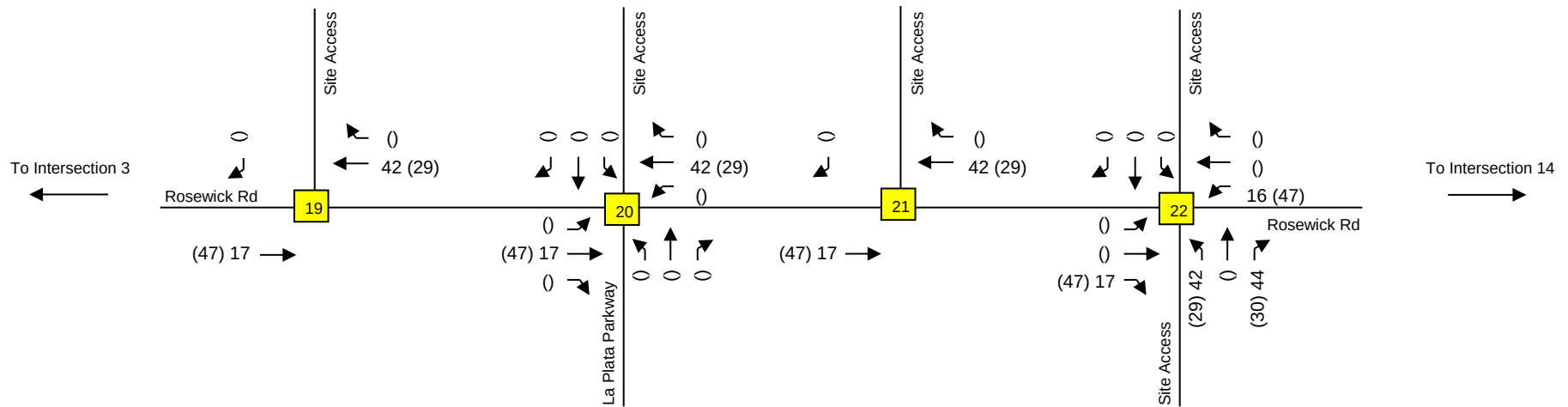
Trip Assignment for Neighborhood A Through Site Access Points - Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
7b**



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment for Neighborhood B Partial Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 7c
--	--	----------------------------------



Traffic Impact Analysis

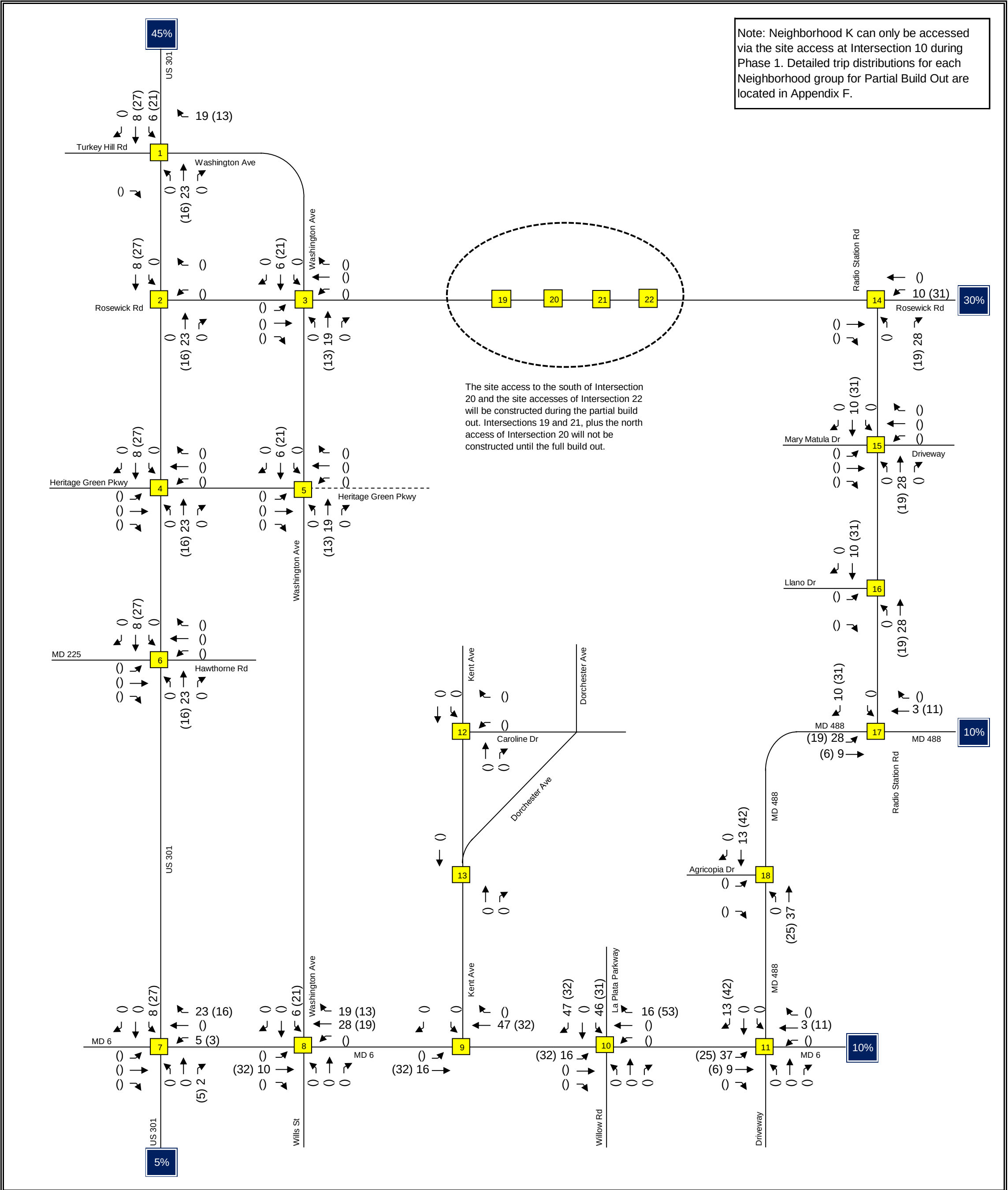


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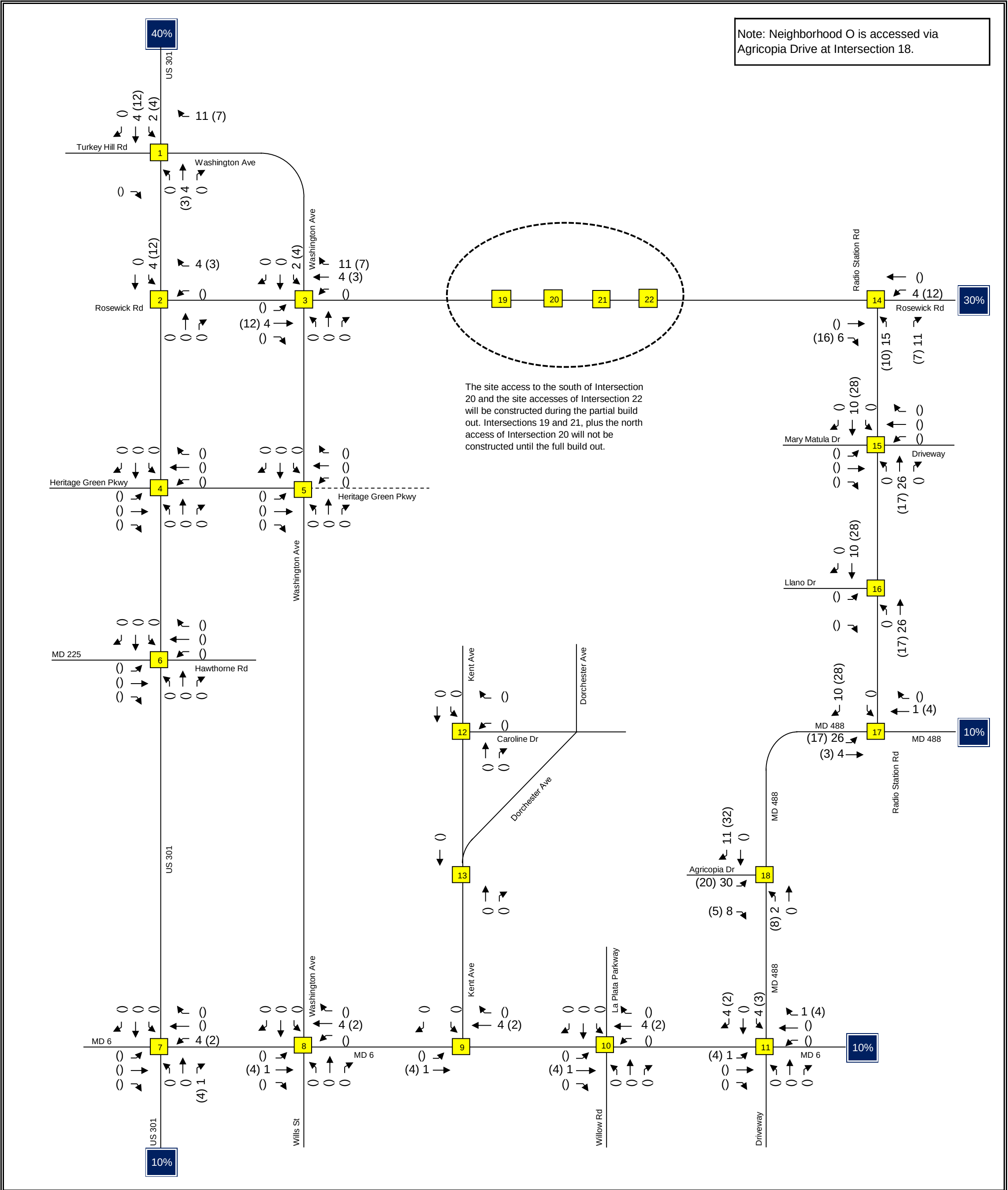
Trip Assignment for Neighborhood B Through Site Access Points - Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

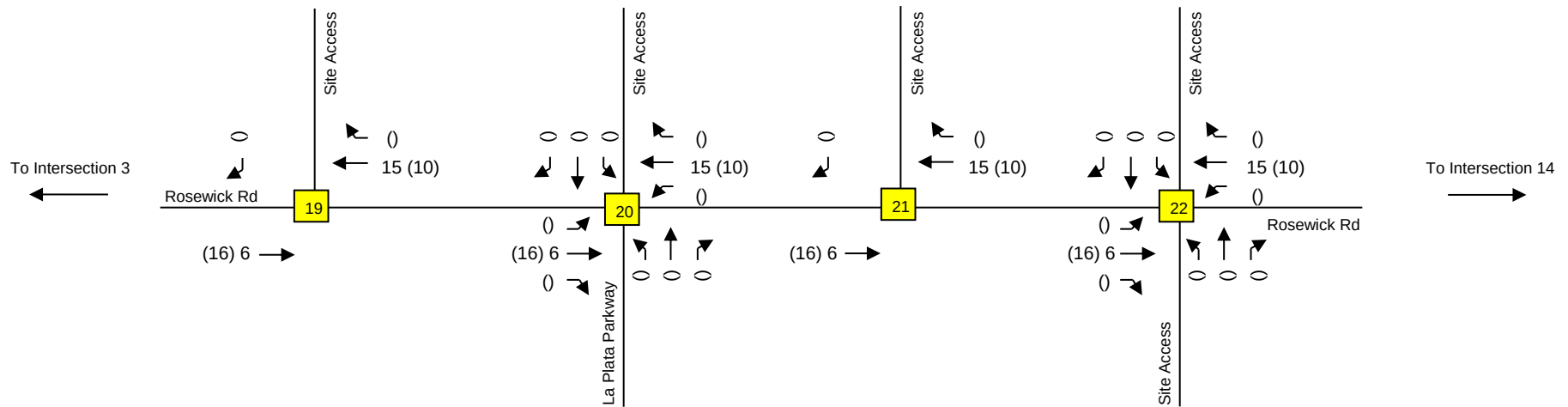
**Exhibit
7d**



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment for Neighborhood K Partial Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 7e
--	---	----------------------------------



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment for Neighborhood O Partial Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 7f
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Traffic Impact Analysis

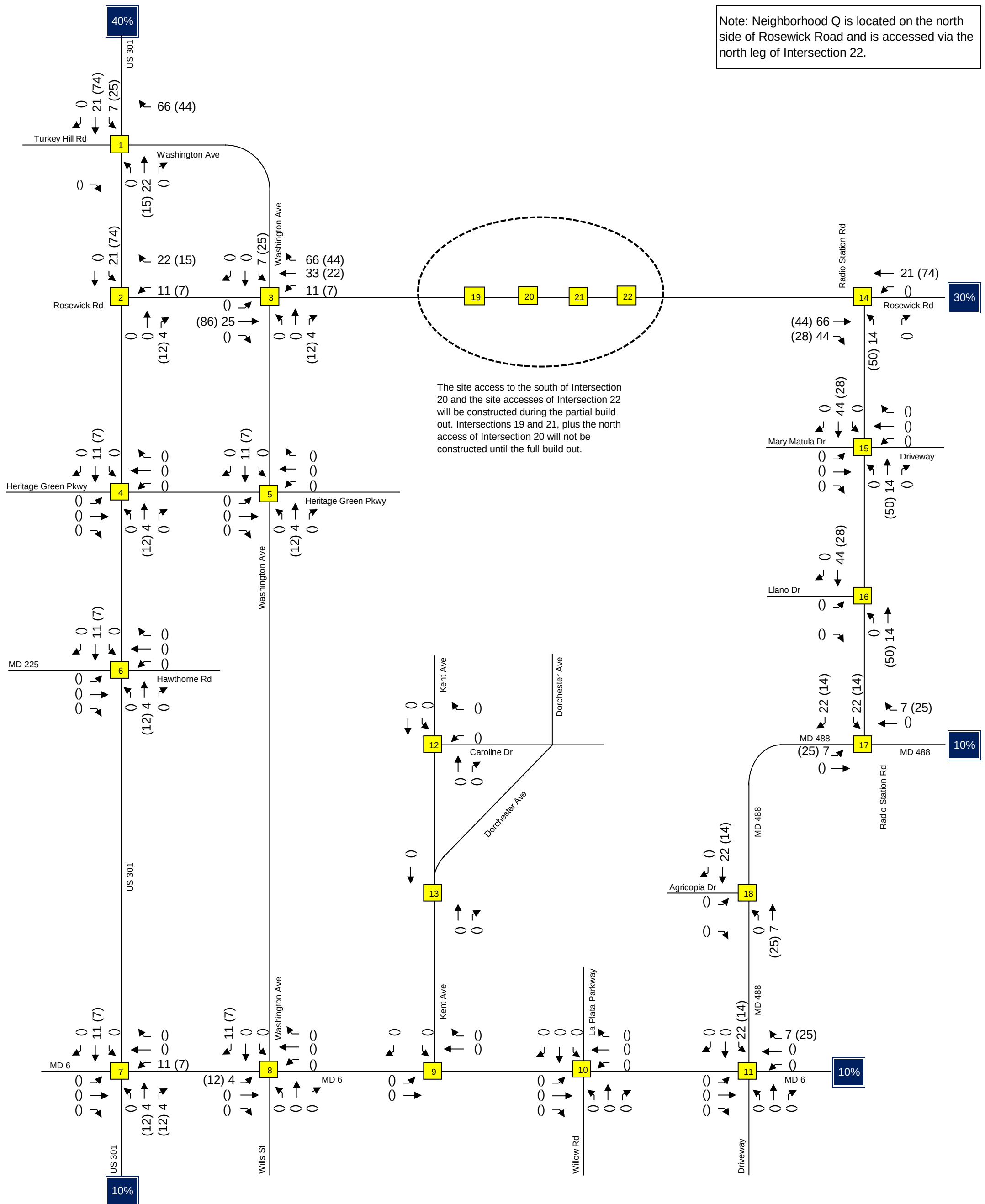


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Trip Assignment for Neighborhood O Through Site Access Points - Partial Build Out

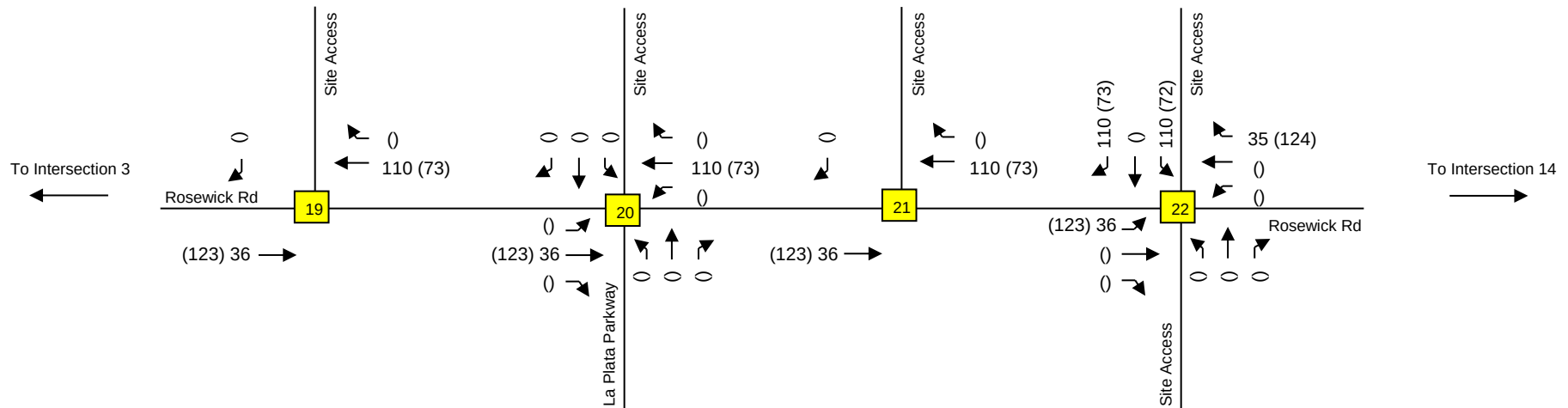
Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
7g**



The site access to the south of Intersection 20 and the site accesses of Intersection 22 will be constructed during the partial build out. Intersections 19 and 21, plus the north access of Intersection 20 will not be constructed until the full build out.

Traffic Impact Analysis	Primary Trip Assignment for Neighborhood Q	Exhibit
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Partial Build Out	7h
	Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	



- Notes: 1. Neighborhood Q is located entirely on the portion of the site north of Rosewick Rd.
 2. All trips to Neighborhood Q use Intersection 22 during the partial build out as the northern leg of Intersections 19, 20, and 21 will not be constructed until later in the build out.

Traffic Impact Analysis

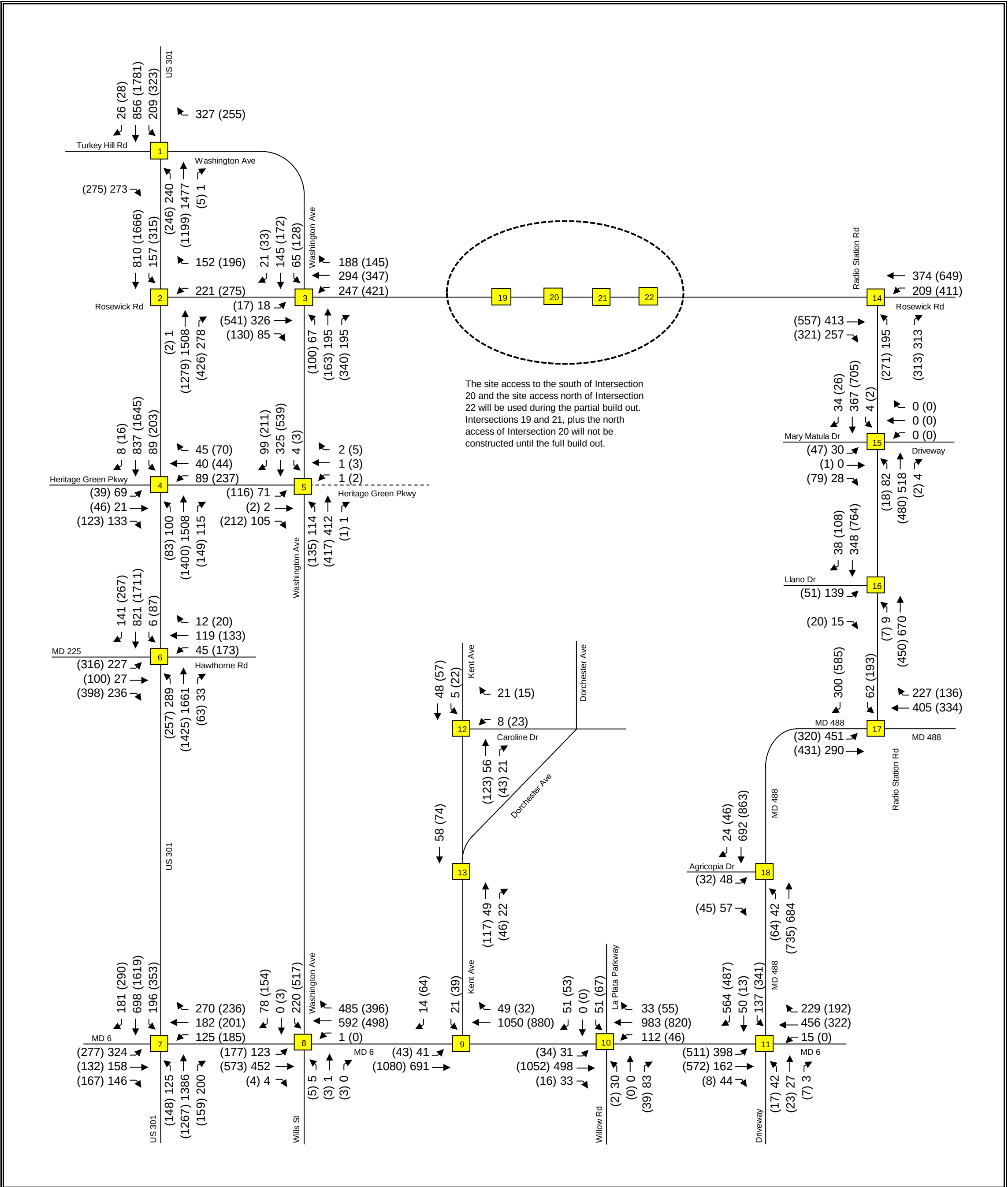


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Trip Assignment for Neighborhood Q Through Site Access Points - Partial Build Out

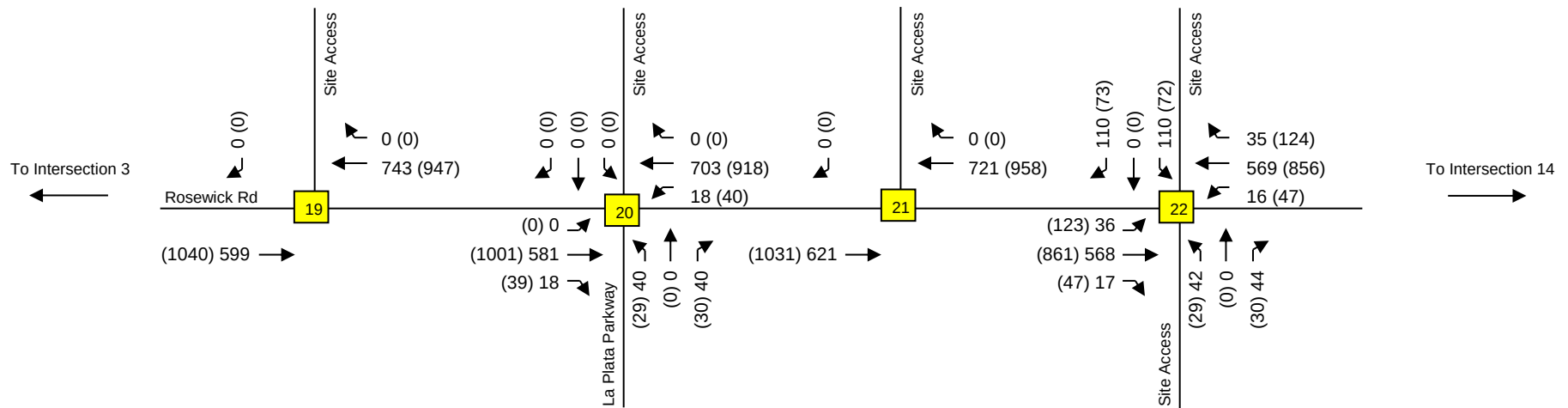
Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
7i**



Traffic Impact Analysis		Total Peak Hour Volumes Partial Build Out	Exhibit 8a
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com			

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's



Traffic Impact Analysis



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Total Peak Hour Volumes through Site Access Points - Partial Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
8b**

Partial Build Out CLV Level of Service Results

Morning Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	<i>Partial Signal</i>	A / 700	A / 963	B / 1021
2). US 301 & Rosewick Rd	<i>Signalized</i>	A / 749	B / 1045	B / 1119
3). Rosewick Rd & Washington Ave	<i>Signalized</i>	A / 538	A / 609	A / 686
4). US 301 & Heritage Green Pkwy	<i>Signalized</i>	A / 828	B / 1067	B / 1085
5). Heritage Green Pkwy & Washington Ave	<i>Unsignalized</i>	A / 601	A / 697	A / 720
6). US 301 & MD 225/Hawthorne Rd	<i>Signalized</i>	B / 1008	C / 1259	C / 1278
<i>With Potential Improvements</i>	--	--	--	C / 1187
7). US 301 & MD 6	<i>Signalized</i>	C / 1161	D / 1415	D / 1431
<i>With Potential Improvements</i>	--	--	--	D / 1353
8). MD 6 & Washington Ave	<i>Signalized</i>	A / 876	A / 986	B / 1040
9). MD 6 & Kent Ave	<i>Unsignalized</i>	B / 1048	B / 1110	C / 1161
10). MD 6 & Willow Rd/La Plata Parkway	<i>Unsignalized</i>	A / 992	B / 1051	B / 1100
11). MD 6 & MD 488	<i>Signalized</i>	A / 998	B / 1059	B / 1113
12). Kent Ave & Caroline Dr	<i>Unsignalized</i>	A / 106	A / 111	A / 111
13). Kent Ave & Dorchester Ave	<i>Unsignalized</i>	A / 68	A / 71	A / 71
14). Rosewick Rd & Radio Station Rd	<i>Signalized</i>	A / 464	A / 510	A / 631
15). Radio Station Rd & Mary Matula Dr	<i>Unsignalized</i>	A / 469	A / 505	A / 587
16). Radio Station Rd & Llano Dr	<i>Unsignalized</i>	A / 679	A / 727	A / 809
17). MD 488 & Radio Station Rd	<i>Unsignalized</i>	A / 953	B / 1020	B / 1145
18). Radio Station Rd & Agricopia Dr	<i>Unsignalized</i>	A / 641	A / 698	A / 782
19). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
20). Rosewick Rd & La Plata Parkway	<i>Unsignalized</i>	N/A	N/A	A / 427
21). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
22). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	A / 503
Evening Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	<i>Partial Signal</i>	A / 860	B / 1135	C / 1226
2). US 301 & Rosewick Rd	<i>Signalized</i>	A / 804	B / 1055	C / 1183
3). Rosewick Rd & Washington Ave	<i>Signalized</i>	A / 758	A / 871	B / 1010
4). US 301 & Heritage Green Pkwy	<i>Signalized</i>	B / 1002	C / 1216	C / 1242
5). Heritage Green Pkwy & Washington Ave	<i>Unsignalized</i>	A / 801	A / 929	A / 954
6). US 301 & MD 225/Hawthorne Rd	<i>Signalized</i>	C / 1264	E / 1539	E / 1564
<i>With Potential Improvements</i>	--	--	--	E / 1512
7). US 301 & MD 6	<i>Signalized</i>	C / 1267	E / 1497	E / 1527
<i>With Potential Improvements</i>	--	--	--	E / 1515
8). MD 6 & Washington Ave	<i>Signalized</i>	C / 1212	D / 1343	D / 1406
9). MD 6 & Kent Ave	<i>Unsignalized</i>	B / 1021	B / 1083	B / 1119
10). MD 6 & Willow Rd/La Plata Parkway	<i>Unsignalized</i>	B / 1106	C / 1173	C / 1190
11). MD 6 & MD 488	<i>Signalized</i>	B / 1071	B / 1148	C / 1217
12). Kent Ave & Caroline Dr	<i>Unsignalized</i>	A / 215	A / 226	A / 226
13). Kent Ave & Dorchester Ave	<i>Unsignalized</i>	A / 155	A / 163	A / 163
14). Rosewick Rd & Radio Station Rd	<i>Signalized</i>	A / 744	A / 807	A / 988
15). Radio Station Rd & Mary Matula Dr	<i>Unsignalized</i>	A / 700	A / 748	A / 859
16). Radio Station Rd & Llano Dr	<i>Unsignalized</i>	A / 665	A / 711	A / 822
17). MD 488 & Radio Station Rd	<i>Unsignalized</i>	A / 754	A / 822	A / 983
18). Radio Station Rd & Agricopia Dr	<i>Unsignalized</i>	A / 803	A / 863	A / 959
19). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
20). Rosewick Rd & La Plata Parkway	<i>Unsignalized</i>	N/A	N/A	A / 620
21). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
22). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	A / 696

Notes:

- Intersections 19 and 21 will not be constructed as part of the Partial Build Out.

Traffic Impact Analysis

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Results of CLV Level of Service Analyses Partial Build Out

**Exhibit
9a**

Partial Build Out HCM Level of Service Results

Morning Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	<i>Partial Signal</i>			
2). US 301 & Rosewick Rd	<i>Signalized</i>	A / 8.1	B / 12.2	B / 14.4
3). Rosewick Rd & Washington Ave	<i>Signalized</i>	B / 17.2	B / 18.0	B / 19.2
4). US 301 & Heritage Green Pkwy	<i>Signalized</i>	C / 26.5	C / 27.7	C / 27.8
5). Heritage Green Pkwy & Washington Ave	<i>Unsignalized</i>	A / 4.2	A / 4.8	A / 4.9
6). US 301 & MD 225/Hawthorne Rd	<i>Signalized</i>	C / 32.5	D / 36.2	C / 36.6
<i>With Potential Improvements</i>		--	--	C / 31.8
7). US 301 & MD 6	<i>Signalized</i>	D / 46.2	E / 61.4	E / 63.2
<i>With Potential Improvements</i>		--	--	D / 52.7
8). MD 6 & Washington Ave	<i>Signalized</i>	C / 25.3	C / 26.1	C / 26.7
<i>With Potential Improvements</i>		--	--	C / 27.7
9). MD 6 & Kent Ave	<i>Unsignalized</i>	A / 0.6	A / 0.7	A / 0.7
10). MD 6 & Willow Rd/La Plata Parkway	<i>Unsignalized</i>	A / 4.0	A / 4.9	C / 26.5
11). MD 6 & MD 488	<i>Signalized</i>	C / 24.8	C / 27.4	C / 31.8
12). Kent Ave & Caroline Dr	<i>Unsignalized</i>	A / 1.9	A / 1.9	A / 1.9
13). Kent Ave & Dorchester Ave	<i>Unsignalized</i>	A / 0.0	A / 0.0	A / 0.0
14). Rosewick Rd & Radio Station Rd	<i>Signalized</i>	B / 17.9	B / 18.7	C / 20.5
15). Radio Station Rd & Mary Matula Dr	<i>Unsignalized</i>	A / 1.8	A / 1.8	A / 1.7
16). Radio Station Rd & Llano Dr	<i>Unsignalized</i>	A / 3.6	A / 4.2	A / 5.7
17). MD 488 & Radio Station Rd	<i>Unsignalized</i>	A / 6.5	A / 7.5	C / 29.3
18). Radio Station Rd & Agricopia Dr	<i>Unsignalized</i>	A / 1.2	A / 1.4	A / 3.7
19). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
20). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	A / 9.4
21). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
22). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	B / 12.0
Evening Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	<i>Partial Signal</i>			
2). US 301 & Rosewick Rd	<i>Signalized</i>	A / 8.5	B / 12.1	B / 16.4
3). Rosewick Rd & Washington Ave	<i>Signalized</i>	C / 21.3	C / 23.0	C / 28.3
4). US 301 & Heritage Green Pkwy	<i>Signalized</i>	D / 37.4	D / 39.4	D / 40.3
5). Heritage Green Pkwy & Washington Ave	<i>Unsignalized</i>	A / 8.5	C / 16.6	C / 19.5
6). US 301 & MD 225/Hawthorne Rd	<i>Signalized</i>	D / 42.3	E / 58.2	E / 64.7
<i>With Potential Improvements</i>		--	--	D / 54.9
7). US 301 & MD 6	<i>Signalized</i>	D / 50.7	F / 90.0	F / 96.2
<i>With Potential Improvements</i>		--	--	E / 69.0
8). MD 6 & Washington Ave	<i>Signalized</i>	D / 40.2	D / 49.2	E / 58.2
<i>With Potential Improvements</i>		--	--	D / 53.3
9). MD 6 & Kent Ave	<i>Unsignalized</i>	A / 1.3	A / 1.4	A / 1.4
10). MD 6 & Willow Rd/La Plata Parkway	<i>Unsignalized</i>	A / 7.4	B / 10.8	C / 27.2
11). MD 6 & MD 488	<i>Signalized</i>	D / 38.9	C / 30.7	C / 34.2
12). Kent Ave & Caroline Dr	<i>Unsignalized</i>	A / 1.9	A / 1.9	A / 1.9
13). Kent Ave & Dorchester Ave	<i>Unsignalized</i>	A / 0.0	A / 0.0	A / 0.0
14). Rosewick Rd & Radio Station Rd	<i>Signalized</i>	B / 17.3	B / 18.1	C / 20.6
15). Radio Station Rd & Mary Matula Dr	<i>Unsignalized</i>	A / 2.4	A / 2.6	A / 3.1
16). Radio Station Rd & Llano Dr	<i>Unsignalized</i>	A / 1.3	A / 1.4	A / 1.6
17). MD 488 & Radio Station Rd	<i>Unsignalized</i>	D / 26.2	F / 123	F / >200
18). Radio Station Rd & Agricopia Dr	<i>Unsignalized</i>	A / 1.1	A / 1.3	A / 3.6
19). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
20). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	A / 9.6
21). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	N/A
22). Rosewick Rd & Site Access	<i>Unsignalized</i>	N/A	N/A	B / 14.9

See Note 4

See Note 3

Notes:

- Intersections 19 and 21 will not be constructed as part of the Partial Build Out.
- Intersection 1 was not analyzed using HCM methodology due to the signal configuration. CLV results indicate that this intersection will operate with LOS "B" under total conditions.
- This intersection fails as unsignalized intersections and it's anticipated that they will be signalized, as needed, at some point during buildout.
- The Total Conditions analysis assumes signal phasing adjustments due to the large amount of trips generated by the site.

Traffic Impact Analysis



Results of HCM Level of Service Analyses
Partial Build Out

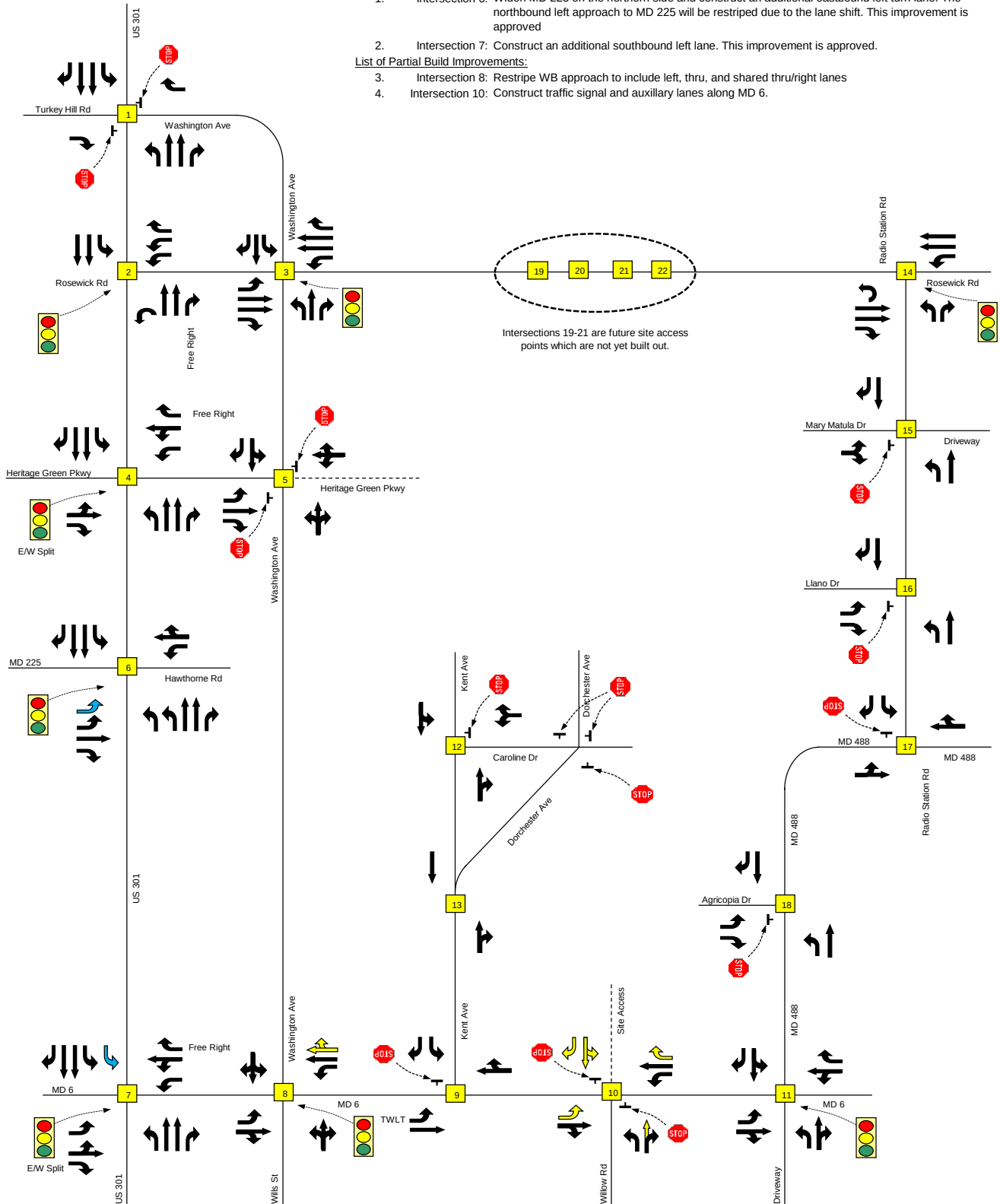
**Exhibit
9b**

List of Approved Improvements:

1. Intersection 6: Widen MD 225 on the northern side and construct an additional eastbound left turn lane. The northbound left approach to MD 225 will be restriped due to the lane shift. This improvement is approved
2. Intersection 7: Construct an additional southbound left lane. This improvement is approved.

List of Partial Build Improvements:

3. Intersection 8: Restripe WB approach to include left, thru, and shared thru/right lanes
4. Intersection 10: Construct traffic signal and auxiliary lanes along MD 6.



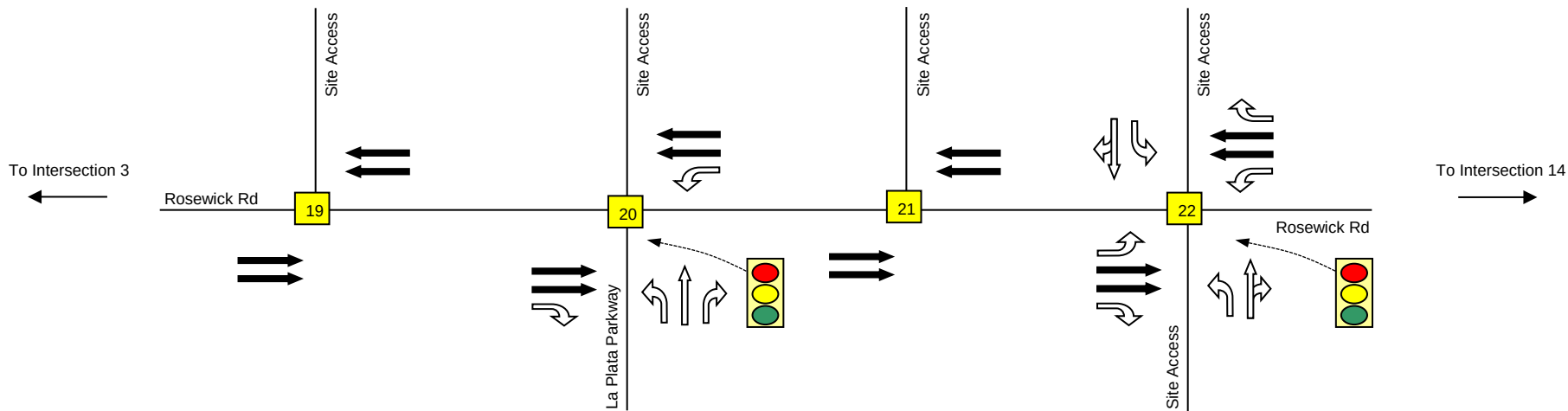
Traffic Impact Analysis

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Lane Use & Traffic Control Devices
with Partial Buildout Potential Improvements

→ - Existing → - Approved Imp. → - Partial Build Imp.

**Exhibit
9c**



Note: Intersections 19 and 21, plus the north leg of Intersection 20 will not be constructed with the partial build condition.

Traffic Impact Analysis



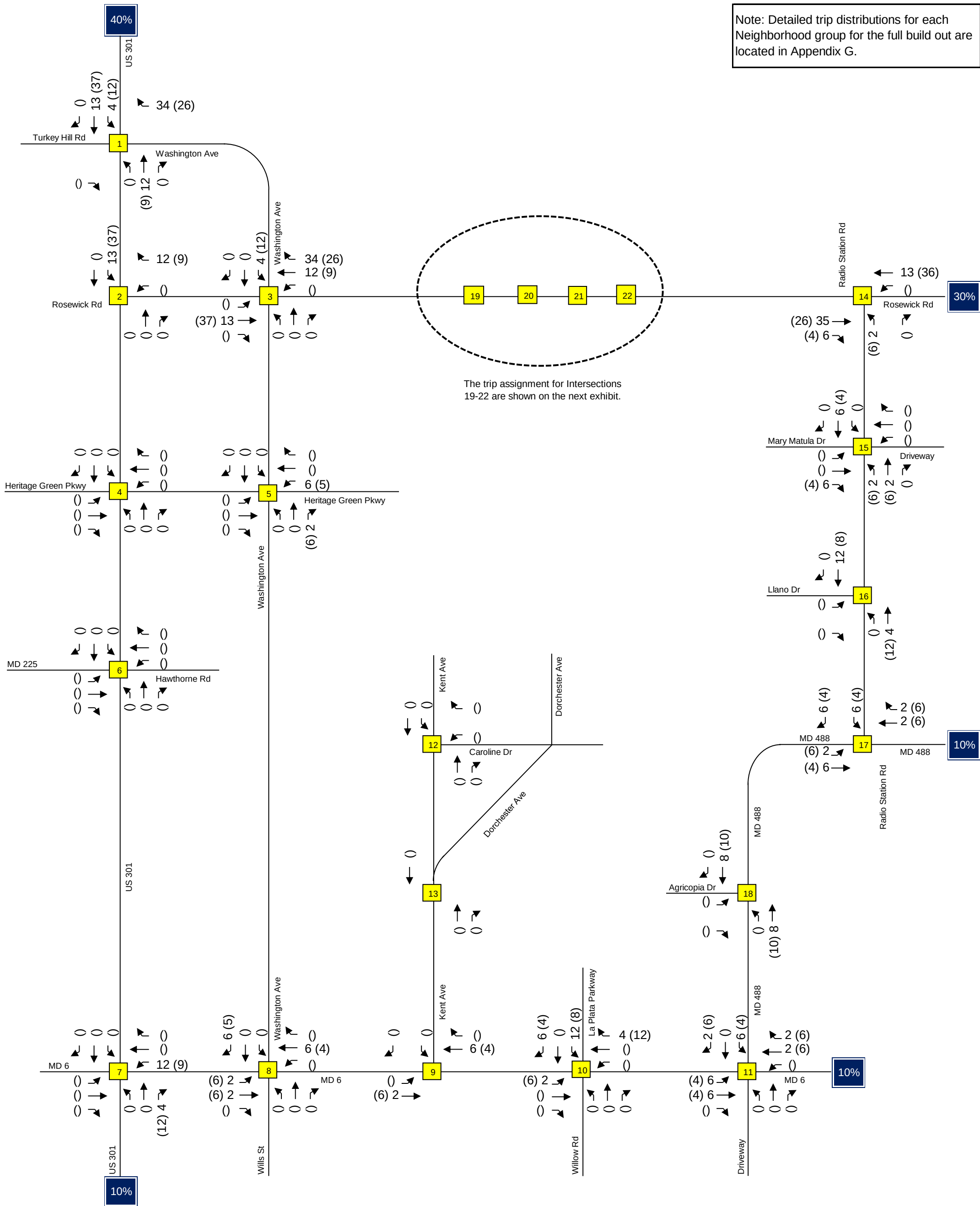
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Lane Use & Traffic Control Devices for Partial Build Out through Site Access Points

- Existing
 - Proposed

**Exhibit
9d**

Note: Detailed trip distributions for each Neighborhood group for the full build out are located in Appendix G.



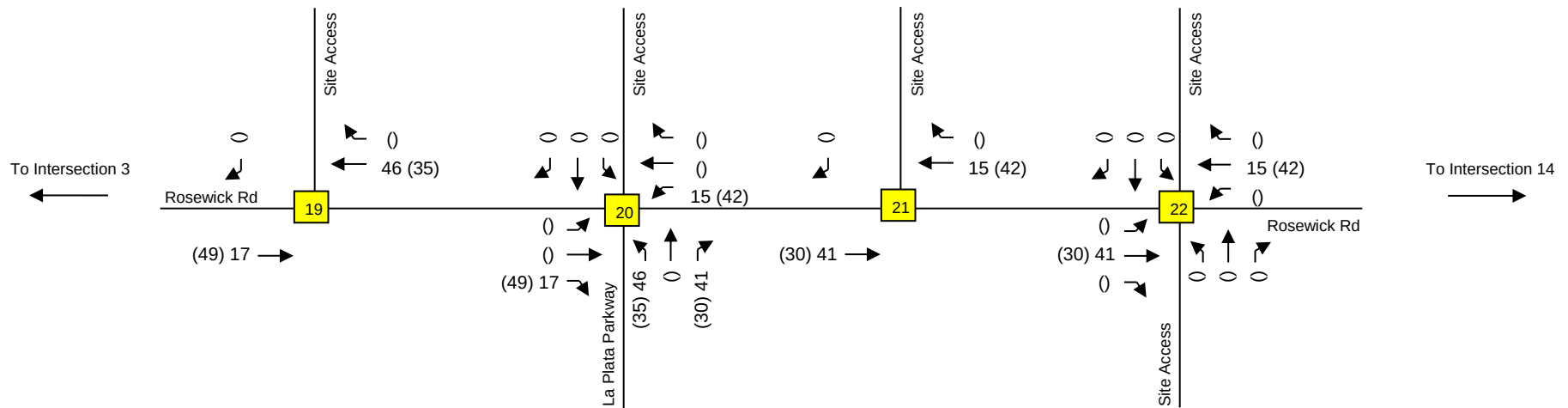
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Primary Trip Assignment for Neighborhoods A and C Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10a**



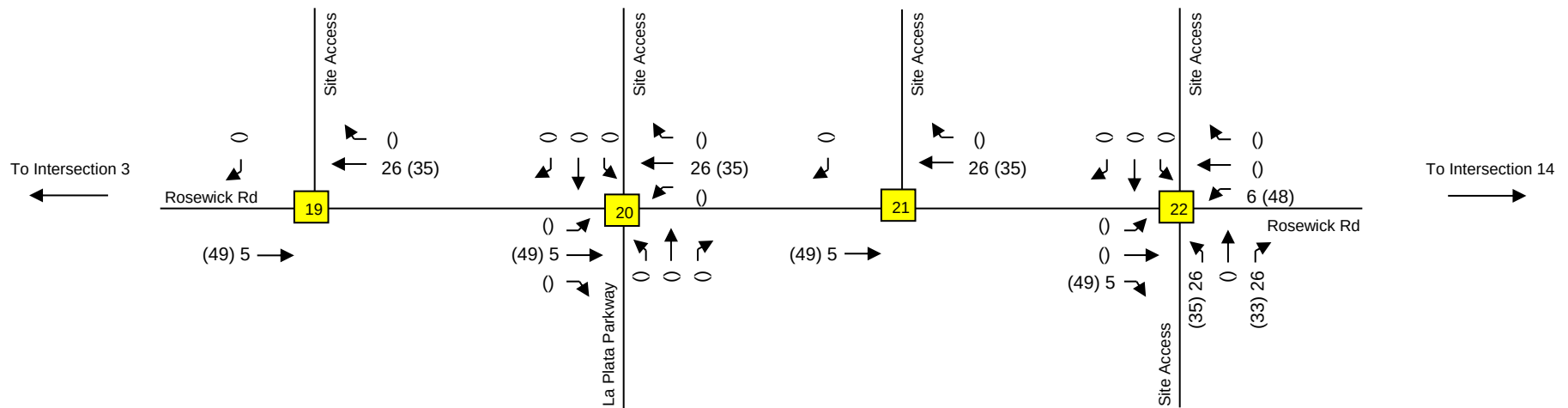
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Trip Assignment for Neighborhoods A and C Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10b**



Traffic Impact Analysis

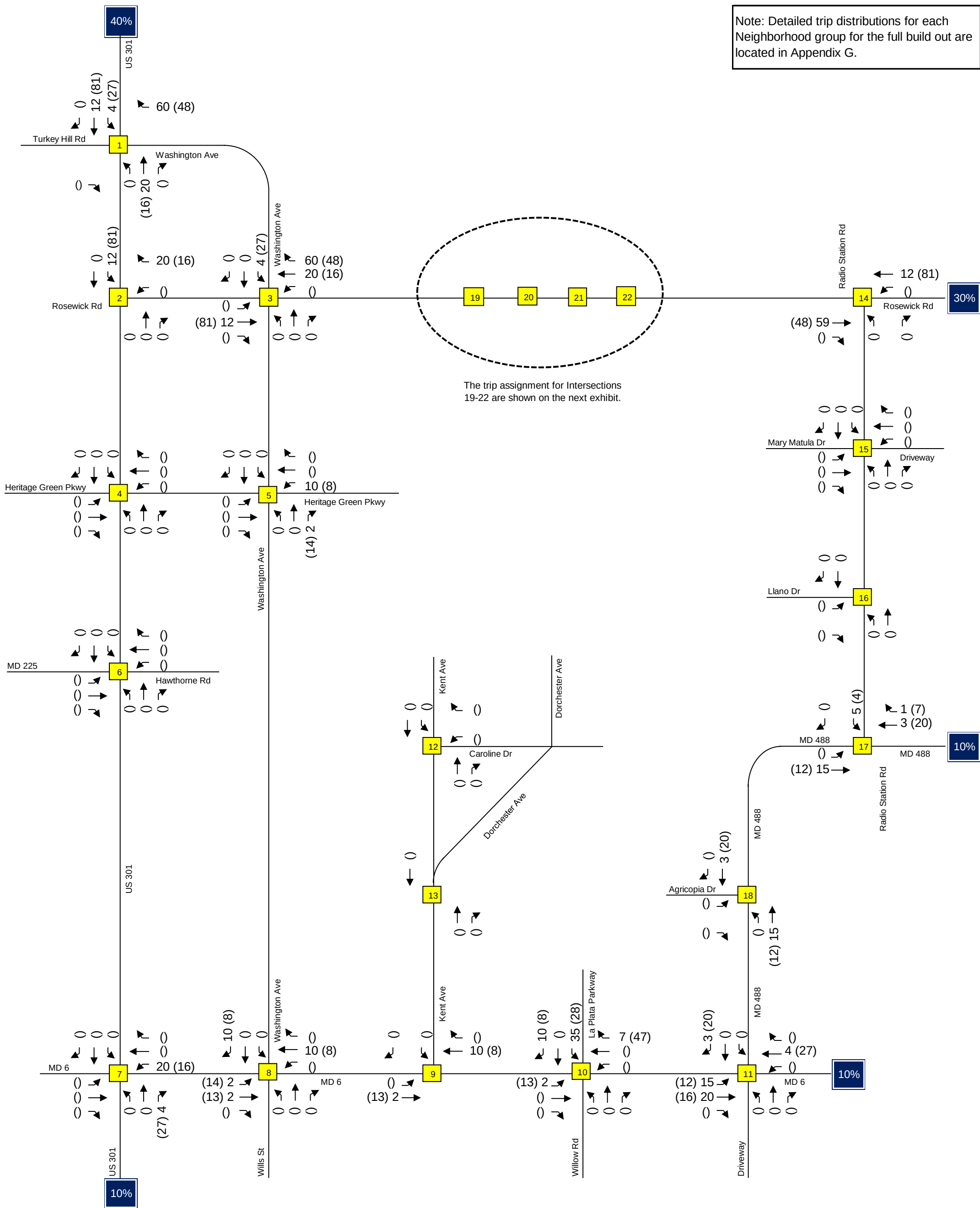
Trip Assignment for Neighborhood B Through Site Access Points - Full Build Out

**Exhibit
10d**

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Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

Note: Detailed trip distributions for each Neighborhood group for the full build out are located in Appendix G.



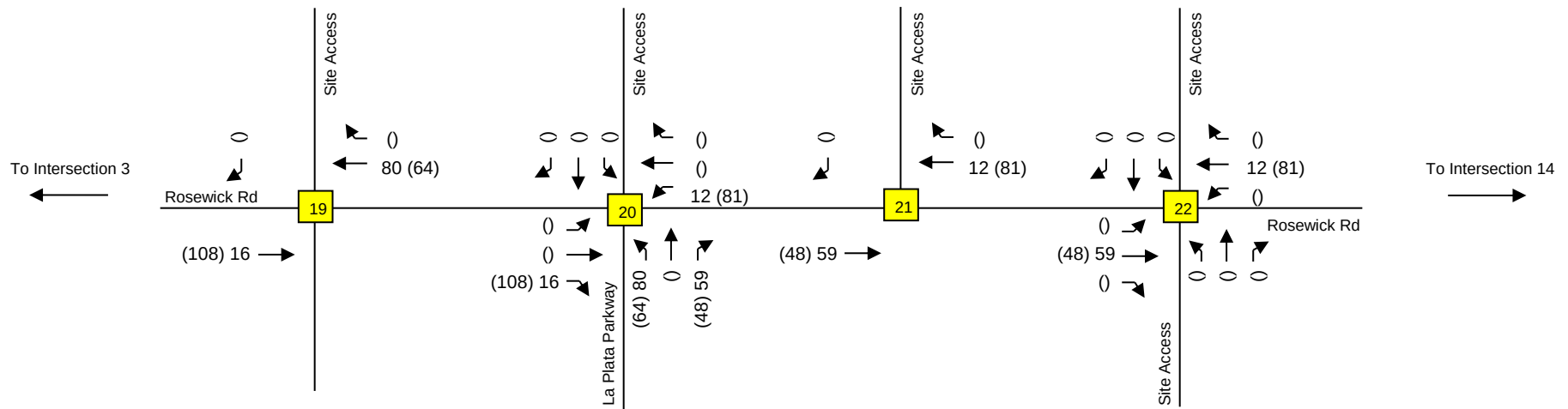
Traffic Impact Analysis

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Primary Trip Assignment for Neighborhoods D, E, G, and L Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10e**



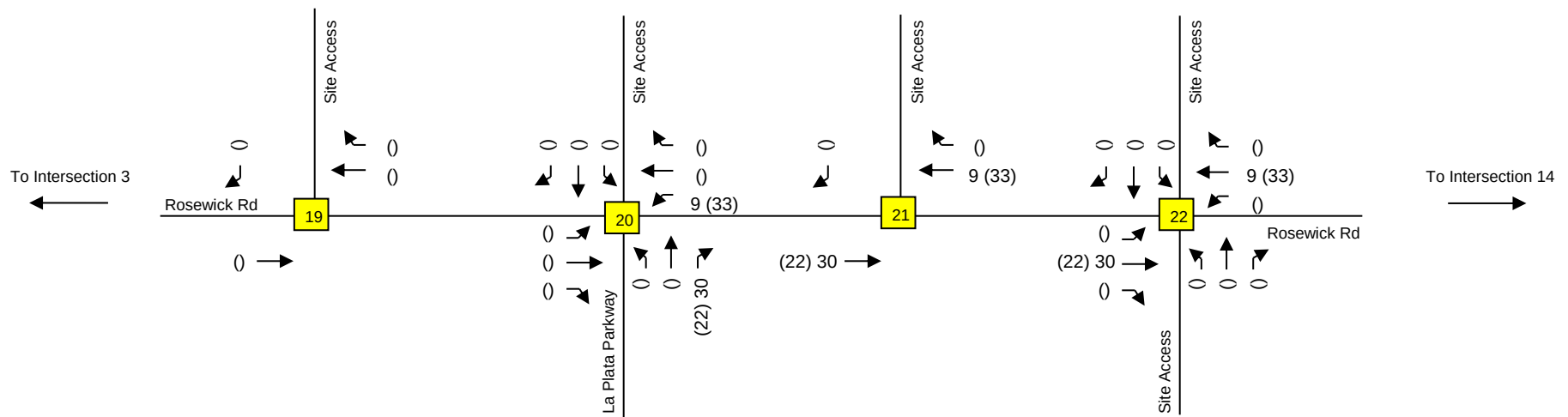
Traffic Impact Analysis



Trip Assignment for Neighborhoods D, E, G, and L Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10f**



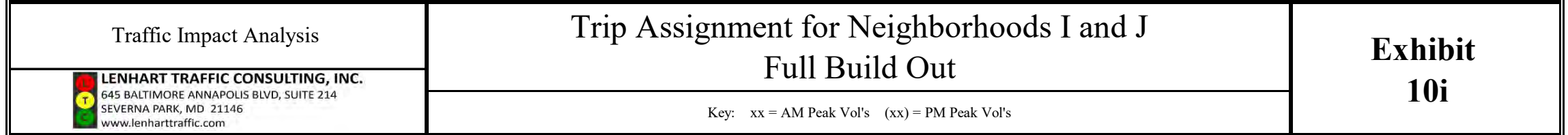
Traffic Impact Analysis

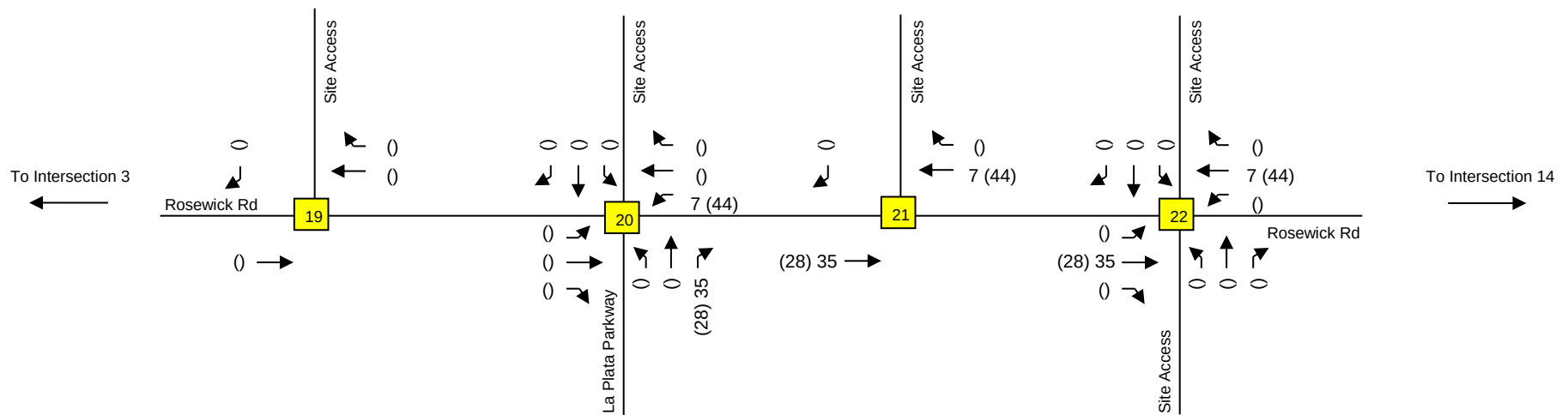
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Trip Assignment for Neighborhoods F and H Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10h**





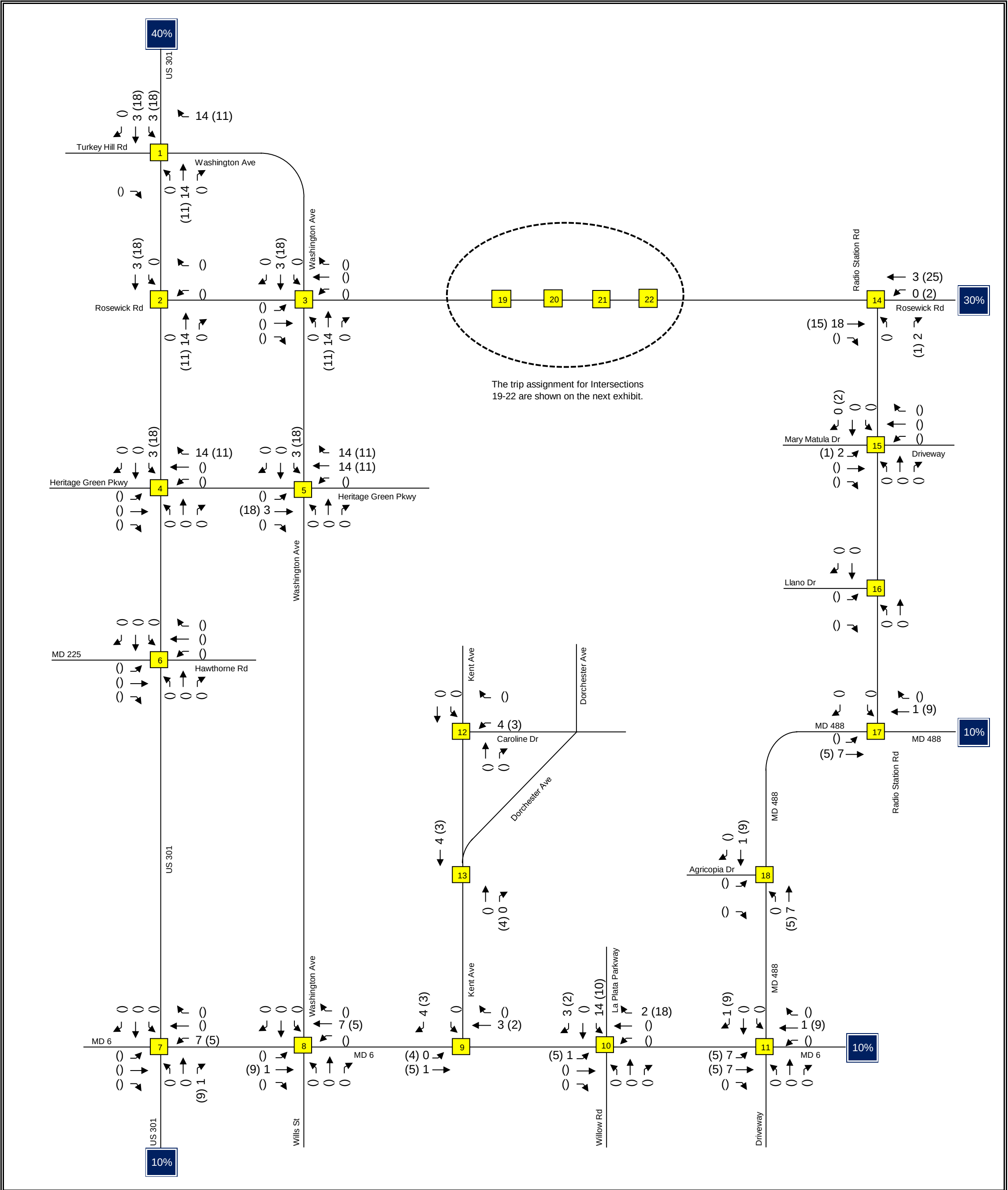
Traffic Impact Analysis

Trip Assignment for Neighborhoods I and J Through Site Access Points - Full Build Out

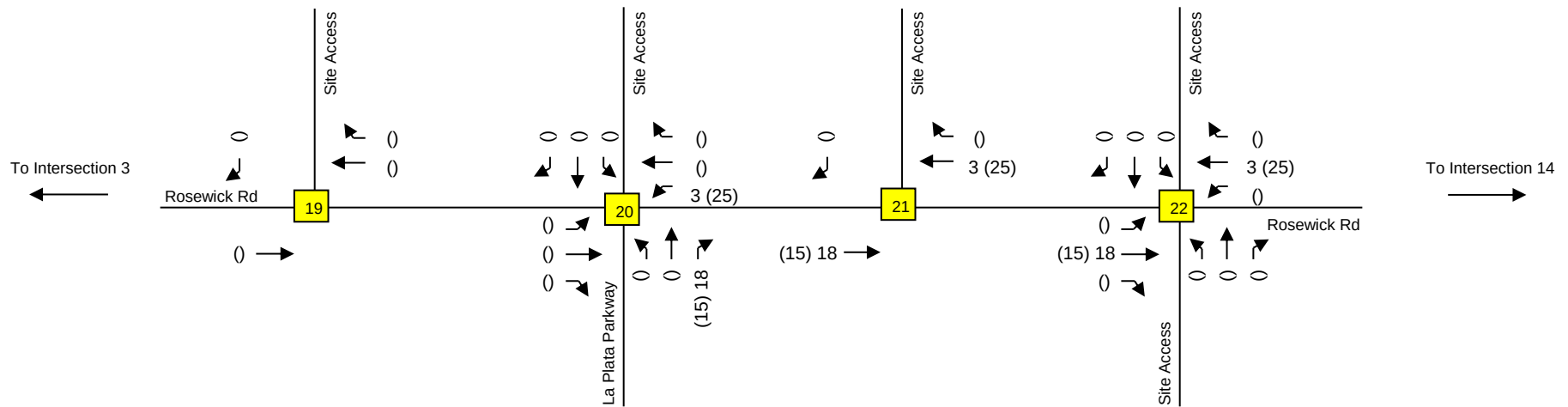
**Exhibit
10j**

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Key: xx = AM Peak Vol's (xx) = PM Peak Vol's



Traffic Impact Analysis	Trip Assignment for Neighborhood K Full Build Out		Exhibit 10k
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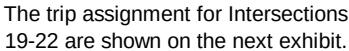
Traffic Impact Analysis

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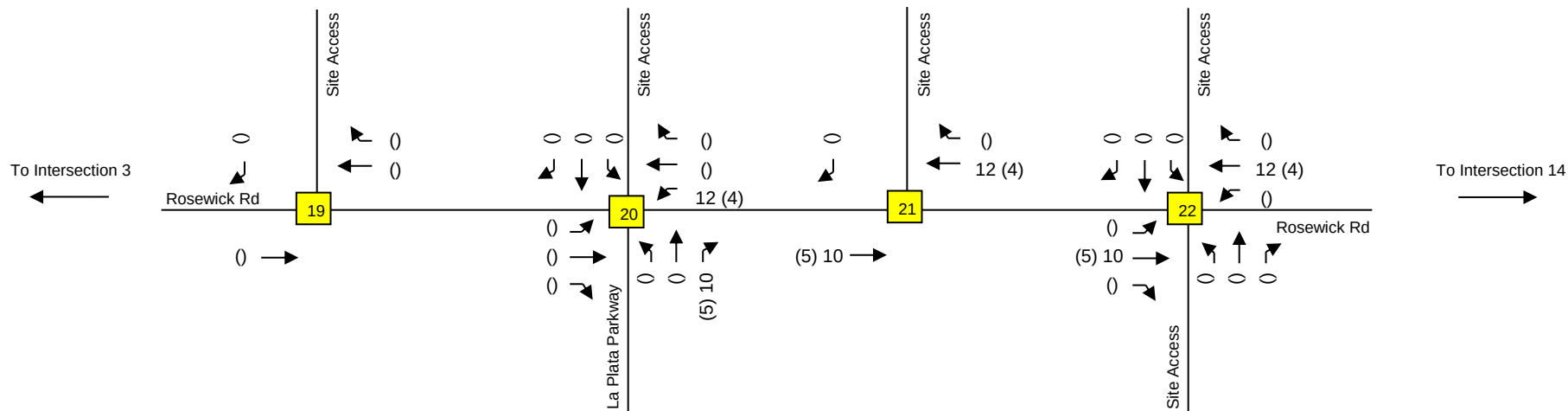
Trip Assignment for Neighborhood K Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
101**



Key: xx = AM Peak Vol's (xx) = PM Peak Vol's



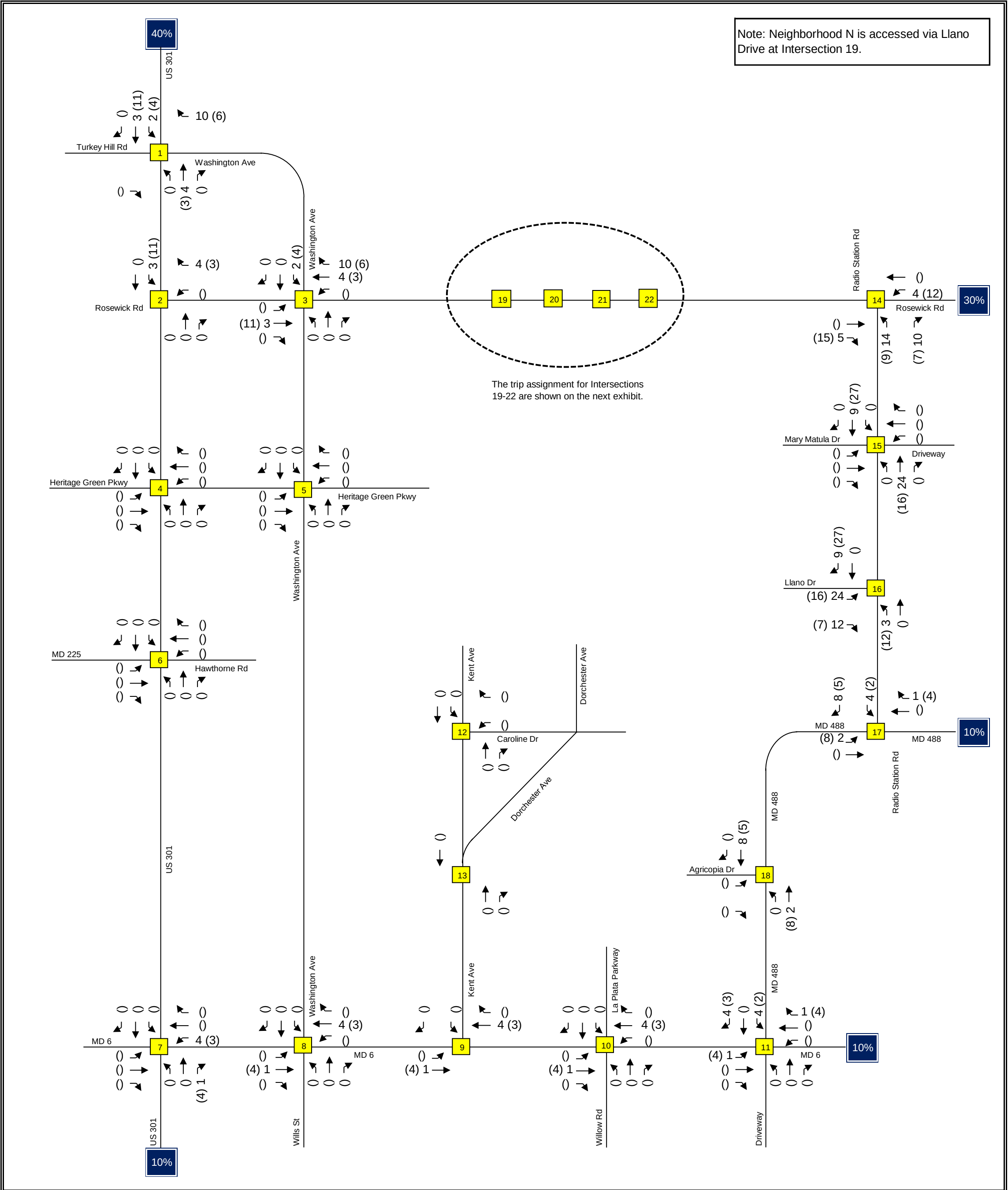
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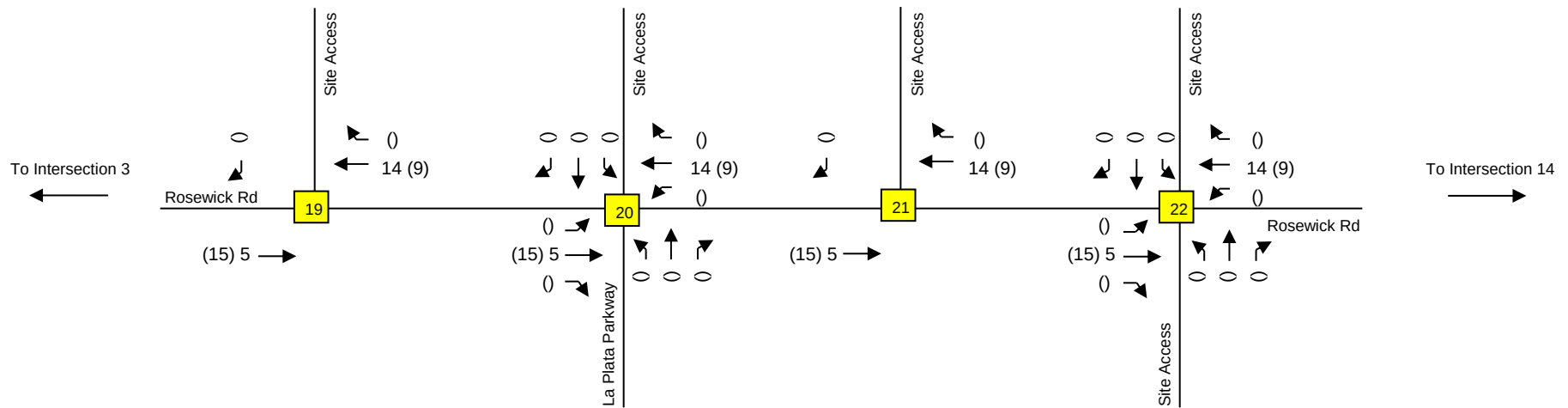
Trip Assignment for Neighborhood M Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
 10n**



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment for Neighborhood N Full Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 10o
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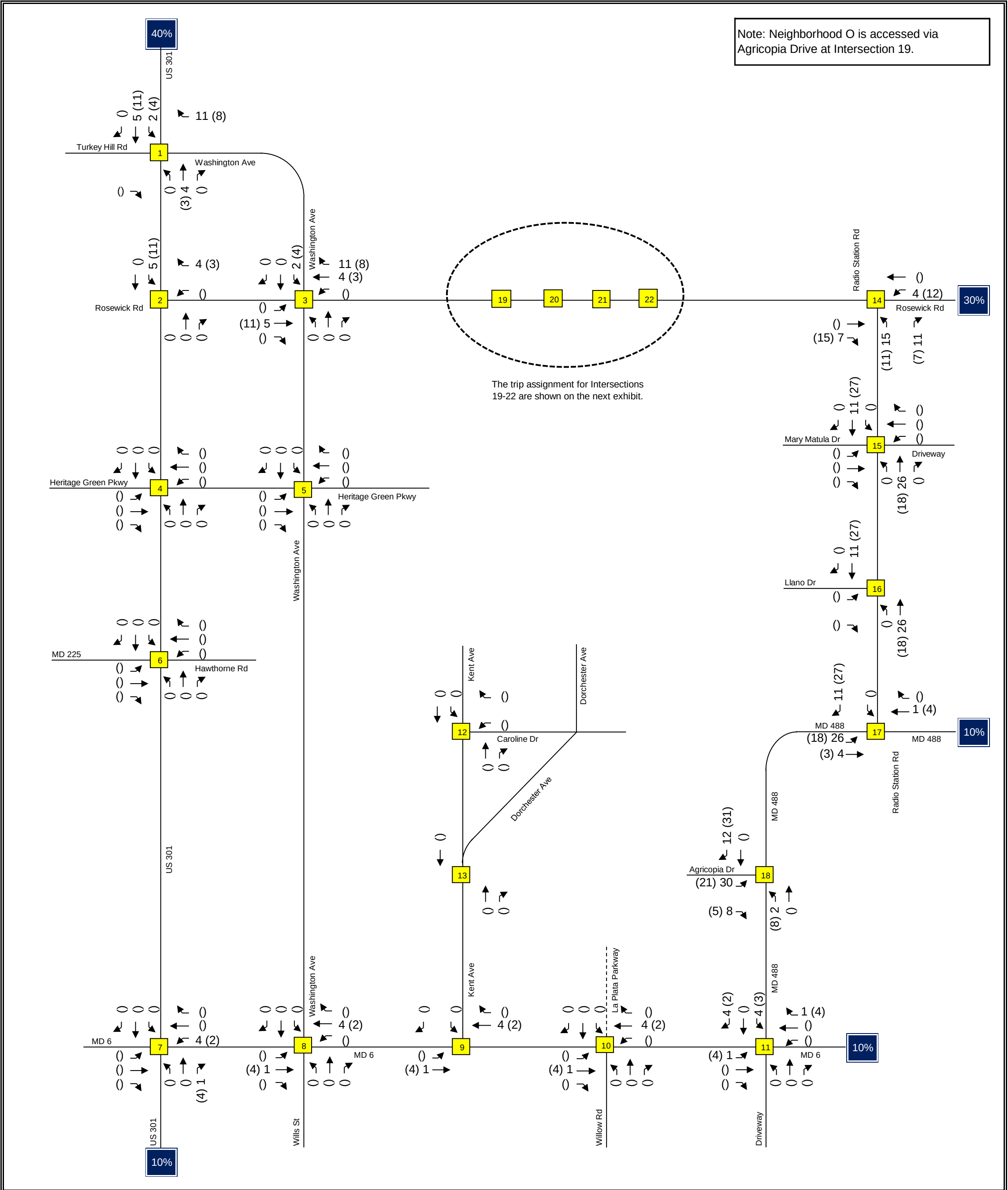
Traffic Impact Analysis

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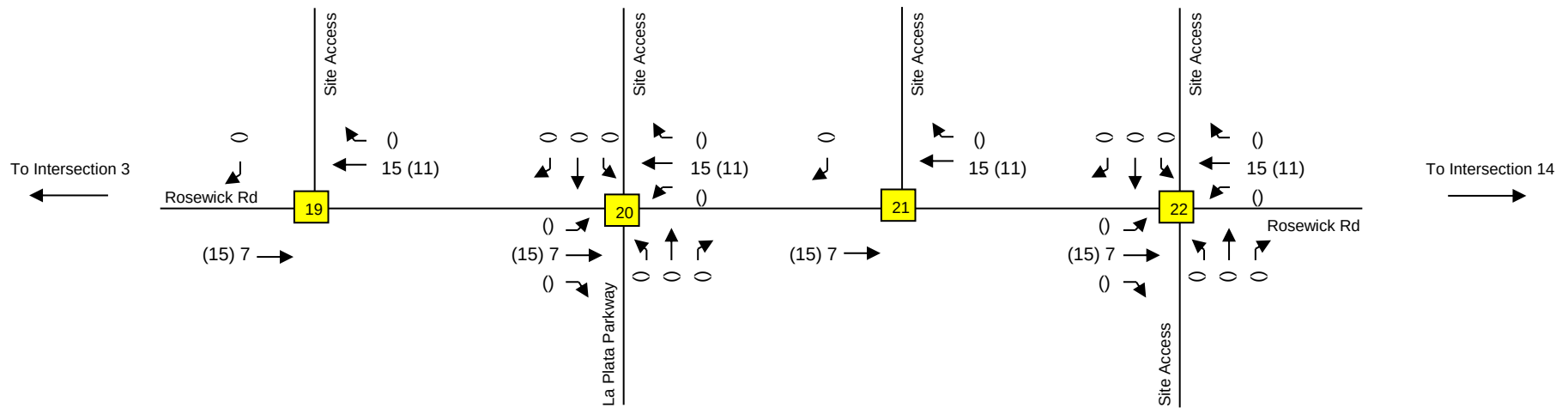
Trip Assignment for Neighborhood N Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10p**



Traffic Impact Analysis	Trip Assignment for Neighborhood O Full Build Out	Exhibit 10q
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Traffic Impact Analysis



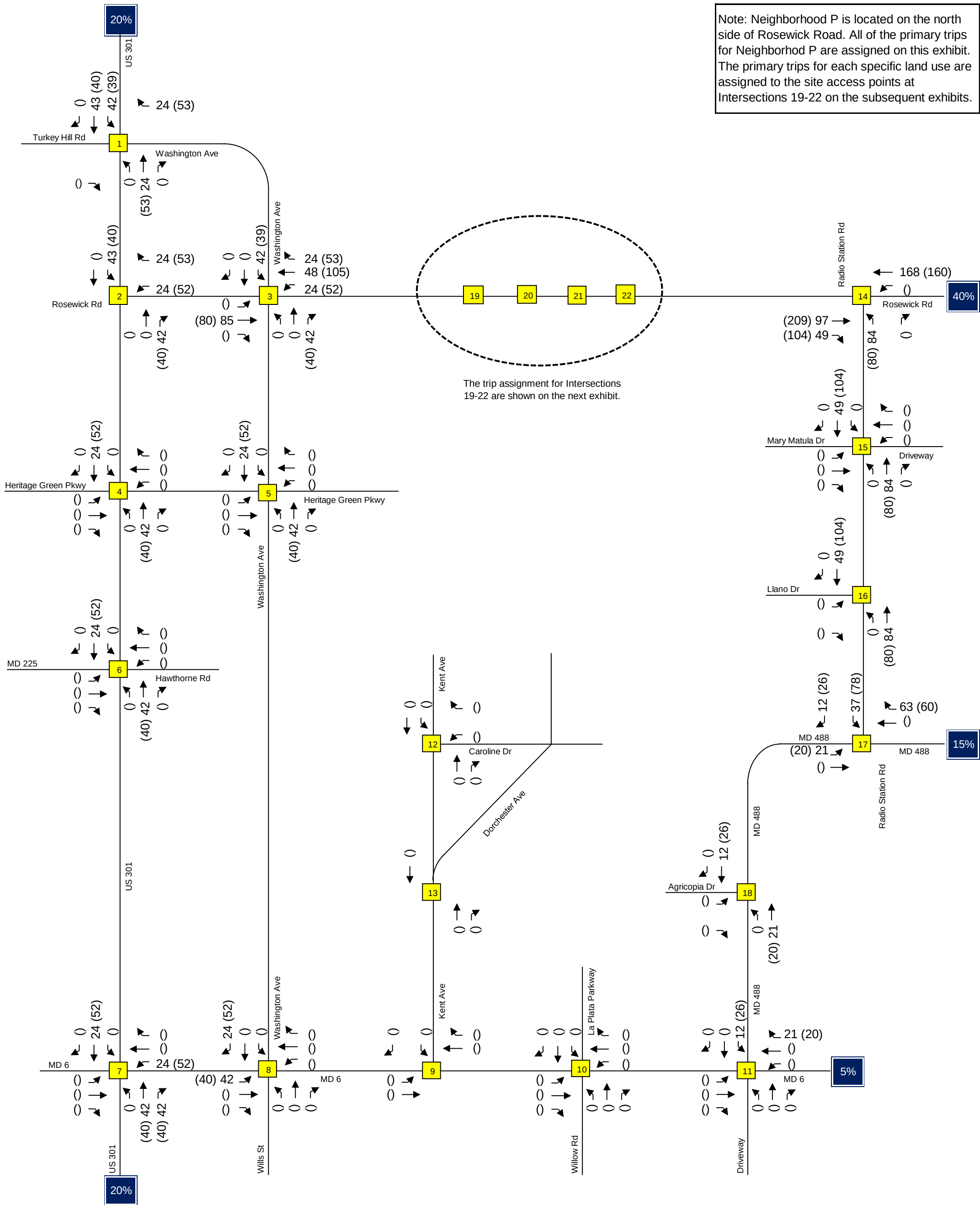
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Trip Assignment for Neighborhood O Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10r**

Note: Neighborhood P is located on the north side of Rosewick Road. All of the primary trips for Neighborhood P are assigned on this exhibit. The primary trips for each specific land use are assigned to the site access points at Intersections 19-22 on the subsequent exhibits.



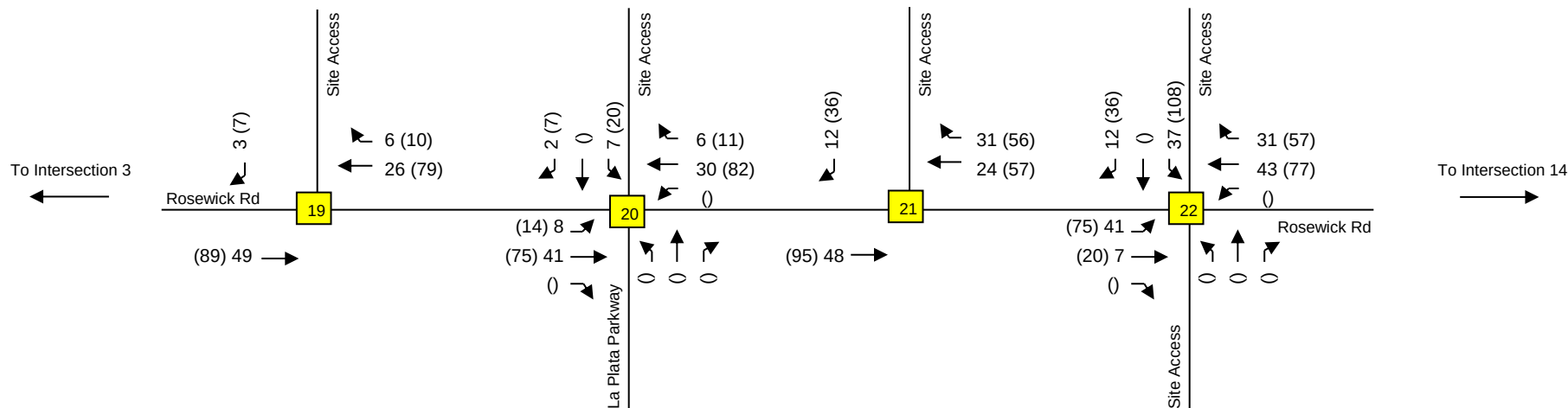
Traffic Impact Analysis

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Primary Trip Assignment for Neighborhood P Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10s**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
2. 16% of the shopping center trips are accessed via Intersections 19 and 20.
- 100% of inbound trips from the west will enter at Intersection 20.
 - 50% of inbound trips from the east will enter at Intersection 20 and 50% at Intersection 19.
 - 50 % of outbound trips to the west will exit at Intersection 19 and 50% at Intersection 20.
 - 100% of outbound trips to the east will exit at Intersection 20.
3. 84% of the shopping center portion trips are accessed via Intersections 21 and 22.
- 100% of inbound trips from the west will enter at Intersection 22.
 - 50% of inbound trips from the east will enter at Intersection 21 and 50% at Intersection 22.
 - 50 % of outbound trips to the west will exit at Intersection 21 and 50% at Intersection 22.
 - 100% of outbound trips to the east will exit at Intersection 22.

Traffic Impact Analysis

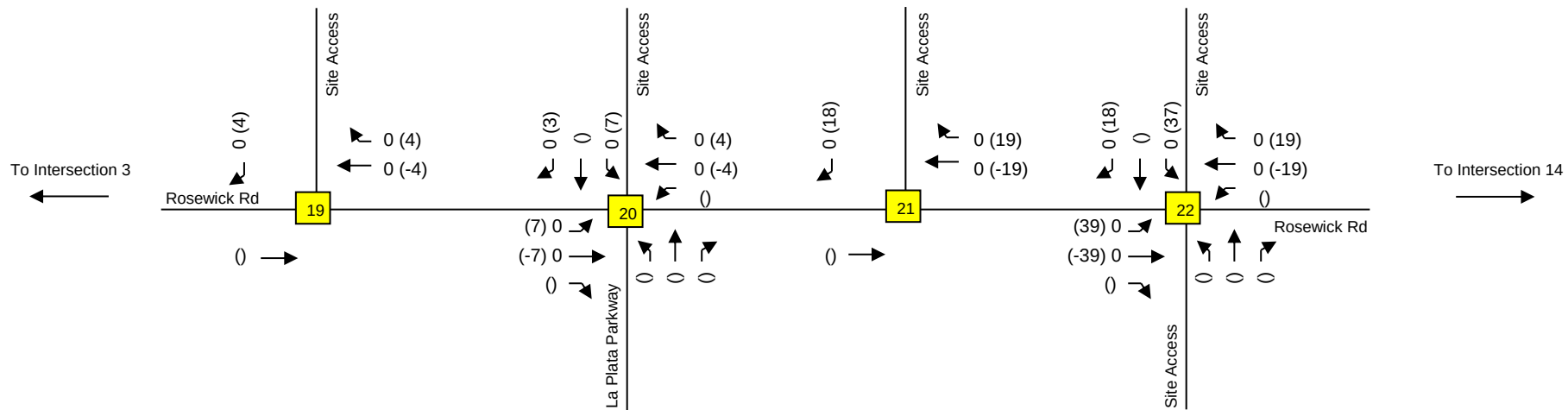


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Shopping Center Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10t**



- Notes: 1. The shopping center portion of the development is located entirely on the portion of the site north of Rosewick Rd.
2. 50% of pass-by trips will be from the west and 50% from the east, based on the background volumes on Exhibit 5c.
3. 16% of the shopping center trips are accessed via Intersections 19 and 20.
- 100% of inbound trips from the west will enter at Intersection 20.
 - 50% of inbound trips from the east will enter at Intersection 20 and 50% at Intersection 19.
 - 50 % of outbound trips to the west will exit at Intersection 19 and 50% at Intersection 20.
 - 100% of outbound trips to the east will exit at Intersection 20.
4. 84% of the shopping center portion trips are accessed via Intersections 21 and 22.
- 100% of inbound trips from the west will enter at Intersection 22.
 - 50% of inbound trips from the east will enter at Intersection 21 and 50% at Intersection 22.
 - 50 % of outbound trips to the west will exit at Intersection 21 and 50% at Intersection 22.
 - 100% of outbound trips to the east will exit at Intersection 22.

Traffic Impact Analysis

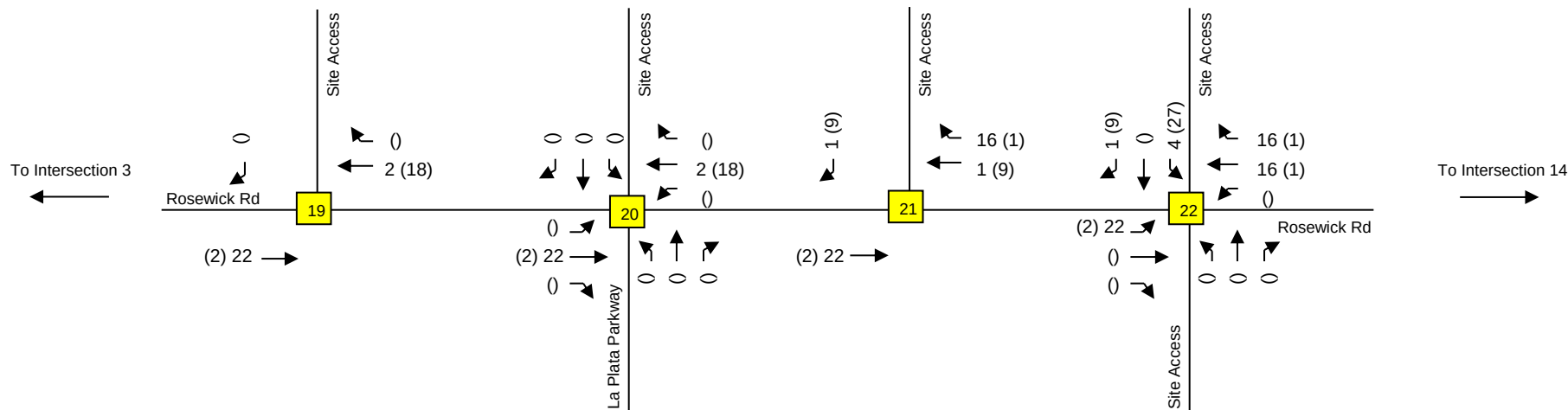


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Shopping Center Pass-by Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10u**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
2. The trips associated with the General Office portion of Neighborhood P are accessed at Intersections 21 and 22
- 100% of inbound trips from the west will enter at Intersection 22.
 - 50% of inbound trips from the east will enter at Intersection 21 and 50% at Intersection 22.
 - 50 % of outbound trips to the west will exit at Intersection 21 and 50% at Intersection 22.
 - 100% of outbound trips to the east will exit at Intersection 22.

Traffic Impact Analysis

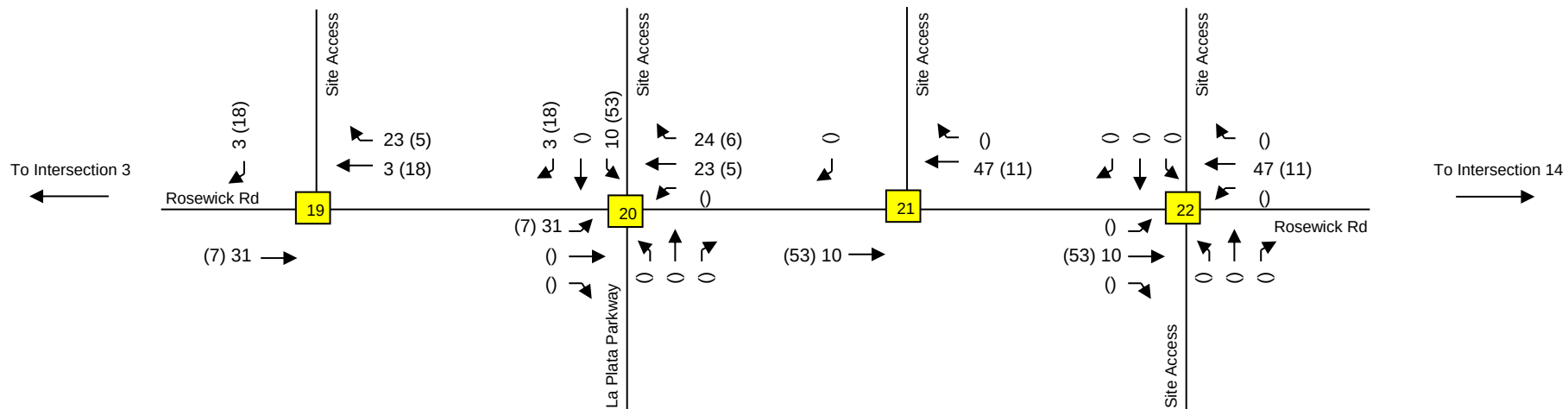


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General Office Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10v**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
2. The trips associated with the Medical Office portion of Neighborhood P are accessed at Intersections 19 and 20
- 100% of inbound trips from the west will enter at Intersection 20.
 - 50% of inbound trips from the east will enter at Intersection 19 and 50% at Intersection 20.
 - 50 % of outbound trips to the west will exit at Intersection 19 and 50% at Intersection 20.
 - 100% of outbound trips to the east will exit at Intersection 20.

Traffic Impact Analysis

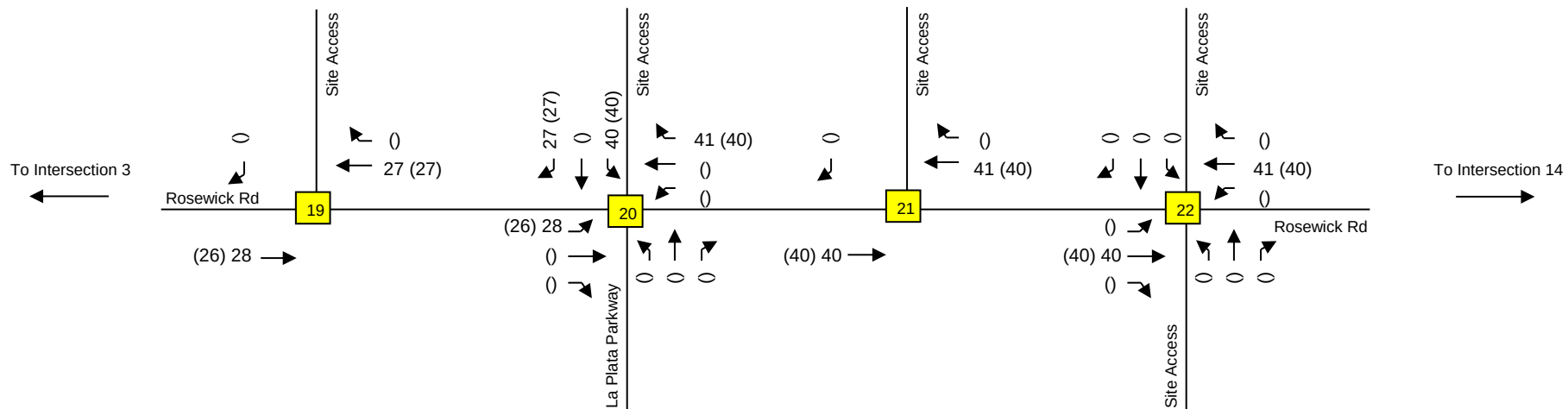


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Medical Office Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10w**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
 2. The primary trips associated with the Convenience Store/Gas Station portion of Neighborhood P are accessed at Intersection 20

Traffic Impact Analysis

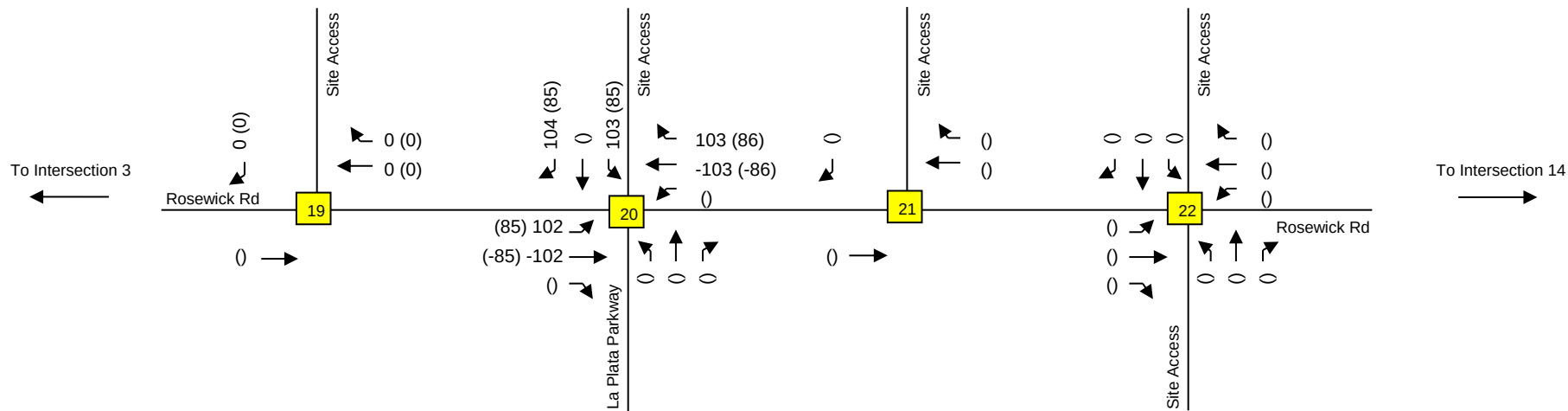


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Convenience Market Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10x**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
 2. 50% of pass-by trips will be from the west and 50% from the east, based on the background volumes on Exhibit 5c.
 3. The primary trips associated with the Convenience Store/Gas Station portion of Neighborhood P are accessed at Intersection 20

Traffic Impact Analysis

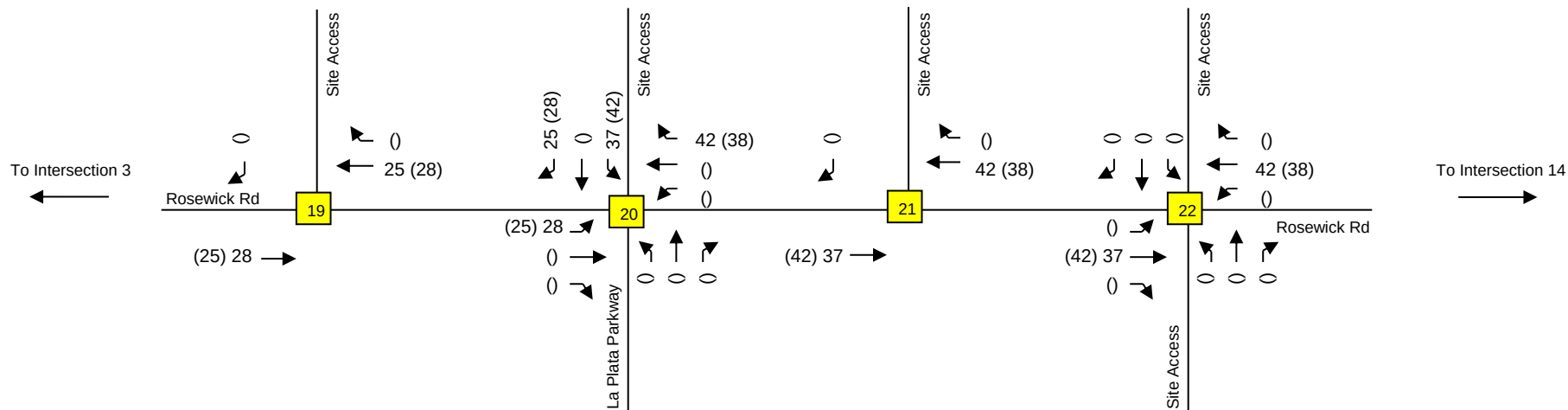


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Shopping Center Pass-by Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10y**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
 2. The primary trips associated with the Day Care portion of Neighborhood P are accessed at Intersection 20

Traffic Impact Analysis

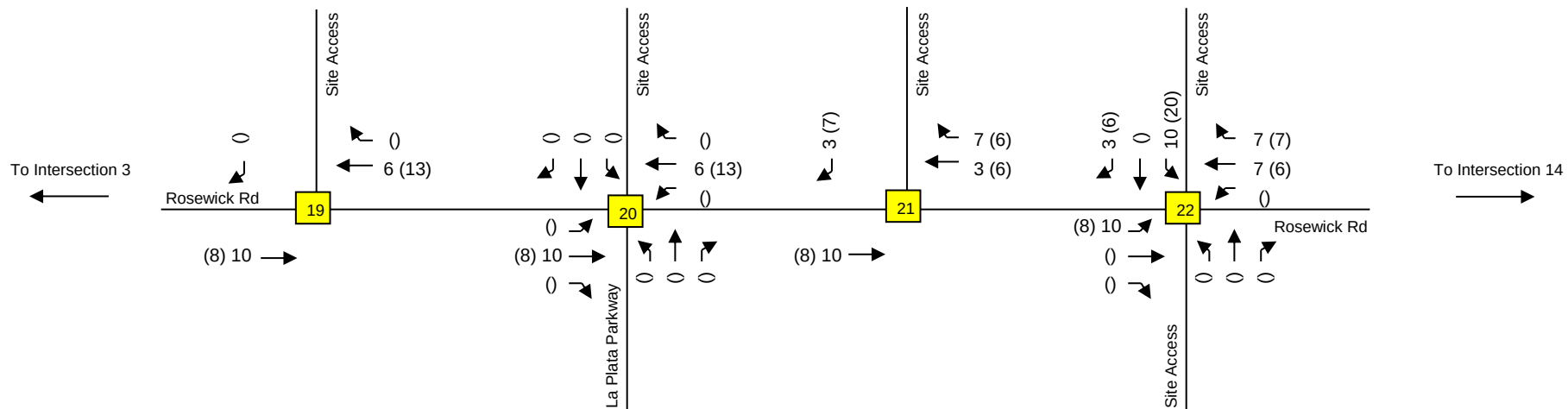


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Day Care Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10z**



- Notes:
1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
 2. The trips associated with the Assisted Living portion of Neighborhood P are accessed at Intersections 21 and 22
 - a. 100% of inbound trips from the west will enter at Intersection 22.
 - b. 50% of inbound trips from the east will enter at Intersection 21 and 50% at Intersection 22.
 - c. 50 % of outbound trips to the west will exit at Intersection 21 and 50% at Intersection 22.
 - d. 100% of outbound trips to the east will exit at Intersection 22.

Traffic Impact Analysis

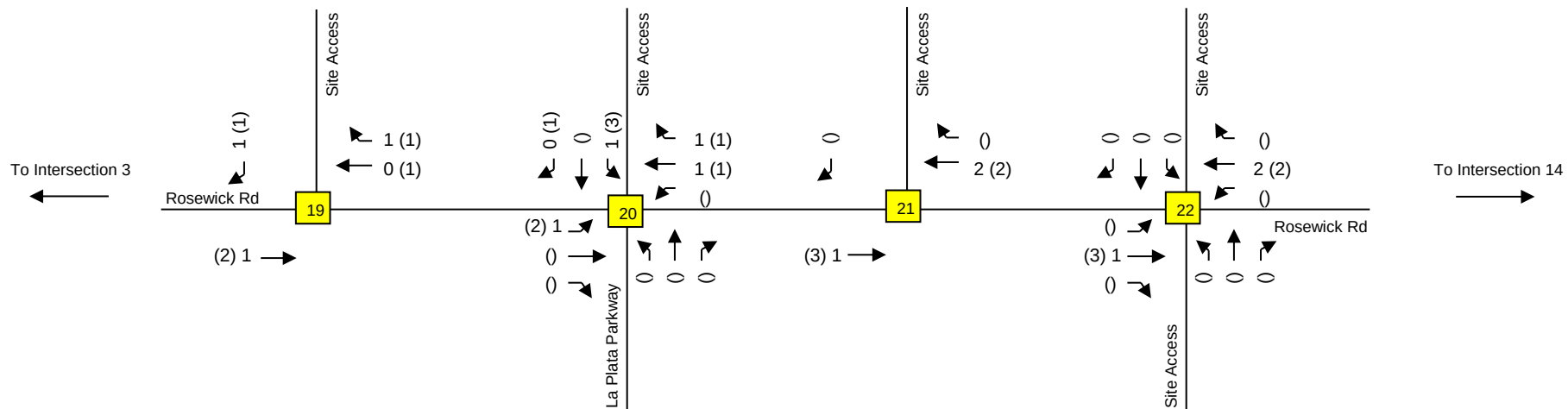


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Assisted Living Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10aa**



- Notes: 1. Neighborhood P is located entirely on the portion of the site north of Rosewick Rd.
2. The trips associated with the Mini-Warehouse portion of Neighborhood P are accessed at Intersections 19 and 20.
- 100% of inbound trips from the west will enter at Intersection 20.
 - 50% of inbound trips from the east will enter at Intersection 19 and 50% at Intersection 20.
 - 50 % of outbound trips to the west will exit at Intersection 19 and 50% at Intersection 20.
 - 100% of outbound trips to the east will exit at Intersection 20.

Traffic Impact Analysis

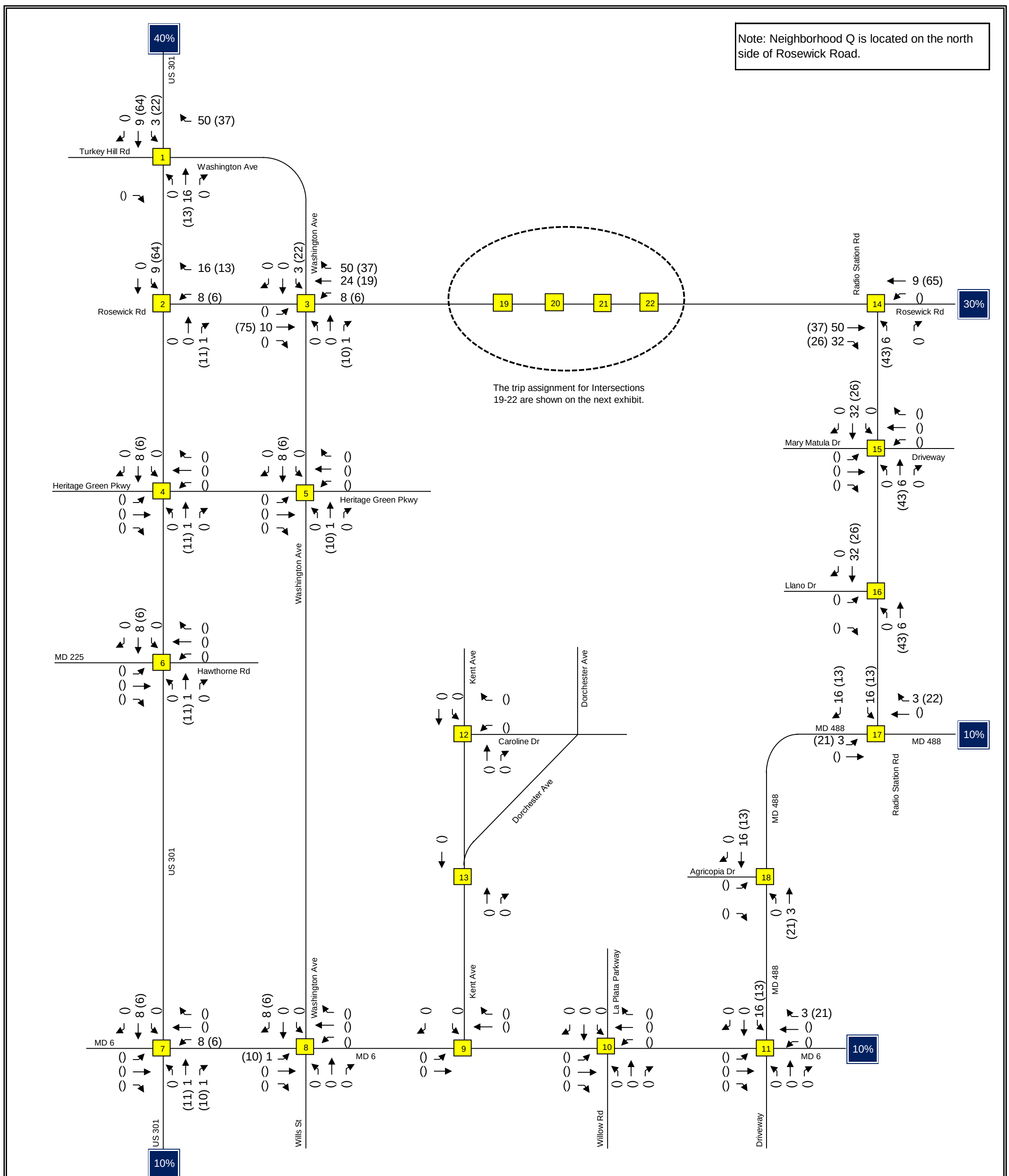


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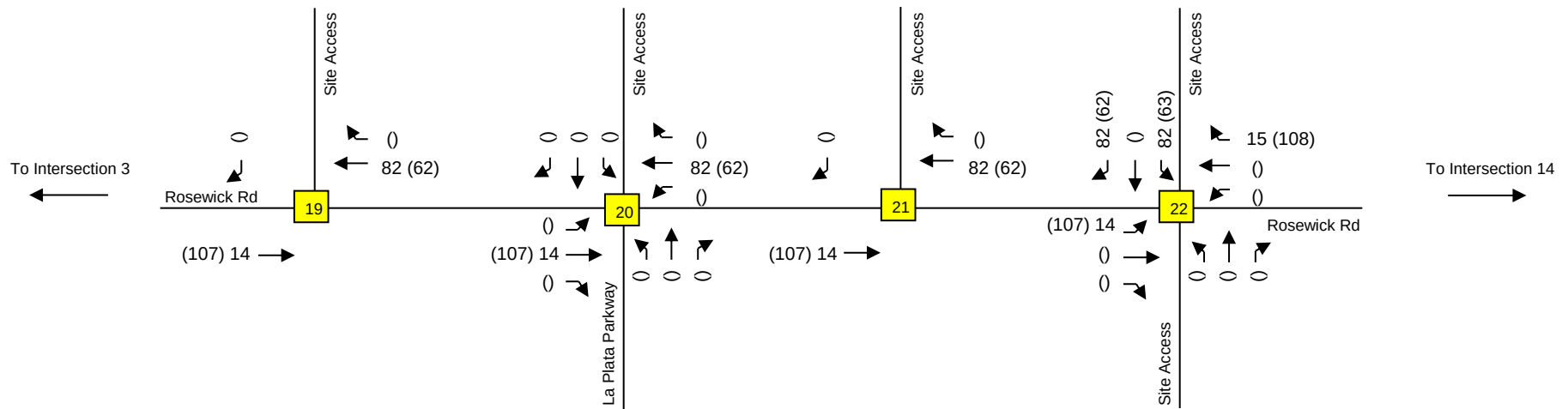
Mini-Warehouse Primary Trip Assignment for Neighborhood P Through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10bb**



Traffic Impact Analysis  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment for Neighborhood Q	Exhibit 10cc
	Full Build Out Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	



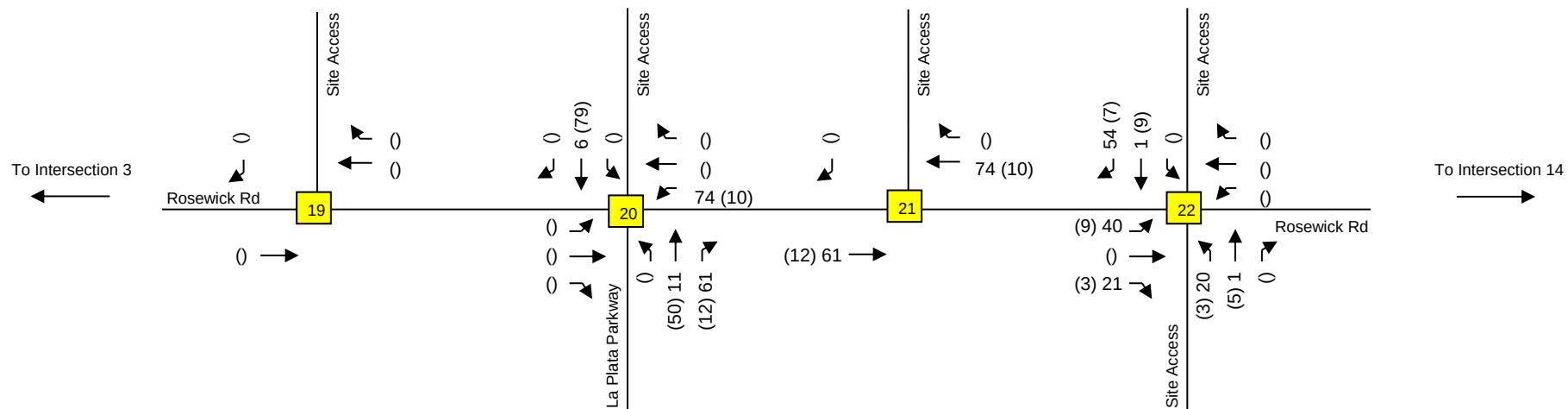
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Trip Assignment for Neighborhood Q Through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
10dd**



Notes: 1. Internal Trips assigned on this exhibit consist of the following:

- Trips associated with the residential portion of the development located south of Rosewick Road (Not including Neighborhood B) to/from the commercial portion located north of Rosewick Road.
- Trips associated with Neighborhood Q located north of Rosewick Road to/from the elementary school located south of Rosewick Road.
- Trips associated with Neighborhood B to/from the commercial portion and to/from the elementary school. The south leg of Intersection 22 provides exclusive access to Neighborhood B.

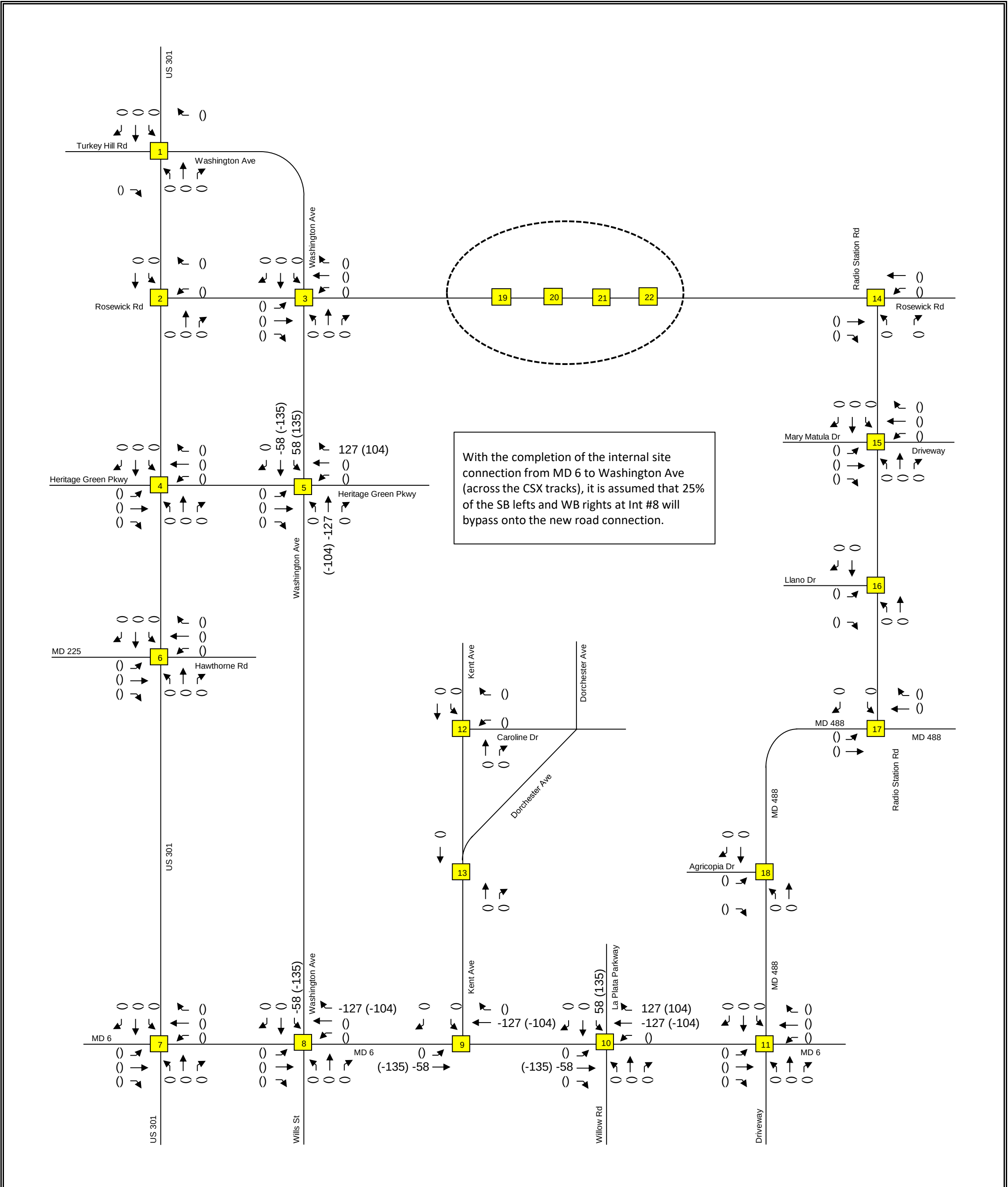
Traffic Impact Analysis

Internal Trip Assignment Across Rosewick Road Full Build Out

**Exhibit
10ee**

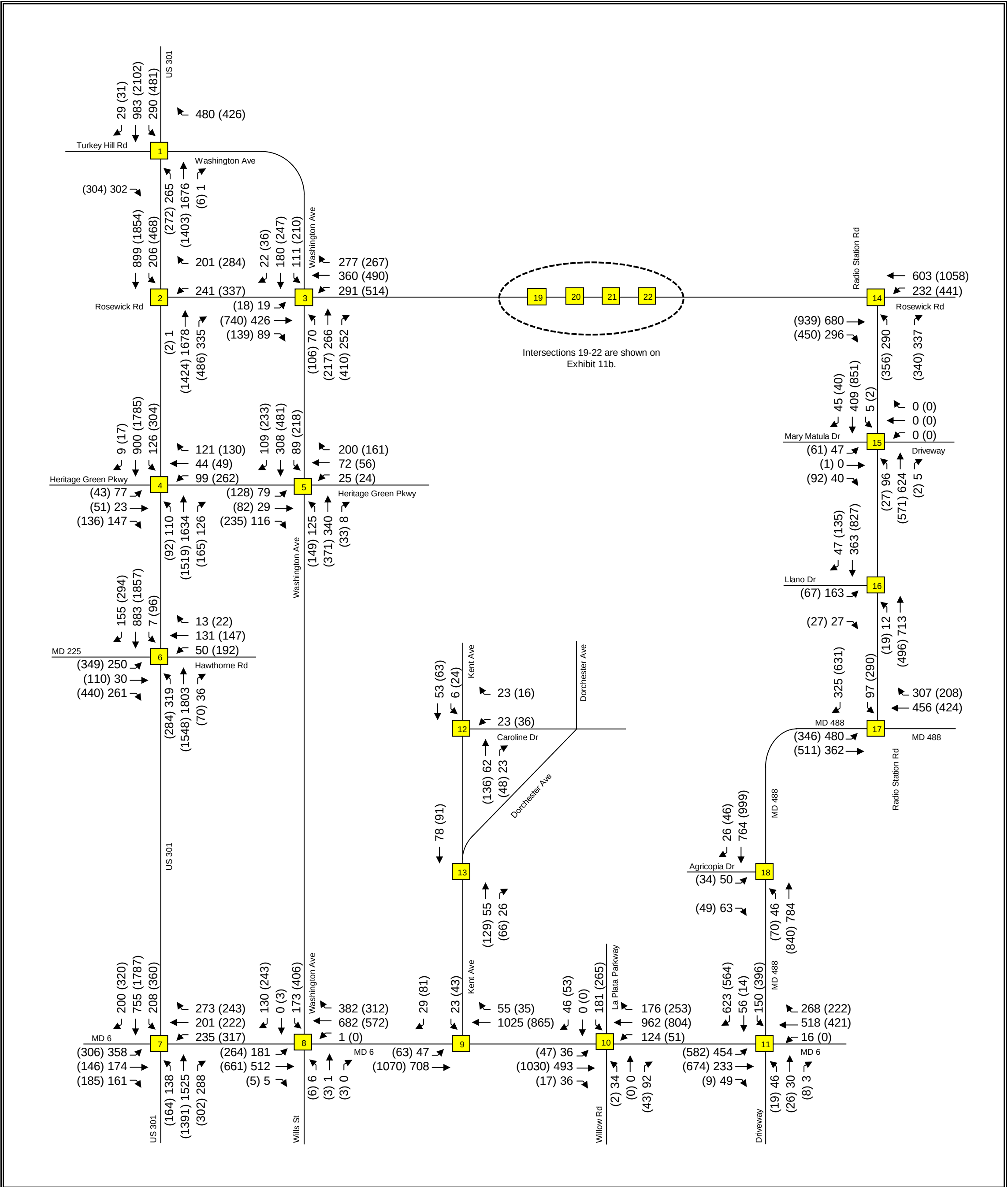
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Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

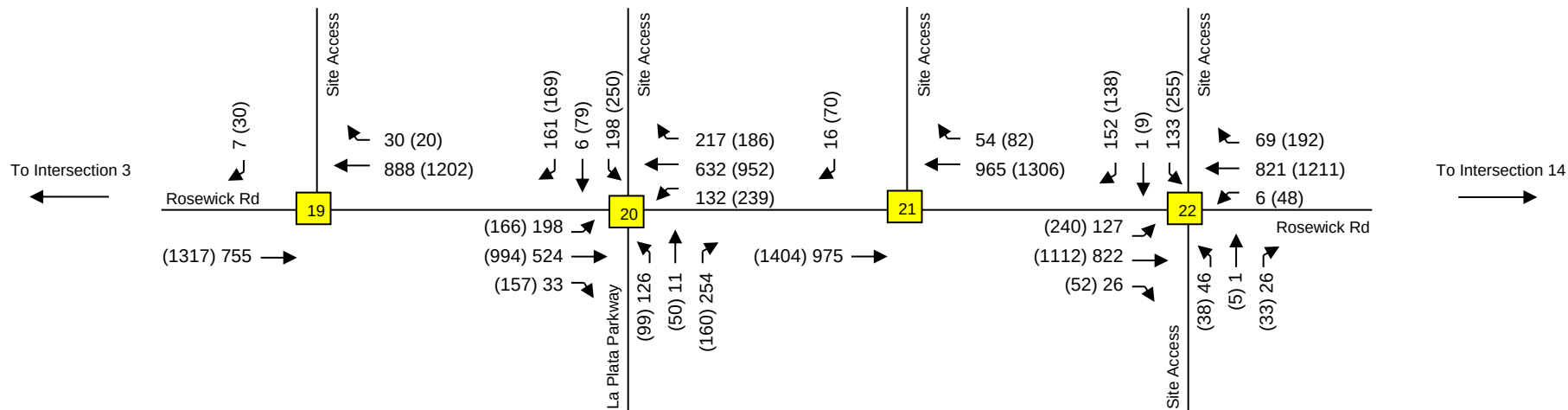


Traffic Impact Analysis		Diverted Background Volumes Due to Construction of La Plata Parkway - Full Build Out	Exhibit 10ff
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Key: xx = AM Peak Vol's (xx) = PM Peak Vol's



Traffic Impact Analysis		Total Peak Hour Volumes Full Build Out	Exhibit 11a
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Total Peak Hour Volumes through Site Access Points - Full Build Out

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
11b**

Full Build Out Level of Service Results

Morning Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	Unsignalized	A / 700	B / 1040	C / 1212
2). US 301 & Rosewick Rd	Signalized	A / 749	B / 1126	C / 1274
<i>With Potential Improvements</i>		--	--	C / 1181
3). Rosewick Rd & Washington Ave	Signalized	A / 538	A / 669	A / 902
4). US 301 & Heritage Green Pkwy	Signalized	A / 828	C / 1160	C / 1211
5). Heritage Green Pkwy & Washington Ave	Unsignalized	A / 601	A / 550	A / 990
6). US 301 & MD 225/Hawthorne Rd	Signalized	B / 1008	D / 1369	D / 1393
<i>With Potential Improvements</i>		--	--	C / 1293
7). US 301 & MD 6	Signalized	C / 1161	E / 1543	F / 1628
<i>With Potential Improvements</i>		--	--	E / 1545
8). MD 6 & Washington Ave	Signalized	A / 876	B / 1084	C / 1189
<i>With Potential Improvements</i>		--	--	B / 1092
9). MD 6 & Kent Ave	Unsignalized	B / 1048	C / 1226	B / 1150
10). MD 6 & Willow Rd/La Plata Parkway	Unsignalized	A / 992	C / 1162	C / 1231
11). MD 6 & MD 488	Signalized	A / 998	C / 1181	C / 1256
12). Kent Ave & Caroline Dr	Unsignalized	A / 106	A / 123	A / 137
13). Kent Ave & Dorchester Ave	Unsignalized	A / 68	A / 79	A / 81
14). Rosewick Rd & Radio Station Rd	Signalized	A / 464	A / 562	A / 896
15). Radio Station Rd & Mary Matula Dr	Unsignalized	A / 469	A / 558	A / 726
16). Radio Station Rd & Llano Dr	Unsignalized	A / 679	A / 727	A / 876
17). MD 488 & Radio Station Rd	Unsignalized	A / 953	B / 1127	D / 1340
18). Radio Station Rd & Agricopia Dr	Unsignalized	A / 641	A / 768	A / 860
19). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 495
20). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 866
21). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 552
22). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 778
Evening Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	Unsignalized	A / 860	C / 1230	D / 1428
2). US 301 & Rosewick Rd	Signalized	A / 804	B / 1143	E / 1453
<i>With Potential Improvements</i>		--	--	C / 1242
3). Rosewick Rd & Washington Ave	Signalized	A / 758	A / 953	D / 1348
4). US 301 & Heritage Green Pkwy	Signalized	B / 1002	D / 1323	D / 1420
5). Heritage Green Pkwy & Washington Ave	Unsignalized	A / 801	A / 853	E / 1459
6). US 301 & MD 225/Hawthorne Rd	Signalized	C / 1264	F / 1677	F / 1709
<i>With Potential Improvements</i>		--	--	F / 1653
7). US 301 & MD 6	Signalized	C / 1267	F / 1634	F / 1741
<i>With Potential Improvements</i>		--	--	F / 1741
8). MD 6 & Washington Ave	Signalized	C / 1212	E / 1476	E / 1535
<i>With Potential Improvements</i>		--	--	D / 1449
9). MD 6 & Kent Ave	Unsignalized	B / 1021	C / 1195	B / 1113
10). MD 6 & Willow Rd/La Plata Parkway	Unsignalized	B / 1106	C / 1293	D / 1392
11). MD 6 & MD 488	Signalized	B / 1071	C / 1266	D / 1447
12). Kent Ave & Caroline Dr	Unsignalized	A / 215	A / 250	A / 260
13). Kent Ave & Dorchester Ave	Unsignalized	A / 155	A / 180	A / 195
14). Rosewick Rd & Radio Station Rd	Signalized	A / 744	A / 889	D / 1313
15). Radio Station Rd & Mary Matula Dr	Unsignalized	A / 700	A / 824	B / 1042
16). Radio Station Rd & Llano Dr	Unsignalized	A / 665	A / 711	A / 913
17). MD 488 & Radio Station Rd	Unsignalized	A / 754	A / 904	C / 1268
18). Radio Station Rd & Agricopia Dr	Unsignalized	A / 803	A / 951	B / 1103
19). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 754
20). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	B / 1086
21). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 842
22). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	C / 1199

Traffic Impact Analysis



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Results of CLV Level of Service Analyses
Full Build Out

**Exhibit
12a**

Full Build Out HCM Level of Service Results

Morning Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	Partial Signal			
2). US 301 & Rosewick Rd	Signalized	A / 8.1	B / 13.6	C / 20.1
With Potential Improvements		--	--	B / 14.8
3). Rosewick Rd & Washington Ave	Signalized	B / 17.2	B / 18.7	C / 21.0
4). US 301 & Heritage Green Pkwy	Signalized	C / 26.5	C / 30.3	C / 32.7
5). Heritage Green Pkwy & Washington Ave	Unsignalized	A / 4.2	A / 5.8	F / 88.2
6). US 301 & MD 225/Hawthorne Rd	Signalized	C / 32.5	D / 42.4	D / 43.8
With Potential Improvements		--	--	D / 35.3
7). US 301 & MD 6	Signalized	D / 46.2	F / 81.1	F / 88.4
With Potential Improvements		--	--	F / 73.7
8). MD 6 & Washington Ave	Signalized	C / 25.3	C / 27.6	C / 32.0
With Potential Improvements		--	--	C / 30.0
9). MD 6 & Kent Ave	Unsignalized	A / 0.6	A / 0.7	A / 0.9
10). MD 6 & Willow Rd/La Plata Parkway	Unsignalized	A / 4.0	A / 8.8	C / 30.8
11). MD 6 & MD 488	Signalized	C / 24.8	C / 32.5	D / 42.2
12). Kent Ave & Caroline Dr	Unsignalized	A / 1.9	A / 1.9	A / 2.5
13). Kent Ave & Dorchester Ave	Unsignalized	A / 0.0	A / 0.0	A / 0.0
14). Rosewick Rd & Radio Station Rd	Signalized	B / 17.9	B / 19.7	C / 23.2
15). Radio Station Rd & Mary Matula Dr	Unsignalized	A / 1.8	A / 2.0	A / 2.7
16). Radio Station Rd & Llano Dr	Unsignalized	A / 3.6	A / 4.2	B / 10.4
17). MD 488 & Radio Station Rd	Unsignalized	A / 6.5	B / 10.3	F / >200
18). Radio Station Rd & Agricopia Dr	Unsignalized	A / 1.2	A / 1.7	A / 6.3
19). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 0.1
20). Rosewick Rd & La Plata Parkway/Site Access	Unsignalized	N/A	N/A	C / 20.1
21). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 0.1
22). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	B / 15.8
Evening Peak Hour		Existing LOS	Background LOS	Total LOS
1). US 301 & Washington Ave/Turkey Hill Rd	Partial Signal			
2). US 301 & Rosewick Rd	Signalized	A / 8.5	B / 13.5	C / 28.0
With Potential Improvements		--	--	B / 18.2
3). Rosewick Rd & Washington Ave	Signalized	C / 21.3	C / 25.0	D / 44.3
4). US 301 & Heritage Green Pkwy	Signalized	D / 37.4	D / 45.0	D / 51.8
5). Heritage Green Pkwy & Washington Ave	Unsignalized	A / 8.5	D / 29.7	F / >200
6). US 301 & MD 225/Hawthorne Rd	Signalized	D / 42.3	E / 82.6	F / 89.3
With Potential Improvements		--	--	E / 74.2
7). US 301 & MD 6	Signalized	D / 50.7	F / 126	F / 141.9
With Potential Improvements		--	--	F / 99.7
8). MD 6 & Washington Ave	Signalized	D / 40.2	E / 69.8	F / 99.9
With Potential Improvements		--	--	E / 61.8
9). MD 6 & Kent Ave	Unsignalized	A / 1.3	A / 1.7	A / 1.9
10). MD 6 & Willow Rd/La Plata Parkway	Unsignalized	A / 7.4	C / 20.8	D / 39.2
11). MD 6 & MD 488	Signalized	D / 38.9	D / 38.4	D / 53.8
12). Kent Ave & Caroline Dr	Unsignalized	A / 1.9	A / 2.0	A / 2.3
13). Kent Ave & Dorchester Ave	Unsignalized	A / 0.0	A / 0.0	A / 0.0
14). Rosewick Rd & Radio Station Rd	Signalized	B / 17.3	B / 19.3	D / 36.4
15). Radio Station Rd & Mary Matula Dr	Unsignalized	A / 2.4	A / 3.3	A / 8.9
16). Radio Station Rd & Llano Dr	Unsignalized	A / 1.3	A / 1.4	A / 3.0
17). MD 488 & Radio Station Rd	Unsignalized	D / 26.2	F / >200	F / >200
18). Radio Station Rd & Agricopia Dr	Unsignalized	A / 1.1	A / 1.6	A / 7.7
19). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 0.2
20). Rosewick Rd & La Plata Parkway/Site Access	Unsignalized	N/A	N/A	C / 21.2
21). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	A / 0.3
22). Rosewick Rd & Site Access	Unsignalized	N/A	N/A	D / 46.5

See Note 1

See Note 1

See Note 1

See Note 3

See Note 1

- Notes: 1. These intersections fail as unsignalized intersections and it's anticipated that they will be signalized, as needed, at some point during buildout.
2. The background conditions in this table do NOT include the trips from the Partial Build. Those were zeroed out and added into the total traffic to capture overall impact of site.
3. The Total Conditions analysis assumes signal phasing adjustments due to the large amount of trips generated by the site.

Traffic Impact Analysis	Results of HCM Level of Service Analyses Full Build Out	Exhibit 12b
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

List of Approved Improvements:

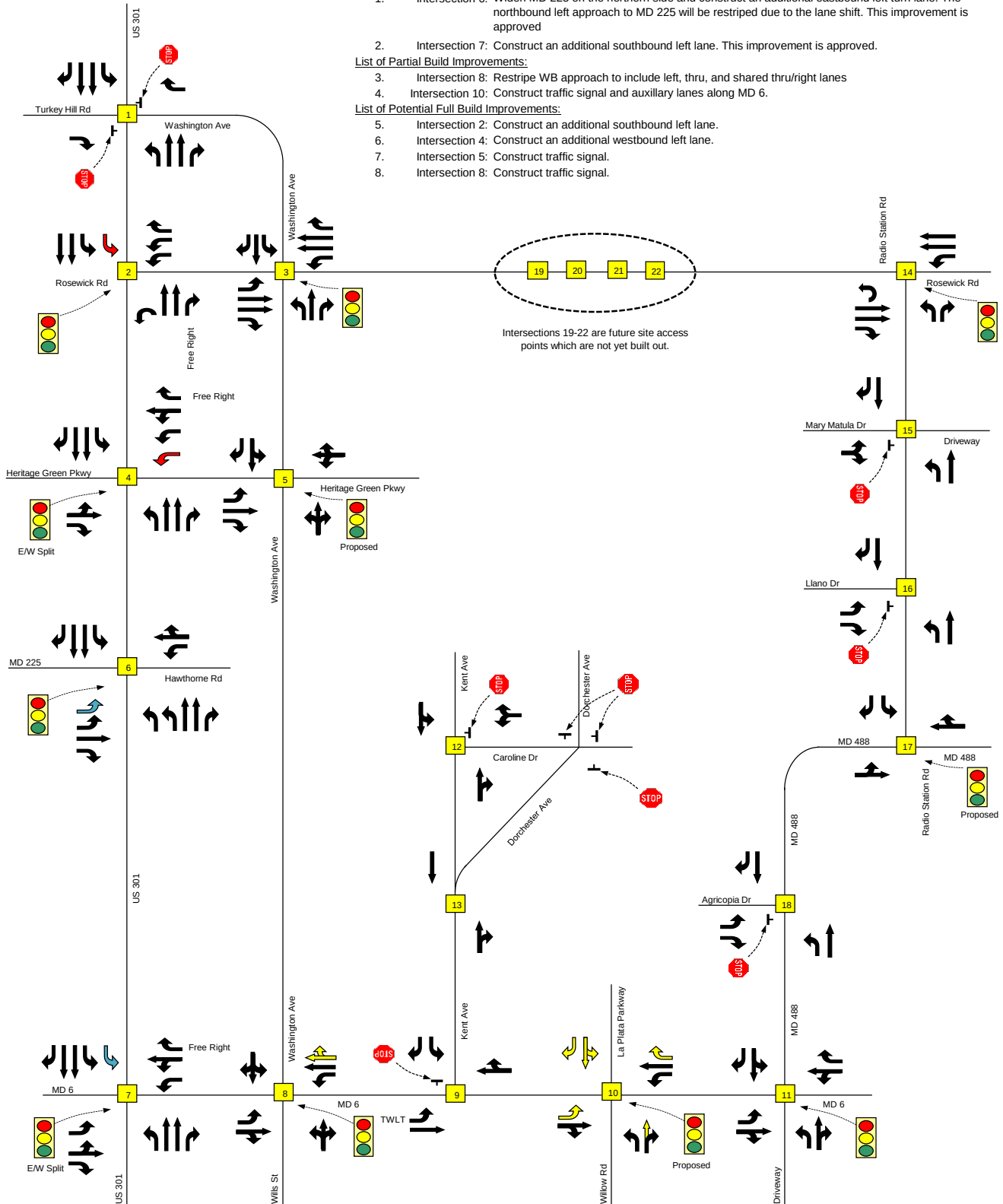
1. Intersection 6: Widen MD 225 on the northern side and construct an additional eastbound left turn lane. The northbound left approach to MD 225 will be restriped due to the lane shift. This improvement is approved
2. Intersection 7: Construct an additional southbound left lane. This improvement is approved.

List of Partial Build Improvements:

3. Intersection 8: Restripe WB approach to include left, thru, and shared thru/right lanes
4. Intersection 10: Construct traffic signal and auxiliary lanes along MD 6.

List of Potential Full Build Improvements:

5. Intersection 2: Construct an additional southbound left lane.
6. Intersection 4: Construct an additional westbound left lane.
7. Intersection 5: Construct traffic signal.
8. Intersection 8: Construct traffic signal.



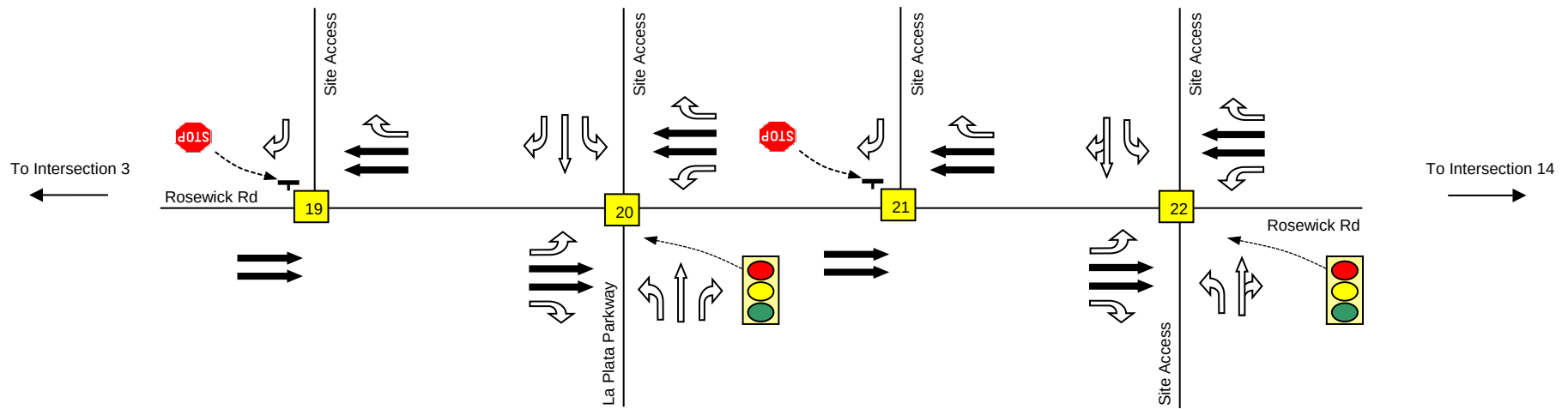
Traffic Impact Analysis

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Lane Use & Traffic Control Devices
with Full Build Out Potential Improvements

→ - Existing → - Approved → - Partial Build Imp. → - Full Build Imp.

Exhibit
12c



Traffic Impact Analysis



LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
www.lenharttraffic.com

Lane Use & Traffic Control Devices for Full Build Out through Site Access Points

 - Existing
  - Proposed

**Exhibit
 12d**

Section 5 Conclusions / Recommendations

5.1 Results of Analyses

A Traffic Impact Analysis (TIA) was previously approved for the Pinegrove development (previously referred to as Heritage Green). This approval includes a condition to update the TIA prior to the issuance of every 750 residential unit building permits, or every three years, whichever occurs first. The previous approval included 236 units in Neighborhood A, 176 units in Neighborhood K, and 68 units in Neighborhood O, for a total of 480 approved units. The applicant is now pursuing approval for Phase 1 of Neighborhood Q, which will include 288 multifamily units, thus exceeding the 750-unit threshold to require an updated TIA. Neighborhood Q will be accessed with a full movement access point along Rosewick Road.

This TIA analyzes the development in two scenarios; a partial build out, to secure approval of Phase 1 of Neighborhood Q, and the full build out of the development, to ensure that adequate roadway improvements are identified to mitigate the impacts of the development on intersections failing to reach adequate level of service. The partial build out scenario, which, again, is the primary purpose of this TIA, includes the entirety of Neighborhood Q (rather than just the 288 multifamily units of Phase 1) and Neighborhood B in addition to approved Neighborhoods A, K, and O, for the reasons discussed below.

The design plan for Neighborhood B has been modified since the approval of the previous TIA. Due to changing market conditions, Neighborhood B is now proposed to include 89 build to rent townhomes and 105 build to rent single family detached units, rather than the previously proposed age-restricted units. With this modification, access to Neighborhood B is now proposed along Rosewick Road, directly across from the proposed full movement access for Neighborhood Q, creating a 4-leg intersection. A concept plan for the entire site is included in Appendix A, and shows the proposed access point discussed above. In order to assess the ultimate design requirements for this access point, the entirety of the Neighborhood Q, which will include up to 846 multifamily units, and Neighborhood B are included in the analysis along with the previously approved Neighborhoods A, K, and O.

Based on the analyses contained in this report:

- All the study intersections will continue to operate with an acceptable LOS with the partial build out of the development with the exception of the intersections of US 301 & MD 6, US 301 & MD 225/Hawthorne Road, MD 488 & Radio Station Road, and MD 6 & Washington Avenue.
 - Improvements have been identified that would mitigate the impact of the partial build out of the development on the intersections of US 301

& MD 6, US 301 & MD 225, and MD 6 & Washington Avenue.

- The improvements at the intersections of US 301 & MD 6 and US 301 & MD 225/Hawthorne Road are currently in the permitting process. The developer is aggressively pursuing the approval of these improvements.
 - MDOT SHA approval is required to begin the design and permitting process for the improvement identified for the intersection of MD 6 & Washington Avenue.
- MD 488 & Radio Station Road will continue to operate at LOS “D” or better using the CLV methodology. Additionally, this intersection is anticipated to require signalization at some point of the development.
- All the study intersections will continue to operate with an acceptable LOS for the full build out of the development with the exception of the intersections of US 301 & MD 225, US 301 & MD 6, US 301 & Rosewick Road, Heritage Green Parkway & Washington Avenue, MD 6 & Washington Avenue, MD 6 & Kent Avenue, MD 488 & Radio Station Road. The Traffic Impact Analysis will be updated for each 750th building permit to confirm the traffic conditions as the site continues to build out, and these intersections will be assessed at that time.
 - Improvements have been identified that would mitigate the impact of the full build out of the development on the intersections of US 301 & MD 6, US 301 & MD 225, MD 6 & Washington Avenue, US 301 & Rosewick Road.
 - Heritage Green Parkway & Washington Avenue and MD 488 & Radio Station Road are anticipated to be signalized with the full build out of the development. TSWAs were not conducted for the full build out as it is assumed that traffic conditions will change over the course of the build out and analyzing them at this time would not accurately reflect the future conditions.
 - MD 6 & Kent Avenue will continue to operate with a LOS “B” or better using the CLV methodology under total conditions. As this intersection is located along an MDOT SHA maintained roadway, this should be the primary method of analysis and should be considered to operate adequately. The existing two-way left-turn lane along MD 6 was not considered in the initial analysis. With the inclusion of the two-way left-turn lane in the analyses, the HCM analyses indicate adequate LOS for the overall intersection as well as the minor street approach along Kent Avenue.

In light of the results of this study, the Preliminary Plan for 288 multifamily units in Neighborhood Q should be approved.

Appendix A

Supplemental Information
Intersection Aerials
Turning Movement Counts



PINE GROVE

DRAFT ILLUSTRATIVE SITE PLAN
DATE: FEBRUARY 2023

D-R-HORTON
America's Builder

RODGERS
CONSULTING
18000 Centre Business Park Lane, Suite 200, Rockville, Maryland 20850
Tel: 301.764.4700 Fax: 301.764.4701 www.rodgersconsulting.com

BLDG #	BLDG TYPE	BLDG AREA (SF)
1	RETAIL	2,500
2	RETAIL	3,500
3	RETAIL	2,500
4	RETAIL	2,500
5	RETAIL	60,000
6	RETAIL	10,000
7	RETAIL	2,000
8	RETAIL	2,000
9	RESTAURANT	4,000
10	RESTAURANT	6,500
11	RETAIL	5,000
12	RETAIL	5,000
13	RETAIL	5,000
14	RETAIL	5,000
15	RESTAURANT	8,000
16	RESTAURANT	6,500
17	RESTAURANT	6,500
18	FUEL/CONV.	6,000
19	RETAIL	6,500
20	RETAIL	6,500
21	RETAIL	6,500
22	RETAIL	6,500
23	ASSISTED LIVING	77,000 (±224 UNITS)
24	OFFICE	8,600
25	OFFICE	11,000
26	OFFICE	7,200
27	OFFICE	7,200
28	MEDICAL/ OFFICE	20,000
29	MEDICAL/ OFFICE	20,000
30	STORAGE	15,000
31	STORAGE	15,000
32	FLEX	5,000
33	FLEX	5,000
34	FLEX	5,000
35	FLEX	5,000
36	FLEX	5,000
37	FLEX	5,000
38	DAYCARE	12,000
39	CIVIC	1,500

Legend

Retail/Restaurant- 168,500 SF

Assisted Living- 77,000 SF

Office/Medical Office- 74,000 SF

Storage/Flex- 60,000 SF

Daycare- 12,000 SF

Civic Space- 1,500 SF

OVERALL PROVIDED PARKING: 1,726 SPACES



DISTRICT P & Q

Alternative A



Precedent Images



A

Entrance into the retail core via a causeway through the pond creates a grand and beautiful welcome.



B

Restaurants and boardwalk along the pond offers a unique experience for visitors.



C

Public art and branding signage in outdoor dining and plaza spaces creates a distinct retail experience.



D

Splash pad offers an opportunity for visitors to cool off and creates a connection to the nearby pond.



E

Two-story office buildings provide spaces for smaller businesses and essential neighborhood services.



F

Vinyl sheet piling along east side of the pond creates a clean edge.



G

Establish a safe and comfortable pedestrian network to connect residents and visitors to shops, restaurants, and parks in the neighborhood.



H

Neighborhood park is framed by apartments and senior housing and gives residents a place to gather, relax, and play.

TRAFFIC GROWTH PROJECTION

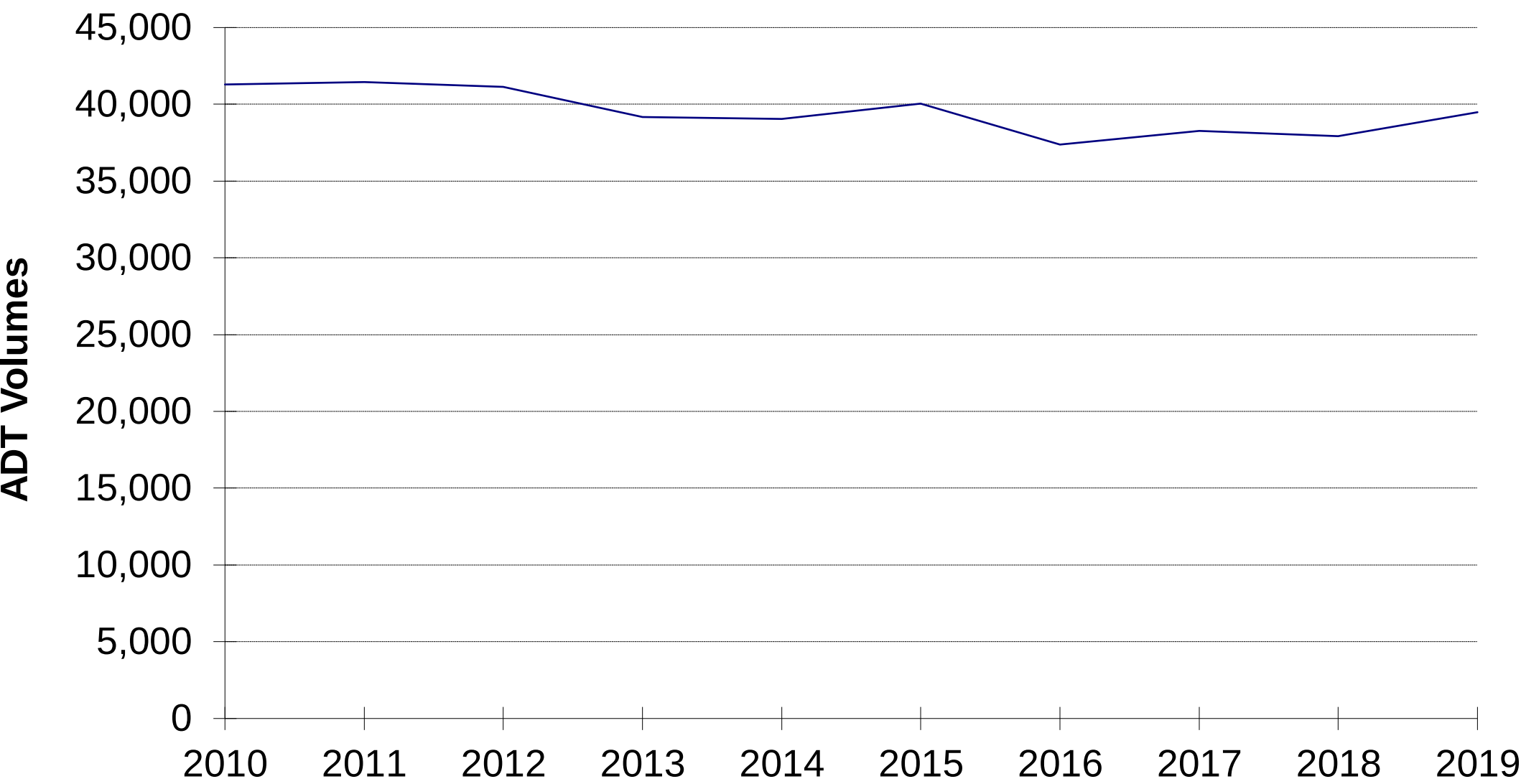
LOCATION: US 301 north of MD 225

REPORT DATE: 21-Jul-20

AVERAGE GROWTH: -0.40%

MATHEMATICAL GROWTH: -0.45%

Year	ADT Volume	Vol. increase	% increase	Average %
2010	41,280			
2011	41,451	171	0.41%	0.21%
2012	41,122	-329	-0.79%	-0.13%
2013	39,160	-1,962	-4.77%	-1.29%
2014	39,041	-119	-0.30%	-1.09%
2015	40,062	1,021	2.62%	-0.47%
2016	37,380	-2,682	-6.69%	-1.36%
2017	38,281	901	2.41%	-0.89%
2018	37,942	-339	-0.89%	-0.89%
2019	39,470	1,528	4.03%	-0.40%



TRAFFIC GROWTH
US 301 north of MD 225



Aerial
Diagram

Intersection: US 301 & Washington Ave/Turkey Hill Rd

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

US 301						US 301					Washington Ave					Turkey Hill 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	5	18	1	24	0	2	19	0	21	0	0	0	2	2	0	0	0	2	2	49
00:15:00	0	0	18	1	19	0	1	14	0	15	0	0	0	1	1	0	0	0	3	3	38
00:30:00	0	1	14	0	15	0	1	6	1	8	0	0	0	3	3	0	0	0	1	1	27
00:45:00	0	0	8	0	8	0	2	14	0	16	0	0	0	1	1	0	0	0	2	2	27
01:00:00	0	0	15	0	15	0	3	6	0	9	0	0	0	1	1	0	0	0	4	4	29
01:15:00	0	3	12	0	15	0	2	6	0	8	0	0	0	0	0	0	0	0	5	5	28
01:30:00	0	1	7	0	8	0	2	15	0	17	0	0	0	0	0	0	0	0	1	1	26
01:45:00	0	2	12	0	14	0	1	8	0	9	0	0	0	1	1	0	0	0	0	0	24
02:00:00	0	7	12	0	19	0	1	7	0	8	0	0	0	1	1	0	0	0	1	1	29
02:15:00	0	0	10	0	10	0	3	16	0	19	0	0	0	0	0	0	0	0	2	2	31
02:30:00	0	1	9	0	10	0	0	14	0	14	0	0	0	0	0	0	0	0	1	1	25
02:45:00	0	0	6	0	6	0	2	15	0	17	0	0	0	0	0	0	0	0	0	0	23
03:00:00	0	1	10	1	12	0	5	13	0	18	0	0	0	2	2	0	0	0	7	7	39
03:15:00	0	0	14	0	14	0	8	27	0	35	0	0	0	5	5	0	0	0	2	2	56
03:30:00	0	2	11	0	13	0	4	30	0	34	0	0	0	1	1	0	0	0	0	0	48
03:45:00	0	0	16	0	16	0	7	34	0	41	0	0	0	3	3	0	0	0	2	2	62
04:00:00	0	2	8	0	10	0	15	48	0	63	0	0	0	7	7	0	0	0	1	1	81
04:15:00	0	1	19	0	20	0	21	59	0	80	0	0	0	8	8	0	0	0	2	2	110
04:30:00	0	0	16	0	16	0	20	72	1	93	0	0	0	10	10	0	0	0	1	1	120
04:45:00	0	5	22	2	29	0	21	106	0	127	0	0	0	12	12	0	0	0	1	1	169
05:00:00	0	3	29	0	32	0	40	105	0	145	0	0	0	8	8	0	0	0	7	7	192
05:15:00	0	16	35	1	52	0	43	117	1	161	0	0	0	20	20	0	0	0	8	8	241
05:30:00	0	3	44	1	48	0	44	137	0	181	0	0	0	12	12	0	0	0	15	15	256
05:45:00	0	7	55	0	62	0	51	144	0	195	0	0	0	23	23	0	0	0	14	14	294
06:00:00	0	10	65	0	75	0	34	133	0	167	0	0	0	28	28	0	0	0	12	12	282
06:15:00	0	17	78	2	97	0	46	157	0	203	0	0	0	25	25	0	0	0	19	19	344
06:30:00	2	23	90	2	117	0	41	161	0	202	0	0	0	49	49	0	0	0	38	38	406
06:45:00	0	36	126	4	166	0	53	186	0	239	0	0	0	30	30	0	0	0	51	51	486
07:00:00	0	28	121	2	151	0	53	190	0	243	0	0	0	29	29	0	0	0	56	56	479
07:15:00	0	25	108	1	134	0	66	211	0	277	0	0	0	43	43	0	0	0	50	50	504
07:30:00	0	36	108	2	146	0	72	264	1	337	0	0	0	50	50	0	0	0	61	61	594
07:45:00	0	43	142	1	186	0	48	262	0	310	0	0	0	46	46	0	0	0	66	66	608
08:00:00	1	49	166	13	229	0	55	222	0	277	0	0	0	33	33	0	0	0	57	57	596
08:15:00	2	35	171	9	217	0	53	222	0	275	0	0	0	34	34	0	0	0	76	76	602
08:30:00	0	20	155	3	178	0	41	191	0	232	0	0	0	30	30	0	0	0	53	53	493
08:45:00	0	33	143	1	177	0	28	208	1	237	0	0	0	27	27	0	0	0	56	56	497
09:00:00	0	27	145	3	175	0	34	186	1	221	0	0	0	36	36	0	0	0	42	42	474
09:15:00	0	29	181	5	215	0	34	197	2	233	0	0	0	30	30	0	0	0	47	47	525



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

US 301						US 301					Washington Ave					Turkey Hill Rd					
From North						From South					From East					From West					
09:30:00	0	40	206	0	246	0	26	190	1	217	0	0	0	30	30	0	0	0	48	48	541
09:45:00	0	29	188	3	220	0	41	188	1	230	0	0	0	26	26	0	0	0	48	48	524
10:00:00	0	30	160	1	191	1	32	228	0	261	0	0	0	26	26	0	0	0	46	46	524
10:15:00	0	28	153	3	184	1	34	200	0	235	0	0	0	23	23	0	0	0	40	40	482
10:30:00	0	29	187	1	217	0	35	200	4	239	0	0	0	37	37	0	0	0	30	30	523
10:45:00	0	39	177	2	218	0	32	224	1	257	0	0	0	31	31	0	0	0	33	33	539
11:00:00	0	19	206	3	228	2	36	182	1	221	0	0	0	37	37	0	0	0	46	46	532
11:15:00	0	34	202	6	242	1	37	223	0	261	0	0	0	31	31	0	0	0	40	40	574
11:30:00	0	42	226	6	274	0	40	214	1	255	0	0	0	25	25	0	0	0	47	47	601
11:45:00	0	32	190	3	225	0	29	186	1	216	0	0	0	22	22	0	0	0	45	45	508
12:00:00	0	37	219	1	257	0	40	183	1	224	0	0	0	33	33	0	0	0	38	38	552
12:15:00	0	45	179	7	231	0	39	192	1	232	0	0	0	20	20	0	0	0	38	38	521
12:30:00	0	36	206	4	246	0	32	208	2	242	0	0	0	21	21	0	0	0	55	55	564
12:45:00	0	32	189	4	225	0	36	214	0	250	0	0	0	39	39	0	0	0	48	48	562
13:00:00	0	29	210	5	244	0	43	216	0	259	0	0	0	33	33	0	0	0	36	36	572
13:15:00	0	49	246	2	297	0	42	222	1	265	0	0	0	23	23	0	0	0	45	45	630
13:30:00	0	48	204	3	255	0	42	213	2	257	0	0	0	30	30	0	0	0	43	43	585
13:45:00	0	58	210	5	273	0	56	191	3	250	0	0	0	41	41	0	0	0	45	45	609
14:00:00	0	55	223	6	284	0	49	214	2	265	0	0	0	28	28	0	0	0	55	55	632
14:15:00	0	46	231	2	279	0	38	188	1	227	0	0	0	31	31	0	0	0	39	39	576
14:30:00	0	39	241	3	283	1	60	228	1	290	0	0	0	51	51	0	0	0	48	48	672
14:45:00	0	66	255	2	323	0	39	181	3	223	0	0	0	36	36	0	0	0	58	58	640
15:00:00	1	63	247	13	324	0	44	188	1	233	0	0	0	38	38	0	0	0	57	57	652
15:15:00	0	47	264	12	323	0	54	168	0	222	0	0	0	29	29	0	0	0	81	81	655
15:30:00	0	63	270	12	345	0	32	181	2	215	0	0	0	32	32	0	0	0	77	77	669
15:45:00	0	34	255	5	294	0	55	194	4	253	0	0	0	28	28	0	0	0	72	72	647
16:00:00	0	49	268	4	321	0	65	165	0	230	0	0	0	47	47	0	0	0	53	53	651
16:15:00	0	48	291	10	349	0	43	128	1	172	0	0	0	22	22	0	0	0	70	70	613
16:30:00	0	59	314	8	381	0	58	189	4	251	0	0	0	48	48	0	0	0	62	62	742
16:45:00	0	49	285	11	345	0	59	244	0	303	0	0	0	33	33	0	0	0	80	80	761
17:00:00	0	60	256	3	319	0	57	186	1	244	0	0	0	34	34	0	0	0	70	70	667
17:15:00	0	63	283	5	351	1	59	197	0	257	0	0	0	20	20	0	0	0	50	50	678
17:30:00	0	27	286	5	318	0	52	167	1	220	0	0	0	33	33	0	0	0	47	47	618
17:45:00	0	53	227	8	288	0	56	159	2	217	0	0	0	26	26	0	0	0	50	50	581
18:00:00	0	31	202	5	238	0	40	153	1	194	0	0	0	27	27	0	0	0	65	65	524
18:15:00	0	29	241	4	274	0	57	137	0	194	0	0	0	20	20	0	0	0	47	47	535
18:30:00	0	26	183	5	214	0	33	131	0	164	0	0	0	16	16	0	0	0	42	42	436
18:45:00	0	32	195	3	230	0	29	138	0	167	0	0	0	25	25	0	0	0	40	40	462
19:00:00	0	29	154	6	189	0	40	138	0	178	0	0	0	21	21	0	0	0	27	27	415
19:15:00	0	34	163	3	200	0	33	115	0	148	0	0	0	13	13	0	0	0	26	26	387



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011 County: Charles Comments:
Date: 11/16/2022 12:00:00 AM Town: none
Location: US 301 at Turkey Hill Rd/Washington Ave 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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

US 301

US 301

Washington Ave

Turkey Hill Rd

From North

From South

From East

From West

19:30:00	0	22	118	3	143	0	35	116	1	152	0	0	0	17	17	0	0	0	28	28	340
19:45:00	0	21	146	5	172	1	31	107	0	139	0	0	0	18	18	0	0	0	36	36	365
20:00:00	0	20	114	2	136	0	20	115	0	135	0	0	0	15	15	0	0	0	18	18	304
20:15:00	0	18	138	3	159	1	26	98	0	125	0	0	0	14	14	0	0	0	17	17	315
20:30:00	0	20	78	1	99	0	19	72	0	91	0	0	0	10	10	0	0	0	19	19	219
20:45:00	0	18	102	0	120	0	18	83	0	101	0	0	0	11	11	0	0	0	16	16	248
21:00:00	0	13	80	2	95	0	27	87	1	115	0	0	0	11	11	0	0	0	14	14	235
21:15:00	0	8	74	0	82	1	17	60	0	78	0	0	0	17	17	0	0	0	21	21	198
21:30:00	0	16	64	1	81	0	12	45	0	57	0	0	0	5	5	0	0	0	9	9	152
21:45:00	0	11	59	3	73	0	10	54	0	64	0	0	0	5	5	0	0	0	10	10	152
22:00:00	0	4	51	0	55	0	12	63	0	75	0	0	0	5	5	0	0	0	12	12	147
22:15:00	0	6	50	1	57	0	17	52	0	69	0	0	0	7	7	0	0	0	7	7	140
22:30:00	0	1	48	0	49	0	11	44	1	56	0	0	0	9	9	0	0	0	9	9	123
22:45:00	0	4	39	0	43	0	7	26	0	33	0	0	0	4	4	0	0	0	11	11	91
23:00:00	0	3	34	2	39	0	11	46	2	59	0	0	0	6	6	0	0	0	5	5	109
23:15:00	0	4	26	0	30	0	9	23	0	32	0	0	0	3	3	0	0	0	6	6	71
23:30:00	0	6	24	0	30	0	8	28	0	36	0	0	0	3	3	0	0	0	6	6	75
23:45:00	0	4	20	0	24	0	1	22	0	23	0	0	0	2	2	0	0	0	7	7	56
TOTAL	6	2328	12376	272	14982	10	2972	12426	57	15465	0	0	0	1959	1959	0	0	0	3004	3004	35410
AMPEAK	3	163	587	25	778	0	228	970	1	1199	0	0	0	163	163	0	0	0	260	260	2400
PMPEAK	0	231	1138	27	1396	1	233	816	5	1055	0	0	0	135	135	0	0	0	262	262	2848
DAYPEAK	0	231	1138	27	1396	1	233	816	5	1055	0	0	0	135	135	0	0	0	262	262	2848



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

Date: 11/16/2022 12:00:00 AM

Location: US 301 at Turkey Hill Rd/Washington Ave

Interval: 60 Min

County: Charles

Town: none

Weather: Clear

Comments:

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

	US 301			US 301			Washington Ave			Turkey Hill Rd		
	From North			From South			From East			From West		
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15:00	0	0	0	0	0	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0	0	0	0	0	0	0

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Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

US 301

US 301

Washington Ave

Turkey Hill Rd

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	1
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56

US 301				US 301				Washington Ave				Turkey Hill Rd		
From North			From South			From East			From West					
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles		
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0		
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0		
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0		
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0		
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0		
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0		
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0		
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0		
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0		
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0		
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0		
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0		
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0		
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0		
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0		
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0		
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0		
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0		
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0		
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0		
AMPEAK	0	0	0	0	0	0	0	0	0	0	0	0		
PMPEAK	0	0	0	0	0	0	0	0	0	0	0	0		
DAYPEAK	0	0	0	0	0	0	0	0	0	0	0	0		



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S1999080011

County:

Charles

Comments:

Date:

11/16/2022 12:00:00 AM

Town:

none

Location:

US 301 at Turkey Hill Rd/Washington Ave

Weather:

Clear

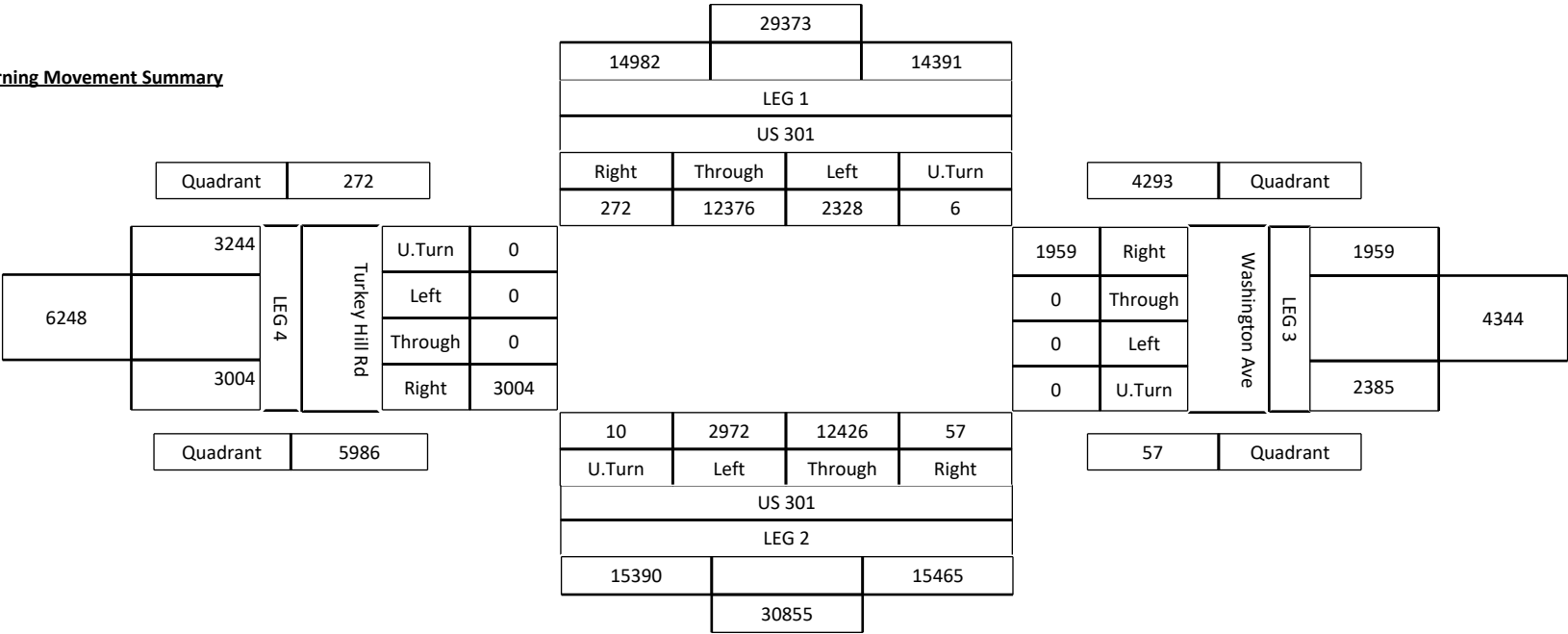
Interval:

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

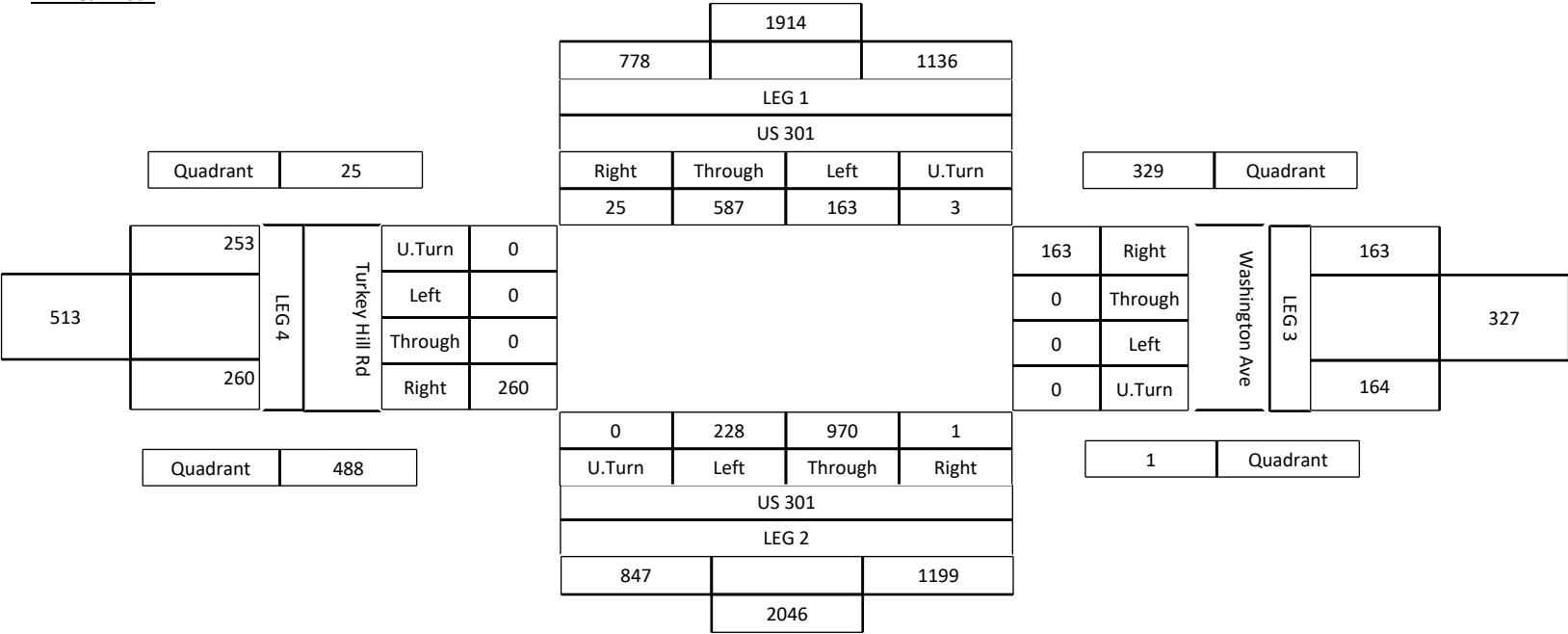
Weather: Clear

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1999080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

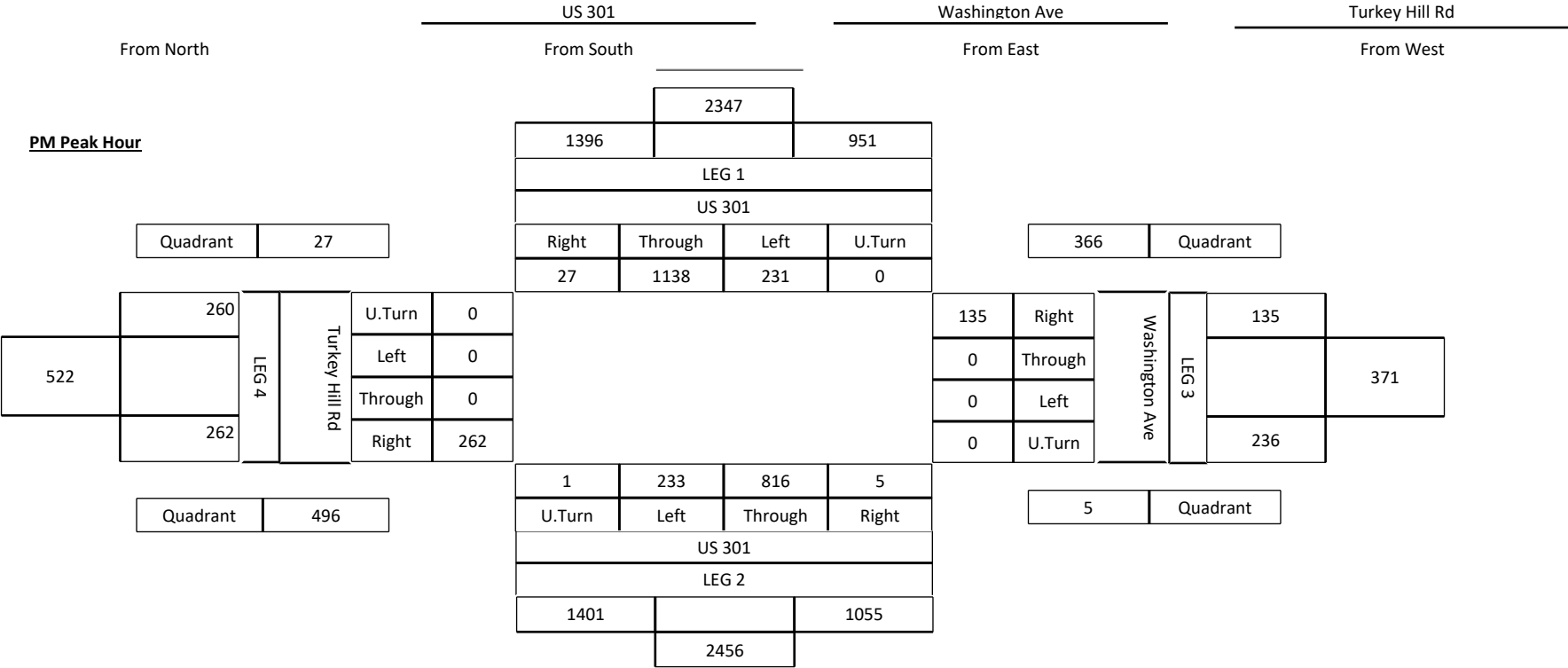
Town: none

Location: US 301 at Turkey Hill Rd/Washington Ave

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	2400	A	0.46	12:00PM-19:00PM	16:30	17:15	2848	A	0.56





Aerial
Diagram

Intersection: US 301 & Rosewick Rd



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	US 301 Northbound			US 301 Southbound			N/A Eastbound			Rosewick Road Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45	0	213	40	3	111	0	0	0	0	18	0	1	386
6:45-7:00	0	215	56	9	148	0	0	0	0	26	0	7	461
7:00-7:15	0	222	71	8	147	0	0	0	0	30	0	6	484
7:15-7:30	0	218	52	5	140	0	0	0	0	34	0	10	459
7:30-7:45	1	325	58	12	139	0	0	0	0	43	0	8	586
7:45-8:00	0	300	64	11	153	0	0	0	0	41	0	7	576
8:00-8:15	0	254	46	12	163	0	0	0	0	39	0	13	527
8:15-8:30	0	224	55	17	185	0	0	0	0	27	0	13	521
8:30-8:45	0	188	61	17	174	0	0	0	0	39	0	24	503
8:45-9:00	1	204	67	17	149	0	0	0	0	37	0	16	491
9:00-9:15	0	198	53	10	163	0	0	0	0	28	0	10	462
9:15-9:30	0	211	48	11	179	0	0	0	0	47	0	14	510

Hourly Totals													
6:30-7:30	0	868	219	25	546	0	0	0	0	108	0	24	1790
6:45-7:45	1	980	237	34	574	0	0	0	0	133	0	31	1990
7:00-8:00	1	1065	245	36	579	0	0	0	0	148	0	31	2105
7:15-8:15	1	1097	220	40	595	0	0	0	0	157	0	38	2148
7:30-8:30	1	1103	223	52	640	0	0	0	0	150	0	41	2210
7:45-8:45	0	966	226	57	675	0	0	0	0	146	0	57	2127
8:00-9:00	1	870	229	63	671	0	0	0	0	142	0	66	2042
8:15-9:15	1	814	236	61	671	0	0	0	0	131	0	63	1977
8:30-9:30	1	801	229	55	665	0	0	0	0	151	0	64	1966

AM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:30-8:30	1	1103	223	52	640	0	0	0	0	150	0	41	2210

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	US 301 Northbound			US 301 Southbound			N/A Eastbound			Rosewick Road Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15	2	234	86	22	279	0	0	0	0	56	0	19	698
4:15-4:30	0	202	73	15	293	0	0	0	0	62	0	31	676
4:30-4:45	0	256	88	23	319	0	0	0	0	49	0	24	759
4:45-5:00	0	279	86	24	332	0	0	0	0	55	0	22	798
5:00-5:15	0	225	76	28	284	0	0	0	0	63	0	26	702
5:15-5:30	2	223	90	21	297	0	0	0	0	43	0	24	700
5:30-5:45	1	188	74	19	268	0	0	0	0	52	0	21	623
5:45-6:00	0	196	57	20	258	0	0	0	0	57	0	24	612
6:00-6:15	0	172	49	26	209	0	0	0	0	41	0	14	511
6:15-6:30	0	163	61	17	248	0	0	0	0	35	0	15	539
6:30-6:45	0	149	57	17	221	0	0	0	0	26	0	9	479
6:45-7:00	0	143	41	17	184	0	0	0	0	38	0	19	442

Hourly Totals													
4:00-5:00	2	971	333	84	1223	0	0	0	0	222	0	96	2931
4:15-5:15	0	962	323	90	1228	0	0	0	0	229	0	103	2935
4:30-5:30	2	983	340	96	1232	0	0	0	0	210	0	96	2959
4:45-5:45	3	915	326	92	1181	0	0	0	0	213	0	93	2823
5:00-6:00	3	832	297	88	1107	0	0	0	0	215	0	95	2637
5:15-6:15	3	779	270	86	1032	0	0	0	0	193	0	83	2446
5:30-6:30	1	719	241	82	983	0	0	0	0	185	0	74	2285
5:45-6:45	0	680	224	80	936	0	0	0	0	159	0	62	2141
6:00-7:00	0	627	208	77	862	0	0	0	0	140	0	57	1971

PM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:30-5:30	2	983	340	96	1232	0	0	0	0	210	0	96	2959

Peak Hour
Turning Movement Count



Intersection: US 301 & Rosewick Road

Weather: Clear

Count by: MDOT SHA

Count Day/Date: Wednesday, November 16, 2022

County: Charles County



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK 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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301

US 301

ROSEWICK 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	22	0	23	0	0	21	1	22	0	2	0	0	2	0	0	0	0	0	47
00:15:00	0	0	17	0	17	0	0	14	3	17	0	2	0	0	2	0	0	0	0	0	36
00:30:00	1	0	14	0	15	0	0	10	3	13	0	1	0	0	1	0	0	0	0	0	29
00:45:00	0	0	12	0	12	0	0	15	0	15	0	3	0	1	4	0	0	0	0	0	31
01:00:00	0	0	16	0	16	0	0	6	2	8	0	2	0	2	4	0	0	0	0	0	28
01:15:00	0	1	19	0	20	0	0	8	1	9	0	0	0	1	1	0	0	0	0	0	30
01:30:00	0	1	7	0	8	0	0	15	1	16	0	3	0	1	4	0	0	0	0	0	28
01:45:00	0	0	10	0	10	0	0	10	1	11	0	1	0	0	1	0	0	0	0	0	22
02:00:00	0	0	15	0	15	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	25
02:15:00	0	0	14	0	14	0	0	16	0	16	0	1	0	0	1	0	0	0	0	0	31
02:30:00	0	0	9	0	9	0	0	14	0	14	0	0	0	0	0	0	0	0	0	0	23
02:45:00	0	2	4	0	6	0	0	13	0	13	0	0	0	1	1	0	0	0	0	0	20
03:00:00	0	0	17	0	17	0	0	21	0	21	0	3	0	2	5	0	0	0	0	0	43
03:15:00	0	0	19	0	19	0	0	34	0	34	0	2	0	0	2	0	0	0	0	0	55
03:30:00	0	0	10	0	10	0	0	36	0	36	0	0	0	0	0	0	0	0	0	0	46
03:45:00	0	1	14	0	15	0	0	41	5	46	0	2	0	0	2	0	0	0	0	0	63
04:00:00	0	0	10	0	10	0	0	62	3	65	0	0	0	0	0	0	0	0	0	0	75
04:15:00	0	1	19	0	20	0	0	70	3	73	0	1	0	0	1	0	0	0	0	0	94
04:30:00	0	0	16	0	16	0	0	99	2	101	0	4	0	0	4	0	0	0	0	0	121
04:45:00	0	2	21	0	23	0	0	126	5	131	0	3	0	0	3	0	0	0	0	0	157
05:00:00	0	0	36	0	36	0	0	161	9	170	0	8	0	2	10	0	0	0	0	0	216
05:15:00	0	0	42	0	42	0	0	153	7	160	0	6	0	1	7	0	0	0	0	0	209
05:30:00	0	1	56	0	57	0	0	170	7	177	0	5	0	3	8	0	0	0	0	0	242
05:45:00	0	5	57	0	62	0	0	183	19	202	1	9	0	3	13	0	0	0	0	0	277
06:00:00	0	7	73	0	80	0	0	186	18	204	0	11	0	2	13	0	0	0	0	0	297
06:15:00	0	2	93	0	95	0	0	201	25	226	0	18	0	7	25	0	0	0	0	0	346
06:30:00	0	3	111	0	114	0	0	213	40	253	0	18	0	1	19	0	0	0	0	0	386
06:45:00	0	9	148	0	157	0	0	215	56	271	1	25	0	7	33	0	0	0	0	0	461
07:00:00	0	8	147	0	155	0	0	222	71	293	0	30	0	6	36	0	0	0	0	0	484
07:15:00	1	4	140	0	145	0	0	218	52	270	0	34	0	10	44	0	0	0	0	0	459
07:30:00	0	12	139	0	151	1	0	325	58	384	0	43	0	8	51	0	0	0	0	0	586
07:45:00	0	11	153	0	164	0	0	300	64	364	0	41	0	7	48	0	0	0	0	0	576
08:00:00	0	12	163	0	175	0	0	254	46	300	1	38	0	13	52	0	0	0	0	0	527
08:15:00	0	17	185	0	202	0	0	224	55	279	1	26	0	13	40	0	0	0	0	0	521
08:30:00	0	17	174	0	191	0	0	188	61	249	2	37	0	24	63	0	0	0	0	0	503
08:45:00	0	17	149	0	166	1	0	204	67	272	0	37	0	16	53	0	0	0	0	0	491
09:00:00	1	10	163	0	174	0	0	198	53	251	0	28	0	10	38	0	0	0	0	0	463
09:15:00	0	11	179	0	190	0	0	211	48	259	0	47	0	14	61	0	0	0	0	0	510

106 of 565



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494
Date: 11/16/2022 12:00:00 AM
Location: US 301 at ROSEWICK RD
Interval: 60 Min

County: Charles
Town: none
Weather: Clear

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301						US 301					ROSEWICK RD									
From North						From South					From East					From West				
09:30:00	0	25	196	0	221	3	0	197	58	258	0	29	0	17	46	0	0	0	0	525
09:45:00	0	20	179	0	199	0	0	202	66	268	0	45	0	16	61	0	0	0	0	528
10:00:00	0	9	198	0	207	0	0	228	64	292	0	32	0	15	47	0	0	0	0	546
10:15:00	0	17	176	0	193	0	0	202	44	246	1	37	0	16	54	0	0	0	0	493
10:30:00	0	18	183	0	201	0	0	226	61	287	0	39	0	15	54	0	0	0	0	542
10:45:00	0	15	177	0	192	0	0	222	60	282	0	36	0	18	54	0	0	0	0	528
11:00:00	0	20	174	0	194	1	0	216	55	272	0	46	0	25	71	0	0	0	0	537
11:15:00	0	24	216	0	240	0	0	212	55	267	1	36	0	22	59	0	0	0	0	566
11:30:00	0	19	223	0	242	0	0	197	63	260	1	37	0	14	52	0	0	0	0	554
11:45:00	0	27	211	0	238	0	0	166	69	235	0	61	0	18	79	0	0	0	0	552
12:00:00	1	20	213	0	234	0	0	218	81	299	0	61	0	22	83	0	0	0	0	616
12:15:00	0	23	207	0	230	0	0	201	82	283	1	60	0	22	83	0	0	0	0	596
12:30:00	0	20	209	0	229	1	0	226	88	315	0	51	0	16	67	0	0	0	0	611
12:45:00	0	8	209	0	217	2	0	201	88	291	0	49	0	18	67	0	0	0	0	575
13:00:00	1	11	229	0	241	0	0	217	77	294	0	44	0	21	65	0	0	0	0	600
13:15:00	0	22	277	0	299	0	0	200	72	272	0	63	0	27	90	0	0	0	0	661
13:30:00	0	18	241	0	259	0	0	245	111	356	1	52	0	24	77	0	0	0	0	692
13:45:00	1	33	191	0	225	0	0	233	135	368	1	37	0	32	70	0	0	0	0	663
14:00:00	0	25	225	0	250	0	0	227	106	333	5	33	0	27	65	0	0	0	0	648
14:15:00	0	17	218	0	235	0	0	213	86	299	2	33	0	12	47	0	0	0	0	581
14:30:00	0	20	251	0	271	0	0	221	79	300	0	52	0	26	78	0	0	0	0	649
14:45:00	0	25	245	0	270	0	0	194	86	280	0	51	0	17	68	0	0	0	0	618
15:00:00	0	22	277	0	299	0	0	193	75	268	0	51	0	18	69	0	0	0	0	636
15:15:00	0	24	275	0	299	1	0	182	75	258	0	58	0	24	82	0	0	0	0	639
15:30:00	0	18	260	0	278	0	0	211	63	274	0	54	0	22	76	0	0	0	0	628
15:45:00	0	27	290	0	317	0	0	216	53	269	0	57	0	23	80	0	0	0	0	666
16:00:00	0	22	279	0	301	2	0	234	86	322	0	56	0	19	75	0	0	0	0	698
16:15:00	0	15	293	0	308	0	0	202	73	275	1	61	0	31	93	0	0	0	0	676
16:30:00	0	23	319	0	342	0	0	256	88	344	0	49	0	24	73	0	0	0	0	759
16:45:00	0	24	332	0	356	0	0	279	86	365	0	55	0	22	77	0	0	0	0	798
17:00:00	0	28	284	0	312	0	0	225	76	301	0	63	0	26	89	0	0	0	0	702
17:15:00	0	21	297	0	318	2	0	223	90	315	0	43	0	24	67	0	0	0	0	700
17:30:00	2	17	268	0	287	1	0	188	74	263	0	52	0	21	73	0	0	0	0	623
17:45:00	0	20	258	0	278	0	0	196	57	253	0	57	0	24	81	0	0	0	0	612
18:00:00	0	26	209	0	235	0	0	172	49	221	0	41	0	14	55	0	0	0	0	511
18:15:00	0	17	248	0	265	0	0	163	61	224	0	35	0	15	50	0	0	0	0	539
18:30:00	0	17	221	0	238	0	0	149	57	206	0	26	0	9	35	0	0	0	0	479
18:45:00	0	17	184	0	201	0	0	143	41	184	0	38	0	19	57	0	0	0	0	442
19:00:00	1	18	192	0	211	0	0	147	32	179	0	32	0	21	53	0	0	0	0	443
19:15:00	0	4	159	0	163	0	0	140	35	175	0	25	0	13	38	0	0	0	0	376



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK 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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301

US 301

ROSEWICK RD

From North

From South

From East

From West

19:30:00	0	12	157	0	169	1	0	119	29	149	0	14	0	13	27	0	0	0	0	0	345
19:45:00	1	8	157	0	166	1	0	131	34	166	0	16	0	13	29	0	0	0	0	0	361
20:00:00	0	7	132	0	139	0	0	120	17	137	0	24	0	14	38	0	0	0	0	0	314
20:15:00	0	7	134	0	141	1	0	112	20	133	0	21	0	7	28	0	0	0	0	0	302
20:30:00	0	5	85	0	90	0	0	79	22	101	0	21	0	6	27	0	0	0	0	0	218
20:45:00	0	8	114	0	122	2	0	78	19	99	0	12	0	14	26	0	0	0	0	0	247
21:00:00	0	3	103	0	106	0	0	105	12	117	0	16	0	10	26	0	0	0	0	0	249
21:15:00	0	3	99	0	102	0	0	72	11	83	0	10	0	1	11	0	0	0	0	0	196
21:30:00	0	2	80	0	82	0	0	54	8	62	0	8	0	3	11	0	0	0	0	0	155
21:45:00	0	4	74	0	78	2	0	54	8	64	0	5	0	8	13	0	0	0	0	0	155
22:00:00	0	2	49	0	51	0	0	63	2	65	0	11	0	15	26	0	0	0	0	0	142
22:15:00	0	1	55	0	56	0	0	48	5	53	0	11	0	6	17	0	0	0	0	0	126
22:30:00	0	1	54	0	55	0	0	50	6	56	0	4	0	3	7	0	0	0	0	0	118
22:45:00	0	0	52	0	52	0	0	37	1	38	0	6	0	5	11	0	0	0	0	0	101
23:00:00	0	1	36	0	37	1	0	46	3	50	0	6	0	4	10	0	0	0	0	0	97
23:15:00	0	0	34	0	34	1	0	32	3	36	0	4	0	5	9	0	0	0	0	0	79
23:30:00	1	0	30	0	31	0	0	31	0	31	0	4	0	1	5	0	0	0	0	0	67
23:45:00	1	0	33	0	34	0	0	21	2	23	0	1	0	1	2	0	0	0	0	0	59
TOTAL	12	1015	13264	0	14291	24	0	13902	3845	17771	20	2522	0	1093	3635	0	0	0	0	0	35697
AMPEAK	1	90	863	0	954	0	0	793	268	1061	2	195	0	76	273	0	0	0	0	0	2288
PMPEAK	0	96	1232	0	1328	2	0	983	340	1325	0	210	0	96	306	0	0	0	0	0	2959
DAYPEAK	0	96	1232	0	1328	2	0	983	340	1325	0	210	0	96	306	0	0	0	0	0	2959



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK 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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301

US 301

ROSEWICK RD

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15:00	0	0	0	0	0	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK 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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301

US 301

ROSEWICK RD

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK 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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5

US 301

US 301

ROSEWICK RD

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
AMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
PMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
DAYPEAK	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK RD

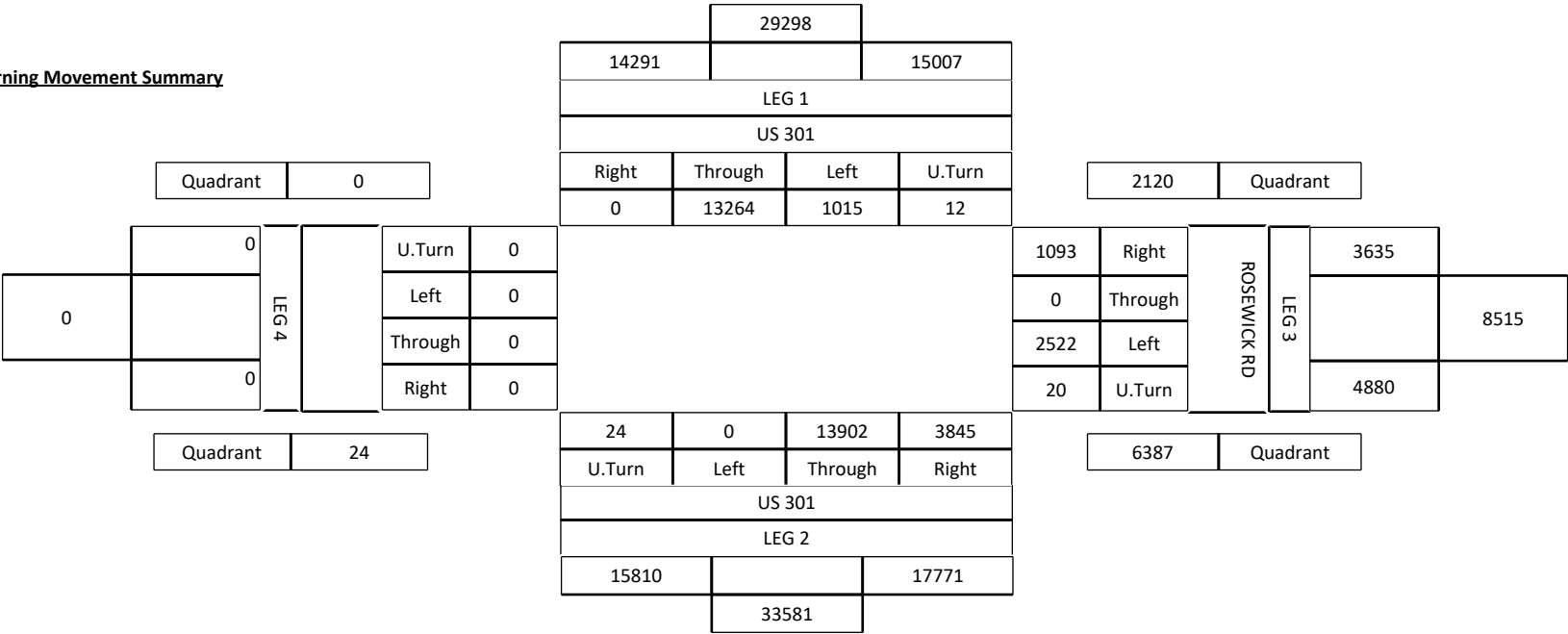
Weather: Clear

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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2014080494

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at ROSEWICK RD

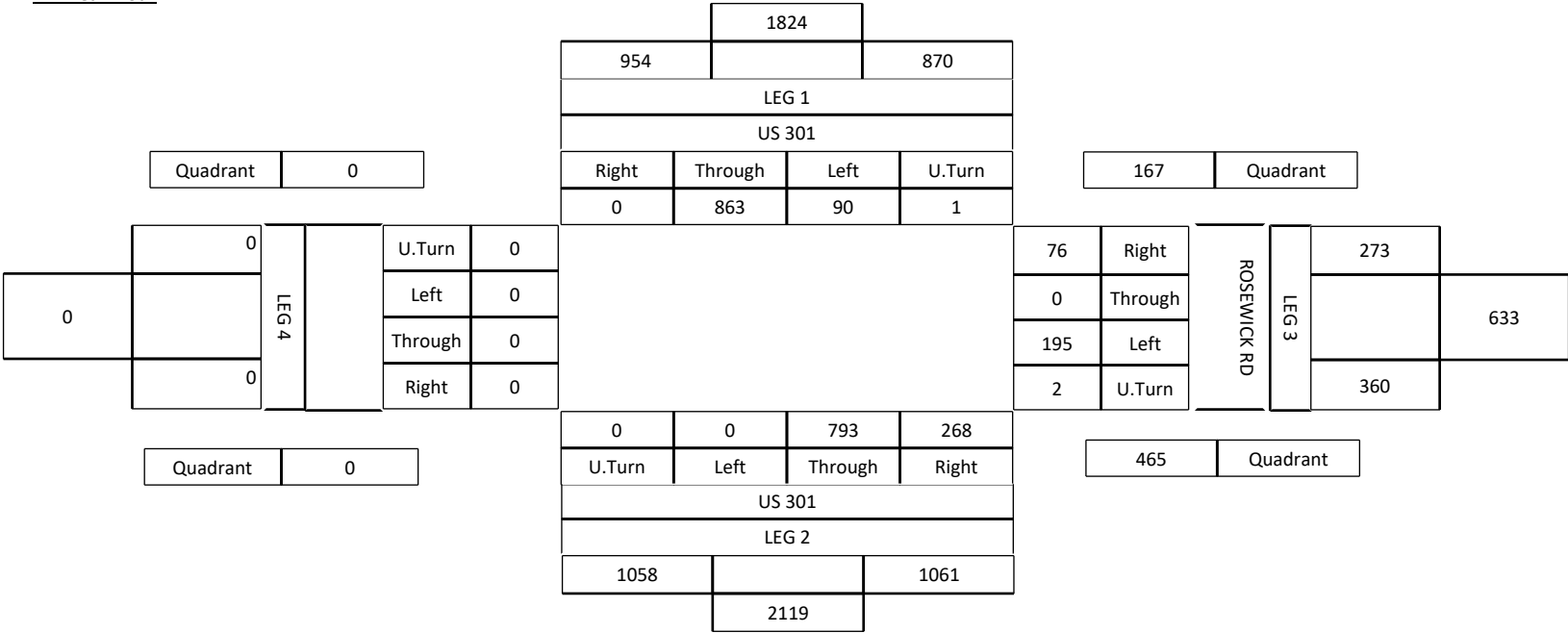
Weather: Clear

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	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5



AM Peak Hour



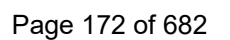


Comments:

Town: none

Weather: Clear

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	2288	A	0.47	12:00PM-19:00PM	16:30	17:15	2959	A	0.5





Aerial
Diagram

Intersection: Rosewick Rd & Washington Ave



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Washington Avenue Northbound					Washington Avenue Southbound					Rosewick Road Eastbound					Rosewick Road Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	0	19	17	0	0	2	20	6	0	0	1	24	3	0	0	26	21	3	0	142
6:45-7:00	0	1	26	31	0	0	14	23	7	0	0	2	37	0	0	0	42	25	6	0	214
7:00-7:15	0	3	26	52	0	0	8	25	3	0	0	0	54	4	0	0	37	33	7	0	252
7:15-7:30	0	4	45	57	0	0	7	31	2	0	0	4	64	6	0	0	53	40	12	0	325
7:30-7:45	0	6	47	36	0	0	6	29	1	0	1	3	54	8	0	0	49	46	8	0	294
7:45-8:00	0	6	39	43	0	0	12	40	7	0	0	1	61	11	0	0	55	41	20	0	336
8:00-8:15	0	8	35	32	0	0	18	29	4	0	0	1	37	12	0	0	53	40	17	0	286
8:15-8:30	0	11	24	32	0	0	23	32	3	0	0	6	46	10	0	0	49	35	25	0	296
8:30-8:45	0	9	28	41	0	0	8	17	8	0	0	0	47	17	0	0	52	34	9	0	270
8:45-9:00	0	13	28	37	0	0	10	36	5	0	0	2	38	7	0	0	68	51	10	0	305
9:00-9:15	0	5	43	47	0	0	9	35	4	0	0	5	55	18	0	0	39	35	16	0	311
9:15-9:30	0	7	28	38	0	0	5	24	7	0	0	3	50	13	0	0	43	38	12	0	268

Hourly Totals																					
6:30-7:30	0	8	116	157	0	0	31	99	18	0	0	7	179	13	0	0	158	119	28	0	933
6:45-7:45	0	14	144	176	0	0	35	108	13	0	1	9	209	18	0	0	181	144	33	0	1085
7:00-8:00	0	19	157	188	0	0	33	125	13	0	1	8	233	29	0	0	194	160	47	0	1207
7:15-8:15	0	24	166	168	0	0	43	129	14	0	1	9	216	37	0	0	210	167	57	0	1241
7:30-8:30	0	31	145	143	0	0	59	130	15	0	1	11	198	41	0	0	206	162	70	0	1212
7:45-8:45	0	34	126	148	0	0	61	118	22	0	0	8	191	50	0	0	209	150	71	0	1188
8:00-9:00	0	41	115	142	0	0	59	114	20	0	0	9	168	46	0	0	222	160	61	0	1157
8:15-9:15	0	38	123	157	0	0	50	120	20	0	0	13	186	52	0	0	208	155	60	0	1182
8:30-9:30	0	34	127	163	0	0	32	112	24	0	0	10	190	55	0	0	202	158	47	0	1154
AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
7:15-8:15	0	24	166	168	0	0	43	129	14	0	1	9	216	37	0	0	210	167	57	0	1241

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Washington Avenue Northbound					Washington Avenue Southbound					Rosewick Road Eastbound					Rosewick Road Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	13	41	84	0	0	21	25	3	0	0	5	64	24	0	0	87	56	12	0	435
4:15-4:30	0	9	30	67	0	0	13	45	6	0	0	0	74	22	0	0	94	63	15	0	438
4:30-4:45	0	17	37	81	0	0	21	35	8	0	0	2	81	13	0	0	106	61	9	0	471
4:45-5:00	0	8	31	62	0	0	20	37	7	0	0	3	84	23	0	0	90	54	16	0	435
5:00-5:15	0	17	33	68	0	0	21	42	3	0	0	3	78	11	0	0	94	45	15	0	430
5:15-5:30	0	12	32	69	0	0	21	52	7	0	0	5	80	16	0	0	91	42	6	0	433
5:30-5:45	0	6	27	53	0	0	17	35	2	0	1	6	75	23	0	0	67	42	9	0	363
5:45-6:00	0	10	26	65	0	0	11	42	7	0	0	6	58	16	0	0	63	48	15	0	367
6:00-6:15	0	9	20	44	1	0	10	31	3	0	0	10	59	14	0	0	58	40	15	0	313
6:15-6:30	0	7	25	41	0	0	7	27	11	0	0	3	47	17	0	0	57	31	11	0	284
6:30-6:45	0	9	17	49	0	0	10	26	5	0	0	2	47	15	0	0	37	24	10	0	251
6:45-7:00	0	7	22	42	0	0	8	39	2	0	0	1	44	7	0	0	51	19	10	0	252

Hourly Totals																					
4:00-5:00	0	47	139	294	0	0	75	142	24	0	0	10	303	82	0	0	377	234	52	0	1779
4:15-5:15	0	51	131	278	0	0	75	159	24	0	0	8	317	69	0	0	384	223	55	0	1774
4:30-5:30	0	54	133	280	0	0	83	166	25	0	0	13	323	63	0	0	381	202	46	0	1769
4:45-5:45	0	43	123	252	0	0	79	166	19	0	1	17	317	73	0	0	342	183	46	0	1661
5:00-6:00	0	45	118	255	0	0	70	171	19	0	1	20	291	66	0	0	315	177	45	0	1593
5:15-6:15	0	37	105	231	1	0	59	160	19	0	1	27	272	69	0	0	279	172	45	0	1477
5:30-6:30	0	32	98	203	1	0	45	135	23	0	1	25	239	70	0	0	245	161	50	0	1328
5:45-6:45	0	35	88	199	1	0	38	126	26	0	0	21	211	62	0	0	215	143	51	0	1216
6:00-7:00	0	32	84	176	1	0	35	123	21	0	0	16	197	53	0	0	203	114	46	0	1101
PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-5:00	0	47	139	294	0	0	75	142	24	0	0	10	303	82	0	0	377	234	52	0	1779

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Washington Avenue & Rosewick Road

Weather: Clear

Count by: Count Cam DSS

Count Day/Date: Tuesday, February 7, 2023

Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: US 301 & Heritage Green Pkwy



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	US 301 Northbound			US 301 Southbound			Driveway Eastbound			Heritage Green Pkwy Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45	17	228	23	6	110	1	8	2	18	15	4	8	440
6:45-7:00	30	234	24	15	126	1	15	2	19	14	5	10	495
7:00-7:15	24	244	36	15	140	4	17	1	22	20	5	17	545
7:15-7:30	34	272	20	8	118	0	22	4	22	26	2	7	535
7:30-7:45	20	288	32	20	158	1	18	6	28	26	5	14	616
7:45-8:00	34	285	36	16	145	4	15	5	27	25	13	12	617
8:00-8:15	20	247	19	16	141	3	15	4	36	16	14	9	540
8:15-8:30	21	242	21	32	163	0	18	5	36	18	6	7	569
8:30-8:45	25	201	30	27	160	4	18	5	30	24	5	10	539
8:45-9:00	16	251	31	15	160	2	13	5	28	25	12	6	564
9:00-9:15	15	213	33	26	137	1	11	4	16	29	10	7	502
9:15-9:30	29	244	34	31	185	4	15	5	15	13	8	12	595

Hourly Totals													
6:30-7:30	105	978	103	44	494	6	62	9	81	75	16	42	2015
6:45-7:45	108	1038	112	58	542	6	72	13	91	86	17	48	2191
7:00-8:00	112	1089	124	59	561	9	72	16	99	97	25	50	2313
7:15-8:15	108	1092	107	60	562	8	70	19	113	93	34	42	2308
7:30-8:30	95	1062	108	84	607	8	66	20	127	85	38	42	2342
7:45-8:45	100	975	106	91	609	11	66	19	129	83	38	38	2265
8:00-9:00	82	941	101	90	624	9	64	19	130	83	37	32	2212
8:15-9:15	77	907	115	100	620	7	60	19	110	96	33	30	2174
8:30-9:30	85	909	128	99	642	11	57	19	89	91	35	35	2200
AM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:30-8:30	95	1062	108	84	607	8	66	20	127	85	38	42	2342

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	US 301 Northbound			US 301 Southbound			Driveway Eastbound			Heritage Green Pkwy Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15	23	264	44	44	291	3	9	5	32	41	15	13	784
4:15-4:30	26	241	31	45	294	0	8	8	35	62	5	8	763
4:30-4:45	18	286	35	44	301	2	7	8	31	45	5	12	794
4:45-5:00	24	280	33	52	286	4	3	9	19	62	9	22	803
5:00-5:15	16	233	35	45	290	4	16	14	31	56	13	15	768
5:15-5:30	21	235	38	51	285	5	11	13	36	62	15	16	788
5:30-5:45	39	217	30	50	260	5	8	7	38	57	8	9	728
5:45-6:00	23	191	35	50	239	4	10	9	23	77	6	11	678
6:00-6:15	17	180	39	44	205	3	9	9	18	69	10	11	614
6:15-6:30	13	168	29	30	213	3	6	3	17	55	6	24	567
6:30-6:45	20	161	22	32	208	1	8	7	22	51	10	15	557
6:45-7:00	25	141	17	29	202	2	8	11	19	32	4	12	502

Hourly Totals													
4:00-5:00	91	1071	143	185	1172	9	27	30	117	210	34	55	3144
4:15-5:15	84	1040	134	186	1171	10	34	39	116	225	32	57	3128
4:30-5:30	79	1034	141	192	1162	15	37	44	117	225	42	65	3153
4:45-5:45	100	965	136	198	1121	18	38	43	124	237	45	62	3087
5:00-6:00	99	876	138	196	1074	18	45	43	128	252	42	51	2962
5:15-6:15	100	823	142	195	989	17	38	38	115	265	39	47	2808
5:30-6:30	92	756	133	174	917	15	33	28	96	258	30	55	2587
5:45-6:45	73	700	125	156	865	11	33	28	80	252	32	61	2416
6:00-7:00	75	650	107	135	828	9	31	30	76	207	30	62	2240
PM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:30-5:30	79	1034	141	192	1162	15	37	44	117	225	42	65	3153

Peak Hour Turning Movement Count	Intersection: US 301 & Heritage Green Pkwy Weather: Count by: MDOT SHA Count Day/Date: Wednesday, November 16, 2022 County: Charles County
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

US 301

US 301

Heritage Green Pkwy

Heritage Green Pkwy

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	3	19	0	22	1	2	21	0	24	0	2	4	0	6	0	2	0	4	6	58
00:15:00	0	1	16	0	17	2	3	11	1	17	0	1	0	1	2	0	1	0	3	4	40
00:30:00	0	0	14	0	14	0	1	14	0	15	0	0	1	0	1	0	0	0	3	3	33
00:45:00	0	0	14	1	15	0	2	11	0	13	0	0	1	2	3	0	0	1	4	5	36
01:00:00	0	0	18	0	18	0	2	8	0	10	0	1	0	0	1	0	1	1	2	4	33
01:15:00	0	2	14	0	16	0	2	7	1	10	0	0	0	0	0	0	1	1	0	2	28
01:30:00	0	1	8	0	9	0	1	14	1	16	0	5	3	0	8	0	1	0	4	5	38
01:45:00	0	0	12	0	12	0	0	10	0	10	0	0	0	0	0	0	0	1	2	3	25
02:00:00	0	1	9	0	10	0	0	11	0	11	0	1	5	1	7	0	0	0	2	2	30
02:15:00	0	1	10	0	11	0	1	18	2	21	0	0	1	2	3	0	1	6	3	10	45
02:30:00	0	2	10	0	12	0	1	11	1	13	0	0	2	1	3	0	1	0	0	1	29
02:45:00	0	1	4	0	5	0	0	12	0	12	0	0	1	2	3	0	3	0	1	4	24
03:00:00	0	2	15	1	18	0	3	20	0	23	0	0	2	0	2	0	0	2	2	4	47
03:15:00	0	0	12	0	12	0	1	33	2	36	0	1	0	0	1	0	2	0	3	5	54
03:30:00	0	2	10	0	12	0	5	34	1	40	0	0	1	0	1	0	1	0	3	4	57
03:45:00	0	2	11	0	13	0	1	47	2	50	0	1	1	0	2	0	3	0	1	4	69
04:00:00	1	1	8	0	10	0	11	74	5	90	0	0	2	0	2	0	7	1	2	10	112
04:15:00	1	1	15	1	18	0	10	73	1	84	0	0	0	0	0	0	6	1	2	9	111
04:30:00	0	1	19	0	20	0	7	114	5	126	0	0	1	0	1	0	6	2	5	13	160
04:45:00	0	4	15	0	19	0	9	149	5	163	0	4	1	2	7	0	5	1	8	14	203
05:00:00	0	1	27	1	29	1	15	143	10	169	0	5	3	0	8	0	7	0	4	11	217
05:15:00	2	4	31	0	37	2	14	176	11	203	0	3	1	3	7	0	7	2	18	27	274
05:30:00	1	5	47	2	55	1	7	165	7	180	0	5	3	3	11	0	11	3	7	21	267
05:45:00	0	4	50	0	54	1	19	178	9	207	0	8	4	4	16	0	16	1	9	26	303
06:00:00	0	4	63	1	68	5	14	186	12	217	0	7	2	4	13	0	11	2	6	19	317
06:15:00	0	5	89	1	95	2	18	207	15	242	0	8	8	5	21	0	10	3	17	30	388
06:30:00	0	6	110	1	117	3	14	228	23	268	0	15	4	8	27	0	8	2	18	28	440
06:45:00	1	14	126	1	142	4	26	234	24	288	0	14	5	10	29	0	15	2	19	36	495
07:00:00	1	14	140	4	159	6	18	244	36	304	0	20	5	17	42	0	17	1	22	40	545
07:15:00	0	8	118	0	126	7	27	272	20	326	0	26	2	7	35	0	22	4	22	48	535
07:30:00	2	18	158	1	179	3	17	288	32	340	0	26	5	14	45	0	18	6	28	52	616
07:45:00	0	16	145	4	165	11	23	285	36	355	0	25	13	12	50	0	15	5	27	47	617
08:00:00	2	14	141	3	160	3	17	247	19	286	0	16	14	9	39	0	15	4	36	55	540
08:15:00	0	32	163	0	195	5	16	242	21	284	0	18	6	7	31	0	18	5	36	59	569
08:30:00	1	26	160	4	191	2	23	201	30	256	0	24	5	10	39	0	18	5	30	53	539
08:45:00	2	13	160	2	177	4	14	251	31	300	0	25	12	6	43	0	13	5	28	46	566
09:00:00	4	22	137	1	164	3	12	213	33	261	0	29	10	7	46	0	11	4	16	31	502
09:15:00	2	29	185	4	220	6	23	244	34	269	0	13	8	12	33	0	15	5	15	35	595



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

	US 301					US 301					Heritage Green Pkwy					Heritage Green Pkwy					
	From North					From South					From East					From West					
09:30:00	2	26	165	5	198	7	22	207	30	266	1	35	4	6	46	0	6	5	24	35	545
09:45:00	5	23	179	3	210	6	10	233	42	291	0	24	10	10	44	0	19	3	30	52	597
10:00:00	2	26	178	0	206	6	15	233	39	293	0	33	4	12	49	0	14	4	13	31	579
10:15:00	2	32	164	2	200	4	13	210	43	270	0	27	6	14	47	0	8	6	22	36	553
10:30:00	3	33	167	1	204	4	14	241	41	300	0	32	6	8	46	0	9	9	25	43	593
10:45:00	3	32	167	4	206	8	12	232	52	304	0	33	4	11	48	0	11	7	19	37	595
11:00:00	3	29	179	4	215	10	17	211	39	277	0	40	11	19	70	0	10	5	19	34	596
11:15:00	3	33	196	1	233	14	20	233	44	311	0	47	8	19	74	0	13	7	28	48	666
11:30:00	2	46	177	6	231	15	17	238	39	309	0	50	6	18	74	0	13	7	28	48	662
11:45:00	0	38	212	2	252	14	18	181	36	249	0	40	7	20	67	0	11	8	28	47	615
12:00:00	6	37	216	1	260	11	20	227	30	288	0	45	10	21	76	0	13	6	26	45	669
12:15:00	2	33	214	2	251	10	13	236	46	305	0	52	8	26	86	0	16	8	25	49	691
12:30:00	3	52	190	5	250	11	22	242	30	305	0	59	10	25	94	0	13	4	34	51	700
12:45:00	2	33	187	4	226	8	14	216	35	273	0	66	6	16	88	0	17	7	22	46	633
13:00:00	5	42	211	8	266	10	14	227	49	300	0	53	8	22	83	0	8	4	26	38	687
13:15:00	5	44	277	4	330	14	15	219	39	287	0	46	9	21	76	0	12	9	30	51	744
13:30:00	1	55	67	12	135	2	10	285	46	343	4	25	5	23	57	0	15	17	21	53	588
13:45:00	3	44	107	3	157	3	3	224	30	260	3	34	7	28	72	0	11	25	18	54	543
14:00:00	3	40	158	6	207	3	11	224	41	279	2	28	9	33	72	0	5	17	21	43	601
14:15:00	2	43	220	4	269	10	10	234	38	292	0	36	15	17	68	0	9	6	29	44	673
14:30:00	1	46	235	5	287	6	6	229	26	267	0	47	6	25	78	0	9	9	27	45	677
14:45:00	2	32	235	3	272	10	12	215	42	279	0	45	8	28	81	0	5	8	27	40	672
15:00:00	1	38	268	2	309	10	17	215	33	275	0	64	10	16	90	0	13	6	26	45	719
15:15:00	0	55	265	3	323	9	8	214	31	262	0	49	7	15	71	0	11	6	32	49	705
15:30:00	1	42	267	3	313	8	14	239	32	293	0	52	7	12	71	0	10	2	31	43	720
15:45:00	2	42	285	5	334	10	11	227	39	287	0	46	9	15	70	0	5	11	35	51	742
16:00:00	7	37	291	3	338	12	11	264	44	331	0	41	15	13	69	0	9	5	32	46	784
16:15:00	4	41	294	0	339	5	21	241	31	298	0	62	5	8	75	0	8	8	35	51	763
16:30:00	2	42	301	2	347	8	10	286	35	339	0	45	5	12	62	0	7	8	31	46	794
16:45:00	3	49	286	4	342	6	18	280	33	337	0	62	9	22	93	0	3	9	19	31	803
17:00:00	1	44	290	4	339	5	11	233	35	284	0	56	13	15	84	0	16	14	31	61	768
17:15:00	4	47	285	5	341	12	9	235	38	294	0	62	15	16	93	0	11	13	36	60	788
17:30:00	0	50	260	5	315	25	14	217	30	286	0	57	8	9	74	0	8	7	38	53	728
17:45:00	5	45	239	4	293	10	13	191	35	249	0	77	6	11	94	0	10	9	23	42	678
18:00:00	2	42	205	3	252	7	10	180	39	236	0	69	10	11	90	0	9	9	18	36	614
18:15:00	1	29	213	3	246	4	9	168	29	210	0	55	6	24	85	0	6	3	17	26	567
18:30:00	1	31	208	1	241	10	10	161	22	203	0	51	10	15	76	0	8	7	22	37	557
18:45:00	1	28	202	2	233	16	9	141	17	183	0	32	4	12	48	0	8	11	19	38	502
19:00:00	2	37	158	3	200	10	12	147	24	193	0	53	12	16	81	0	2	2	17	21	495
19:15:00	0	32	161	0	193	9	5	123	18	155	0	40	9	22	71	0	4	9	21	34	453



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012 County: Charles Comments:
Date: 11/16/2022 12:00:00 AM Town: none
Location: US 301 at Heritage Green Pkwy 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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

US 301

US 301

Heritage Green Pkwy

Heritage Green Pkwy

From North

From South

From East

From West

19:30:00	1	29	118	0	148	11	11	107	21	150	1	47	9	24	81	0	6	3	16	25	404
19:45:00	0	28	156	0	184	6	7	122	17	152	0	45	8	21	74	0	5	4	17	26	436
20:00:00	3	27	117	0	147	4	9	108	17	138	0	37	11	25	73	0	4	4	14	22	380
20:15:00	0	17	139	1	157	8	2	94	13	117	0	29	10	29	68	0	5	6	20	31	373
20:30:00	1	19	84	1	105	4	11	81	8	104	0	19	14	10	43	0	7	5	13	25	277
20:45:00	1	20	101	0	122	3	3	75	9	90	0	23	5	18	46	0	8	2	15	25	283
21:00:00	0	15	91	2	108	6	10	89	18	123	0	35	3	30	68	0	2	3	8	13	312
21:15:00	0	14	86	1	101	2	6	64	15	87	0	16	1	19	36	0	3	3	15	21	245
21:30:00	0	12	72	2	86	4	7	48	10	69	0	23	2	11	36	0	6	1	13	20	211
21:45:00	0	12	65	6	83	0	11	54	12	77	0	17	4	11	32	0	2	4	14	20	212
22:00:00	2	8	58	0	68	2	10	47	7	66	0	8	2	15	25	0	5	1	12	18	177
22:15:00	0	5	58	0	63	5	5	48	8	66	0	6	2	1	9	0	1	0	8	9	147
22:30:00	0	2	53	2	57	2	5	45	5	57	0	7	2	8	17	0	3	3	11	17	148
22:45:00	0	1	50	0	51	3	1	30	2	36	0	15	1	8	24	0	2	3	10	15	126
23:00:00	0	4	28	1	33	0	6	39	4	49	0	14	8	4	26	0	5	0	5	10	118
23:15:00	0	2	35	1	38	2	3	31	1	37	0	2	0	2	4	0	2	1	9	12	91
23:30:00	0	0	34	0	34	2	2	30	0	34	0	4	1	0	5	0	3	1	6	10	83
23:45:00	0	0	29	0	29	0	4	18	2	24	0	0	2	0	2	0	1	1	1	3	58
TOTAL	125	2025	12256	187	14593	498	1012	14585	2021	18116	11	2520	548	1071	4150	0	753	441	1644	2838	39697
AMPEAK	11	154	801	10	976	54	75	879	149	1157	0	182	31	78	291	0	50	28	110	188	2612
PMPEAK	10	182	1162	15	1369	31	48	1034	141	1254	0	225	42	65	332	0	37	44	117	198	3153
DAYPEAK	10	182	1162	15	1369	31	48	1034	141	1254	0	225	42	65	332	0	37	44	117	198	3153



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

US 301

US 301

Heritage Green Pkwy

Heritage Green Pkwy

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15:00	0	0	0	0	0	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	1	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012
Date: 11/16/2022 12:00:00 AM
Location: US 301 at Heritage Green Pkwy
Interval: 60 Min

County: Charles
Town: none
Weather: Clear

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

US 301

US 301

Heritage Green Pkwy

Heritage Green Pkwy

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	1	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	2	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	1	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	2	0	0	0	0
13:30:00	0	1	0	0	0	0	0	0	0	0	0	0
13:45:00	0	2	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	1	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	2	0	0	0	0	0	0	0	0	0	0
16:00:00	0	1	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	1	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63

US 301

US 301

Heritage Green Pkwy

Heritage Green Pkwy

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	1	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	12	2	0	0	0	0	2	0	0	0	0
AMPEAK	0	2	0	0	0	0	0	0	0	0	0	0
PMPEAK	0	0	1	0	0	0	0	0	0	0	0	0
DAYPEAK	0	0	1	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

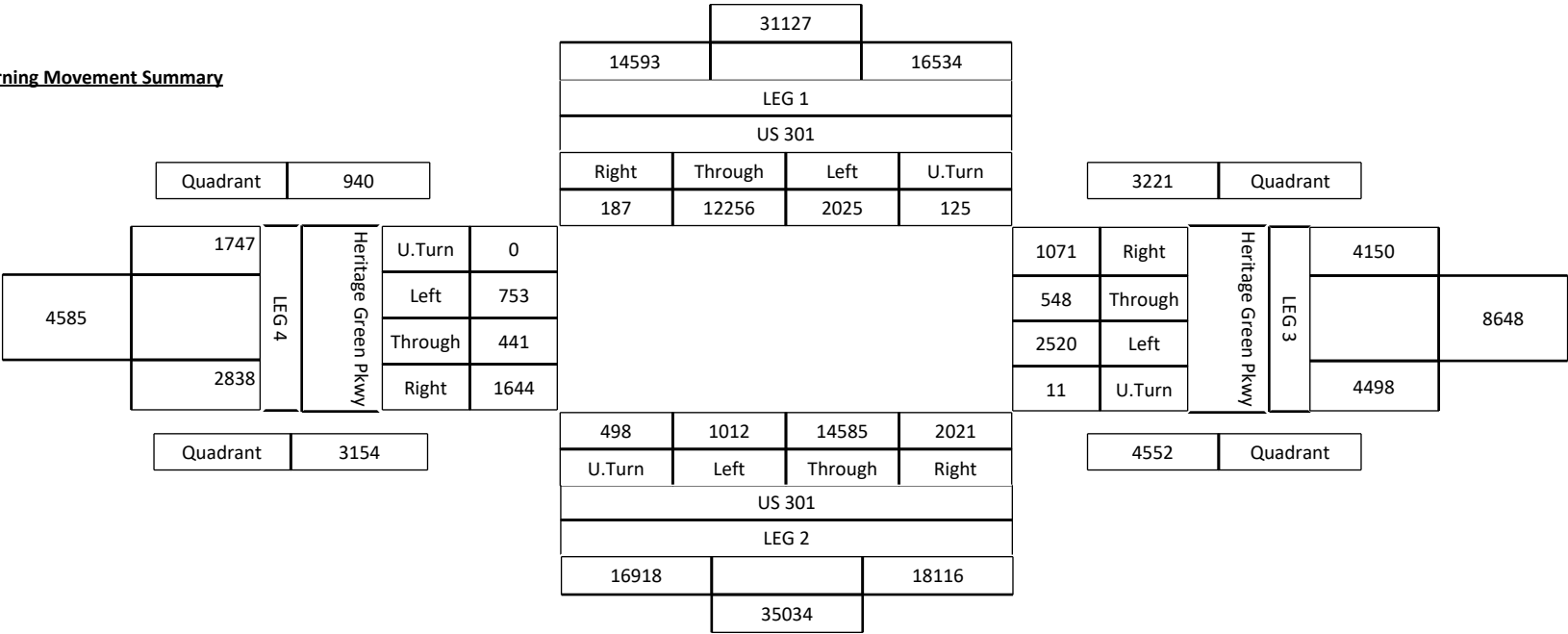
Weather: Clear

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at Heritage Green Pkwy

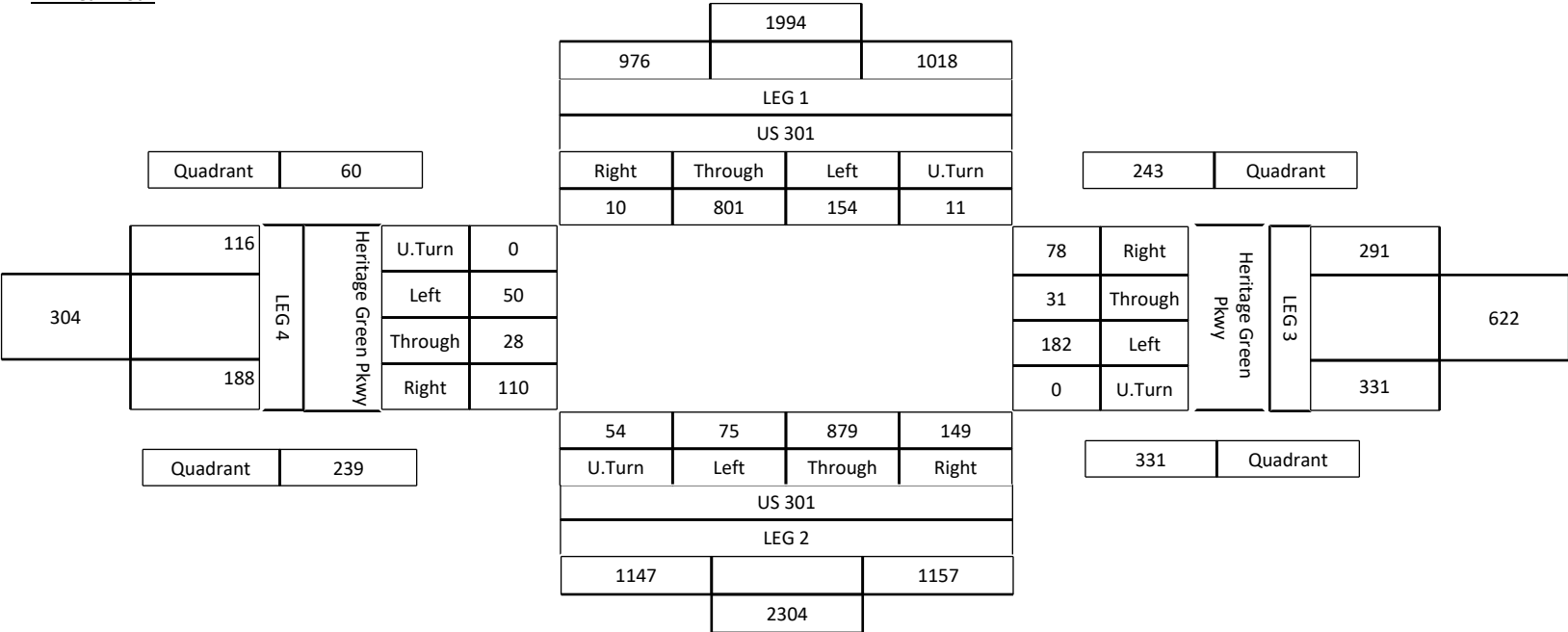
Weather: Clear

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	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080012

Date: 11/16/2022 12:00:00 AM

Location: US 301 at Heritage Green Pkwy

Interval: 60 Min

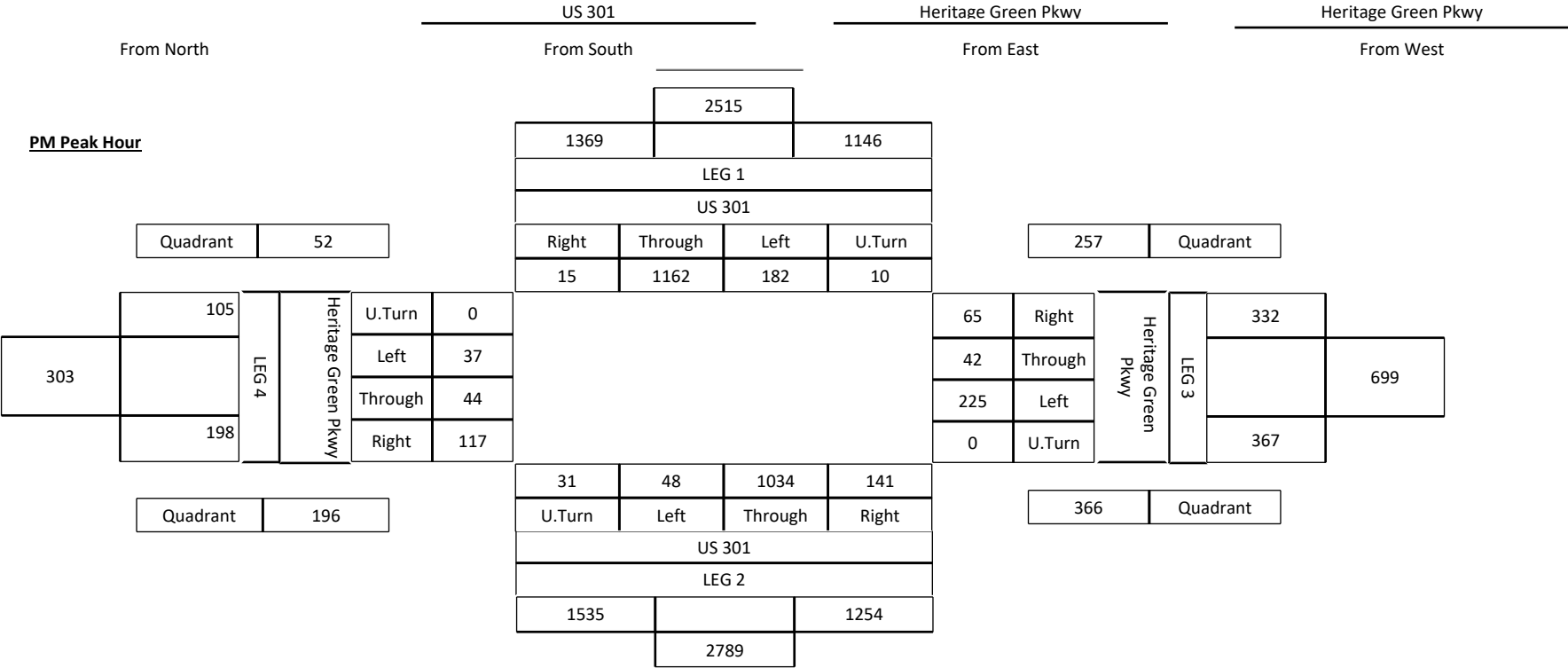
County: Charles

Town: none

Weather: Clear

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	2612	A	0.52	12:00PM-19:00PM	16:30	17:15	3153	B	0.63





Aerial
Diagram

Intersection: Heritage Green Pkwy & Washington Ave



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Washington Avenue Northbound					Washington Avenue Southbound					Heritage Green Parkway Eastbound					Driveway Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	16	22	0	0	0	0	29	15	0	0	11	0	11	0	0	0	0	0	0	104
6:45-7:00	0	23	64	0	0	0	0	37	19	0	0	13	0	15	0	0	0	0	0	0	171
7:00-7:15	0	35	77	0	0	0	0	48	16	0	0	24	0	25	0	0	0	0	0	0	225
7:15-7:30	0	24	95	0	0	0	0	51	27	0	0	18	0	15	0	0	0	0	0	0	230
7:30-7:45	0	30	76	0	0	0	0	52	18	0	0	19	0	16	0	0	0	0	0	0	211
7:45-8:00	0	28	76	0	0	0	0	74	25	0	0	19	0	32	0	0	0	0	0	0	254
8:00-8:15	0	26	70	0	0	0	0	59	24	0	1	11	0	37	0	0	0	0	0	0	228
8:15-8:30	0	22	54	0	0	0	0	58	36	0	0	11	0	30	0	0	0	0	0	0	211
8:30-8:45	0	23	71	0	0	0	0	49	21	0	0	13	0	23	0	0	0	0	0	0	200
8:45-9:00	0	25	62	0	0	0	0	78	29	0	0	17	0	32	0	0	0	0	0	0	243
9:00-9:15	0	24	84	0	0	0	0	59	29	0	0	8	0	30	0	0	0	0	0	0	234
9:15-9:30	0	16	61	0	0	0	0	57	17	0	0	18	0	37	2	0	0	0	0	1	206

Hourly Totals																					
6:30-7:30	0	98	258	0	0	0	0	165	77	0	0	66	0	66	0	0	0	0	0	0	730
6:45-7:45	0	112	312	0	0	0	0	188	80	0	0	74	0	71	0	0	0	0	0	0	837
7:00-8:00	0	117	324	0	0	0	0	225	86	0	0	80	0	88	0	0	0	0	0	0	920
7:15-8:15	0	108	317	0	0	0	0	236	94	0	1	67	0	100	0	0	0	0	0	0	923
7:30-8:30	0	106	276	0	0	0	0	243	103	0	1	60	0	115	0	0	0	0	0	0	904
7:45-8:45	0	99	271	0	0	0	0	240	106	0	1	54	0	122	0	0	0	0	0	0	893
8:00-9:00	0	96	257	0	0	0	0	244	110	0	1	52	0	122	0	0	0	0	0	0	882
8:15-9:15	0	94	271	0	0	0	0	244	115	0	0	49	0	115	0	0	0	0	0	0	888
8:30-9:30	0	88	278	0	0	0	0	243	96	0	0	56	0	122	2	0	0	0	0	1	886

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:15-8:15	0	108	317	0	0	0	0	236	94	0	1	67	0	100	0	0	0	0	0	0	923

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Washington Avenue Northbound					Washington Avenue Southbound					Heritage Green Parkway Eastbound					Driveway Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	26	85	0	0	0	0	103	50	0	0	25	0	45	0	0	0	0	0	0	334
4:15-4:30	0	28	77	0	0	0	0	114	43	0	0	26	0	49	0	0	0	0	0	0	337
4:30-4:45	0	28	92	0	0	0	0	120	40	0	0	22	0	42	1	0	0	0	0	0	344
4:45-5:00	0	29	75	0	0	0	0	101	59	0	0	23	0	56	0	0	0	0	0	1	343
5:00-5:15	0	34	73	0	0	0	0	97	50	0	0	32	0	47	0	0	0	0	0	0	333
5:15-5:30	0	37	67	0	0	0	0	110	52	0	0	33	0	57	0	0	0	0	0	0	356
5:30-5:45	0	34	50	0	0	0	0	86	39	0	0	20	0	58	0	0	0	0	0	0	287
5:45-6:00	0	32	69	0	0	0	0	87	27	0	0	32	0	53	0	0	0	0	0	0	300
6:00-6:15	0	37	47	0	0	0	0	75	41	0	0	22	0	44	0	0	0	0	0	0	266
6:15-6:30	0	32	47	0	0	0	0	67	37	0	1	19	0	58	0	0	0	0	0	0	261
6:30-6:45	0	27	41	0	0	0	0	52	22	0	0	30	0	52	0	0	0	0	0	0	224
6:45-7:00	0	26	53	0	0	0	0	64	36	0	0	15	0	56	0	0	0	0	0	1	250

Hourly Totals																					
4:00-5:00	0	111	329	0	0	0	0	438	192	0	0	96	0	192	1	0	0	0	0	1	1360
4:15-5:15	0	119	317	0	0	0	0	432	192	0	0	103	0	194	1	0	0	0	0	1	1359
4:30-5:30	0	128	307	0	0	0	0	428	201	0	0	110	0	202	1	0	0	0	0	1	1378
4:45-5:45	0	134	265	0	0	0	0	394	200	0	0	108	0	218	0	0	0	0	0	1	1320
5:00-6:00	0	137	259	0	0	0	0	380	168	0	0	117	0	215	0	0	0	0	0	0	1276
5:15-6:15	0	140	233	0	0	0	0	358	159	0	0	107	0	212	0	0	0	0	0	0	1209
5:30-6:30	0	135	213	0	0	0	0	315	144	0	1	93	0	213	0	0	0	0	0	0	1114
5:45-6:45	0	128	204	0	0	0	0	281	127	0	1	103	0	207	0	0	0	0	0	0	1051
6:00-7:00	0	122	188	0	0	0	0	258	136	0	1	86	0	210	0	0	0	0	0	1	1002

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:30-5:30	0	128	307	0	0	0	0	428	201	0	0	110	0	202	1	0	0	0	0	1	1378

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Washington Avenue & Heritage Green Parkway
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: US 301 & MD 225/Hawthorne Rd



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	US 301 Northbound			US 301 Southbound			MD 225 Eastbound			Hawthorne Road Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45	74	246	5	2	110	28	40	6	34	7	26	1	579
6:45-7:00	86	268	7	1	109	45	48	4	39	8	33	3	651
7:00-7:15	60	278	5	2	151	38	47	4	45	10	28	3	671
7:15-7:30	75	289	3	1	125	39	51	4	72	10	35	2	706
7:30-7:45	72	327	11	1	149	33	63	12	52	17	21	5	763
7:45-8:00	68	315	12	2	170	21	52	6	56	6	29	1	738
8:00-8:15	48	259	5	4	143	34	50	5	53	13	26	3	643
8:15-8:30	71	270	14	2	156	37	51	15	41	12	24	2	695
8:30-8:45	66	247	9	6	189	28	40	8	51	8	13	2	667
8:45-9:00	62	235	11	10	164	34	59	8	38	15	24	3	663
9:00-9:15	43	248	9	3	164	16	49	11	35	10	17	1	606
9:15-9:30	52	209	11	5	166	24	62	19	50	16	14	4	632

Hourly Totals													
6:30-7:30	295	1081	20	6	495	150	186	18	190	35	122	9	2607
6:45-7:45	293	1162	26	5	534	155	209	24	208	45	117	13	2791
7:00-8:00	275	1209	31	6	595	131	213	26	225	43	113	11	2878
7:15-8:15	263	1190	31	8	587	127	216	27	233	46	111	11	2850
7:30-8:30	259	1171	42	9	618	125	216	38	202	48	100	11	2839
7:45-8:45	253	1091	40	14	658	120	193	34	201	39	92	8	2743
8:00-9:00	247	1011	39	22	652	133	200	36	183	48	87	10	2668
8:15-9:15	242	1000	43	21	673	115	199	42	165	45	78	8	2631
8:30-9:30	223	939	40	24	683	102	210	46	174	49	68	10	2568

AM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00-8:00	275	1209	31	6	595	131	213	26	225	43	113	11	2878

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	US 301 Northbound			US 301 Southbound			MD 225 Eastbound			Hawthorne Road Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15	50	260	13	19	288	57	67	18	97	48	37	8	962
4:15-4:30	61	251	15	21	308	65	48	27	96	40	35	6	973
4:30-4:45	51	272	12	20	331	67	107	30	73	42	20	4	1029
4:45-5:00	60	293	15	23	290	55	81	21	113	46	34	6	1037
5:00-5:15	73	245	18	19	297	64	61	17	97	37	38	3	969
5:15-5:30	53	243	13	16	313	78	78	18	78	38	29	7	964
5:30-5:45	74	237	14	17	268	64	80	18	77	34	38	8	929
5:45-6:00	62	186	8	19	259	70	61	19	80	27	35	8	834
6:00-6:15	51	192	21	24	245	75	65	19	59	30	25	9	815
6:15-6:30	35	159	12	11	208	49	57	16	63	18	25	15	668
6:30-6:45	34	179	11	8	235	40	46	11	55	22	20	2	663
6:45-7:00	27	132	8	5	196	41	58	7	57	20	20	6	577

Hourly Totals													
4:00-5:00	222	1076	55	83	1217	244	303	96	379	176	126	24	4001
4:15-5:15	245	1061	60	83	1226	251	297	95	379	165	127	19	4008
4:30-5:30	237	1053	58	78	1231	264	327	86	361	163	121	20	3999
4:45-5:45	260	1018	60	75	1168	261	300	74	365	155	139	24	3899
5:00-6:00	262	911	53	71	1137	276	280	72	332	136	140	26	3696
5:15-6:15	240	858	56	76	1085	287	284	74	294	129	127	32	3542
5:30-6:30	222	774	55	71	980	258	263	72	279	109	123	40	3246
5:45-6:45	182	716	52	62	947	234	229	65	257	97	105	34	2980
6:00-7:00	147	662	52	48	884	205	226	53	234	90	90	32	2723

PM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:15-5:15	245	1061	60	83	1226	251	297	95	379	165	127	19	4008

Peak Hour
Turning Movement Count



Intersection: US 301 & MD 225
Weather: Clear
Count by: MDOT SHA
Count Day/Date: Wednesday, November 16, 2022
County: Charles County



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011 County: Charles Comments:
Date: 11/16/2022 12:00:00 AM Town: none
Location: US 301 at MD 225/Hawthorne Dr 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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301

US 301

Hawthorne Dr

MD 225

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	17	2	20	0	4	18	0	22	0	2	1	2	5	0	4	0	3	7	54
00:15:00	0	0	18	3	21	0	3	10	1	14	0	0	0	0	0	0	0	0	3	3	38
00:30:00	0	0	14	1	15	1	4	9	1	15	0	1	0	0	1	0	5	0	3	8	39
00:45:00	0	0	13	2	15	0	0	12	0	12	0	1	1	0	2	0	0	0	1	1	30
01:00:00	0	0	18	3	21	2	0	8	0	10	0	0	0	0	0	0	0	0	1	1	32
01:15:00	0	2	9	1	12	0	0	9	0	9	0	0	0	0	0	0	3	0	3	6	27
01:30:00	0	0	14	3	17	0	5	15	0	20	0	0	1	0	1	0	3	0	4	7	45
01:45:00	0	0	13	1	14	0	3	9	0	12	0	0	0	0	0	0	0	0	1	1	27
02:00:00	0	0	9	0	9	0	2	12	0	14	0	0	0	0	0	0	2	0	2	4	27
02:15:00	0	1	10	1	12	0	1	16	0	17	0	0	0	1	1	0	1	0	1	2	32
02:30:00	0	0	10	4	14	0	3	12	0	15	0	0	0	0	0	0	3	0	2	5	34
02:45:00	0	0	5	0	5	0	0	13	0	13	0	0	0	0	0	0	0	0	1	1	19
03:00:00	1	1	13	1	16	0	2	24	0	26	0	0	1	0	1	0	3	0	1	4	47
03:15:00	0	0	17	1	18	1	5	35	0	41	0	0	0	0	0	0	3	0	3	6	65
03:30:00	0	0	13	1	14	0	5	38	0	43	0	0	0	0	0	0	6	0	0	6	63
03:45:00	0	0	10	3	13	2	3	47	0	52	0	0	0	0	0	0	6	0	4	10	75
04:00:00	1	0	11	0	12	2	4	76	0	82	0	0	1	0	1	0	12	0	3	15	110
04:15:00	0	0	11	2	13	0	17	86	1	104	0	0	2	1	3	0	7	0	4	11	131
04:30:00	0	1	18	2	21	0	21	107	1	129	0	0	5	0	5	0	7	0	4	11	166
04:45:00	0	0	20	4	24	1	19	155	0	175	0	1	1	1	3	0	10	0	7	17	219
05:00:00	0	1	25	4	30	1	37	156	3	197	0	5	7	0	12	0	22	0	7	29	268
05:15:00	2	0	39	8	49	0	60	165	1	226	0	1	9	3	13	0	10	6	9	25	313
05:30:00	0	0	46	12	58	3	78	178	0	259	0	6	14	1	21	0	22	1	21	44	382
05:45:00	0	0	47	10	57	3	55	222	2	282	0	4	16	2	22	0	30	0	22	52	413
06:00:00	0	1	47	19	67	3	51	193	4	251	0	5	22	1	28	0	24	0	21	45	391
06:15:00	0	0	84	30	114	6	45	239	3	293	0	5	24	2	31	0	34	0	26	60	498
06:30:00	1	1	110	28	140	1	73	246	5	325	0	7	26	1	34	0	40	6	34	80	579
06:45:00	0	1	109	45	155	4	82	268	7	361	0	8	33	3	44	0	48	4	39	91	651
07:00:00	1	1	151	38	191	3	57	278	5	343	0	10	28	3	41	0	47	4	45	96	671
07:15:00	0	1	125	39	165	6	69	289	3	367	0	10	35	2	47	0	51	4	72	127	706
07:30:00	0	1	149	33	183	3	69	327	11	410	0	17	21	5	43	0	63	12	52	127	763
07:45:00	1	1	170	21	193	8	60	315	12	395	0	6	29	1	36	0	52	6	56	114	738
08:00:00	2	2	143	34	181	4	44	259	5	312	0	13	26	3	42	0	50	5	53	108	643
08:15:00	2	0	156	37	195	10	61	270	14	355	0	12	24	2	38	0	51	15	41	107	695
08:30:00	4	2	189	28	223	11	55	247	9	322	0	8	13	2	23	0	40	8	51	99	667
08:45:00	4	6	164	34	208	9	53	235	11	308	0	15	24	3	42	0	59	8	38	105	663
09:00:00	1	2	164	16	183	4	39	248	9	300	0	10	17	1	28	0	49	11	35	95	606
09:15:00	1	4	166	24	195	4	48	209	11	272	0	16	14	4	34	0	62	19	50	131	632



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at MD 225/Hawthorne Dr

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301						US 301					Hawthorne Dr					MD 225					
From North						From South					From East					From West					
09:30:00	1	4	201	25	231	11	36	256	15	318	0	13	12	5	30	0	60	4	42	106	685
09:45:00	4	6	173	18	201	13	43	225	13	294	0	23	13	6	42	0	75	12	37	124	661
10:00:00	3	3	193	30	229	12	30	268	15	325	0	21	20	9	50	0	49	11	31	91	695
10:15:00	8	5	164	28	205	10	37	206	8	261	0	17	12	9	38	0	59	10	21	90	594
10:30:00	5	1	197	23	226	6	33	263	10	312	0	17	17	8	42	0	56	7	31	94	674
10:45:00	6	3	170	33	212	6	28	249	6	289	0	16	14	5	35	0	61	9	49	119	655
11:00:00	2	2	193	45	242	5	34	252	10	301	0	19	17	2	38	0	57	7	21	85	666
11:15:00	13	3	191	48	255	16	41	274	10	341	0	21	14	6	41	0	72	9	29	110	747
11:30:00	5	4	228	36	273	7	22	260	10	299	0	25	25	6	56	0	69	17	37	123	751
11:45:00	1	1	235	48	285	6	36	204	12	258	0	23	24	8	55	0	69	12	36	117	715
12:00:00	2	8	253	25	288	17	44	252	8	321	0	29	19	5	53	0	60	8	61	129	791
12:15:00	5	4	228	32	269	7	35	255	18	315	0	31	24	12	67	0	70	3	59	132	783
12:30:00	4	3	211	34	252	15	44	257	17	333	0	27	20	8	55	0	72	7	42	121	761
12:45:00	4	6	234	49	293	10	34	234	14	292	0	26	21	6	53	0	55	12	44	111	749
13:00:00	7	9	223	28	267	6	33	249	17	305	0	24	14	6	44	0	60	18	46	124	740
13:15:00	6	4	212	32	254	5	28	260	19	312	0	19	18	9	46	0	64	10	43	117	729
13:30:00	5	4	93	15	117	12	39	254	17	322	0	38	26	9	73	0	89	11	78	178	690
13:45:00	7	2	119	32	160	5	35	211	16	267	0	43	31	4	78	0	57	13	47	117	622
14:00:00	4	2	190	16	212	7	30	218	13	268	0	55	28	9	92	0	65	6	57	128	700
14:15:00	6	12	254	23	295	8	49	239	10	306	0	44	32	5	81	0	61	16	64	141	823
14:30:00	5	5	245	42	297	9	45	215	12	281	0	42	26	8	76	0	61	17	70	148	802
14:45:00	4	3	228	39	274	6	36	218	22	282	0	30	15	8	53	0	72	11	99	182	791
15:00:00	12	8	275	52	347	3	46	206	12	267	0	35	26	8	69	0	62	21	88	171	854
15:15:00	3	6	278	53	340	6	54	220	15	295	0	34	22	6	62	0	65	24	91	180	877
15:30:00	15	4	271	64	354	9	36	239	13	297	0	42	35	4	81	0	69	15	94	178	910
15:45:00	12	7	268	65	352	9	50	238	20	317	0	39	34	5	78	0	62	27	72	161	908
16:00:00	11	8	288	57	364	4	46	260	13	323	0	48	37	8	93	0	67	18	97	182	962
16:15:00	12	9	308	65	394	13	48	251	15	327	0	40	35	6	81	0	48	27	96	171	973
16:30:00	10	10	331	67	418	5	46	272	12	335	0	42	20	4	66	0	107	30	73	210	1029
16:45:00	14	9	290	55	368	10	50	293	15	368	0	46	34	6	86	0	81	21	113	215	1037
17:00:00	13	6	297	64	380	13	60	245	18	336	0	37	38	3	78	0	61	17	97	175	969
17:15:00	8	8	313	78	407	6	47	243	13	309	0	38	29	7	74	0	78	18	78	174	964
17:30:00	10	7	268	64	349	9	65	237	14	325	0	34	38	8	80	0	80	18	77	175	929
17:45:00	11	8	259	70	348	9	53	186	8	256	0	27	35	8	70	0	61	19	80	160	834
18:00:00	16	8	245	75	344	9	42	192	21	264	0	30	25	9	64	0	65	19	59	143	815
18:15:00	5	6	208	49	268	7	28	159	12	206	0	18	25	15	58	0	57	16	63	136	668
18:30:00	4	4	235	40	283	5	29	179	11	224	0	22	20	2	44	0	46	11	55	112	663
18:45:00	2	3	196	41	242	6	21	132	8	167	0	20	20	6	46	0	58	7	57	122	577
19:00:00	1	8	187	43	239	6	21	147	14	188	0	16	12	3	31	0	38	5	34	77	535
19:15:00	0	4	163	39	206	4	24	114	12	154	0	21	20	2	43	0	53	11	75	139	542



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at MD 225/Hawthorne Dr

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301

US 301

Hawthorne Dr

MD 225

From North

From South

From East

From West

19:30:00	3	4	179	43	229	2	17	120	4	143	0	11	17	6	34	0	33	9	44	86	492
19:45:00	0	3	144	34	181	2	29	103	6	140	0	12	16	2	30	0	32	9	51	92	443
20:00:00	8	10	169	31	218	2	9	101	7	119	0	17	10	3	30	0	19	4	28	51	418
20:15:00	3	3	147	39	192	3	14	77	8	102	0	13	10	2	25	0	27	6	51	84	403
20:30:00	5	0	103	23	131	2	18	88	3	111	0	18	9	4	31	0	18	6	28	52	325
20:45:00	2	6	119	21	148	1	7	66	4	78	0	11	9	2	22	0	21	7	37	65	313
21:00:00	1	3	118	6	128	1	18	85	1	105	0	8	5	0	13	0	15	6	21	42	288
21:15:00	1	1	79	5	86	1	16	54	4	75	0	6	10	1	17	0	28	2	21	51	229
21:30:00	4	2	99	12	117	0	6	48	2	56	0	8	8	2	18	0	8	3	20	31	222
21:45:00	4	2	75	29	110	2	4	65	4	75	0	6	6	1	13	0	12	1	23	36	234
22:00:00	1	2	55	19	77	1	10	42	6	59	0	5	5	2	12	0	10	3	23	36	184
22:15:00	1	1	53	16	71	1	9	34	5	49	0	2	5	4	11	0	11	4	13	28	159
22:30:00	1	1	58	10	70	0	2	46	2	50	0	2	1	1	4	0	3	0	19	22	146
22:45:00	3	2	52	13	70	0	2	31	3	36	0	2	3	1	6	0	1	3	8	12	124
23:00:00	2	0	41	11	54	1	1	44	0	46	0	2	3	0	5	0	5	0	11	16	121
23:15:00	4	1	38	3	46	1	2	35	0	38	0	3	2	1	6	0	2	1	11	14	104
23:30:00	1	3	38	3	45	0	1	36	1	38	0	2	1	0	3	0	1	1	7	9	95
23:45:00	0	0	34	1	35	0	2	24	1	27	0	1	4	2	7	0	1	0	0	1	70
TOTAL	331	291	13063	2556	16241	444	2862	15286	718	19310	0	1484	1466	341	3291	0	3647	728	3582	7957	46799
AMPEAK	21	16	907	157	1101	46	143	990	40	1219	0	98	82	25	205	0	270	46	163	479	3004
PMPEAK	49	34	1226	251	1560	41	204	1061	60	1366	0	165	127	19	311	0	297	95	379	771	4008
DAYPEAK	49	34	1226	251	1560	41	204	1061	60	1366	0	165	127	19	311	0	297	95	379	771	4008



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at MD 225/Hawthorne Dr

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301

US 301

Hawthorne Dr

MD 225

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15:00	0	0	0	0	0	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011 County: Charles Comments:
Date: 11/16/2022 12:00:00 AM Town: none
Location: US 301 at MD 225/Hawthorne Dr 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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301

US 301

Hawthorne Dr

MD 225

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	1	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	1	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	1	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at MD 225/Hawthorne Dr

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78

US 301

US 301

Hawthorne Dr

MD 225

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	1	0	0	2	0	0	0	0	0	0
AMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
PMPEAK	0	0	0	0	0	1	0	0	0	0	0	0
DAYPEAK	0	0	0	0	0	1	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

County: Charles

Comments:

Date: 11/16/2022 12:00:00 AM

Town: none

Location: US 301 at MD 225/Hawthorne Dr

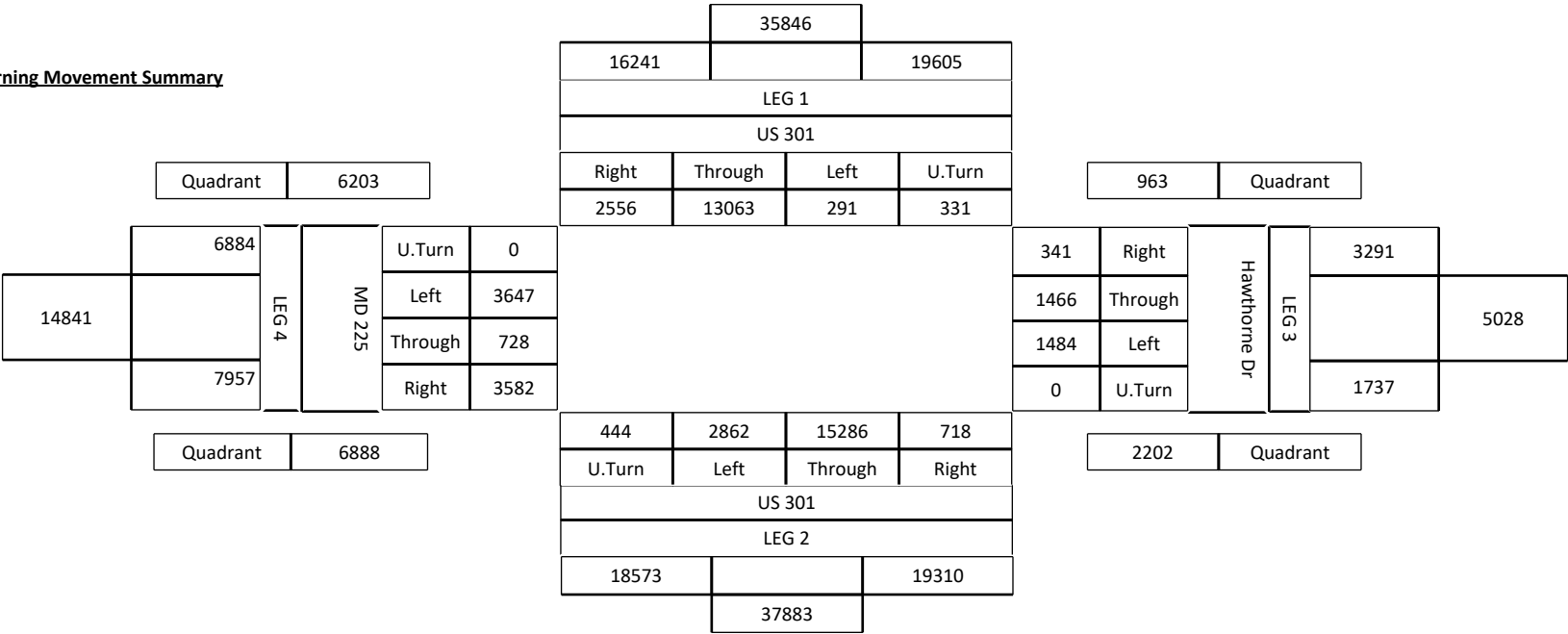
Weather: Clear

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080011

Date: 11/16/2022 12:00:00 AM

Location: US 301 at MD 225/Hawthorne Dr

Interval: 60 Min

County: Charles

Town: none

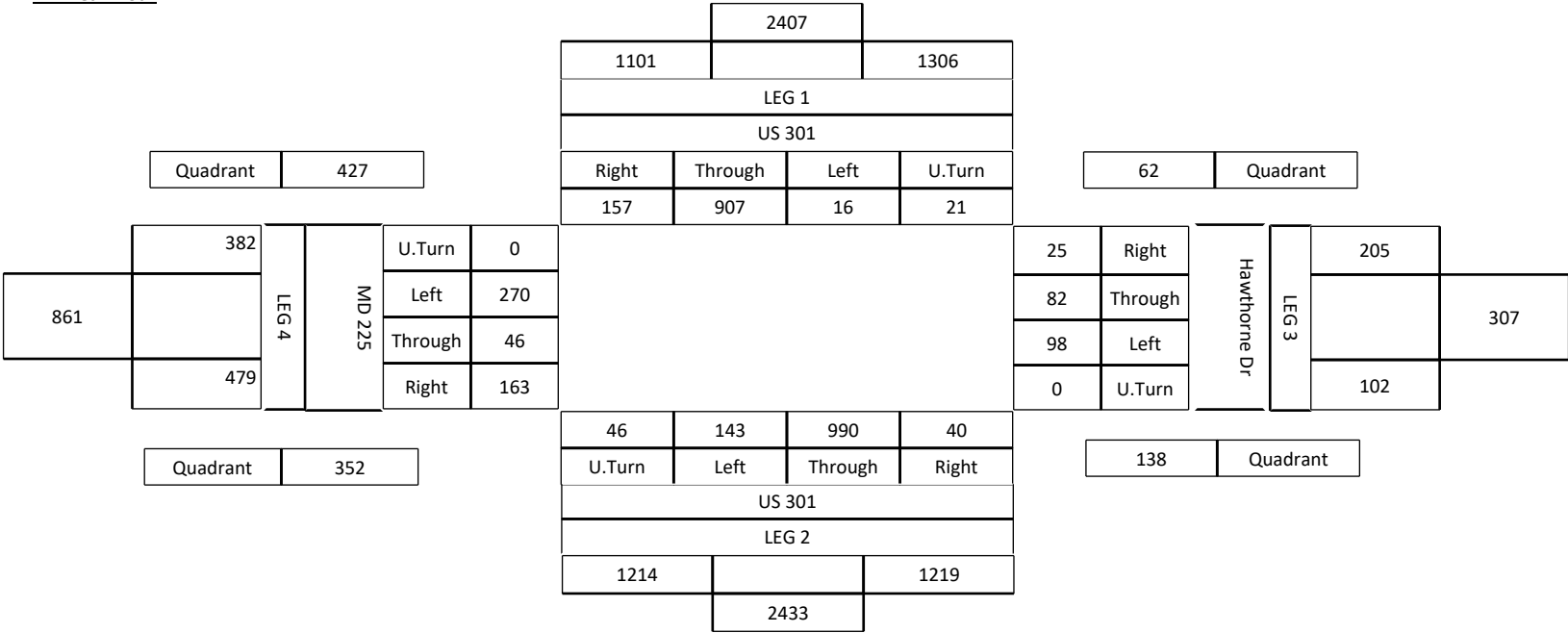
Weather: Clear

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S2000080011

County:

Charles

Comments:

Date:

11/16/2022 12:00:00 AM

Town:

none

Location:

US 301 at MD 225/Hawthorne Dr

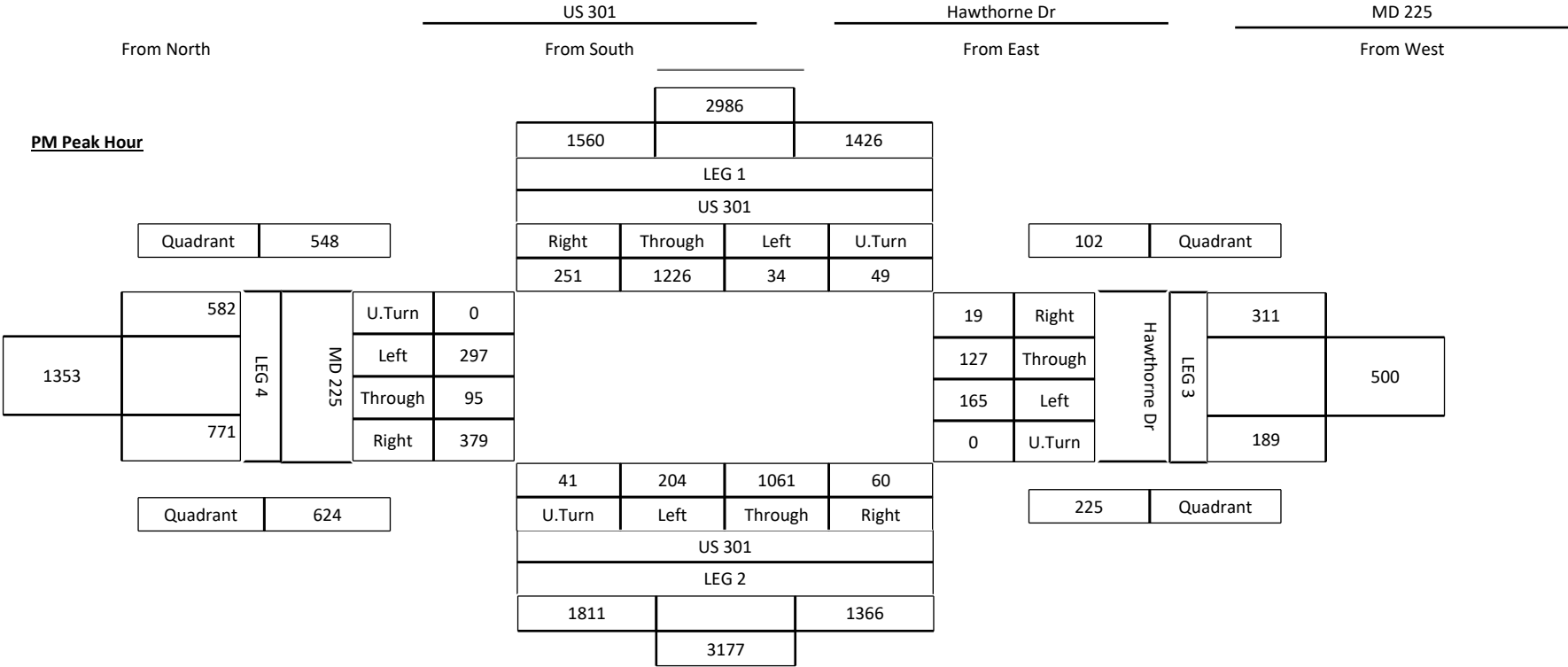
Weather:

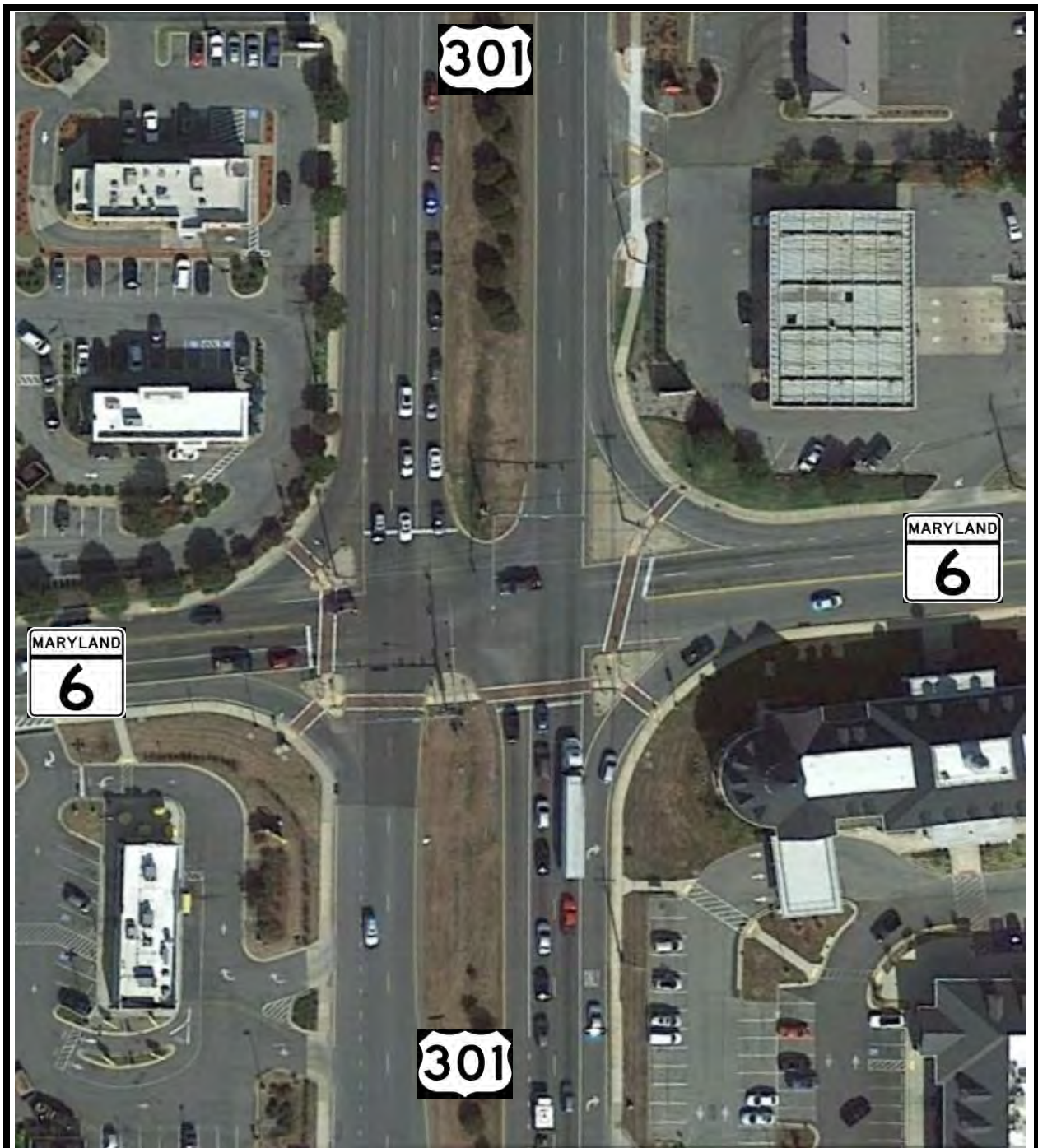
Clear

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	11:15	12:00	3004	B	0.63	12:00PM-19:00PM	16:15	17:00	4008	C	0.78





Aerial
Diagram

Intersection: US 301 & MD 6



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

US 301

US 301

MD 6

MD 6

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	5	20	7	32	0	2	12	1	15	0	4	1	8	13	0	1	0	0	1	61
00:15:00	0	2	17	4	23	0	0	8	0	8	0	3	1	7	11	0	1	0	1	2	44
00:30:00	0	5	12	3	20	0	0	8	1	9	0	2	2	5	9	0	1	1	1	3	41
00:45:00	0	2	13	3	18	0	0	9	2	11	0	3	1	3	7	0	2	4	0	6	42
01:00:00	0	2	15	1	18	0	0	4	1	5	0	4	0	4	8	0	0	2	1	3	34
01:15:00	0	6	5	1	12	0	0	9	3	12	0	2	3	4	9	0	0	0	0	0	33
01:30:00	0	2	11	1	14	0	0	11	3	14	0	1	2	1	4	0	0	0	1	1	33
01:45:00	0	2	17	2	21	0	0	5	0	5	0	0	0	3	3	0	0	1	1	2	31
02:00:00	0	1	7	2	10	0	1	18	0	19	0	0	1	0	1	0	1	0	1	2	32
02:15:00	0	4	7	1	12	0	0	12	1	13	0	0	0	3	3	0	0	1	0	1	29
02:30:00	0	2	7	2	11	0	2	12	2	16	0	3	1	3	7	0	0	0	0	0	34
02:45:00	0	2	5	4	11	0	1	11	4	16	0	0	0	6	6	0	1	0	0	1	34
03:00:00	0	2	9	0	11	2	0	14	1	17	0	1	3	2	6	0	3	1	0	4	38
03:15:00	0	6	7	4	17	0	1	20	1	22	0	1	1	3	5	0	5	2	0	7	51
03:30:00	0	2	8	4	14	0	1	38	2	41	0	0	1	5	6	0	4	1	0	5	66
03:45:00	0	3	14	4	21	0	1	44	1	46	0	3	2	10	15	0	5	0	2	7	89
04:00:00	0	3	14	1	18	1	1	60	2	64	0	0	0	13	13	0	12	7	1	20	115
04:15:00	0	3	14	0	17	0	0	54	0	54	0	2	2	14	18	0	9	4	2	15	104
04:30:00	0	2	21	2	25	0	2	89	8	99	0	2	2	25	29	0	15	6	1	22	175
04:45:00	0	10	25	1	36	0	4	126	8	138	0	2	4	19	25	0	17	3	2	22	221
05:00:00	0	11	35	4	50	0	5	145	10	160	0	4	10	33	47	0	22	7	2	31	288
05:15:00	2	6	37	7	52	0	13	152	9	174	0	6	7	41	54	0	27	9	0	36	316
05:30:00	1	12	50	10	73	0	5	167	11	183	0	8	14	34	56	0	31	11	1	43	355
05:45:00	0	16	43	13	72	0	14	208	23	245	0	6	18	30	54	0	36	20	2	58	429
06:00:00	0	21	65	11	97	0	14	161	11	186	0	10	13	35	58	0	41	22	15	78	419
06:15:00	0	17	71	13	101	0	17	197	25	239	0	16	23	62	101	0	55	13	17	85	526
06:30:00	0	28	95	20	143	1	22	176	39	238	0	17	35	30	82	0	47	27	12	86	549
06:45:00	0	48	104	21	173	0	32	224	54	310	0	27	48	57	132	0	45	36	19	100	715
07:00:00	1	51	107	34	193	1	32	226	44	303	0	28	37	58	123	0	69	38	31	138	757
07:15:00	4	30	122	71	227	0	39	238	39	316	0	29	44	56	129	0	83	34	32	149	821
07:30:00	0	42	118	45	205	0	23	247	46	316	0	22	45	63	130	0	89	39	40	168	819
07:45:00	0	51	138	22	211	4	20	259	55	338	0	21	47	58	126	0	67	39	36	142	817
08:00:00	0	52	111	23	186	0	34	221	46	301	0	24	42	65	131	0	73	33	28	134	752
08:15:00	3	50	141	29	223	1	39	233	40	313	0	25	43	59	127	0	80	29	24	133	796
08:30:00	4	48	134	24	210	2	31	185	32	250	0	21	26	55	102	0	66	33	22	121	683
08:45:00	7	53	116	44	220	2	33	192	31	258	0	18	37	55	110	0	54	41	23	118	706
09:00:00	12	48	143	37	240	2	35	193	30	260	0	15	42	56	113	0	74	30	29	133	746
09:15:00	10	36	128	40	214	1	16	175	24	216	0	26	31	49	106	0	74	33	23	130	666



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

	US 301					US 301					MD 6					MD 6					
	From North					From South					From East					From West					
09:30:00	6	47	147	36	236	0	18	179	19	216	0	17	27	50	94	0	59	38	19	116	662
09:45:00	7	40	149	48	244	2	16	161	23	202	0	20	37	60	117	0	75	27	20	122	685
10:00:00	7	46	128	30	211	0	24	165	25	214	0	18	36	49	103	0	71	32	22	125	653
10:15:00	8	38	142	45	233	3	18	140	24	185	0	12	38	56	106	0	66	34	33	133	657
10:30:00	15	31	127	43	216	4	23	143	22	192	0	24	43	57	124	0	37	30	17	84	616
10:45:00	8	50	151	52	261	2	20	143	18	183	0	27	23	68	118	0	58	42	27	127	689
11:00:00	7	53	143	42	245	4	22	165	16	207	0	24	22	66	112	0	61	26	15	102	666
11:15:00	7	61	180	36	284	2	25	182	28	237	0	12	35	55	102	0	44	34	30	108	731
11:30:00	17	46	145	47	255	2	20	179	28	229	0	18	38	60	116	0	57	38	26	121	721
11:45:00	17	46	176	41	280	2	22	166	37	227	0	22	33	52	107	0	57	40	22	119	733
12:00:00	6	57	157	54	274	3	23	170	31	227	0	21	40	56	117	0	75	29	27	131	749
12:15:00	8	45	170	49	272	1	28	156	24	209	0	15	33	56	104	0	73	35	30	138	723
12:30:00	4	64	152	43	263	1	28	165	39	233	0	9	23	60	92	0	67	34	18	119	707
12:45:00	12	60	181	49	302	0	21	168	26	215	0	17	41	73	131	0	69	31	25	125	773
13:00:00	6	44	174	34	258	3	24	171	27	225	0	18	37	59	114	0	77	34	30	141	738
13:15:00	14	65	193	44	316	2	20	188	29	239	0	27	37	63	127	0	63	38	24	125	807
13:30:00	12	63	182	68	325	3	23	169	30	225	0	22	45	55	122	0	58	24	25	107	779
13:45:00	11	61	177	71	320	2	24	180	44	250	0	20	23	51	94	0	56	46	30	132	796
14:00:00	9	68	217	69	363	0	18	201	46	265	0	35	41	47	123	0	53	43	35	131	882
14:15:00	4	79	203	47	333	0	27	190	40	257	0	30	39	53	122	0	78	32	45	155	867
14:30:00	11	70	223	54	358	4	28	190	42	264	0	39	41	46	126	0	61	43	27	131	879
14:45:00	13	68	247	63	391	2	30	184	42	258	0	38	46	48	132	0	75	35	34	144	925
15:00:00	8	58	249	50	365	2	24	194	44	264	0	46	46	55	147	0	51	42	38	131	907
15:15:00	11	69	246	53	379	3	26	198	42	269	0	28	37	48	113	0	61	49	48	158	919
15:30:00	4	69	304	32	409	2	24	248	35	309	0	36	38	59	133	0	52	35	45	132	983
15:45:00	11	68	267	57	403	1	32	221	45	299	0	30	56	62	148	0	43	30	35	108	958
16:00:00	11	66	265	67	409	0	25	258	29	312	0	36	47	51	134	0	63	31	28	122	977
16:15:00	5	65	291	83	444	0	32	236	33	301	0	33	43	40	116	0	65	32	22	119	980
16:30:00	8	69	295	67	439	1	33	224	19	277	0	38	49	46	133	0	70	27	37	134	983
16:45:00	7	71	285	68	431	2	32	244	52	330	0	50	51	62	163	0	61	36	53	150	1074
17:00:00	10	75	294	58	437	2	39	222	27	290	0	44	48	61	153	0	68	31	47	146	1026
17:15:00	9	51	283	90	433	4	24	196	32	256	0	38	48	53	139	0	67	30	32	129	957
17:30:00	8	63	277	69	417	1	41	192	34	268	0	27	32	48	107	0	62	27	34	123	915
17:45:00	8	71	274	54	407	5	26	159	39	229	0	33	51	47	131	0	60	37	35	132	899
18:00:00	4	51	203	55	313	1	21	153	29	204	0	32	39	55	126	0	70	44	24	138	781
18:15:00	2	63	197	56	318	2	22	133	15	172	0	16	40	40	96	0	40	45	34	119	705
18:30:00	5	42	193	55	295	1	16	119	22	158	0	27	28	48	103	0	34	29	23	86	642
18:45:00	7	45	168	38	258	1	20	101	11	133	0	22	23	37	82	0	41	26	23	90	563
19:00:00	5	44	163	49	261	3	22	102	13	140	0	17	19	35	71	0	39	29	22	90	562
19:15:00	2	38	134	37	211	3	15	96	15	129	0	17	26	29	72	0	23	16	14	53	465



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

US 301

US 301

MD 6

MD 6

From North

From South

From East

From West

19:30:00	3	33	139	32	207	0	14	104	16	134	0	12	24	43	79	0	25	20	10	55	475
19:45:00	3	45	133	42	223	0	9	117	14	140	0	24	30	31	85	0	30	21	23	74	522
20:00:00	6	27	128	23	184	2	13	137	25	177	0	22	31	35	88	0	31	31	13	75	524
20:15:00	7	26	105	22	160	4	12	142	14	172	0	20	27	22	69	0	27	8	11	46	447
20:30:00	5	17	107	29	158	1	7	139	16	163	0	13	15	33	61	0	21	15	8	44	426
20:45:00	4	30	85	28	147	2	7	118	6	133	0	14	18	27	59	0	13	16	10	39	378
21:00:00	7	22	93	19	141	0	6	88	14	108	0	4	18	21	43	0	19	12	11	42	334
21:15:00	5	35	65	23	128	0	10	67	8	85	0	8	16	19	43	0	19	10	7	36	292
21:30:00	1	14	82	16	113	1	2	52	10	65	0	9	11	19	39	0	10	12	4	26	243
21:45:00	1	16	50	12	79	0	2	42	11	55	0	7	9	18	34	0	12	7	3	22	190
22:00:00	4	15	44	15	78	1	7	27	9	44	0	12	10	17	39	0	16	10	7	33	194
22:15:00	6	15	67	13	101	0	2	25	5	32	0	11	7	16	34	0	4	9	3	16	183
22:30:00	0	16	43	16	75	0	1	20	6	27	0	8	7	16	31	0	7	2	3	12	145
22:45:00	0	12	44	2	58	0	3	24	6	33	0	4	3	13	20	0	5	2	3	10	121
23:00:00	1	9	38	12	60	0	4	34	3	41	0	1	4	10	15	0	4	2	1	7	123
23:15:00	1	6	33	10	50	1	1	21	10	33	0	3	8	13	24	0	2	2	4	8	115
23:30:00	2	7	28	2	39	0	2	20	7	29	0	3	9	16	28	0	2	2	1	5	101
23:45:00	0	3	25	4	32	0	0	10	2	12	0	6	4	7	17	0	3	4	3	10	71
TOTAL	434	3314	11467	2938	18153	105	1518	12401	1988	16012	0	1592	2339	3526	7457	0	3720	2073	1670	7463	49085
AMPEAK	5	174	485	172	836	5	114	970	184	1273	0	100	173	235	508	0	308	150	139	597	3214
PMPEAK	30	280	1165	276	1751	5	136	926	131	1198	0	165	191	209	565	0	264	126	159	549	4063
DAYPEAK	30	280	1165	276	1751	5	136	926	131	1198	0	165	191	209	565	0	264	126	159	549	4063



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

US 301

US 301

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	2	0	0	0	0
01:15:00	0	0	0	0	0	0	0	1	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	1	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	1	0	0	1	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	1	0	0	2	0	0	2	0	0	0	0
05:15:00	0	1	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	1	0	0	0	0	0	0	0	0	0	0
06:00:00	0	1	0	0	0	0	0	0	0	0	0	0
06:15:00	0	1	0	0	0	0	0	0	0	0	0	0
06:30:00	0	1	0	0	0	0	0	0	0	0	2	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	1	0
07:15:00	0	0	0	0	1	0	0	1	0	0	0	0
07:30:00	0	0	0	0	1	0	0	1	0	0	1	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	1	0	0	0	0	0	0	0
08:30:00	0	0	0	0	6	0	0	6	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

US 301

US 301

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	1	0	0	2	0	0	0	0
09:45:00	0	0	0	0	0	0	0	1	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	2	0	0	3	0	0	0	0
11:00:00	0	0	0	0	0	0	0	1	0	0	0	0
11:15:00	0	0	0	0	1	0	0	1	0	0	0	0
11:30:00	0	0	0	0	1	0	0	1	0	0	0	0
11:45:00	0	0	0	0	3	0	0	3	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	1	0	0	1	0	0	3	0	0	0	0
12:30:00	0	0	0	0	3	0	0	3	0	0	0	0
12:45:00	0	1	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	1	0	0	2	0	0	0	0
13:15:00	0	0	0	0	1	0	0	1	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	4	0	0	2	0	0	0	0
14:45:00	0	0	0	0	2	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	3	0	0	2	0	0	0	0
15:30:00	0	0	0	0	2	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	2	0	0	1	0	0	0	0
17:00:00	0	0	0	0	1	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	1	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	1	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79

US 301

US 301

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	2	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	1	0	0	1	0	0	0	0
20:30:00	0	0	0	0	0	0	0	1	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	1	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	1	0	0	2	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	8	0	0	45	0	0	46	0	0	5	0
AMPEAK	0	0	0	0	2	0	0	2	0	0	2	0
PMPEAK	0	0	0	0	3	0	0	1	0	0	0	0
DAYPEAK	0	0	0	0	3	0	0	1	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

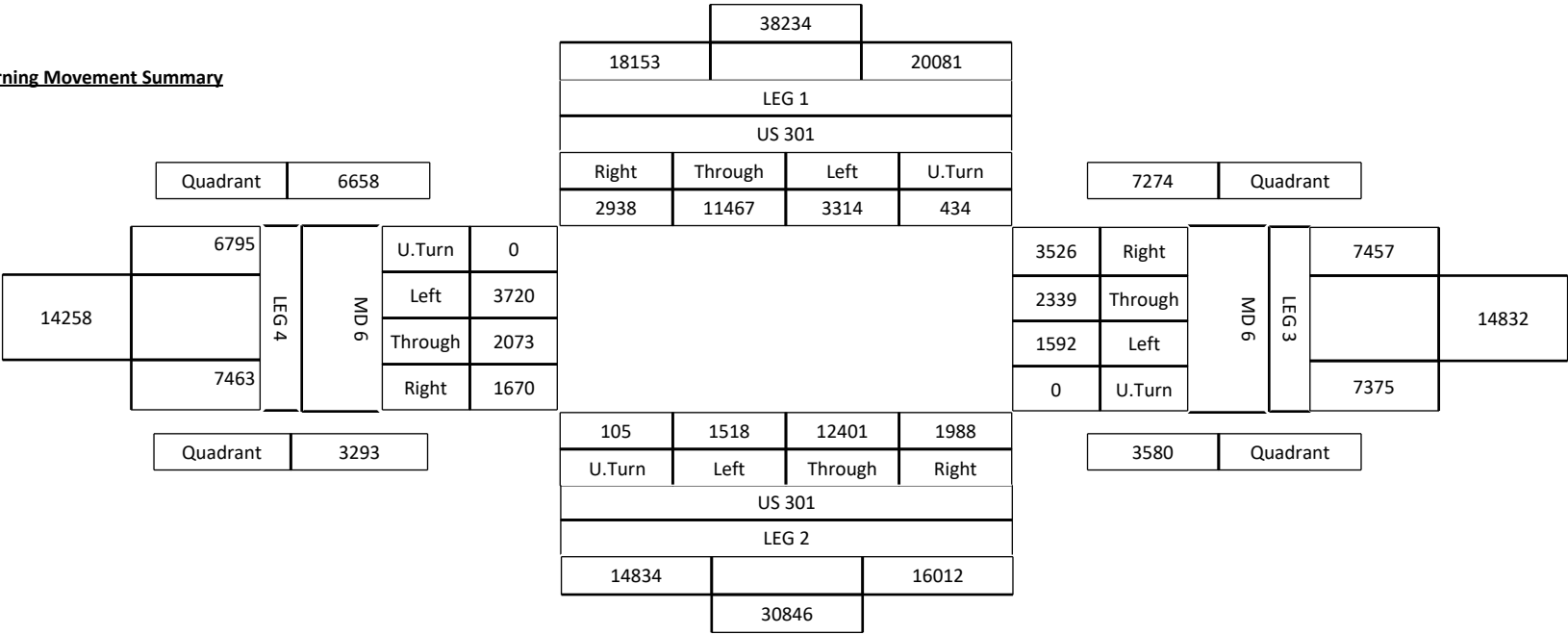
Weather: Clear

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080010

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: US 301 at MD 6

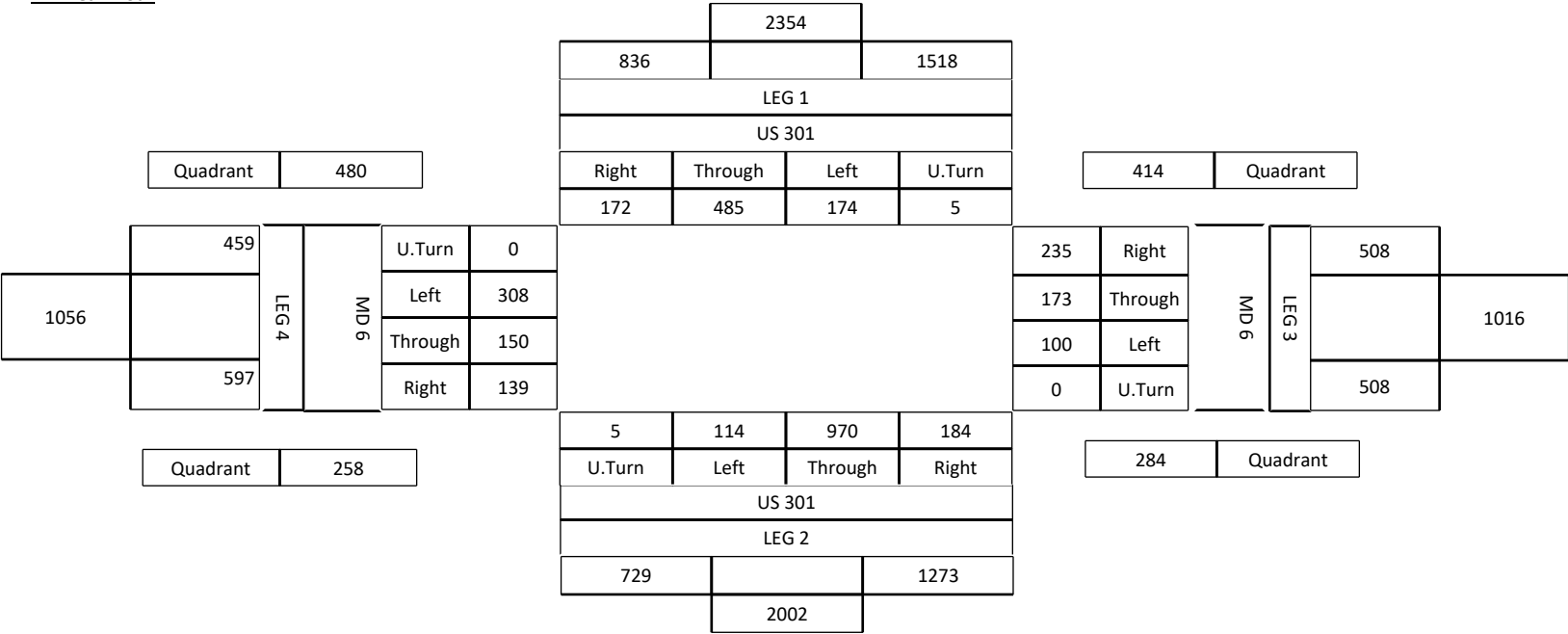
Weather: Clear

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	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79



AM Peak Hour





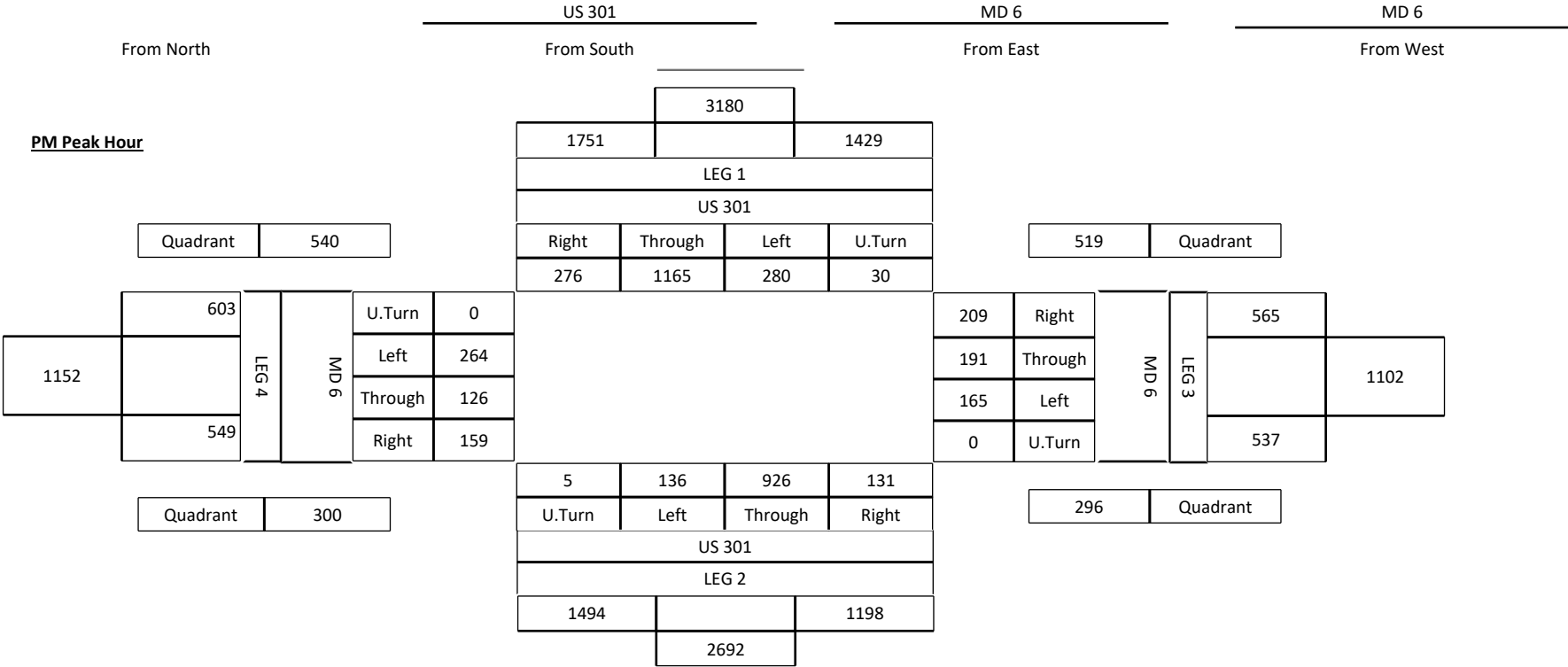
Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

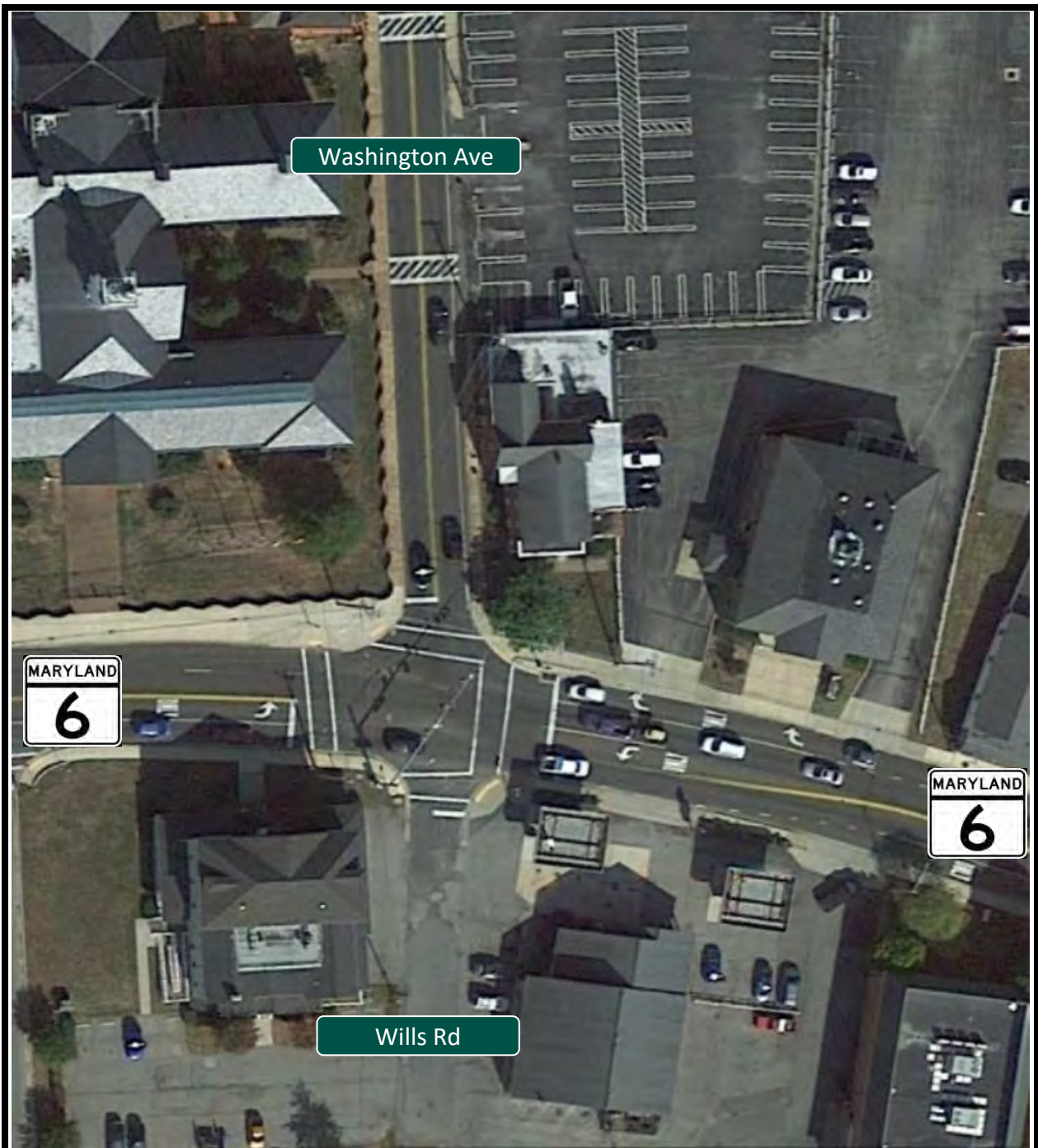
Station ID: S2000080010
Date: 11/17/2022 12:00:00 AM
Location: US 301 at MD 6
Interval: 60 Min

County: Charles
Town: none
Weather: Clear

Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:00	07:45	3214	B	0.68	12:00PM-19:00PM	16:15	17:00	4063	C	0.79





Aerial
Diagram

Intersection: MD 6 & Washington Ave/Wills Rd

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

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	4	0	0	4	0	0	0	0	0	0	0	13	2	15	0	1	6	0	7	26
00:15:00	0	4	0	3	7	0	0	0	0	0	0	0	6	6	12	0	0	2	0	2	21
00:30:00	0	2	0	1	3	0	0	0	0	0	0	0	8	0	8	0	0	7	0	7	18
00:45:00	0	2	0	0	2	0	0	0	0	0	0	0	8	1	9	0	2	8	0	10	21
01:00:00	0	2	0	1	3	0	0	0	0	0	0	0	5	0	5	0	1	4	0	5	13
01:15:00	0	2	0	1	3	0	0	0	0	0	0	0	7	1	8	0	0	7	0	7	18
01:30:00	0	4	0	1	5	0	0	0	0	0	0	0	3	1	4	0	1	4	0	5	14
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	3	0	3	8
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	1	1	0	2	5
02:15:00	0	1	0	0	1	0	0	0	0	0	0	0	4	3	7	0	1	5	0	6	14
02:30:00	0	0	0	1	1	0	0	0	0	0	0	0	6	0	6	0	1	0	0	1	8
02:45:00	0	1	0	0	1	0	0	0	0	0	0	0	5	1	6	0	1	5	0	6	13
03:00:00	0	1	0	0	1	0	0	0	0	0	0	0	6	0	6	0	0	3	0	3	10
03:15:00	0	2	0	0	2	0	0	0	0	0	0	0	3	1	4	0	0	9	0	9	15
03:30:00	0	1	0	1	2	0	0	0	0	0	0	0	6	4	10	0	1	4	0	5	17
03:45:00	0	1	0	1	2	0	0	0	0	0	0	0	10	6	16	0	0	4	0	4	22
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0	11	4	15	0	0	9	0	9	24
04:15:00	0	1	0	0	1	0	0	0	0	0	0	0	19	9	28	0	4	7	0	11	40
04:30:00	0	0	0	1	1	0	0	0	0	0	0	0	24	6	30	0	3	10	0	13	44
04:45:00	0	5	0	0	5	0	0	0	0	0	0	0	31	10	41	0	3	19	0	22	68
05:00:00	0	3	0	1	4	0	0	0	0	0	0	0	42	17	59	0	5	24	0	29	92
05:15:00	0	5	0	1	6	0	0	0	0	0	0	0	54	19	73	0	6	18	0	24	103
05:30:00	0	7	0	3	10	0	0	0	0	0	0	0	57	31	88	0	9	26	0	35	133
05:45:00	0	3	0	2	5	0	0	0	0	0	0	0	62	25	87	0	5	51	0	56	148
06:00:00	0	15	0	3	18	0	0	0	0	0	0	0	49	34	83	0	9	60	0	69	170
06:15:00	0	7	0	2	9	0	0	0	0	0	0	0	97	40	137	0	12	64	0	76	222
06:30:00	0	20	0	10	30	0	0	0	0	0	0	0	80	64	144	0	19	76	0	95	269
06:45:00	0	34	0	8	42	0	1	0	0	1	0	0	125	79	204	0	21	123	0	144	391
07:00:00	0	28	0	9	37	0	0	1	0	1	0	0	131	67	198	0	31	122	0	153	389
07:15:00	0	37	0	8	45	0	2	0	0	2	0	0	144	102	246	0	27	96	0	123	416
07:30:00	0	41	0	13	54	0	0	0	0	0	0	0	122	101	223	0	32	106	0	138	415
07:45:00	0	35	0	24	59	0	2	0	0	2	0	1	129	97	227	0	31	111	2	144	432
08:00:00	0	33	0	19	52	0	1	1	0	2	0	0	138	89	227	0	23	107	2	132	413
08:15:00	0	58	1	15	74	0	1	1	2	4	0	1	122	75	198	0	25	113	1	139	415
08:30:00	0	55	3	19	77	0	0	0	0	0	0	0	99	72	171	0	24	97	0	121	369
08:45:00	0	48	3	17	68	0	3	0	0	3	0	0	118	97	215	0	26	98	5	129	415
09:00:00	0	40	0	25	65	0	1	0	0	1	0	1	118	75	194	0	28	83	0	111	371
09:15:00	0	50	2	17	69	0	1	0	1	2	0	1	111	51	163	0	25	94	5	124	358

152 of 565



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

From North

From South

From East

From West

09:30:00	0	58	3	41	102	0	2	0	2	4	0	1	89	62	152	0	16	97	2	115	373
09:45:00	0	45	3	15	63	0	1	0	0	1	0	0	116	58	174	0	27	86	1	114	352
10:00:00	0	65	0	25	90	0	0	1	2	3	0	0	85	77	162	0	17	94	2	113	368
10:15:00	0	52	2	17	71	0	3	0	0	3	0	1	93	68	162	0	28	79	6	113	349
10:30:00	0	56	0	24	80	0	2	3	0	5	0	1	95	58	154	0	24	74	3	101	340
10:45:00	0	45	0	27	72	0	1	0	4	5	0	0	108	61	169	0	26	98	3	127	373
11:00:00	0	56	0	30	86	0	0	0	0	0	0	0	94	68	162	0	30	90	4	124	372
11:15:00	0	53	1	29	83	0	2	1	0	3	0	1	97	74	172	0	31	97	7	135	393
11:30:00	0	76	0	28	104	0	1	0	2	3	0	0	101	63	164	0	28	102	1	131	402
11:45:00	0	69	2	25	96	0	0	2	2	4	0	0	89	69	158	0	25	104	3	132	390
12:00:00	0	66	1	30	97	0	3	0	1	4	0	1	97	65	163	0	23	97	2	122	386
12:15:00	0	61	2	22	85	0	0	1	0	1	0	1	90	73	164	0	27	104	5	136	386
12:30:00	0	70	0	26	96	0	2	1	0	3	0	0	84	55	139	0	30	117	1	148	386
12:45:00	0	74	0	28	102	0	4	0	1	5	0	1	113	68	182	0	33	103	5	141	430
13:00:00	0	74	1	30	105	0	2	0	0	2	0	0	89	72	161	0	19	105	4	128	396
13:15:00	0	71	0	34	105	0	0	0	0	0	0	0	109	49	158	0	24	125	1	150	413
13:30:00	0	66	1	17	84	0	0	0	0	0	0	1	106	78	185	0	26	101	0	127	396
13:45:00	0	83	1	30	114	0	0	2	0	2	0	1	85	67	153	0	28	137	1	166	435
14:00:00	0	69	1	29	99	0	3	0	1	4	0	2	91	74	167	0	27	140	4	171	441
14:15:00	0	82	1	22	105	0	2	0	2	4	0	1	100	71	172	0	26	145	4	175	456
14:30:00	0	66	2	26	94	0	8	1	0	9	0	1	123	64	188	0	34	152	2	188	479
14:45:00	0	81	0	27	108	0	2	0	0	2	0	1	109	71	181	0	40	126	4	170	461
15:00:00	0	90	0	26	116	0	3	0	0	3	0	2	122	52	176	0	18	143	1	162	457
15:15:00	0	84	0	25	109	0	1	1	0	2	0	1	96	60	157	0	34	142	0	176	444
15:30:00	0	75	0	20	95	0	2	0	0	2	0	1	135	78	214	0	20	154	1	175	486
15:45:00	0	105	0	27	132	0	3	1	0	4	0	0	100	81	181	0	42	122	2	166	483
16:00:00	0	83	1	40	124	0	2	1	0	3	0	0	124	74	198	0	27	127	2	156	481
16:15:00	0	93	1	35	129	0	1	1	1	3	0	3	105	67	175	0	29	121	2	152	459
16:30:00	0	105	0	32	137	0	5	0	2	7	0	0	113	90	203	0	33	139	2	174	521
16:45:00	0	99	1	33	133	0	0	1	1	2	0	0	114	66	180	0	48	126	2	176	491
17:00:00	0	103	1	29	133	0	0	1	0	1	0	0	121	64	185	0	42	123	0	165	484
17:15:00	0	105	1	46	152	0	0	1	0	1	0	0	106	78	184	0	34	123	0	157	494
17:30:00	0	92	1	17	110	0	1	2	0	3	0	0	108	81	189	0	11	118	1	130	432
17:45:00	0	111	0	34	145	0	3	0	0	3	0	1	105	66	172	0	27	134	0	161	481
18:00:00	0	87	3	27	117	0	1	0	0	1	0	0	121	66	187	0	20	126	0	146	451
18:15:00	0	109	0	27	136	0	1	1	0	2	0	0	77	54	131	0	15	102	1	118	387
18:30:00	0	79	0	23	102	0	1	1	1	3	0	0	95	52	147	0	9	97	0	106	358
18:45:00	0	64	0	15	79	0	1	0	0	1	0	1	63	35	99	0	9	90	0	99	278
19:00:00	0	82	0	25	107	0	0	0	0	0	0	0	65	33	98	0	18	85	2	105	310
19:15:00	0	56	1	17	74	0	0	0	0	0	0	0	61	25	86	0	13	69	0	82	242



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014 County: Charles Comments:
Date: 11/17/2022 12:00:00 AM Town: none
Location: MD 6 at Washington Ave/Wills St 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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

From North

From South

From East

From West

19:30:00	0	72	0	20	92	0	0	0	0	0	0	0	79	43	122	0	13	65	0	78	292
19:45:00	0	47	0	21	68	0	0	1	0	1	0	0	56	36	92	0	7	73	0	80	241
20:00:00	0	52	0	22	74	0	0	0	0	0	0	0	75	21	96	0	9	75	0	84	254
20:15:00	0	49	0	24	73	0	0	0	0	0	0	0	45	23	68	0	9	55	0	64	205
20:30:00	0	47	0	14	61	0	0	0	0	0	0	0	48	10	58	0	10	58	0	68	187
20:45:00	0	28	0	15	43	0	0	0	1	1	0	0	46	20	66	0	5	43	1	49	159
21:00:00	0	43	0	6	49	0	0	0	0	0	0	0	28	13	41	0	5	45	0	50	140
21:15:00	0	15	0	12	27	0	0	0	0	0	0	0	37	14	51	0	4	35	0	39	117
21:30:00	0	16	0	6	22	0	0	1	0	1	0	0	24	11	35	0	6	35	0	41	99
21:45:00	0	22	0	8	30	0	0	0	0	0	0	0	28	17	45	0	2	29	0	31	106
22:00:00	0	25	0	10	35	0	1	0	0	1	0	0	33	12	45	0	4	29	0	33	114
22:15:00	0	14	0	2	16	0	0	0	0	0	0	0	30	7	37	0	2	24	0	26	79
22:30:00	0	14	0	7	21	0	0	0	0	0	0	0	25	5	30	0	0	24	0	24	75
22:45:00	0	14	0	5	19	0	0	0	0	0	0	0	17	3	20	0	2	26	0	28	67
23:00:00	0	8	0	3	11	0	0	0	0	0	0	0	13	8	21	0	0	16	0	16	48
23:15:00	0	4	0	2	6	0	0	0	0	0	0	0	21	4	25	0	0	17	0	17	48
23:30:00	0	8	0	5	13	0	0	0	0	0	0	0	24	6	30	0	1	14	0	15	58
23:45:00	0	4	0	5	9	0	0	0	0	0	0	0	14	4	18	0	0	13	0	13	40
TOTAL	0	4094	40	1474	5608	0	76	28	26	130	0	27	6614	4038	10679	0	1495	6776	97	8368	24785
AMPEAK	0	146	0	64	210	0	5	1	0	6	0	1	533	389	923	0	113	420	4	537	1676
PMPEAK	0	412	3	140	555	0	5	3	3	11	0	0	454	298	752	0	157	511	4	672	1990
DAYPEAK	0	412	3	140	555	0	5	3	3	11	0	0	454	298	752	0	157	511	4	672	1990



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	1	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	1	0	0	0	0	0	0	0
01:00:00	0	0	0	0	2	0	0	0	0	0	0	0
01:15:00	0	0	0	0	1	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	1	0
03:15:00	0	0	0	0	1	0	0	0	0	0	0	0
03:30:00	0	0	0	0	1	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	1	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	2	0	0	0	0	0	0	0
05:15:00	0	0	0	0	2	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	1	0	0	0	0	0	1	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	1	0	0	0	0	0	1	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	1	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	1	0	0	0	0	0	2	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	1	0	0	0	0	0	1	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	1	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	2	0	0	1	0	0	0	0	0	0	0
10:45:00	0	3	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	1	0	0	0	0	0	0	0
11:15:00	0	0	0	0	2	0	0	0	0	0	0	0
11:30:00	0	0	0	0	1	0	0	0	0	0	0	0
11:45:00	0	0	0	0	2	0	0	0	0	0	1	0
12:00:00	0	0	0	0	0	0	0	0	0	0	2	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	1	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	1	0
13:00:00	0	0	0	0	1	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	1	0
14:30:00	0	0	0	0	1	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	1	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	1	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	3	0	0	0	0	0	0	0
16:45:00	0	0	0	0	2	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	1	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	2	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014 County: Charles Comments:
Date: 11/17/2022 12:00:00 AM Town: none
Location: MD 6 at Washington Ave/Wills St 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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76

Washington Ave

Wills St

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	2	0	0	1	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	12	0	0	32	0	0	1	0	0	12	0
AMPEAK	0	0	0	0	1	0	0	0	0	0	1	0
PMPEAK	0	0	0	0	5	0	0	0	0	0	0	0
DAYPEAK	0	0	0	0	5	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

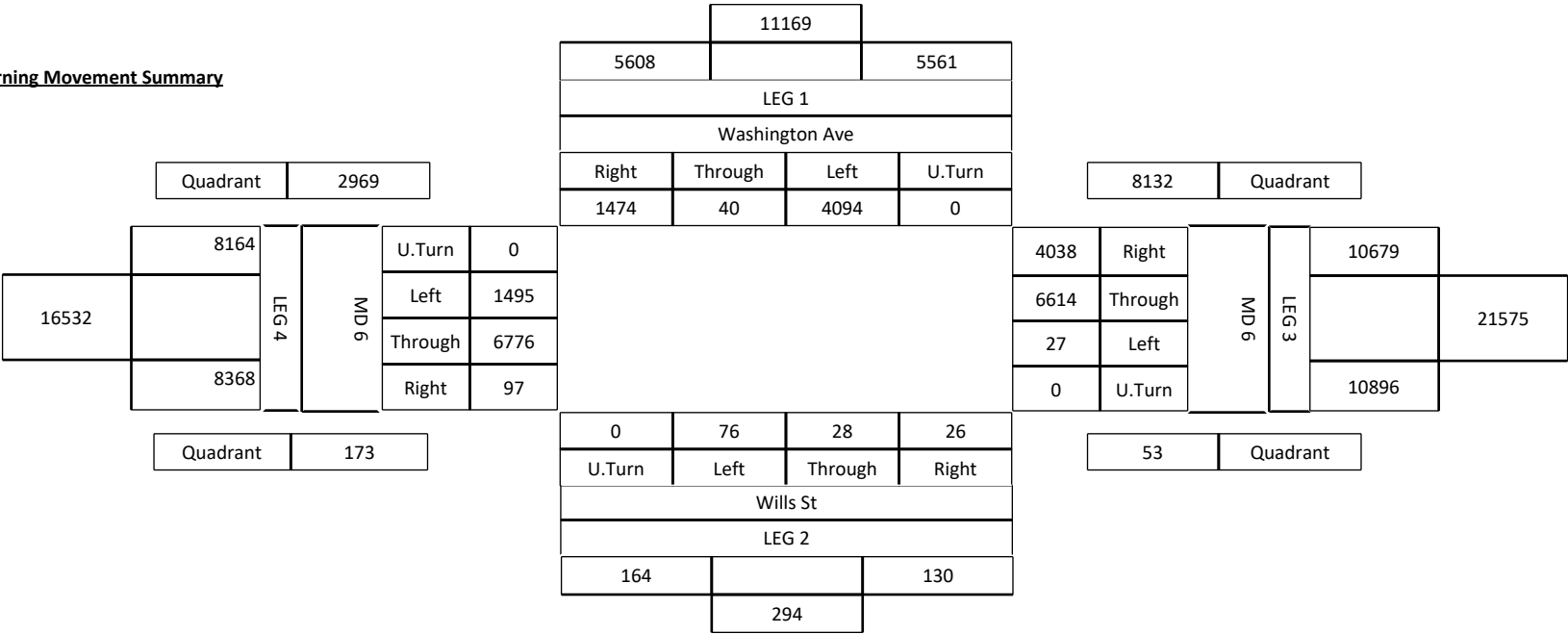
Weather: Clear

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at Washington Ave/Wills St

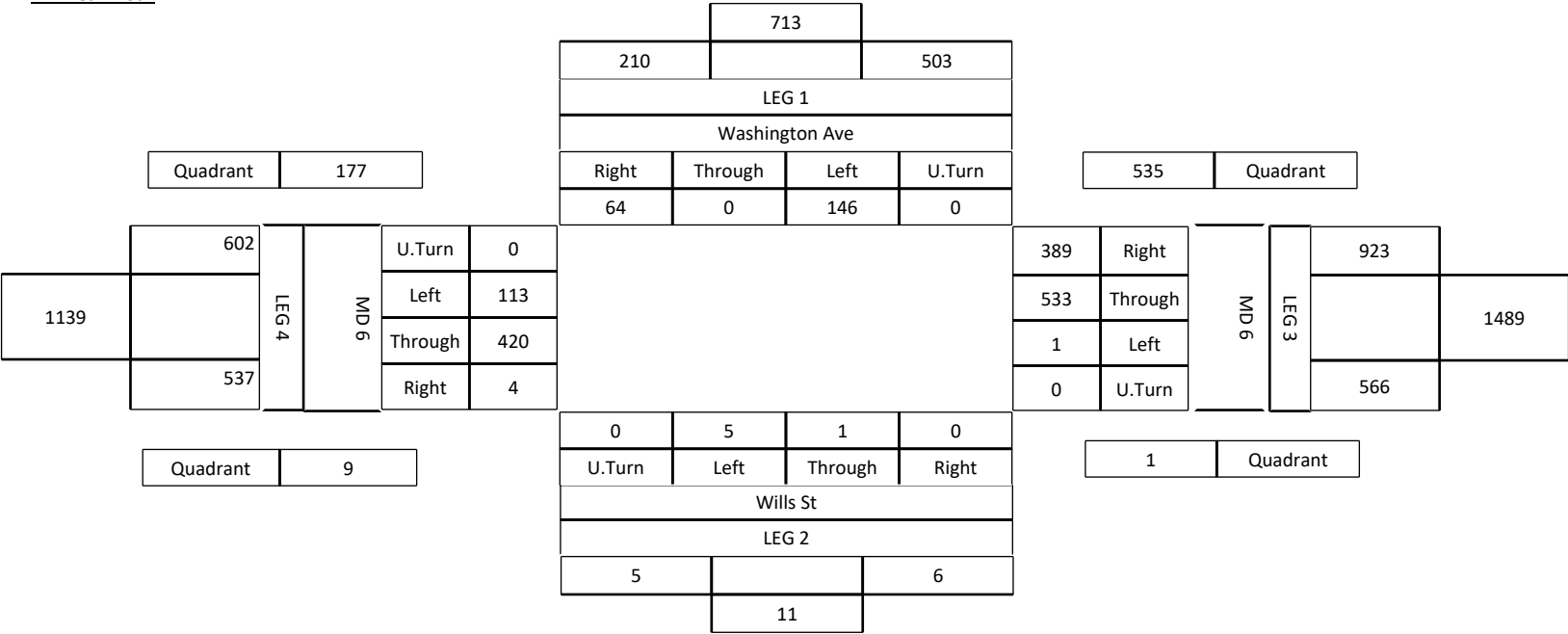
Weather: Clear

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080014

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

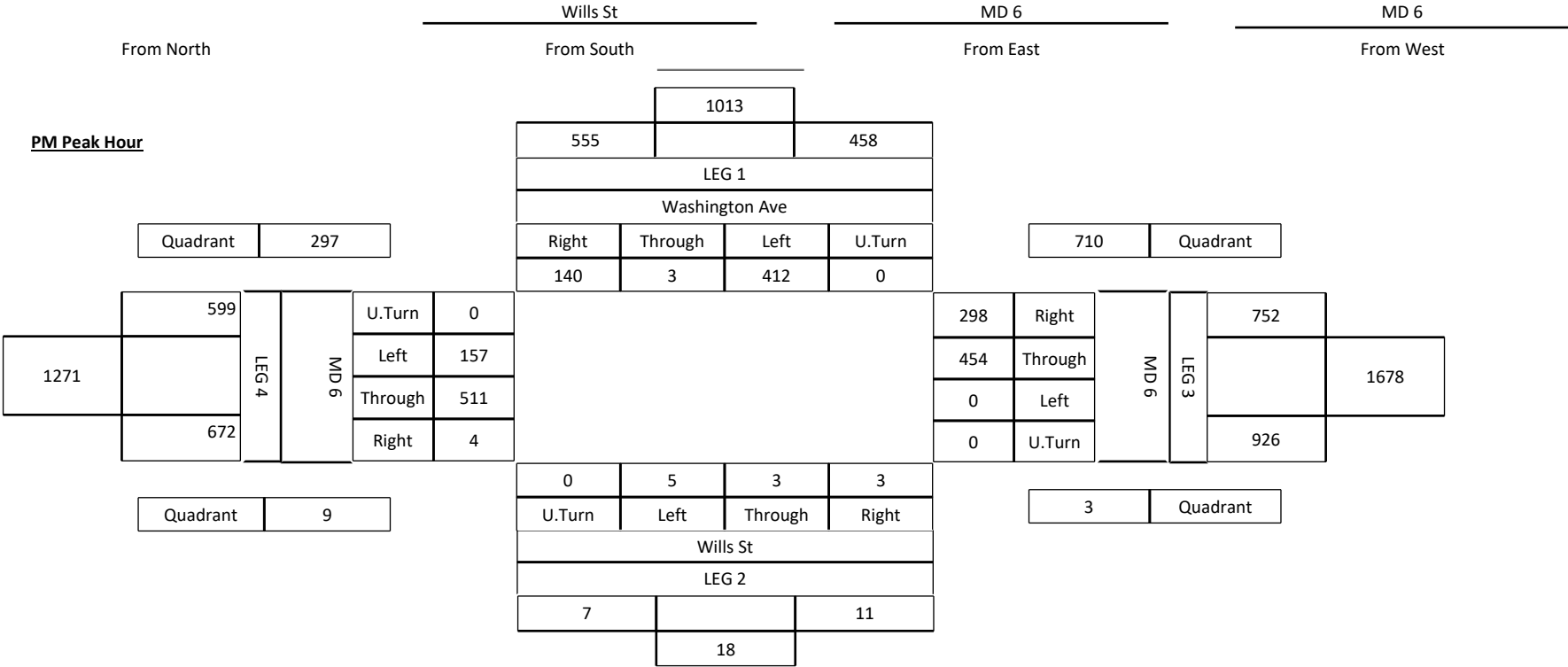
Town: none

Location: MD 6 at Washington Ave/Wills St

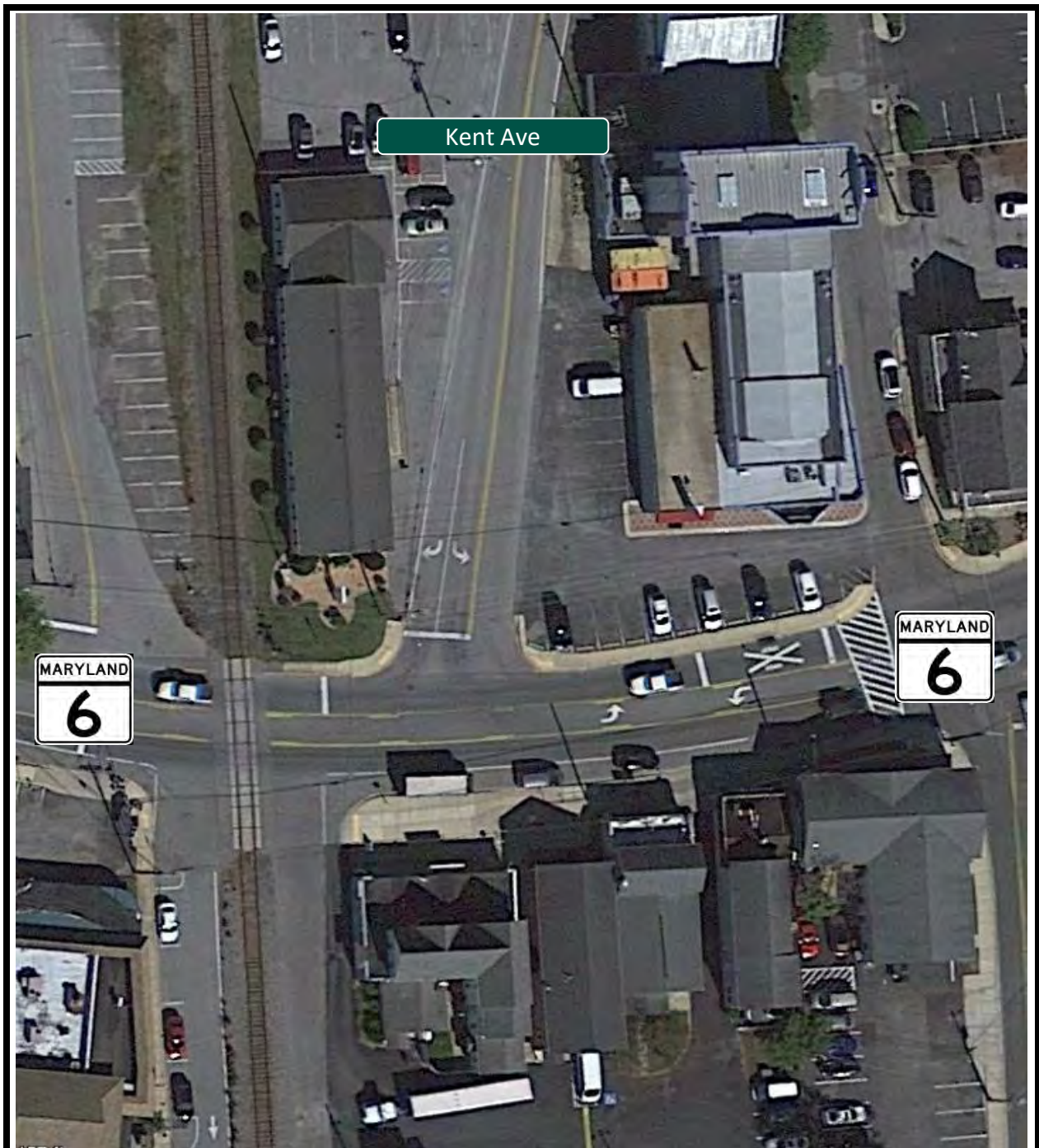
Weather: Clear

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	07:15	08:00	1676	A	0.55	12:00PM-19:00PM	16:30	17:15	1990	C	0.76



PM Peak Hour



Aerial
Diagram

Intersection: MD 6 & Kent Ave



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	N/A Northbound					Kent Avenue Southbound					MD 6 Eastbound					MD 6 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	0	0	0	0	0	3	0	2	1	1	0	89	0	0	0	0	125	2	1	222
6:45-7:00	0	0	0	0	0	0	9	0	4	0	0	4	153	0	0	0	0	164	4	0	338
7:00-7:15	0	0	0	0	0	0	5	0	2	0	0	5	134	0	0	0	0	223	3	0	372
7:15-7:30	0	0	0	0	1	0	7	0	4	0	0	7	167	0	0	0	0	238	10	0	433
7:30-7:45	0	0	0	0	0	0	4	0	2	0	0	5	154	0	0	0	0	233	9	0	407
7:45-8:00	0	0	0	0	1	0	5	0	4	0	0	13	153	0	0	0	0	246	18	1	439
8:00-8:15	0	0	0	0	2	0	4	0	3	0	0	14	164	0	0	0	0	225	10	1	420
8:15-8:30	0	0	0	0	0	0	7	0	6	0	0	8	149	0	0	0	0	211	8	2	389
8:30-8:45	0	0	0	0	0	0	10	0	3	0	0	9	120	0	0	0	0	189	6	0	337
8:45-9:00	0	0	0	0	1	0	8	0	5	2	0	7	146	0	0	0	0	215	14	0	395
9:00-9:15	0	0	0	0	0	0	5	0	5	1	0	7	125	0	0	0	0	208	7	0	357
9:15-9:30	0	0	0	0	0	0	8	0	7	0	0	11	136	0	0	0	0	162	9	0	333

Hourly Totals																					
6:30-7:30	0	0	0	0	1	0	24	0	12	1	1	16	543	0	0	0	0	750	19	1	1368
6:45-7:45	0	0	0	0	1	0	25	0	12	0	0	21	608	0	0	0	0	858	26	0	1551
7:00-8:00	0	0	0	0	2	0	21	0	12	0	0	30	608	0	0	0	0	940	40	1	1654
7:15-8:15	0	0	0	0	4	0	20	0	13	0	0	39	638	0	0	0	0	942	47	2	1705
7:30-8:30	0	0	0	0	3	0	20	0	15	0	0	40	620	0	0	0	0	915	45	4	1662
7:45-8:45	0	0	0	0	3	0	26	0	16	0	0	44	586	0	0	0	0	871	42	4	1592
8:00-9:00	0	0	0	0	3	0	29	0	17	2	0	38	579	0	0	0	0	840	38	3	1549
8:15-9:15	0	0	0	0	1	0	30	0	19	3	0	31	540	0	0	0	0	823	35	2	1484
8:30-9:30	0	0	0	0	1	0	31	0	20	3	0	34	527	0	0	0	0	774	36	0	1426

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:15-8:15	0	0	0	0	4	0	20	0	13	0	0	39	638	0	0	0	0	942	47	2	1705

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	N/A Northbound					Kent Avenue Southbound					MD 6 Eastbound					MD 6 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	0	0	0	2	0	12	0	12	0	0	8	261	0	0	0	0	202	10	0	505
4:15-4:30	0	0	0	0	1	0	6	0	13	0	0	14	236	0	0	0	0	194	6	0	469
4:30-4:45	0	0	0	0	1	0	12	0	20	1	0	8	234	0	0	0	0	188	6	0	468
4:45-5:00	0	0	0	0	2	0	7	0	16	1	0	11	253	0	0	0	0	215	8	0	510
5:00-5:15	0	0	0	0	2	0	6	0	10	1	0	5	253	0	0	0	0	188	10	0	472
5:15-5:30	0	0	0	0	1	0	12	0	14	0	0	12	225	0	0	0	0	194	7	0	464
5:30-5:45	0	0	0	0	3	0	5	0	12	1	0	6	231	0	0	0	0	192	3	0	449
5:45-6:00	0	0	0	0	5	0	6	0	10	0	0	8	197	0	2	0	0	169	7	0	397
6:00-6:15	0	0	0	0	9	0	8	0	4	0	0	7	189	0	0	0	0	148	7	0	363
6:15-6:30	0	0	0	0	0	0	6	0	4	0	0	7	153	0	0	0	0	135	4	1	309
6:30-6:45	0	0	0	0	0	0	11	0	7	0	0	4	180	0	0	0	0	136	1	0	339
6:45-7:00	0	0	0	0	4	0	7	0	4	0	0	3	189	0	0	0	0	118	3	0	324

Hourly Totals																					
4:00-5:00	0	0	0	0	6	0	37	0	61	2	0	41	984	0	0	0	0	799	30	0	1960
4:15-5:15	0	0	0	0	6	0	31	0	59	3	0	38	976	0	0	0	0	785	30	0	1928
4:30-5:30	0	0	0	0	6	0	37	0	60	3	0	36	965	0	0	0	0	785	31	0	1923
4:45-5:45	0	0	0	0	8	0	30	0	52	3	0	34	962	0	0	0	0	789	28	0	1906
5:00-6:00	0	0	0	0	11	0	29	0	46	2	0	31	906	0	2	0	0	743	27	0	1797
5:15-6:15	0	0	0	0	18	0	31	0	40	1	0	33	842	0	2	0	0	703	24	0	1694
5:30-6:30	0	0	0	0	17	0	25	0	30	1	0	28	770	0	2	0	0	644	21	1	1539
5:45-6:45	0	0	0	0	14	0	31	0	25	0	0	26	719	0	2	0	0	588	19	1	1425
6:00-7:00	0	0	0	0	13	0	32	0	19	0	0	21	711	0	0	0	0	537	15	1	1349

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	0	0	0	6	0	37	0	61	2	0	41	984	0	0	0	0	799	30	0	1960

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 6 & Kent Avenue
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: MD 6 & Willow Rd/Site Access

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Willow Lane Northbound					La Plata Parkway Southbound					MD 6 Eastbound					MD 6 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	2	0	7	0	0	0	0	0	0	0	9	70	1	0	1	7	141	6	0	244
6:45-7:00	0	2	0	5	0	0	1	0	1	0	0	5	115	1	0	1	19	188	7	0	345
7:00-7:15	0	3	0	19	0	0	0	0	0	0	0	2	99	18	0	0	57	220	2	0	420
7:15-7:30	0	18	0	44	0	1	1	0	1	2	0	5	125	8	0	0	35	221	5	0	464
7:30-7:45	0	3	0	8	0	0	0	0	2	7	0	3	131	1	2	0	8	228	6	0	390
7:45-8:00	0	5	0	8	0	3	0	0	1	2	0	4	115	4	0	0	7	254	3	0	404
8:00-8:15	0	7	0	6	0	5	0	0	2	2	0	7	136	1	0	0	9	212	6	0	391
8:15-8:30	0	0	0	3	0	1	3	0	3	4	0	4	132	3	0	0	4	226	3	0	382
8:30-8:45	0	1	0	7	0	2	1	0	5	7	0	2	110	7	0	0	8	184	3	0	330
8:45-9:00	0	16	0	16	0	0	1	0	2	10	0	1	113	5	0	0	10	220	6	0	390
9:00-9:15	0	5	0	4	0	1	0	0	2	4	0	3	105	5	0	0	6	196	1	0	328
9:15-9:30	0	4	0	4	0	0	1	1	3	2	0	1	119	4	1	0	10	168	3	0	318

Hourly Totals																					
6:30-7:30	0	25	0	75	0	1	2	0	2	2	0	21	409	28	0	2	118	770	20	0	1475
6:45-7:45	0	26	0	76	0	1	2	0	4	9	0	15	470	28	2	1	119	857	20	0	1630
7:00-8:00	0	29	0	79	0	4	1	0	4	11	0	14	470	31	2	0	107	923	16	0	1691
7:15-8:15	0	33	0	66	0	9	1	0	6	13	0	19	507	14	2	0	59	915	20	0	1664
7:30-8:30	0	15	0	25	0	9	3	0	8	15	0	18	514	9	2	0	28	920	18	0	1584
7:45-8:45	0	13	0	24	0	11	4	0	11	15	0	17	493	15	0	0	28	876	15	0	1522
8:00-9:00	0	24	0	32	0	8	5	0	12	23	0	14	491	16	0	0	31	842	18	0	1516
8:15-9:15	0	22	0	30	0	4	5	0	12	25	0	10	460	20	0	0	28	826	13	0	1455
8:30-9:30	0	26	0	31	0	3	3	1	12	23	0	7	447	21	1	0	34	768	13	0	1390

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:00-8:00	0	29	0	79	0	4	1	0	4	11	0	14	470	31	2	0	107	923	16	0	1691

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Willow Lane Northbound					La Plata Parkway Southbound					MD 6 Eastbound					MD 6 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	1	0	13	0	0	14	0	13	1	0	0	243	4	0	0	9	203	1	0	501
4:15-4:30	0	1	0	10	0	0	5	0	2	0	0	1	251	4	0	0	16	185	1	0	476
4:30-4:45	0	0	0	5	0	3	7	0	5	3	0	0	224	2	2	0	9	185	0	0	440
4:45-5:00	0	0	0	9	0	0	5	0	0	0	0	1	270	5	0	0	10	200	0	1	500
5:00-5:15	0	3	0	10	0	1	8	0	5	0	0	2	254	1	0	0	6	166	1	0	457
5:15-5:30	0	1	0	4	0	1	4	0	0	1	0	1	220	3	0	0	9	191	0	1	434
5:30-5:45	0	0	0	4	0	0	3	0	5	0	0	2	209	2	0	0	4	170	1	1	400
5:45-6:00	0	6	0	5	1	0	1	0	2	4	0	0	196	4	2	0	12	144	0	0	370
6:00-6:15	0	4	0	5	0	0	1	0	1	0	0	0	177	3	0	0	6	139	0	0	336
6:15-6:30	0	2	0	3	0	0	0	0	2	0	0	2	143	1	0	0	6	110	0	1	269
6:30-6:45	0	3	0	0	0	0	2	0	0	0	0	0	164	6	0	0	0	140	0	0	315
6:45-7:00	0	0	0	2	0	0	0	0	0	0	0	0	130	2	0	0	7	103	0	0	244

Hourly Totals																					
4:00-5:00	0	2	0	37	0	3	31	0	20	4	0	2	988	15	2	0	44	773	2	1	1924
4:15-5:15	0	4	0	34	0	4	25	0	12	3	0	4	999	12	2	0	41	736	2	1	1879
4:30-5:30	0	4	0	28	0	5	24	0	10	4	0	4	968	11	2	0	34	742	1	2	1839
4:45-5:45	0	4	0	27	0	2	20	0	10	1	0	6	953	11	0	0	29	727	2	3	1795
5:00-6:00	0	10	0	23	1	2	16	0	12	5	0	5	879	10	2	0	31	671	2	2	1671
5:15-6:15	0	11	0	18	1	1	9	0	8	5	0	3	802	12	2	0	31	644	1	2	1550
5:30-6:30	0	12	0	17	1	0	5	0	10	4	0	4	725	10	2	0	28	563	1	2	1384
5:45-6:45	0	15	0	13	1	0	4	0	5	4	0	2	680	14	2	0	24	533	0	1	1298
6:00-7:00	0	9	0	10	0	0	3	0	3	0	0	2	614	12	0	0	19	492	0	1	1165

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	2	0	37	0	3	31	0	20	4	0	2	988	15	2	0	44	773	2	1	1924

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 6 & Willow Lane/La Plata Parkway

Weather: Clear

Count by: Count Cam DSS

Count Day/Date: Tuesday, February 7, 2023

Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: MD 6 & MD 488/Driveway

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015
Date: 11/17/2022 12:00:00 AM
Location: MD 6 at MD 488
Interval: 60 Min

County: Charles
Town: none
Weather: Clear

Comments:

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	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488						Driveway to Church and School					MD 6					MD 6					
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	2	0	8	10	0	0	0	0	0	0	0	4	2	6	0	5	4	0	9	25
00:15:00	0	3	0	6	9	0	0	0	0	0	0	0	2	2	4	0	4	2	0	6	19
00:30:00	0	3	0	7	10	0	0	0	0	0	0	0	2	0	2	0	5	7	0	12	24
00:45:00	0	3	0	6	9	0	0	0	0	0	0	0	2	1	3	0	4	3	0	7	19
01:00:00	0	3	0	1	4	0	0	0	0	0	0	0	2	1	3	0	4	4	0	8	15
01:15:00	0	2	0	3	5	0	0	0	0	0	0	0	1	1	2	0	3	3	0	6	13
01:30:00	0	0	0	4	4	0	0	0	0	0	0	0	0	2	2	0	2	2	0	4	10
01:45:00	0	0	0	2	2	0	0	0	0	0	0	0	1	1	2	0	2	1	0	3	7
02:00:00	0	0	0	1	1	0	0	0	0	0	0	0	2	0	2	0	1	1	0	2	5
02:15:00	0	0	0	1	1	0	0	0	0	0	0	0	4	0	4	0	1	1	0	2	7
02:30:00	0	0	0	4	4	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	6
02:45:00	0	0	0	3	3	0	0	0	0	0	0	0	4	3	7	0	3	1	0	4	14
03:00:00	0	0	0	3	3	0	0	0	0	0	0	0	1	2	3	0	1	5	0	6	12
03:15:00	0	1	0	2	3	0	0	0	0	0	0	0	2	3	5	0	6	2	0	8	16
03:30:00	0	0	0	2	2	0	0	0	0	0	0	0	6	6	12	0	3	2	0	5	19
03:45:00	0	1	0	1	2	0	0	0	0	0	0	0	12	2	14	0	7	3	0	10	26
04:00:00	0	0	0	2	2	0	0	0	0	0	0	0	7	3	10	0	4	3	0	7	19
04:15:00	0	1	0	5	6	0	0	0	0	0	0	0	14	6	20	0	5	1	0	6	32
04:30:00	0	0	0	14	14	0	0	0	0	0	0	0	18	8	26	0	8	4	0	12	52
04:45:00	0	1	0	18	19	0	0	0	0	0	0	0	19	9	28	0	14	5	0	19	66
05:00:00	0	2	0	20	22	0	0	0	0	0	0	0	34	14	48	0	10	7	0	17	87
05:15:00	0	5	0	18	23	0	0	0	0	0	0	0	39	21	60	0	15	4	0	19	102
05:30:00	0	7	0	41	48	0	0	0	0	0	0	0	42	25	67	0	21	11	0	32	147
05:45:00	0	3	0	37	40	0	0	0	0	0	0	0	61	25	86	0	29	20	1	50	176
06:00:00	0	6	0	27	33	0	0	0	0	0	0	1	59	26	86	0	45	18	0	63	182
06:15:00	0	6	0	58	64	0	0	0	1	1	0	0	58	40	98	0	56	25	0	81	244
06:30:00	0	7	0	91	98	0	0	0	0	0	0	0	113	47	160	0	66	21	0	87	345
06:45:00	0	15	1	109	125	0	0	0	0	0	0	0	103	79	182	0	90	27	0	117	424
07:00:00	0	13	4	121	138	0	0	0	0	0	0	2	112	83	197	0	94	33	2	129	464
07:15:00	0	25	2	175	202	0	1	0	0	1	0	0	103	40	143	0	115	28	4	147	493
07:30:00	0	22	3	115	140	0	3	3	0	6	0	3	105	65	173	0	85	43	6	134	453
07:45:00	0	11	10	111	132	0	0	0	0	0	0	6	138	59	203	0	79	40	8	127	462
08:00:00	0	17	33	111	161	0	36	23	3	62	0	5	85	32	122	0	61	35	24	120	465
08:15:00	0	15	25	105	145	0	39	26	4	69	0	11	77	40	128	0	72	41	12	125	467
08:30:00	0	13	2	94	109	0	7	4	2	13	0	2	100	30	132	0	54	47	2	103	357
08:45:00	0	18	2	112	132	0	7	5	3	15	0	4	96	42	142	0	69	59	4	132	421
09:00:00	0	24	1	110	135	0	6	2	0	8	0	0	87	28	115	0	55	42	2	99	357
09:15:00	0	13	1	107	121	0	1	0	0	166 of 565	0	0	66	27	93	0	57	51	3	111	326



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at MD 488

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488						Driveway to Church and School					MD 6					MD 6					
From North						From South					From East					From West					
09:30:00	0	15	0	97	112	0	1	0	1	2	0	0	72	22	94	0	66	48	1	115	323
09:45:00	0	13	4	94	111	0	0	0	0	0	0	0	82	30	112	0	39	47	1	87	310
10:00:00	0	21	0	74	95	0	0	0	0	0	0	0	64	31	95	0	59	42	2	103	293
10:15:00	0	18	1	79	98	0	0	0	0	0	0	0	69	18	87	0	54	47	0	101	286
10:30:00	0	19	0	83	102	0	0	0	0	0	0	0	64	27	91	0	49	48	2	99	292
10:45:00	0	40	0	94	134	0	1	0	0	1	0	0	70	22	92	0	45	55	1	101	328
11:00:00	0	24	0	64	88	0	1	0	0	1	0	0	68	13	81	0	55	52	2	109	279
11:15:00	0	21	1	64	86	0	0	0	1	1	0	0	72	25	97	0	59	57	1	117	301
11:30:00	0	16	1	80	97	0	1	0	0	1	0	0	70	20	90	0	74	52	3	129	317
11:45:00	0	23	4	68	95	0	1	1	0	2	0	1	70	19	90	0	50	68	5	123	310
12:00:00	0	27	0	91	118	0	7	5	2	14	0	0	50	16	66	0	68	72	0	140	338
12:15:00	0	21	0	65	86	0	0	0	0	0	0	0	57	21	78	0	59	59	2	120	284
12:30:00	0	19	0	73	92	0	1	1	0	2	0	1	60	27	88	0	78	61	2	141	323
12:45:00	0	22	2	91	115	0	4	0	1	5	0	1	56	17	74	0	66	68	1	135	329
13:00:00	0	27	0	81	108	0	2	0	0	2	0	0	57	15	72	0	94	55	2	151	333
13:15:00	0	18	1	55	74	0	1	0	0	1	0	0	73	26	99	0	76	66	0	142	316
13:30:00	0	33	0	87	120	0	2	0	0	2	0	0	57	25	82	0	93	63	1	157	361
13:45:00	0	21	0	78	99	0	0	0	1	1	0	1	70	24	95	0	81	87	0	168	363
14:00:00	0	43	1	78	122	0	1	0	0	1	0	0	57	30	87	0	97	85	3	185	395
14:15:00	0	64	1	110	175	0	0	0	0	0	0	2	60	22	84	0	126	93	0	219	478
14:30:00	0	47	7	103	157	0	1	0	1	2	0	0	74	24	98	0	87	88	13	188	445
14:45:00	0	41	4	106	151	0	0	2	0	2	0	3	79	26	108	0	112	96	3	211	472
15:00:00	0	63	9	110	182	0	1	1	0	2	0	1	53	20	74	0	115	100	13	228	486
15:15:00	0	46	18	98	162	0	2	0	0	2	0	3	67	27	97	0	96	101	11	208	469
15:30:00	0	64	8	110	182	0	36	33	11	80	0	4	54	21	79	0	85	97	11	193	534
15:45:00	0	45	9	103	157	0	25	16	11	52	0	3	72	35	110	0	102	105	12	219	538
16:00:00	0	67	4	112	183	0	8	10	1	19	0	0	59	27	86	0	120	144	3	267	555
16:15:00	0	80	3	93	176	0	0	4	1	5	0	0	77	34	111	0	99	113	0	212	504
16:30:00	0	79	3	111	193	0	3	1	0	4	0	0	71	29	100	0	120	141	3	264	561
16:45:00	0	59	2	100	161	0	5	7	5	17	0	0	89	33	122	0	110	141	2	253	553
17:00:00	0	58	3	104	165	0	3	4	1	8	0	0	90	33	123	0	105	118	1	224	520
17:15:00	0	66	2	106	174	0	0	1	1	2	0	0	73	32	105	0	112	127	0	239	520
17:30:00	0	45	1	103	149	0	2	1	0	3	0	0	80	44	124	0	98	93	1	192	468
17:45:00	0	48	0	87	135	0	1	0	0	1	0	0	85	35	120	0	98	90	2	190	446
18:00:00	0	64	1	102	167	0	2	2	1	5	0	0	55	17	72	0	88	93	1	182	426
18:15:00	0	37	2	64	103	0	0	1	0	1	0	4	52	11	67	0	80	93	3	176	347
18:30:00	0	23	0	70	93	0	0	0	1	1	0	0	50	23	73	0	71	88	3	162	329
18:45:00	0	17	1	66	84	0	0	0	0	0	0	0	29	18	47	0	58	71	6	135	266
19:00:00	0	24	2	41	67	0	3	1	1	5	0	0	31	5	36	0	76	71	1	148	256
19:15:00	0	21	0	55	76	0	1	1	0	2	0	0	21	15	36	0	55	68	0	123	237



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at MD 488

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488

Driveway to Church and School

MD 6

MD 6

From North

From South

From East

From West

19:30:00	0	18	0	57	75	0	0	1	0	1	0	0	32	8	40	0	65	64	0	129	245
19:45:00	0	18	0	42	60	0	0	0	1	1	0	0	27	16	43	0	54	60	0	114	218
20:00:00	0	21	0	32	53	0	7	0	1	8	0	0	24	9	33	0	61	60	0	121	215
20:15:00	0	23	0	40	63	0	0	0	0	0	0	0	11	2	13	0	53	56	0	109	185
20:30:00	0	30	0	29	59	0	0	0	0	0	0	0	23	4	27	0	42	56	0	98	184
20:45:00	0	24	0	32	56	0	1	0	0	1	0	0	18	10	28	0	32	41	0	73	158
21:00:00	0	9	0	19	28	0	0	0	0	0	0	0	19	3	22	0	42	40	0	82	132
21:15:00	0	7	0	35	42	0	0	0	0	0	0	0	11	5	16	0	27	30	0	57	115
21:30:00	0	8	0	21	29	0	1	0	0	1	0	0	10	6	16	0	25	22	0	47	93
21:45:00	0	7	0	21	28	0	0	0	0	0	0	0	15	5	20	0	24	23	0	47	95
22:00:00	0	11	0	11	22	0	0	0	0	0	0	0	5	3	8	0	25	23	0	48	78
22:15:00	0	5	0	18	23	0	0	0	0	0	0	0	9	1	10	0	14	23	0	37	70
22:30:00	0	4	0	8	12	0	0	0	0	0	0	0	13	2	15	0	14	13	0	27	54
22:45:00	0	2	0	15	17	0	0	0	0	0	0	0	3	2	5	0	10	20	0	30	52
23:00:00	0	4	0	12	16	0	0	0	0	0	0	0	7	4	11	0	12	10	0	22	49
23:15:00	0	7	0	6	13	0	0	0	0	0	0	0	9	1	10	0	14	9	0	23	46
23:30:00	0	6	0	3	9	0	0	0	0	0	0	0	9	3	12	0	9	10	0	19	40
23:45:00	0	6	0	7	13	0	0	0	0	0	0	0	8	3	11	0	9	6	0	15	39
TOTAL	0	1951	179	5513	7643	0	225	156	56	437	0	58	4394	1821	6273	0	4962	4436	186	9584	23937
AMPEAK	0	75	48	512	635	0	40	26	3	69	0	14	431	196	641	0	340	146	42	528	1873
PMPEAK	0	285	12	416	713	0	16	22	7	45	0	0	296	123	419	0	449	539	8	996	2173
DAYPEAK	0	285	12	416	713	0	16	22	7	45	0	0	296	123	419	0	449	539	8	996	2173



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID:

S2000080015

County:

Charles

Comments:

Date:

11/17/2022 12:00:00 AM

Town:

none

Location:

MD 6 at MD 488

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488				Driveway to Church and School			MD 6			MD 6		
	From North			From South			From East			From West		
Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15:00	0	0	0	0	0	0	0	0	0	0	0	0
00:30:00	0	0	0	0	0	0	0	0	0	0	0	0
00:45:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15:00	0	0	0	0	0	0	0	0	0	0	0	0
01:30:00	0	0	0	0	0	0	0	0	0	0	0	0
01:45:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15:00	0	0	0	0	0	0	0	0	0	0	0	0
02:30:00	0	0	0	0	0	0	0	0	0	0	0	0
02:45:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00	0	0	0	0	0	0	0	0	0	0	0	0
03:45:00	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00	0	0	0	0	0	0	0	0	0	0	0	0
06:00:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15:00	0	0	0	0	0	0	0	0	0	0	0	0
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0
06:45:00	0	0	0	0	0	0	0	0	0	0	0	0
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0	0	0	0	0	0	0
09:00:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at MD 488

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488

Driveway to Church and School

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
09:30:00	0	0	0	0	0	0	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0	0	0	0	0	0	0
10:00:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15:00	0	0	0	0	0	0	0	0	0	0	0	0
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15:00	0	0	0	0	0	0	0	0	0	0	0	0
12:30:00	0	0	0	0	0	0	0	0	0	0	0	0
12:45:00	0	0	0	0	0	0	0	0	0	0	0	0
13:00:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15:00	0	0	0	0	0	0	0	0	0	0	0	0
13:30:00	0	0	0	0	0	0	0	0	0	0	0	0
13:45:00	0	0	0	0	0	0	0	0	0	0	0	0
14:00:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15:00	0	0	0	0	0	0	0	0	0	0	0	0
14:30:00	0	0	0	0	0	0	0	0	0	0	0	0
14:45:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:30:00	0	0	0	0	0	0	0	0	0	0	0	0
15:45:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at MD 488

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69

MD 488

Driveway to Church and School

MD 6

MD 6

From North

From South

From East

From West

Begin Hour	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0
19:30:00	0	0	0	0	0	0	0	0	0	0	0	0
19:45:00	0	0	0	0	0	0	0	0	0	0	0	0
20:00:00	0	0	0	0	0	0	0	0	0	0	0	0
20:15:00	0	0	0	0	0	0	0	0	0	0	0	0
20:30:00	0	0	0	0	0	0	0	0	0	0	0	0
20:45:00	0	0	0	0	0	0	0	0	0	0	0	0
21:00:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15:00	0	0	0	0	0	0	0	0	0	0	0	0
21:30:00	0	0	0	0	0	0	0	0	0	0	0	0
21:45:00	0	0	0	0	0	0	0	0	0	0	0	0
22:00:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15:00	0	0	0	0	0	0	0	0	0	0	0	0
22:30:00	0	0	0	0	0	0	0	0	0	0	0	0
22:45:00	0	0	0	0	0	0	0	0	0	0	0	0
23:00:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15:00	0	0	0	0	0	0	0	0	0	0	0	0
23:30:00	0	0	0	0	0	0	0	0	0	0	0	0
23:45:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
AMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
PMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
DAYPEAK	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

County: Charles

Comments:

Date: 11/17/2022 12:00:00 AM

Town: none

Location: MD 6 at MD 488

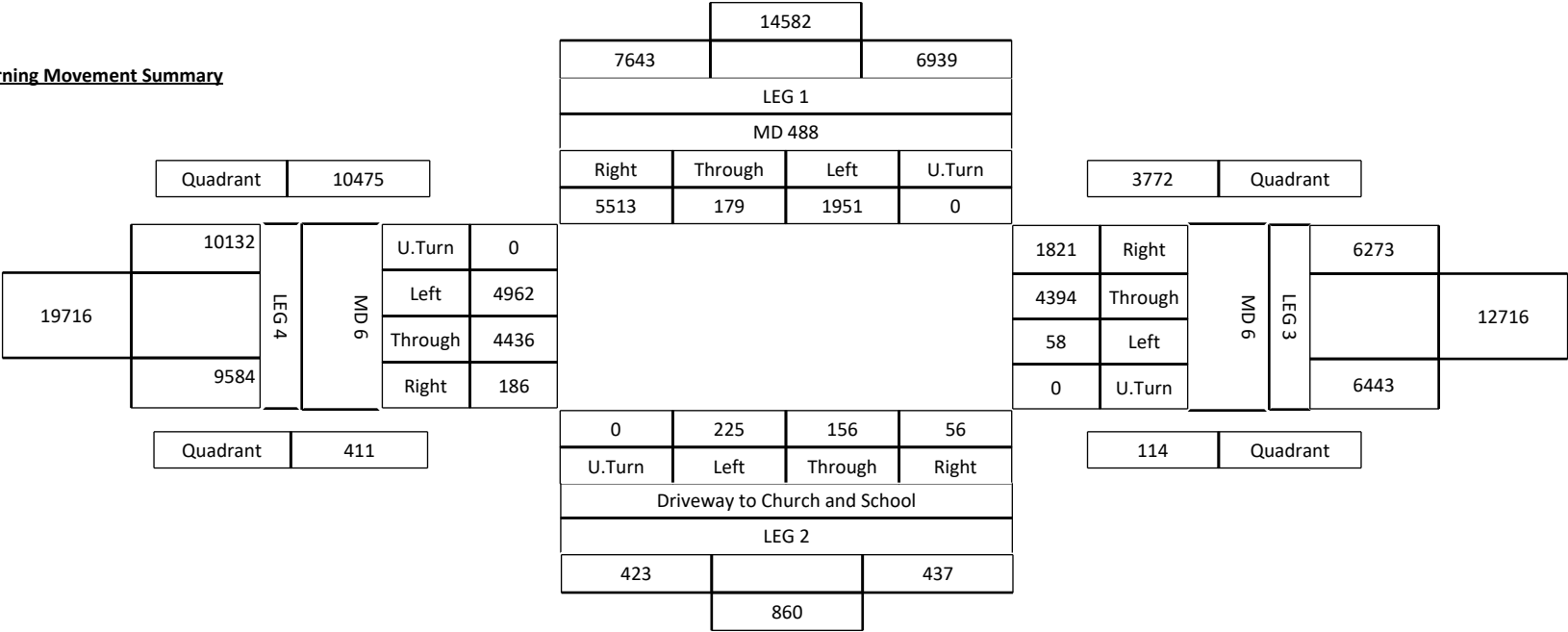
Weather: Clear

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	07:15	08:00	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69



Turning Movement Summary





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

Date: 11/17/2022 12:00:00 AM

Location: MD 6 at MD 488

Interval: 60 Min

County: Charles

Town: none

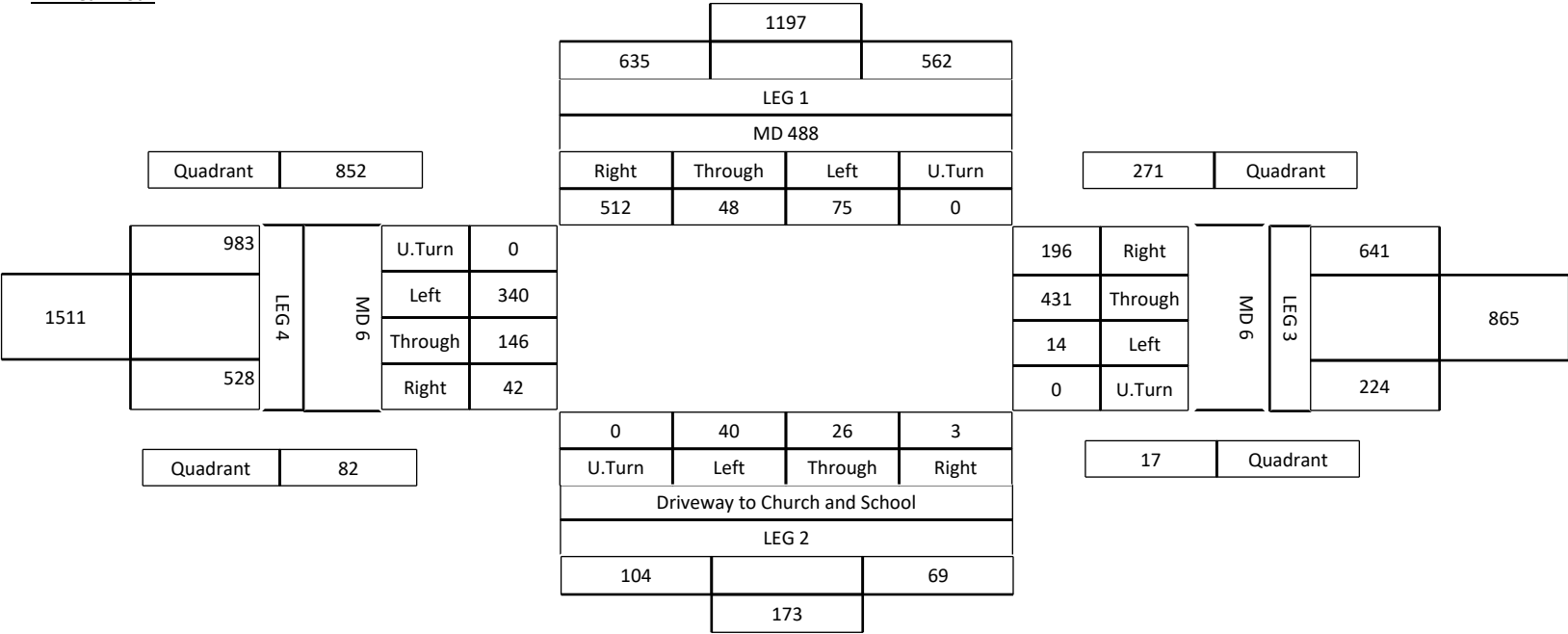
Weather: Clear

Comments:

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	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69



AM Peak Hour





Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000080015

Date: 11/17/2022 12:00:00 AM

Location: MD 6 at MD 488

Interval: 60 Min

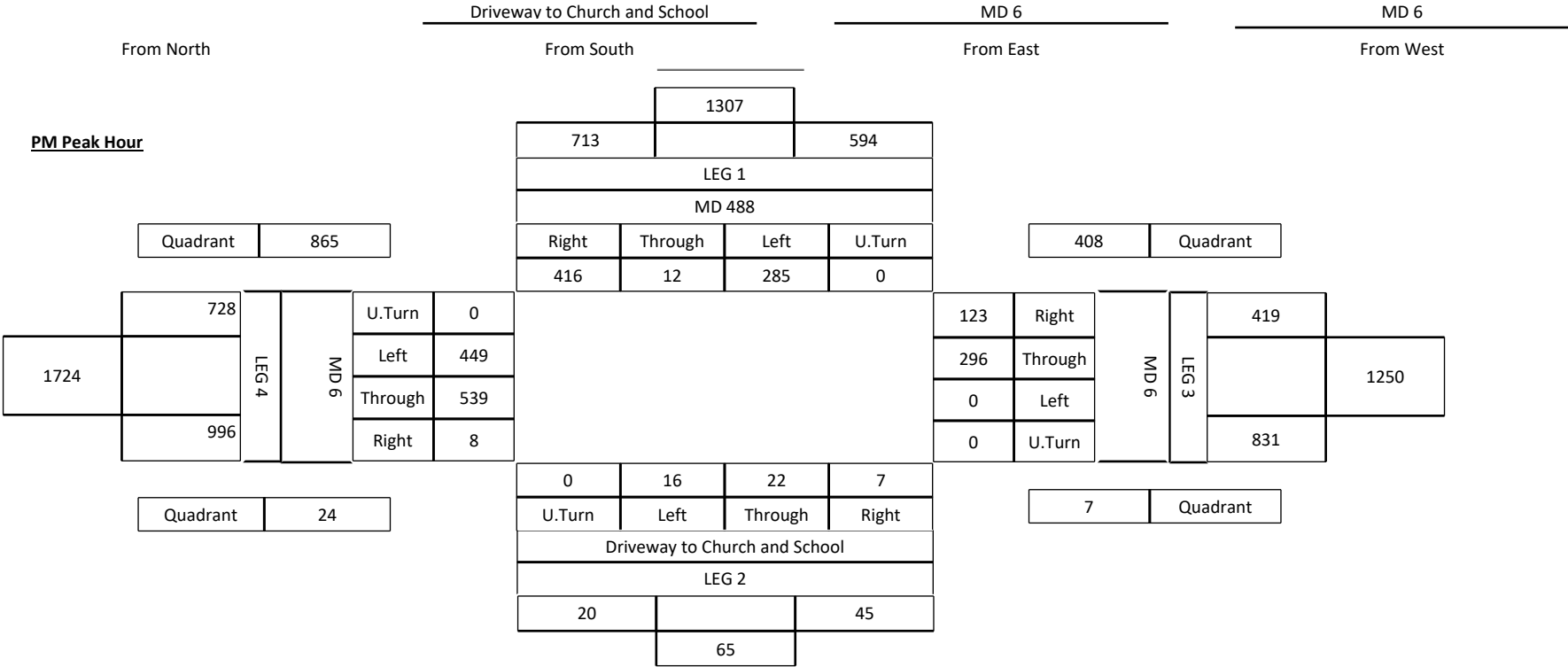
County: Charles

Town: none

Weather: Clear

Comments:

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	1873	A	0.62	12:00PM-19:00PM	16:00	16:45	2173	A	0.69



PM Peak Hour



Kent Ave

Dorchester Ave

Caroline Dr

Kent Ave

213 ft

Aerial
Diagram

Intersection: Kent Ave & Dorchester Ave
Kent Ave & Caroline Dr



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Kent Avenue Northbound					Kent Avenue Southbound					N/A Eastbound					Caroline Drive Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	0	1	0	0	0	1	6	0	0	0	0	0	0	0	0	2	0	4	0	14
6:45-7:00	0	0	3	2	0	0	2	6	0	0	0	0	0	0	0	0	5	0	5	0	23
7:00-7:15	0	0	12	1	0	0	1	6	0	0	0	0	0	0	0	0	2	0	4	0	26
7:15-7:30	0	0	10	3	0	0	1	3	0	0	0	0	0	0	0	0	10	0	7	0	34
7:30-7:45	0	0	16	2	0	0	1	7	0	0	0	0	0	0	0	0	0	0	5	0	31
7:45-8:00	0	0	7	5	0	0	1	24	0	0	0	0	0	0	0	0	3	0	4	0	44
8:00-8:15	0	0	17	3	0	0	1	10	0	0	0	0	0	0	0	0	4	0	6	0	41
8:15-8:30	0	0	8	1	0	0	3	11	0	0	0	0	0	0	0	0	4	0	3	1	30
8:30-8:45	0	0	7	3	0	0	0	17	0	0	0	0	0	0	0	0	2	0	4	0	33
8:45-9:00	0	0	18	5	0	0	0	8	0	0	0	0	0	0	0	0	3	0	7	1	41
9:00-9:15	0	0	14	5	0	0	2	6	0	0	0	0	0	0	1	0	3	0	6	1	36
9:15-9:30	0	0	14	7	0	0	3	15	0	0	0	0	0	0	1	0	0	0	3	0	42

Hourly Totals																					
6:30-7:30	0	0	26	6	0	0	5	21	0	0	0	0	0	0	0	0	19	0	20	0	97
6:45-7:45	0	0	41	8	0	0	5	22	0	0	0	0	0	0	0	0	17	0	21	0	114
7:00-8:00	0	0	45	11	0	0	4	40	0	0	0	0	0	0	0	0	15	0	20	0	135
7:15-8:15	0	0	50	13	0	0	4	44	0	0	0	0	0	0	0	0	17	0	22	0	150
7:30-8:30	0	0	48	11	0	0	6	52	0	0	0	0	0	0	0	0	11	0	18	1	147
7:45-8:45	0	0	39	12	0	0	5	62	0	0	0	0	0	0	0	0	13	0	17	1	149
8:00-9:00	0	0	50	12	0	0	4	46	0	0	0	0	0	0	0	0	13	0	20	2	147
8:15-9:15	0	0	47	14	0	0	5	42	0	0	0	0	0	0	1	0	12	0	20	3	144
8:30-9:30	0	0	53	20	0	0	5	46	0	0	0	0	0	0	2	0	8	0	20	2	156
AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
8:30-9:30	0	0	53	20	0	0	5	46	0	0	0	0	0	0	2	0	8	0	20	2	156

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Kent Avenue Northbound					Kent Avenue Southbound					N/A Eastbound					Caroline Drive Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	1	0	29	13	0	0	7	10	0	0	0	0	0	0	0	0	5	0	7	0	72
4:15-4:30	1	0	21	8	0	0	6	16	0	0	0	0	0	0	0	0	10	0	4	0	66
4:30-4:45	0	0	35	10	0	0	2	16	0	0	0	0	0	0	0	0	6	0	2	0	71
4:45-5:00	0	0	32	10	0	0	6	12	0	0	0	0	0	0	0	0	1	0	1	0	62
5:00-5:15	0	0	21	4	0	0	9	6	0	0	0	0	0	0	0	0	8	0	6	0	54
5:15-5:30	0	0	17	5	0	0	4	22	0	0	0	0	0	0	0	0	6	0	4	0	58
5:30-5:45	0	0	6	8	0	0	6	7	0	0	0	0	0	0	0	0	4	0	1	0	32
5:45-6:00	0	0	8	13	0	0	5	12	0	0	0	0	0	0	0	0	4	0	4	0	46
6:00-6:15	0	0	11	6	0	0	8	6	0	0	0	0	0	0	0	0	4	0	4	0	39
6:15-6:30	0	0	12	6	0	0	3	9	0	0	0	0	0	0	0	0	6	0	10	3	46
6:30-6:45	0	0	4	3	0	0	5	8	0	0	0	0	0	0	0	0	6	0	8	0	34
6:45-7:00	0	0	11	4	0	0	4	6	0	0	0	0	0	0	0	0	5	0	5	0	35

Hourly Totals																					
4:00-5:00	2	0	117	41	0	0	21	54	0	0	0	0	0	0	0	0	22	0	14	0	271
4:15-5:15	1	0	109	32	0	0	23	50	0	0	0	0	0	0	0	0	25	0	13	0	253
4:30-5:30	0	0	105	29	0	0	21	56	0	0	0	0	0	0	0	0	21	0	13	0	245
4:45-5:45	0	0	76	27	0	0	25	47	0	0	0	0	0	0	0	0	19	0	12	0	206
5:00-6:00	0	0	52	30	0	0	24	47	0	0	0	0	0	0	0	0	22	0	15	0	190
5:15-6:15	0	0	42	32	0	0	23	47	0	0	0	0	0	0	0	0	18	0	13	0	175
5:30-6:30	0	0	37	33	0	0	22	34	0	0	0	0	0	0	0	0	18	0	19	3	166
5:45-6:45	0	0	35	28	0	0	21	35	0	0	0	0	0	0	0	0	20	0	26	3	168
6:00-7:00	0	0	38	19	0	0	20	29	0	0	0	0	0	0	0	0	21	0	27	3	157
PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-5:00	2	0	117	41	0	0	21	54	0	0	0	0	0	0	0	0	22	0	14	0	271

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Kent Avenue & Caroline Drive
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
		Kent Avenue Northbound					Kent Avenue Southbound					N/A Eastbound					Dorchester Avenue Westbound				
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
6:30-6:45			1	0	0			9		0				0					0		10
6:45-7:00			3	2	0			11		0				0					0		16
7:00-7:15			12	1	0			6		0				0					0		19
7:15-7:30			9	5	0			15		0				0					0		29
7:30-7:45			13	3	0			6		0				0					0		22
7:45-8:00			7	5	0			26		0				0					0		38
8:00-8:15			15	3	0			9		0				0					0		27
8:15-8:30			7	1	0			15		0				0					0		23
8:30-8:45			6	3	0			18		0				0					0		27
8:45-9:00			15	6	0			11		0				0					0		32
9:00-9:15			12	5	0			10		0				0					0		27
9:15-9:30			14	7	0			16		0				0					0		37

Hourly Totals																					
6:30-7:30	0	0	25	8	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	74
6:45-7:45	0	0	37	11	0	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	86
7:00-8:00	0	0	41	14	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	108
7:15-8:15	0	0	44	16	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	116
7:30-8:30	0	0	42	12	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	110
7:45-8:45	0	0	35	12	0	0	0	68	0	0	0	0	0	0	0	0	0	0	0	0	115
8:00-9:00	0	0	43	13	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	109
8:15-9:15	0	0	40	15	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	109
8:30-9:30	0	0	47	21	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	123
AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
8:30-9:30	0	0	47	21	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	123

Weekday Evening Peak Hour (4 pm - 7 pm)																					
		Kent Avenue Northbound					Kent Avenue Southbound					N/A Eastbound					Dorchester Avenue Westbound				
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-4:15			27	14	0			13		0				0					0		54
4:15-4:30			20	9	0			25		0				0					0		54
4:30-4:45			34	10	0			18		0				0					0		62
4:45-5:00			30	11	0			14		0				0					0		55
5:00-5:15			21	4	0			14		0				0					0		39
5:15-5:30			16	5	0			27		0				0					0		48
5:30-5:45			6	8	0			11		0				0					0		25
5:45-6:00			8	10	0			16		0				0					0		34
6:00-6:15			11	6	0			9		0				0					0		26
6:15-6:30			11	6	1			14		1				0					0		31
6:30-6:45			4	3	0			13		0				0					0		20
6:45-7:00			10	5	0			11		0				0					0		26

Hourly Totals																					
4:00-5:00	0	0	111	44	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	225
4:15-5:15	0	0	105	34	0	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	210
4:30-5:30	0	0	101	30	0	0	0	73	0	0	0	0	0	0	0	0	0	0	0	0	204
4:45-5:45	0	0	73	28	0	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0	167
5:00-6:00	0	0	51	27	0	0	0	68	0	0	0	0	0	0	0	0	0	0	0	0	146
5:15-6:15	0	0	41	29	0	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	133
5:30-6:30	0	0	36	30	1	0	0	50	0	1	0	0	0	0	0	0	0	0	0	0	118
5:45-6:45	0	0	34	25	1	0	0	52	0	1	0	0	0	0	0	0	0	0	0	0	113
6:00-7:00	0	0	36	20	1	0	0	47	0	1	0	0	0	0	0	0	0	0	0	0	105
PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	0	111	44	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	225

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Kent Avenue & Dorchester Avenue
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Radio Station Road Northbound					N/A Southbound					Rosewick Road Eastbound					Rosewick Road Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	10	0	43	0	0	0	0	0	0	1	0	27	8	0	0	37	42	0	0	168
6:45-7:00	0	18	0	44	0	0	0	0	0	0	0	0	50	29	0	0	48	62	0	0	251
7:00-7:15	0	21	0	60	0	0	0	0	0	0	1	0	46	69	0	0	49	53	0	0	299
7:15-7:30	0	43	0	73	0	0	0	0	0	0	0	0	59	66	0	0	49	56	0	0	346
7:30-7:45	0	29	0	69	0	0	0	0	0	0	1	0	59	30	0	0	26	69	0	0	283
7:45-8:00	0	36	0	66	2	0	0	0	0	0	0	0	85	32	0	0	61	86	0	0	366
8:00-8:15	0	26	0	51	2	0	0	0	0	0	0	0	60	32	0	0	49	86	0	0	304
8:15-8:30	0	19	0	65	0	0	0	0	0	0	0	0	60	43	0	0	55	79	0	0	321
8:30-8:45	0	20	0	51	0	0	0	0	0	0	0	0	54	32	0	0	52	82	0	0	291
8:45-9:00	0	39	0	45	0	0	0	0	0	0	0	0	57	25	0	0	45	95	0	0	306
9:00-9:15	0	40	0	53	0	0	0	0	0	0	1	0	64	41	0	0	43	51	0	0	293
9:15-9:30	0	29	0	62	0	0	0	0	0	0	2	0	72	21	0	1	29	59	0	0	275

Hourly Totals																					
6:30-7:30	0	92	0	220	0	0	0	0	0	0	2	0	182	172	0	0	183	213	0	0	1064
6:45-7:45	0	111	0	246	0	0	0	0	0	0	2	0	214	194	0	0	172	240	0	0	1179
7:00-8:00	0	129	0	268	2	0	0	0	0	0	2	0	249	197	0	0	185	264	0	0	1296
7:15-8:15	0	134	0	259	4	0	0	0	0	0	1	0	263	160	0	0	185	297	0	0	1303
7:30-8:30	0	110	0	251	4	0	0	0	0	0	1	0	264	137	0	0	191	320	0	0	1278
7:45-8:45	0	101	0	233	4	0	0	0	0	0	0	0	259	139	0	0	217	333	0	0	1286
8:00-9:00	0	104	0	212	2	0	0	0	0	0	0	0	231	132	0	0	201	342	0	0	1224
8:15-9:15	0	118	0	214	0	0	0	0	0	0	1	0	235	141	0	0	195	307	0	0	1211
8:30-9:30	0	128	0	211	0	0	0	0	0	0	3	0	247	119	0	1	169	287	0	0	1165

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:15-8:15	0	134	0	259	4	0	0	0	0	0	1	0	263	160	0	0	185	297	0	0	1303

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Radio Station Road Northbound					N/A Southbound					Rosewick Road Eastbound					Rosewick Road Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	41	1	76	0	0	0	0	0	0	1	0	107	54	0	0	67	111	0	0	458
4:15-4:30	0	38	0	73	1	0	0	0	0	0	1	0	103	53	0	0	92	136	0	0	496
4:30-4:45	0	39	0	66	0	0	0	0	1	0	1	0	105	69	0	0	80	113	0	0	474
4:45-5:00	0	44	0	61	0	0	0	0	0	0	0	0	104	61	0	0	82	109	0	0	461
5:00-5:15	0	38	0	71	0	0	0	0	0	0	0	0	119	47	0	0	94	114	0	0	483
5:15-5:30	0	37	0	54	0	0	0	0	0	0	0	0	116	56	0	0	69	95	0	0	427
5:30-5:45	0	29	0	48	0	0	0	0	0	0	0	0	98	41	0	0	55	90	0	0	361
5:45-6:00	0	24	0	42	0	0	0	0	0	0	1	0	96	44	0	0	48	95	0	0	350
6:00-6:15	0	46	0	50	0	0	0	0	0	0	0	0	80	31	0	0	44	70	0	0	321
6:15-6:30	0	25	0	41	0	0	0	0	0	0	0	0	79	28	0	0	52	78	0	0	303
6:30-6:45	0	15	0	39	0	0	0	0	0	0	0	0	70	37	0	0	38	51	0	0	250
6:45-7:00	0	19	0	34	0	0	0	0	0	0	0	0	72	22	0	0	40	56	0	0	243

Hourly Totals																					
4:00-5:00	0	162	1	276	1	0	0	0	1	0	3	0	419	237	0	0	321	469	0	0	1890
4:15-5:15	0	159	0	271	1	0	0	0	1	0	2	0	431	230	0	0	348	472	0	0	1915
4:30-5:30	0	158	0	252	0	0	0	0	1	0	1	0	444	233	0	0	325	431	0	0	1845
4:45-5:45	0	148	0	234	0	0	0	0	0	0	0	0	437	205	0	0	300	408	0	0	1732
5:00-6:00	0	128	0	215	0	0	0	0	0	0	1	0	429	188	0	0	266	394	0	0	1621
5:15-6:15	0	136	0	194	0	0	0	0	0	0	1	0	390	172	0	0	216	350	0	0	1459
5:30-6:30	0	124	0	181	0	0	0	0	0	0	1	0	353	144	0	0	199	333	0	0	1335
5:45-6:45	0	110	0	172	0	0	0	0	0	0	1	0	325	140	0	0	182	294	0	0	1224
6:00-7:00	0	105	0	164	0	0	0	0	0	0	0	0	301	118	0	0	174	255	0	0	1117

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:15-5:15	0	159	0	271	1	0	0	0	1	0	2	0	431	230	0	0	348	472	0	0	1915

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Rosewick Road & Radio Station Road
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Radio Station Road Northbound					Radio Station Road Southbound					Mary Matula Road Eastbound					FB Gwynn Driveway Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	7	63	0	0	0	0	37	2	0	0	0	0	4	0	0	0	0	0	3	113
6:45-7:00	0	8	67	0	0	0	1	59	1	0	0	1	0	0	0	0	0	0	0	0	137
7:00-7:15	0	34	76	0	0	0	0	87	14	0	0	2	0	4	0	0	0	0	0	0	217
7:15-7:30	0	14	104	0	0	0	1	77	8	0	0	20	0	12	0	0	0	0	0	1	236
7:30-7:45	0	14	101	2	0	0	0	30	5	0	0	5	0	8	0	0	0	0	0	0	165
7:45-8:00	0	16	121	2	0	0	3	56	5	0	0	2	0	3	0	0	0	0	0	0	208
8:00-8:15	0	27	84	1	0	0	5	57	8	0	0	7	1	5	0	0	0	0	0	0	195
8:15-8:30	0	20	99	9	0	0	3	67	11	0	0	7	0	8	0	0	0	0	0	0	224
8:30-8:45	0	12	67	0	0	0	7	45	19	0	0	2	0	9	0	0	0	0	0	0	161
8:45-9:00	0	28	83	0	0	0	2	52	12	0	0	3	0	2	0	0	0	0	0	0	182
9:00-9:15	0	39	82	1	0	0	4	39	18	0	0	23	4	35	0	0	0	0	0	0	245
9:15-9:30	0	9	75	2	0	0	1	57	5	0	0	12	2	17	0	0	0	0	0	0	180

Hourly Totals																					
6:30-7:30	0	63	310	0	0	0	2	260	25	0	0	23	0	20	0	0	0	0	0	4	707
6:45-7:45	0	70	348	2	0	0	2	253	28	0	0	28	0	24	0	0	0	0	0	1	756
7:00-8:00	0	78	402	4	0	0	4	250	32	0	0	29	0	27	0	0	0	0	0	1	827
7:15-8:15	0	71	410	5	0	0	9	220	26	0	0	34	1	28	0	0	0	0	0	1	805
7:30-8:30	0	77	405	14	0	0	11	210	29	0	0	21	1	24	0	0	0	0	0	0	792
7:45-8:45	0	75	371	12	0	0	18	225	43	0	0	18	1	25	0	0	0	0	0	0	788
8:00-9:00	0	87	333	10	0	0	17	221	50	0	0	19	1	24	0	0	0	0	0	0	762
8:15-9:15	0	99	331	10	0	0	16	203	60	0	0	35	4	54	0	0	0	0	0	0	812
8:30-9:30	0	88	307	3	0	0	14	193	54	0	0	40	6	63	0	0	0	0	0	0	768

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:00-8:00	0	78	402	4	0	0	4	250	32	0	0	29	0	27	0	0	0	0	0	1	827

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Radio Station Road Northbound					Radio Station Road Southbound					Mary Matula Road Eastbound					FB Gwynn Driveway Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	7	79	2	0	0	0	137	7	0	0	22	0	39	0	0	0	0	0	0	293
4:15-4:30	0	4	85	0	0	0	0	139	3	0	0	9	0	19	0	0	0	0	0	0	259
4:30-4:45	0	4	72	0	0	0	0	141	5	0	0	9	1	11	0	0	0	0	0	1	243
4:45-5:00	0	2	95	0	0	0	2	136	10	0	0	5	0	6	0	0	0	0	0	0	256
5:00-5:15	0	6	78	0	0	0	0	129	3	0	0	4	0	16	0	0	0	0	0	0	236
5:15-5:30	0	5	72	0	0	0	1	133	5	0	0	3	0	5	0	0	0	0	0	0	224
5:30-5:45	0	4	62	1	0	0	0	95	4	0	0	6	0	7	0	0	0	0	0	0	179
5:45-6:00	0	7	56	3	0	0	3	98	11	0	0	2	0	6	0	0	0	0	0	0	186
6:00-6:15	0	2	65	3	0	0	2	83	0	0	0	8	0	5	0	0	0	0	0	0	168
6:15-6:30	0	0	30	0	0	0	1	83	2	0	0	2	0	2	0	0	0	0	0	0	120
6:30-6:45	0	1	52	0	0	0	0	74	2	0	0	1	0	0	0	0	0	0	0	0	130
6:45-7:00	0	4	32	5	0	0	2	43	0	0	0	2	0	0	0	0	0	0	0	0	88

Hourly Totals																					
4:00-5:00	0	17	331	2	0	0	2	553	25	0	0	45	1	75	0	0	0	0	0	1	1052
4:15-5:15	0	16	330	0	0	0	2	545	21	0	0	27	1	52	0	0	0	0	0	1	995
4:30-5:30	0	17	317	0	0	0	3	539	23	0	0	21	1	38	0	0	0	0	0	1	960
4:45-5:45	0	17	307	1	0	0	3	493	22	0	0	18	0	34	0	0	0	0	0	0	895
5:00-6:00	0	22	268	4	0	0	4	455	23	0	0	15	0	34	0	0	0	0	0	0	825
5:15-6:15	0	18	255	7	0	0	6	409	20	0	0	19	0	23	0	0	0	0	0	0	757
5:30-6:30	0	13	213	7	0	0	6	359	17	0	0	18	0	20	0	0	0	0	0	0	653
5:45-6:45	0	10	203	6	0	0	6	338	15	0	0	13	0	13	0	0	0	0	0	0	604
6:00-7:00	0	7	179	8	0	0	5	283	4	0	0	13	0	7	0	0	0	0	0	0	506

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	17	331	2	0	0	2	553	25	0	0	45	1	75	0	0	0	0	0	1	1052

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Radio Station Road & Mary Matula Drive

Weather: Clear

Count by: Count Cam DSS

Count Day/Date: Tuesday, February 7, 2023

Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: Radio Station Rd & Llano Dr



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	Radio Station Road Northbound					Radio Station Road Southbound					Llano Drive Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	1	75	0	0	0	0	23	10	0	0	17	0	3	0	0	0	0	0	0	129
6:45-7:00	0	2	94	0	0	0	0	32	7	0	0	24	0	4	0	0	0	0	0	0	163
7:00-7:15	0	3	180	0	0	0	0	57	9	0	0	46	0	5	0	0	0	0	0	0	300
7:15-7:30	0	4	149	0	0	0	0	100	12	0	0	31	0	4	0	0	0	0	0	0	300
7:30-7:45	0	1	103	0	0	0	0	29	6	0	0	27	0	1	0	0	0	0	0	0	167
7:45-8:00	0	1	115	0	0	0	0	46	9	0	0	28	0	4	0	0	0	0	0	0	203
8:00-8:15	0	2	105	0	0	0	0	58	6	0	0	16	0	5	0	0	0	0	0	0	192
8:15-8:30	0	2	107	0	0	0	0	62	6	0	0	17	0	3	0	0	0	0	0	0	197
8:30-8:45	0	3	78	0	0	0	0	39	5	0	0	13	0	4	0	0	0	0	0	0	142
8:45-9:00	0	1	97	0	0	0	0	51	5	0	0	17	0	4	0	0	0	0	0	0	175
9:00-9:15	0	4	107	0	0	0	0	65	15	0	0	27	0	4	0	0	0	0	0	0	222
9:15-9:30	0	1	70	0	0	0	0	77	11	0	0	10	0	2	0	0	0	0	0	0	171

Hourly Totals																					
6:30-7:30	0	10	498	0	0	0	0	212	38	0	0	118	0	16	0	0	0	0	0	0	892
6:45-7:45	0	10	526	0	0	0	0	218	34	0	0	128	0	14	0	0	0	0	0	0	930
7:00-8:00	0	9	547	0	0	0	0	232	36	0	0	132	0	14	0	0	0	0	0	0	970
7:15-8:15	0	8	472	0	0	0	0	233	33	0	0	102	0	14	0	0	0	0	0	0	862
7:30-8:30	0	6	430	0	0	0	0	195	27	0	0	88	0	13	0	0	0	0	0	0	759
7:45-8:45	0	8	405	0	0	0	0	205	26	0	0	74	0	16	0	0	0	0	0	0	734
8:00-9:00	0	8	387	0	0	0	0	210	22	0	0	63	0	16	0	0	0	0	0	0	706
8:15-9:15	0	10	389	0	0	0	0	217	31	0	0	74	0	15	0	0	0	0	0	0	736
8:30-9:30	0	9	352	0	0	0	0	232	36	0	0	67	0	14	0	0	0	0	0	0	710
AM Peak Hour 7:00-8:00	Northbound					Southbound					Eastbound					Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
	0	9	547	0	0	0	0	232	36	0	0	132	0	14	0	0	0	0	0	0	970

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	Radio Station Road Northbound					Radio Station Road Southbound					Llano Drive Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	3	62	0	0	0	0	185	30	0	0	10	0	7	0	0	0	0	0	1	297
4:15-4:30	0	1	87	0	0	0	0	130	30	0	0	11	0	5	0	0	0	0	0	0	264
4:30-4:45	0	1	62	0	0	0	0	156	22	0	0	16	0	4	0	0	0	0	0	0	261
4:45-5:00	0	2	92	0	0	0	0	138	21	0	0	12	0	3	0	0	0	0	0	0	268
5:00-5:15	0	4	67	0	0	0	0	125	27	0	0	11	0	5	0	0	0	0	0	0	239
5:15-5:30	0	6	56	0	0	0	0	110	27	0	0	18	0	0	0	0	0	0	0	0	217
5:30-5:45	0	4	60	0	0	0	0	89	25	0	0	8	0	4	0	0	0	0	0	0	190
5:45-6:00	0	2	52	0	0	0	0	75	26	0	0	18	0	5	0	0	0	0	0	0	178
6:00-6:15	0	3	46	0	0	0	0	89	20	0	0	11	0	2	0	0	0	0	0	0	171
6:15-6:30	0	1	23	0	0	0	0	66	18	0	0	8	0	3	0	0	0	0	0	0	119
6:30-6:45	0	5	37	0	0	0	0	57	22	0	0	10	0	9	0	0	0	0	0	0	140
6:45-7:00	0	2	44	0	0	0	0	45	14	0	0	5	0	4	0	0	0	0	0	0	114

Hourly Totals																					
4:00-5:00	0	7	303	0	0	0	0	609	103	0	0	49	0	19	0	0	0	0	0	1	1091
4:15-5:15	0	8	308	0	0	0	0	549	100	0	0	50	0	17	0	0	0	0	0	0	1032
4:30-5:30	0	13	277	0	0	0	0	529	97	0	0	57	0	12	0	0	0	0	0	0	985
4:45-5:45	0	16	275	0	0	0	0	462	100	0	0	49	0	12	0	0	0	0	0	0	914
5:00-6:00	0	16	235	0	0	0	0	399	105	0	0	55	0	14	0	0	0	0	0	0	824
5:15-6:15	0	15	214	0	0	0	0	363	98	0	0	55	0	11	0	0	0	0	0	0	756
5:30-6:30	0	10	181	0	0	0	0	319	89	0	0	45	0	14	0	0	0	0	0	0	658
5:45-6:45	0	11	158	0	0	0	0	287	86	0	0	47	0	19	0	0	0	0	0	0	608
6:00-7:00	0	11	150	0	0	0	0	257	74	0	0	34	0	18	0	0	0	0	0	0	544
PM Peak Hour 4:00-5:00	Northbound					Southbound					Eastbound					Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
	0	7	303	0	0	0	0	609	103	0	0	49	0	19	0	0	0	0	0	1	1091

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: Radio Station Road & Llano Drive
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: MD 488 & Radio Station Rd

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	N/A Northbound					Radio Station Road Southbound					MD 488 Eastbound					MD 488 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	0	0	0	0	0	2	0	24	0	0	58	41	0	0	0	0	45	18	0	188
6:45-7:00	0	0	0	0	0	0	4	0	30	0	0	77	62	0	0	0	0	72	20	0	265
7:00-7:15	0	0	0	0	0	0	0	0	64	0	0	100	52	0	0	0	0	108	84	0	408
7:15-7:30	0	0	0	0	0	0	10	0	94	0	0	88	75	0	0	0	0	80	66	0	413
7:30-7:45	0	0	0	0	0	0	5	0	23	0	0	81	68	0	0	0	0	96	23	0	296
7:45-8:00	0	0	0	0	0	0	7	0	43	0	0	83	52	0	0	0	0	92	30	0	307
8:00-8:15	0	0	0	0	0	0	8	0	54	0	0	77	43	0	0	0	0	105	30	0	317
8:15-8:30	0	0	0	0	0	0	12	0	50	0	0	80	56	0	0	0	0	69	28	0	295
8:30-8:45	0	0	0	0	0	0	7	0	35	0	0	54	35	0	0	0	0	83	27	0	241
8:45-9:00	0	0	0	0	0	0	10	0	42	0	0	75	36	0	0	0	0	84	24	0	271
9:00-9:15	0	0	0	0	0	0	23	0	48	0	0	67	37	0	0	0	0	52	39	0	266
9:15-9:30	0	0	0	0	0	0	21	0	58	0	0	53	38	0	0	0	0	47	22	0	239

Hourly Totals																					
6:30-7:30	0	0	0	0	0	0	16	0	212	0	0	323	230	0	0	0	0	305	188	0	1274
6:45-7:45	0	0	0	0	0	0	19	0	211	0	0	346	257	0	0	0	0	356	193	0	1382
7:00-8:00	0	0	0	0	0	0	22	0	224	0	0	352	247	0	0	0	0	376	203	0	1424
7:15-8:15	0	0	0	0	0	0	30	0	214	0	0	329	238	0	0	0	0	373	149	0	1333
7:30-8:30	0	0	0	0	0	0	32	0	170	0	0	321	219	0	0	0	0	362	111	0	1215
7:45-8:45	0	0	0	0	0	0	34	0	182	0	0	294	186	0	0	0	0	349	115	0	1160
8:00-9:00	0	0	0	0	0	0	37	0	181	0	0	286	170	0	0	0	0	341	109	0	1124
8:15-9:15	0	0	0	0	0	0	52	0	175	0	0	276	164	0	0	0	0	288	118	0	1073
8:30-9:30	0	0	0	0	0	0	61	0	183	0	0	249	146	0	0	0	0	266	112	0	1017

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:00-8:00	0	0	0	0	0	0	22	0	224	0	0	352	247	0	0	0	0	376	203	0	1424

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	N/A Northbound					Radio Station Road Southbound					MD 488 Eastbound					MD 488 Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	0	0	0	0	0	51	0	136	0	0	48	108	0	0	0	0	68	16	0	427
4:15-4:30	0	0	0	0	0	0	40	0	97	0	0	67	97	0	0	0	0	76	16	0	393
4:30-4:45	0	0	0	0	0	0	35	0	123	0	0	44	96	0	0	0	0	65	21	0	384
4:45-5:00	0	0	0	0	0	0	33	0	107	1	0	60	91	0	0	0	0	78	36	0	405
5:00-5:15	0	0	0	0	0	0	31	0	95	0	0	46	95	0	0	0	0	67	23	0	357
5:15-5:30	0	0	0	0	0	0	32	0	85	0	0	45	90	0	0	0	0	82	17	0	351
5:30-5:45	0	0	0	0	0	0	28	0	65	0	0	44	77	0	0	0	0	63	17	0	294
5:45-6:00	0	0	0	0	0	0	30	0	46	0	0	36	62	0	0	0	0	78	19	0	271
6:00-6:15	0	0	0	0	0	0	27	0	64	0	0	36	70	0	0	0	0	43	13	0	253
6:15-6:30	0	0	0	0	0	0	16	0	54	0	0	19	56	0	0	0	0	47	4	0	196
6:30-6:45	0	0	0	0	0	0	12	0	54	0	0	21	56	0	0	0	0	39	20	0	202
6:45-7:00	0	0	0	0	0	0	11	0	36	0	0	32	41	0	0	0	0	46	12	0	178

Hourly Totals																					
4:00-5:00	0	0	0	0	0	0	159	0	463	1	0	219	392	0	0	0	0	287	89	0	1610
4:15-5:15	0	0	0	0	0	0	139	0	422	1	0	217	379	0	0	0	0	286	96	0	1540
4:30-5:30	0	0	0	0	0	0	131	0	410	1	0	195	372	0	0	0	0	292	97	0	1498
4:45-5:45	0	0	0	0	0	0	124	0	352	1	0	195	353	0	0	0	0	290	93	0	1408
5:00-6:00	0	0	0	0	0	0	121	0	291	0	0	171	324	0	0	0	0	290	76	0	1273
5:15-6:15	0	0	0	0	0	0	117	0	260	0	0	161	299	0	0	0	0	266	66	0	1169
5:30-6:30	0	0	0	0	0	0	101	0	229	0	0	135	265	0	0	0	0	231	53	0	1014
5:45-6:45	0	0	0	0	0	0	85	0	218	0	0	112	244	0	0	0	0	207	56	0	922
6:00-7:00	0	0	0	0	0	0	66	0	208	0	0	108	223	0	0	0	0	175	49	0	829

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	0	0	0	0	0	159	0	463	1	0	219	392	0	0	0	0	287	89	0	1610

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 488 & Radio Station Road
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Tuesday, February 7, 2023
Jurisdiction: Town of La Plata



Aerial
Diagram

Intersection: MD 488 & Agricopia Dr



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

County: Charles

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	MD 488 Northbound					MD 488 Southbound					Agricopia Drive Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	5	101	0	0	0	0	70	3	0	0	1	0	7	0	0	0	0	0	0	187
6:45-7:00	0	7	138	0	0	0	0	99	4	0	0	4	0	11	0	0	0	0	0	0	263
7:00-7:15	0	16	167	0	0	0	0	162	6	0	0	6	0	16	0	0	0	0	0	0	373
7:15-7:30	0	12	139	0	0	0	0	172	5	0	0	6	0	16	0	0	0	0	0	0	350
7:30-7:45	0	5	149	0	0	0	0	113	1	0	0	5	0	8	0	0	0	0	0	0	281
7:45-8:00	0	5	137	0	0	0	0	139	0	0	0	0	0	7	2	0	0	0	0	0	288
8:00-8:15	0	4	121	0	0	0	0	159	1	0	0	3	0	9	0	0	0	0	0	0	297
8:15-8:30	0	8	138	0	0	0	0	121	2	0	0	1	0	7	0	0	0	0	0	0	277
8:30-8:45	0	1	85	0	0	0	0	111	2	0	0	2	0	6	0	0	0	0	0	0	207
8:45-9:00	0	4	105	0	0	0	0	128	2	0	0	2	0	8	0	0	0	0	0	0	249
9:00-9:15	0	3	104	0	0	0	0	97	3	0	0	2	0	10	0	0	0	0	0	0	219
9:15-9:30	0	6	85	0	0	0	0	104	0	0	0	5	0	6	0	0	0	0	0	0	206

Hourly Totals																					
6:30-7:30	0	40	545	0	0	0	0	503	18	0	0	17	0	50	0	0	0	0	0	0	1173
6:45-7:45	0	40	593	0	0	0	0	546	16	0	0	21	0	51	0	0	0	0	0	0	1267
7:00-8:00	0	38	592	0	0	0	0	586	12	0	0	17	0	47	2	0	0	0	0	0	1294
7:15-8:15	0	26	546	0	0	0	0	583	7	0	0	14	0	40	2	0	0	0	0	0	1218
7:30-8:30	0	22	545	0	0	0	0	532	4	0	0	9	0	31	2	0	0	0	0	0	1145
7:45-8:45	0	18	481	0	0	0	0	530	5	0	0	6	0	29	2	0	0	0	0	0	1071
8:00-9:00	0	17	449	0	0	0	0	519	7	0	0	8	0	30	0	0	0	0	0	0	1030
8:15-9:15	0	16	432	0	0	0	0	457	9	0	0	7	0	31	0	0	0	0	0	0	952
8:30-9:30	0	14	379	0	0	0	0	440	7	0	0	11	0	30	0	0	0	0	0	0	881

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
7:00-8:00	0	38	592	0	0	0	0	586	12	0	0	17	0	47	2	0	0	0	0	0	1294

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	MD 488 Northbound					MD 488 Southbound					Agricopia Drive Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	13	157	0	0	0	0	193	4	0	0	3	0	12	0	0	0	0	0	0	382
4:15-4:30	0	12	167	0	0	0	0	176	3	0	0	0	0	8	0	0	0	0	0	0	366
4:30-4:45	0	13	140	0	0	0	0	185	3	0	0	2	0	7	0	0	0	0	0	0	350
4:45-5:00	0	15	146	0	0	0	0	185	3	0	0	6	0	11	1	0	0	0	0	0	366
5:00-5:15	0	8	135	0	0	0	0	158	4	0	0	6	0	10	0	0	0	0	0	0	321
5:15-5:30	0	11	133	0	0	0	0	165	3	0	0	3	0	8	0	0	0	0	0	0	323
5:30-5:45	0	11	121	0	0	0	0	123	7	0	0	0	0	7	0	0	0	0	0	0	269
5:45-6:00	0	7	95	0	0	0	0	117	6	0	0	1	0	12	0	0	0	0	0	0	238
6:00-6:15	0	11	109	0	0	0	0	105	6	0	0	4	0	3	0	0	0	0	0	0	238
6:15-6:30	0	5	76	0	0	0	0	96	2	0	0	0	0	8	0	0	0	0	0	0	187
6:30-6:45	0	8	80	0	0	0	0	93	2	0	0	1	0	6	0	0	0	0	0	0	190
6:45-7:00	0	10	70	0	0	0	0	82	1	0	0	4	0	5	0	0	0	0	0	0	172

Hourly Totals																					
4:00-5:00	0	53	610	0	0	0	0	739	13	0	0	11	0	38	1	0	0	0	0	0	1465
4:15-5:15	0	48	588	0	0	0	0	704	13	0	0	14	0	36	1	0	0	0	0	0	1404
4:30-5:30	0	47	554	0	0	0	0	693	13	0	0	17	0	36	1	0	0	0	0	0	1361
4:45-5:45	0	45	535	0	0	0	0	631	17	0	0	15	0	36	1	0	0	0	0	0	1280
5:00-6:00	0	37	484	0	0	0	0	563	20	0	0	10	0	37	0	0	0	0	0	0	1151
5:15-6:15	0	40	458	0	0	0	0	510	22	0	0	8	0	30	0	0	0	0	0	0	1068
5:30-6:30	0	34	401	0	0	0	0	441	21	0	0	5	0	30	0	0	0	0	0	0	932
5:45-6:45	0	31	360	0	0	0	0	411	16	0	0	6	0	29	0	0	0	0	0	0	853
6:00-7:00	0	34	335	0	0	0	0	376	11	0	0	9	0	22	0	0	0	0	0	0	787

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	0	53	610	0	0	0	0	739	13	0	0	11	0	38	1	0	0	0	0	0	1465

Peak Hour
Turning Movement Count



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Intersection: MD 488 & Agricopia Drive

Weather: Clear

Count by: Count Cam DSS

Count Day/Date: Tuesday, February 7, 2023

Jurisdiction: Town of La Plata

Appendix B

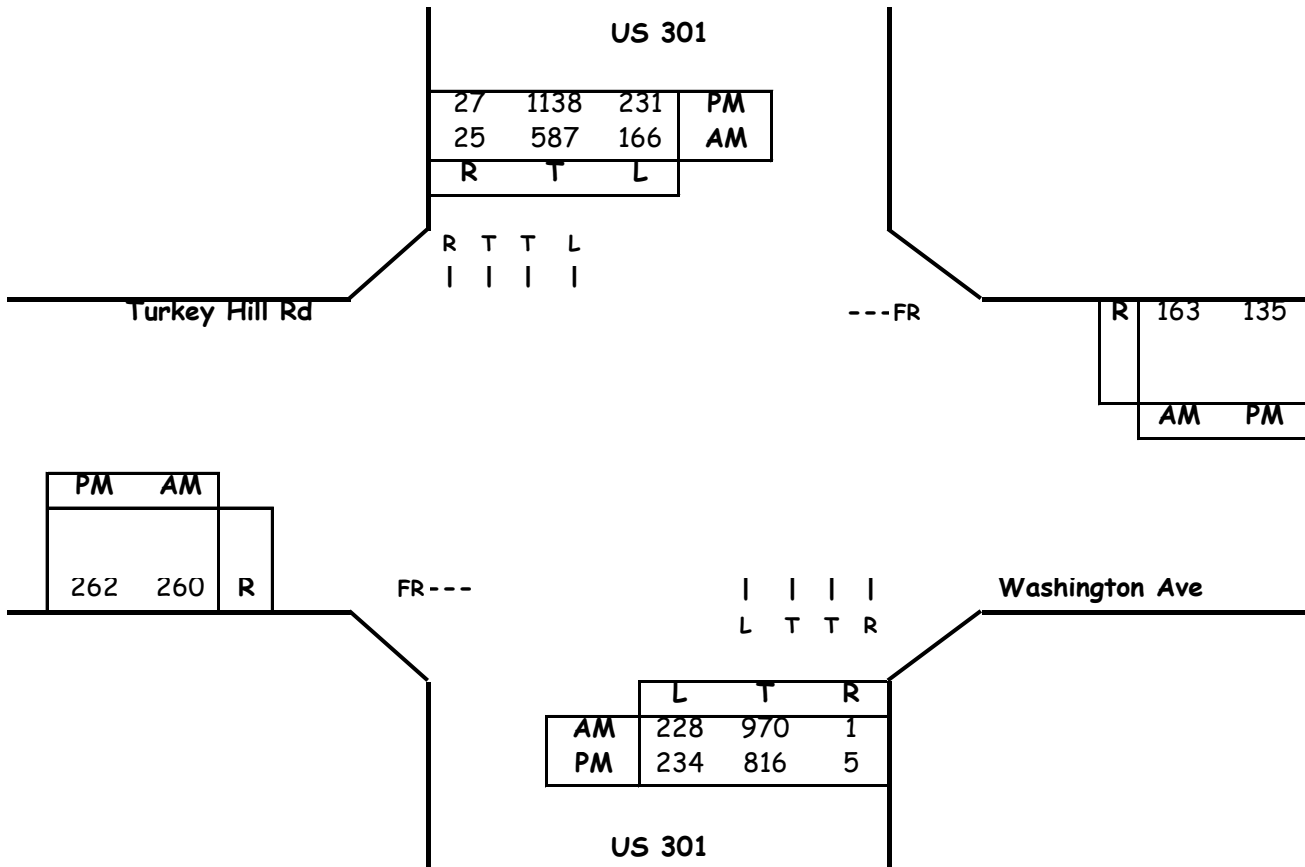
Partial Build Out Critical Lane Volume (LOS) Worksheets
Partial Build Out Highway Capacity Manual (HCM) Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: US 301
Minor Street: Washington Ave
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	970	0.55	534	166	1	166	700
SB	587	0.55	323	228	1	228	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							700
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	816	0.55	449	231	1	231	860
SB	1138	0.55	626	234	1	234	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							860
Level of Service (LOS) =							A

Critical Lane Volume Analysis



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**US 301 &
 Washington Ave**
 (EXISTING TRAFFIC)

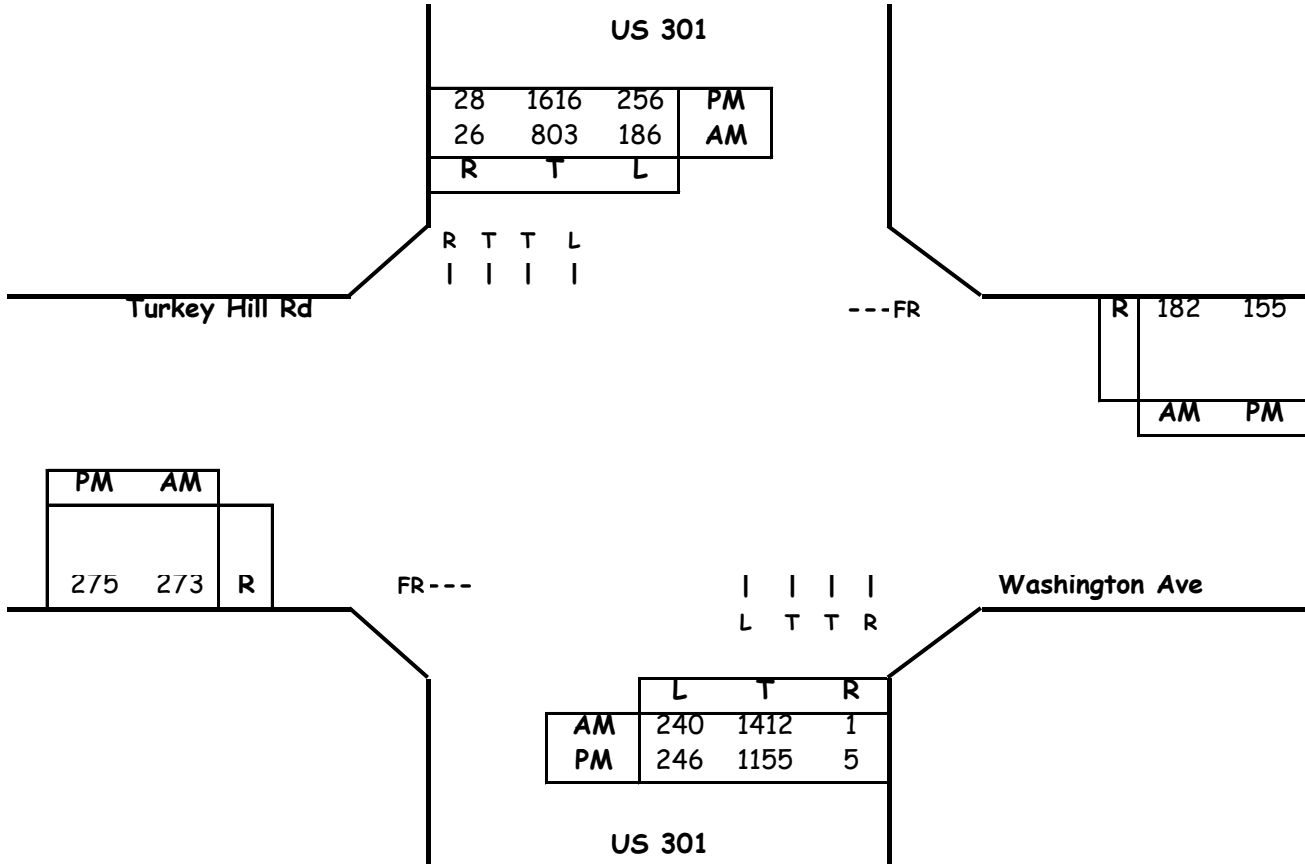
**Intersection
 1**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: US 301
Minor Street: Washington Ave
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1412	0.55	777	186	1	186	963
SB	803	0.55	442	240	1	240	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							963
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1155	0.55	635	256	1	256	1135
SB	1616	0.55	889	246	1	246	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1135
Level of Service (LOS) =							B

Critical Lane Volume Analysis



**US 301 &
Washington Ave**
 (BACKGROUND TRAFFIC)

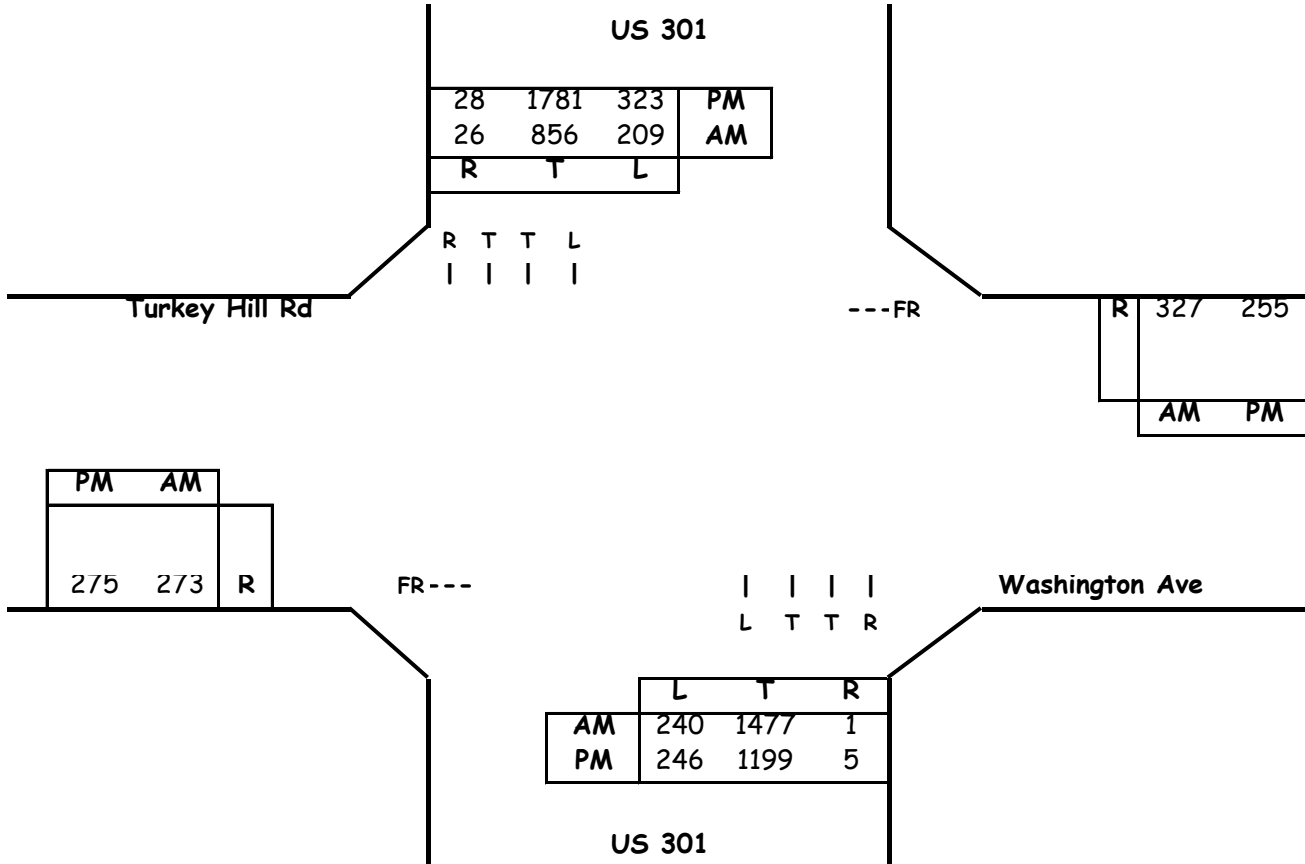
Intersection
1

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: US 301
Minor Street: Washington Ave
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1477	0.55	812	209	1	209	1021
SB	856	0.55	471	240	1	240	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1021
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1199	0.55	659	323	1	323	1226
SB	1781	0.55	980	246	1	246	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1226
Level of Service (LOS) =							C

Critical Lane Volume Analysis



**US 301 &
Washington Ave**
 (TOTAL TRAFFIC)

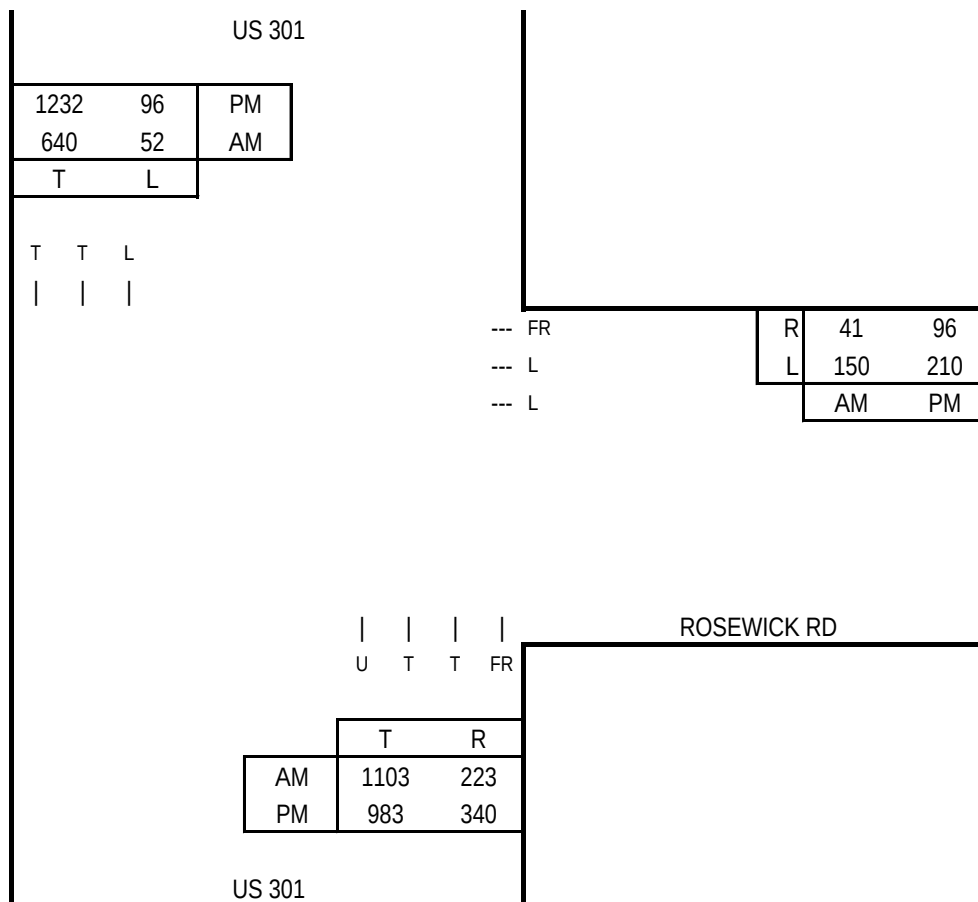
Intersection
1

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

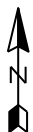
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	150	0.60	90			
NB	1103	0.55	607	52	1.00	52
SB	640	0.55	352			
CLV TOTAL=						749
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	210	0.60	126			
NB	983	0.55	541	96	1.00	96
SB	1232	0.55	678			
CLV TOTAL=						804
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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US 301 &
Rosewick Rd
(Existing Traffic)

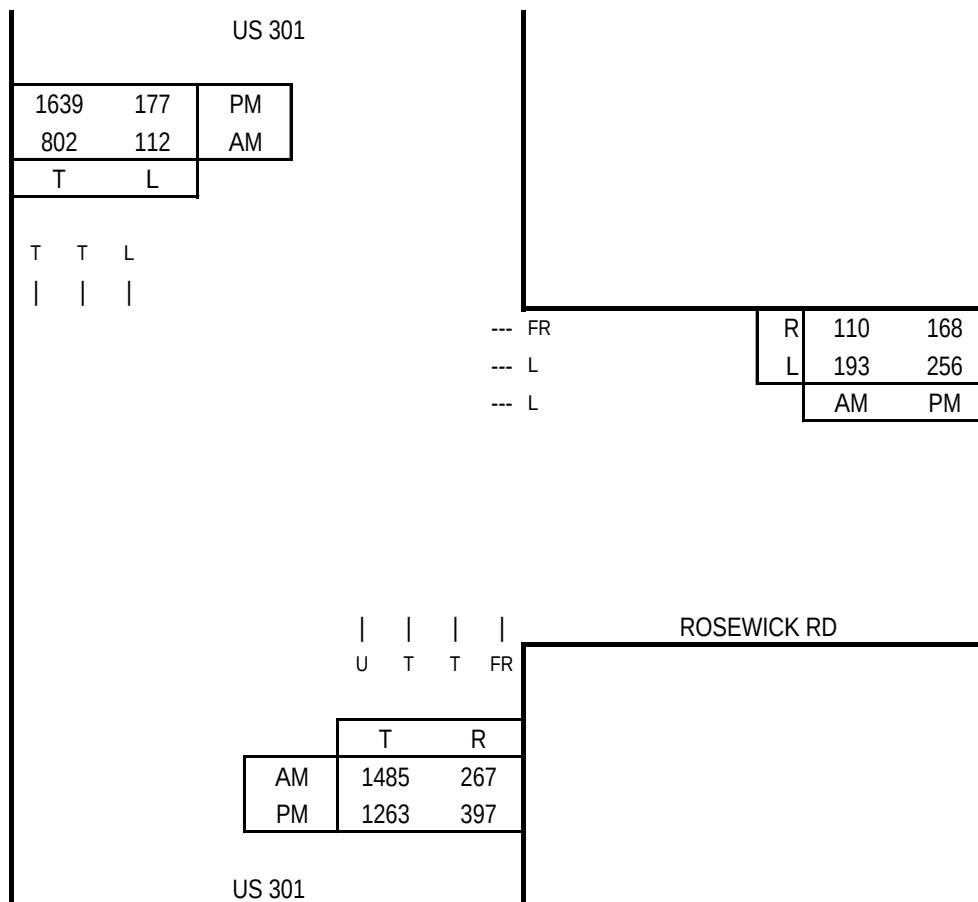
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

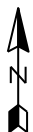
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	193	0.60	116			
NB	1485	0.55	817	112	1.00	112
SB	802	0.55	441			
CLV TOTAL=						1045
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	256	0.60	154			
NB	1263	0.55	695	177	1.00	177
SB	1639	0.55	901			
CLV TOTAL=						1055
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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US 301 &
Rosewick Rd
(Background Traffic)

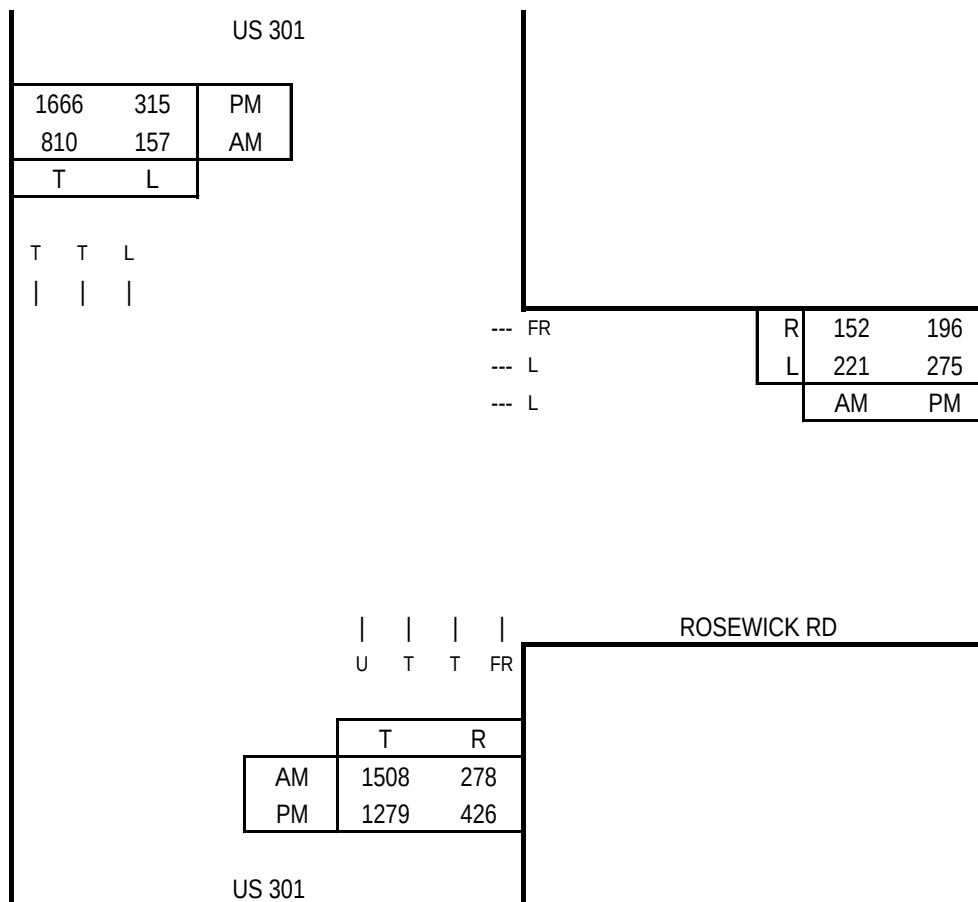
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

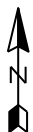
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	221	0.60	133			
NB	1508	0.55	829	157	1.00	157
SB	810	0.55	446			
CLV TOTAL=						1119
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	275	0.60	165			
NB	1279	0.55	703	315	1.00	315
SB	1666	0.55	916			
CLV TOTAL=						1183
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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US 301 &
Rosewick Rd
(Total Traffic)

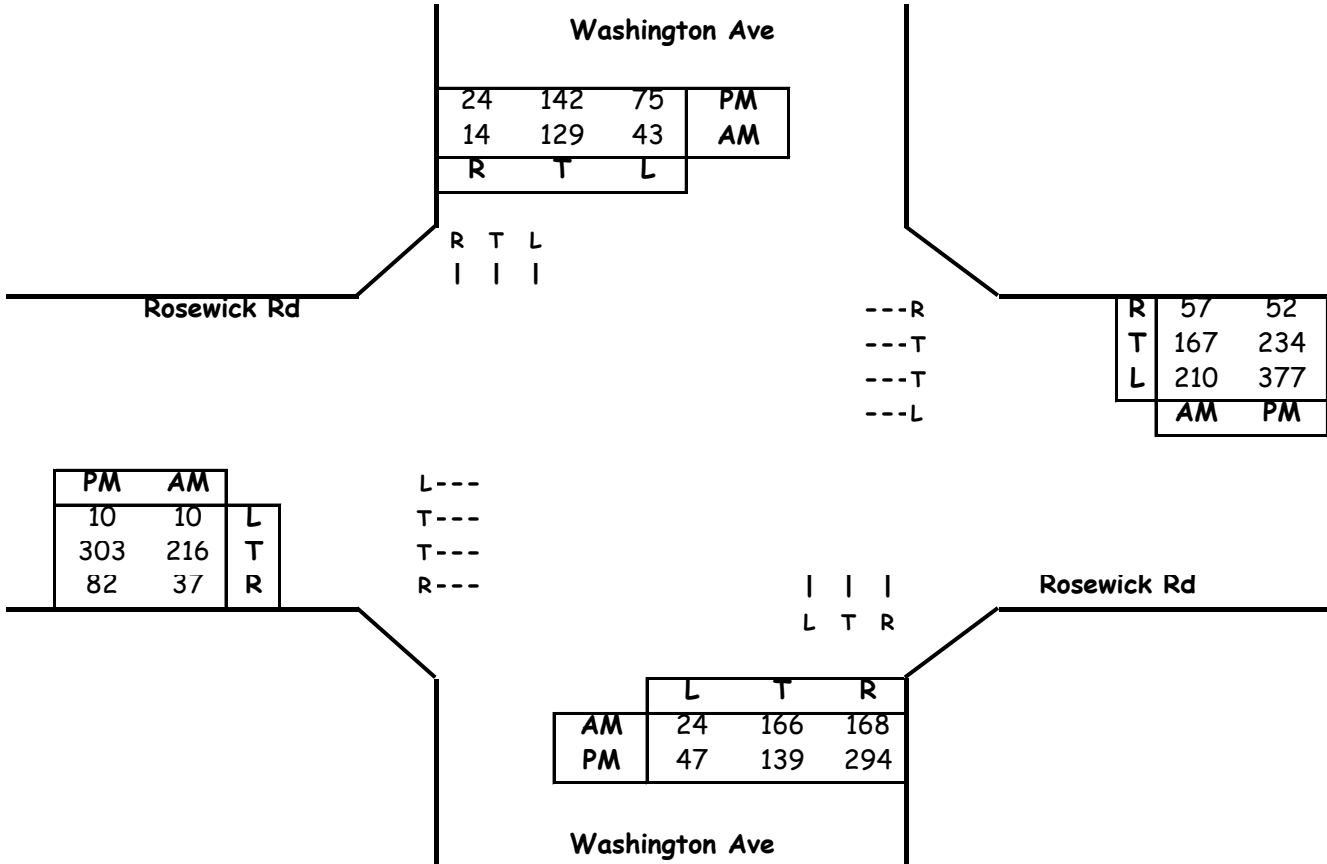
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Washington Ave
Minor Street: Rosewick Rd
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	166	1.00	166	43	1	43	209
SB	129	1.00	129	24	1	24	
EB	216	0.55	119	210	1	210	329
WB	167	0.55	92	10	1	10	
CLV TOTAL=							538
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	139	1.00	139	75	1	75	214
SB	142	1.00	142	47	1	47	
EB	303	0.55	167	377	1	377	544
WB	234	0.55	129	10	1	10	
CLV TOTAL=							758
Level of Service (LOS)=							A

Critical Lane Volume Analysis



**Washington Ave &
 Rosewick Rd
 (EXISTING TRAFFIC)**

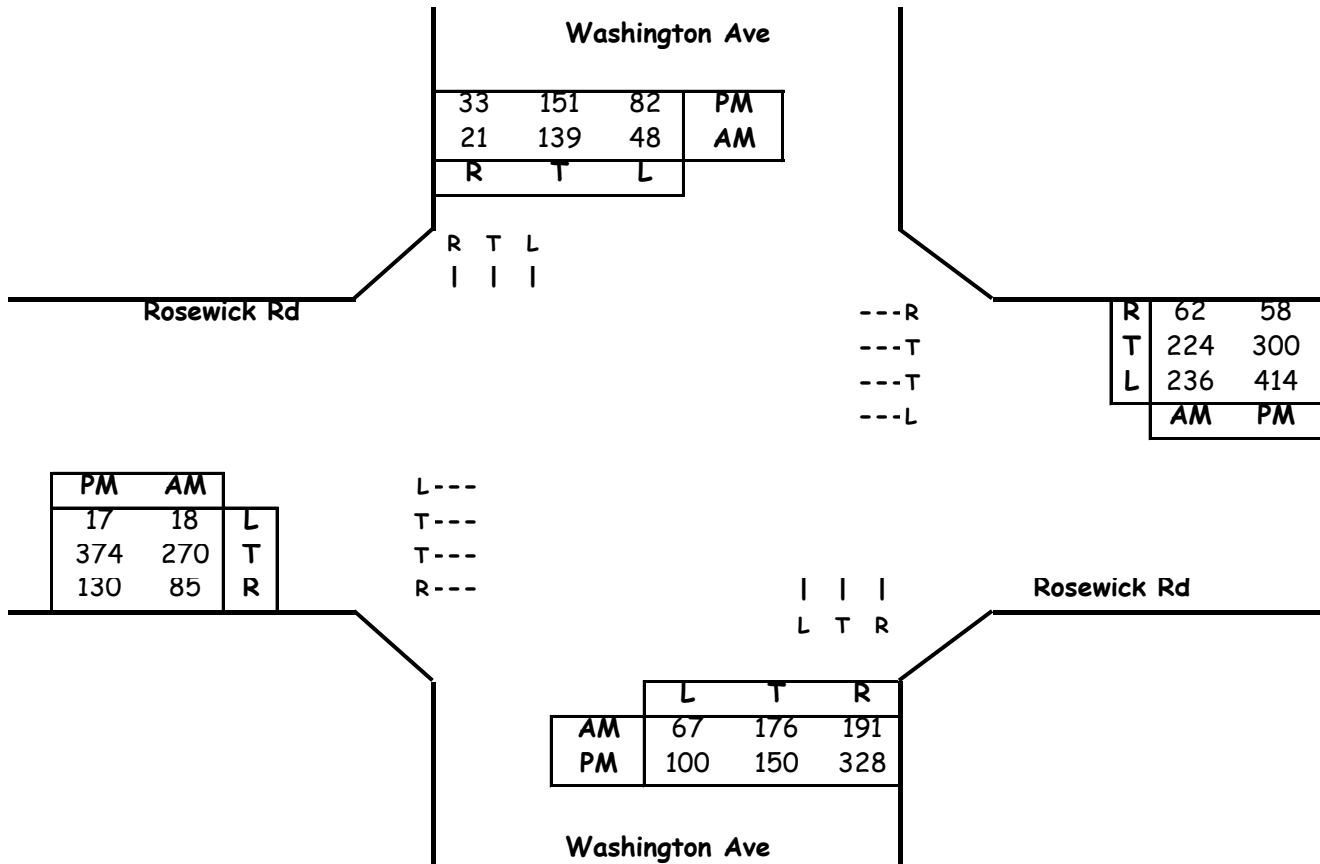
**Intersection
 3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Washington Ave
Minor Street: Rosewick Rd
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	176	1.00	176	48	1	48
SB	139	1.00	139	67	1	67
EB	270	0.55	149	236	1	236
WB	224	0.55	123	18	1	18
CLV TOTAL=						609
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	150	1.00	150	82	1	82
SB	151	1.00	151	100	1	100
EB	374	0.55	206	414	1	414
WB	300	0.55	165	17	1	17
CLV TOTAL=						871
Level of Service (LOS) =						A

Critical Lane Volume Analysis



**Washington Ave &
 Rosewick Rd**
 (BACKGROUND TRAFFIC)

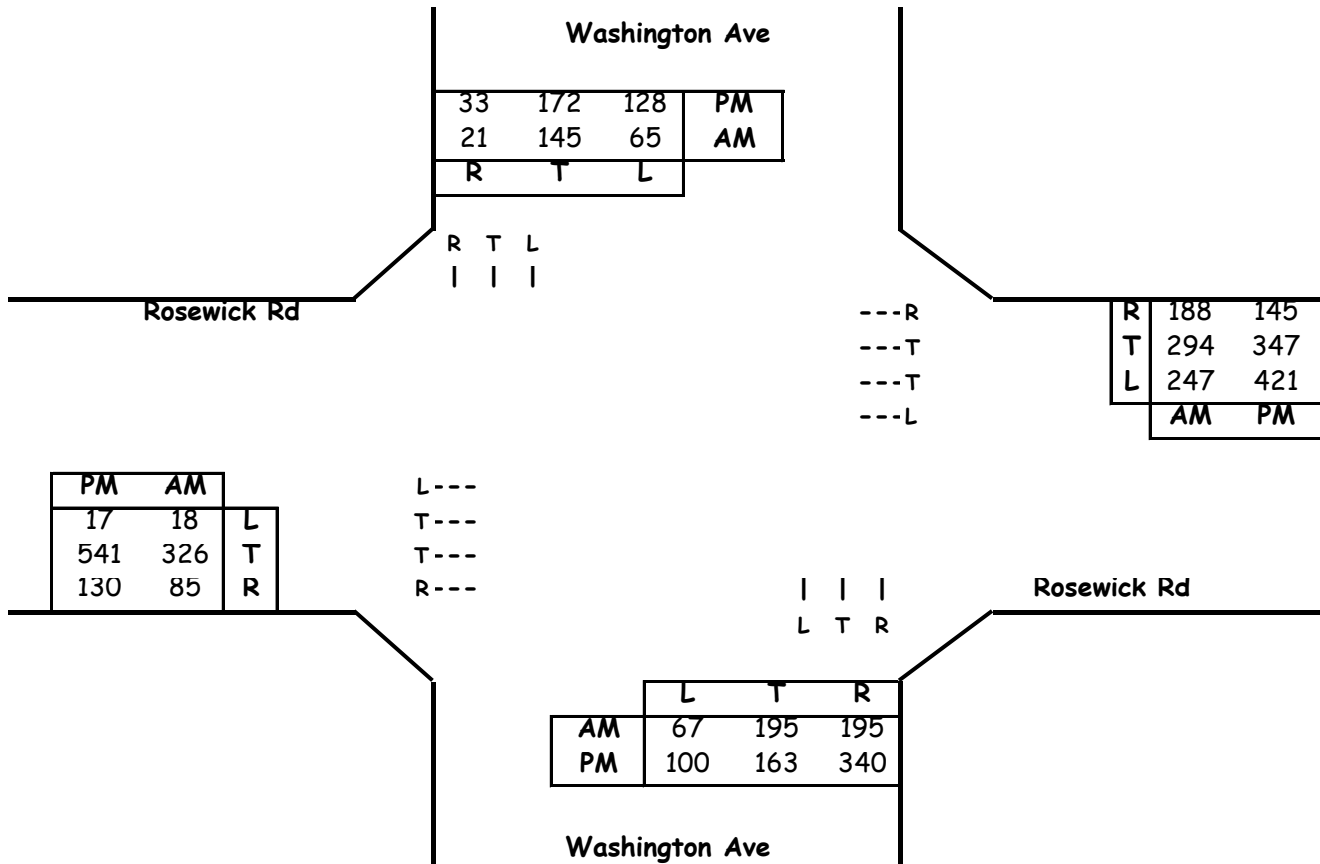
**Intersection
 3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Washington Ave
Minor Street: Rosewick Rd
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	195	1.00	195	65	1	65
SB	145	1.00	145	67	1	67
EB	326	0.55	179	247	1	247
WB	294	0.55	162	18	1	18
CLV TOTAL=						686
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	163	1.00	163	128	1	128
SB	172	1.00	172	100	1	100
EB	541	0.55	298	421	1	421
WB	347	0.55	191	17	1	17
CLV TOTAL=						1010
Level of Service (LOS) =						B

Critical Lane Volume Analysis



**Washington Ave &
Rosewick Rd
(TOTAL TRAFFIC)**

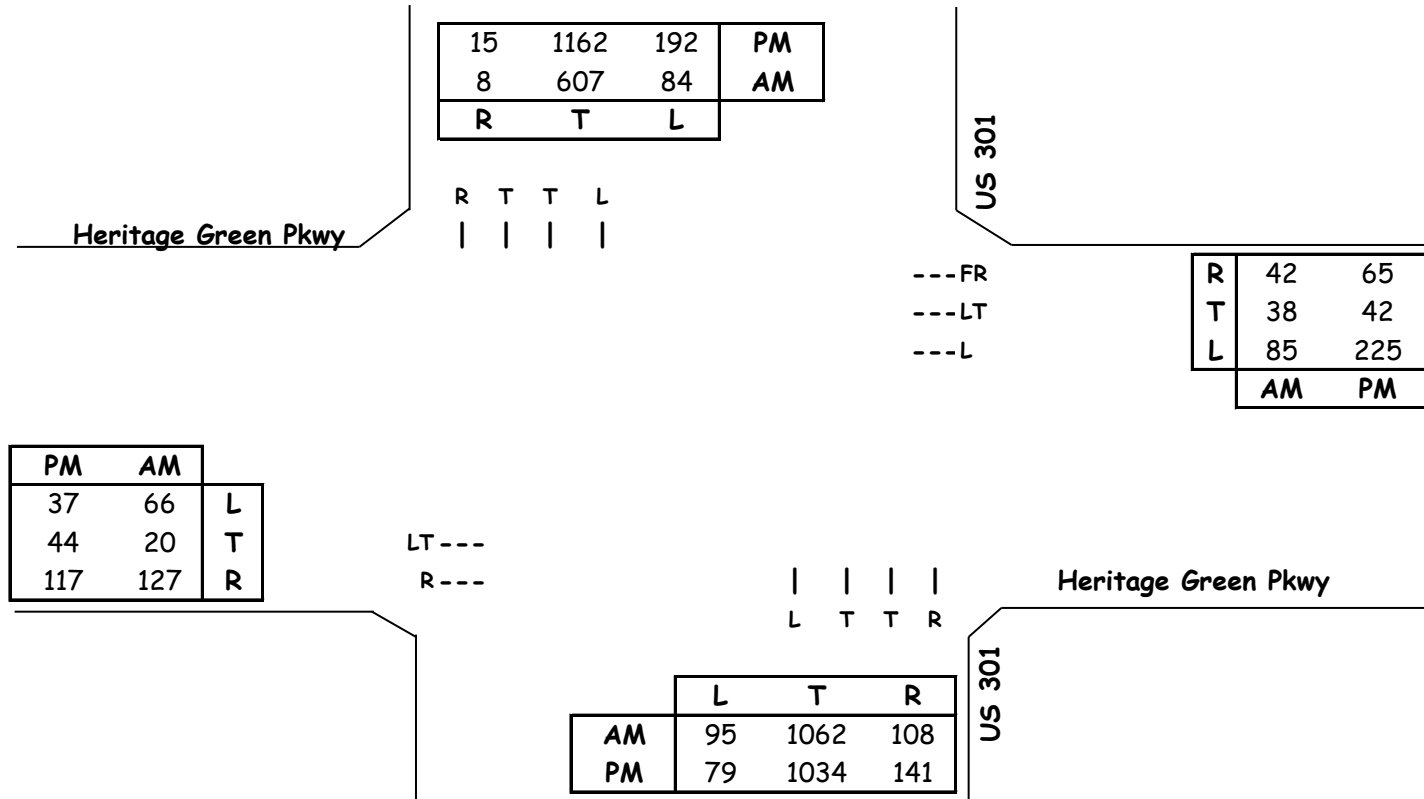
**Intersection
3**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	86	1.00	86			
WB	123	0.60	74			
NB	1062	0.55	584	84	1.00	84
SB	607	0.55	334	95	1.00	95
CLV TOTAL=						828
Level of Service (LOS)=						A

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	81	1.00	81			
WB	267	0.60	160			
NB	1034	0.55	569	192	1.00	192
SB	1162	0.55	639	79	1.00	79
CLV TOTAL=						1002
Level of Service (LOS)=						B

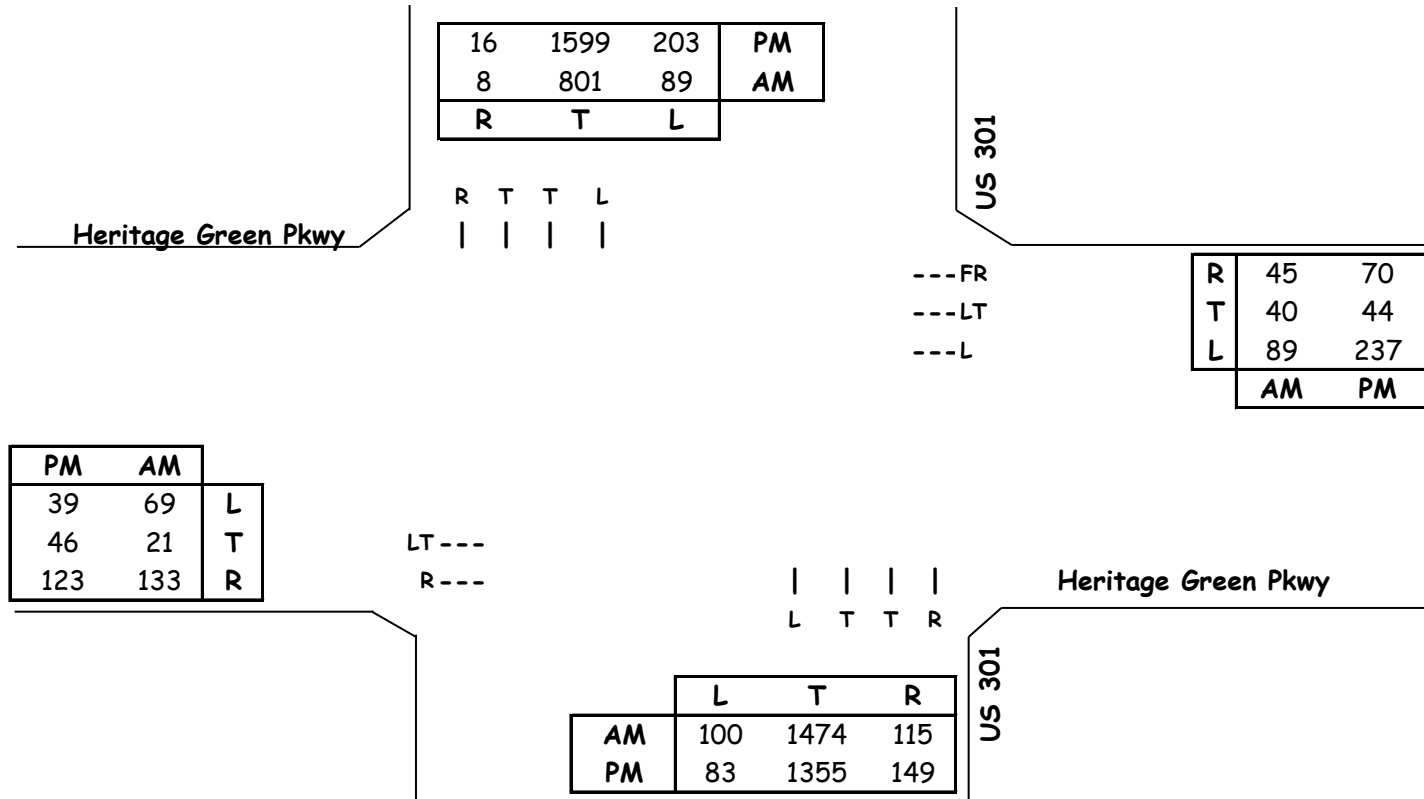
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & Heritage Green Pkwy (Existing Traffic)	Intersection 4

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	90	1.00	90			
WB	129	0.60	77			
NB	1474	0.55	811	89	1.00	89
SB	801	0.55	441	100	1.00	100
CLV TOTAL=						1067
Level of Service (LOS) =						B

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	85	1.00	85			
WB	281	0.60	169			
NB	1355	0.55	745	203	1.00	203
SB	1599	0.55	879	83	1.00	83
CLV TOTAL=						1216
Level of Service (LOS) =						C

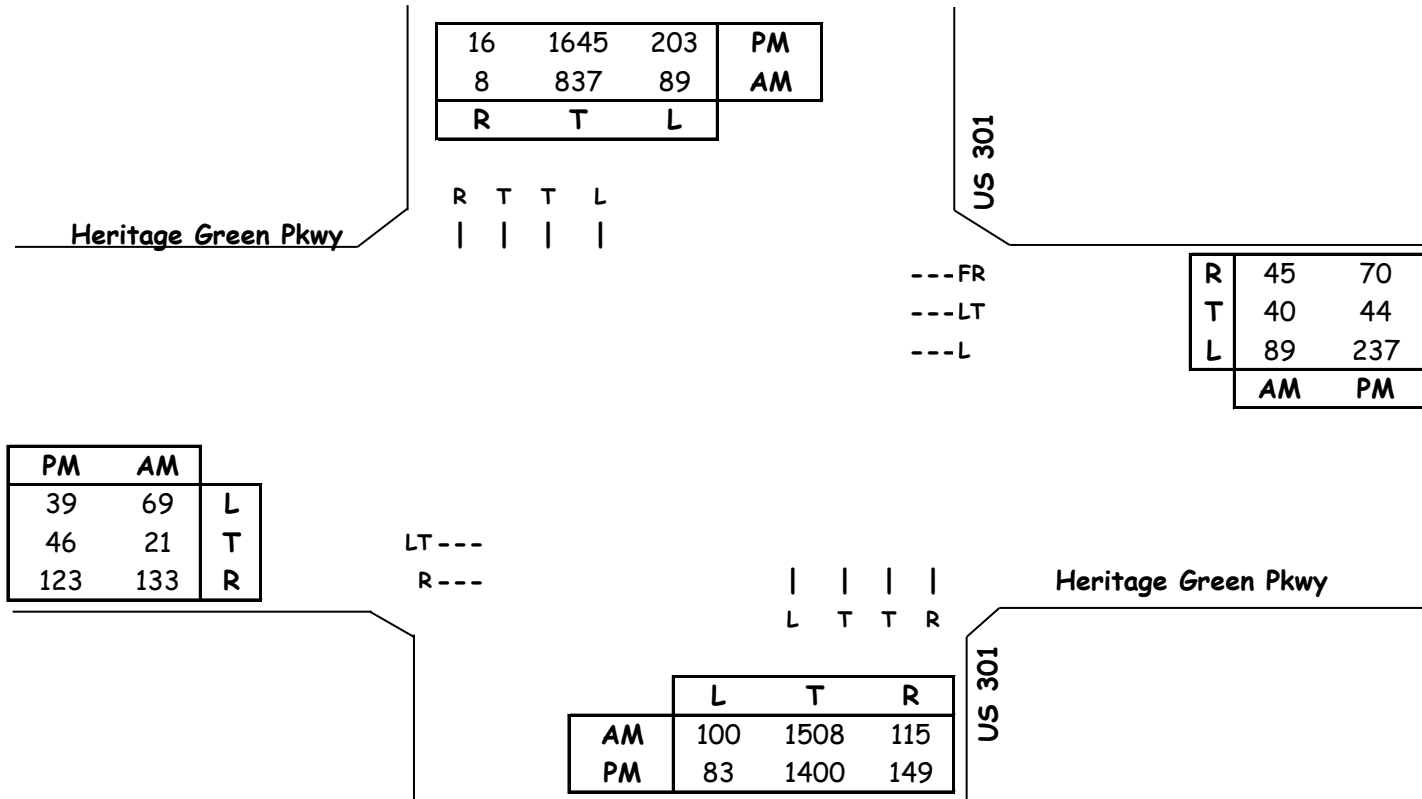
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & Heritage Green Pkwy (Background Traffic)	Intersection 4

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	90	1.00	90			
WB	129	0.60	77			
NB	1508	0.55	829	89	1.00	89
SB	837	0.55	460	100	1.00	100
CLV TOTAL=						1085
Level of Service (LOS) =						B

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	85	1.00	85			
WB	281	0.60	169			
NB	1400	0.55	770	203	1.00	203
SB	1645	0.55	905	83	1.00	83
CLV TOTAL=						1242
Level of Service (LOS) =						C

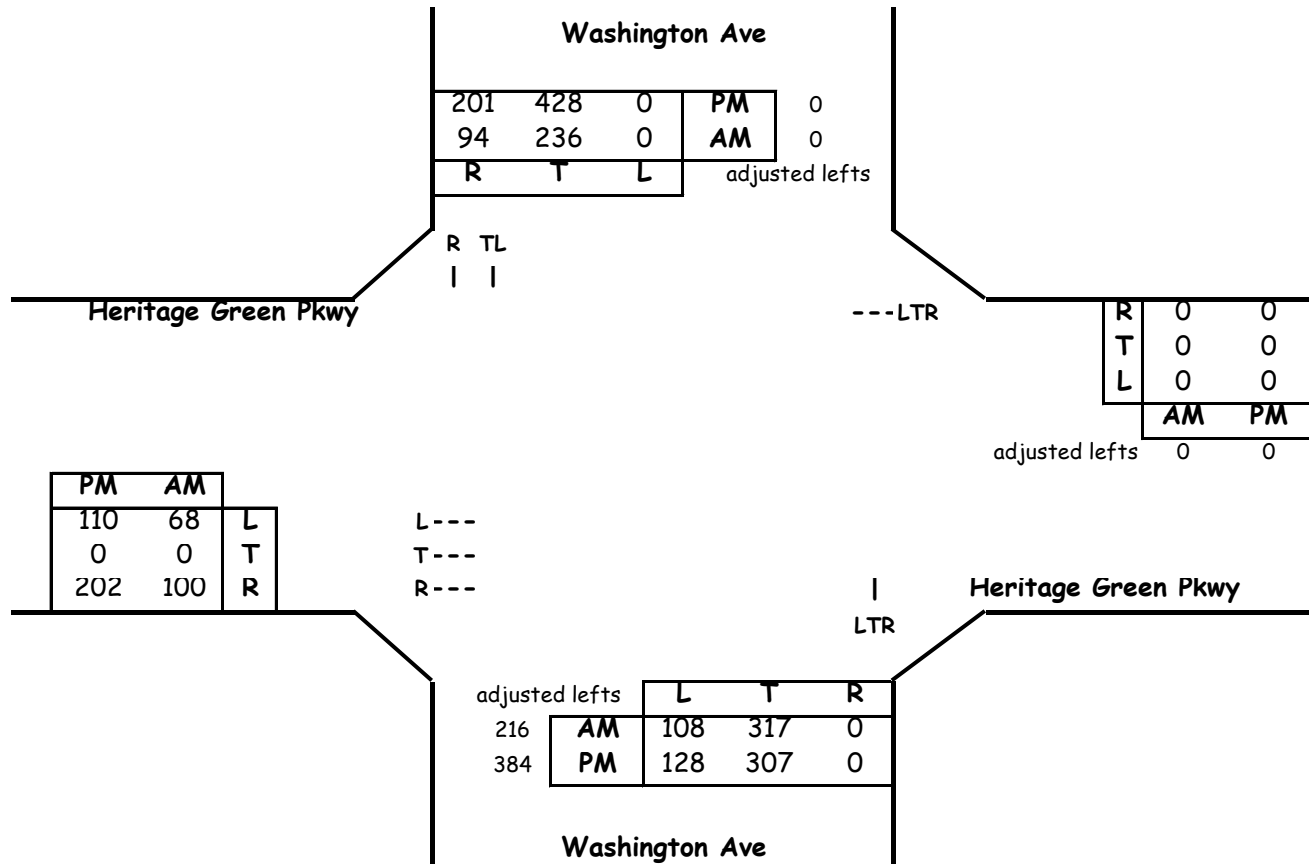
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & Heritage Green Pkwy (Total Traffic)	Intersection 4
Traffic Engineering & Transportation Planning			

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Heritage Green Pkwy
Minor Street: Washington Ave
Study Period: Existing Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	533	1.00	533	0	1	0
SB	236	1.00	236	108	1	108
EB	0	1	0	0	1	0
WB	0	1	0	68	1	68
CLV TOTAL=						601
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	691	1.00	691	0	1	0
SB	428	1.00	428	128	1	128
EB	74	1	74	0	1	0
WB	0	1	0	110	1	110
CLV TOTAL=						801
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Heritage Green Pkwy &
 Washington Ave**
 (Existing Traffic)

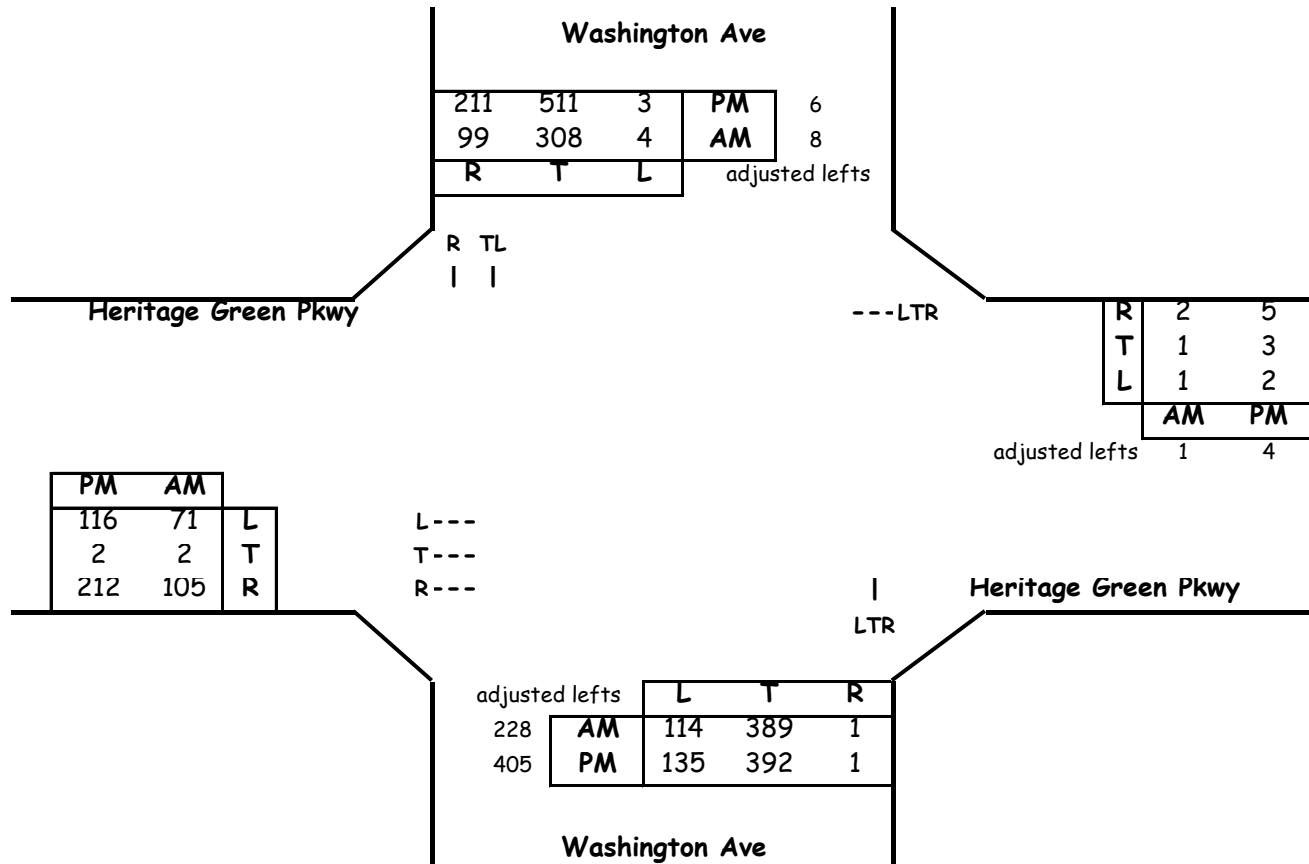
**Intersection
 5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Heritage Green Pkwy
Minor Street: Washington Ave
Study Period: Background Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	618	1.00	618	4	1	4
SB	316	1.00	316	114	1	114
EB	2	1	2	1	1	1
WB	4	1	4	71	1	71
CLV TOTAL=						697
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	798	1.00	798	3	1	3
SB	517	1.00	517	135	1	135
EB	77	1	77	2	1	2
WB	12	1	12	116	1	116
CLV TOTAL=						929
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Heritage Green Pkwy &
 Washington Ave**
 (Background Traffic)

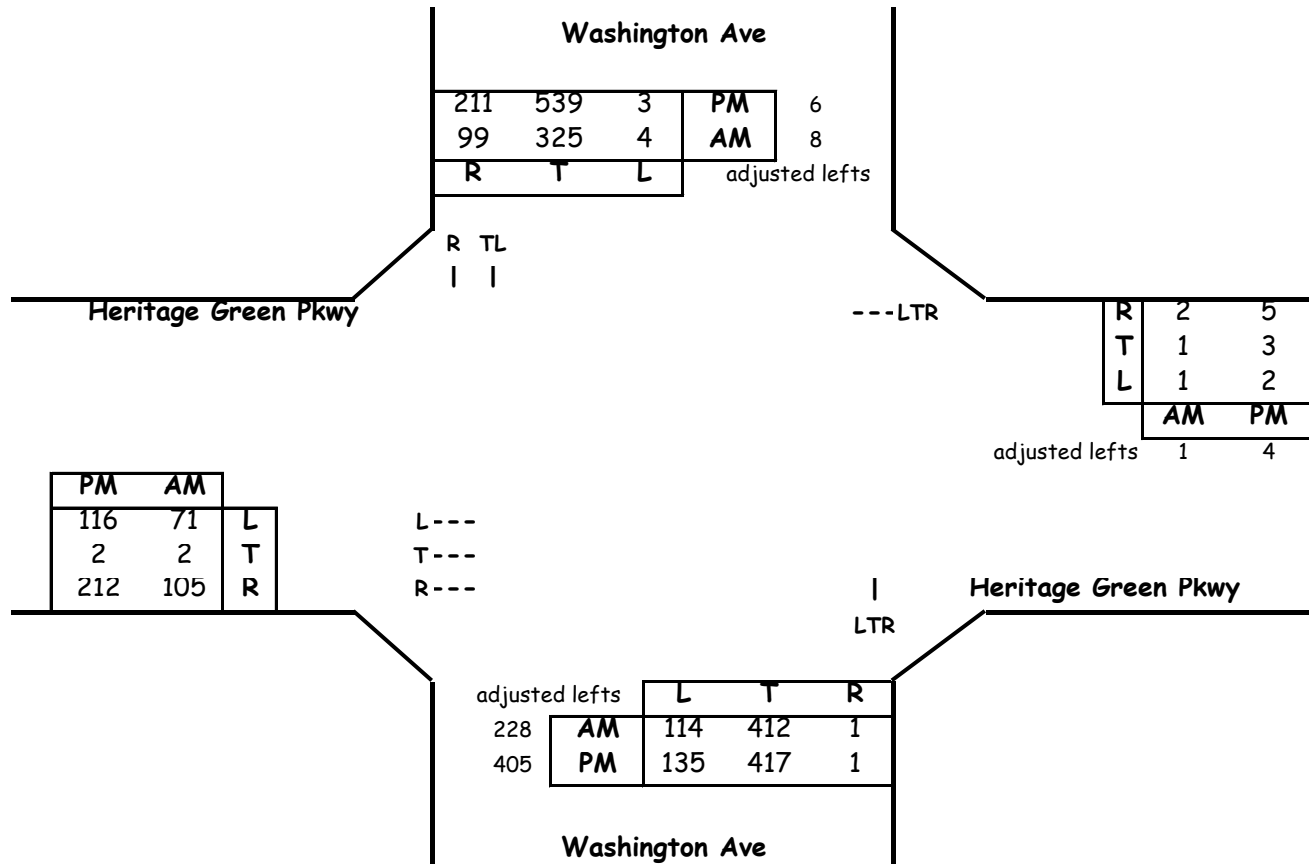
**Intersection
 5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Heritage Green Pkwy
Minor Street: Washington Ave
Study Period: Total Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	641	1.00	641	4	1	4
SB	333	1.00	333	114	1	114
EB	2	1	2	1	1	1
WB	4	1	4	71	1	71
CLV TOTAL=						720
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	823	1.00	823	3	1	3
SB	545	1.00	545	135	1	135
EB	77	1	77	2	1	2
WB	12	1	12	116	1	116
CLV TOTAL=						954
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Heritage Green Pkwy &
 Washington Ave**
 (Total Traffic)

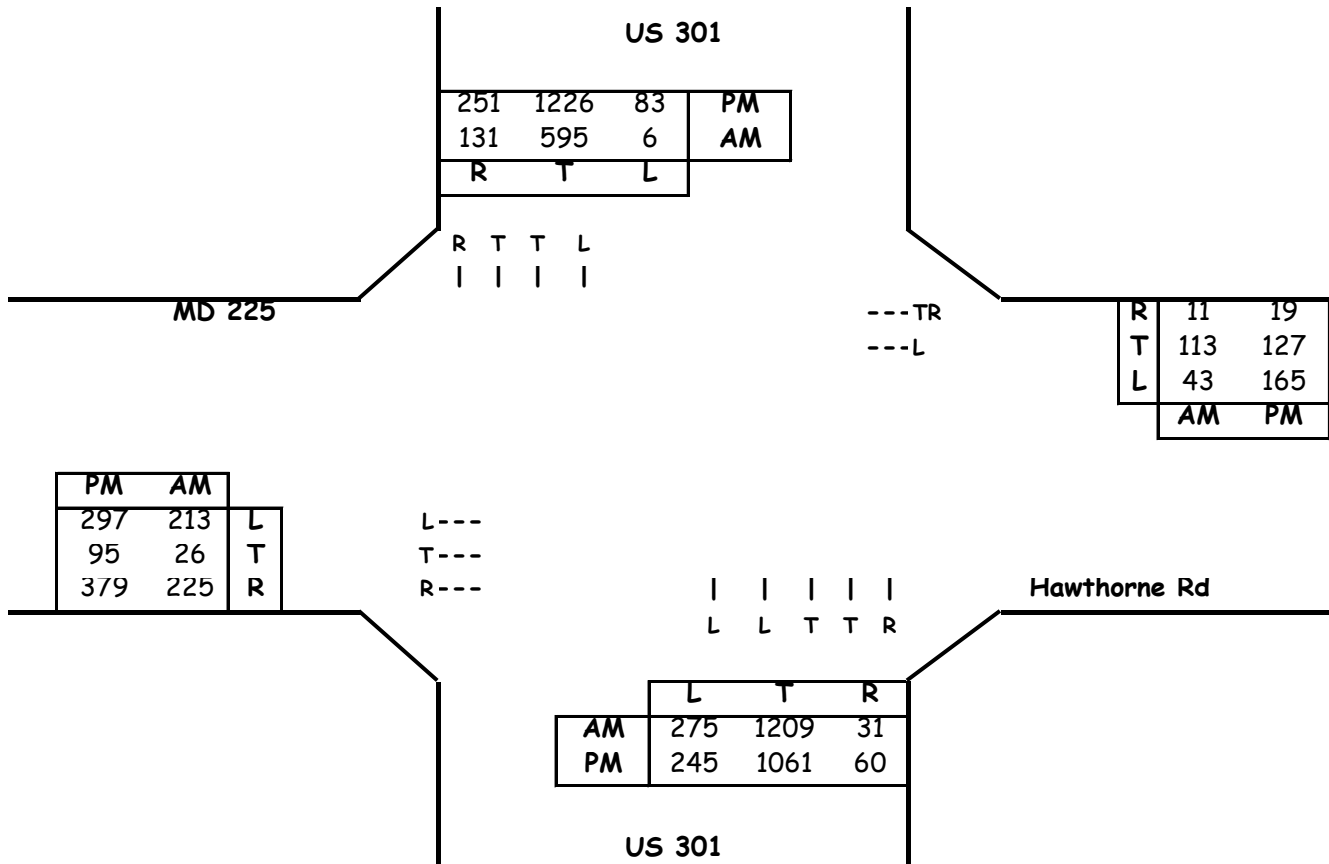
**Intersection
 5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1209	0.55	665	6	1	6
SB	595	0.55	327	275	0.6	165
EB	60	1	60	43	1	43
WB	124	1	124	213	1	213
CLV TOTAL=						1008
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1061	0.55	584	83	1	83
SB	1226	0.55	674	245	0.6	147
EB	232	1	232	165	1	165
WB	146	1	146	297	1	297
CLV TOTAL=						1264
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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**US 301 &
 Hawthorne Rd**
 (EXISTING TRAFFIC)

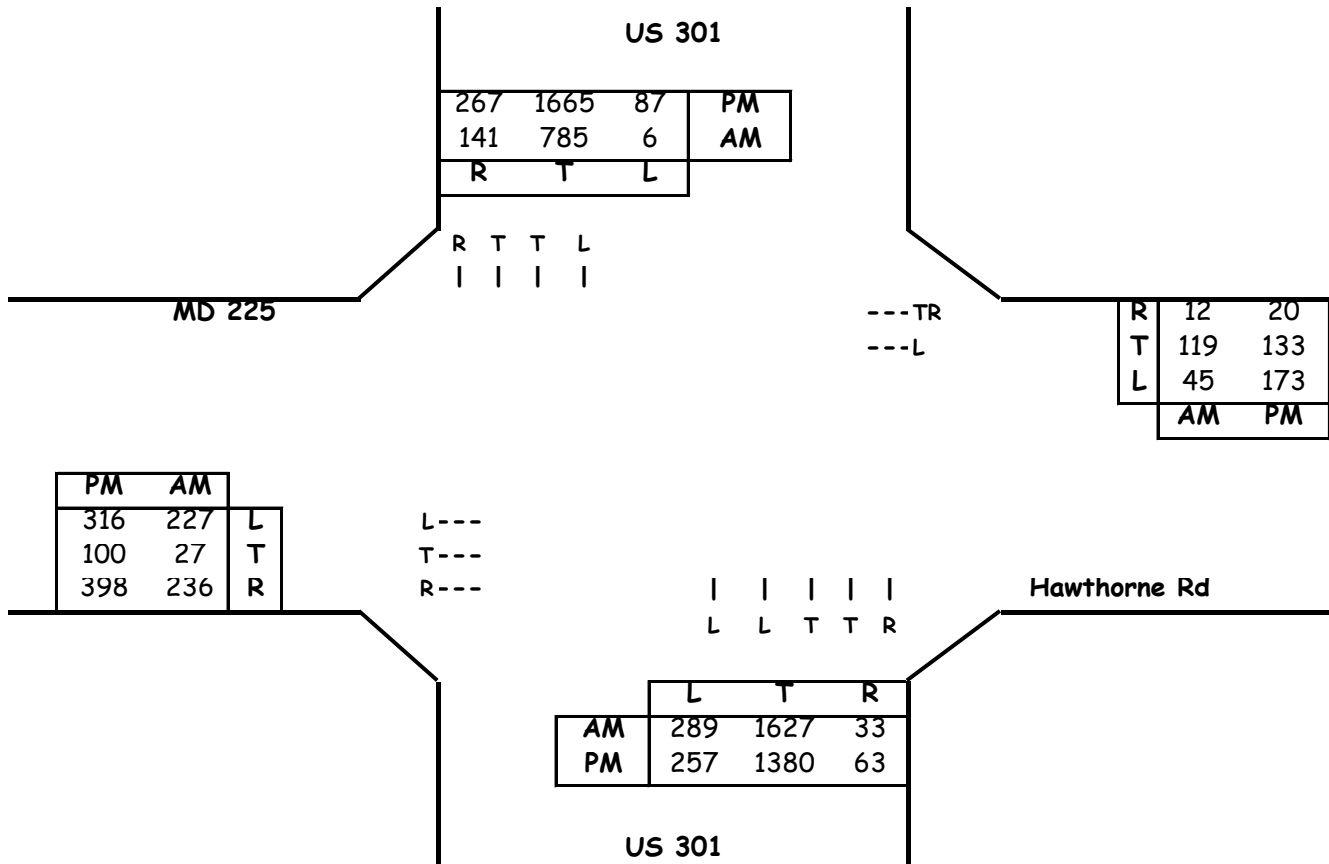
**Intersection
 6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1627	0.55	895	6	1	6
SB	785	0.55	432	289	0.6	173
EB	63	1	63	45	1	45
WB	131	1	131	227	1	227
CLV TOTAL=						1259
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1380	0.55	759	87	1	87
SB	1665	0.55	916	257	0.6	154
EB	244	1	244	173	1	173
WB	153	1	153	316	1	316
CLV TOTAL=						1539
Level of Service (LOS) =						E

Critical Lane Volume Analysis



**US 301 &
 Hawthorne Rd
 (BACKGROUND TRAFFIC)**

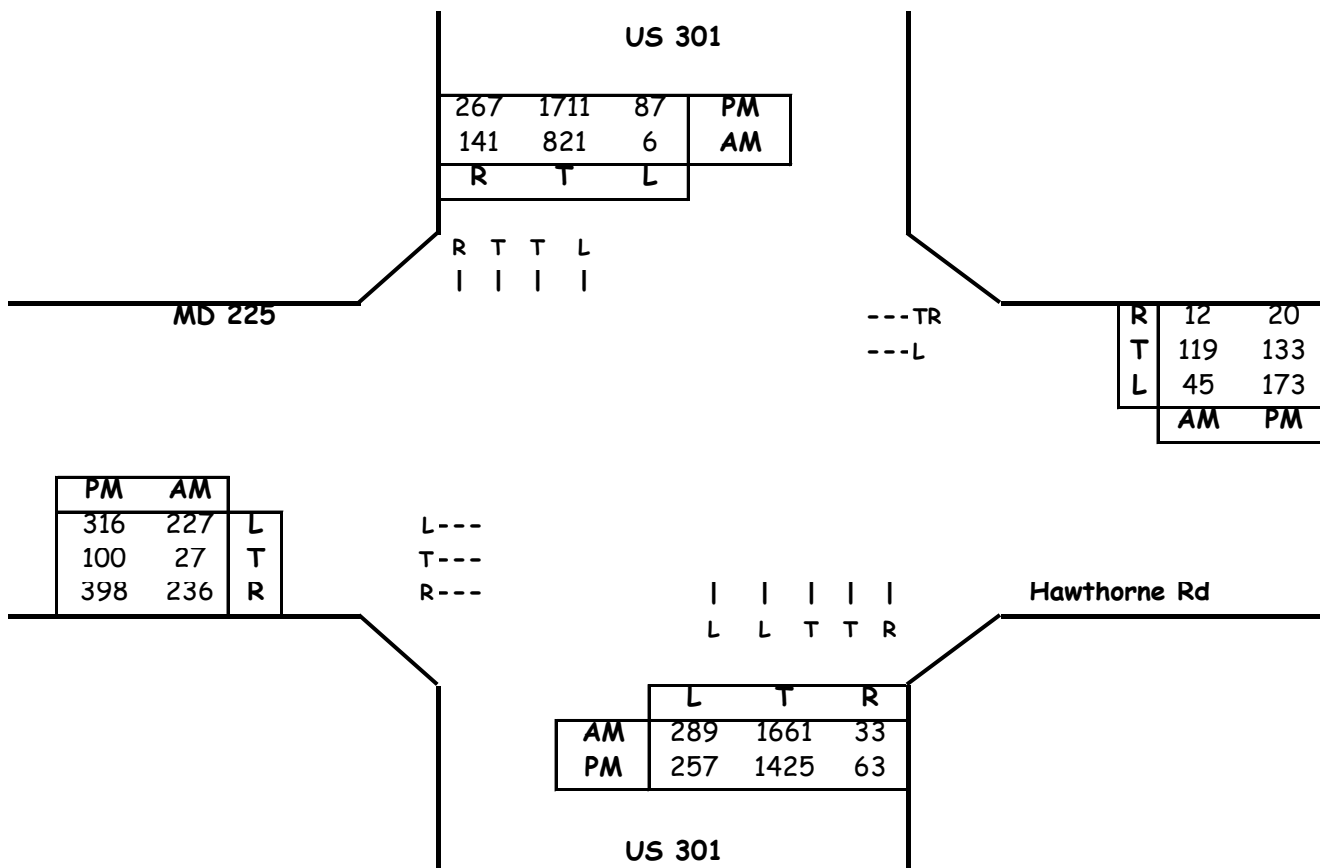
**Intersection
 6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	1661	0.55	914	6	1	6	920
SB	821	0.55	452	289	0.6	173	
EB	63	1	63	45	1	45	358
WB	131	1	131	227	1	227	
CLV TOTAL=							1278
Level of Service (LOS) =							C

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	1425	0.55	784	87	1	87	1095
SB	1711	0.55	941	257	0.6	154	
EB	244	1	244	173	1	173	469
WB	153	1	153	316	1	316	
CLV TOTAL=							1564
Level of Service (LOS) =							E

Critical Lane Volume Analysis



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**US 301 &
 Hawthorne Rd
 (TOTAL TRAFFIC)**

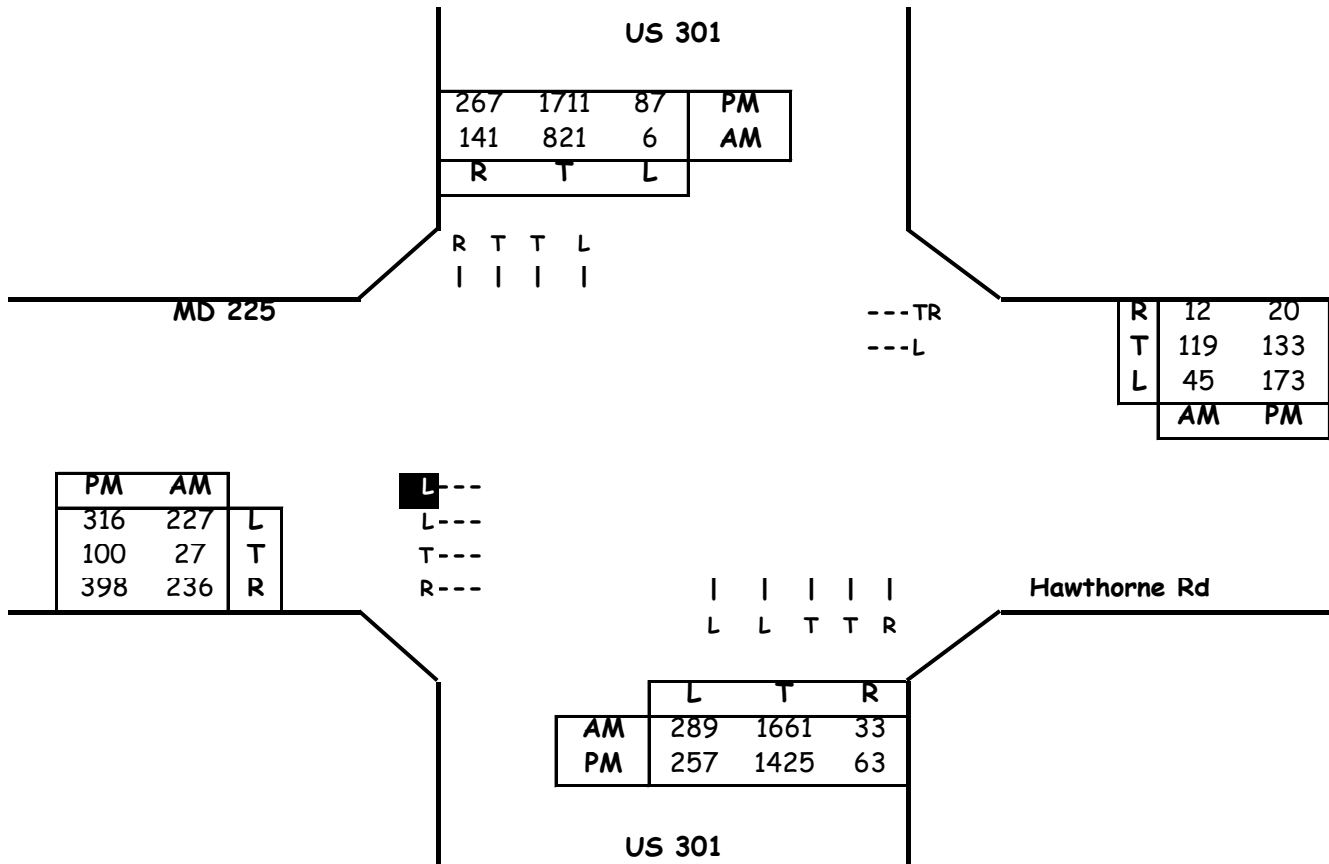
**Intersection
 6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1661	0.55	914	6	1	6
SB	821	0.55	452	289	0.6	173
EB	63	1	63	45	1	45
WB	131	1	131	227	0.6	136
CLV TOTAL=						1187
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1425	0.55	784	87	1	87
SB	1711	0.55	941	257	0.6	154
EB	244	1	244	173	1	173
WB	153	1	153	316	0.6	190
CLV TOTAL=						1512
Level of Service (LOS) =						E

Critical Lane Volume Analysis



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**US 301 &
Hawthorne Rd**
(Total Traffic with Potential Imp's)

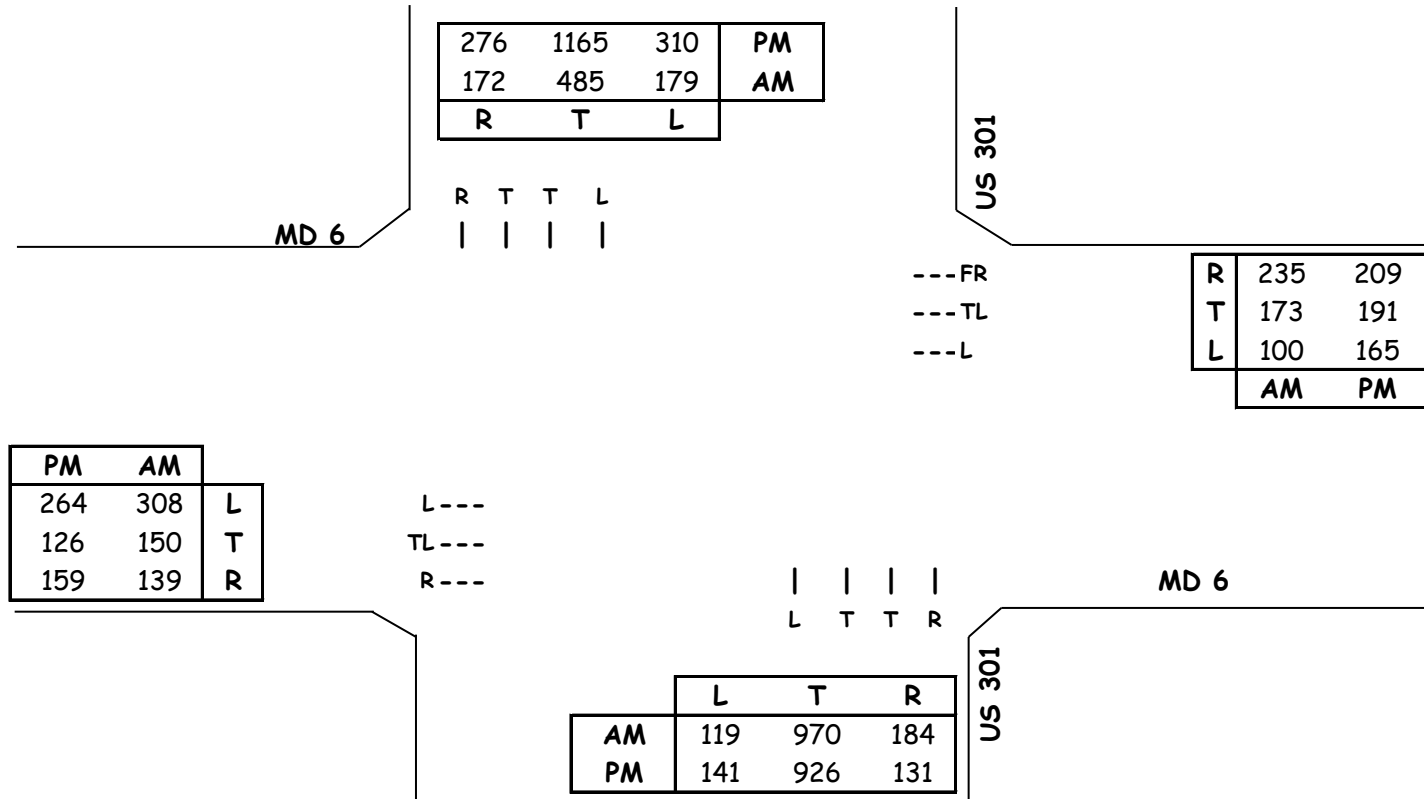
**Intersection
6**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	458	0.60	275			
WB	173	1.00	173			
NB	970	0.55	534	179	1.00	179
SB	485	0.55	267	119	1.00	119
CLV TOTAL=						1161
Level of Service (LOS) =						C

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	390	0.60	234			
WB	356	0.60	214			
NB	926	0.55	509	310	1.00	310
SB	1165	0.55	641	141	1.00	141
CLV TOTAL=						1267
Level of Service (LOS) =						C

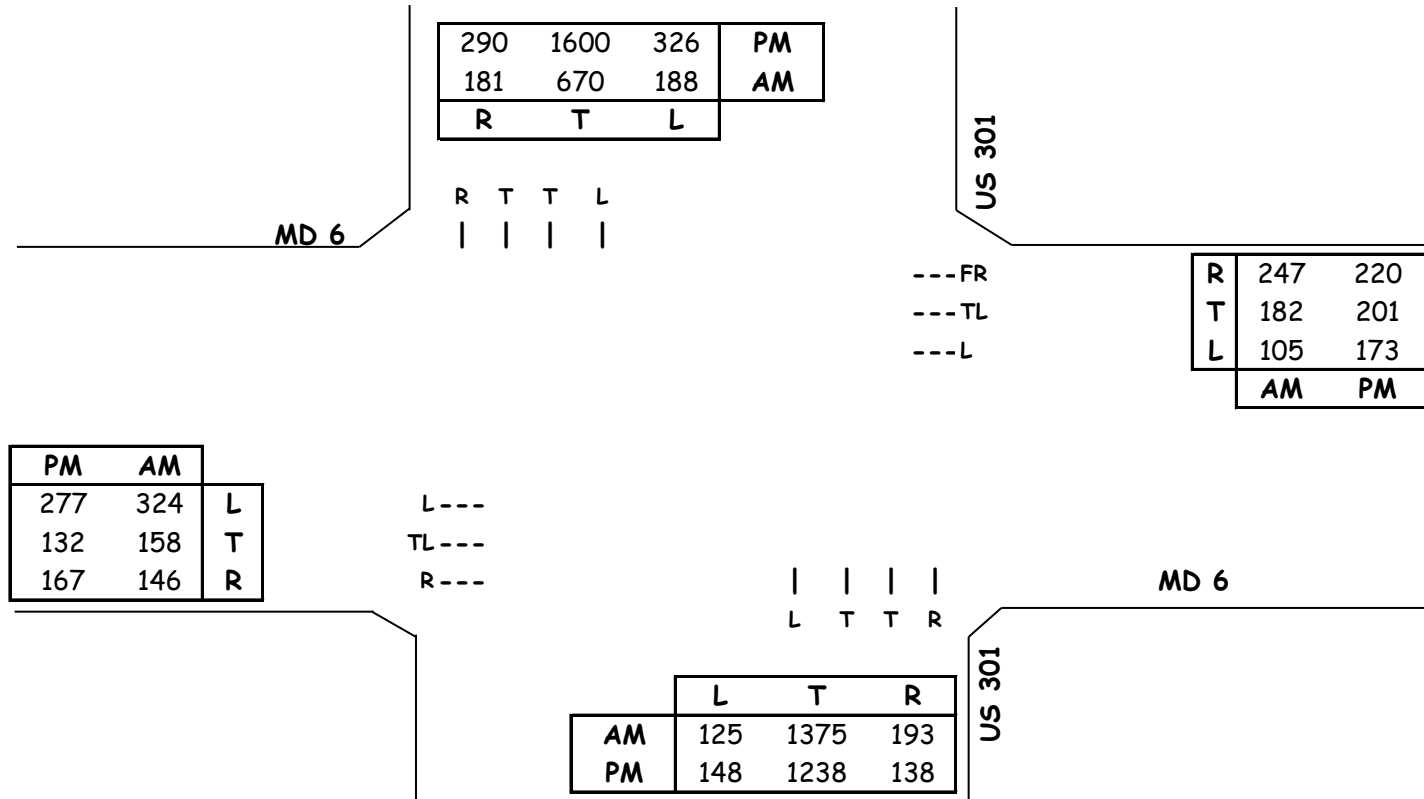
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & MD 6 (Existing Traffic)	Intersection 7

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	482	0.60	289			289
WB	182	1.00	182			182
NB	1375	0.55	756	188	1.00	188
SB	670	0.55	369	125	1.00	125
CLV TOTAL=						1415
Level of Service (LOS) =						D

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	409	0.60	245			245
WB	374	0.60	224			224
NB	1238	0.55	681	326	1.00	326
SB	1600	0.55	880	148	1.00	148
CLV TOTAL=						1497
Level of Service (LOS) =						E

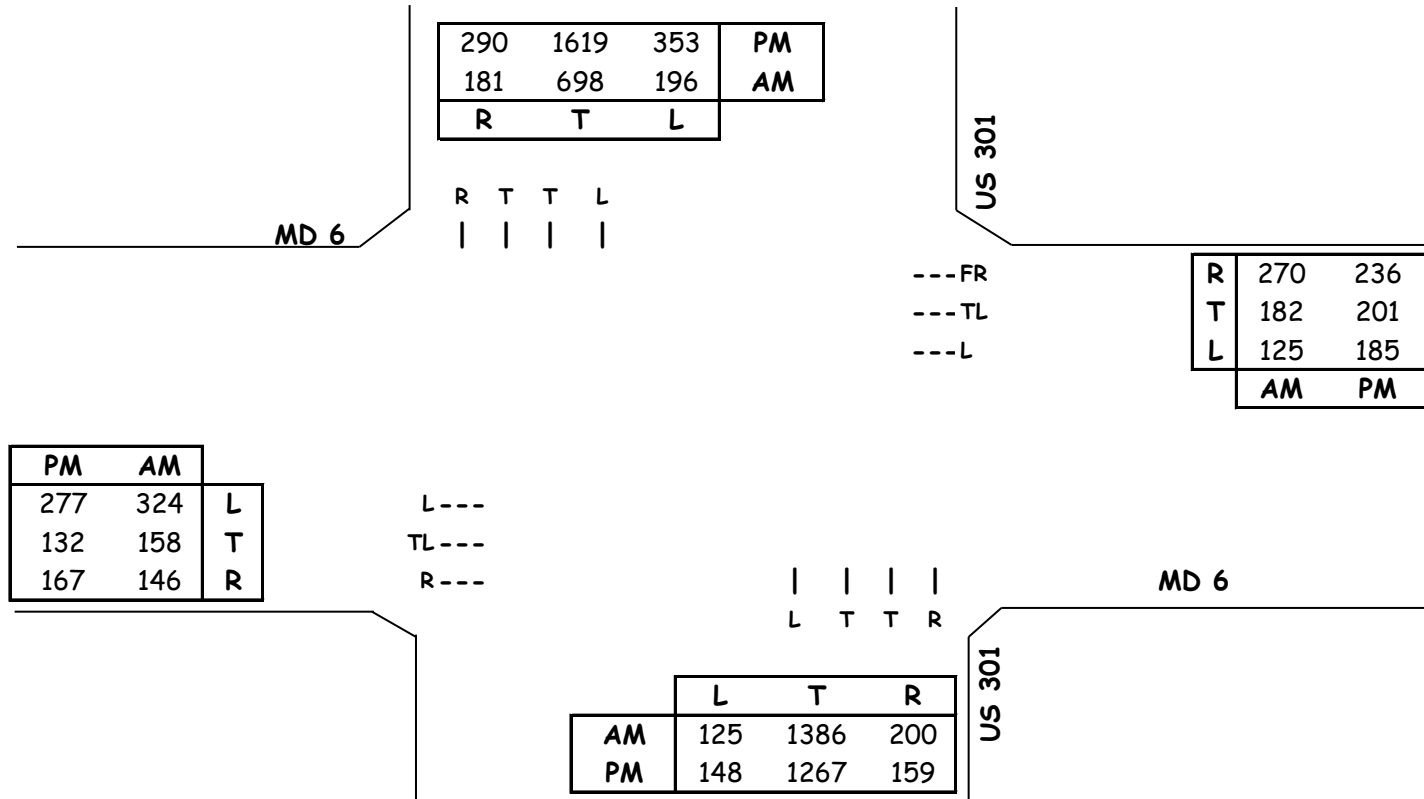
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & MD 6	Intersection 7
Traffic Engineering & Transportation Planning		(Background Traffic)	

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	482	0.60	289			289
WB	307	0.60	184			184
NB	1386	0.55	762	196	1.00	196
SB	698	0.55	384	125	1.00	125
CLV TOTAL=						1431
Level of Service (LOS) =						D

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	409	0.60	245			245
WB	386	0.60	232			232
NB	1267	0.55	697	353	1.00	353
SB	1619	0.55	890	148	1.00	148
CLV TOTAL=						1527
Level of Service (LOS) =						E

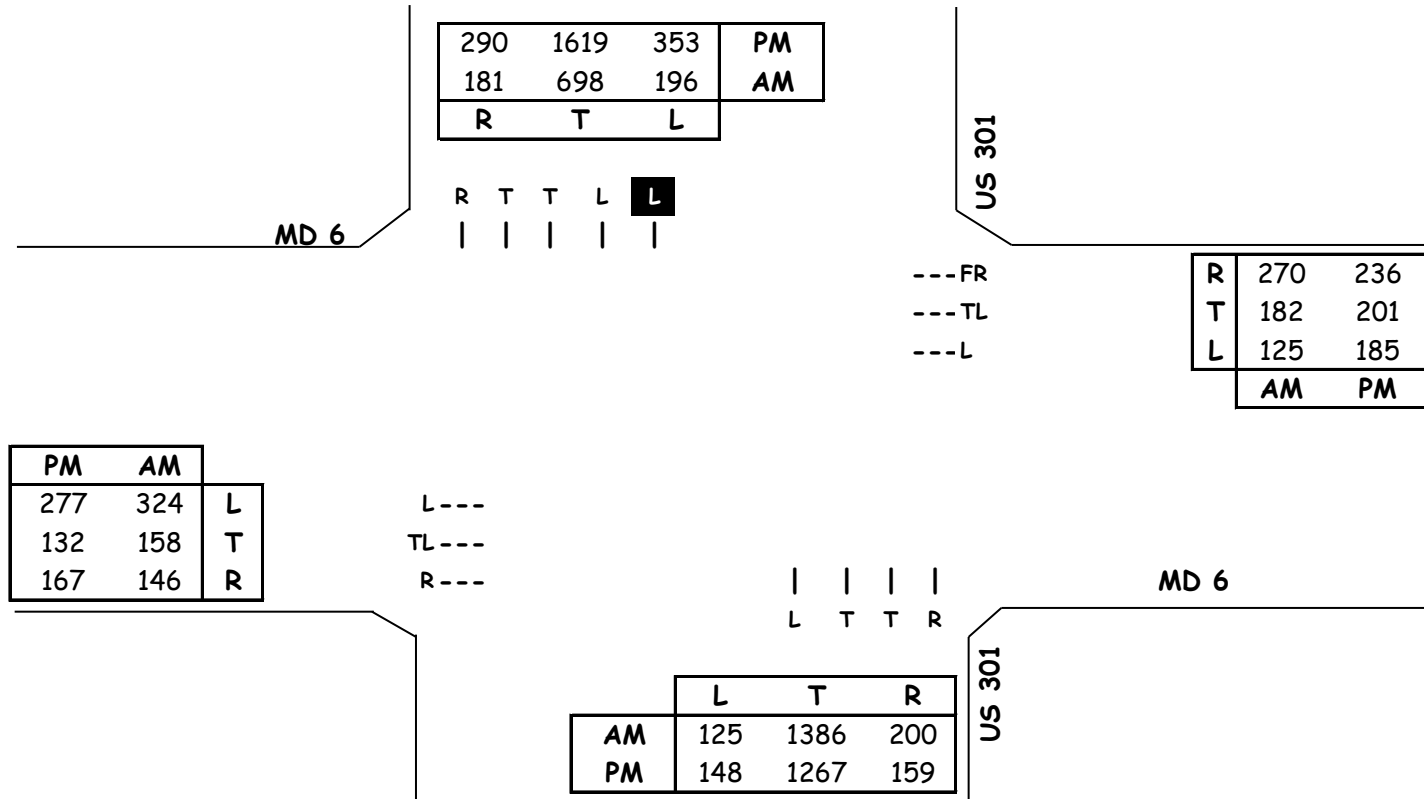
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & MD 6	Intersection 7
Traffic Engineering & Transportation Planning		(Total Traffic)	

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	482	0.60	289			289
WB	307	0.60	184			184
NB	1386	0.55	762	196	0.60	118
SB	698	0.55	384	125	1.00	125
CLV TOTAL=						1353
Level of Service (LOS) =						D

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	409	0.60	245			245
WB	386	0.60	232			232
NB	1267	0.55	697	353	0.60	212
SB	1619	0.55	890	148	1.00	148
CLV TOTAL=						1515
Level of Service (LOS) =						E

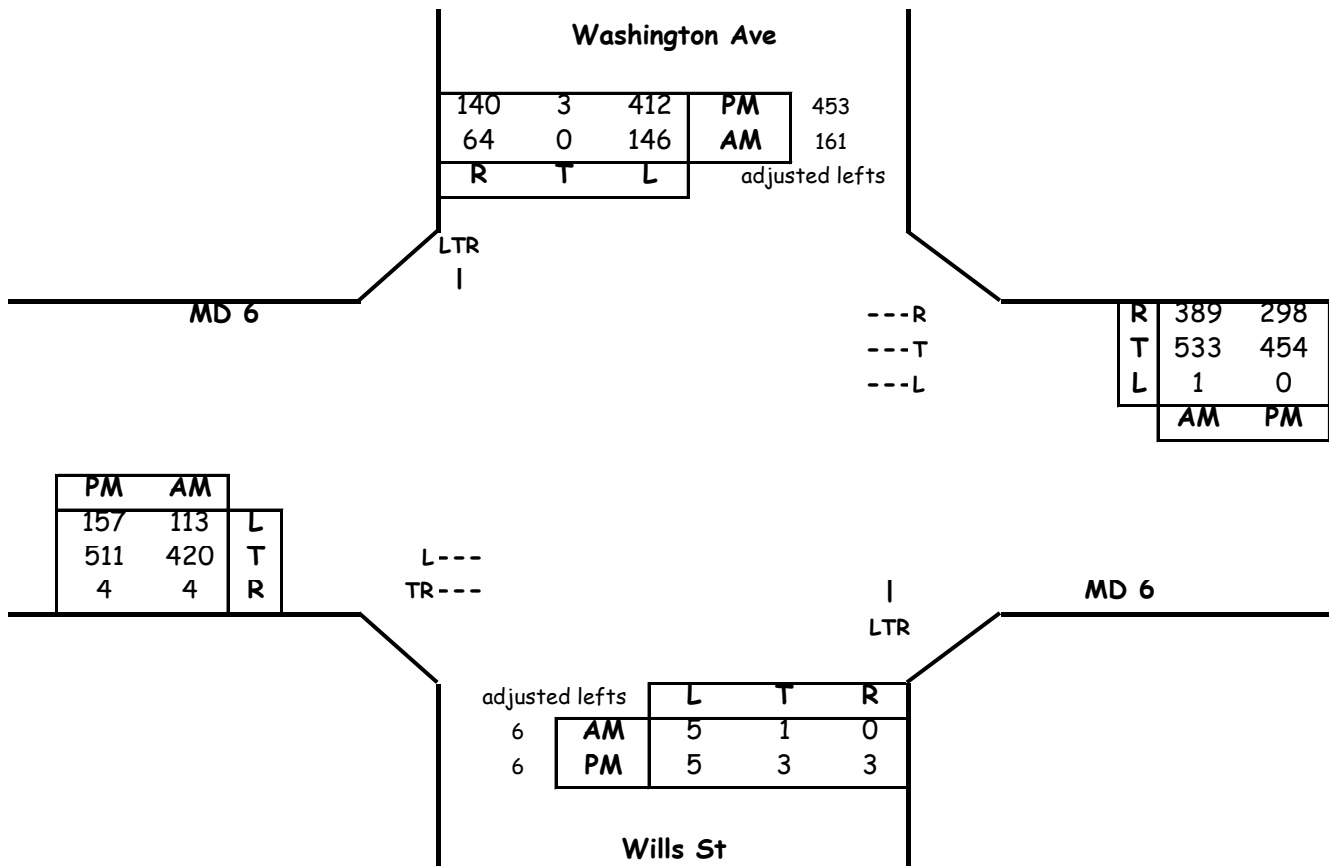
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & MD 6	Intersection 7
Traffic Engineering & Transportation Planning		(Total Traffic with Potential Imp's)	

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	7	1.00	7	146	1	146	230
SB	225	1.00	225	5	1	5	
EB	424	1	424	1	1	1	646
WB	533	1	533	113	1	113	
CLV TOTAL=							876
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	12	1.00	12	412	1	412	601
SB	596	1.00	596	5	1	5	
EB	515	1	515	0	1	0	611
WB	454	1	454	157	1	157	
CLV TOTAL=							1212
Level of Service (LOS) =							C

Critical Lane Volume Analysis



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**MD 6 &
 Washington Ave
 (EXISTING TRAFFIC)**

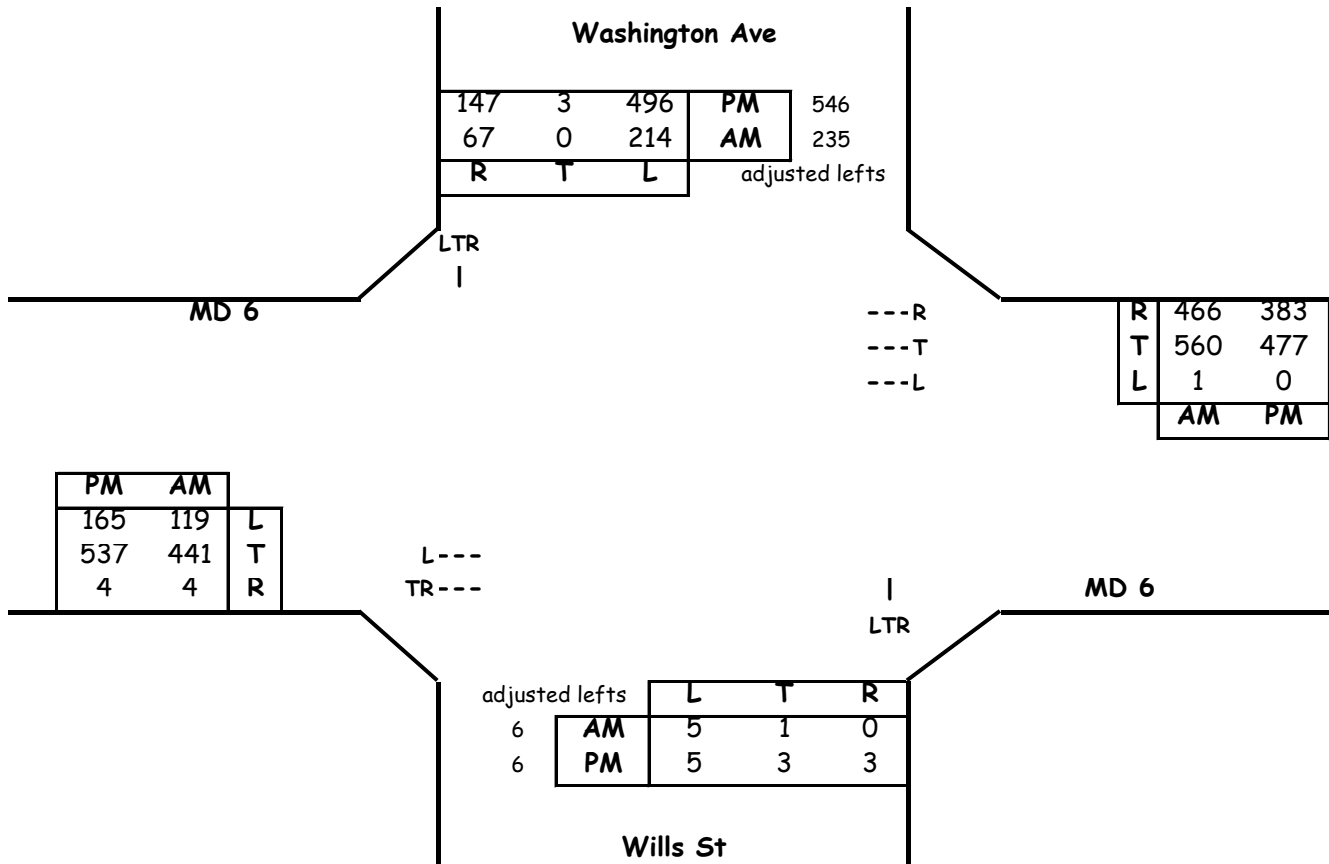
**Intersection
 12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	7	1.00	7	214	1	214	307
SB	302	1.00	302	5	1	5	
EB	445	1	445	1	1	1	679
WB	560	1	560	119	1	119	
CLV TOTAL=							986
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	12	1.00	12	496	1	496	701
SB	696	1.00	696	5	1	5	
EB	541	1	541	0	1	0	642
WB	477	1	477	165	1	165	
CLV TOTAL=							1343
Level of Service (LOS) =							D

Critical Lane Volume Analysis



**MD 6 &
 Washington Ave
 (BACKGROUND TRAFFIC)**

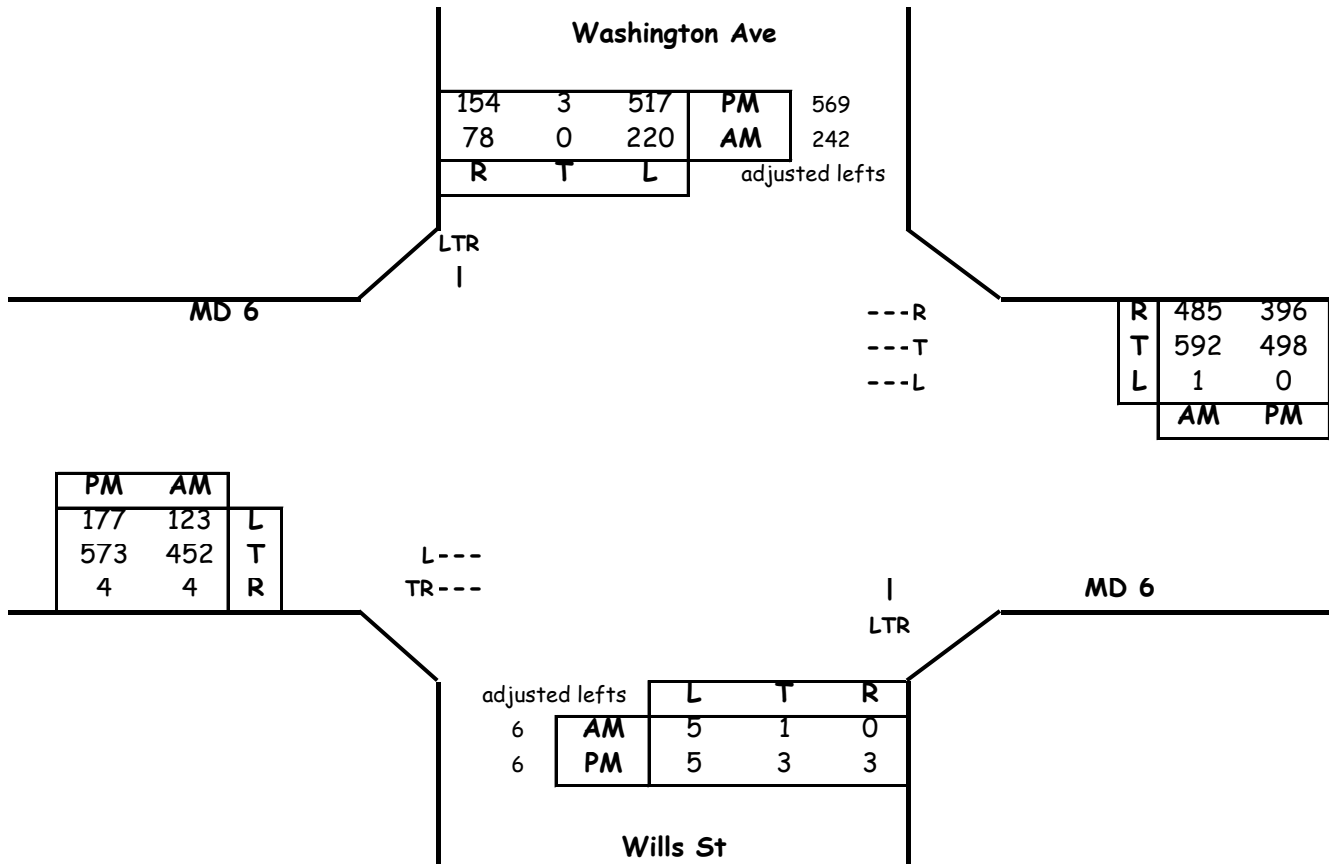
**Intersection
 12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	7	1.00	7	220	1	220	325
SB	320	1.00	320	5	1	5	
EB	456	1	456	1	1	1	715
WB	592	1	592	123	1	123	
CLV TOTAL=							1040
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	12	1.00	12	517	1	517	731
SB	726	1.00	726	5	1	5	
EB	577	1	577	0	1	0	675
WB	498	1	498	177	1	177	
CLV TOTAL=							1406
Level of Service (LOS) =							D

Critical Lane Volume Analysis



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**MD 6 &
Washington Ave**
(TOTAL TRAFFIC)

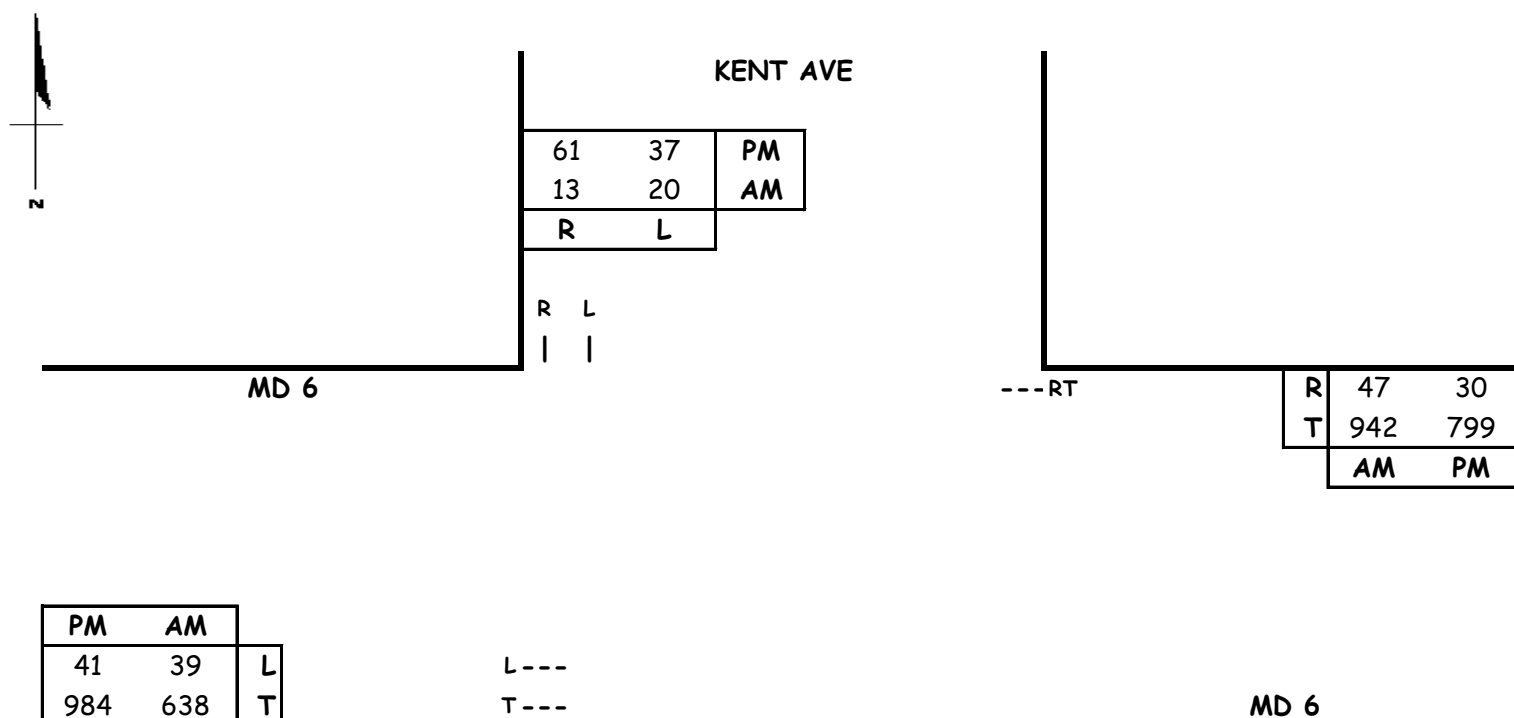
**Intersection
12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: MD 6
Conditions: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	20	1.00	20			
EB	638	1.00	638			
WB	989	1.00	989	39	1.00	39
CLV TOTAL=						1048
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	37	1.00	37			
EB	984	1.00	984			
WB	829	1.00	829	41	1.00	41
CLV TOTAL=						1021
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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Kent Ave &
MD 6
(Existing Traffic)

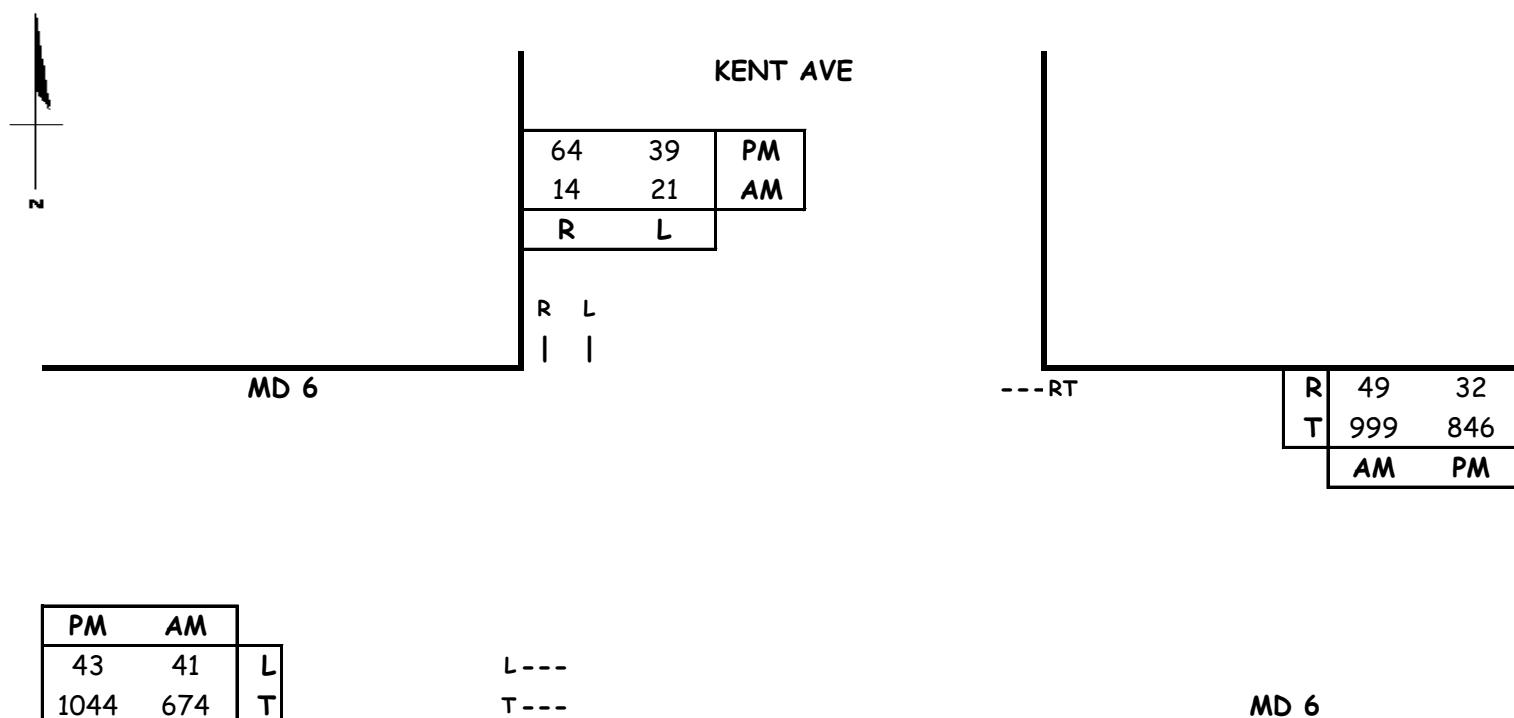
Intersection
9

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: MD 6
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	21	1.00	21			
EB	674	1.00	674			
WB	1048	1.00	1048	41	1.00	41
CLV TOTAL=						1110
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	39	1.00	39			
EB	1044	1.00	1044			
WB	878	1.00	878	43	1.00	43
CLV TOTAL=						1083
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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Kent Ave &
MD 6
(Background Traffic)

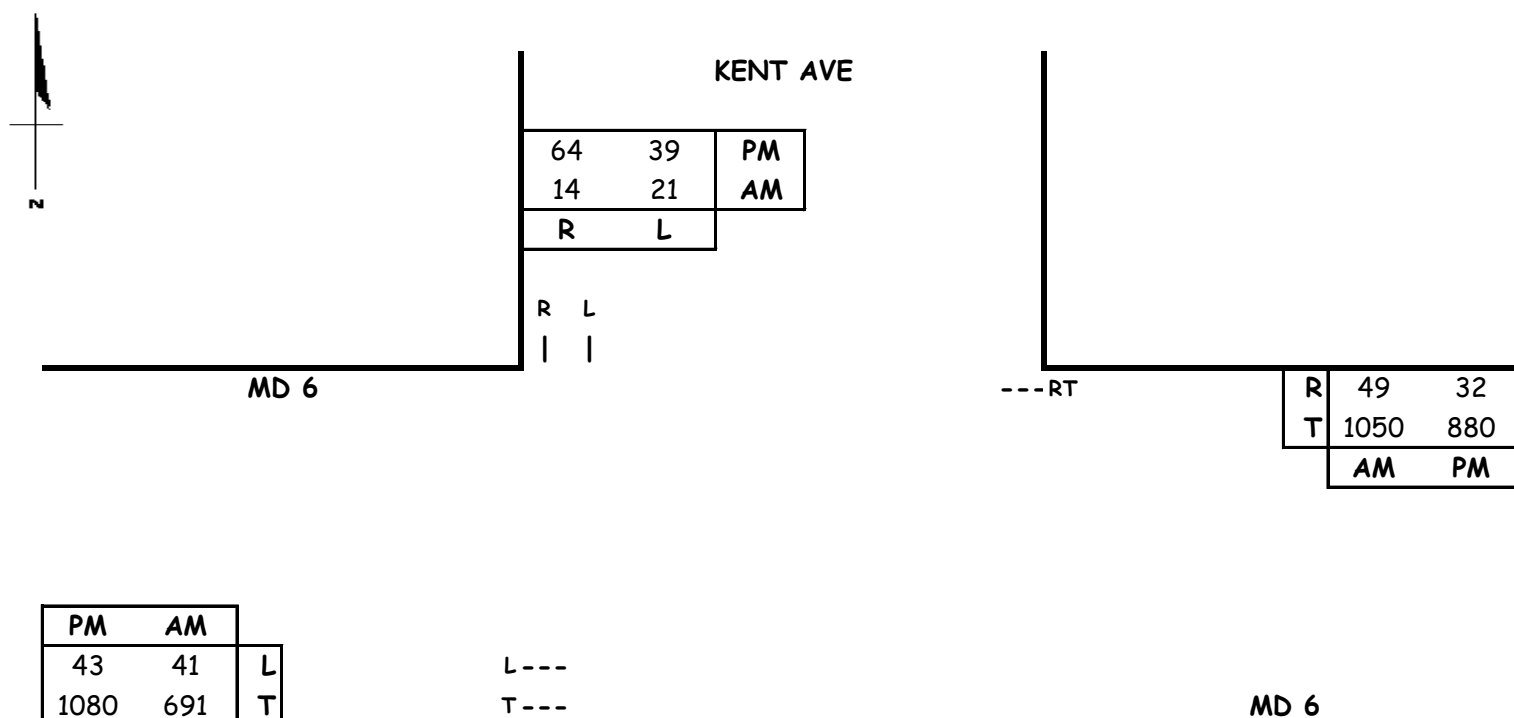
Intersection
9

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: MD 6
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	21	1.00	21			
EB	691	1.00	691			
WB	1099	1.00	1099	41	1.00	41
CLV TOTAL=						1161
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	39	1.00	39			
EB	1080	1.00	1080			
WB	912	1.00	912	43	1.00	43
CLV TOTAL=						1119
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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Kent Ave &
MD 6
(Total Traffic)

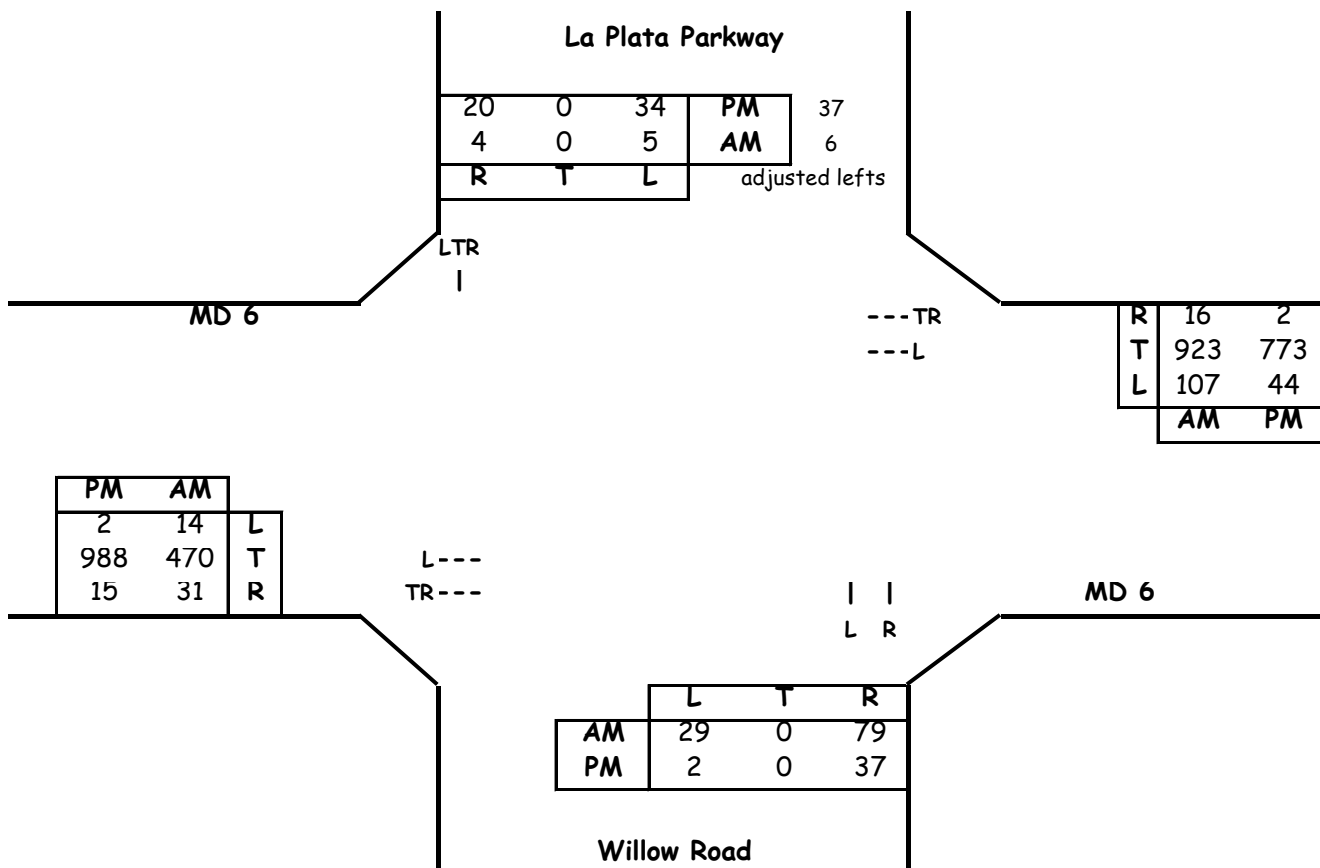
Intersection
9

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Willow Road
Minor Street: MD 6
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	0	0.00	0	5	1	5	39
SB	10	1.00	10	29	1	29	
EB	501	1	501	107	1	107	953
WB	939	1	939	14	1	14	
CLV TOTAL=							992
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	0	0.00	0	34	1	34	59
SB	57	1.00	57	2	1	2	
EB	1003	1	1003	44	1	44	1047
WB	775	1	775	2	1	2	
CLV TOTAL=							1106
Level of Service (LOS) =							B

Critical Lane Volume Analysis



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**Willow Road &
 MD 6**
 (EXISTING TRAFFIC)

**Intersection
 10**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Willow Rd

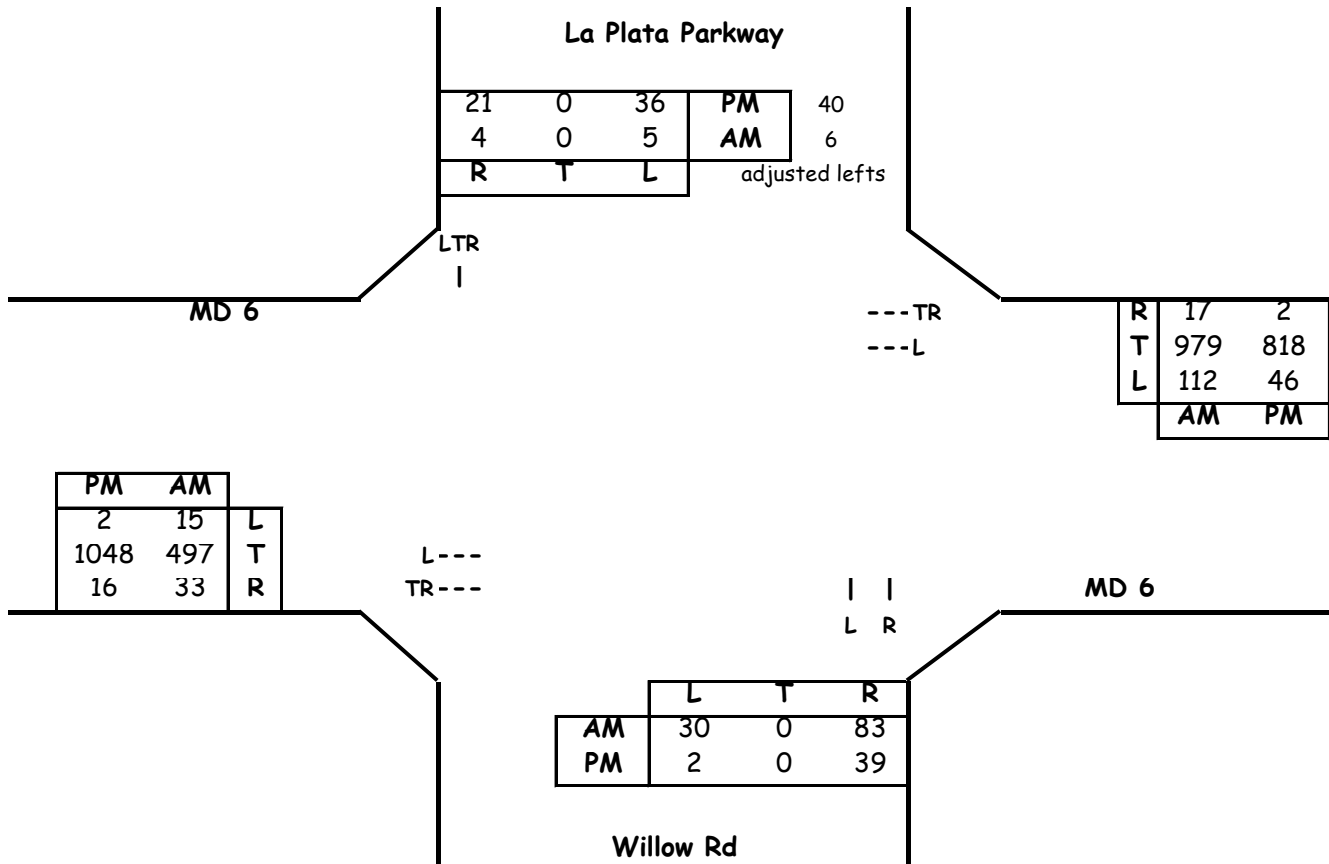
Minor Street: MD 6

Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting

Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	0	0.00	0	5	1	5	40
SB	10	1.00	10	30	1	30	
EB	530	1	530	112	1	112	1011
WB	996	1	996	15	1	15	
CLV TOTAL=							1051
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	0	0.00	0	36	1	36	63
SB	61	1.00	61	2	1	2	
EB	1064	1	1064	46	1	46	1110
WB	820	1	820	2	1	2	
CLV TOTAL=							1173
Level of Service (LOS) =							C

Critical Lane Volume Analysis



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Willow Rd &
MD 6
(BACKGROUND TRAFFIC)

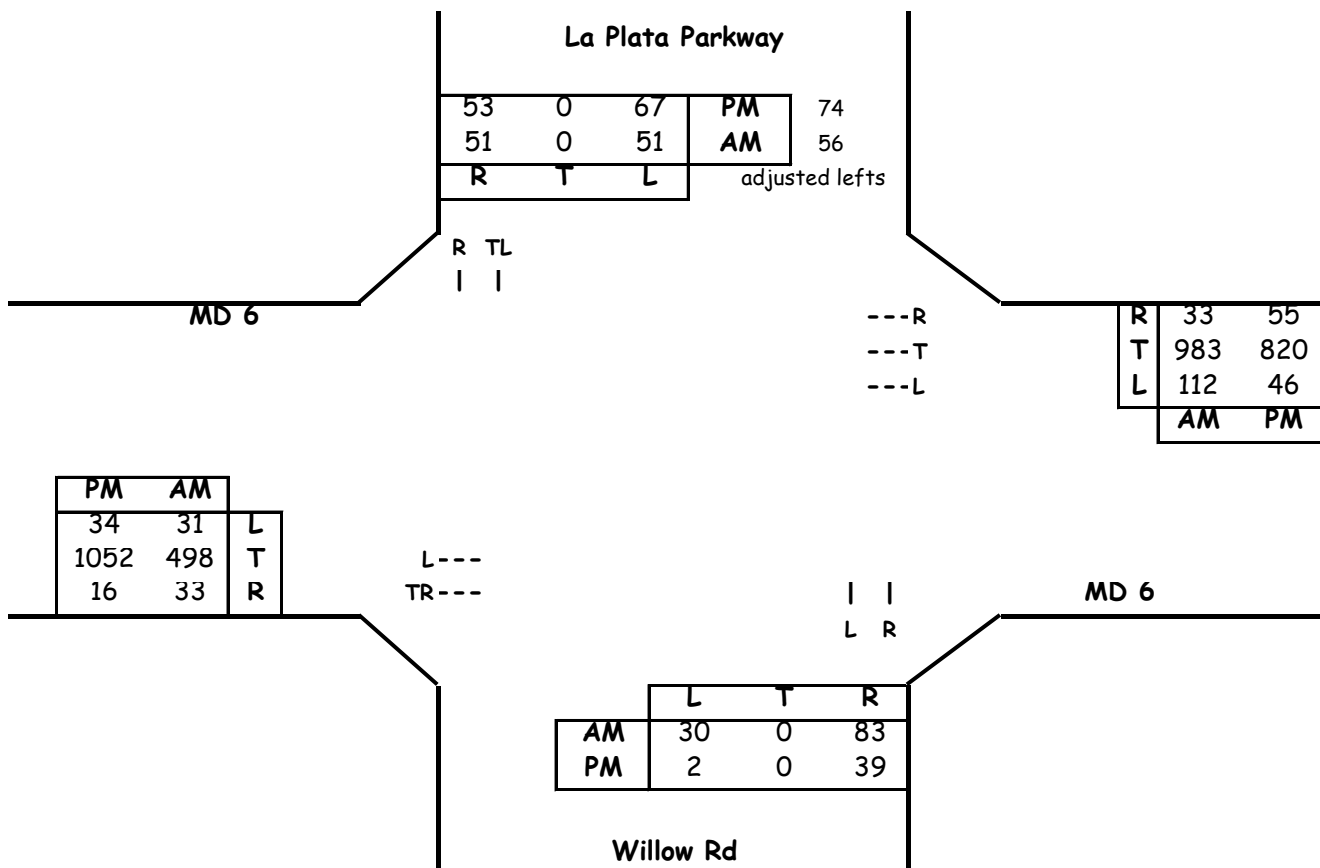
Intersection
11

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Willow Rd
Minor Street: MD 6
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	0	0.00	0	51	1	51	86
SB	56	1.00	56	30	1	30	
EB	531	1	531	112	1	112	1014
WB	983	1	983	31	1	31	
CLV TOTAL=							1100
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	0	0.00	0	67	1	67	76
SB	74	1.00	74	2	1	2	
EB	1068	1	1068	46	1	46	1114
WB	820	1	820	34	1	34	
CLV TOTAL=							1190
Level of Service (LOS) =							C

Critical Lane Volume Analysis



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**Willow Rd &
 MD 6
 (TOTAL TRAFFIC)**

**Intersection
 10**

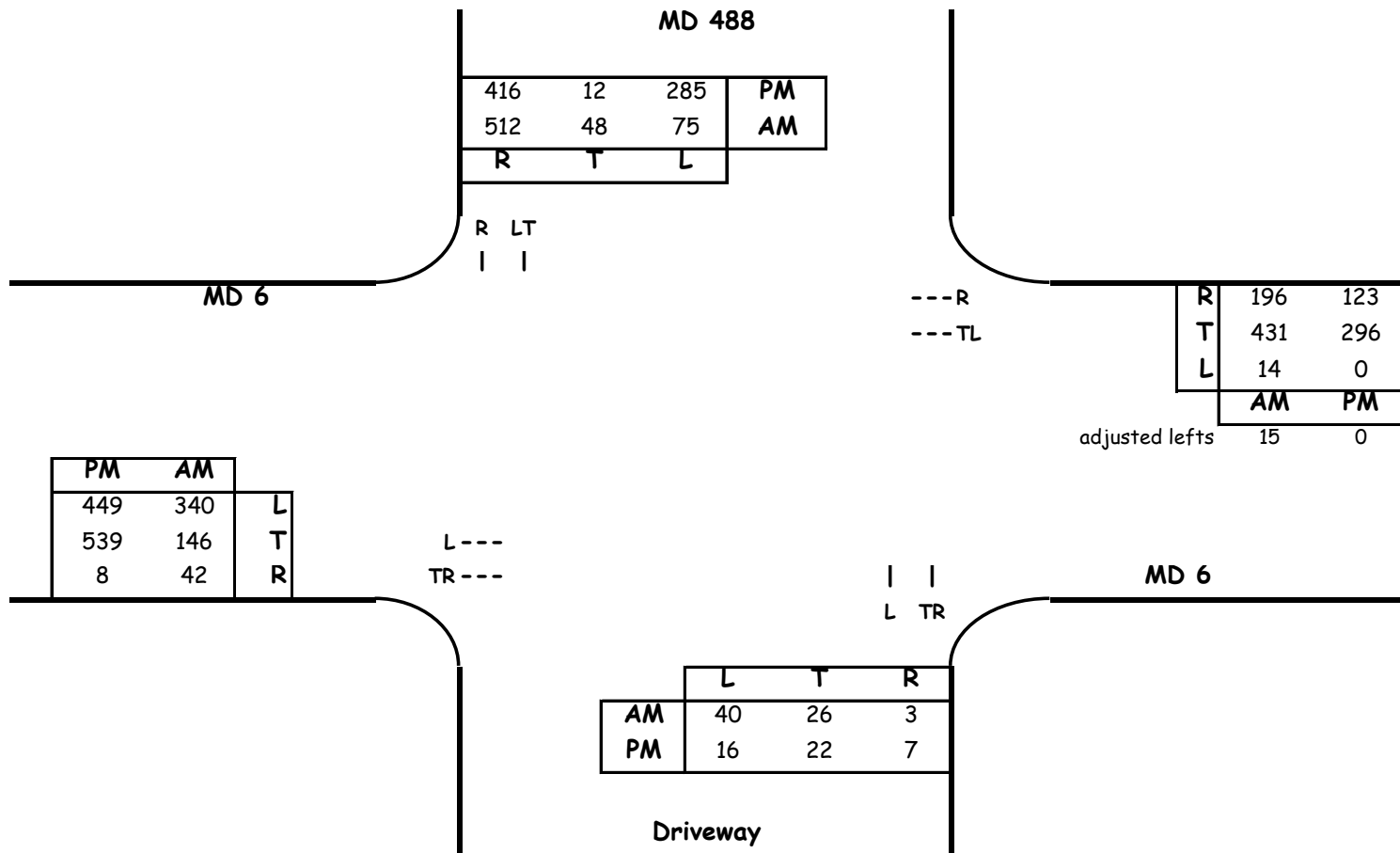
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: MD 6

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Conditions: EXISTING TRAFFIC

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	40	1	40			
SB	172	1	172			
EB	188	1	188	14	1	14
WB	446	1	446	340	1	340
CLV TOTAL=						998
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	29	1	29			
SB	297	1	297			
EB	547	1	547	0	1	0
WB	296	1	296	449	1	449
CLV TOTAL=						1071
Level of Service (LOS) =						B

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 488 &
MD 6
(EXISTING TRAFFIC)

Intersection
11

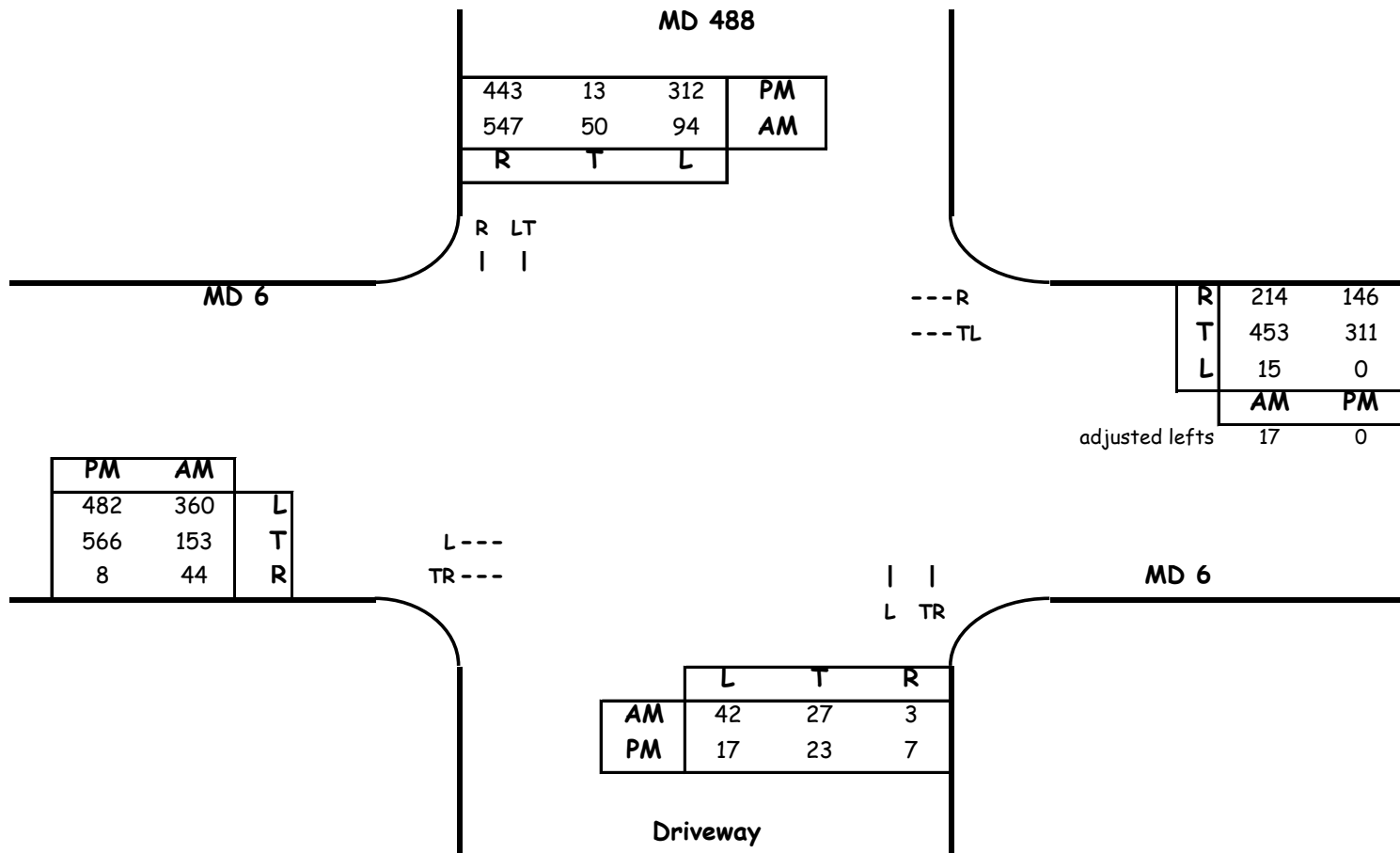
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: MD 6

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Conditions: BACKGROUND TRAFFIC

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	42	1	42			
SB	187	1	187			
EB	197	1	197	15	1	15
WB	470	1	470	360	1	360
CLV TOTAL=						1059
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	30	1	30			
SB	325	1	325			
EB	574	1	574	0	1	0
WB	311	1	311	482	1	482
CLV TOTAL=						1148
Level of Service (LOS) =						B

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 488 &
MD 6
(BACKGROUND TRAFFIC)

Intersection
10

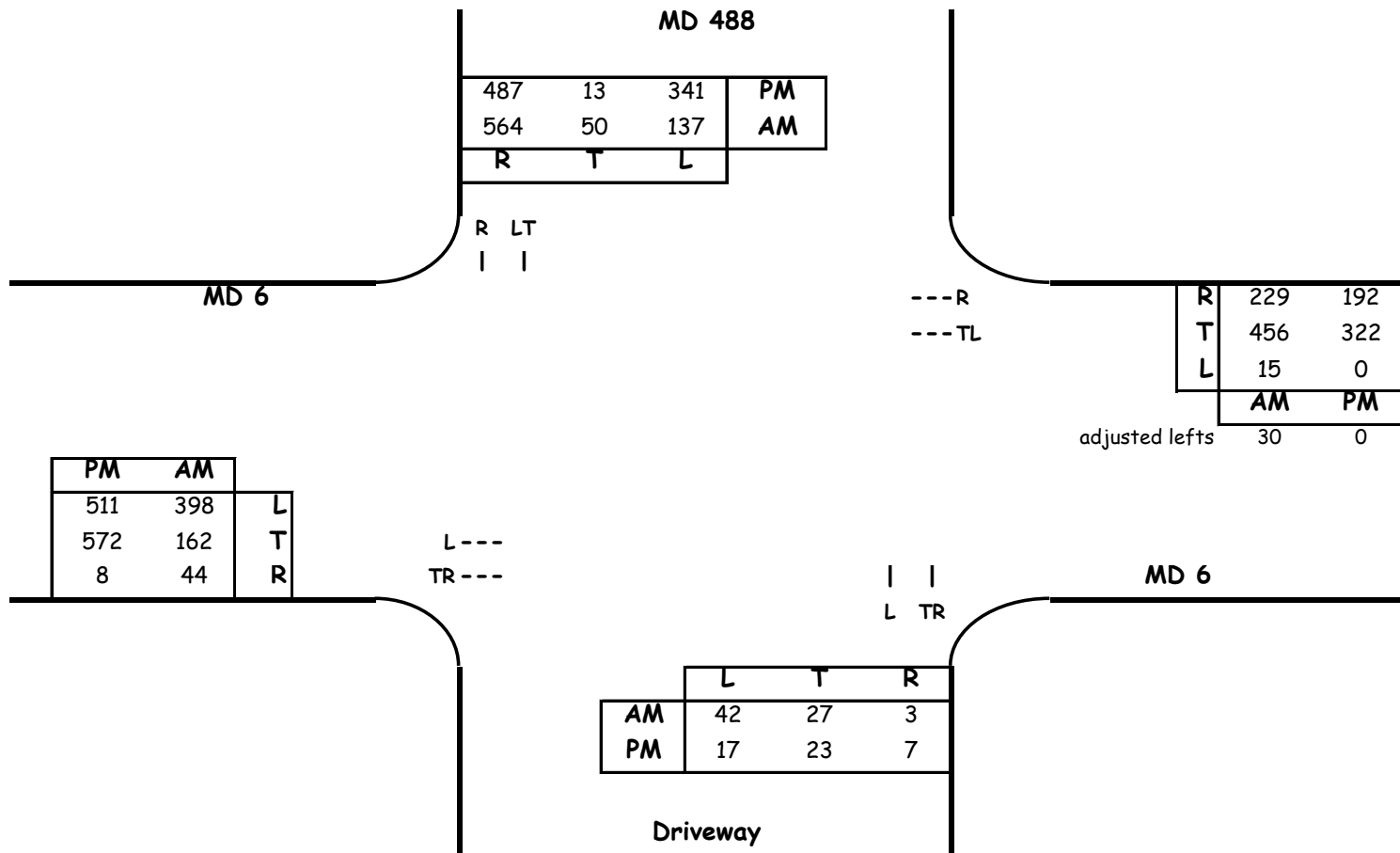
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: MD 6

Conditions: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	42	1	42			
SB	187	1	187			
EB	206	1	206	15	1	15
WB	486	1	486	398	1	398
CLV TOTAL=						1113
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	30	1	30			
SB	354	1	354			
EB	580	1	580	0	1	0
WB	322	1	322	511	1	511
CLV TOTAL=						1217
Level of Service (LOS) =						C

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 488 &
MD 6
(TOTAL TRAFFIC)

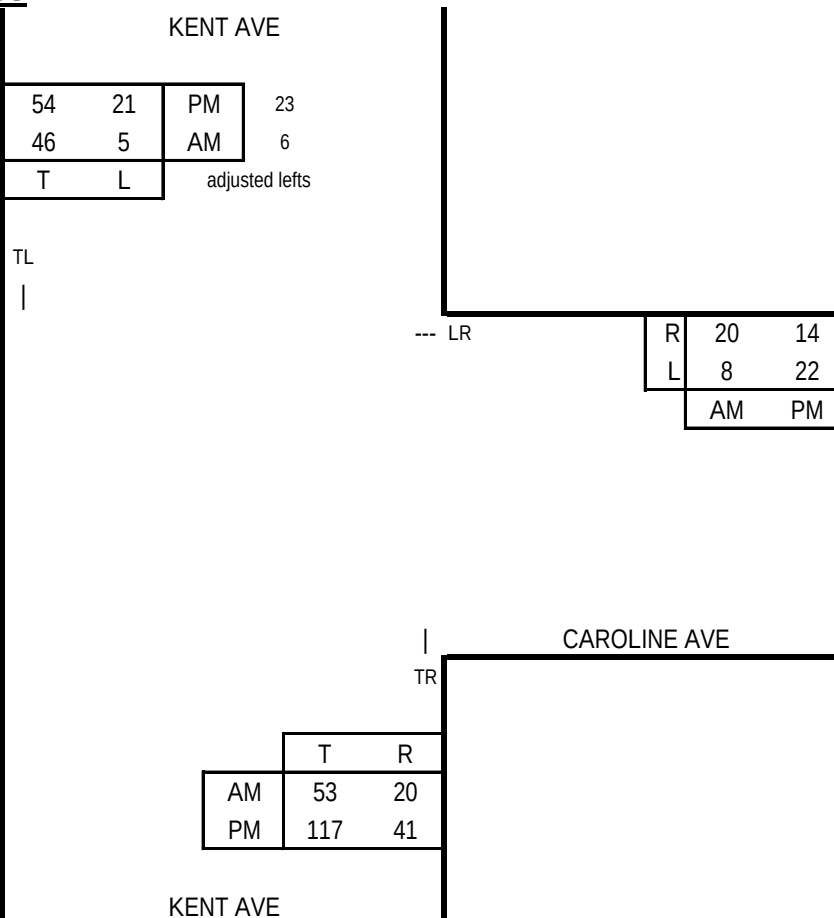
Intersection
11

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Caroline Ave
Conditions: Existing Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

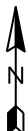
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	28	1.00	28				28
NB	73	1.00	73	5	1.00	5	78
SB	52	1.00	52				
CLV TOTAL=							106
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	36	1.00	36				36
NB	158	1.00	158	21	1.00	21	179
SB	77	1.00	77				
CLV TOTAL=							215
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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**Kent Ave &
 Caroline Ave
 (Existing Traffic)**

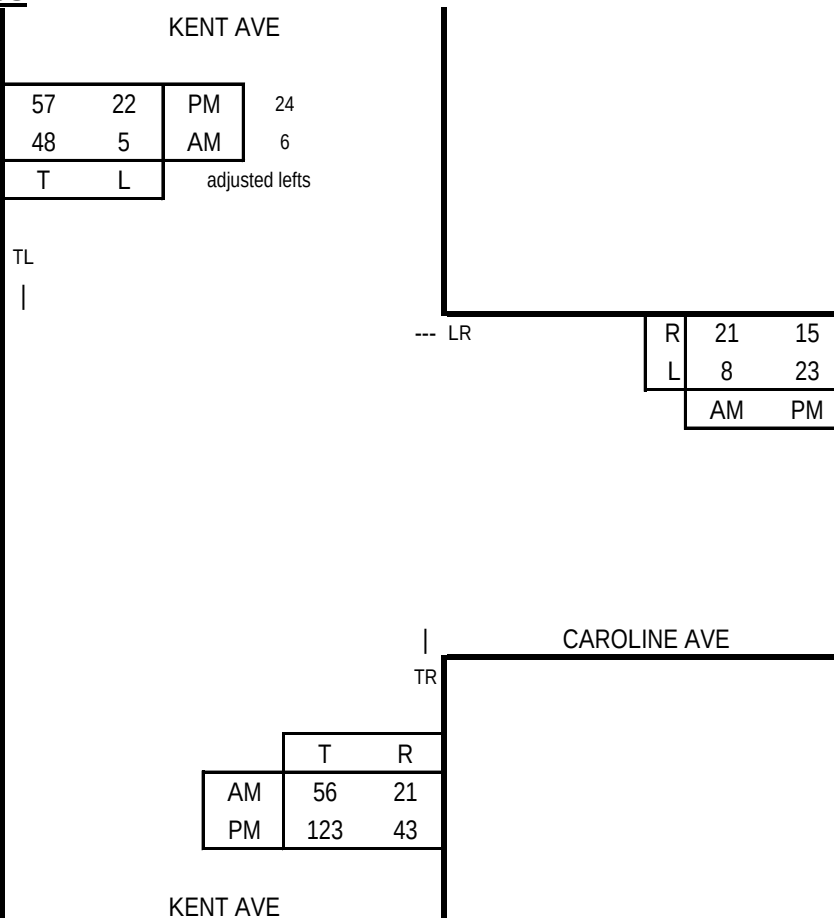
**Intersection
 12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Caroline Ave
Conditions: Background Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

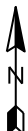
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	29	1.00	29				29
NB	77	1.00	77	5	1.00	5	82
SB	54	1.00	54				
CLV TOTAL=							111
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	38	1.00	38				38
NB	166	1.00	166	22	1.00	22	188
SB	81	1.00	81				
CLV TOTAL=							226
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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**Kent Ave &
 Caroline Ave
 (Background Traffic)**

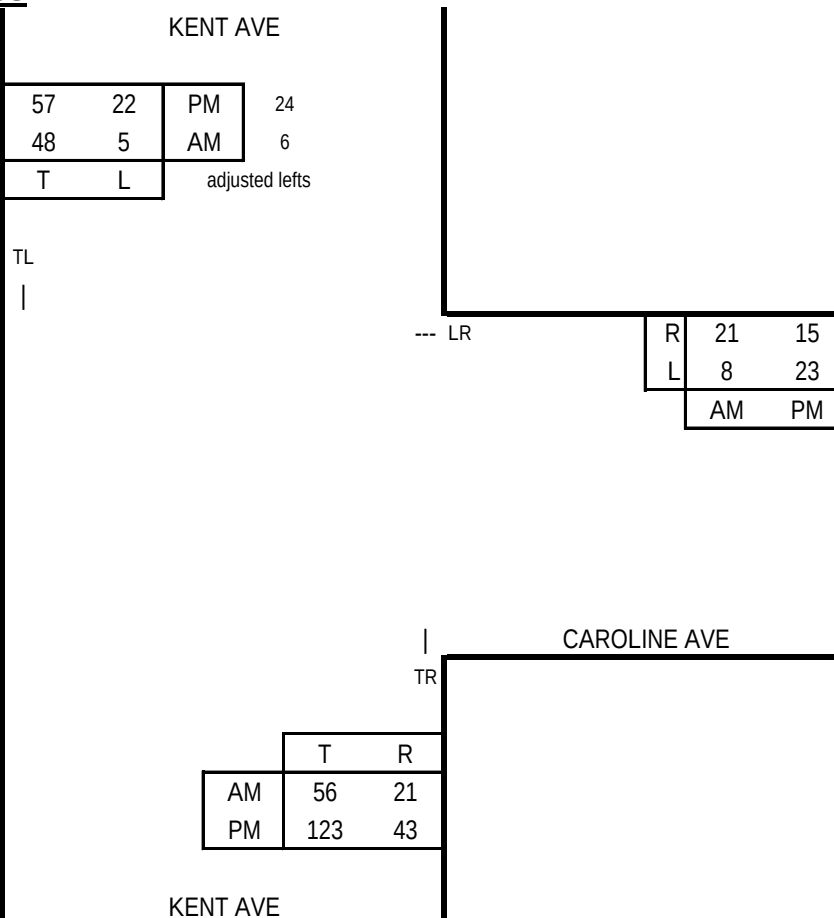
**Intersection
 12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Caroline Ave
Conditions: Total Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

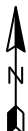
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	29	1.00	29				29
NB	77	1.00	77	5	1.00	5	82
SB	54	1.00	54				
CLV TOTAL=							111
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	38	1.00	38				38
NB	166	1.00	166	22	1.00	22	188
SB	81	1.00	81				
CLV TOTAL=							226
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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Kent Ave &
Caroline Ave
(Total Traffic)

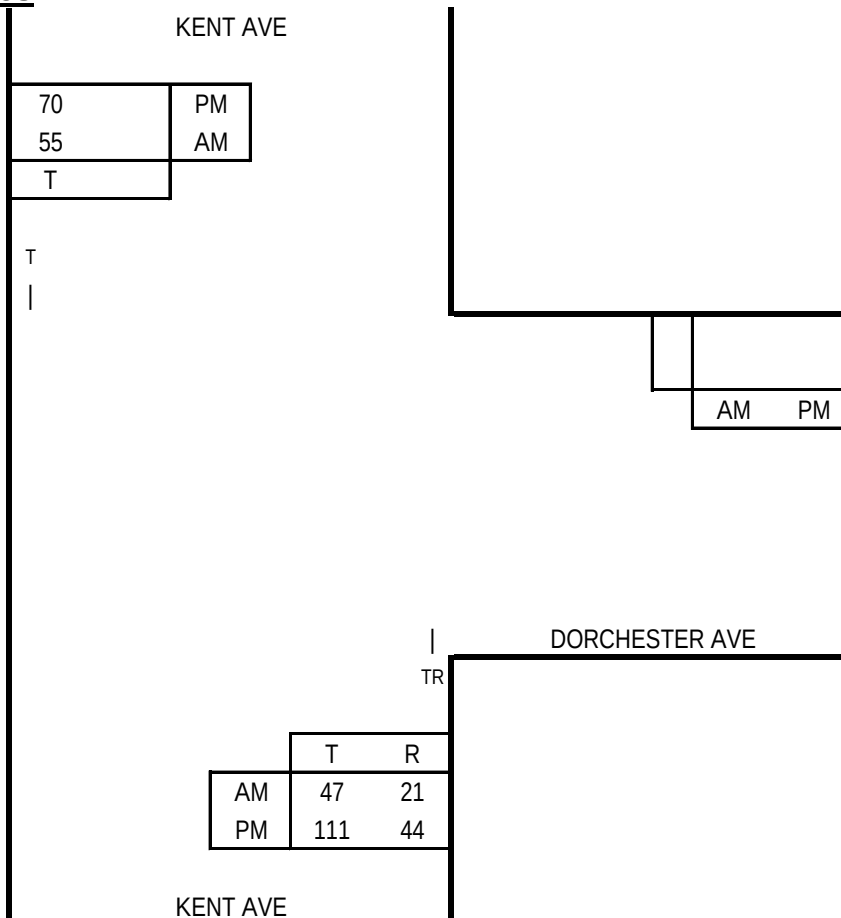
Intersection
12

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Dorchester Ave
Conditions: Existing Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

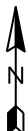
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	68	1.00	68	0	0.00	0	68
SB	55	1.00	55				
CLV TOTAL=							68
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	155	1.00	155	0	0.00	0	155
SB	70	1.00	70				
CLV TOTAL=							155
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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**Kent Ave &
Dorchester Ave
(Existing Traffic)**

**Intersection
13**

for MSHA

and: Dorchester Ave

Analyst: Lenhart Traffic

Condition: Partial Build Out

Lane Use + Traffic Volumes

74

PM

AM

T

I

1

DORCHESTER AVE

TR

T

R

AM

49

DM

117

KENT AVE

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	71	1.00	71	0	0.00	0	71
SB	58	1.00	58				

CLV TOTAL=

71

Level of Service (LOS) =

Evening Peak Hour

	Thru Volumes			+ Opposing Lefts			PM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	163	1.00	163	0	0.00	0	163
SB	74	1.00	74				

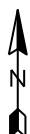
CLV TOTAL=

163

Level of Service (LOS) =

A

Critical Lane Volume Analysis



Kent Ave &
Dorchester Ave
(Background Traffic)

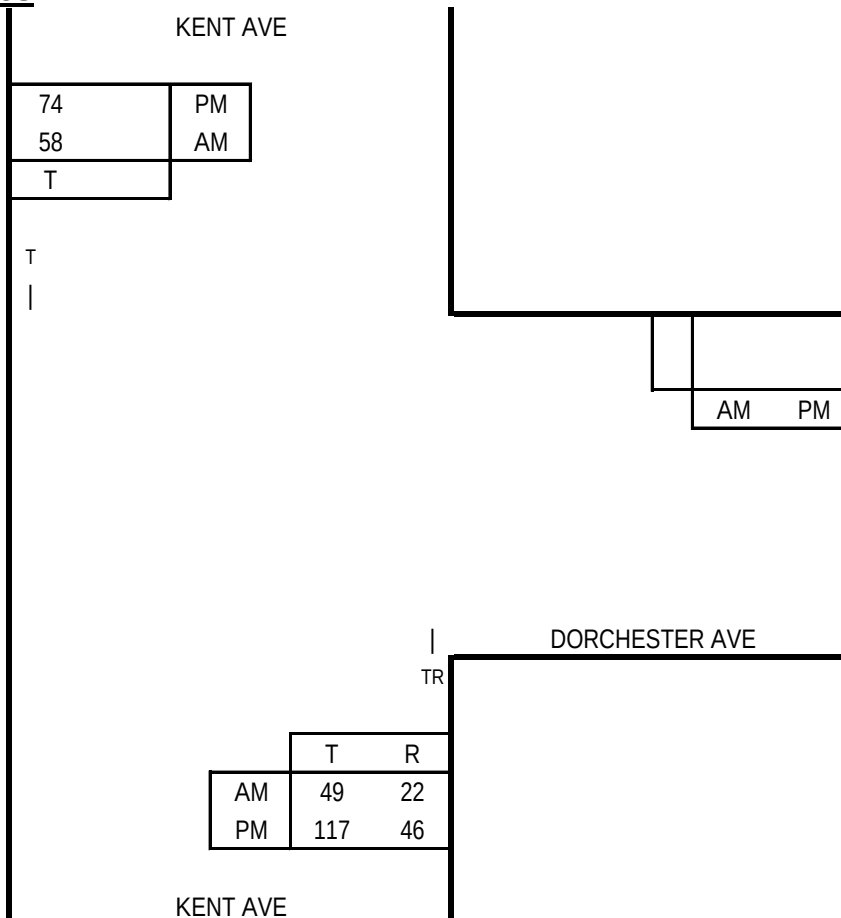
Intersection 13

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Dorchester Ave
Conditions: Total Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

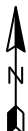
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	71	1.00	71	0	0.00	0	71
SB	58	1.00	58				
CLV TOTAL=							71
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	163	1.00	163	0	0.00	0	163
SB	74	1.00	74				
CLV TOTAL=							163
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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**Kent Ave &
Dorchester Ave
(Total Traffic)**

**Intersection
13**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Rosewick Rd
 Minor Street: Radio Station Rd
 Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting
 Condition: Partial Build Out

ROSEWICK RD

---T
 ---T
 ---L

	AM	PM
T	297	472
L	185	348

PM	AM	
431	263	T
230	160	R

U---
 T---
 T---
 R---

ROSEWICK RD

| |
 L R

	L	R
AM	134	259
PM	159	271

Radio Station Rd

Critical Lane Volume Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
NB	134	1.00	134		134
EB	263	0.55	145	185 1.00 185	330
WB	297	0.55	163		
CLV TOTAL=					464
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
NB	159	1.00	159		159
EB	431	0.55	237	348 1.00 348	585
WB	472	0.55	260		
CLV TOTAL=					744
Level of Service (LOS)=					A

Critical Lane Volume Analysis



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Rosewick Rd &
 Radio Station Rd
 (Existing Traffic)

Intersection
14

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Rosewick Rd
Minor Street: Radio Station Rd
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

ROSEWICK RD

---T
 ---T
 ---L

	AM	PM
T	333	522
L	195	368

PM	AM	
477	297	T
253	173	R

U---
 T---
 T---
 R---

ROSEWICK RD

| |
 L R

Radio Station Rd

	L	R
AM	152	274
PM	177	287

Critical Lane Volume Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
NB	152	1.00	152		152
EB	297	0.55	163	195 1.00 195	358
WB	333	0.55	183		
CLV TOTAL=					510
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
NB	177	1.00	177		177
EB	477	0.55	262	368 1.00 368	630
WB	522	0.55	287		
CLV TOTAL=					807
Level of Service (LOS)=					A

Critical Lane Volume Analysis



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**Rosewick Rd &
 Radio Station Rd
 (Background Traffic)**

**Intersection
 14**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Rosewick Rd
Minor Street: Radio Station Rd
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

ROSEWICK RD

---T
 ---T
 ---L

	AM	PM
T	374	649
L	209	411

PM	AM	
557	413	T
321	257	R

U---
 T---
 T---
 R---

ROSEWICK RD

| |
 L R

	L	R
AM	195	313
PM	271	313

Radio Station Rd

Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	195	1.00	195			
EB	413	0.55	227	209	1.00	209
WB	374	0.55	206			
CLV TOTAL=						631
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	271	1.00	271			
EB	557	0.55	306	411	1.00	411
WB	649	0.55	357			
CLV TOTAL=						988
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Rosewick Rd &
 Radio Station Rd
 (Total Traffic)

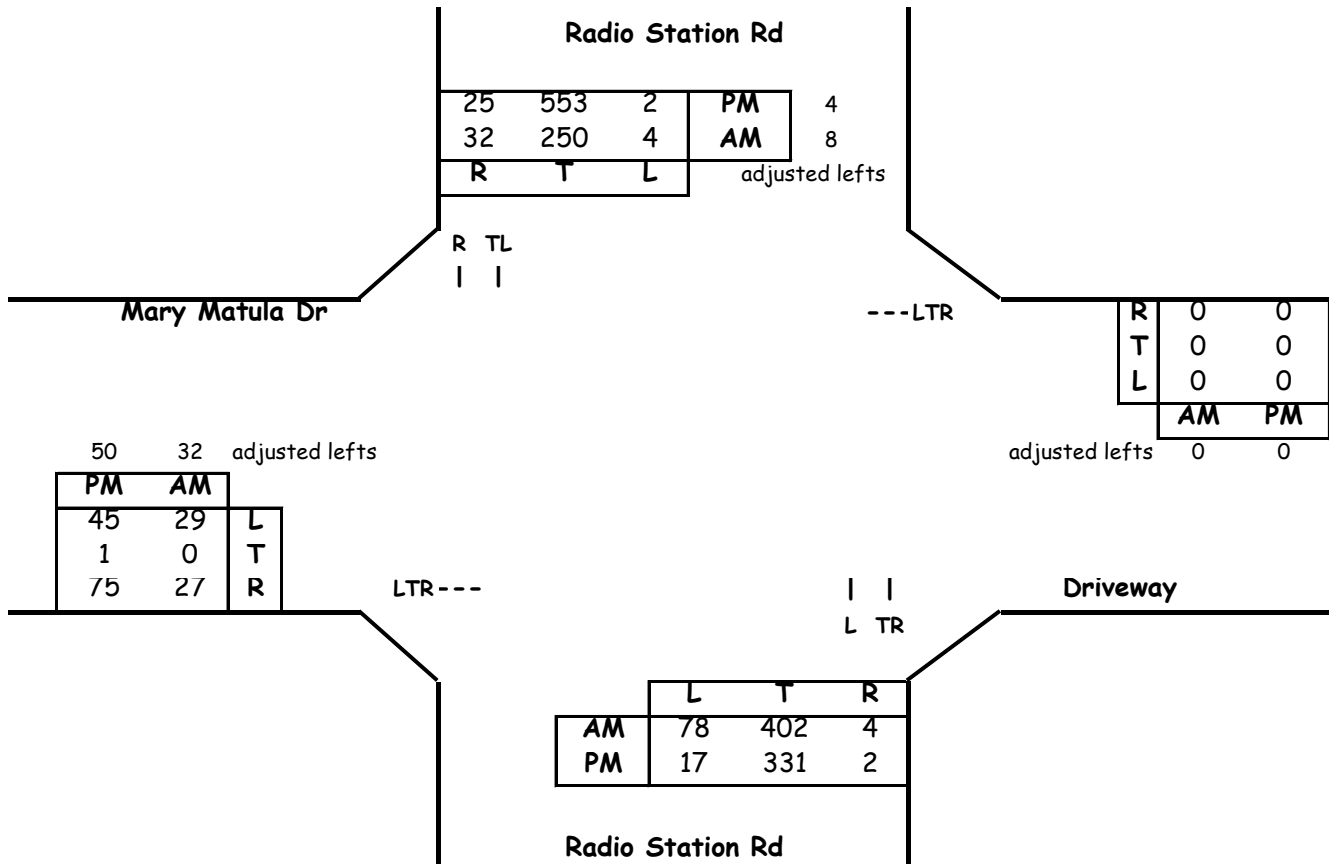
Intersection
14

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Radio Station Rd
Minor Street: Mary Matula Dr
Study Period: EXISTING TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	406	1.00	406	4	1	4
SB	258	1.00	258	78	1	78
EB	59	1	59	0	1	0
WB	0	1	0	29	1	29
CLV TOTAL=						469
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	333	1.00	333	2	1	2
SB	557	1.00	557	17	1	17
EB	126	1	126	0	1	0
WB	0	1	0	45	1	45
CLV TOTAL=						700
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Radio Station Rd &
 Mary Matula Dr
 (EXISTING TRAFFIC)**

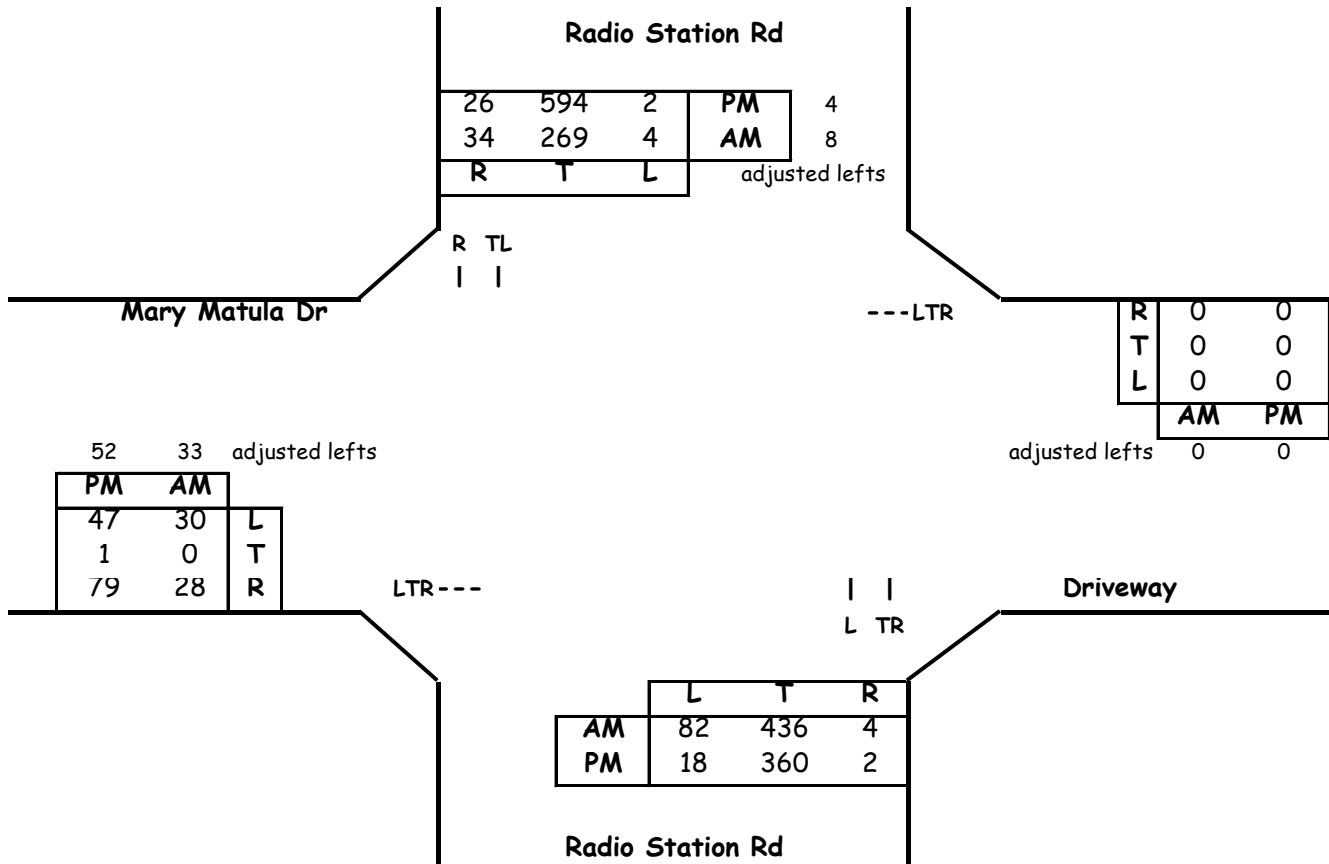
**Intersection
 15**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Radio Station Rd
Minor Street: Mary Matula Dr
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	440	1.00	440	4	1	4	444
SB	277	1.00	277	82	1	82	
EB	61	1	61	0	1	0	61
WB	0	1	0	30	1	30	
CLV TOTAL=							505
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	362	1.00	362	2	1	2	616
SB	598	1.00	598	18	1	18	
EB	132	1	132	0	1	0	132
WB	0	1	0	47	1	47	
CLV TOTAL=							748
Level of Service (LOS) =							A

Critical Lane Volume Analysis



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**Radio Station Rd &
 Mary Matula Dr
 (BACKGROUND TRAFFIC)**

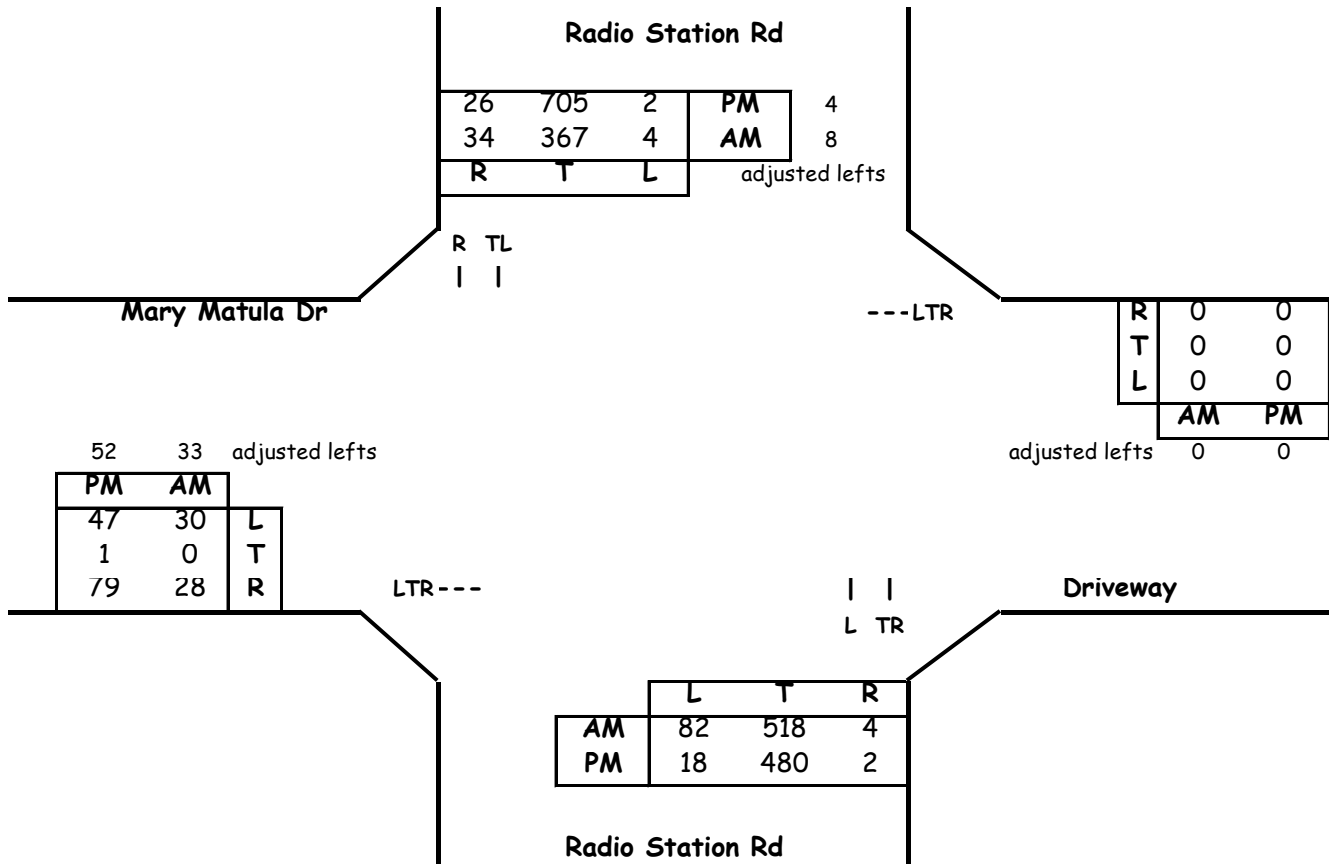
**Intersection
 15**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Radio Station Rd
Minor Street: Mary Matula Dr
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	522	1.00	522	4	1	4
SB	375	1.00	375	82	1	82
EB	61	1	61	0	1	0
WB	0	1	0	30	1	30
CLV TOTAL=						587
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	482	1.00	482	2	1	2
SB	709	1.00	709	18	1	18
EB	132	1	132	0	1	0
WB	0	1	0	47	1	47
CLV TOTAL=						859
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Radio Station Rd &
 Mary Matula Dr**
 (TOTAL TRAFFIC)

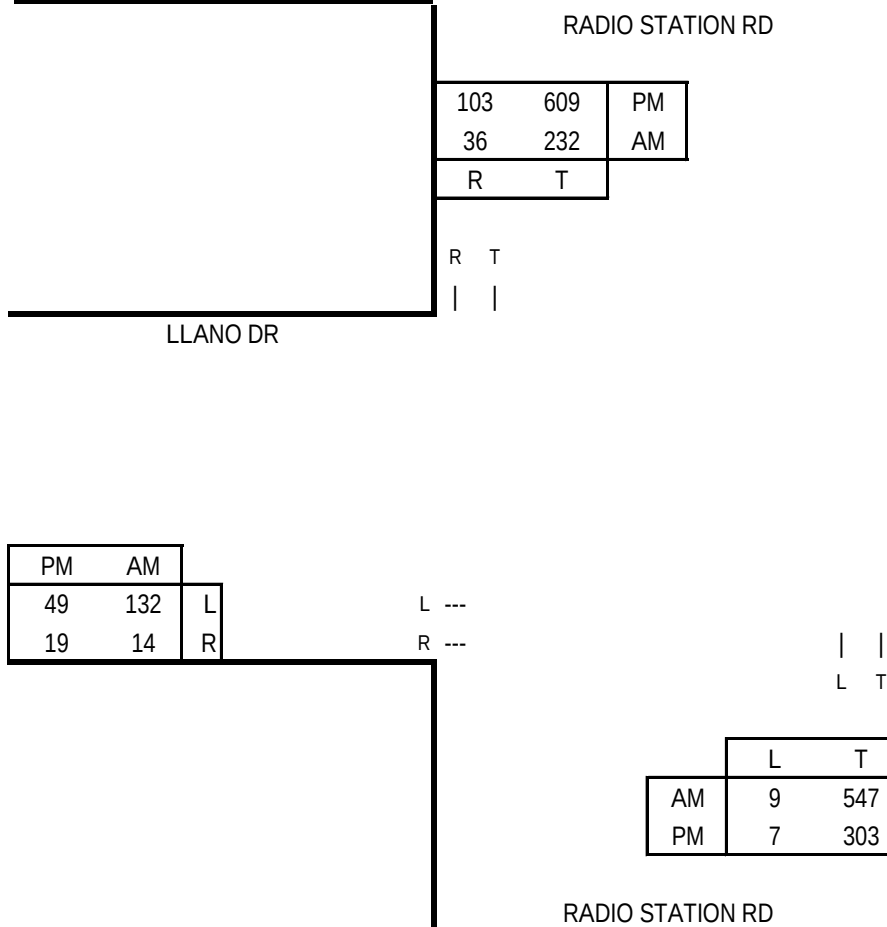
**Intersection
 15**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: Llano Dr
Conditions: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	132	1.00	132			
NB	547	1.00	547			
SB	232	1.00	232	9	1.00	9
CLV TOTAL=						679
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	49	1.00	49			
NB	303	1.00	303			
SB	609	1.00	609	7	1.00	7
CLV TOTAL=						665
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**Radio Station Rd &
Llano Dr
(Existing Traffic)**

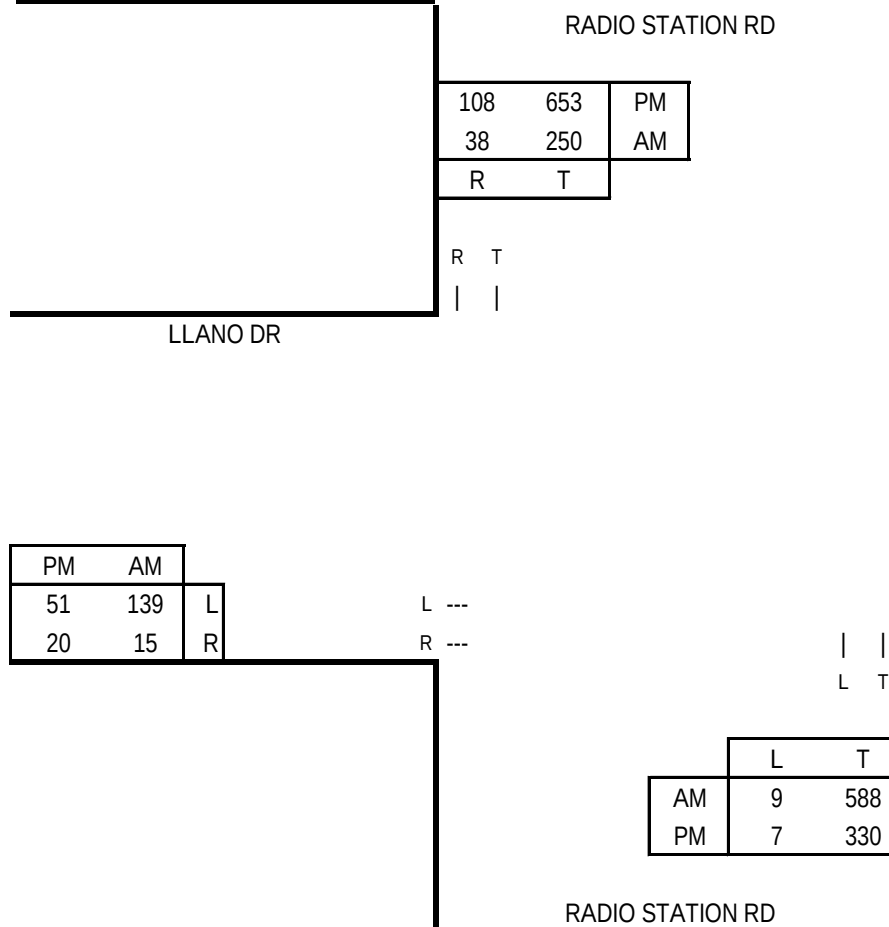
**Intersection
16**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: Llano Dr
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	139	1.00	139			
NB	588	1.00	588			
SB	250	1.00	250	9	1.00	9
CLV TOTAL=						727
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	51	1.00	51			
NB	330	1.00	330			
SB	653	1.00	653	7	1.00	7
CLV TOTAL=						711
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Radio Station Rd &
Llano Dr
(Background Traffic)

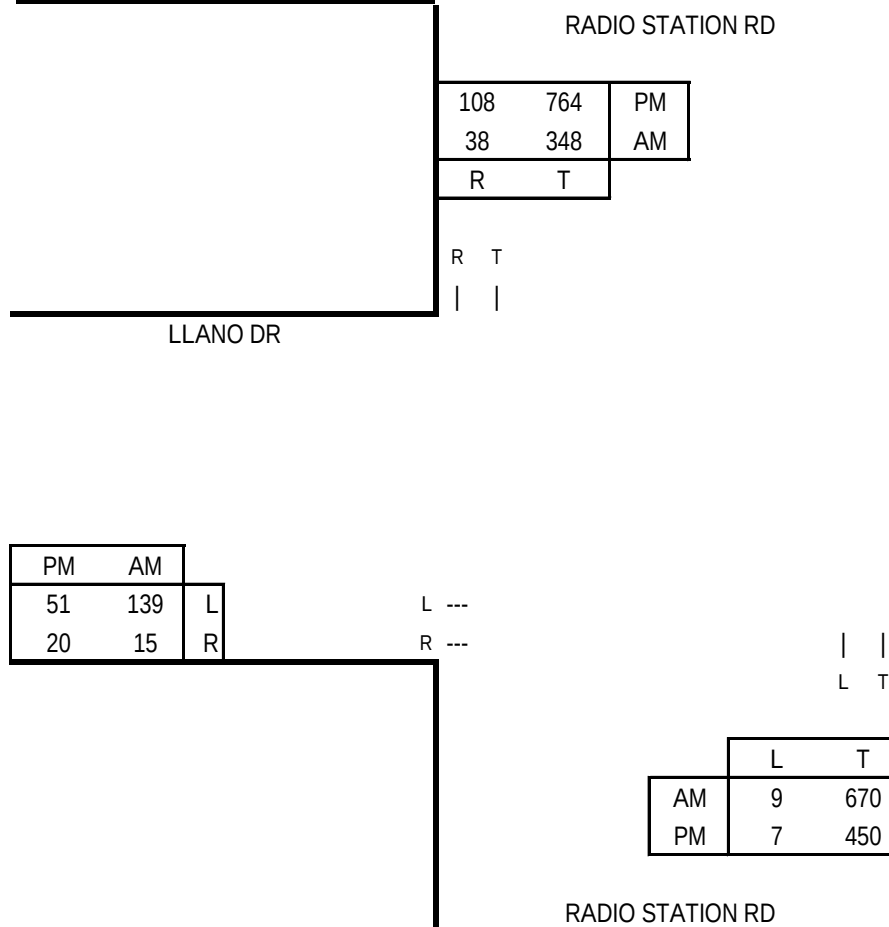
Intersection
16

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: Llano Dr
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	139	1.00	139				139
NB	670	1.00	670				670
SB	348	1.00	348	9	1.00	9	
CLV TOTAL=							809
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	51	1.00	51				51
NB	450	1.00	450				771
SB	764	1.00	764	7	1.00	7	
CLV TOTAL=							822
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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Radio Station Rd &
Llano Dr
(Total Traffic)

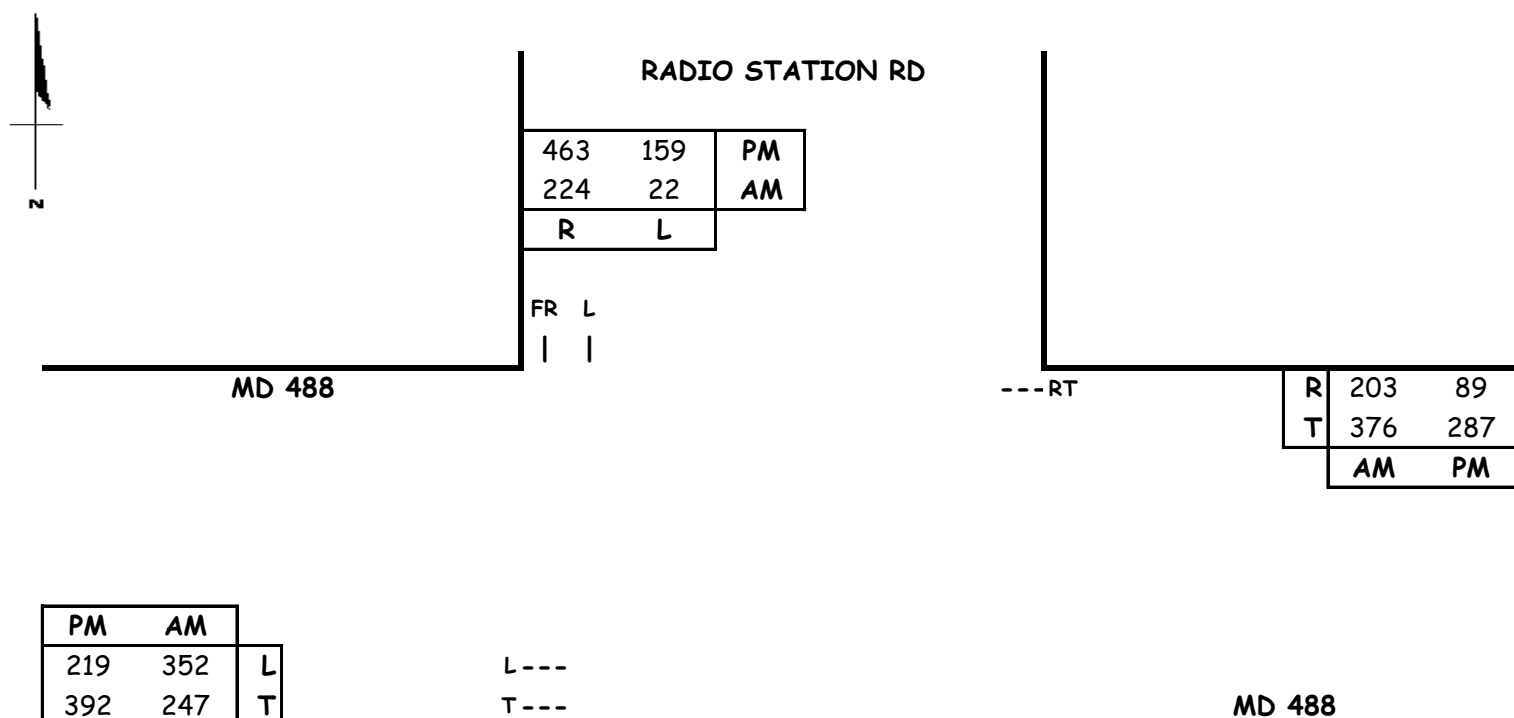
Intersection
16

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: MD 488
Conditions: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	22	1.00	22			
EB	247	1.00	247			
WB	579	1.00	579	352	1.00	352
CLV TOTAL=						953
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	159	1.00	159			
EB	392	1.00	392			
WB	376	1.00	376	219	1.00	219
CLV TOTAL=						754
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Radio Station Rd &
MD 488**
(Existing Traffic)

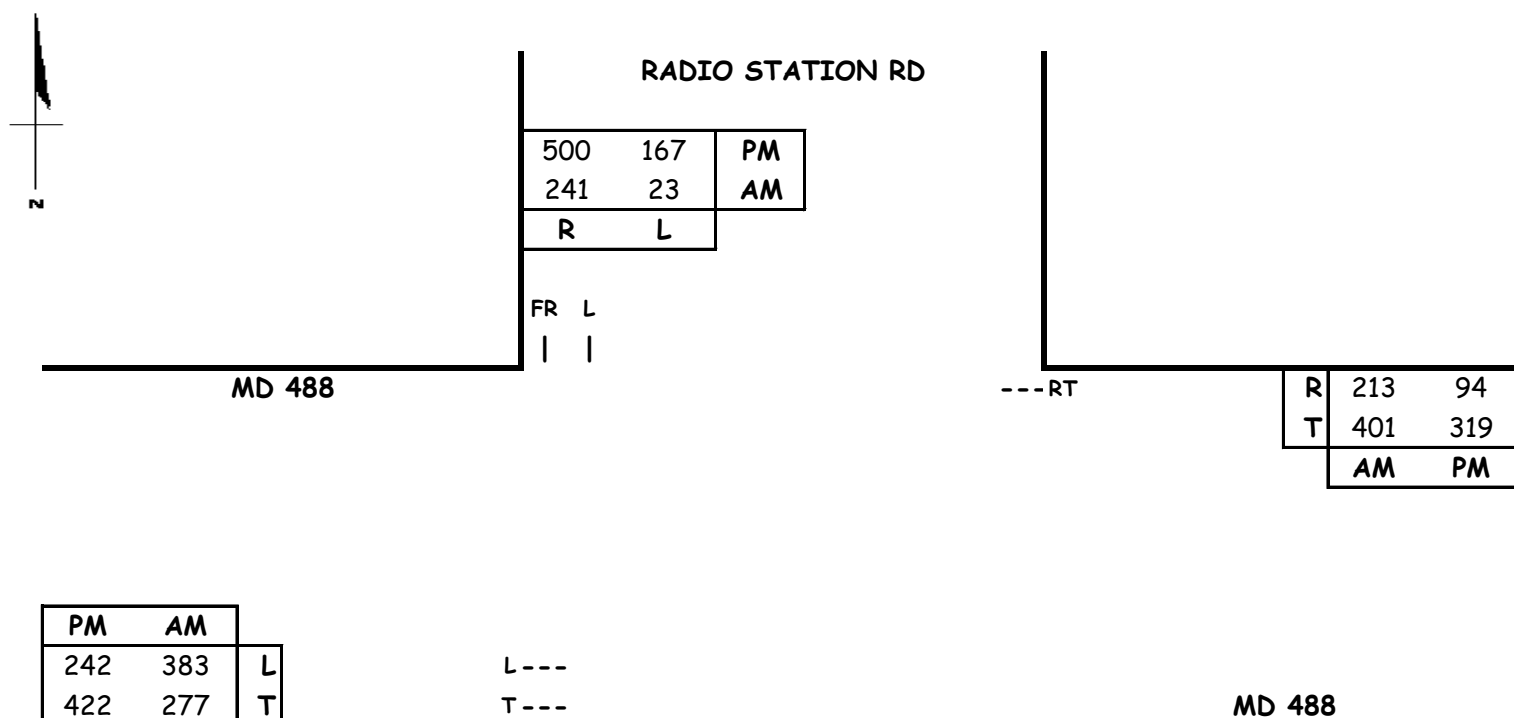
**Intersection
17**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: MD 488
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	277	1.00	277			
WB	614	1.00	614	383	1.00	383
CLV TOTAL=						1020
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	167	1.00	167			
EB	422	1.00	422			
WB	413	1.00	413	242	1.00	242
CLV TOTAL=						822
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Radio Station Rd &
MD 488**
(Background Traffic)

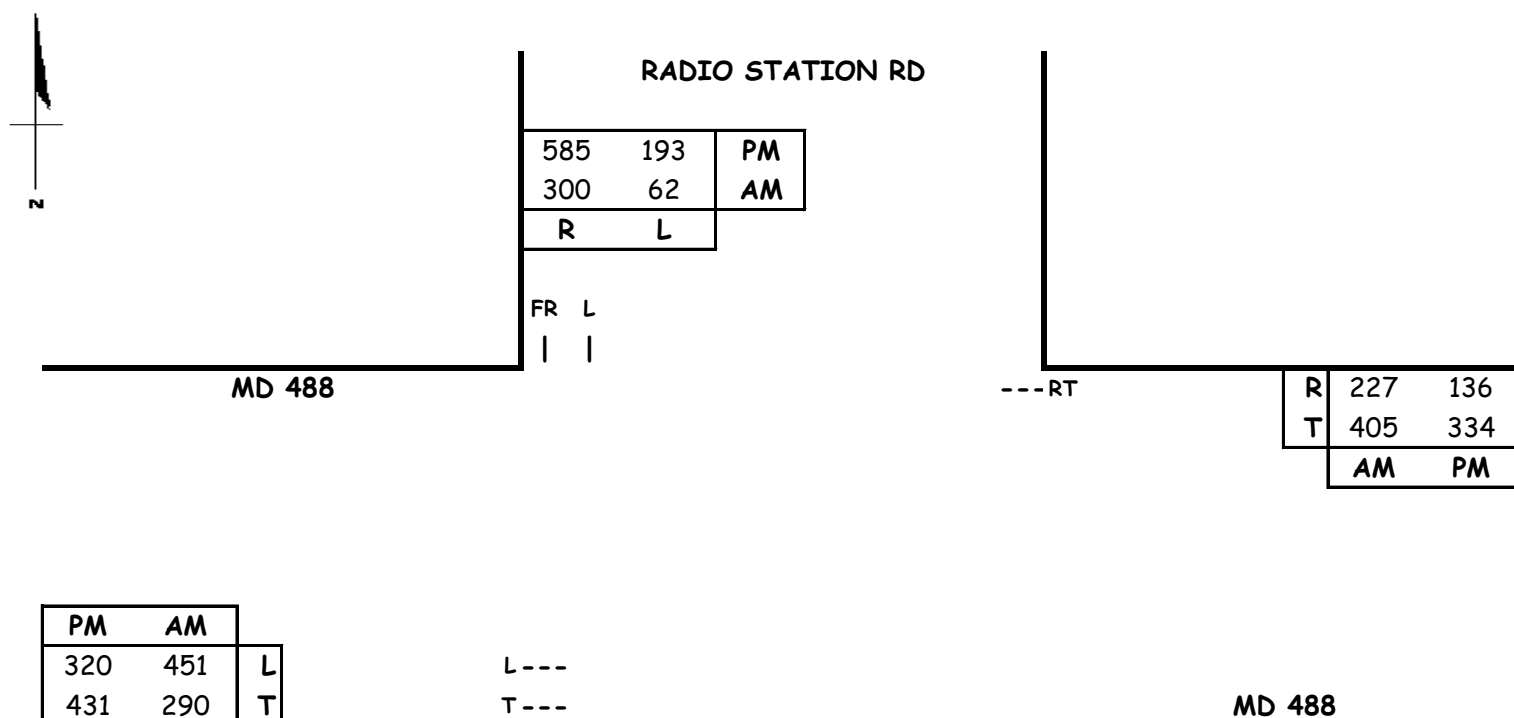
**Intersection
17**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: MD 488
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	62	1.00	62			
EB	290	1.00	290			
WB	632	1.00	632	451	1.00	451
CLV TOTAL=						1145
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	193	1.00	193			
EB	431	1.00	431			
WB	470	1.00	470	320	1.00	320
CLV TOTAL=						983
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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Radio Station Rd &
MD 488
(Total Traffic)

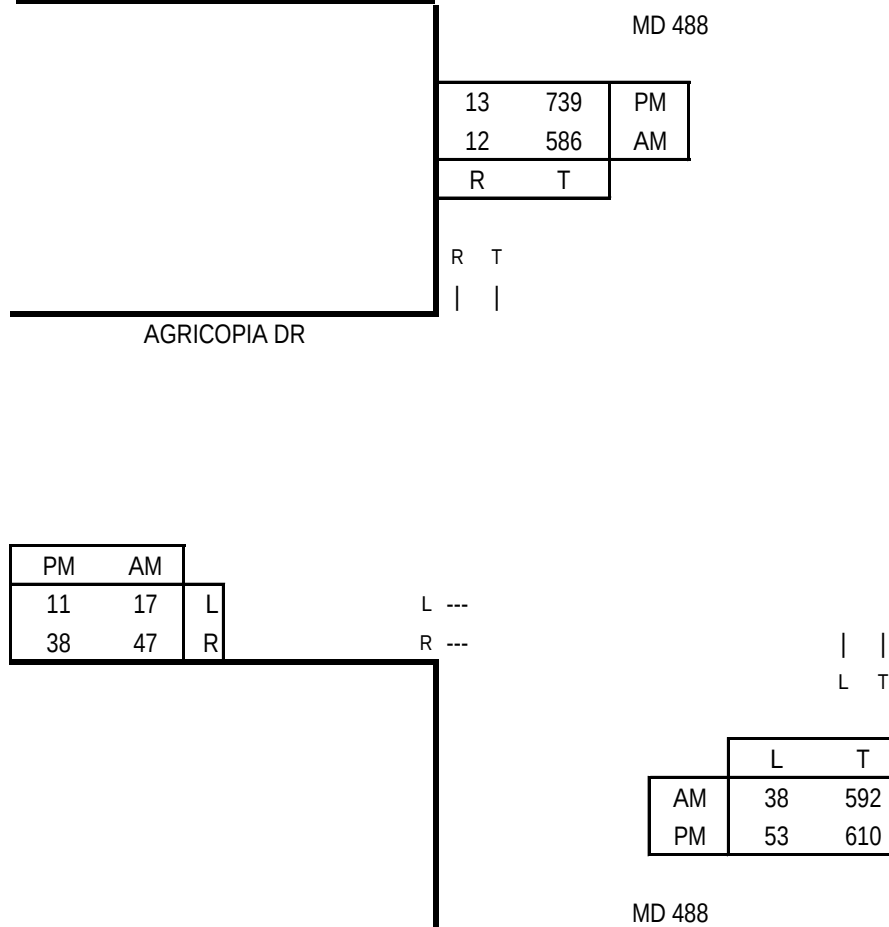
Intersection
17

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: Agricopia Dr
Conditions: Existing Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	17	1.00	17			
NB	592	1.00	592			
SB	586	1.00	586	38	1.00	38
CLV TOTAL=						641
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	11	1.00	11			
NB	610	1.00	610			
SB	739	1.00	739	53	1.00	53
CLV TOTAL=						803
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**MD 488 &
Agricopia Dr
(Existing Traffic)**

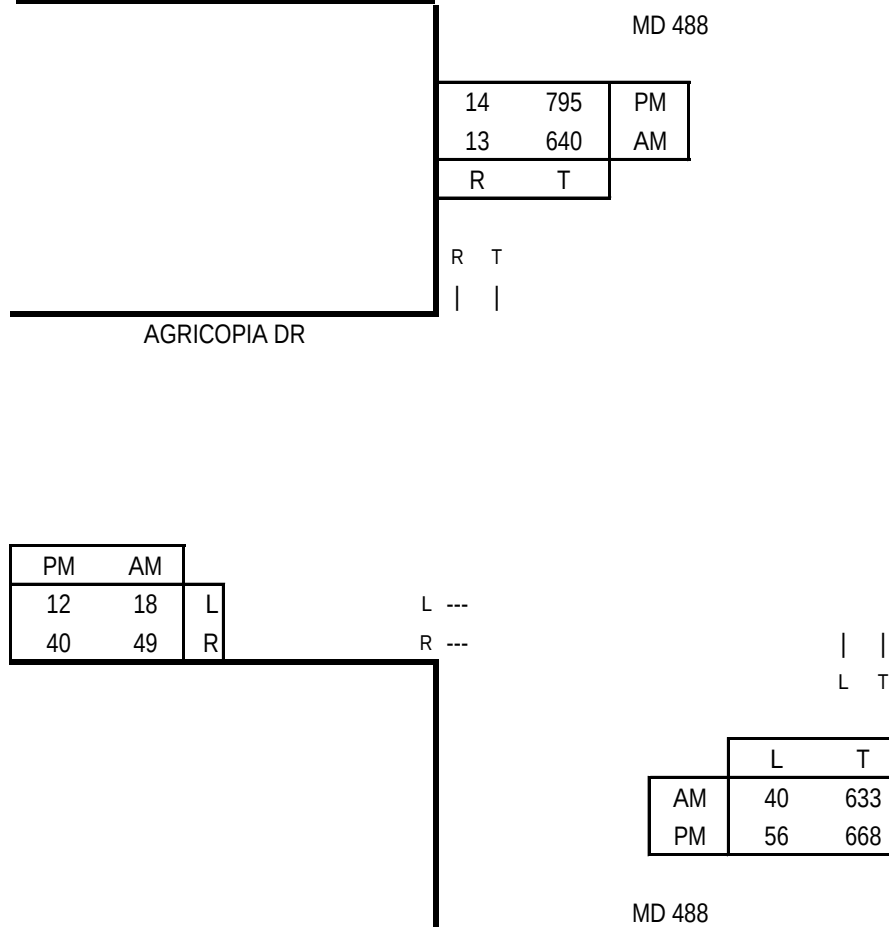
**Intersection
18**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: Agricopia Dr
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	18	1.00	18			
NB	633	1.00	633			
SB	640	1.00	640	40	1.00	40
CLV TOTAL=						698
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	12	1.00	12			
NB	668	1.00	668			
SB	795	1.00	795	56	1.00	56
CLV TOTAL=						863
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**MD 488 &
 Agricopia Dr
 (Background Traffic)**

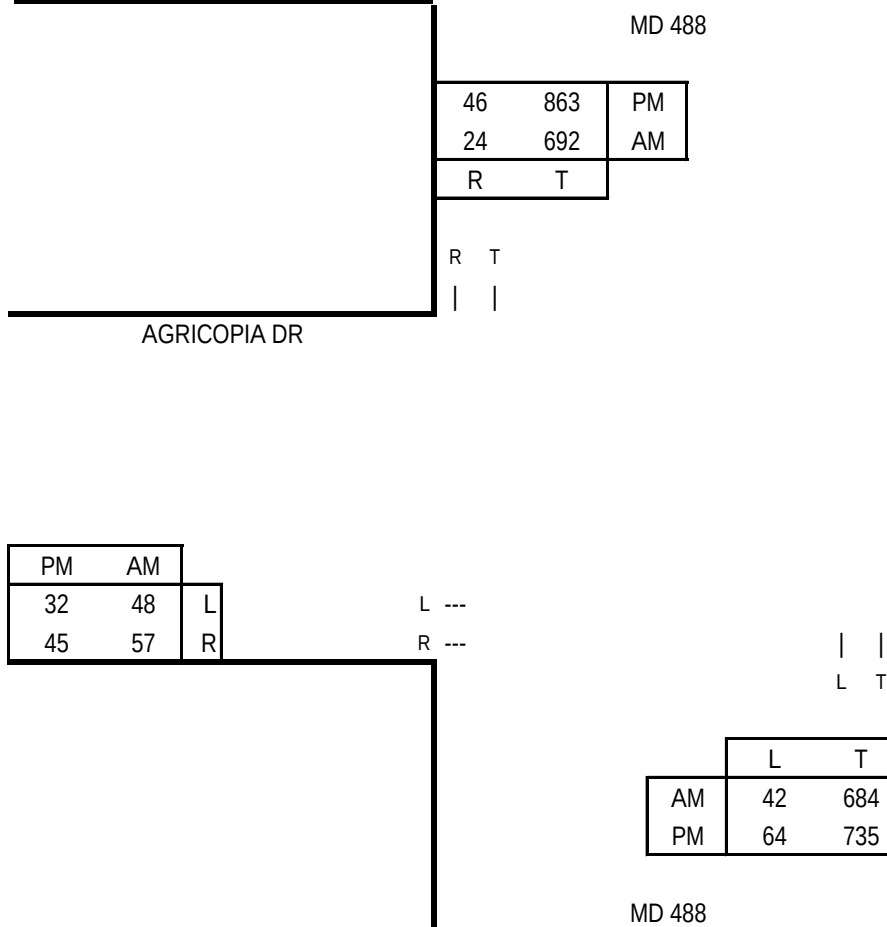
**Intersection
 18**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: Agricopia Dr
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Partial Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	48	1.00	48			
NB	684	1.00	684			
SB	692	1.00	692	42	1.00	42
CLV TOTAL=						782
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	32	1.00	32			
NB	735	1.00	735			
SB	863	1.00	863	64	1.00	64
CLV TOTAL=						959
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**MD 488 &
Agricopia Dr
(Total Traffic)**

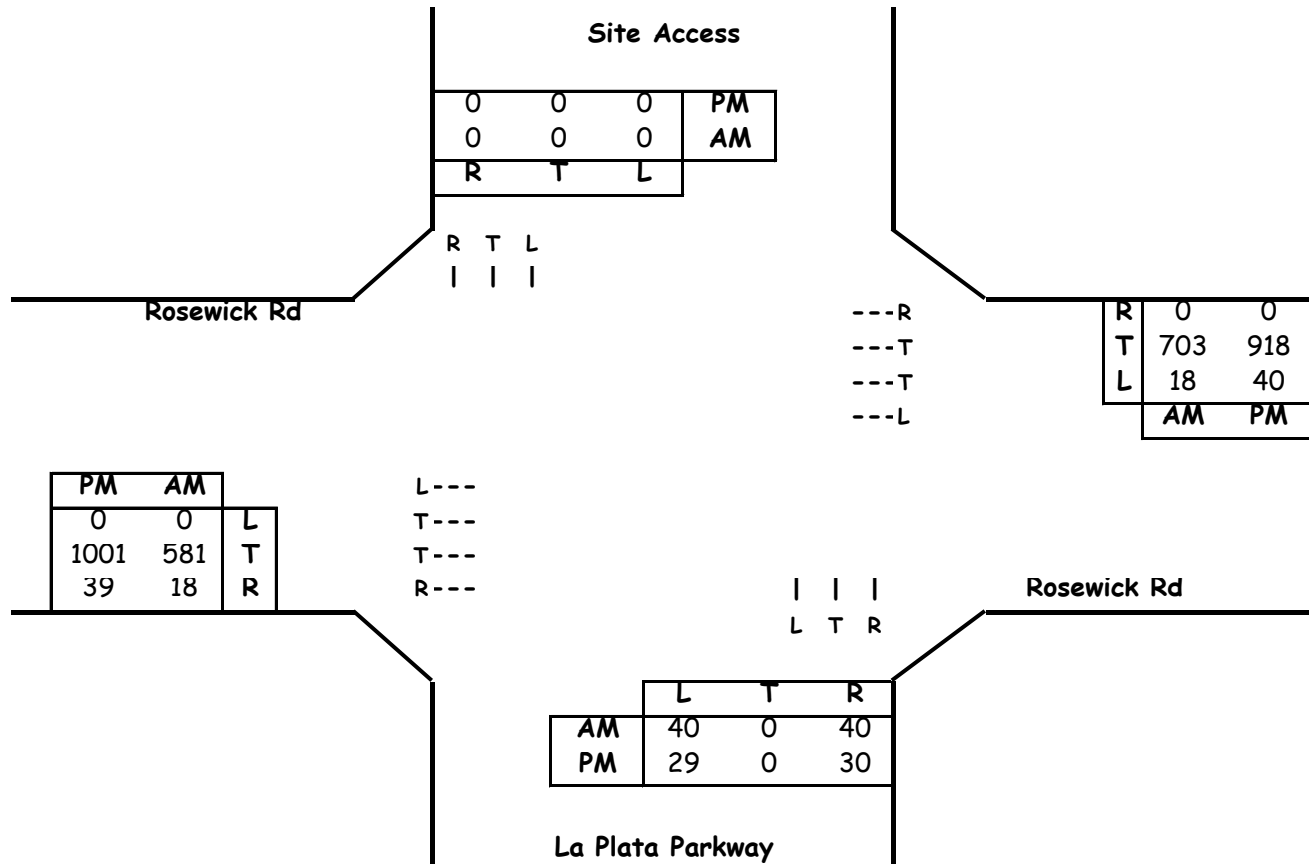
**Intersection
18**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Rosewick Rd
Minor Street: Site Access
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	22	1.00	22	0	1	0	40
SB	0	1.00	0	40	1	40	
EB	581	0.55	320	18	1	18	387
WB	703	0.55	387	0	1	0	
CLV TOTAL=							427
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	0	1.00	0	0	1	0	29
SB	0	1.00	0	29	1	29	
EB	1001	0.55	551	40	1	40	591
WB	918	0.55	505	0	1	0	
CLV TOTAL=							620
Level of Service (LOS) =							A

Critical Lane Volume Analysis



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**Rosewick Rd &
 Site Access
 (TOTAL TRAFFIC)**

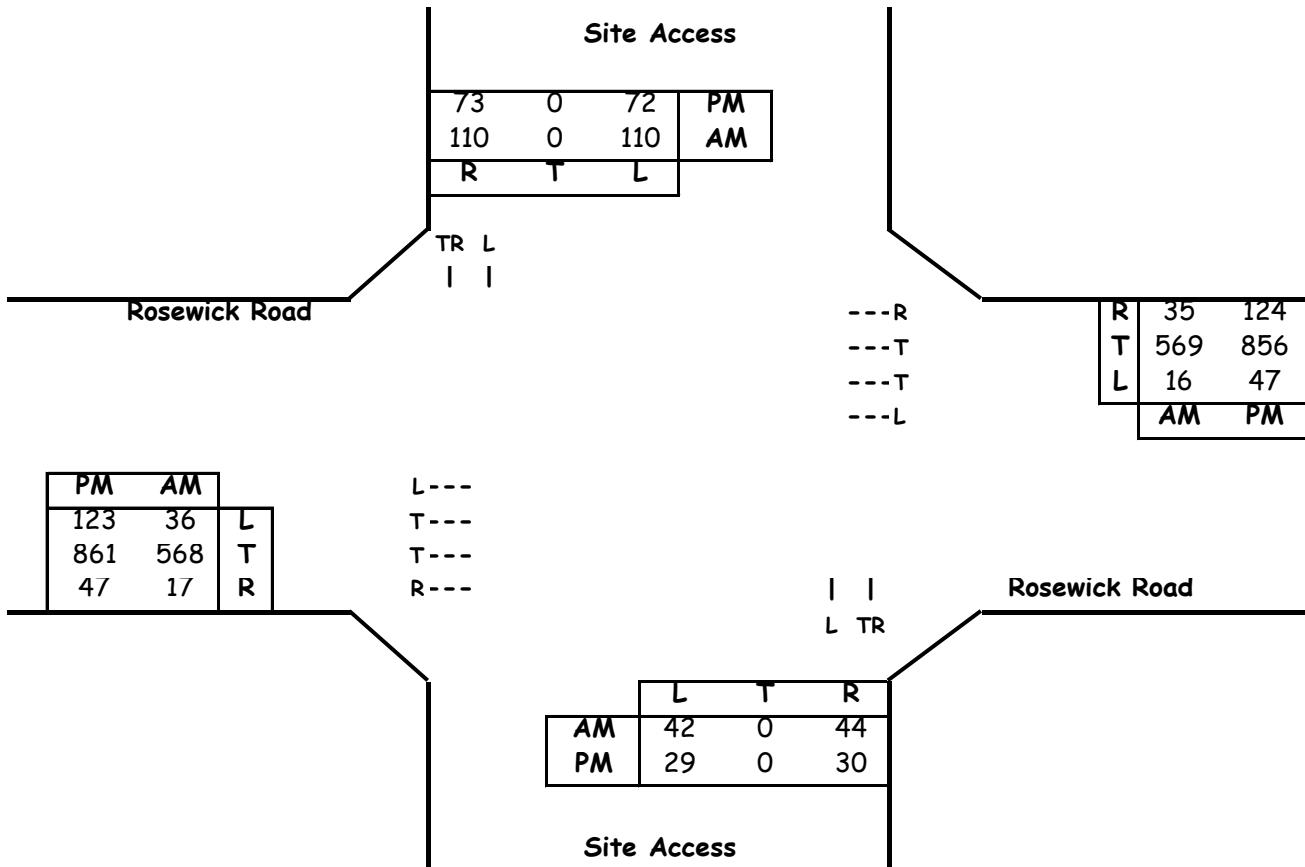
**Intersection
 20**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: Rosewick Road
Minor Street: Site Access
Study Period: Total Traffic

Analyst: Lenhart Traffic
Condition: Partial Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	44	1.00	44	110	1	110
SB	110	1.00	110	42	1	42
EB	568	0.55	312	16	1	16
WB	569	0.55	313	36	1	36
CLV TOTAL=						503
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	30	1.00	30	72	1	72
SB	73	1.00	73	29	1	29
EB	861	0.55	474	47	1	47
WB	856	0.55	471	123	1	123
CLV TOTAL=						696
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Rosewick Road &
 Site Access**
 (Total Traffic)

**Intersection
 22**

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Existing

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 						
Traffic Volume (vph)	150	41	0	1103	223	52	640
Future Volume (vph)	150	41	0	1103	223	52	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	45	0	1199	242	57	696
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	163	45	0	1199	242	57	696
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	9.2	82.7		54.1	82.7	6.9	65.5
Effective Green, g (s)	9.2	82.7		54.1	82.7	6.9	65.5
Actuated g/C Ratio	0.11	1.00		0.65	1.00	0.08	0.79
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	381	1583		2315	1583	147	2802
v/s Ratio Prot				c0.34		c0.03	0.20
v/s Ratio Perm	c0.05	0.03			0.15		
v/c Ratio	0.43	0.03		0.52	0.15	0.39	0.25
Uniform Delay, d1	34.3	0.0		7.5	0.0	35.9	2.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0		0.8	0.2	1.7	0.0
Delay (s)	35.1	0.0		8.3	0.2	37.6	2.3
Level of Service	D	A		A	A	D	A
Approach Delay (s)	27.5			7.0			4.9
Approach LOS	C			A			A
Intersection Summary							
HCM 2000 Control Delay			8.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.49				
Actuated Cycle Length (s)			82.7		Sum of lost time (s)		12.5
Intersection Capacity Utilization			49.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	216	37	210	167	57	24	166	168	43	129	14
Future Volume (vph)	10	216	37	210	167	57	24	166	168	43	129	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.64	1.00	1.00	0.45	1.00	1.00	0.67	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	1187	3539	1583	837	3539	1583	1244	1863	1583	1082	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	235	40	228	182	62	26	180	183	47	140	15
RTOR Reduction (vph)	0	0	32	0	0	41	0	0	120	0	0	10
Lane Group Flow (vph)	11	235	8	228	182	21	26	180	63	47	140	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	14.2	13.4	13.4	29.2	23.9	23.9	26.0	23.7	23.7	28.8	25.1	25.1
Effective Green, g (s)	14.2	13.4	13.4	29.2	23.9	23.9	26.0	23.7	23.7	28.8	25.1	25.1
Actuated g/C Ratio	0.21	0.19	0.19	0.42	0.35	0.35	0.38	0.34	0.34	0.42	0.36	0.36
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	686	306	506	1224	547	485	638	542	487	676	575
v/s Ratio Prot	0.00	0.07		c0.07	0.05		0.00	c0.10		c0.01	0.08	
v/s Ratio Perm	0.01		0.00	c0.12		0.01	0.02		0.04	0.03		0.00
v/c Ratio	0.04	0.34	0.03	0.45	0.15	0.04	0.05	0.28	0.12	0.10	0.21	0.01
Uniform Delay, d1	21.9	24.0	22.6	13.4	15.6	15.0	13.6	16.5	15.5	12.1	15.1	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.0	0.6	0.1	0.0	0.0	1.1	0.4	0.1	0.2	0.0
Delay (s)	22.0	24.3	22.6	14.1	15.6	15.0	13.7	17.6	16.0	12.2	15.3	14.1
Level of Service	C	C	C	B	B	B	B	B	B	B	B	B
Approach Delay (s)		24.0			14.8			16.6			14.5	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			44.3%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	20	127	85	38	42	95	1062	108	84	607	8
Future Volume (vph)	66	20	127	85	38	42	95	1062	108	84	607	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	22	138	92	41	46	103	1154	117	91	660	9
RTOR Reduction (vph)	0	0	126	0	0	42	0	0	44	0	0	3
Lane Group Flow (vph)	0	94	12	65	68	4	103	1154	73	91	660	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		12.1	12.1	10.8	10.8	10.8	12.7	86.4	86.4	12.1	85.8	85.8
Effective Green, g (s)		12.1	12.1	10.8	10.8	10.8	12.7	86.4	86.4	12.1	85.8	85.8
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.09	0.62	0.62	0.09	0.62	0.62
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		155	137	130	134	122	161	2193	981	153	2178	974
v/s Ratio Prot		c0.05		0.04	c0.04		c0.06	c0.33		0.05	0.19	
v/s Ratio Perm			0.01			0.00			0.05			0.00
v/c Ratio		0.61	0.09	0.50	0.51	0.03	0.64	0.53	0.07	0.59	0.30	0.01
Uniform Delay, d1		61.4	58.6	61.7	61.7	59.5	61.1	15.0	10.6	61.3	12.7	10.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		6.6	0.3	3.0	3.0	0.1	8.1	0.9	0.1	6.1	0.4	0.0
Delay (s)		67.9	58.8	64.7	64.8	59.6	69.2	15.9	10.7	67.4	13.0	10.4
Level of Service		E	E	E	E	E	E	B	B	E	B	B
Approach Delay (s)		62.5			63.4			19.4			19.5	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			26.5									
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			139.4									
Intersection Capacity Utilization			56.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	100	0	0	0	108	317	0	0	236	94
Future Volume (Veh/h)	68	0	100	0	0	0	108	317	0	0	236	94
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	0	109	0	0	0	117	345	0	0	257	102
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	836	836	257	945	938	345	359			345		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	836	836	257	945	938	345	359			345		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	100	86	100	100	100	90			100		
cM capacity (veh/h)	265	274	782	193	239	698	1200			1214		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	74	0	109	0	462	257	102					
Volume Left	74	0	0	0	117	0	0					
Volume Right	0	0	109	0	0	0	102					
cSH	265	1700	782	1700	1200	1214	1700					
Volume to Capacity	0.28	0.00	0.14	0.00	0.10	0.00	0.06					
Queue Length 95th (ft)	28	0	12	0	8	0	0					
Control Delay (s)	23.7	0.0	10.4	0.0	2.9	0.0	0.0					
Lane LOS	C	A	B	A	A							
Approach Delay (s)	15.8			0.0	2.9	0.0						
Approach LOS	C			A								
Intersection Summary												
Average Delay	4.2											
Intersection Capacity Utilization	48.8%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	26	225	43	113	11	275	1209	31	6	595	131
Future Volume (vph)	213	26	225	43	113	11	275	1209	31	6	595	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1838		3433	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	620	1863	1583	1377	1838		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	232	28	245	47	123	12	299	1314	34	7	647	142
RTOR Reduction (vph)	0	0	191	0	3	0	0	0	14	0	0	71
Lane Group Flow (vph)	232	28	54	47	132	0	299	1314	20	7	647	71
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	42.7	31.4	31.4	22.7	15.9		14.8	85.0	85.0	1.4	71.6	71.6
Effective Green, g (s)	42.7	31.4	31.4	22.7	15.9		14.8	85.0	85.0	1.4	71.6	71.6
Actuated g/C Ratio	0.30	0.22	0.22	0.16	0.11		0.10	0.60	0.60	0.01	0.50	0.50
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	365	410	348	237	204		356	2109	943	17	1776	794
v/s Ratio Prot	c0.10	0.02		0.01	0.07		c0.09	c0.37		0.00	0.18	
v/s Ratio Perm	c0.09		0.03	0.02					0.01			0.05
v/c Ratio	0.64	0.07	0.16	0.20	0.65		0.84	0.62	0.02	0.41	0.36	0.09
Uniform Delay, d1	40.7	44.0	44.9	51.8	60.7		62.7	18.5	11.8	70.2	21.6	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.1	0.2	0.4	6.9		15.8	1.4	0.0	15.4	0.6	0.2
Delay (s)	44.3	44.1	45.1	52.2	67.6		78.6	19.9	11.8	85.6	22.2	18.7
Level of Service	D	D	D	D	E		E	B	B	F	C	B
Approach Delay (s)		44.7			63.6			30.4			22.1	
Approach LOS		D			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			142.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	150	139	100	173	235	119	970	184	179	485	172
Future Volume (vph)	308	150	139	100	173	235	119	970	184	179	485	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	335	163	151	109	188	255	129	1054	200	195	527	187
RTOR Reduction (vph)	0	0	124	0	0	219	0	0	118	0	0	105
Lane Group Flow (vph)	245	253	27	98	199	36	129	1054	82	195	527	82
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	25.1	25.1	25.1	19.7	19.7	19.7	15.5	56.9	56.9	19.2	60.6	60.6
Effective Green, g (s)	25.1	25.1	25.1	19.7	19.7	19.7	15.5	56.9	56.9	19.2	60.6	60.6
Actuated g/C Ratio	0.18	0.18	0.18	0.14	0.14	0.14	0.11	0.41	0.41	0.14	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	303	314	286	238	250	224	197	1449	648	244	1544	690
v/s Ratio Prot	c0.15	0.15		0.06	c0.11		0.07	c0.30		c0.11	c0.15	
v/s Ratio Perm			0.02			0.02			0.05			0.05
v/c Ratio	0.81	0.81	0.10	0.41	0.80	0.16	0.65	0.73	0.13	0.80	0.34	0.12
Uniform Delay, d1	54.6	54.6	47.4	54.3	57.7	52.3	59.1	34.5	25.5	58.0	25.9	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.6	13.9	0.1	1.2	15.9	0.3	7.6	3.2	0.4	16.5	0.6	0.3
Delay (s)	69.2	68.5	47.6	55.5	73.6	52.7	66.7	37.7	25.9	74.5	26.5	23.6
Level of Service	E	E	D	E	E	D	E	D	C	E	C	C
Approach Delay (s)		63.9			60.7			38.7			36.2	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			46.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			138.9				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			73.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

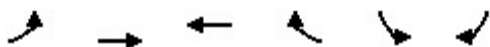
Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	420	4	1	533	389	5	1	0	146	0	64
Future Volume (vph)	113	420	4	1	533	389	5	1	0	146	0	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.97	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1788			1726	
Flt Permitted	0.16	1.00		0.43	1.00	1.00		0.87			0.79	
Satd. Flow (perm)	296	1860		797	1863	1583		1621			1410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	457	4	1	579	423	5	1	0	159	0	70
RTOR Reduction (vph)	0	1	0	0	0	254	0	0	0	0	58	0
Lane Group Flow (vph)	123	460	0	1	579	169	0	6	0	0	171	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	57.6	52.2		44.3	43.4	43.4		41.9			41.9	
Effective Green, g (s)	57.6	52.2		44.3	43.4	43.4		41.9			41.9	
Actuated g/C Ratio	0.53	0.48		0.41	0.40	0.40		0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	288	894		333	745	633		625			544	
v/s Ratio Prot	c0.04	c0.25		0.00	c0.31			0.00			c0.12	
v/s Ratio Perm	0.19			0.00		0.11		0.00				
v/c Ratio	0.43	0.52		0.00	0.78	0.27		0.01			0.31	
Uniform Delay, d1	18.0	19.4		19.2	28.3	21.9		20.5			23.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.0	0.5		0.0	5.1	0.2		0.0			1.5	
Delay (s)	19.0	19.9		19.2	33.5	22.1		20.5			24.8	
Level of Service	B	B		B	C	C		C			C	
Approach Delay (s)		19.7			28.7			20.5			24.8	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	25.3			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	108.5			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	57.8%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	638	942	47	20	13
Future Volume (Veh/h)	39	638	942	47	20	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	693	1024	51	22	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.83	
vC, conflicting volume	1075				1826	1050
vC1, stage 1 conf vol					1050	
vC2, stage 2 conf vol					777	
vCu, unblocked vol	1075				1892	1050
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				92	95
cM capacity (veh/h)	649				260	276
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	42	693	1075	22	14	
Volume Left	42	0	0	22	0	
Volume Right	0	0	51	0	14	
cSH	649	1700	1700	260	276	
Volume to Capacity	0.06	0.41	0.63	0.08	0.05	
Queue Length 95th (ft)	5	0	0	7	4	
Control Delay (s)	10.9	0.0	0.0	20.2	18.7	
Lane LOS	B			C	C	
Approach Delay (s)	0.6		0.0	19.6		
Approach LOS				C		
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			62.4%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	470	31	107	923	16	29	0	79	5	0	4
Future Volume (Veh/h)	14	470	31	107	923	16	29	0	79	5	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	511	34	116	1003	17	32	0	86	5	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1020			545			1797	1810	528	1819	1810	1003
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1020			545			1797	1810	528	1819	1810	1003
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			89			42	100	84	89	100	99
cM capacity (veh/h)	680			1024			55	68	550	45	68	294
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	15	545	116	1003	17	118	5	4				
Volume Left	15	0	116	0	0	32	5	0				
Volume Right	0	34	0	0	17	86	0	4				
cSH	680	1700	1024	1700	1700	203	45	294				
Volume to Capacity	0.02	0.32	0.11	0.59	0.01	0.58	0.11	0.01				
Queue Length 95th (ft)	2	0	10	0	0	80	9	1				
Control Delay (s)	10.4	0.0	9.0	0.0	0.0	46.5	93.8	17.4				
Lane LOS	B		A			E	F	C				
Approach Delay (s)	0.3		0.9			46.5	59.9					
Approach LOS						E	F					
Intersection Summary												
Average Delay				4.0								
Intersection Capacity Utilization				70.2%	ICU Level of Service				C			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	146	42	14	431	196	40	26	3	75	48	512
Future Volume (vph)	340	146	42	14	431	196	40	26	3	75	48	512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1800			1860	1583	1770	1836			1807	1583
Flt Permitted	0.16	1.00			0.99	1.00	0.95	1.00			0.97	1.00
Satd. Flow (perm)	290	1800			1842	1583	1770	1836			1807	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	159	46	15	468	213	43	28	3	82	52	557
RTOR Reduction (vph)	0	11	0	0	0	126	0	3	0	0	0	150
Lane Group Flow (vph)	370	194	0	0	483	87	43	28	0	0	134	407
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	58.0	58.0			28.2	28.2	6.6	6.6			10.8	36.1
Effective Green, g (s)	58.0	58.0			28.2	28.2	6.6	6.6			10.8	36.1
Actuated g/C Ratio	0.65	0.65			0.32	0.32	0.07	0.07			0.12	0.41
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	610	1174			584	502	131	136			219	722
v/s Ratio Prot	0.17	0.11					c0.02	0.02			0.07	c0.16
v/s Ratio Perm	0.22				c0.26	0.06						0.10
v/c Ratio	0.61	0.16			0.83	0.17	0.33	0.21			0.61	0.56
Uniform Delay, d1	14.5	6.0			28.1	21.9	39.0	38.7			37.1	20.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.7	0.1			9.4	0.2	1.5	0.8			5.0	1.0
Delay (s)	16.2	6.1			37.5	22.1	40.5	39.5			42.0	21.4
Level of Service	B	A			D	C	D	D			D	C
Approach Delay (s)		12.6			32.8			40.1			25.4	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			24.8									
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			88.9									
Intersection Capacity Utilization			70.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
AM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	20	53	20	5	46
Future Volume (Veh/h)	8	20	53	20	5	46
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	22	58	22	5	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	129	69			80	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	129	69			80	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			100	
cM capacity (veh/h)	862	994			1518	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	31	80	55			
Volume Left	9	0	5			
Volume Right	22	22	0			
cSH	952	1700	1518			
Volume to Capacity	0.03	0.05	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	8.9	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			16.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	47	21	0	55
Future Volume (Veh/h)	0	0	47	21	0	55
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	51	23	0	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	122	62			74	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122	62			74	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	873	1002			1526	
Direction, Lane #	NB 1	SB 1				
Volume Total	74	60				
Volume Left	0	0				
Volume Right	23	0				
cSH	1700	1700				
Volume to Capacity	0.04	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Existing



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	263	160	185	297	134	259
Future Volume (vph)	0	263	160	185	297	134	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	286	174	201	323	146	282
RTOR Reduction (vph)	0	0	145	0	0	0	156
Lane Group Flow (vph)	0	286	29	201	323	146	126
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		11.1	11.1	12.6	28.2	29.3	29.3
Effective Green, g (s)		11.1	11.1	12.6	28.2	29.3	29.3
Actuated g/C Ratio		0.17	0.17	0.19	0.43	0.45	0.45
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		599	268	340	1523	791	708
v/s Ratio Prot		c0.08		c0.11	0.09	c0.08	
v/s Ratio Perm			0.02				0.08
v/c Ratio		0.48	0.11	0.59	0.21	0.18	0.18
Uniform Delay, d1		24.6	23.0	24.1	11.7	10.9	10.9
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.6	0.2	2.7	0.1	0.5	0.6
Delay (s)		25.2	23.2	26.8	11.8	11.4	11.4
Level of Service		C	C	C	B	B	B
Approach Delay (s)		24.4			17.5	11.4	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			17.9		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.34				
Actuated Cycle Length (s)			65.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			34.9%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	27	78	402	250	32
Future Volume (Veh/h)	29	27	78	402	250	32
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	29	85	437	272	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	879	272	307			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	879	272	307			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	96	93			
cM capacity (veh/h)	296	767	1254			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	61	85	437	272	35	
Volume Left	32	85	0	0	0	
Volume Right	29	0	0	0	35	
cSH	419	1254	1700	1700	1700	
Volume to Capacity	0.15	0.07	0.26	0.16	0.02	
Queue Length 95th (ft)	13	5	0	0	0	
Control Delay (s)	15.1	8.1	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	15.1	1.3		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			31.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

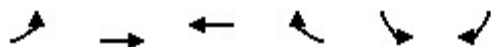
Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	132	14	9	547	232	36
Future Volume (Veh/h)	132	14	9	547	232	36
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	143	15	10	595	252	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	867	252	291			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867	252	291			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	55	98	99			
cM capacity (veh/h)	321	787	1271			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	143	15	10	595	252	39
Volume Left	143	0	10	0	0	0
Volume Right	0	15	0	0	0	39
cSH	321	787	1271	1700	1700	1700
Volume to Capacity	0.45	0.02	0.01	0.35	0.15	0.02
Queue Length 95th (ft)	55	1	1	0	0	0
Control Delay (s)	24.9	9.7	7.9	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	23.5	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			42.8%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	352	247	376	203	22	224
Future Volume (Veh/h)	352	247	376	203	22	224
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	383	268	409	221	24	243
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	630				1554	520
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630				1554	520
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	60				68	56
cM capacity (veh/h)	952				74	556
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	383	268	630	267		
Volume Left	383	0	0	24		
Volume Right	0	0	221	243		
cSH	952	1700	1700	611		
Volume to Capacity	0.40	0.16	0.37	0.44		
Queue Length 95th (ft)	49	0	0	55		
Control Delay (s)	11.3	0.0	0.0	21.6		
Lane LOS	B			C		
Approach Delay (s)	6.6		0.0	21.6		
Approach LOS				C		
Intersection Summary						
Average Delay			6.5			
Intersection Capacity Utilization			65.0%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	47	38	592	586	12
Future Volume (Veh/h)	17	47	38	592	586	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	51	41	643	637	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1362	637	650			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1362	637	650			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	89	96			
cM capacity (veh/h)	156	477	936			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	69	41	643	637	13	
Volume Left	18	41	0	0	0	
Volume Right	51	0	0	0	13	
cSH	310	936	1700	1700	1700	
Volume to Capacity	0.22	0.04	0.38	0.37	0.01	
Queue Length 95th (ft)	21	3	0	0	0	
Control Delay (s)	19.9	9.0	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.9	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			42.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Background - Partial Build

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	193	110	0	1485	267	112	802
Future Volume (vph)	193	110	0	1485	267	112	802
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	210	120	0	1614	290	122	872
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	210	120	0	1614	290	122	872
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	10.6	85.6		51.2	85.6	11.3	67.0
Effective Green, g (s)	10.6	85.6		51.2	85.6	11.3	67.0
Actuated g/C Ratio	0.12	1.00		0.60	1.00	0.13	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	425	1583		2116	1583	233	2770
v/s Ratio Prot				c0.46		c0.07	0.25
v/s Ratio Perm	c0.06	0.08			0.18		
v/c Ratio	0.49	0.08		0.76	0.18	0.52	0.31
Uniform Delay, d1	35.0	0.0		12.7	0.0	34.6	2.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1		2.7	0.3	2.1	0.1
Delay (s)	35.9	0.1		15.4	0.3	36.8	2.7
Level of Service	D	A		B	A	D	A
Approach Delay (s)	22.9			13.1			6.9
Approach LOS	C			B			A
Intersection Summary							
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.69				
Actuated Cycle Length (s)			85.6		Sum of lost time (s)		12.5
Intersection Capacity Utilization			63.2%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	18	270	85	236	224	62	67	176	191	48	139	21
Future Volume (vph)	18	270	85	236	224	62	67	176	191	48	139	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.60	1.00	1.00	0.40	1.00	1.00	0.63	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1119	3539	1583	751	3539	1583	1182	1863	1583	1125	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	293	92	257	243	67	73	191	208	52	151	23
RTOR Reduction (vph)	0	0	73	0	0	42	0	0	140	0	0	16
Lane Group Flow (vph)	20	293	19	257	243	25	73	191	68	52	151	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	15.7	14.9	14.9	31.5	26.2	26.2	27.3	23.0	23.0	26.3	22.5	22.5
Effective Green, g (s)	15.7	14.9	14.9	31.5	26.2	26.2	27.3	23.0	23.0	26.3	22.5	22.5
Actuated g/C Ratio	0.22	0.21	0.21	0.44	0.37	0.37	0.39	0.32	0.32	0.37	0.32	0.32
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	744	333	508	1309	585	491	605	514	452	592	503
v/s Ratio Prot	0.00	0.08		c0.09	0.07		c0.01	c0.10		0.01	0.08	
v/s Ratio Perm	0.02		0.01	c0.14		0.02	0.05		0.04	0.04		0.00
v/c Ratio	0.08	0.39	0.06	0.51	0.19	0.04	0.15	0.32	0.13	0.12	0.26	0.01
Uniform Delay, d1	21.7	24.1	22.3	13.1	15.1	14.3	13.9	18.0	16.9	14.4	17.9	16.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.1	0.8	0.1	0.0	0.1	1.4	0.5	0.1	0.2	0.0
Delay (s)	21.8	24.4	22.4	13.9	15.2	14.3	14.1	19.3	17.4	14.5	18.2	16.6
Level of Service	C	C	C	B	B	B	B	B	B	B	B	B
Approach Delay (s)		23.8			14.5			17.7			17.2	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			70.8			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			47.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	21	133	89	40	45	100	1474	115	89	801	8
Future Volume (vph)	69	21	133	89	40	45	100	1474	115	89	801	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	23	145	97	43	49	109	1602	125	97	871	9
RTOR Reduction (vph)	0	0	132	0	0	45	0	0	35	0	0	3
Lane Group Flow (vph)	0	98	13	69	71	4	109	1602	90	97	871	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		12.4	12.4	11.0	11.0	11.0	12.9	86.3	86.3	12.4	85.8	85.8
Effective Green, g (s)		12.4	12.4	11.0	11.0	11.0	12.9	86.3	86.3	12.4	85.8	85.8
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.09	0.62	0.62	0.09	0.61	0.61
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		158	140	131	136	124	162	2179	975	156	2167	969
v/s Ratio Prot		c0.05		c0.04	0.04		c0.06	c0.45		0.05	0.25	
v/s Ratio Perm			0.01			0.00			0.06			0.00
v/c Ratio		0.62	0.09	0.53	0.52	0.03	0.67	0.74	0.09	0.62	0.40	0.01
Uniform Delay, d1		61.6	58.7	62.0	62.0	59.6	61.6	18.9	11.0	61.6	14.0	10.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.4	0.3	3.8	3.6	0.1	10.5	2.3	0.2	7.5	0.6	0.0
Delay (s)		68.9	59.0	65.8	65.6	59.7	72.1	21.1	11.1	69.1	14.5	10.6
Level of Service		E	E	E	E	E	E	C	B	E	B	B
Approach Delay (s)		63.0			64.2			23.5			19.9	
Approach LOS		E			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			27.7									
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			140.1									
Intersection Capacity Utilization			68.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Background - Partial Build

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Volume (veh/h)	71	2	105	1	1	2	114	389	1	4	308	99							
Future Volume (Veh/h)	71	2	105	1	1	2	114	389	1	4	308	99							
Sign Control	Stop			Stop			Free			Free									
Grade	0%			0%			0%			0%									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92							
Hourly flow rate (vph)	77	2	114	1	1	2	124	423	1	4	335	108							
Pedestrians																			
Lane Width (ft)																			
Walking Speed (ft/s)																			
Percent Blockage																			
Right turn flare (veh)																			
Median type							None			None									
Median storage veh																			
Upstream signal (ft)																			
pX, platoon unblocked																			
vC, conflicting volume	1017	1015	335	1130	1122	424	443				424								
vC1, stage 1 conf vol																			
vC2, stage 2 conf vol																			
vCu, unblocked vol	1017	1015	335	1130	1122	424	443				424								
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1								
tC, 2 stage (s)																			
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2								
p0 queue free %	61	99	84	99	99	100	89				100								
cM capacity (veh/h)	196	211	707	138	182	630	1117				1135								
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2												
Volume Total	77	2	114	4	548	339	108												
Volume Left	77	0	0	1	124	4	0												
Volume Right	0	0	114	2	1	0	108												
cSH	196	211	707	251	1117	1135	1700												
Volume to Capacity	0.39	0.01	0.16	0.02	0.11	0.00	0.06												
Queue Length 95th (ft)	44	1	14	1	9	0	0												
Control Delay (s)	34.8	22.2	11.1	19.6	2.9	0.1	0.0												
Lane LOS	D	C	B	C	A	A													
Approach Delay (s)	20.7			19.6	2.9	0.1													
Approach LOS	C			C															
Intersection Summary																			
Average Delay				4.8															
Intersection Capacity Utilization				63.9%	ICU Level of Service				B										
Analysis Period (min)				15															

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	27	236	45	119	12	289	1627	33	6	785	141
Future Volume (vph)	227	27	236	45	119	12	289	1627	33	6	785	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1837		3433	3539	1583	1770	3539	1583
Flt Permitted	0.32	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	591	1863	1583	1375	1837		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	29	257	49	129	13	314	1768	36	7	853	153
RTOR Reduction (vph)	0	0	198	0	3	0	0	0	15	0	0	77
Lane Group Flow (vph)	247	29	59	49	139	0	314	1768	21	7	853	76
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	44.3	32.9	32.9	23.3	16.4		15.0	85.1	85.1	1.4	71.5	71.5
Effective Green, g (s)	44.3	32.9	32.9	23.3	16.4		15.0	85.1	85.1	1.4	71.5	71.5
Actuated g/C Ratio	0.31	0.23	0.23	0.16	0.11		0.10	0.59	0.59	0.01	0.50	0.50
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	372	424	360	240	208		356	2087	933	17	1753	784
v/s Ratio Prot	c0.11	0.02		0.01	0.08		c0.09	c0.50		0.00	0.24	
v/s Ratio Perm	c0.10		0.04	0.02					0.01			0.05
v/c Ratio	0.66	0.07	0.16	0.20	0.67		0.88	0.85	0.02	0.41	0.49	0.10
Uniform Delay, d1	40.8	43.7	44.7	52.2	61.4		63.8	24.3	12.3	71.0	24.2	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.1	0.2	0.4	7.9		21.7	4.5	0.0	15.4	1.0	0.2
Delay (s)	45.2	43.8	44.9	52.6	69.3		85.5	28.8	12.4	86.4	25.2	19.5
Level of Service	D	D	D	D	E		F	C	B	F	C	B
Approach Delay (s)		45.0			65.0			36.9			24.7	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			36.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			144.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			83.7%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	158	146	105	182	247	125	1375	193	188	670	181
Future Volume (vph)	324	158	146	105	182	247	125	1375	193	188	670	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	172	159	114	198	268	136	1495	210	204	728	197
RTOR Reduction (vph)	0	0	130	0	0	227	0	0	126	0	0	113
Lane Group Flow (vph)	257	267	29	103	209	41	136	1495	84	204	728	84
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	26.2	26.2	26.2	20.4	20.4	20.4	16.2	56.8	56.8	19.9	60.5	60.5
Effective Green, g (s)	26.2	26.2	26.2	20.4	20.4	20.4	16.2	56.8	56.8	19.9	60.5	60.5
Actuated g/C Ratio	0.19	0.19	0.19	0.14	0.14	0.14	0.11	0.40	0.40	0.14	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	322	293	242	254	228	202	1422	636	249	1515	677
v/s Ratio Prot	0.15	c0.15		0.06	c0.12		0.08	c0.42		c0.12	c0.21	
v/s Ratio Perm			0.02			0.03			0.05			0.05
v/c Ratio	0.83	0.83	0.10	0.43	0.82	0.18	0.67	1.05	0.13	0.82	0.48	0.12
Uniform Delay, d1	55.4	55.4	47.8	55.1	58.7	53.1	60.0	42.3	26.7	59.0	29.1	24.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.2	16.0	0.2	1.2	18.9	0.4	8.5	38.6	0.4	18.6	1.1	0.4
Delay (s)	71.6	71.4	47.9	56.3	77.6	53.5	68.5	80.9	27.1	77.5	30.2	24.8
Level of Service	E	E	D	E	E	D	E	F	C	E	C	C
Approach Delay (s)		66.0			62.7			73.8			37.8	
Approach LOS		E			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			61.4				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			141.3				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			86.1%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

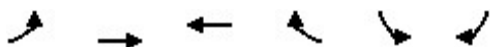
Heritage Green
AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	441	4	1	560	466	5	1	0	214	0	67
Future Volume (vph)	119	441	4	1	560	466	5	1	0	214	0	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.96	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1788			1737	
Flt Permitted	0.15	1.00		0.41	1.00	1.00		0.85			0.77	
Satd. Flow (perm)	275	1860		768	1863	1583		1592			1395	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	479	4	1	609	507	5	1	0	233	0	73
RTOR Reduction (vph)	0	1	0	0	0	297	0	0	0	0	59	0
Lane Group Flow (vph)	129	482	0	1	609	210	0	6	0	0	247	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	60.5	55.1		47.0	46.1	46.1		41.9			41.9	
Effective Green, g (s)	60.5	55.1		47.0	46.1	46.1		41.9			41.9	
Actuated g/C Ratio	0.54	0.49		0.42	0.41	0.41		0.38			0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	282	919		332	770	655		598			524	
v/s Ratio Prot	c0.04	c0.26		0.00	c0.33			0.00			c0.18	
v/s Ratio Perm	0.21			0.00		0.13		0.00				
v/c Ratio	0.46	0.53		0.00	0.79	0.32		0.01			0.47	
Uniform Delay, d1	18.5	19.2		18.9	28.5	22.1		21.8			26.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.2	0.5		0.0	5.6	0.3		0.0			3.0	
Delay (s)	19.7	19.8		18.9	34.0	22.3		21.8			29.4	
Level of Service	B	B		B	C	C		C			C	
Approach Delay (s)		19.7			28.7			21.8			29.4	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	26.1			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.62											
Actuated Cycle Length (s)	111.4			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	63.8%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Background - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	674	999	49	21	14
Future Volume (Veh/h)	41	674	999	49	21	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	733	1086	53	23	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.83	
vC, conflicting volume	1139				1936	1112
vC1, stage 1 conf vol					1112	
vC2, stage 2 conf vol					823	
vCu, unblocked vol	1139				2028	1112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				90	94
cM capacity (veh/h)	613				240	254
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	45	733	1139	23	15	
Volume Left	45	0	0	23	0	
Volume Right	0	0	53	0	15	
cSH	613	1700	1700	240	254	
Volume to Capacity	0.07	0.43	0.67	0.10	0.06	
Queue Length 95th (ft)	6	0	0	8	5	
Control Delay (s)	11.3	0.0	0.0	21.6	20.1	
Lane LOS	B			C	C	
Approach Delay (s)	0.7		0.0	21.0		
Approach LOS				C		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			65.5%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	497	33	112	979	17	30	0	83	5	0	4
Future Volume (Veh/h)	15	497	33	112	979	17	30	0	83	5	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	540	36	122	1064	18	33	0	90	5	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1082			576			1902	1916	558	1925	1916	1064
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1082			576			1902	1916	558	1925	1916	1064
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			88			28	100	83	87	100	99
cM capacity (veh/h)	645			997			46	58	529	37	58	271
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	16	576	122	1064	18	123	5	4				
Volume Left	16	0	122	0	0	33	5	0				
Volume Right	0	36	0	0	18	90	0	4				
cSH	645	1700	997	1700	1700	171	37	271				
Volume to Capacity	0.02	0.34	0.12	0.63	0.01	0.72	0.13	0.01				
Queue Length 95th (ft)	2	0	10	0	0	111	11	1				
Control Delay (s)	10.7	0.0	9.1	0.0	0.0	61.1	116.1	18.5				
Lane LOS	B		A			F	F	C				
Approach Delay (s)	0.3		0.9			61.1	72.7					
Approach LOS						F	F					
Intersection Summary												
Average Delay				4.9								
Intersection Capacity Utilization				73.2%	ICU Level of Service				D			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

AM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	153	44	15	453	214	42	27	3	94	50	547
Future Volume (vph)	360	153	44	15	453	214	42	27	3	94	50	547
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1800			1860	1583	1770	1837			1804	1583
Flt Permitted	0.14	1.00			0.99	1.00	0.95	1.00			0.97	1.00
Satd. Flow (perm)	260	1800			1840	1583	1770	1837			1804	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	166	48	16	492	233	46	29	3	102	54	595
RTOR Reduction (vph)	0	11	0	0	0	129	0	3	0	0	0	137
Lane Group Flow (vph)	391	203	0	0	508	104	46	29	0	0	156	458
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	61.7	61.7			30.5	30.5	6.5	6.5			11.7	38.4
Effective Green, g (s)	61.7	61.7			30.5	30.5	6.5	6.5			11.7	38.4
Actuated g/C Ratio	0.66	0.66			0.33	0.33	0.07	0.07			0.13	0.41
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	603	1189			600	516	123	127			225	727
v/s Ratio Prot	0.19	0.11					c0.03	0.02			0.09	c0.18
v/s Ratio Perm	0.24				c0.28	0.07						0.11
v/c Ratio	0.65	0.17			0.85	0.20	0.37	0.23			0.69	0.63
Uniform Delay, d1	17.5	6.1			29.3	22.7	41.5	41.1			39.1	21.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.4	0.1			10.7	0.2	1.9	0.9			8.9	1.8
Delay (s)	19.9	6.1			39.9	22.9	43.4	42.0			48.0	23.6
Level of Service	B	A			D	C	D	D			D	C
Approach Delay (s)		15.0			34.6			42.8			28.7	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			27.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			93.4				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			74.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Kent Ave & Caroline Dr

Heritage Green
AM Background - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	21	56	21	5	48
Future Volume (Veh/h)	8	21	56	21	5	48
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	23	61	23	5	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	134	72			84	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134	72			84	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			100	
cM capacity (veh/h)	856	990			1513	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	32	84	57			
Volume Left	9	0	5			
Volume Right	23	23	0			
cSH	948	1700	1513			
Volume to Capacity	0.03	0.05	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	8.9	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		16.7%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Background - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	49	22	0	58
Future Volume (Veh/h)	0	0	49	22	0	58
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	53	24	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	128	65			77	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	128	65			77	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	866	999			1522	
Direction, Lane #	NB 1	SB 1				
Volume Total	77	63				
Volume Left	0	0				
Volume Right	24	0				
cSH	1700	1700				
Volume to Capacity	0.05	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Background - Partial Build



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↓	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (vph)	0	297	173	195	333	152	274
Future Volume (vph)	0	297	173	195	333	152	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	323	188	212	362	165	298
RTOR Reduction (vph)	0	0	154	0	0	0	166
Lane Group Flow (vph)	0	323	34	212	362	165	132
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		12.2	12.2	13.4	30.1	30.3	30.3
Effective Green, g (s)		12.2	12.2	13.4	30.1	30.3	30.3
Actuated g/C Ratio		0.18	0.18	0.20	0.44	0.44	0.44
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		631	282	346	1557	784	701
v/s Ratio Prot		c0.09		c0.12	0.10	c0.09	
v/s Ratio Perm			0.02				0.08
v/c Ratio		0.51	0.12	0.61	0.23	0.21	0.19
Uniform Delay, d1		25.4	23.6	25.1	11.9	11.7	11.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7	0.2	3.2	0.1	0.6	0.6
Delay (s)		26.1	23.8	28.3	12.0	12.3	12.2
Level of Service		C	C	C	B	B	B
Approach Delay (s)		25.3			18.0	12.2	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			18.7		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.37				
Actuated Cycle Length (s)			68.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			37.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	28	82	436	269	34
Future Volume (Veh/h)	30	28	82	436	269	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	30	89	474	292	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	944	292	329			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	944	292	329			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	96	93			
cM capacity (veh/h)	270	747	1231			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	63	89	474	292	37	
Volume Left	33	89	0	0	0	
Volume Right	30	0	0	0	37	
cSH	388	1231	1700	1700	1700	
Volume to Capacity	0.16	0.07	0.28	0.17	0.02	
Queue Length 95th (ft)	14	6	0	0	0	
Control Delay (s)	16.1	8.2	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	16.1	1.3		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			33.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

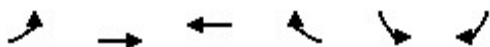
Heritage Green
AM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	139	15	9	588	250	38
Future Volume (Veh/h)	139	15	9	588	250	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	151	16	10	639	272	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	931	272	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	272	313			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	49	98	99			
cM capacity (veh/h)	294	767	1247			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	151	16	10	639	272	41
Volume Left	151	0	10	0	0	0
Volume Right	0	16	0	0	0	41
cSH	294	767	1247	1700	1700	1700
Volume to Capacity	0.51	0.02	0.01	0.38	0.16	0.02
Queue Length 95th (ft)	69	2	1	0	0	0
Control Delay (s)	29.5	9.8	7.9	0.0	0.0	0.0
Lane LOS	D	A	A			
Approach Delay (s)	27.6	0.1		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			45.3%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Background - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	383	277	401	213	23	241
Future Volume (Veh/h)	383	277	401	213	23	241
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	416	301	436	232	25	262
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	668				1685	552
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	668				1685	552
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	55				56	51
cM capacity (veh/h)	922				57	533
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	416	301	668	287		
Volume Left	416	0	0	25		
Volume Right	0	0	232	262		
cSH	922	1700	1700	584		
Volume to Capacity	0.45	0.18	0.39	0.49		
Queue Length 95th (ft)	59	0	0	68		
Control Delay (s)	12.1	0.0	0.0	26.2		
Lane LOS	B			D		
Approach Delay (s)	7.0		0.0	26.2		
Approach LOS				D		
Intersection Summary						
Average Delay			7.5			
Intersection Capacity Utilization			68.6%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: MD 488 & Agricopia Dr

Heritage Green
AM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	49	40	633	640	13
Future Volume (Veh/h)	18	49	40	633	640	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	53	43	688	696	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1470	696	710			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1470	696	710			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	88	95			
cM capacity (veh/h)	133	442	889			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	73	43	688	696	14	
Volume Left	20	43	0	0	0	
Volume Right	53	0	0	0	14	
cSH	270	889	1700	1700	1700	
Volume to Capacity	0.27	0.05	0.40	0.41	0.01	
Queue Length 95th (ft)	27	4	0	0	0	
Control Delay (s)	23.2	9.3	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	23.2	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			44.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Total - Partial Build

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 						
Traffic Volume (vph)	221	152	0	1508	278	157	810
Future Volume (vph)	221	152	0	1508	278	157	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	165	0	1639	302	171	880
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	165	0	1639	302	171	880
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	11.6	89.3		51.3	89.3	13.9	69.7
Effective Green, g (s)	11.6	89.3		51.3	89.3	13.9	69.7
Actuated g/C Ratio	0.13	1.00		0.57	1.00	0.16	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	445	1583		2033	1583	275	2762
v/s Ratio Prot				c0.46		c0.10	0.25
v/s Ratio Perm	c0.07	0.10			0.19		
v/c Ratio	0.54	0.10		0.81	0.19	0.62	0.32
Uniform Delay, d1	36.4	0.0		15.1	0.0	35.2	2.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1		3.5	0.3	4.3	0.1
Delay (s)	37.6	0.1		18.6	0.3	39.6	2.9
Level of Service	D	A		B	A	D	A
Approach Delay (s)	22.3			15.7			8.9
Approach LOS	C			B			A
Intersection Summary							
HCM 2000 Control Delay			14.4		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.73				
Actuated Cycle Length (s)			89.3		Sum of lost time (s)		12.5
Intersection Capacity Utilization			67.1%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	18	326	85	247	294	188	67	195	195	65	145	21
Future Volume (vph)	18	326	85	247	294	188	67	195	195	65	145	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.56	1.00	1.00	0.34	1.00	1.00	0.62	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	1039	3539	1583	643	3539	1583	1148	1863	1583	1048	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	354	92	268	320	204	73	212	212	71	158	23
RTOR Reduction (vph)	0	0	73	0	0	131	0	0	146	0	0	16
Lane Group Flow (vph)	20	354	19	268	320	73	73	212	66	71	158	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	17.2	15.4	15.4	32.7	26.4	26.4	28.6	22.8	22.8	27.6	22.3	22.3
Effective Green, g (s)	17.2	15.4	15.4	32.7	26.4	26.4	28.6	22.8	22.8	27.6	22.3	22.3
Actuated g/C Ratio	0.23	0.21	0.21	0.45	0.36	0.36	0.39	0.31	0.31	0.38	0.30	0.30
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	261	743	332	483	1274	570	497	579	492	446	566	481
v/s Ratio Prot	0.00	0.10		c0.10	0.09		c0.01	c0.11		0.01	0.08	
v/s Ratio Perm	0.02		0.01	c0.15		0.05	0.05		0.04	0.05		0.00
v/c Ratio	0.08	0.48	0.06	0.55	0.25	0.13	0.15	0.37	0.13	0.16	0.28	0.01
Uniform Delay, d1	21.7	25.4	23.2	13.7	16.5	15.7	14.2	19.6	18.2	14.9	19.4	17.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.5	0.1	1.4	0.1	0.1	0.1	1.8	0.6	0.2	0.3	0.0
Delay (s)	21.8	25.9	23.2	15.1	16.6	15.8	14.4	21.4	18.7	15.0	19.7	17.8
Level of Service	C	C	C	B	B	B	B	C	B	B	B	B
Approach Delay (s)		25.2			15.9			19.2			18.2	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			19.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			73.3			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			50.9%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	21	133	89	40	45	100	1508	115	89	837	8
Future Volume (vph)	69	21	133	89	40	45	100	1508	115	89	837	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	23	145	97	43	49	109	1639	125	97	910	9
RTOR Reduction (vph)	0	0	132	0	0	45	0	0	34	0	0	3
Lane Group Flow (vph)	0	98	13	69	71	4	109	1639	91	97	910	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		12.4	12.4	11.0	11.0	11.0	12.9	86.3	86.3	12.4	85.8	85.8
Effective Green, g (s)		12.4	12.4	11.0	11.0	11.0	12.9	86.3	86.3	12.4	85.8	85.8
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.09	0.62	0.62	0.09	0.61	0.61
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		158	140	131	136	124	162	2179	975	156	2167	969
v/s Ratio Prot		c0.05		c0.04	0.04		c0.06	c0.46		0.05	0.26	
v/s Ratio Perm			0.01			0.00			0.06			0.00
v/c Ratio		0.62	0.09	0.53	0.52	0.03	0.67	0.75	0.09	0.62	0.42	0.01
Uniform Delay, d1		61.6	58.7	62.0	62.0	59.6	61.6	19.2	11.0	61.6	14.2	10.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.4	0.3	3.8	3.6	0.1	10.5	2.5	0.2	7.5	0.6	0.0
Delay (s)		68.9	59.0	65.8	65.6	59.7	72.1	21.7	11.1	69.1	14.8	10.6
Level of Service		E	E	E	E	E	E	C	B	E	B	B
Approach Delay (s)		63.0			64.2			23.9			19.9	
Approach LOS		E			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			27.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			140.1				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			69.5%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Total - Partial Build

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Volume (veh/h)	71	2	105	1	1	2	114	412	1	4	325	99							
Future Volume (Veh/h)	71	2	105	1	1	2	114	412	1	4	325	99							
Sign Control	Stop			Stop			Free			Free									
Grade	0%			0%			0%			0%									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92							
Hourly flow rate (vph)	77	2	114	1	1	2	124	448	1	4	353	108							
Pedestrians																			
Lane Width (ft)																			
Walking Speed (ft/s)																			
Percent Blockage																			
Right turn flare (veh)																			
Median type							None			None									
Median storage (veh)																			
Upstream signal (ft)																			
pX, platoon unblocked																			
vC, conflicting volume	1060	1058	353	1172	1166	448	461				449								
vC1, stage 1 conf vol																			
vC2, stage 2 conf vol																			
vCu, unblocked vol	1060	1058	353	1172	1166	448	461				449								
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1								
tC, 2 stage (s)																			
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2								
p0 queue free %	58	99	83	99	99	100	89				100								
cM capacity (veh/h)	183	199	691	128	172	610	1100				1111								
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2												
Volume Total	77	2	114	4	573	357	108												
Volume Left	77	0	0	1	124	4	0												
Volume Right	0	0	114	2	1	0	108												
cSH	183	199	691	236	1100	1111	1700												
Volume to Capacity	0.42	0.01	0.17	0.02	0.11	0.00	0.06												
Queue Length 95th (ft)	48	1	15	1	9	0	0												
Control Delay (s)	38.4	23.3	11.2	20.5	2.9	0.1	0.0												
Lane LOS	E	C	B	C	A	A													
Approach Delay (s)	22.2			20.5	2.9	0.1													
Approach LOS	C			C															
Intersection Summary																			
Average Delay				4.9															
Intersection Capacity Utilization				66.0%	ICU Level of Service				C										
Analysis Period (min)				15															

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	27	236	45	119	12	289	1661	33	6	821	141
Future Volume (vph)	227	27	236	45	119	12	289	1661	33	6	821	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1837		3433	3539	1583	1770	3539	1583
Flt Permitted	0.32	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	591	1863	1583	1375	1837		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	29	257	49	129	13	314	1805	36	7	892	153
RTOR Reduction (vph)	0	0	198	0	3	0	0	0	15	0	0	77
Lane Group Flow (vph)	247	29	59	49	139	0	314	1805	21	7	892	76
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	44.3	32.9	32.9	23.3	16.4		15.0	85.1	85.1	1.4	71.5	71.5
Effective Green, g (s)	44.3	32.9	32.9	23.3	16.4		15.0	85.1	85.1	1.4	71.5	71.5
Actuated g/C Ratio	0.31	0.23	0.23	0.16	0.11		0.10	0.59	0.59	0.01	0.50	0.50
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	372	424	360	240	208		356	2087	933	17	1753	784
v/s Ratio Prot	c0.11	0.02		0.01	0.08		c0.09	c0.51		0.00	0.25	
v/s Ratio Perm	c0.10		0.04	0.02					0.01			0.05
v/c Ratio	0.66	0.07	0.16	0.20	0.67		0.88	0.86	0.02	0.41	0.51	0.10
Uniform Delay, d1	40.8	43.7	44.7	52.2	61.4		63.8	24.8	12.3	71.0	24.6	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.1	0.2	0.4	7.9		21.7	5.1	0.0	15.4	1.1	0.2
Delay (s)	45.2	43.8	44.9	52.6	69.3		85.5	29.9	12.4	86.4	25.6	19.5
Level of Service	D	D	D	D	E		F	C	B	F	C	B
Approach Delay (s)		45.0			65.0			37.7			25.1	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			36.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			144.3			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			84.6%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	158	146	125	182	270	125	1386	200	196	698	181
Future Volume (vph)	324	158	146	125	182	270	125	1386	200	196	698	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1764	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1764	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	172	159	136	198	293	136	1507	217	213	759	197
RTOR Reduction (vph)	0	0	130	0	0	227	0	0	130	0	0	113
Lane Group Flow (vph)	257	267	29	122	212	66	136	1507	87	213	759	84
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	26.3	26.3	26.3	20.5	20.5	20.5	16.3	56.8	56.8	20.2	60.7	60.7
Effective Green, g (s)	26.3	26.3	26.3	20.5	20.5	20.5	16.3	56.8	56.8	20.2	60.7	60.7
Actuated g/C Ratio	0.19	0.19	0.19	0.14	0.14	0.14	0.11	0.40	0.40	0.14	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	322	293	243	255	228	203	1417	634	252	1514	677
v/s Ratio Prot	0.15	c0.15		0.07	c0.12		0.08	c0.43		c0.12	c0.21	
v/s Ratio Perm			0.02			0.04			0.05			0.05
v/c Ratio	0.83	0.83	0.10	0.50	0.83	0.29	0.67	1.06	0.14	0.85	0.50	0.12
Uniform Delay, d1	55.6	55.6	47.9	55.9	59.0	54.2	60.2	42.5	27.0	59.3	29.5	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.2	16.0	0.2	1.6	20.0	0.7	8.1	42.8	0.5	22.0	1.2	0.4
Delay (s)	71.8	71.6	48.1	57.6	79.0	54.9	68.3	85.3	27.4	81.3	30.7	24.9
Level of Service	E	E	D	E	E	D	E	F	C	F	C	C
Approach Delay (s)		66.2			63.6			77.3			39.0	
Approach LOS		E			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			63.2				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			141.8				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			86.9%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

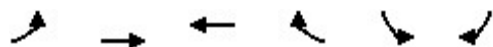
Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	452	4	1	592	485	5	1	0	220	0	78
Future Volume (vph)	123	452	4	1	592	485	5	1	0	220	0	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.96	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1788			1733	
Flt Permitted	0.13	1.00		0.41	1.00	1.00		0.85			0.78	
Satd. Flow (perm)	246	1860		755	1863	1583		1583			1400	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	491	4	1	643	527	5	1	0	239	0	85
RTOR Reduction (vph)	0	0	0	0	0	303	0	0	0	0	60	0
Lane Group Flow (vph)	134	495	0	1	643	224	0	6	0	0	264	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	62.9	57.5		49.3	48.4	48.4		41.8			41.8	
Effective Green, g (s)	62.9	57.5		49.3	48.4	48.4		41.8			41.8	
Actuated g/C Ratio	0.55	0.51		0.43	0.43	0.43		0.37			0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	270	940		335	793	673		581			514	
v/s Ratio Prot	c0.04	0.27		0.00	c0.35			0.00			c0.19	
v/s Ratio Perm	0.23			0.00		0.14		0.00				
v/c Ratio	0.50	0.53		0.00	0.81	0.33		0.01			0.51	
Uniform Delay, d1	19.3	18.9		18.5	28.6	21.9		22.8			28.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.4	0.5		0.0	6.3	0.3		0.0			3.6	
Delay (s)	20.7	19.5		18.5	34.9	22.1		22.9			31.7	
Level of Service	C	B		B	C	C		C			C	
Approach Delay (s)		19.7			29.2			22.9			31.7	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	26.7			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.66											
Actuated Cycle Length (s)	113.7			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	66.7%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Total - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	691	1050	49	21	14
Future Volume (Veh/h)	41	691	1050	49	21	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	751	1141	53	23	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.82	
vC, conflicting volume	1194				2008	1168
vC1, stage 1 conf vol					1168	
vC2, stage 2 conf vol					841	
vCu, unblocked vol	1194				2118	1168
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				90	94
cM capacity (veh/h)	585				227	236
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	45	751	1194	23	15	
Volume Left	45	0	0	23	0	
Volume Right	0	0	53	0	15	
cSH	585	1700	1700	227	236	
Volume to Capacity	0.08	0.44	0.70	0.10	0.06	
Queue Length 95th (ft)	6	0	0	8	5	
Control Delay (s)	11.7	0.0	0.0	22.6	21.3	
Lane LOS	B			C	C	
Approach Delay (s)	0.7		0.0	22.1		
Approach LOS				C		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			68.2%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	498	33	112	983	33	30	0	83	51	0	51
Future Volume (vph)	31	498	33	112	983	33	30	0	83	51	0	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	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	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1845		1770	1863	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.72	1.00		0.70	1.00	
Satd. Flow (perm)	1770	1845		1770	1863	1583	1343	1583		1301	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	541	36	122	1068	36	33	0	90	55	0	55
RTOR Reduction (vph)	0	2	0	0	0	14	0	71	0	0	44	0
Lane Group Flow (vph)	34	575	0	122	1068	22	33	19	0	55	11	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	2.8	50.6		11.9	59.7	59.7	20.0	20.0		20.0	20.0	
Effective Green, g (s)	2.8	50.6		11.9	59.7	59.7	20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.03	0.53		0.12	0.62	0.62	0.21	0.21		0.21	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	972		219	1158	984	279	329		271	329	
v/s Ratio Prot	0.02	0.31		c0.07	c0.57			0.01			0.01	
v/s Ratio Perm						0.01	0.02			c0.04		
v/c Ratio	0.67	0.59		0.56	0.92	0.02	0.12	0.06		0.20	0.03	
Uniform Delay, d1	46.1	15.6		39.6	16.1	7.0	30.8	30.4		31.4	30.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.3	1.0		3.1	12.0	0.0	0.9	0.3		1.7	0.2	
Delay (s)	74.4	16.6		42.6	28.1	7.0	31.7	30.8		33.1	30.5	
Level of Service	E	B		D	C	A	C	C		C	C	
Approach Delay (s)		19.8			28.9			31.0			31.8	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	26.5			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	96.0			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	76.6%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	162	44	15	456	229	42	27	3	137	50	564
Future Volume (vph)	398	162	44	15	456	229	42	27	3	137	50	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1803			1860	1583	1770	1837			1797	1583
Flt Permitted	0.13	1.00			0.99	1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	245	1803			1840	1583	1770	1837			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	433	176	48	16	496	249	46	29	3	149	54	613
RTOR Reduction (vph)	0	10	0	0	0	137	0	3	0	0	0	133
Lane Group Flow (vph)	433	214	0	0	512	112	46	29	0	0	203	480
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	64.7	64.7			31.4	31.4	6.5	6.5			12.0	40.8
Effective Green, g (s)	64.7	64.7			31.4	31.4	6.5	6.5			12.0	40.8
Actuated g/C Ratio	0.67	0.67			0.32	0.32	0.07	0.07			0.12	0.42
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	618	1206			597	514	118	123			222	741
v/s Ratio Prot	c0.21	0.12					c0.03	0.02			c0.11	0.19
v/s Ratio Perm	0.26				c0.28	0.07						0.11
v/c Ratio	0.70	0.18			0.86	0.22	0.39	0.24			0.91	0.65
Uniform Delay, d1	19.9	6.0			30.6	23.7	43.2	42.8			41.8	22.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.6	0.1			11.7	0.2	2.1	1.0			37.5	2.0
Delay (s)	23.5	6.1			42.2	23.9	45.3	43.8			79.4	24.2
Level of Service	C	A			D	C	D	D			E	C
Approach Delay (s)		17.5			36.2			44.7			37.9	
Approach LOS		B			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			31.8									
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			96.7									
Intersection Capacity Utilization			75.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
AM Total - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	21	56	21	5	48
Future Volume (Veh/h)	8	21	56	21	5	48
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	23	61	23	5	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	134	72			84	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134	72			84	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			100	
cM capacity (veh/h)	856	990			1513	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	32	84	57			
Volume Left	9	0	5			
Volume Right	23	23	0			
cSH	948	1700	1513			
Volume to Capacity	0.03	0.05	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	8.9	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			16.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Total - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	49	22	0	58
Future Volume (Veh/h)	0	0	49	22	0	58
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	53	24	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	128	65			77	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	128	65			77	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	866	999			1522	
Direction, Lane #	NB 1	SB 1				
Volume Total	77	63				
Volume Left	0	0				
Volume Right	24	0				
cSH	1700	1700				
Volume to Capacity	0.05	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Total - Partial Build

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	413	257	209	374	195	313
Future Volume (vph)	0	413	257	209	374	195	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	449	279	227	407	212	340
RTOR Reduction (vph)	0	0	219	0	0	0	196
Lane Group Flow (vph)	0	449	60	227	407	212	144
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		15.9	15.9	14.5	34.9	31.4	31.4
Effective Green, g (s)		15.9	15.9	14.5	34.9	31.4	31.4
Actuated g/C Ratio		0.21	0.21	0.20	0.47	0.42	0.42
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		757	338	345	1662	748	668
v/s Ratio Prot		c0.13		c0.13	0.11	c0.12	
v/s Ratio Perm			0.04				0.09
v/c Ratio		0.59	0.18	0.66	0.24	0.28	0.22
Uniform Delay, d1		26.3	23.9	27.6	11.8	14.1	13.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.3	0.3	4.5	0.1	0.9	0.7
Delay (s)		27.5	24.1	32.1	11.9	15.0	14.4
Level of Service		C	C	C	B	B	B
Approach Delay (s)		26.2			19.1	14.6	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			20.5		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.45				
Actuated Cycle Length (s)			74.3		Sum of lost time (s)		12.5
Intersection Capacity Utilization			43.8%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	28	82	518	367	34
Future Volume (Veh/h)	30	28	82	518	367	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	30	89	563	399	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1140	399	436			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1140	399	436			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	95	92			
cM capacity (veh/h)	205	651	1124			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	63	89	563	399	37	
Volume Left	33	89	0	0	0	
Volume Right	30	0	0	0	37	
cSH	304	1124	1700	1700	1700	
Volume to Capacity	0.21	0.08	0.33	0.23	0.02	
Queue Length 95th (ft)	19	6	0	0	0	
Control Delay (s)	19.9	8.5	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.9	1.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			37.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 16: Radio Station Rd & Llano Dr

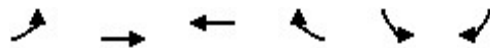
Heritage Green
AM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	139	15	9	670	348	38
Future Volume (Veh/h)	139	15	9	670	348	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	151	16	10	728	378	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1126	378	419			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1126	378	419			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	33	98	99			
cM capacity (veh/h)	225	669	1140			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	151	16	10	728	378	41
Volume Left	151	0	10	0	0	0
Volume Right	0	16	0	0	0	41
cSH	225	669	1140	1700	1700	1700
Volume to Capacity	0.67	0.02	0.01	0.43	0.22	0.02
Queue Length 95th (ft)	106	2	1	0	0	0
Control Delay (s)	48.7	10.5	8.2	0.0	0.0	0.0
Lane LOS	E	B	A			
Approach Delay (s)	45.1	0.1		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			5.7			
Intersection Capacity Utilization			49.6%		ICU Level of Service	
Analysis Period (min)			15			
			A			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Total - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	451	290	405	227	62	300
Future Volume (Veh/h)	451	290	405	227	62	300
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	490	315	440	247	67	326
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	687				1858	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687				1858	564
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	46				0	38
cM capacity (veh/h)	907				37	525
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	490	315	687	393		
Volume Left	490	0	0	67		
Volume Right	0	0	247	326		
cSH	907	1700	1700	218		
Volume to Capacity	0.54	0.19	0.40	1.81		
Queue Length 95th (ft)	83	0	0	683		
Control Delay (s)	13.5	0.0	0.0	123.9		
Lane LOS	B			F		
Approach Delay (s)	8.2		0.0	123.9		
Approach LOS				F		
Intersection Summary						
Average Delay			29.3			
Intersection Capacity Utilization			73.6%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
AM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	57	42	684	692	24
Future Volume (Veh/h)	48	57	42	684	692	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	62	46	743	752	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1587	752	778			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1587	752	778			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	54	85	95			
cM capacity (veh/h)	112	410	839			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	114	46	743	752	26	
Volume Left	52	46	0	0	0	
Volume Right	62	0	0	0	26	
cSH	186	839	1700	1700	1700	
Volume to Capacity	0.61	0.05	0.44	0.44	0.02	
Queue Length 95th (ft)	86	4	0	0	0	
Control Delay (s)	51.1	9.5	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	51.1	0.6		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			49.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

20: La Plata Parkway/Site Access & Rosewick Rd

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	581	18	18	703	0	40	0	40	0	0	0
Future Volume (vph)	0	581	18	18	703	0	40	0	40	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5		4.5			
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00			
Frt		1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3539	1583	1770	3539		1770		1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.44		1.00			
Satd. Flow (perm)		3539	1583	1770	3539		817		1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	632	20	20	764	0	43	0	43	0	0	0
RTOR Reduction (vph)	0	0	13	0	0	0	0	0	30	0	0	0
Lane Group Flow (vph)	0	632	7	20	764	0	43	0	13	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)		15.5	15.5	0.9	20.9		12.9		12.9			
Effective Green, g (s)		15.5	15.5	0.9	20.9		12.9		12.9			
Actuated g/C Ratio		0.36	0.36	0.02	0.49		0.30		0.30			
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1281	573	37	1728		295		477			
v/s Ratio Prot		0.18		0.01	c0.22		c0.01					
v/s Ratio Perm			0.00				c0.04		0.01			
v/c Ratio		0.49	0.01	0.54	0.44		0.15		0.03			
Uniform Delay, d1		10.6	8.7	20.7	7.1		10.9		10.5			
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2		0.3	0.0	15.1	0.2		0.2		0.0			
Delay (s)		10.9	8.8	35.9	7.3		11.2		10.6			
Level of Service		B	A	D	A		B		B			
Approach Delay (s)		10.8			8.1			10.9			0.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.4			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			42.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			31.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

22: Site Access & Rosewick Rd

Heritage Green
AM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	568	17	16	569	35	42	0	44	110	0	110
Future Volume (vph)	36	568	17	16	569	35	42	0	44	110	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00			1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3524			3534	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00			0.93	1.00	0.68	1.00		0.56	1.00	
Satd. Flow (perm)	1770	3524			3306	1583	1266	1583		1039	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	617	18	17	618	38	46	0	48	120	0	120
RTOR Reduction (vph)	0	2	0	0	0	20	0	42	0	0	102	0
Lane Group Flow (vph)	39	633	0	0	635	18	46	6	0	120	18	0
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	2.8	37.9			30.6	30.6	9.9	7.3		14.3	9.5	
Effective Green, g (s)	2.8	37.9			30.6	30.6	9.9	7.3		14.3	9.5	
Actuated g/C Ratio	0.04	0.60			0.48	0.48	0.16	0.11		0.23	0.15	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	78	2103			1593	762	218	181		289	236	
v/s Ratio Prot	0.02	c0.18					0.01	0.00		c0.03	0.01	
v/s Ratio Perm					c0.19	0.01	0.02			c0.06		
v/c Ratio	0.50	0.30			0.40	0.02	0.21	0.03		0.42	0.08	
Uniform Delay, d1	29.7	6.3			10.5	8.6	23.2	25.0		20.5	23.2	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.0	0.1			0.2	0.0	0.5	0.1		1.0	0.1	
Delay (s)	34.6	6.4			10.7	8.6	23.7	25.0		21.5	23.4	
Level of Service	C	A			B	A	C	C		C	C	
Approach Delay (s)		8.0			10.6			24.4			22.4	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.0									
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			63.5									
Intersection Capacity Utilization			50.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	27	236	45	119	12	289	1661	33	6	821	141
Future Volume (vph)	227	27	236	45	119	12	289	1661	33	6	821	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1837		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1375	1837		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	29	257	49	129	13	314	1805	36	7	892	153
RTOR Reduction (vph)	0	0	209	0	3	0	0	0	13	0	0	73
Lane Group Flow (vph)	247	29	48	49	139	0	314	1805	23	7	892	80
Turn Type	Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8					2			6
Actuated Green, G (s)	15.0	26.4	26.4	21.6	16.5		17.3	89.8	89.8	1.2	73.7	73.7
Effective Green, g (s)	15.0	26.4	26.4	21.6	16.5		17.3	89.8	89.8	1.2	73.7	73.7
Actuated g/C Ratio	0.11	0.19	0.19	0.15	0.12		0.12	0.64	0.64	0.01	0.52	0.52
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	366	350	297	225	215		422	2261	1011	15	1856	830
v/s Ratio Prot	c0.07	0.02		0.01	c0.08		c0.09	c0.51		0.00	0.25	
v/s Ratio Perm			0.03	0.03					0.01			0.05
v/c Ratio	0.67	0.08	0.16	0.22	0.65		0.74	0.80	0.02	0.47	0.48	0.10
Uniform Delay, d1	60.4	47.1	47.8	51.7	59.2		59.5	18.7	9.3	69.3	21.2	16.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.1	0.3	0.5	6.6		7.0	3.0	0.0	21.2	0.9	0.2
Delay (s)	65.3	47.2	48.0	52.2	65.8		66.4	21.7	9.3	90.6	22.1	17.0
Level of Service	E	D	D	D	E		E	C	A	F	C	B
Approach Delay (s)		56.0			62.3			28.0			21.8	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			140.5			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.5%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

AM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	158	146	125	182	270	125	1386	200	196	698	181
Future Volume (vph)	324	158	146	125	182	270	125	1386	200	196	698	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1764	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1764	1583	1770	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	172	159	136	198	293	136	1507	217	213	759	197
RTOR Reduction (vph)	0	0	129	0	0	169	0	0	124	0	0	116
Lane Group Flow (vph)	257	267	30	122	212	124	136	1507	93	213	759	81
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	26.2	26.2	26.2	21.5	21.5	21.5	15.6	59.1	59.1	12.9	56.4	56.4
Effective Green, g (s)	26.2	26.2	26.2	21.5	21.5	21.5	15.6	59.1	59.1	12.9	56.4	56.4
Actuated g/C Ratio	0.19	0.19	0.19	0.16	0.16	0.16	0.11	0.43	0.43	0.09	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	319	330	301	262	275	247	200	1518	679	321	1449	648
v/s Ratio Prot	0.15	c0.15		0.07	c0.12		c0.08	c0.43		0.06	0.21	
v/s Ratio Perm			0.02			0.08			0.06			0.05
v/c Ratio	0.81	0.81	0.10	0.47	0.77	0.50	0.68	0.99	0.14	0.66	0.52	0.12
Uniform Delay, d1	53.3	53.4	46.0	52.9	55.7	53.2	58.7	39.1	23.8	60.3	30.6	25.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.7	13.6	0.1	1.3	12.5	1.6	9.1	21.4	0.4	5.1	1.4	0.4
Delay (s)	67.1	66.9	46.2	54.2	68.3	54.8	67.8	60.5	24.3	65.4	31.9	25.7
Level of Service	E	E	D	D	E	D	E	E	C	E	C	C
Approach Delay (s)		62.1			59.2			56.8			37.0	
Approach LOS		E			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			52.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			137.7				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			81.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

Heritage Green

AM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	452	4	1	592	485	5	1	0	220	0	78
Future Volume (vph)	123	452	4	1	592	485	5	1	0	220	0	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.93			1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.96	
Satd. Flow (prot)	1770	1860		1770	3300			1788			1733	
Flt Permitted	0.08	1.00		0.40	1.00			0.85			0.78	
Satd. Flow (perm)	150	1860		743	3300			1587			1400	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	491	4	1	643	527	5	1	0	239	0	85
RTOR Reduction (vph)	0	0	0	0	134	0	0	0	0	0	59	0
Lane Group Flow (vph)	134	495	0	1	1036	0	0	6	0	0	265	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	59.5	54.1		46.0	45.1			41.8			41.8	
Effective Green, g (s)	59.5	54.1		46.0	45.1			41.8			41.8	
Actuated g/C Ratio	0.54	0.49		0.42	0.41			0.38			0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	226	912		318	1349			601			530	
v/s Ratio Prot	c0.05	0.27		0.00	c0.31							
v/s Ratio Perm	0.27			0.00				0.00			c0.19	
v/c Ratio	0.59	0.54		0.00	0.77			0.01			0.50	
Uniform Delay, d1	19.9	19.5		19.0	28.1			21.4			26.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	4.1	0.7		0.0	2.7			0.0			3.3	
Delay (s)	24.0	20.2		19.0	30.8			21.4			29.6	
Level of Service	C	C		B	C			C			C	
Approach Delay (s)		21.0			30.8			21.4			29.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			110.3			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			67.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Existing

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	210	96	0	983	340	96	1232
Future Volume (vph)	210	96	0	983	340	96	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	104	0	1068	370	104	1339
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	228	104	0	1068	370	104	1339
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	11.0	85.3		53.0	85.3	8.8	66.3
Effective Green, g (s)	11.0	85.3		53.0	85.3	8.8	66.3
Actuated g/C Ratio	0.13	1.00		0.62	1.00	0.10	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	442	1583		2198	1583	182	2750
v/s Ratio Prot				0.30		0.06	c0.38
v/s Ratio Perm	c0.07	0.07			0.23		
v/c Ratio	0.52	0.07		0.49	0.23	0.57	0.49
Uniform Delay, d1	34.7	0.0		8.8	0.0	36.5	3.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.1		0.8	0.3	4.3	0.1
Delay (s)	35.7	0.1		9.5	0.3	40.7	3.5
Level of Service	D	A		A	A	D	A
Approach Delay (s)	24.5			7.2			6.2
Approach LOS	C			A			A
Intersection Summary							
HCM 2000 Control Delay			8.5		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.52				
Actuated Cycle Length (s)			85.3		Sum of lost time (s)		12.5
Intersection Capacity Utilization			53.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	10	303	82	377	234	52	47	139	294	75	142	24
Future Volume (vph)	10	303	82	377	234	52	47	139	294	75	142	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.59	1.00	1.00	0.36	1.00	1.00	0.66	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1107	3539	1583	665	3539	1583	1228	1863	1583	1109	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	329	89	410	254	57	51	151	320	82	154	26
RTOR Reduction (vph)	0	0	71	0	0	33	0	0	225	0	0	18
Lane Group Flow (vph)	11	329	18	410	254	24	51	151	95	82	154	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	17.1	16.2	16.2	38.6	33.2	33.2	28.0	23.8	23.8	30.6	25.1	25.1
Effective Green, g (s)	17.1	16.2	16.2	38.6	33.2	33.2	28.0	23.8	23.8	30.6	25.1	25.1
Actuated g/C Ratio	0.21	0.20	0.20	0.48	0.41	0.41	0.35	0.30	0.30	0.38	0.31	0.31
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	713	318	565	1461	653	455	551	468	467	581	494
v/s Ratio Prot	0.00	0.09		c0.16	0.07		0.01	0.08		c0.01	c0.08	
v/s Ratio Perm	0.01		0.01	c0.19		0.01	0.03		0.06	0.05		0.01
v/c Ratio	0.05	0.46	0.06	0.73	0.17	0.04	0.11	0.27	0.20	0.18	0.27	0.02
Uniform Delay, d1	25.1	28.3	25.9	14.7	14.9	14.1	17.6	21.7	21.2	16.2	20.7	19.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.5	0.1	4.6	0.1	0.0	0.1	1.2	1.0	0.2	0.2	0.0
Delay (s)	25.2	28.7	26.0	19.3	15.0	14.1	17.7	22.9	22.2	16.4	21.0	19.1
Level of Service	C	C	C	B	B	B	B	C	C	B	C	B
Approach Delay (s)		28.1			17.4			21.9			19.4	
Approach LOS		C			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			80.4			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			54.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	44	117	225	42	65	79	1034	141	192	1162	15
Future Volume (vph)	37	44	117	225	42	65	79	1034	141	192	1162	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	48	127	245	46	71	86	1124	153	209	1263	16
RTOR Reduction (vph)	0	0	119	0	0	63	0	0	51	0	0	6
Lane Group Flow (vph)	0	88	8	145	146	8	86	1124	102	209	1263	10
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.3	10.3	19.5	19.5	19.5	12.8	98.9	98.9	24.6	110.7	110.7
Effective Green, g (s)		10.3	10.3	19.5	19.5	19.5	12.8	98.9	98.9	24.6	110.7	110.7
Actuated g/C Ratio		0.06	0.06	0.11	0.11	0.11	0.07	0.58	0.58	0.14	0.65	0.65
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		109	95	191	194	180	132	2043	913	254	2287	1022
v/s Ratio Prot		c0.05		c0.09	0.09		0.05	0.32		c0.12	c0.36	
v/s Ratio Perm			0.00			0.01			0.06			0.01
v/c Ratio		0.81	0.08	0.76	0.75	0.04	0.65	0.55	0.11	0.82	0.55	0.01
Uniform Delay, d1		79.5	76.0	73.6	73.6	67.6	77.1	22.4	16.4	71.2	16.7	10.8
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		33.8	0.4	15.8	15.2	0.1	11.0	1.1	0.2	18.9	1.0	0.0
Delay (s)		113.4	76.4	89.4	88.7	67.7	88.0	23.5	16.6	90.2	17.6	10.8
Level of Service		F	E	F	F	E	F	C	B	F	B	B
Approach Delay (s)		91.5			84.9			26.8			27.7	
Approach LOS		F			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			37.4									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			171.3									
Intersection Capacity Utilization			64.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	0	202	0	0	0	128	307	0	0	428	201
Future Volume (Veh/h)	110	0	202	0	0	0	128	307	0	0	428	201
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	0	220	0	0	0	139	334	0	0	465	218
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1077	1077	465	1297	1295	334	683			334		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1077	1077	465	1297	1295	334	683			334		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	31	100	63	100	100	100	85			100		
cM capacity (veh/h)	174	186	597	77	138	708	910			1225		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	120	0	220	0	473	465	218					
Volume Left	120	0	0	0	139	0	0					
Volume Right	0	0	220	0	0	0	218					
cSH	174	1700	597	1700	910	1225	1700					
Volume to Capacity	0.69	1.65	0.37	Err	0.15	0.00	0.13					
Queue Length 95th (ft)	104	0	42	Err	13	0	0					
Control Delay (s)	62.5	0.0	14.5	0.0	4.1	0.0	0.0					
Lane LOS	F	A	B	A	A							
Approach Delay (s)	31.4			0.0	4.1	0.0						
Approach LOS	D			A								
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	95	379	165	127	19	245	1061	60	83	1226	251
Future Volume (vph)	297	95	379	165	127	19	245	1061	60	83	1226	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.27	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	496	1863	1583	1286	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	103	412	179	138	21	266	1153	65	90	1333	273
RTOR Reduction (vph)	0	0	128	0	4	0	0	0	31	0	0	141
Lane Group Flow (vph)	323	103	284	179	155	0	266	1153	34	90	1333	132
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	46.6	32.6	32.6	25.8	16.3		14.0	75.1	75.1	8.7	69.8	69.8
Effective Green, g (s)	46.6	32.6	32.6	25.8	16.3		14.0	75.1	75.1	8.7	69.8	69.8
Actuated g/C Ratio	0.32	0.23	0.23	0.18	0.11		0.10	0.52	0.52	0.06	0.49	0.49
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	389	422	358	262	206		333	1846	826	107	1716	767
v/s Ratio Prot	c0.15	0.06		0.05	0.09		c0.08	0.33		0.05	c0.38	
v/s Ratio Perm	c0.12		0.18	0.08					0.02			0.08
v/c Ratio	0.83	0.24	0.79	0.68	0.75		0.80	0.62	0.04	0.84	0.78	0.17
Uniform Delay, d1	41.0	45.6	52.5	54.1	61.9		63.6	24.4	16.8	66.9	30.6	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.9	0.3	11.4	7.2	14.5		12.6	1.6	0.1	41.8	3.5	0.5
Delay (s)	54.9	45.9	63.8	61.3	76.4		76.1	26.0	16.9	108.7	34.1	21.3
Level of Service	D	D	E	E	E		E	C	B	F	C	C
Approach Delay (s)		58.2			68.4			34.6			36.0	
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			0.82									
Actuated Cycle Length (s)			143.9			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			80.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	126	159	165	191	209	141	926	131	310	1165	276
Future Volume (vph)	264	126	159	165	191	209	141	926	131	310	1165	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	137	173	179	208	227	153	1007	142	337	1266	300
RTOR Reduction (vph)	0	0	147	0	0	191	0	0	93	0	0	168
Lane Group Flow (vph)	210	214	26	161	226	36	153	1007	49	337	1266	132
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	20.7	20.7	20.7	22.4	22.4	22.4	17.1	48.5	48.5	30.4	61.8	61.8
Effective Green, g (s)	20.7	20.7	20.7	22.4	22.4	22.4	17.1	48.5	48.5	30.4	61.8	61.8
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16	0.16	0.12	0.35	0.35	0.22	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	256	234	268	282	253	216	1226	548	384	1562	698
v/s Ratio Prot	c0.12	0.12		0.10	c0.13		0.09	0.28		c0.19	c0.36	
v/s Ratio Perm			0.02			0.02			0.03			0.08
v/c Ratio	0.85	0.84	0.11	0.60	0.80	0.14	0.71	0.82	0.09	0.88	0.81	0.19
Uniform Delay, d1	58.1	58.0	51.7	54.6	56.7	50.6	59.1	41.8	30.9	53.0	34.0	23.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.5	20.4	0.2	3.8	15.0	0.3	10.1	6.3	0.3	19.6	4.7	0.6
Delay (s)	80.6	78.4	51.9	58.4	71.7	50.8	69.2	48.1	31.2	72.6	38.7	24.4
Level of Service	F	E	D	E	E	D	E	D	C	E	D	C
Approach Delay (s)		71.5			60.5			48.7			42.4	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

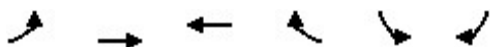
Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	511	4	0	454	298	5	3	3	412	3	140
Future Volume (vph)	157	511	4	0	454	298	5	3	3	412	3	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.96			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)	1770	1861			1863	1583		1754			1735	
Flt Permitted	0.13	1.00			1.00	1.00		0.87			0.77	
Satd. Flow (perm)	249	1861			1863	1583		1563			1394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	555	4	0	493	324	5	3	3	448	3	152
RTOR Reduction (vph)	0	0	0	0	0	222	0	1	0	0	9	0
Lane Group Flow (vph)	171	559	0	0	493	102	0	10	0	0	594	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	45.1	45.1			35.3	35.3		57.5			57.5	
Effective Green, g (s)	45.1	45.1			35.3	35.3		57.5			57.5	
Actuated g/C Ratio	0.40	0.40			0.32	0.32		0.52			0.52	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	172	752			589	500		805			718	
v/s Ratio Prot	c0.05	0.30			0.26							
v/s Ratio Perm	c0.35					0.06		0.01			c0.43	
v/c Ratio	0.99	0.74			0.84	0.20		0.01			0.83	
Uniform Delay, d1	32.1	28.3			35.5	27.9		13.2			22.8	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	66.6	4.0			10.0	0.2		0.0			10.6	
Delay (s)	98.7	32.3			45.5	28.1		13.2			33.4	
Level of Service	F	C			D	C		B			C	
Approach Delay (s)		47.9			38.6			13.2			33.4	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			40.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			111.6				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			82.0%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	984	799	30	37	61
Future Volume (Veh/h)	41	984	799	30	37	61
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	1070	868	33	40	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage (veh)		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.74	
vC, conflicting volume	901				2044	884
vC1, stage 1 conf vol					884	
vC2, stage 2 conf vol					1160	
vCu, unblocked vol	901				2239	884
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				80	81
cM capacity (veh/h)	754				198	344
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	45	1070	901	40	66	
Volume Left	45	0	0	40	0	
Volume Right	0	0	33	0	66	
cSH	754	1700	1700	198	344	
Volume to Capacity	0.06	0.63	0.53	0.20	0.19	
Queue Length 95th (ft)	5	0	0	18	17	
Control Delay (s)	10.1	0.0	0.0	27.7	17.9	
Lane LOS	B			D	C	
Approach Delay (s)	0.4		0.0	21.6		
Approach LOS				C		
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			61.8%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	988	15	44	773	2	2	0	37	34	0	20
Future Volume (Veh/h)	2	988	15	44	773	2	2	0	37	34	0	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1074	16	48	840	2	2	0	40	37	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	842			1090			2044	2024	1082	2034	2030	840
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842			1090			2044	2024	1082	2034	2030	840
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			95	100	85	0	100	94
cM capacity (veh/h)	794			640			37	53	264	34	53	365
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	2	1090	48	840	2	42	37	22				
Volume Left	2	0	48	0	0	2	37	0				
Volume Right	0	16	0	0	2	40	0	22				
cSH	794	1700	640	1700	1700	278	34	365				
Volume to Capacity	0.00	0.64	0.07	0.49	0.00	0.15	1.10	0.06				
Queue Length 95th (ft)	0	0	6	0	0	13	98	5				
Control Delay (s)	9.5	0.0	11.1	0.0	0.0	25.2	364.8	15.5				
Lane LOS	A		B			D	F	C				
Approach Delay (s)	0.0		0.6			25.2	234.5					
Approach LOS						D	F					
Intersection Summary												
Average Delay	7.4											
Intersection Capacity Utilization	69.6%			ICU Level of Service					C			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	449	539	8	0	296	123	16	22	7	285	12	416
Future Volume (vph)	449	539	8	0	296	123	16	22	7	285	12	416
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1793			1777	1583
Flt Permitted	0.22	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	413	1859			1863	1583	1770	1793			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	586	9	0	322	134	17	24	8	310	13	452
RTOR Reduction (vph)	0	1	0	0	0	104	0	7	0	0	0	221
Lane Group Flow (vph)	488	594	0	0	322	30	17	25	0	0	323	231
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	48.9	48.9			17.9	17.9	6.2	6.2			11.8	38.3
Effective Green, g (s)	48.9	48.9			17.9	17.9	6.2	6.2			11.8	38.3
Actuated g/C Ratio	0.61	0.61			0.22	0.22	0.08	0.08			0.15	0.48
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	698	1130			414	352	136	138			260	842
v/s Ratio Prot	c0.23	0.32			0.17		0.01	c0.01			c0.18	0.09
v/s Ratio Perm	c0.19					0.02						0.06
v/c Ratio	0.70	0.53			0.78	0.08	0.12	0.18			1.24	0.27
Uniform Delay, d1	12.5	9.1			29.4	24.8	34.6	34.7			34.3	12.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.1	0.4			8.9	0.1	0.4	0.6			137.2	0.2
Delay (s)	15.6	9.5			38.3	24.9	35.0	35.3			171.5	12.9
Level of Service	B	A			D	C	C	D			F	B
Approach Delay (s)		12.2			34.3			35.2			79.0	
Approach LOS		B			C			D			E	
Intersection Summary												
HCM 2000 Control Delay			38.9									
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			80.4									
Intersection Capacity Utilization			78.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
PM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	14	117	41	21	54
Future Volume (Veh/h)	22	14	117	41	21	54
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	15	127	45	23	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	254	150			172	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254	150			172	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			98	
cM capacity (veh/h)	722	897			1405	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	39	172	82			
Volume Left	24	0	23			
Volume Right	15	45	0			
cSH	781	1700	1405			
Volume to Capacity	0.05	0.10	0.02			
Queue Length 95th (ft)	4	0	1			
Control Delay (s)	9.9	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	2.2			
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		26.0%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Existing

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	111	44	0	70
Future Volume (Veh/h)	0	0	111	44	0	70
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	121	48	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	221	145			169	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	221	145			169	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	767	902			1409	
Direction, Lane #	NB 1	SB 1				
Volume Total	169	76				
Volume Left	0	0				
Volume Right	48	0				
cSH	1700	1700				
Volume to Capacity	0.10	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			11.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Existing



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	431	230	348	472	159	271
Future Volume (vph)	0	431	230	348	472	159	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	468	250	378	513	173	295
RTOR Reduction (vph)	0	0	192	0	0	0	219
Lane Group Flow (vph)	0	468	58	378	513	173	76
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		14.6	14.6	19.3	38.4	16.1	16.1
Effective Green, g (s)		14.6	14.6	19.3	38.4	16.1	16.1
Actuated g/C Ratio		0.23	0.23	0.31	0.61	0.26	0.26
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		826	369	546	2174	455	407
v/s Ratio Prot		c0.13		c0.21	0.14	c0.10	
v/s Ratio Perm			0.04				0.05
v/c Ratio		0.57	0.16	0.69	0.24	0.38	0.19
Uniform Delay, d1		21.2	19.1	19.0	5.4	19.1	18.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2	3.8	0.1	2.4	1.0
Delay (s)		22.1	19.3	22.8	5.5	21.5	19.1
Level of Service		C	B	C	A	C	B
Approach Delay (s)		21.1			12.8	20.0	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			17.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.55				
Actuated Cycle Length (s)			62.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			50.0%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis

15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	75	17	331	553	25
Future Volume (Veh/h)	45	75	17	331	553	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	82	18	360	601	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	997	601	628			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	997	601	628			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	84	98			
cM capacity (veh/h)	266	500	954			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	131	18	360	601	27	
Volume Left	49	18	0	0	0	
Volume Right	82	0	0	0	27	
cSH	376	954	1700	1700	1700	
Volume to Capacity	0.35	0.02	0.21	0.35	0.02	
Queue Length 95th (ft)	38	1	0	0	0	
Control Delay (s)	19.6	8.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.6	0.4		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			42.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

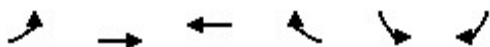
Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	19	7	303	609	103
Future Volume (Veh/h)	49	19	7	303	609	103
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	21	8	329	662	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1007	662	774			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1007	662	774			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	95	99			
cM capacity (veh/h)	264	462	842			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	53	21	8	329	662	112
Volume Left	53	0	8	0	0	0
Volume Right	0	21	0	0	0	112
cSH	264	462	842	1700	1700	1700
Volume to Capacity	0.20	0.05	0.01	0.19	0.39	0.07
Queue Length 95th (ft)	18	4	1	0	0	0
Control Delay (s)	22.0	13.2	9.3	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	19.5	0.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			42.1%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	219	392	287	89	159	463
Future Volume (Veh/h)	219	392	287	89	159	463
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	238	426	312	97	173	503
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)					14	
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	409				1262	360
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				1262	360
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				0	26
cM capacity (veh/h)	1150				149	684
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	238	426	409	676		
Volume Left	238	0	0	173		
Volume Right	0	0	97	503		
cSH	1150	1700	1700	581		
Volume to Capacity	0.21	0.25	0.24	1.16		
Queue Length 95th (ft)	19	0	0	573		
Control Delay (s)	8.9	0.0	0.0	64.7		
Lane LOS	A			F		
Approach Delay (s)	3.2		0.0	64.7		
Approach LOS				F		
Intersection Summary						
Average Delay			26.2			
Intersection Capacity Utilization			55.9%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	38	53	610	739	13
Future Volume (Veh/h)	11	38	53	610	739	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	41	58	663	803	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1582	803	817			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1582	803	817			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	89	93			
cM capacity (veh/h)	111	383	811			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	53	58	663	803	14	
Volume Left	12	58	0	0	0	
Volume Right	41	0	0	0	14	
cSH	247	811	1700	1700	1700	
Volume to Capacity	0.21	0.07	0.39	0.47	0.01	
Queue Length 95th (ft)	20	6	0	0	0	
Control Delay (s)	23.5	9.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	23.5	0.8		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			54.0%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Background - Partial Build

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 			 			 
Traffic Volume (vph)	256	168	0	1263	397	177	1639
Future Volume (vph)	256	168	0	1263	397	177	1639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	183	0	1373	432	192	1782
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	278	183	0	1373	432	192	1782
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	12.8	91.8		51.3	91.8	15.2	71.0
Effective Green, g (s)	12.8	91.8		51.3	91.8	15.2	71.0
Actuated g/C Ratio	0.14	1.00		0.56	1.00	0.17	0.77
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	478	1583		1977	1583	293	2737
v/s Ratio Prot				c0.39		0.11	c0.50
v/s Ratio Perm	c0.08	0.12			0.27		
v/c Ratio	0.58	0.12		0.69	0.27	0.66	0.65
Uniform Delay, d1	37.0	0.0		14.6	0.0	35.8	4.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.1		2.0	0.4	5.2	0.6
Delay (s)	38.8	0.1		16.6	0.4	41.0	5.3
Level of Service	D	A		B	A	D	A
Approach Delay (s)	23.5			12.8			8.8
Approach LOS	C			B			A
Intersection Summary							
HCM 2000 Control Delay			12.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.68				
Actuated Cycle Length (s)			91.8		Sum of lost time (s)		12.5
Intersection Capacity Utilization			65.9%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	17	374	130	414	300	58	100	150	328	82	151	33
Future Volume (vph)	17	374	130	414	300	58	100	150	328	82	151	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.55	1.00	1.00	0.29	1.00	1.00	0.56	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1033	3539	1583	543	3539	1583	1052	1863	1583	1176	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	407	141	450	326	63	109	163	357	89	164	36
RTOR Reduction (vph)	0	0	112	0	0	36	0	0	257	0	0	26
Lane Group Flow (vph)	18	407	29	450	326	27	109	163	100	89	164	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	18.7	16.9	16.9	40.7	34.4	34.4	29.5	22.9	22.9	27.3	21.8	21.8
Effective Green, g (s)	18.7	16.9	16.9	40.7	34.4	34.4	29.5	22.9	22.9	27.3	21.8	21.8
Actuated g/C Ratio	0.23	0.21	0.21	0.50	0.42	0.42	0.36	0.28	0.28	0.33	0.27	0.27
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	252	732	327	561	1491	667	438	522	444	433	497	422
v/s Ratio Prot	0.00	0.11		c0.19	0.09		c0.02	0.09		0.01	c0.09	
v/s Ratio Perm	0.01		0.02	c0.21		0.02	0.07		0.06	0.05		0.01
v/c Ratio	0.07	0.56	0.09	0.80	0.22	0.04	0.25	0.31	0.23	0.21	0.33	0.02
Uniform Delay, d1	24.5	29.0	26.1	14.7	15.0	13.9	17.8	23.1	22.5	19.0	24.0	22.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.9	0.1	8.1	0.1	0.0	0.3	1.6	1.2	0.2	0.4	0.0
Delay (s)	24.6	29.9	26.3	22.8	15.1	13.9	18.1	24.7	23.7	19.3	24.4	22.1
Level of Service	C	C	C	C	B	B	B	C	C	B	C	C
Approach Delay (s)		28.8			19.2			23.0			22.5	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			81.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			60.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	46	123	237	44	70	83	1355	149	192	1599	16
Future Volume (vph)	39	46	123	237	44	70	83	1355	149	192	1599	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	50	134	258	48	76	90	1473	162	209	1738	17
RTOR Reduction (vph)	0	0	126	0	0	67	0	0	42	0	0	6
Lane Group Flow (vph)	0	92	8	152	154	9	90	1473	120	209	1738	11
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.5	10.5	20.1	20.1	20.1	13.1	99.1	99.1	24.7	110.7	110.7
Effective Green, g (s)		10.5	10.5	20.1	20.1	20.1	13.1	99.1	99.1	24.7	110.7	110.7
Actuated g/C Ratio		0.06	0.06	0.12	0.12	0.12	0.08	0.57	0.57	0.14	0.64	0.64
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		110	96	195	199	184	134	2034	909	253	2272	1016
v/s Ratio Prot		c0.05		c0.09	0.09		0.05	0.42		c0.12	c0.49	
v/s Ratio Perm			0.01			0.01			0.08			0.01
v/c Ratio		0.84	0.09	0.78	0.77	0.05	0.67	0.72	0.13	0.83	0.76	0.01
Uniform Delay, d1		80.1	76.4	74.0	73.9	67.7	77.6	26.7	16.9	71.8	21.7	11.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		39.6	0.4	17.7	16.9	0.1	12.5	2.3	0.3	19.3	2.5	0.0
Delay (s)		119.7	76.8	91.7	90.9	67.8	90.0	29.0	17.2	91.1	24.2	11.1
Level of Service		F	E	F	F	E	F	C	B	F	C	B
Approach Delay (s)		94.3			86.6			31.1			31.2	
Approach LOS		F			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			39.4									
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			172.4									
Intersection Capacity Utilization			74.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	2	212	2	3	5	135	392	1	3	511	211
Future Volume (Veh/h)	116	2	212	2	3	5	135	392	1	3	511	211
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	126	2	230	2	3	5	147	426	1	3	555	229
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1288	1282	555	1512	1510	426	784				427	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1288	1282	555	1512	1510	426	784				427	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	0	99	57	96	97	99	82				100	
cM capacity (veh/h)	118	136	531	48	99	628	834				1132	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	126	2	230	10	574	558	229					
Volume Left	126	0	0	2	147	3	0					
Volume Right	0	0	230	5	1	0	229					
cSH	118	136	531	124	834	1132	1700					
Volume to Capacity	1.07	0.01	0.43	0.08	0.18	0.00	0.13					
Queue Length 95th (ft)	185	1	54	6	16	0	0					
Control Delay (s)	173.3	31.9	16.8	36.4	4.4	0.1	0.0					
Lane LOS	F	D	C	E	A	A						
Approach Delay (s)	72.0			36.4	4.4	0.1						
Approach LOS	F			E								
Intersection Summary												
Average Delay			16.6									
Intersection Capacity Utilization			78.3%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	100	398	173	133	20	257	1380	63	36	1665	267
Future Volume (vph)	316	100	398	173	133	20	257	1380	63	36	1665	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.25	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	462	1863	1583	1279	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	109	433	188	145	22	279	1500	68	39	1810	290
RTOR Reduction (vph)	0	0	116	0	4	0	0	0	32	0	0	147
Lane Group Flow (vph)	343	109	317	188	163	0	279	1500	36	39	1810	143
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	48.0	34.0	34.0	26.3	16.8		14.1	77.8	77.8	6.5	70.2	70.2
Effective Green, g (s)	48.0	34.0	34.0	26.3	16.8		14.1	77.8	77.8	6.5	70.2	70.2
Actuated g/C Ratio	0.33	0.23	0.23	0.18	0.12		0.10	0.53	0.53	0.04	0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	391	434	369	262	210		331	1888	844	78	1703	762
v/s Ratio Prot	c0.16	0.06		0.05	0.09		c0.08	0.42		0.02	c0.51	
v/s Ratio Perm	c0.13		0.20	0.08					0.02			0.09
v/c Ratio	0.88	0.25	0.86	0.72	0.78		0.84	0.79	0.04	0.50	1.06	0.19
Uniform Delay, d1	41.5	45.5	53.6	55.1	62.7		64.8	27.5	16.2	68.1	37.8	21.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.3	0.3	17.7	9.0	16.5		17.4	3.5	0.1	5.0	40.7	0.5
Delay (s)	60.8	45.8	71.3	64.1	79.2		82.2	31.1	16.3	73.0	78.5	22.1
Level of Service	E	D	E	E	E		F	C	B	E	E	C
Approach Delay (s)		64.1			71.2			38.3			70.7	
Approach LOS		E			E			D			E	
Intersection Summary												
HCM 2000 Control Delay			58.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			145.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			94.1%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	132	167	173	201	220	148	1238	138	326	1600	290
Future Volume (vph)	277	132	167	173	201	220	148	1238	138	326	1600	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	143	182	188	218	239	161	1346	150	354	1739	315
RTOR Reduction (vph)	0	0	155	0	0	200	0	0	99	0	0	167
Lane Group Flow (vph)	220	224	27	169	237	39	161	1346	51	354	1739	148
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.3	21.3	21.3	23.3	23.3	23.3	17.8	48.1	48.1	31.7	62.0	62.0
Effective Green, g (s)	21.3	21.3	21.3	23.3	23.3	23.3	17.8	48.1	48.1	31.7	62.0	62.0
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16	0.16	0.12	0.34	0.34	0.22	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	251	259	236	275	288	259	221	1195	534	394	1540	689
v/s Ratio Prot	c0.13	0.13		0.10	c0.13		0.09	0.38		c0.20	c0.49	
v/s Ratio Perm			0.02			0.02			0.03			0.09
v/c Ratio	0.88	0.86	0.12	0.61	0.82	0.15	0.73	1.13	0.09	0.90	1.13	0.22
Uniform Delay, d1	59.3	59.1	52.4	55.4	57.6	51.1	60.0	47.2	32.3	53.8	40.2	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.1	24.6	0.2	4.0	17.0	0.3	11.4	68.1	0.4	22.4	67.0	0.7
Delay (s)	86.4	83.7	52.6	59.4	74.6	51.3	71.3	115.2	32.6	76.2	107.2	25.8
Level of Service	F	F	D	E	E	D	E	F	C	E	F	C
Approach Delay (s)		75.6			62.0			103.5			92.0	
Approach LOS		E			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			90.0				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			142.4				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			89.1%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

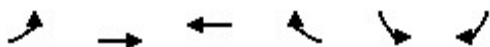
Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	537	4	0	477	383	5	3	3	496	3	147
Future Volume (vph)	165	537	4	0	477	383	5	3	3	496	3	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.96			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)	1770	1861			1863	1583		1754			1739	
Flt Permitted	0.12	1.00			1.00	1.00		0.86			0.77	
Satd. Flow (perm)	227	1861			1863	1583		1541			1388	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	584	4	0	518	416	5	3	3	539	3	160
RTOR Reduction (vph)	0	0	0	0	0	280	0	1	0	0	8	0
Lane Group Flow (vph)	179	588	0	0	518	136	0	10	0	0	694	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	46.8	46.8			37.0	37.0		57.4			57.4	
Effective Green, g (s)	46.8	46.8			37.0	37.0		57.4			57.4	
Actuated g/C Ratio	0.41	0.41			0.33	0.33		0.51			0.51	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	166	769			608	517		781			703	
v/s Ratio Prot	c0.05	0.32			0.28							
v/s Ratio Perm	c0.40					0.09		0.01			c0.50	
v/c Ratio	1.08	0.76			0.85	0.26		0.01			0.99	
Uniform Delay, d1	31.9	28.5			35.5	28.1		13.8			27.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	92.3	4.5			11.1	0.3		0.0			30.8	
Delay (s)	124.1	33.0			46.6	28.3		13.9			58.4	
Level of Service	F	C			D	C		B			E	
Approach Delay (s)		54.3			38.5			13.9			58.4	
Approach LOS		D			D			B			E	
Intersection Summary												
HCM 2000 Control Delay		49.2			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		1.05										
Actuated Cycle Length (s)		113.2			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		88.8%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Background - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	1044	846	32	39	64
Future Volume (Veh/h)	43	1044	846	32	39	64
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	1135	920	35	42	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage (veh)		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.72	
vC, conflicting volume	955				2166	938
vC1, stage 1 conf vol					938	
vC2, stage 2 conf vol					1229	
vCu, unblocked vol	955				2426	938
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				76	78
cM capacity (veh/h)	720				177	321
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	47	1135	955	42	70	
Volume Left	47	0	0	42	0	
Volume Right	0	0	35	0	70	
cSH	720	1700	1700	177	321	
Volume to Capacity	0.07	0.67	0.56	0.24	0.22	
Queue Length 95th (ft)	5	0	0	22	20	
Control Delay (s)	10.4	0.0	0.0	31.6	19.3	
Lane LOS	B			D	C	
Approach Delay (s)	0.4		0.0	23.9		
Approach LOS				C		
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			64.9%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1048	16	46	818	2	2	0	39	36	0	21
Future Volume (Veh/h)	2	1048	16	46	818	2	2	0	39	36	0	21
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1139	17	50	889	2	2	0	42	39	0	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	891			1156			2164	2142	1148	2153	2149	889
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	891			1156			2164	2142	1148	2153	2149	889
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			93	100	83	0	100	93
cM capacity (veh/h)	761			604			30	45	242	27	44	342
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	2	1156	50	889	2	44	39	23				
Volume Left	2	0	50	0	0	2	39	0				
Volume Right	0	17	0	0	2	42	0	23				
cSH	761	1700	604	1700	1700	254	27	342				
Volume to Capacity	0.00	0.68	0.08	0.52	0.00	0.17	1.45	0.07				
Queue Length 95th (ft)	0	0	7	0	0	15	117	5				
Control Delay (s)	9.7	0.0	11.5	0.0	0.0	28.0	555.3	16.3				
Lane LOS	A		B			D	F	C				
Approach Delay (s)	0.0		0.6			28.0	355.4					
Approach LOS						D	F					
Intersection Summary												
Average Delay	10.8											
Intersection Capacity Utilization	72.8%			ICU Level of Service			C					
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

PM Background - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	482	566	8	0	311	146	17	23	7	312	13	443
Future Volume (vph)	482	566	8	0	311	146	17	23	7	312	13	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1795			1777	1583
Flt Permitted	0.17	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	319	1859			1863	1583	1770	1795			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	615	9	0	338	159	18	25	8	339	14	482
RTOR Reduction (vph)	0	0	0	0	0	120	0	7	0	0	0	139
Lane Group Flow (vph)	524	624	0	0	338	39	18	26	0	0	353	343
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	60.1	60.1			23.0	23.0	7.0	7.0			24.8	57.4
Effective Green, g (s)	60.1	60.1			23.0	23.0	7.0	7.0			24.8	57.4
Actuated g/C Ratio	0.57	0.57			0.22	0.22	0.07	0.07			0.24	0.54
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	630	1060			406	345	117	119			418	929
v/s Ratio Prot	c0.26	0.34			0.18		0.01	c0.01			c0.20	0.11
v/s Ratio Perm	c0.22					0.02						0.10
v/c Ratio	0.83	0.59			0.83	0.11	0.15	0.21			0.84	0.37
Uniform Delay, d1	23.5	14.6			39.4	33.0	46.4	46.6			38.5	13.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	9.2	0.8			13.6	0.1	0.6	0.9			14.4	0.2
Delay (s)	32.7	15.5			53.0	33.2	47.0	47.5			52.9	13.9
Level of Service	C	B			D	C	D	D			D	B
Approach Delay (s)		23.4			46.6			47.3			30.4	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			30.7									
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			105.4									
Intersection Capacity Utilization			82.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Kent Ave & Caroline Dr

Heritage Green
PM Background - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	15	123	43	22	57
Future Volume (Veh/h)	23	15	123	43	22	57
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	16	134	47	24	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	268	158			181	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268	158			181	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			98	
cM capacity (veh/h)	709	888			1394	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	41	181	86			
Volume Left	25	0	24			
Volume Right	16	47	0			
cSH	770	1700	1394			
Volume to Capacity	0.05	0.11	0.02			
Queue Length 95th (ft)	4	0	1			
Control Delay (s)	9.9	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	2.2			
Approach LOS	A					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			26.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Background - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	117	46	0	74
Future Volume (Veh/h)	0	0	117	46	0	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	127	50	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	232	152			177	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	232	152			177	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	756	894			1399	
Direction, Lane #	NB 1	SB 1				
Volume Total	177	80				
Volume Left	0	0				
Volume Right	50	0				
cSH	1700	1700				
Volume to Capacity	0.10	0.05				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			12.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Background - Partial Build



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	477	253	368	522	177	287
Future Volume (vph)	0	477	253	368	522	177	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	518	275	400	567	192	312
RTOR Reduction (vph)	0	0	207	0	0	0	235
Lane Group Flow (vph)	0	518	68	400	567	192	77
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		16.2	16.2	20.6	41.3	16.1	16.1
Effective Green, g (s)		16.2	16.2	20.6	41.3	16.1	16.1
Actuated g/C Ratio		0.25	0.25	0.31	0.63	0.25	0.25
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		876	392	557	2234	435	389
v/s Ratio Prot		c0.15		c0.23	0.16	c0.11	
v/s Ratio Perm			0.04				0.05
v/c Ratio		0.59	0.17	0.72	0.25	0.44	0.20
Uniform Delay, d1		21.7	19.3	19.8	5.3	20.8	19.5
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.1	0.2	4.4	0.1	3.2	1.1
Delay (s)		22.8	19.6	24.2	5.3	24.1	20.7
Level of Service		C	B	C	A	C	C
Approach Delay (s)		21.6			13.2	22.0	
Approach LOS		C			B	C	
Intersection Summary							
HCM 2000 Control Delay			18.1		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.59				
Actuated Cycle Length (s)			65.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			53.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	79	18	360	594	26
Future Volume (Veh/h)	47	79	18	360	594	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	86	20	391	646	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1077	646	674			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1077	646	674			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	82	98			
cM capacity (veh/h)	237	472	917			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	137	20	391	646	28	
Volume Left	51	20	0	0	0	
Volume Right	86	0	0	0	28	
cSH	345	917	1700	1700	1700	
Volume to Capacity	0.40	0.02	0.23	0.38	0.02	
Queue Length 95th (ft)	46	2	0	0	0	
Control Delay (s)	22.2	9.0	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	22.2	0.4		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			45.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

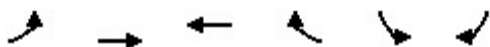
Heritage Green
PM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	20	7	330	653	108
Future Volume (Veh/h)	51	20	7	330	653	108
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	22	8	359	710	117
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1085	710	827			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1085	710	827			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	95	99			
cM capacity (veh/h)	237	434	804			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	55	22	8	359	710	117
Volume Left	55	0	8	0	0	0
Volume Right	0	22	0	0	0	117
cSH	237	434	804	1700	1700	1700
Volume to Capacity	0.23	0.05	0.01	0.21	0.42	0.07
Queue Length 95th (ft)	22	4	1	0	0	0
Control Delay (s)	24.7	13.7	9.5	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	21.6	0.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			44.4%		ICU Level of Service	
Analysis Period (min)			15			
			A			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Background - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	242	422	319	94	167	500
Future Volume (Veh/h)	242	422	319	94	167	500
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	263	459	347	102	182	543
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	449				1383	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	449				1383	398
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				0	17
cM capacity (veh/h)	1111				121	652
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	263	459	449	725		
Volume Left	263	0	0	182		
Volume Right	0	0	102	543		
cSH	1111	1700	1700	444		
Volume to Capacity	0.24	0.27	0.26	1.63		
Queue Length 95th (ft)	23	0	0	1042		
Control Delay (s)	9.2	0.0	0.0	318.2		
Lane LOS	A			F		
Approach Delay (s)	3.4		0.0	318.2		
Approach LOS				F		
Intersection Summary						
Average Delay			123.0			
Intersection Capacity Utilization			60.1%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
PM Background - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	40	56	668	795	14
Future Volume (Veh/h)	12	40	56	668	795	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	43	61	726	864	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1712	864	879			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1712	864	879			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	88	92			
cM capacity (veh/h)	92	354	769			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	56	61	726	864	15	
Volume Left	13	61	0	0	0	
Volume Right	43	0	0	0	15	
cSH	213	769	1700	1700	1700	
Volume to Capacity	0.26	0.08	0.43	0.51	0.01	
Queue Length 95th (ft)	26	6	0	0	0	
Control Delay (s)	27.9	10.1	0.0	0.0	0.0	
Lane LOS	D	B				
Approach Delay (s)	27.9	0.8		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			56.5%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Total - Partial Build

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	275	196	0	1279	426	315	1666
Future Volume (vph)	275	196	0	1279	426	315	1666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	213	0	1390	463	342	1811
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	299	213	0	1390	463	342	1811
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	14.3	102.4		51.3	102.4	24.3	80.1
Effective Green, g (s)	14.3	102.4		51.3	102.4	24.3	80.1
Actuated g/C Ratio	0.14	1.00		0.50	1.00	0.24	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	479	1583		1772	1583	420	2768
v/s Ratio Prot				c0.39		c0.19	0.51
v/s Ratio Perm	c0.09	0.13			0.29		
v/c Ratio	0.62	0.13		0.78	0.29	0.81	0.65
Uniform Delay, d1	41.5	0.0		21.0	0.0	36.9	5.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2		3.6	0.5	11.5	0.6
Delay (s)	44.1	0.2		24.6	0.5	48.4	5.5
Level of Service	D	A		C	A	D	A
Approach Delay (s)	25.8			18.5			12.3
Approach LOS	C			B			B
Intersection Summary							
HCM 2000 Control Delay			16.4		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.77				
Actuated Cycle Length (s)			102.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			71.1%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	17	541	130	421	347	145	100	163	340	128	172	33
Future Volume (vph)	17	541	130	421	347	145	100	163	340	128	172	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.53	1.00	1.00	0.17	1.00	1.00	0.55	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	984	3539	1583	313	3539	1583	1034	1863	1583	1026	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	588	141	458	377	158	109	177	370	139	187	36
RTOR Reduction (vph)	0	0	110	0	0	89	0	0	272	0	0	26
Lane Group Flow (vph)	18	588	31	458	377	69	109	177	98	139	187	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.2	19.3	19.3	45.2	38.8	38.8	30.2	23.3	23.3	31.0	23.7	23.7
Effective Green, g (s)	21.2	19.3	19.3	45.2	38.8	38.8	30.2	23.3	23.3	31.0	23.7	23.7
Actuated g/C Ratio	0.24	0.22	0.22	0.51	0.44	0.44	0.34	0.26	0.26	0.35	0.27	0.27
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	253	773	346	513	1555	695	411	491	417	421	500	424
v/s Ratio Prot	0.00	0.17		c0.22	0.11		0.02	0.10		c0.03	c0.10	
v/s Ratio Perm	0.02		0.02	c0.24		0.04	0.07		0.06	0.09		0.01
v/c Ratio	0.07	0.76	0.09	0.89	0.24	0.10	0.27	0.36	0.23	0.33	0.37	0.02
Uniform Delay, d1	25.8	32.3	27.5	21.6	15.5	14.5	20.4	26.4	25.5	20.3	26.3	23.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	4.4	0.1	17.6	0.1	0.1	0.3	2.1	1.3	0.5	0.5	0.0
Delay (s)	25.9	36.8	27.6	39.3	15.6	14.6	20.8	28.5	26.8	20.7	26.7	23.8
Level of Service	C	D	C	D	B	B	C	C	C	C	C	C
Approach Delay (s)		34.8			26.4			26.3			24.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			28.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			88.3			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			67.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	46	123	237	44	70	83	1400	149	203	1645	16
Future Volume (vph)	39	46	123	237	44	70	83	1400	149	203	1645	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	50	134	258	48	76	90	1522	162	221	1788	17
RTOR Reduction (vph)	0	0	126	0	0	67	0	0	41	0	0	6
Lane Group Flow (vph)	0	92	8	152	154	9	90	1522	121	221	1788	11
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.5	10.5	20.1	20.1	20.1	13.1	98.2	98.2	25.6	110.7	110.7
Effective Green, g (s)		10.5	10.5	20.1	20.1	20.1	13.1	98.2	98.2	25.6	110.7	110.7
Actuated g/C Ratio		0.06	0.06	0.12	0.12	0.12	0.08	0.57	0.57	0.15	0.64	0.64
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		110	96	195	199	184	134	2015	901	262	2272	1016
v/s Ratio Prot		c0.05		c0.09	0.09		0.05	0.43		c0.12	c0.51	
v/s Ratio Perm			0.01			0.01			0.08			0.01
v/c Ratio		0.84	0.09	0.78	0.77	0.05	0.67	0.76	0.13	0.84	0.79	0.01
Uniform Delay, d1		80.1	76.4	74.0	73.9	67.7	77.6	28.0	17.3	71.5	22.3	11.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		39.6	0.4	17.7	16.9	0.1	12.5	2.7	0.3	21.2	2.8	0.0
Delay (s)		119.7	76.8	91.7	90.9	67.8	90.0	30.7	17.6	92.6	25.2	11.1
Level of Service		F	E	F	F	E	F	C	B	F	C	B
Approach Delay (s)		94.3			86.6			32.5			32.4	
Approach LOS		F			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			40.3									
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			172.4									
Intersection Capacity Utilization			75.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Total - Partial Build

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	116	2	212	2	3	5	135	417	1	3	539	211	
Future Volume (Veh/h)	116	2	212	2	3	5	135	417	1	3	539	211	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	126	2	230	2	3	5	147	453	1	3	586	229	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type													
Median storage veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1346	1340	586	1570	1568	454	815				454		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1346	1340	586	1570	1568	454	815				454		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	0	98	55	95	97	99	82				100		
cM capacity (veh/h)	107	125	510	42	91	606	812				1107		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2						
Volume Total	126	2	230	10	601	589	229						
Volume Left	126	0	0	2	147	3	0						
Volume Right	0	0	230	5	1	0	229						
cSH	107	125	510	112	812	1107	1700						
Volume to Capacity	1.18	0.02	0.45	0.09	0.18	0.00	0.13						
Queue Length 95th (ft)	205	1	58	7	16	0	0						
Control Delay (s)	219.2	34.4	17.7	40.3	4.5	0.1	0.0						
Lane LOS	F	D	C	E	A	A							
Approach Delay (s)	88.7			40.3	4.5	0.1							
Approach LOS	F			E									
Intersection Summary													
Average Delay													
19.5													
Intersection Capacity Utilization													
81.1%													
ICU Level of Service													
D													
Analysis Period (min)													
15													

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	100	398	173	133	20	257	1425	63	87	1711	267
Future Volume (vph)	316	100	398	173	133	20	257	1425	63	87	1711	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.25	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	469	1863	1583	1279	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	109	433	188	145	22	279	1549	68	95	1860	290
RTOR Reduction (vph)	0	0	116	0	4	0	0	0	33	0	0	144
Lane Group Flow (vph)	343	109	317	188	163	0	279	1549	35	95	1860	146
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	48.1	34.1	34.1	26.4	16.9		14.1	75.0	75.0	8.7	69.6	69.6
Effective Green, g (s)	48.1	34.1	34.1	26.4	16.9		14.1	75.0	75.0	8.7	69.6	69.6
Actuated g/C Ratio	0.33	0.23	0.23	0.18	0.12		0.10	0.52	0.52	0.06	0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	394	437	371	264	212		333	1826	817	105	1695	758
v/s Ratio Prot	c0.16	0.06		0.05	0.09		c0.08	0.44		0.05	c0.53	
v/s Ratio Perm	c0.13		0.20	0.08					0.02			0.09
v/c Ratio	0.87	0.25	0.86	0.71	0.77		0.84	0.85	0.04	0.90	1.10	0.19
Uniform Delay, d1	41.2	45.2	53.2	54.7	62.3		64.5	30.3	17.4	67.9	37.9	21.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.5	0.3	17.3	8.8	15.8		16.6	5.1	0.1	58.1	53.6	0.6
Delay (s)	59.6	45.5	70.5	63.5	78.1		81.0	35.4	17.5	126.0	91.4	22.3
Level of Service	E	D	E	E	E		F	D	B	F	F	C
Approach Delay (s)		63.2			70.4			41.5			84.0	
Approach LOS		E			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			64.7			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			145.3			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			95.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	132	167	185	201	236	148	1267	159	353	1619	290
Future Volume (vph)	277	132	167	185	201	236	148	1267	159	353	1619	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1762	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1762	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	143	182	201	218	257	161	1377	173	384	1760	315
RTOR Reduction (vph)	0	0	155	0	0	215	0	0	116	0	0	163
Lane Group Flow (vph)	220	224	27	181	238	42	161	1377	57	384	1760	152
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.3	21.3	21.3	23.5	23.5	23.5	17.9	47.7	47.7	33.7	63.5	63.5
Effective Green, g (s)	21.3	21.3	21.3	23.5	23.5	23.5	17.9	47.7	47.7	33.7	63.5	63.5
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16	0.16	0.12	0.33	0.33	0.23	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	256	233	273	287	257	219	1170	523	413	1558	697
v/s Ratio Prot	c0.13	0.13		0.11	c0.14		0.09	0.39		c0.22	c0.50	
v/s Ratio Perm			0.02			0.03			0.04			0.10
v/c Ratio	0.89	0.88	0.12	0.66	0.83	0.16	0.74	1.18	0.11	0.93	1.13	0.22
Uniform Delay, d1	60.3	60.1	53.3	56.6	58.4	51.9	60.9	48.2	33.5	54.1	40.3	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	29.2	26.5	0.2	5.9	17.6	0.3	12.1	88.8	0.4	27.1	67.1	0.7
Delay (s)	89.5	86.6	53.5	62.6	76.0	52.2	72.9	137.0	33.9	81.2	107.4	25.7
Level of Service	F	F	D	E	E	D	E	F	C	F	F	C
Approach Delay (s)		78.0			63.4			120.6			92.9	
Approach LOS		E			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			96.2				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			144.2				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			91.3%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

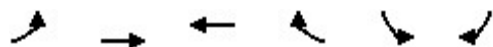
Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	573	4	0	498	396	5	3	3	517	3	154
Future Volume (vph)	177	573	4	0	498	396	5	3	3	517	3	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.96			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)	1770	1861			1863	1583		1754			1739	
Flt Permitted	0.11	1.00			1.00	1.00		0.85			0.77	
Satd. Flow (perm)	205	1861			1863	1583		1533			1388	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	192	623	4	0	541	430	5	3	3	562	3	167
RTOR Reduction (vph)	0	0	0	0	0	286	0	1	0	0	8	0
Lane Group Flow (vph)	192	627	0	0	541	144	0	10	0	0	724	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	48.3	48.3			38.5	38.5		57.4			57.4	
Effective Green, g (s)	48.3	48.3			38.5	38.5		57.4			57.4	
Actuated g/C Ratio	0.42	0.42			0.34	0.34		0.50			0.50	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	158	783			625	531		767			694	
v/s Ratio Prot	c0.06	0.34			0.29							
v/s Ratio Perm	c0.45					0.09		0.01			c0.52	
v/c Ratio	1.22	0.80			0.87	0.27		0.01			1.04	
Uniform Delay, d1	31.2	29.0			35.7	27.9		14.4			28.7	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	141.0	5.9			12.0	0.3		0.0			45.7	
Delay (s)	172.2	34.9			47.7	28.1		14.4			74.4	
Level of Service	F	C			D	C		B			E	
Approach Delay (s)		67.1			39.0			14.4			74.4	
Approach LOS		E			D			B			E	
Intersection Summary												
HCM 2000 Control Delay		58.2			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.15										
Actuated Cycle Length (s)		114.7			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		92.1%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Total - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	1080	880	32	39	64
Future Volume (Veh/h)	43	1080	880	32	39	64
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	1174	957	35	42	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.69	
vC, conflicting volume	992				2242	974
vC1, stage 1 conf vol					974	
vC2, stage 2 conf vol					1268	
vCu, unblocked vol	992				2571	974
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				74	77
cM capacity (veh/h)	697				163	305
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	47	1174	992	42	70	
Volume Left	47	0	0	42	0	
Volume Right	0	0	35	0	70	
cSH	697	1700	1700	163	305	
Volume to Capacity	0.07	0.69	0.58	0.26	0.23	
Queue Length 95th (ft)	5	0	0	24	22	
Control Delay (s)	10.5	0.0	0.0	34.6	20.3	
Lane LOS	B			D	C	
Approach Delay (s)	0.4		0.0	25.6		
Approach LOS				D		
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			66.8%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1052	16	46	820	55	2	0	39	67	0	53
Future Volume (vph)	34	1052	16	46	820	55	2	0	39	67	0	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	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	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1859		1770	1863	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.72	1.00		0.73	1.00	
Satd. Flow (perm)	1770	1859		1770	1863	1583	1340	1583		1359	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	1143	17	50	891	60	2	0	42	73	0	58
RTOR Reduction (vph)	0	0	0	0	0	20	0	34	0	0	47	0
Lane Group Flow (vph)	37	1160	0	50	891	40	2	8	0	73	11	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	3.7	72.8		4.1	73.2	73.2	20.2	20.2		20.2	20.2	
Effective Green, g (s)	3.7	72.8		4.1	73.2	73.2	20.2	20.2		20.2	20.2	
Actuated g/C Ratio	0.03	0.66		0.04	0.66	0.66	0.18	0.18		0.18	0.18	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	1223		65	1233	1047	244	289		248	289	
v/s Ratio Prot	0.02	c0.62		c0.03	0.48			0.00			0.01	
v/s Ratio Perm						0.03	0.00			c0.05		
v/c Ratio	0.63	0.95		0.77	0.72	0.04	0.01	0.03		0.29	0.04	
Uniform Delay, d1	52.8	17.2		52.8	12.1	6.5	37.0	37.1		39.0	37.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.0	14.9		41.2	2.1	0.0	0.1	0.2		3.0	0.2	
Delay (s)	71.8	32.1		94.0	14.2	6.5	37.1	37.3		42.0	37.4	
Level of Service	E	C		F	B	A	D	D		D	D	
Approach Delay (s)		33.3			17.8			37.3			40.0	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			110.6			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			74.2%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	572	8	0	322	192	17	23	7	341	13	487
Future Volume (vph)	511	572	8	0	322	192	17	23	7	341	13	487
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1795			1777	1583
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	278	1859			1863	1583	1770	1795			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	555	622	9	0	350	209	18	25	8	371	14	529
RTOR Reduction (vph)	0	0	0	0	0	152	0	8	0	0	0	111
Lane Group Flow (vph)	555	631	0	0	350	57	18	25	0	0	385	418
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	63.6	63.6			24.1	24.1	6.2	6.2			27.2	62.2
Effective Green, g (s)	63.6	63.6			24.1	24.1	6.2	6.2			27.2	62.2
Actuated g/C Ratio	0.58	0.58			0.22	0.22	0.06	0.06			0.25	0.56
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	632	1069			406	345	99	100			437	955
v/s Ratio Prot	c0.28	0.34			0.19		0.01	c0.01			c0.22	0.14
v/s Ratio Perm	c0.23					0.04						0.13
v/c Ratio	0.88	0.59			0.86	0.16	0.18	0.25			0.88	0.44
Uniform Delay, d1	26.9	15.1			41.6	35.0	49.7	49.9			40.1	14.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	13.1	0.8			16.9	0.2	0.9	1.3			18.4	0.3
Delay (s)	40.1	15.9			58.5	35.3	50.6	51.3			58.4	14.3
Level of Service	D	B			E	D	D	D			E	B
Approach Delay (s)		27.2			49.8			51.0			32.9	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			34.2									
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			110.5									
Intersection Capacity Utilization			85.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Kent Ave & Caroline Dr

Heritage Green
PM Total - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	15	123	43	22	57
Future Volume (Veh/h)	23	15	123	43	22	57
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	16	134	47	24	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	268	158			181	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268	158			181	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			98	
cM capacity (veh/h)	709	888			1394	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	41	181	86			
Volume Left	25	0	24			
Volume Right	16	47	0			
cSH	770	1700	1394			
Volume to Capacity	0.05	0.11	0.02			
Queue Length 95th (ft)	4	0	1			
Control Delay (s)	9.9	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	2.2			
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		26.6%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Total - Partial Build

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	117	46	0	74
Future Volume (Veh/h)	0	0	117	46	0	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	127	50	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	232	152			177	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	232	152			177	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	756	894			1399	
Direction, Lane #	NB 1	SB 1				
Volume Total	177	80				
Volume Left	0	0				
Volume Right	50	0				
cSH	1700	1700				
Volume to Capacity	0.10	0.05				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			12.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Total - Partial Build

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	557	321	411	649	271	313
Future Volume (vph)	0	557	321	411	649	271	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	605	349	447	705	295	340
RTOR Reduction (vph)	0	0	251	0	0	0	260
Lane Group Flow (vph)	0	605	98	447	705	295	80
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		19.2	19.2	20.6	44.3	16.1	16.1
Effective Green, g (s)		19.2	19.2	20.6	44.3	16.1	16.1
Actuated g/C Ratio		0.28	0.28	0.30	0.65	0.24	0.24
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		993	444	533	2292	416	372
v/s Ratio Prot		c0.17		c0.25	0.20	c0.17	
v/s Ratio Perm			0.06				0.05
v/c Ratio		0.61	0.22	0.84	0.31	0.71	0.22
Uniform Delay, d1		21.3	18.9	22.3	5.3	24.0	21.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.1	0.3	11.1	0.1	9.8	1.3
Delay (s)		22.4	19.1	33.4	5.4	33.8	22.4
Level of Service		C	B	C	A	C	C
Approach Delay (s)		21.2			16.3	27.7	
Approach LOS		C			B	C	
Intersection Summary							
HCM 2000 Control Delay			20.6		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.72				
Actuated Cycle Length (s)			68.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			63.2%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	79	18	480	705	26
Future Volume (Veh/h)	47	79	18	480	705	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	86	20	522	766	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1328	766	794			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1328	766	794			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	69	79	98			
cM capacity (veh/h)	167	403	827			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	137	20	522	766	28	
Volume Left	51	20	0	0	0	
Volume Right	86	0	0	0	28	
cSH	264	827	1700	1700	1700	
Volume to Capacity	0.52	0.02	0.31	0.45	0.02	
Queue Length 95th (ft)	69	2	0	0	0	
Control Delay (s)	32.5	9.5	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	32.5	0.3		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	3.1					
Intersection Capacity Utilization	51.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

Heritage Green
PM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	20	7	450	764	108
Future Volume (Veh/h)	51	20	7	450	764	108
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	22	8	489	830	117
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1335	830	947			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1335	830	947			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	94	99			
cM capacity (veh/h)	168	370	725			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	55	22	8	489	830	117
Volume Left	55	0	8	0	0	0
Volume Right	0	22	0	0	0	117
cSH	168	370	725	1700	1700	1700
Volume to Capacity	0.33	0.06	0.01	0.29	0.49	0.07
Queue Length 95th (ft)	33	5	1	0	0	0
Control Delay (s)	36.6	15.3	10.0	0.0	0.0	0.0
Lane LOS	E	C	B			
Approach Delay (s)	30.6	0.2		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			50.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Total - Partial Build



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	320	431	334	136	193	585
Future Volume (Veh/h)	320	431	334	136	193	585
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	468	363	148	210	636
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	511				1601	437
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511				1601	437
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	67				0	0
cM capacity (veh/h)	1054				78	620
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	348	468	511	846		
Volume Left	348	0	0	210		
Volume Right	0	0	148	636		
cSH	1054	1700	1700	251		
Volume to Capacity	0.33	0.28	0.30	3.37		
Queue Length 95th (ft)	36	0	0	Err		
Control Delay (s)	10.1	0.0	0.0	Err		
Lane LOS	B			F		
Approach Delay (s)	4.3		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay			3894.5			
Intersection Capacity Utilization			68.7%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
PM Total - Partial Build

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	45	64	735	863	46
Future Volume (Veh/h)	32	45	64	735	863	46
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	49	70	799	938	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1877	938	988			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1877	938	988			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	51	85	90			
cM capacity (veh/h)	71	321	699			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	84	70	799	938	50	
Volume Left	35	70	0	0	0	
Volume Right	49	0	0	0	50	
cSH	130	699	1700	1700	1700	
Volume to Capacity	0.65	0.10	0.47	0.55	0.03	
Queue Length 95th (ft)	86	8	0	0	0	
Control Delay (s)	73.4	10.7	0.0	0.0	0.0	
Lane LOS	F	B				
Approach Delay (s)	73.4	0.9		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			63.5%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

20: La Plata Parkway/Site Access & Rosewick Rd

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1001	39	40	918	0	29	0	30	0	0	0
Future Volume (vph)	0	1001	39	40	918	0	29	0	30	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5		4.5			
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00		1.00			
Frt		1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3539	1583	1770	3539		1770		1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.44		1.00			
Satd. Flow (perm)		3539	1583	1770	3539		828		1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1088	42	43	998	0	32	0	33	0	0	0
RTOR Reduction (vph)	0	0	22	0	0	0	0	0	26	0	0	0
Lane Group Flow (vph)	0	1088	20	43	998	0	32	0	7	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)		26.3	26.3	3.1	33.9		12.5		12.5			
Effective Green, g (s)		26.3	26.3	3.1	33.9		12.5		12.5			
Actuated g/C Ratio		0.47	0.47	0.06	0.61		0.23		0.23			
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5		4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1680	751	99	2165		214		357			
v/s Ratio Prot		c0.31		0.02	c0.28		c0.00					
v/s Ratio Perm			0.01				c0.03		0.00			
v/c Ratio		0.65	0.03	0.43	0.46		0.15		0.02			
Uniform Delay, d1		11.0	7.7	25.3	5.8		17.1		16.7			
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2		0.9	0.0	3.0	0.2		0.3		0.0			
Delay (s)		11.9	7.8	28.3	6.0		17.4		16.7			
Level of Service		B	A	C	A		B		B			
Approach Delay (s)		11.8			6.9			17.1			0.0	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.6			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			55.4			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			44.9%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

22: Site Access & Rosewick Rd

Heritage Green
PM Total - Partial Build

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	861	47	47	856	124	29	0	30	72	0	73
Future Volume (vph)	123	861	47	47	856	124	29	0	30	72	0	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99			1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3512			3530	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00			0.85	1.00	0.71	1.00		0.58	1.00	
Satd. Flow (perm)	1770	3512			3011	1583	1314	1583		1072	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	936	51	51	930	135	32	0	33	78	0	79
RTOR Reduction (vph)	0	3	0	0	0	63	0	30	0	0	69	0
Lane Group Flow (vph)	134	984	0	0	981	72	32	3	0	78	10	0
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	6.5	51.6			40.6	40.6	9.1	7.2		13.1	9.2	
Effective Green, g (s)	6.5	51.6			40.6	40.6	9.1	7.2		13.1	9.2	
Actuated g/C Ratio	0.09	0.68			0.53	0.53	0.12	0.09		0.17	0.12	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	2378			1604	843	168	149		220	191	
v/s Ratio Prot	c0.08	0.28					0.00	0.00		c0.02	0.01	
v/s Ratio Perm					c0.33	0.05	0.02			c0.04		
v/c Ratio	0.89	0.41			0.61	0.09	0.19	0.02		0.35	0.05	
Uniform Delay, d1	34.5	5.5			12.3	8.7	30.1	31.3		27.4	29.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	43.5	0.1			0.7	0.0	0.6	0.1		1.0	0.1	
Delay (s)	78.0	5.6			13.0	8.8	30.6	31.4		28.3	29.7	
Level of Service	E	A			B	A	C	C		C	C	
Approach Delay (s)		14.3			12.5			31.0			29.0	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			14.9									
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			76.2									
Intersection Capacity Utilization			72.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	100	398	173	133	20	257	1425	63	87	1711	267
Future Volume (vph)	316	100	398	173	133	20	257	1425	63	87	1711	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1279	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	109	433	188	145	22	279	1549	68	95	1860	290
RTOR Reduction (vph)	0	0	132	0	3	0	0	0	32	0	0	141
Lane Group Flow (vph)	343	109	301	188	164	0	279	1549	36	95	1860	149
Turn Type	Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8					2			6
Actuated Green, G (s)	17.8	30.7	30.7	27.5	20.2		14.2	74.9	74.9	11.0	71.7	71.7
Effective Green, g (s)	17.8	30.7	30.7	27.5	20.2		14.2	74.9	74.9	11.0	71.7	71.7
Actuated g/C Ratio	0.13	0.22	0.22	0.19	0.14		0.10	0.53	0.53	0.08	0.51	0.51
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	403	342	273	259		343	1868	835	137	1788	799
v/s Ratio Prot	c0.10	0.06		0.04	0.09		c0.08	c0.44		0.05	c0.53	
v/s Ratio Perm			c0.19	0.10					0.02			0.09
v/c Ratio	0.80	0.27	0.88	0.69	0.63		0.81	0.83	0.04	0.69	1.04	0.19
Uniform Delay, d1	60.3	46.3	53.8	52.1	57.3		62.6	28.1	16.2	63.8	35.1	19.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	0.4	21.6	7.1	5.0		13.7	4.4	0.1	14.1	32.6	0.5
Delay (s)	70.2	46.6	75.4	59.2	62.3		76.2	32.6	16.3	77.9	67.7	19.7
Level of Service	E	D	E	E	E		E	C	B	E	E	B
Approach Delay (s)		69.9			60.6			38.4			61.9	
Approach LOS		E			E			D			E	
Intersection Summary												
HCM 2000 Control Delay			54.9				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			141.9				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			92.8%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	132	167	185	201	236	148	1267	159	353	1619	290
Future Volume (vph)	277	132	167	185	201	236	148	1267	159	353	1619	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1762	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1762	1583	1770	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	143	182	201	218	257	161	1377	173	384	1760	315
RTOR Reduction (vph)	0	0	154	0	0	190	0	0	100	0	0	169
Lane Group Flow (vph)	220	224	28	181	238	67	161	1377	73	384	1760	146
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	22.3	22.3	22.3	23.1	23.1	23.1	15.7	61.0	61.0	20.4	65.7	65.7
Effective Green, g (s)	22.3	22.3	22.3	23.1	23.1	23.1	15.7	61.0	61.0	20.4	65.7	65.7
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16	0.16	0.11	0.42	0.42	0.14	0.45	0.45
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	258	267	243	268	281	252	191	1490	666	483	1605	718
v/s Ratio Prot	c0.13	0.13		0.11	c0.14		0.09	0.39		c0.11	c0.50	
v/s Ratio Perm			0.02			0.04			0.05			0.09
v/c Ratio	0.85	0.84	0.12	0.68	0.85	0.27	0.84	0.92	0.11	0.80	1.10	0.20
Uniform Delay, d1	59.7	59.5	52.8	57.3	59.1	53.4	63.3	39.7	25.4	60.2	39.6	23.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.8	20.0	0.2	6.6	20.4	0.6	27.2	11.1	0.3	8.8	53.8	0.6
Delay (s)	82.5	79.5	53.0	63.9	79.5	54.0	90.5	50.8	25.8	69.0	93.3	24.4
Level of Service	F	E	D	E	E	D	F	D	C	E	F	C
Approach Delay (s)		72.8			65.6			52.0			80.7	
Approach LOS		E			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			69.0				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			144.8				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			89.7%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

Heritage Green

PM Total - Partial Build with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	573	4	0	498	396	5	3	3	517	3	154
Future Volume (vph)	177	573	4	0	498	396	5	3	3	517	3	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5			4.5			4.5	
Lane Util. Factor	1.00	1.00			0.95			1.00			1.00	
Frt	1.00	1.00			0.93			0.96			0.97	
Flt Protected	0.95	1.00			1.00			0.98			0.96	
Satd. Flow (prot)	1770	1861			3304			1754			1739	
Flt Permitted	0.10	1.00			1.00			0.85			0.77	
Satd. Flow (perm)	194	1861			3304			1533			1388	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	192	623	4	0	541	430	5	3	3	562	3	167
RTOR Reduction (vph)	0	0	0	0	121	0	0	1	0	0	9	0
Lane Group Flow (vph)	192	627	0	0	850	0	0	10	0	0	723	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.7	48.7			33.9			60.8			60.8	
Effective Green, g (s)	48.7	48.7			33.9			60.8			60.8	
Actuated g/C Ratio	0.41	0.41			0.29			0.51			0.51	
Clearance Time (s)	4.5	4.5			4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	216	764			945			786			712	
v/s Ratio Prot	0.08	c0.34			0.26							
v/s Ratio Perm	c0.29							0.01			c0.52	
v/c Ratio	0.89	0.82			0.90			0.01			1.02	
Uniform Delay, d1	28.5	31.0			40.7			14.1			28.9	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	32.6	7.1			11.3			0.0			37.7	
Delay (s)	61.1	38.1			51.9			14.2			66.6	
Level of Service	E	D			D			B			E	
Approach Delay (s)		43.5			51.9			14.2			66.6	
Approach LOS		D			D			B			E	
Intersection Summary												
HCM 2000 Control Delay	53.3			HCM 2000 Level of Service			D					
HCM 2000 Volume to Capacity ratio	0.99											
Actuated Cycle Length (s)	118.5			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	92.4%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Appendix C

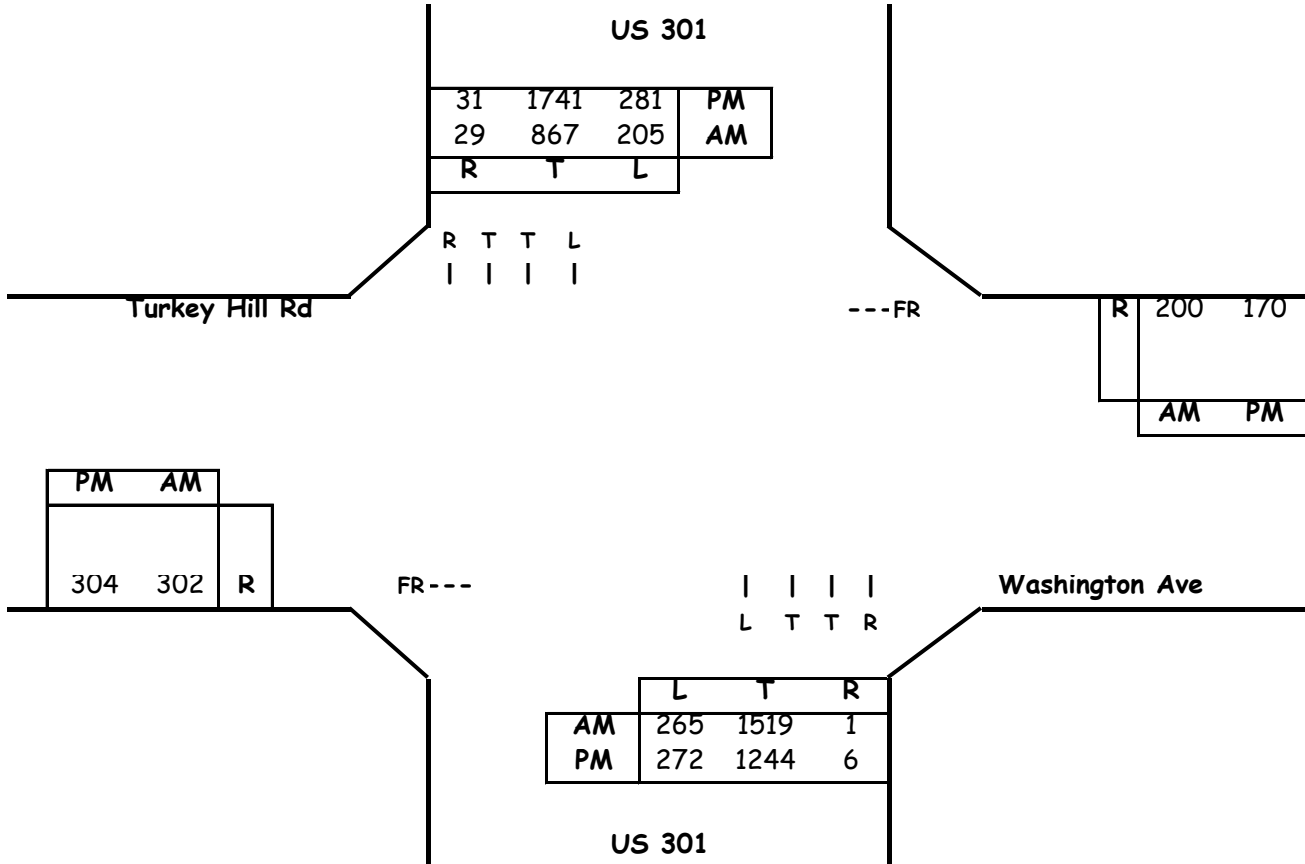
Full Build Out Critical Lane Volume (LOS) Worksheets
Full Build Out Highway Capacity Manual (HCM) Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: US 301
Minor Street: Washington Ave
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1519	0.55	835	205	1	205	1040
SB	867	0.55	477	265	1	265	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1040
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1244	0.55	684	281	1	281	1230
SB	1741	0.55	958	272	1	272	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1230
Level of Service (LOS) =							C

Critical Lane Volume Analysis



**US 301 &
Washington Ave**
 (BACKGROUND TRAFFIC)

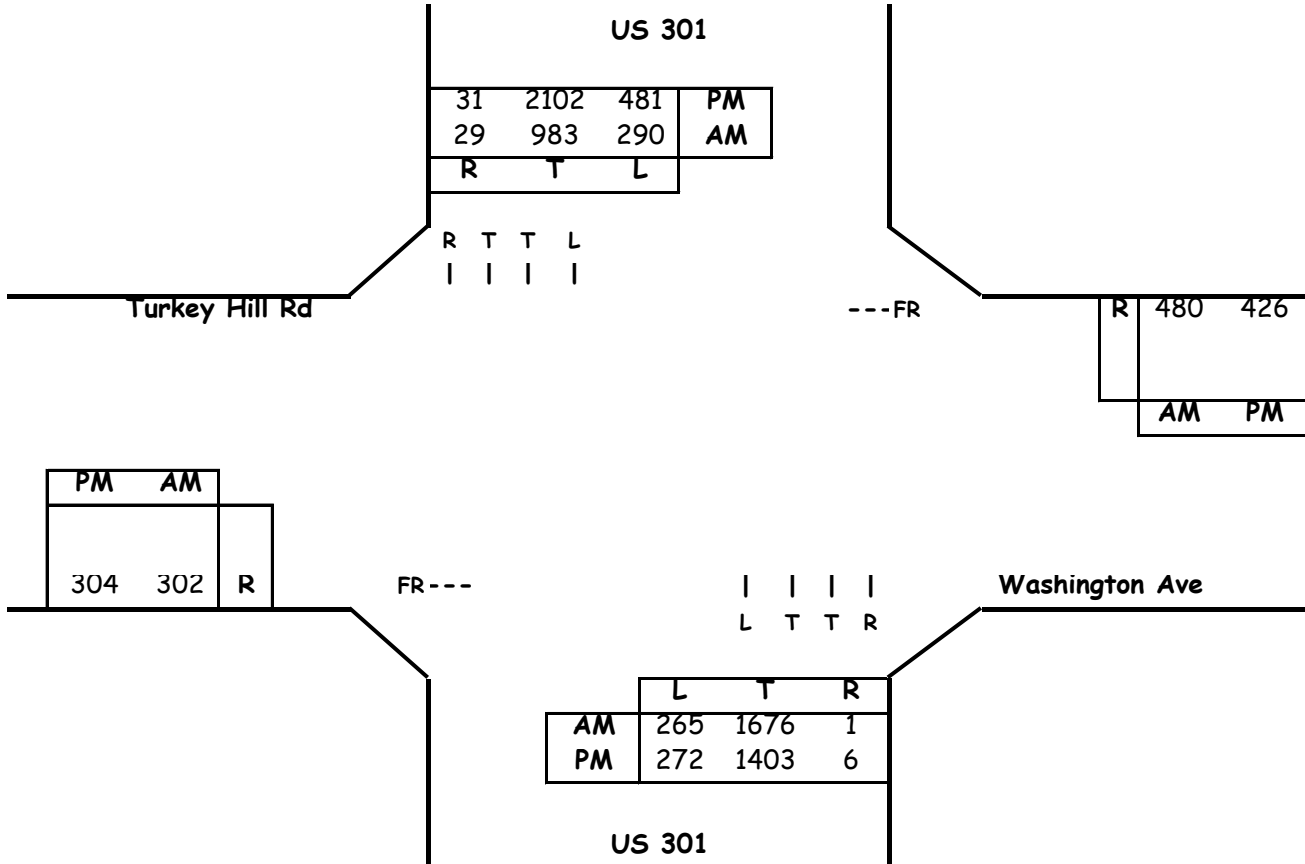
Intersection
1

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: US 301
Minor Street: Washington Ave
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1676	0.55	922	290	1	290	1212
SB	983	0.55	541	265	1	265	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1212
Level of Service (LOS) =							C

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1403	0.55	772	481	1	481	1428
SB	2102	0.55	1156	272	1	272	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							1428
Level of Service (LOS) =							D

Critical Lane Volume Analysis



**US 301 &
Washington Ave**
 (TOTAL TRAFFIC)

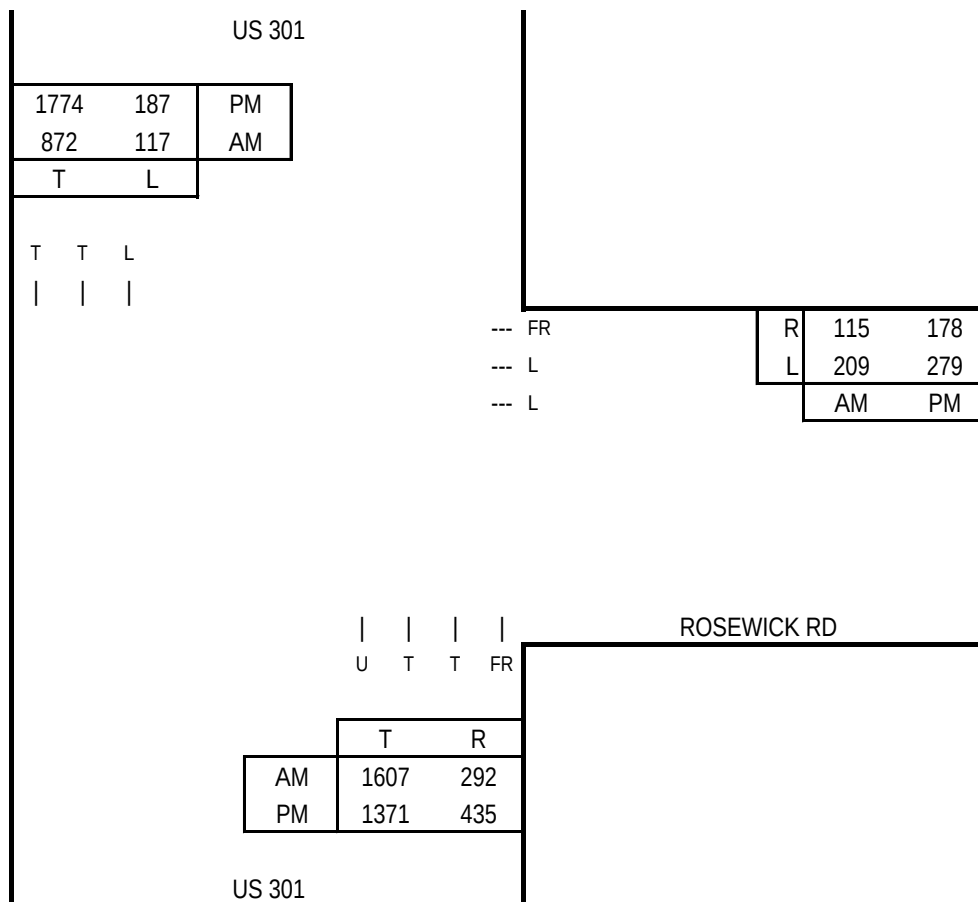
Intersection
1

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

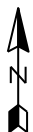
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	209	0.60	125			
NB	1607	0.55	884	117	1.00	117
SB	872	0.55	480			
CLV TOTAL=						1126
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	279	0.60	167			
NB	1371	0.55	754	187	1.00	187
SB	1774	0.55	976			
CLV TOTAL=						1143
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com



US 301 &
Rosewick Rd
(Background Traffic)

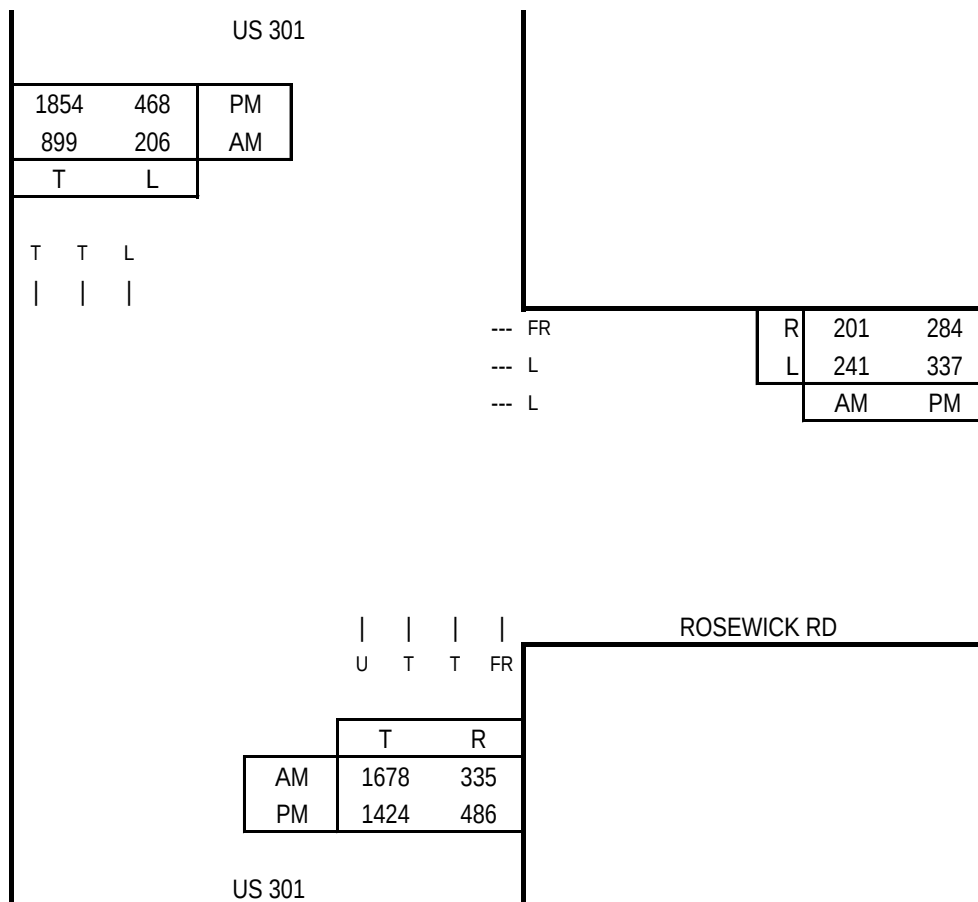
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

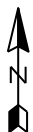
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	241	0.60	145				145
NB	1678	0.55	923	206	1.00	206	1129
SB	899	0.55	494				
CLV TOTAL=							1274
Level of Service (LOS) =							C

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	337	0.60	202				202
NB	1424	0.55	783	468	1.00	468	1251
SB	1854	0.55	1020				
CLV TOTAL=							1453
Level of Service (LOS) =							E

Critical Lane Volume Analysis



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US 301 &
Rosewick Rd
(Total Traffic)

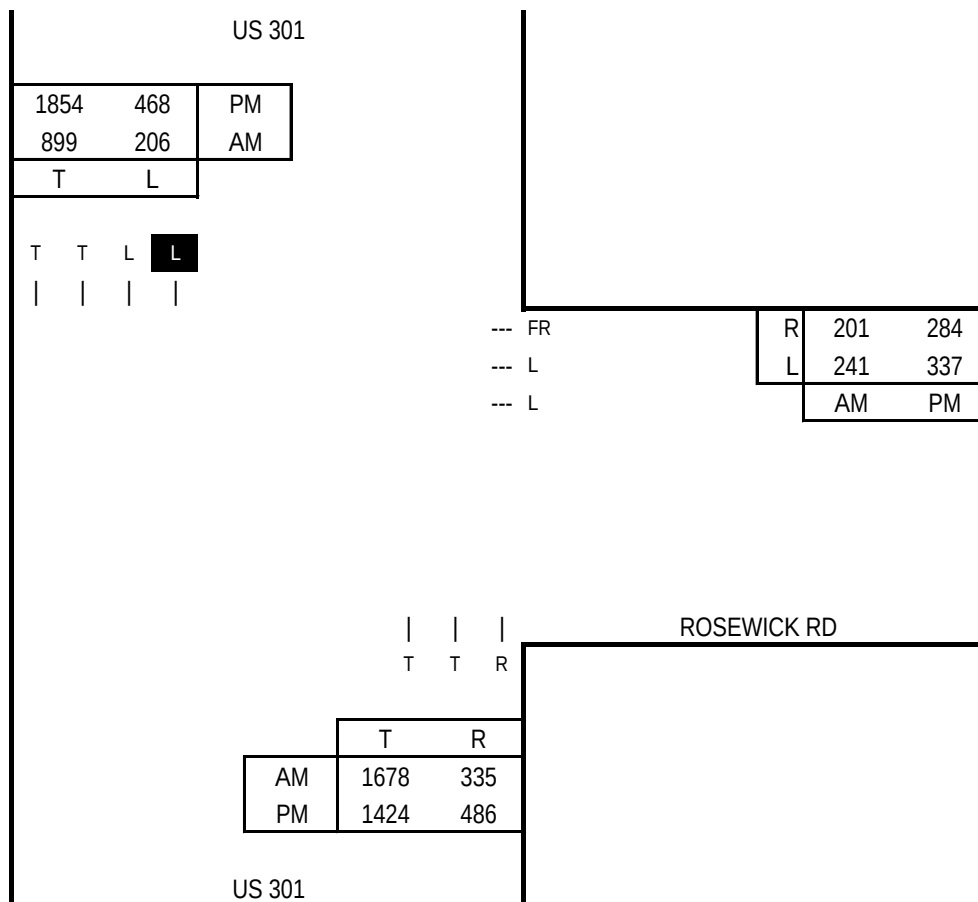
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: US 301
and: Rosewick Rd
Conditions: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

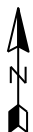
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	241	0.60	145			
NB	1678	0.55	923	206	0.55	113
SB	899	0.55	494			
CLV TOTAL=						1181
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	337	0.60	202			
NB	1424	0.55	783	468	0.55	257
SB	1854	0.55	1020			
CLV TOTAL=						1242
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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US 301 &
Rosewick Rd
(Total Traffic with Potential Imp's)

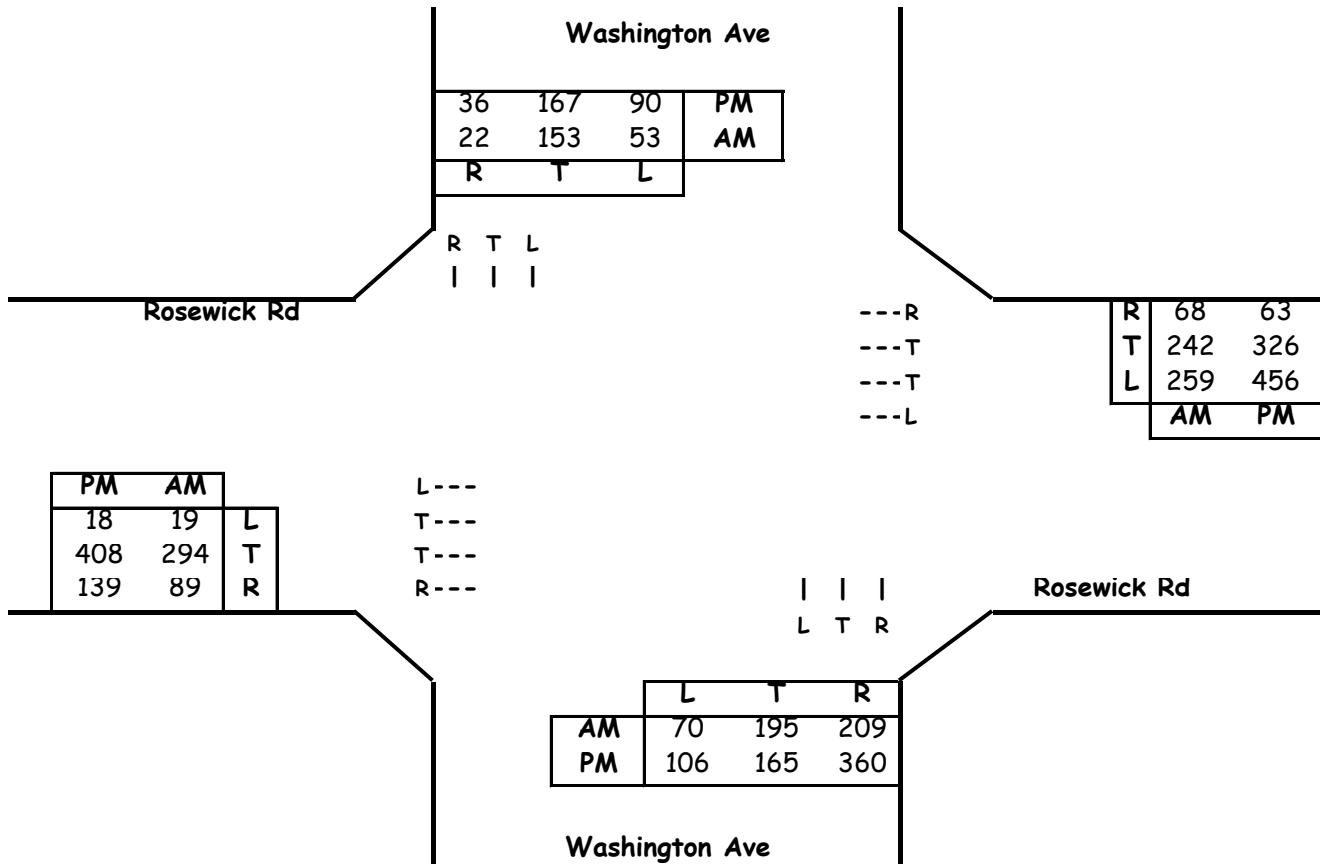
Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Washington Ave
Minor Street: Rosewick Rd
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	195	1.00	195	53	1	53	248
SB	153	1.00	153	70	1	70	
EB	294	0.55	162	259	1	259	421
WB	242	0.55	133	19	1	19	
CLV TOTAL=							669
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	165	1.00	165	90	1	90	273
SB	167	1.00	167	106	1	106	
EB	408	0.55	224	456	1	456	680
WB	326	0.55	179	18	1	18	
CLV TOTAL=							953
Level of Service (LOS) =							A

Critical Lane Volume Analysis



**Washington Ave &
 Rosewick Rd**
 (BACKGROUND TRAFFIC)

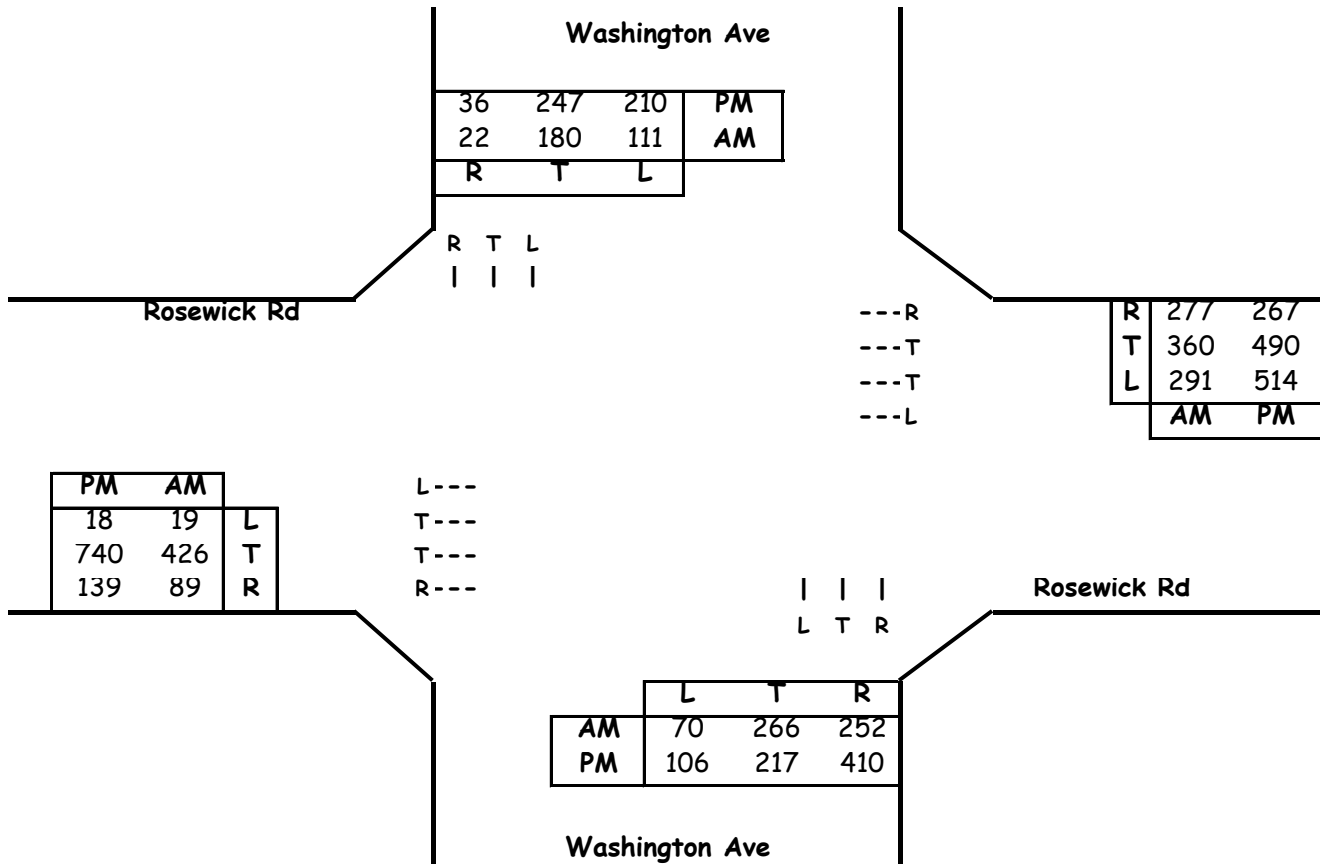
**Intersection
 3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Washington Ave
Minor Street: Rosewick Rd
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	266	1.00	266	111	1	111
SB	180	1.00	180	70	1	70
EB	426	0.55	234	291	1	291
WB	360	0.55	198	19	1	19
CLV TOTAL=						902
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	217	1.00	217	210	1	210
SB	247	1.00	247	106	1	106
EB	740	0.55	407	514	1	514
WB	490	0.55	270	18	1	18
CLV TOTAL=						1348
Level of Service (LOS) =						D

Critical Lane Volume Analysis



**Washington Ave &
 Rosewick Rd
 (TOTAL TRAFFIC)**

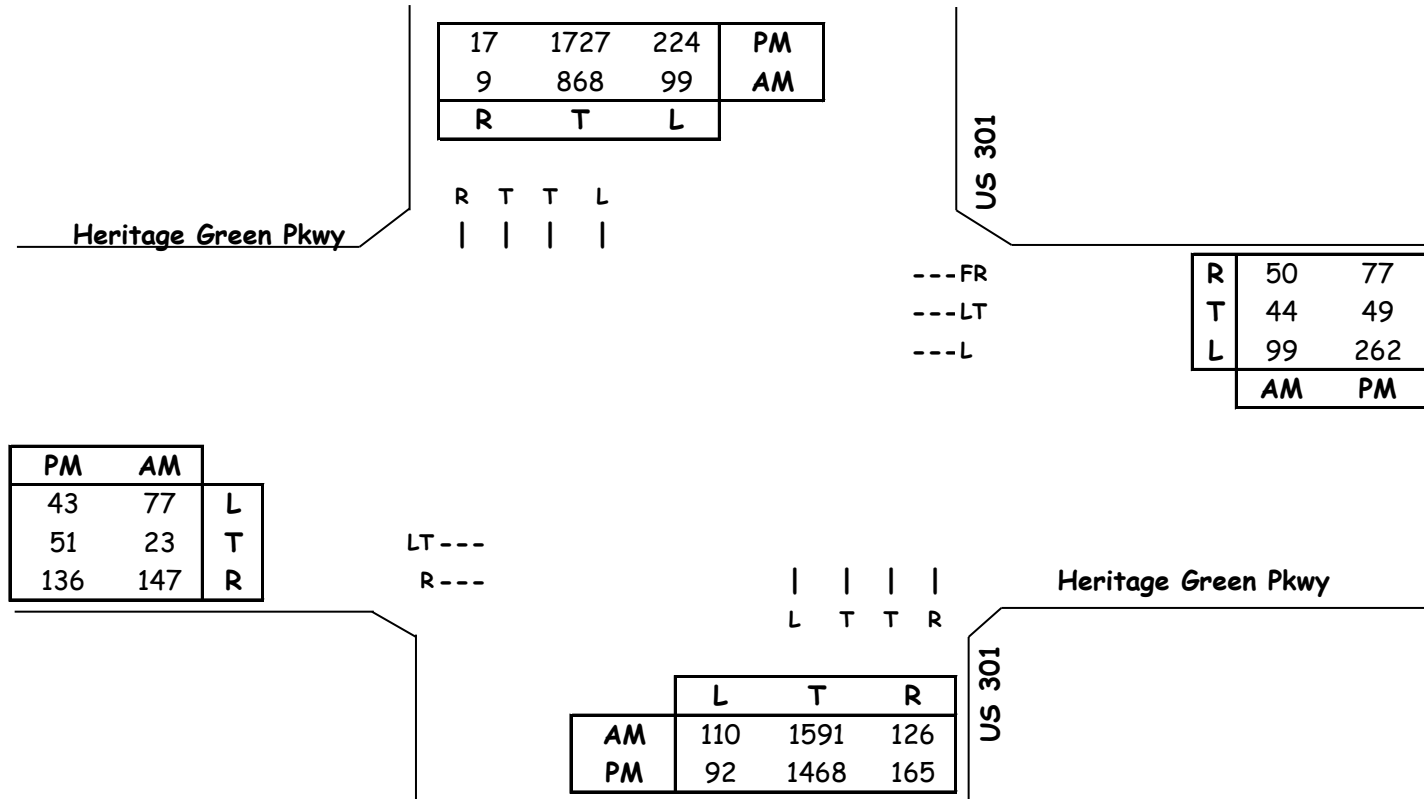
**Intersection
 3**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	100	1.00	100			
WB	143	0.60	86			
NB	1591	0.55	875	99	1.00	99
SB	868	0.55	477	110	1.00	110
CLV TOTAL=						1160
Level of Service (LOS) =						C

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	94	1.00	94			
WB	311	0.60	187			
NB	1468	0.55	807	224	1.00	224
SB	1727	0.55	950	92	1.00	92
CLV TOTAL=						1323
Level of Service (LOS) =						D

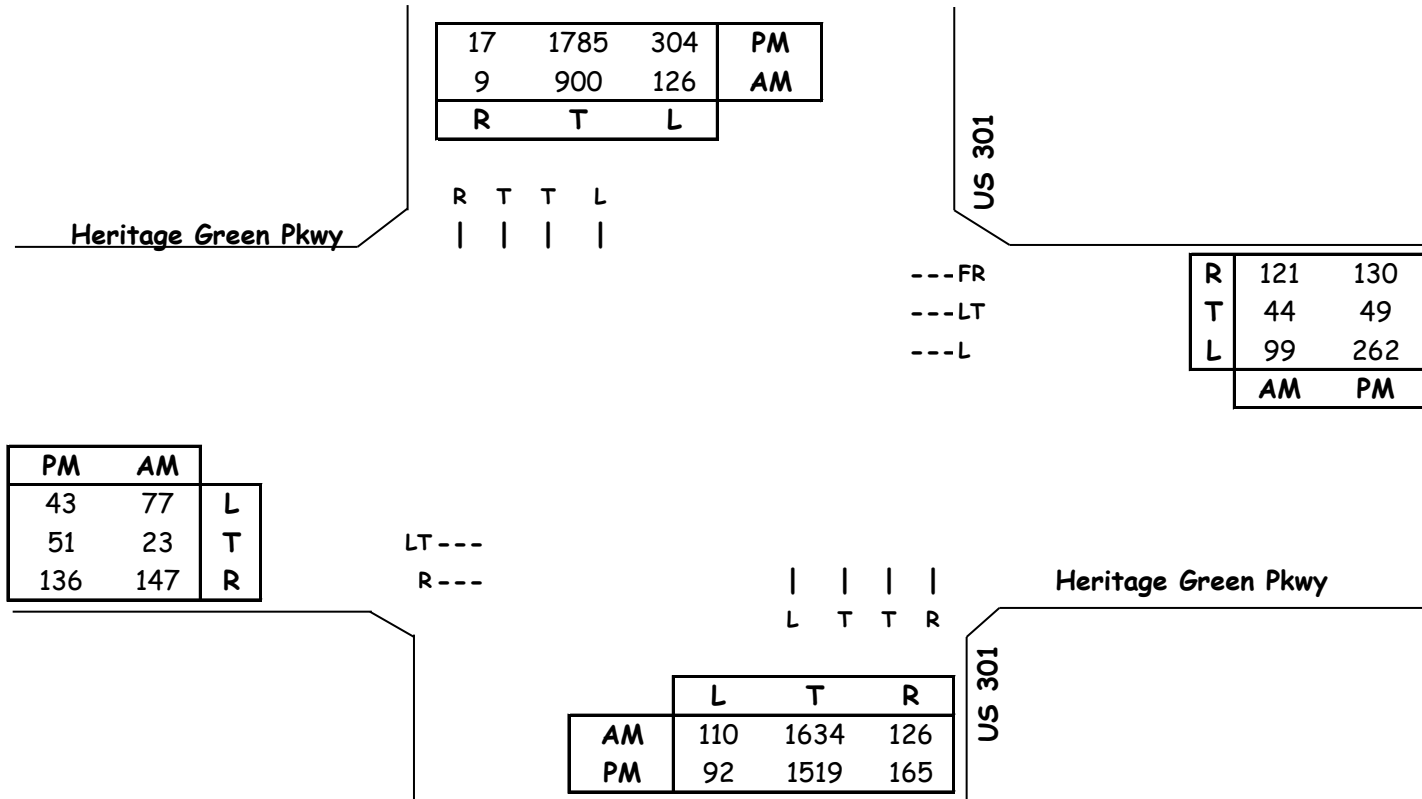
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & Heritage Green Pkwy (Background Traffic)	Intersection 4

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	100	1.00	100			
WB	143	0.60	86			
NB	1634	0.55	899	126	1.00	126
SB	900	0.55	495	110	1.00	110
CLV TOTAL=						1211
Level of Service (LOS) =						C

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	94	1.00	94			
WB	311	0.60	187			
NB	1519	0.55	835	304	1.00	304
SB	1785	0.55	982	92	1.00	92
CLV TOTAL=						1420
Level of Service (LOS) =						D

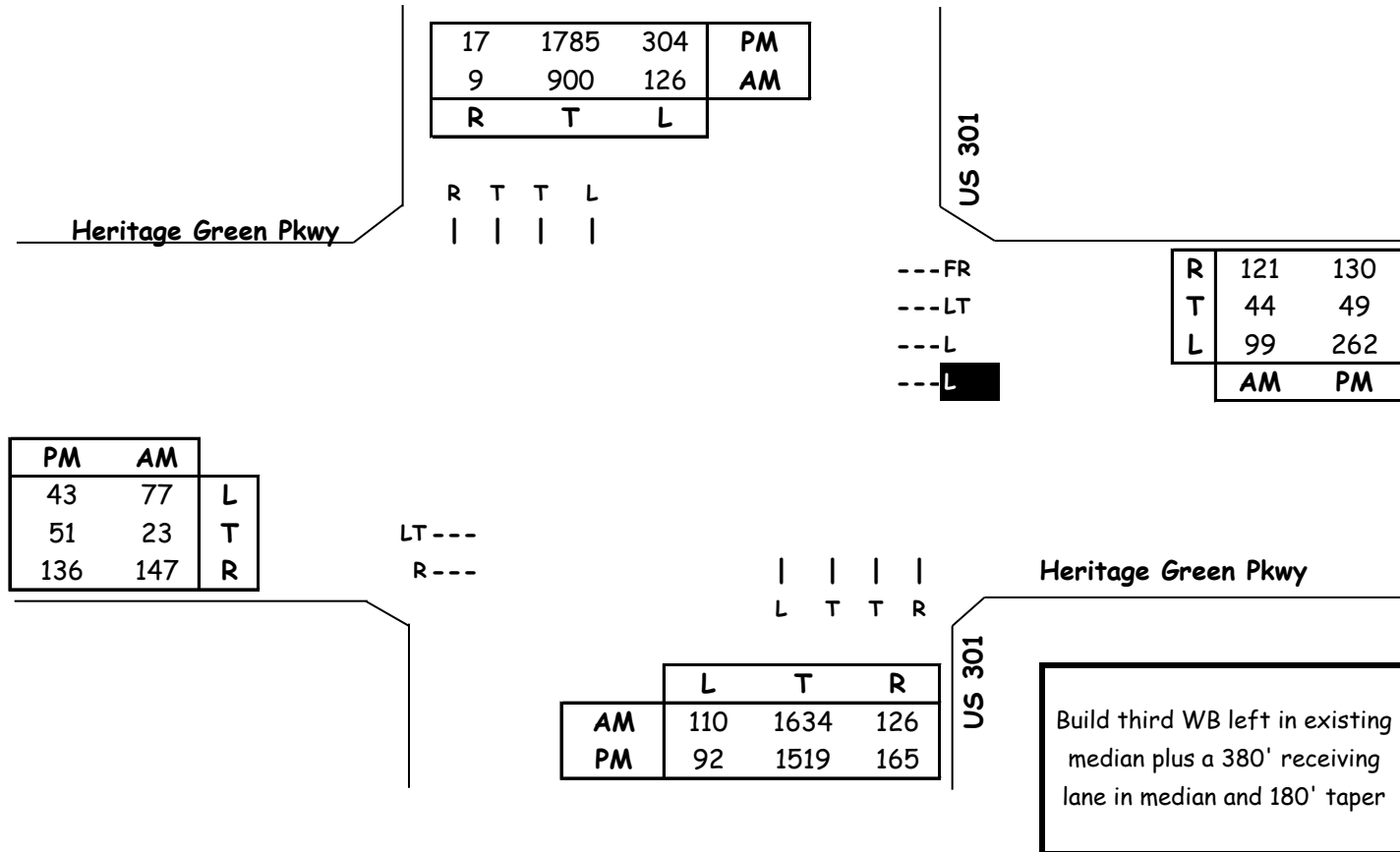
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & Heritage Green Pkwy (Total Traffic)	Intersection 4

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: Heritage Green Pkwy
Study Period: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	100	1.00	100			
WB	143	0.40	57			
NB	1634	0.55	899	126	1.00	126
SB	900	0.55	495	110	1.00	110
CLV TOTAL=						1182
Level of Service (LOS) =						C

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	94	1.00	94			
WB	311	0.40	124			
NB	1519	0.55	835	304	1.00	304
SB	1785	0.55	982	92	1.00	92
CLV TOTAL=						1357
Level of Service (LOS) =						D

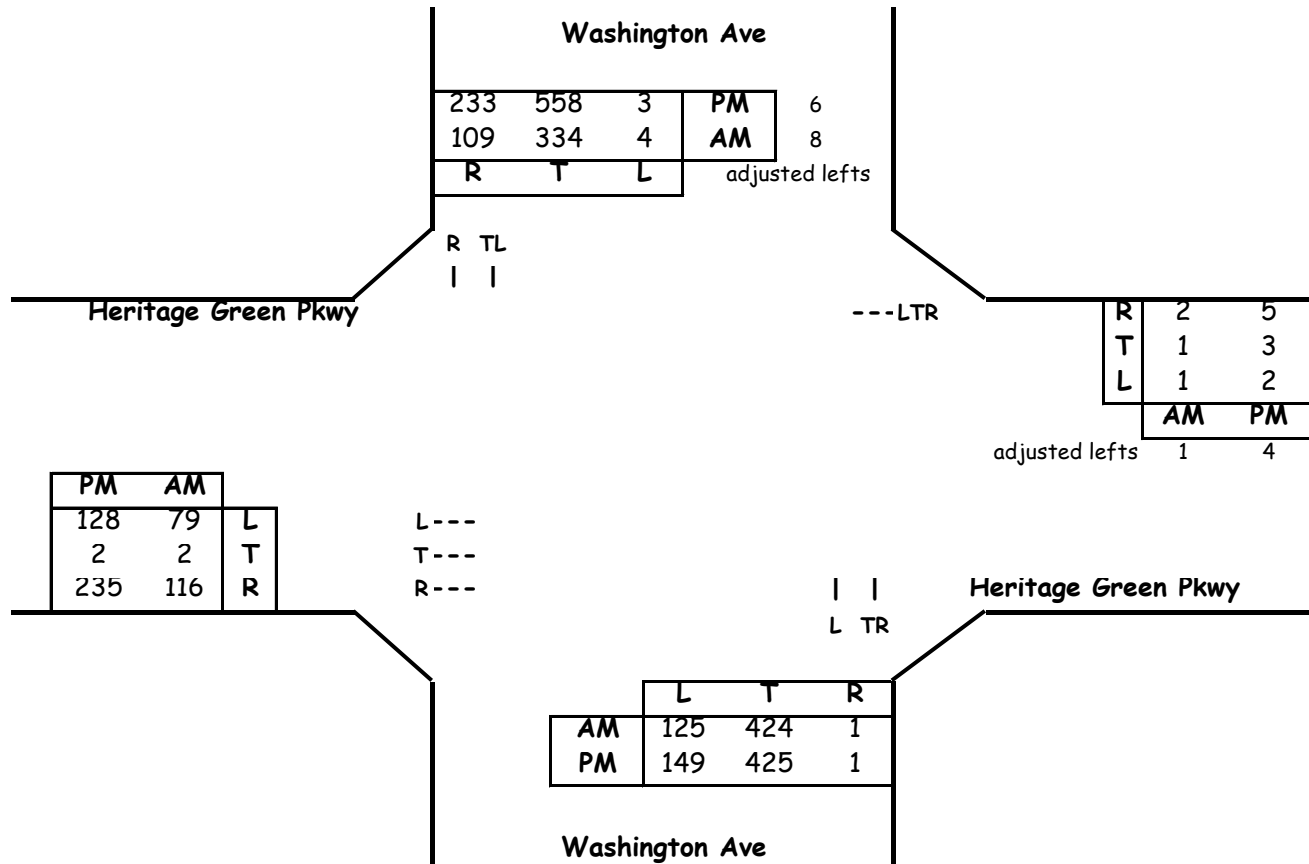
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & Heritage Green Pkwy (Total Traffic with Potential Imp's)	Intersection 4

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Heritage Green Pkwy
Minor Street: Washington Ave
Study Period: Background Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	425	1.00	425	4	1	4	467
SB	342	1.00	342	125	1	125	
EB	2	1	2	1	1	1	83
WB	4	1	4	79	1	79	
CLV TOTAL=							550
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	426	1.00	426	3	1	3	713
SB	564	1.00	564	149	1	149	
EB	86	1	86	2	1	2	140
WB	12	1	12	128	1	128	
CLV TOTAL=							853
Level of Service (LOS) =							A

Critical Lane Volume Analysis



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**Heritage Green Pkwy &
 Washington Ave**
 (Background Traffic)

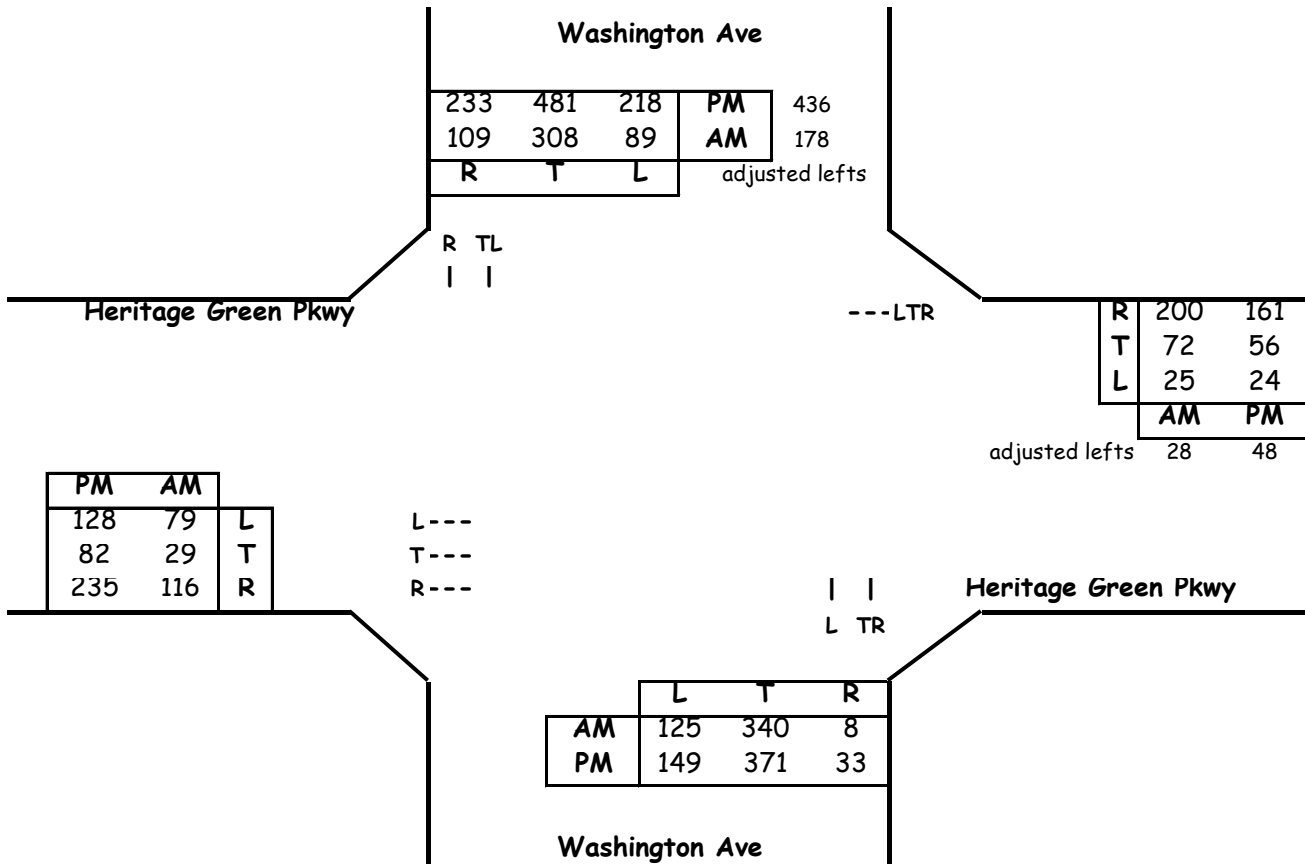
Intersection
5

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Heritage Green Pkwy
Minor Street: Washington Ave
Study Period: Total Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	348	1.00	348	89	1	89
SB	486	1.00	486	125	1	125
EB	29	1	29	25	1	25
WB	300	1	300	79	1	79
CLV TOTAL=						990
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	404	1.00	404	218	1	218
SB	917	1.00	917	149	1	149
EB	86	1	86	24	1	24
WB	265	1	265	128	1	128
CLV TOTAL=						1459
Level of Service (LOS) =						E

Critical Lane Volume Analysis



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**Heritage Green Pkwy &
 Washington Ave**
 (Total Traffic)

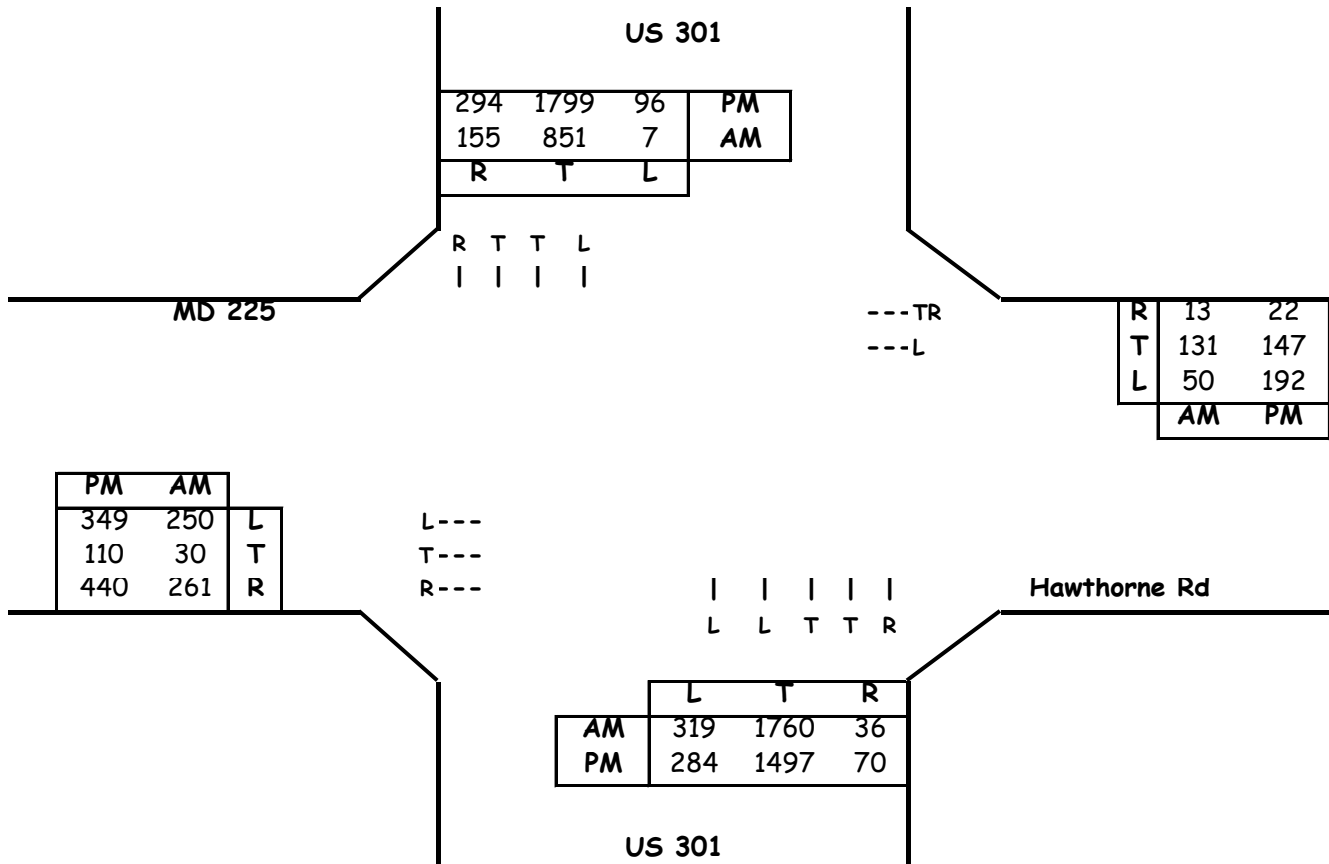
Intersection
5

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour									
Dir	Thru Volumes			+ Opposing Lefts			AM		
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV		
NB	1760	0.55	968	7	1	7	975		
SB	851	0.55	468	319	0.6	191			
EB	70	1	70	50	1	50	394		
WB	144	1	144	250	1	250			
CLV TOTAL=							1369		
Level of Service (LOS)=							D		

Evening Peak Hour									
Dir	Thru Volumes			+ Opposing Lefts			PM		
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV		
NB	1497	0.55	823	96	1	96	1159		
SB	1799	0.55	989	284	0.6	170			
EB	270	1	270	192	1	192	518		
WB	169	1	169	349	1	349			
CLV TOTAL=							1677		
Level of Service (LOS)=							F		

Critical Lane Volume Analysis



**US 301 &
 Hawthorne Rd**
 (BACKGROUND TRAFFIC)

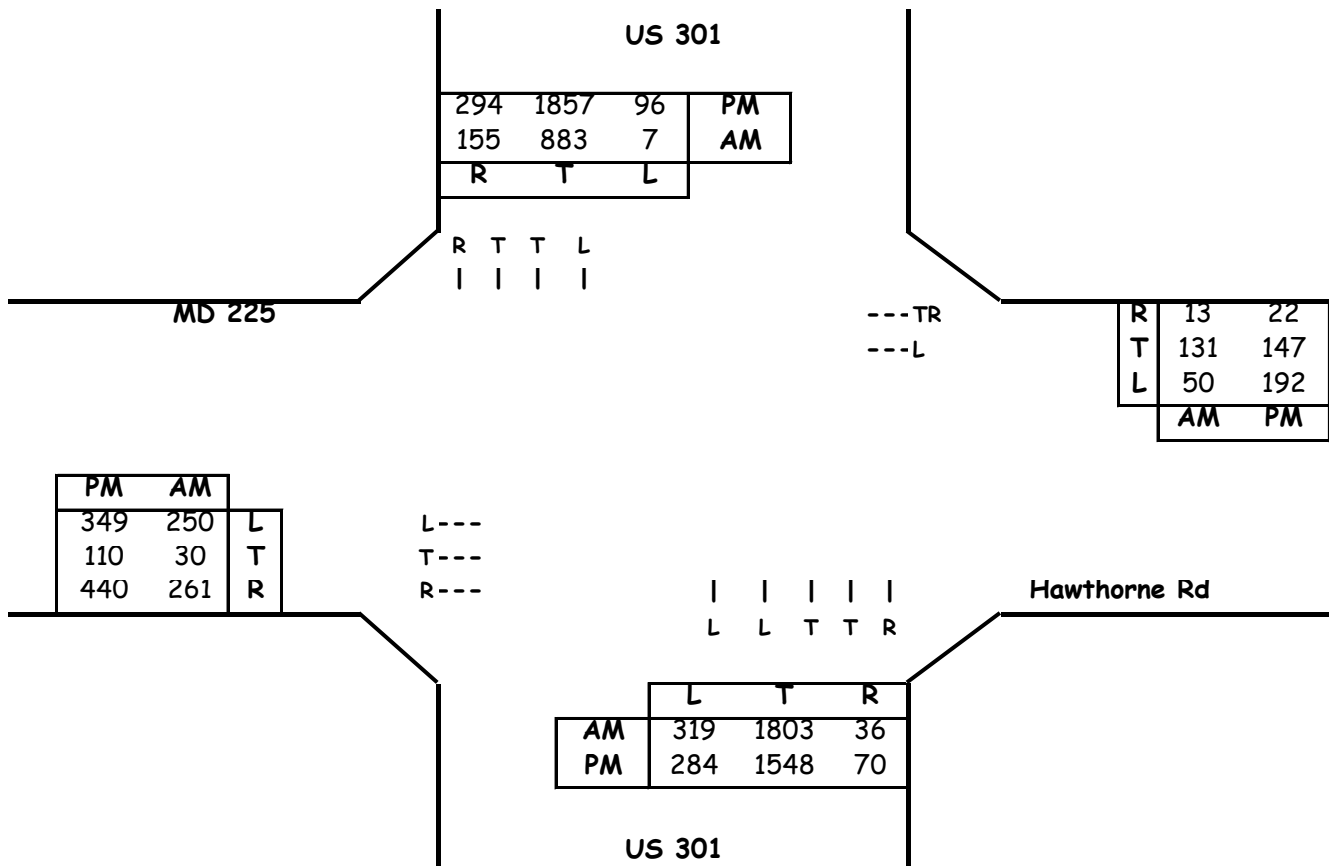
**Intersection
 6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	1803	0.55	992	7	1	7	999
SB	883	0.55	486	319	0.6	191	
EB	70	1	70	50	1	50	394
WB	144	1	144	250	1	250	
CLV TOTAL=							1393
Level of Service (LOS) =							D

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF =	Total	VOL	x LUF =	Total	CLV
NB	1548	0.55	851	96	1	96	1191
SB	1857	0.55	1021	284	0.6	170	
EB	270	1	270	192	1	192	518
WB	169	1	169	349	1	349	
CLV TOTAL=							1709
Level of Service (LOS) =							F

Critical Lane Volume Analysis



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**US 301 &
 Hawthorne Rd
 (TOTAL TRAFFIC)**

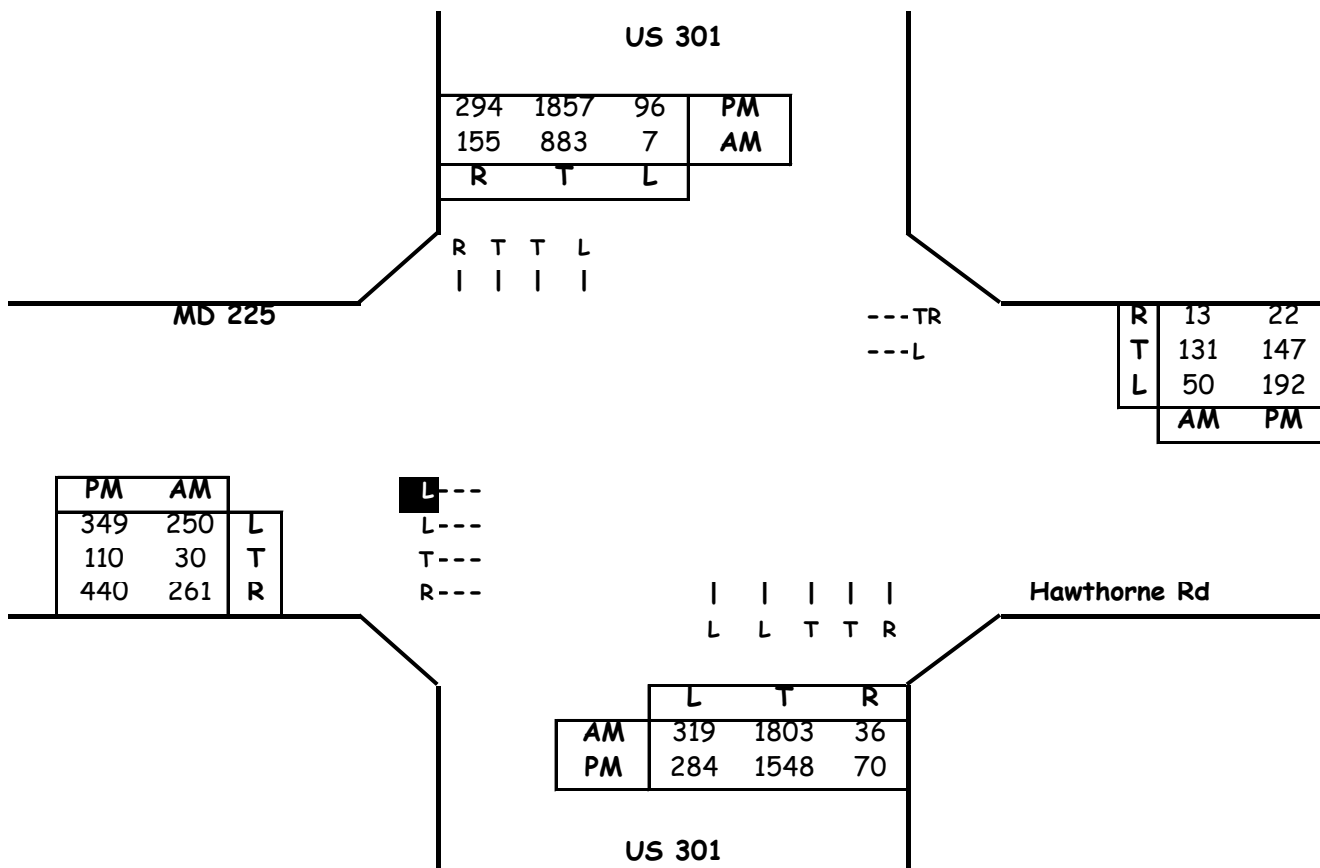
**Intersection
 6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: US 301
Minor Street: Hawthorne Rd
Study Period: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1803	0.55	992	7	1	7
SB	883	0.55	486	319	0.6	191
EB	70	1	70	50	1	50
WB	144	1	144	250	0.6	150
CLV TOTAL=						1293
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	1548	0.55	851	96	1	96
SB	1857	0.55	1021	284	0.6	170
EB	270	1	270	192	1	192
WB	169	1	169	349	0.6	209
CLV TOTAL=						1653
Level of Service (LOS) =						F

Critical Lane Volume Analysis



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**US 301 &
 Hawthorne Rd**
 (Total Traffic with Potential Imp's)

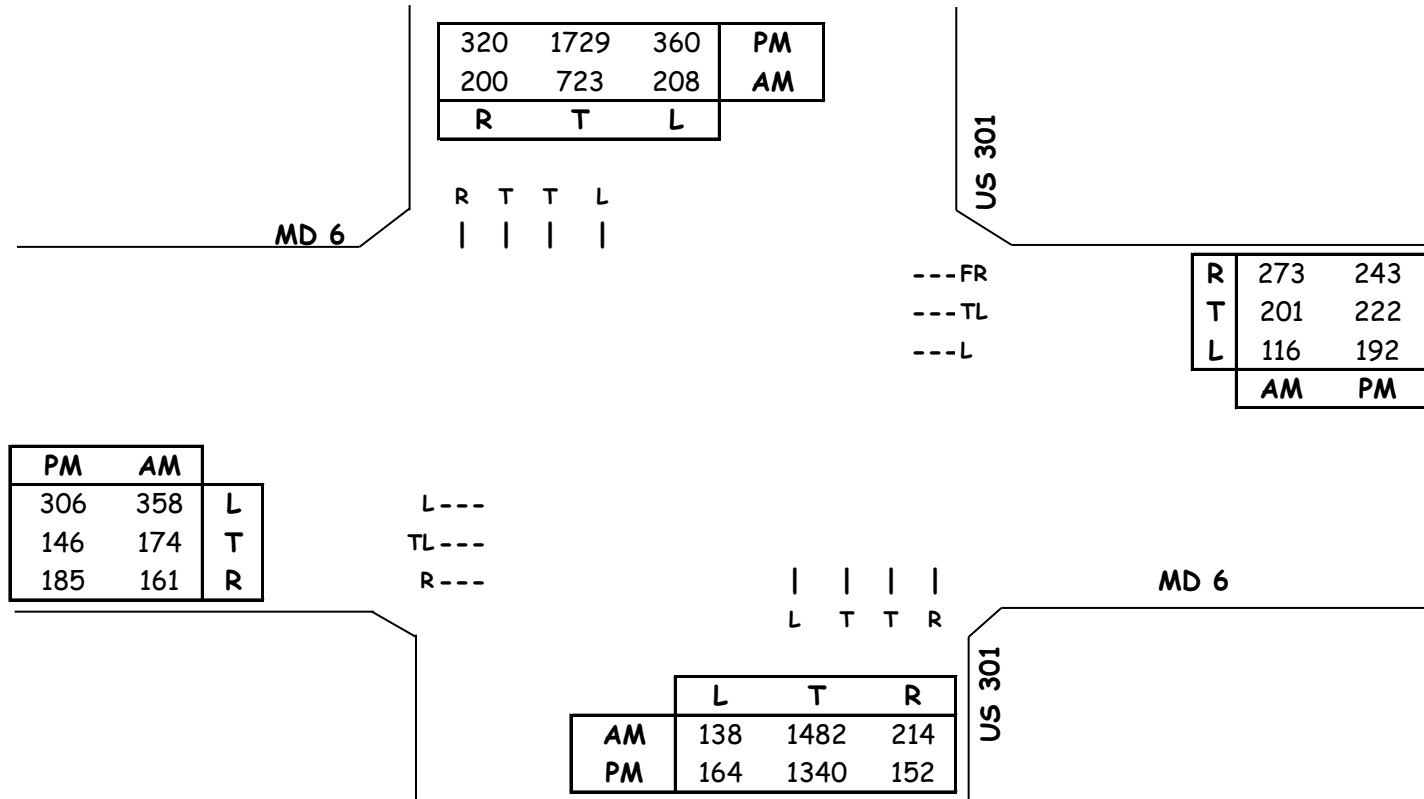
**Intersection
 6**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	532	0.60	319			
WB	201	1.00	201			
NB	1482	0.55	815	208	1.00	208
SB	723	0.55	398	138	1.00	138
CLV TOTAL=						1543
Level of Service (LOS) =						E

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	452	0.60	271			
WB	414	0.60	248			
NB	1340	0.55	737	360	1.00	360
SB	1729	0.55	951	164	1.00	164
CLV TOTAL=						1634
Level of Service (LOS) =						F

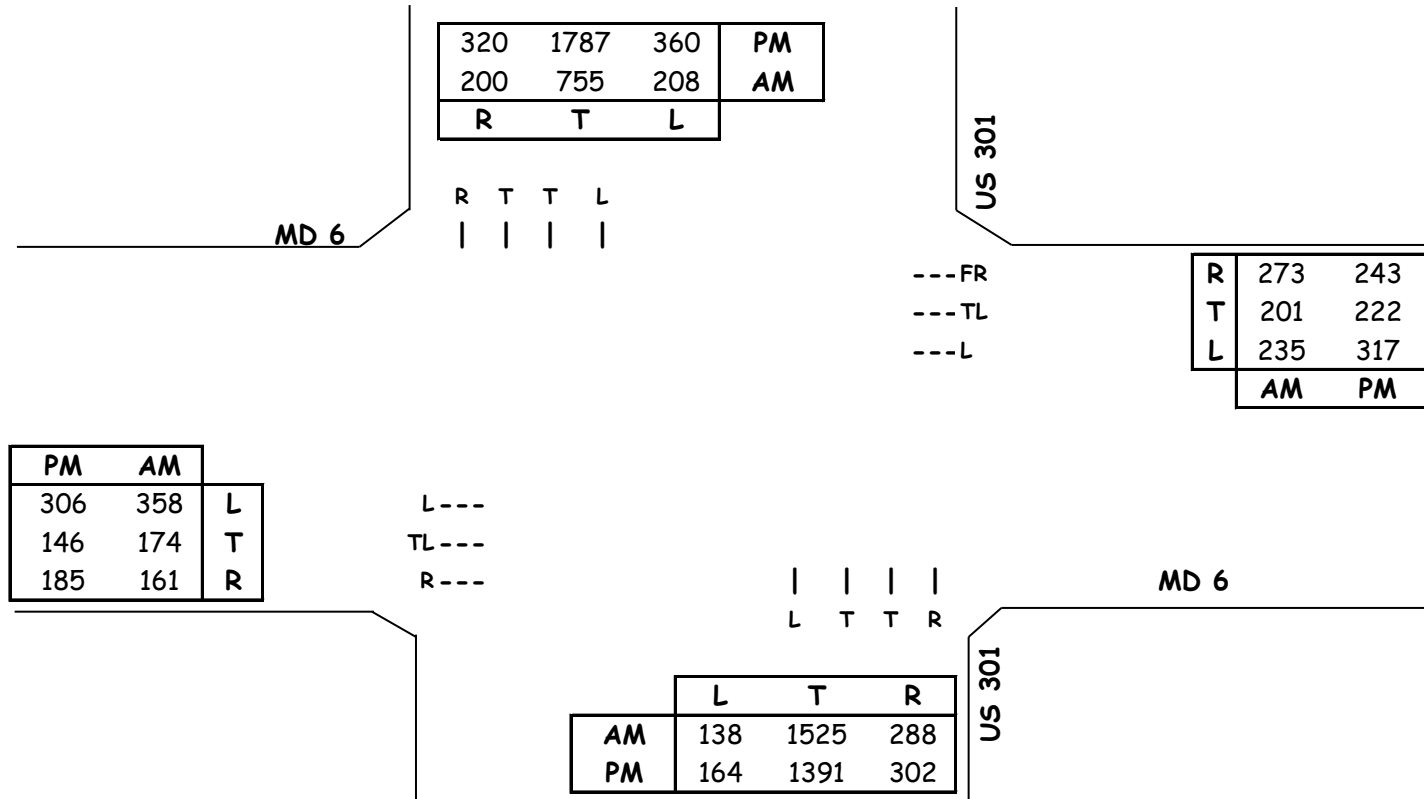
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & MD 6	Intersection 7
Traffic Engineering & Transportation Planning		(Background Traffic)	

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	532	0.60	319			
WB	436	0.60	262			
NB	1525	0.55	839	208	1.00	208
SB	755	0.55	415	138	1.00	138
CLV TOTAL=						1628
Level of Service (LOS) =						F

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	452	0.60	271			
WB	539	0.60	323			
NB	1391	0.55	765	360	1.00	360
SB	1787	0.55	983	164	1.00	164
CLV TOTAL=						1741
Level of Service (LOS) =						F

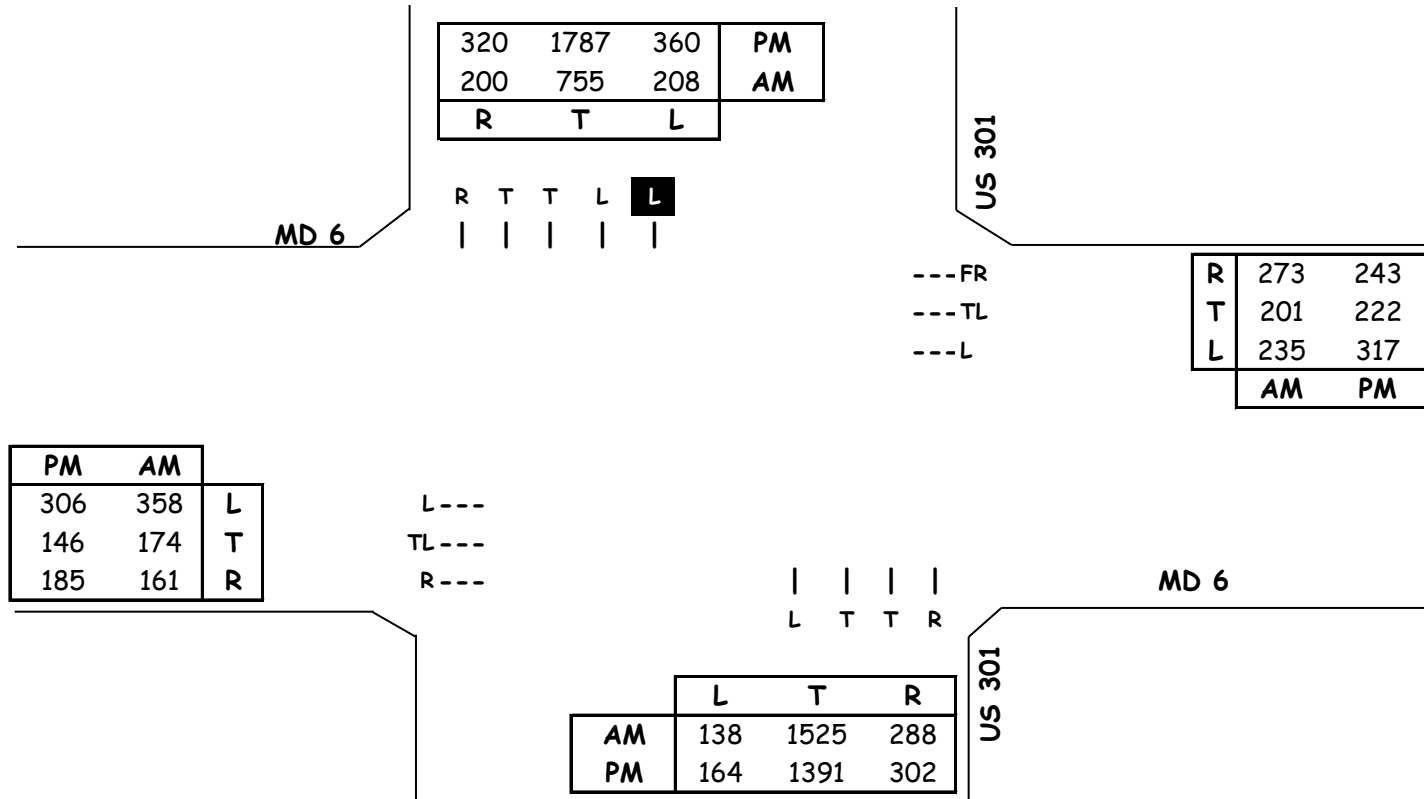
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.		US 301 & MD 6	Intersection 7
Traffic Engineering & Transportation Planning		(Total Traffic)	

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: US 301
Minor Street: MD 6
Study Period: Total Traffic with Potential Imp's

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	532	0.60	319			
WB	436	0.60	262			
NB	1525	0.55	839	208	0.60	125
SB	755	0.55	415	138	1.00	138
CLV TOTAL=						1545
Level of Service (LOS) =						E

PM Peak Hour						
Dir	Through Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	452	0.60	271			
WB	539	0.60	323			
NB	1391	0.55	765	360	0.60	216
SB	1787	0.55	983	164	1.00	164
CLV TOTAL=						1741
Level of Service (LOS) =						F

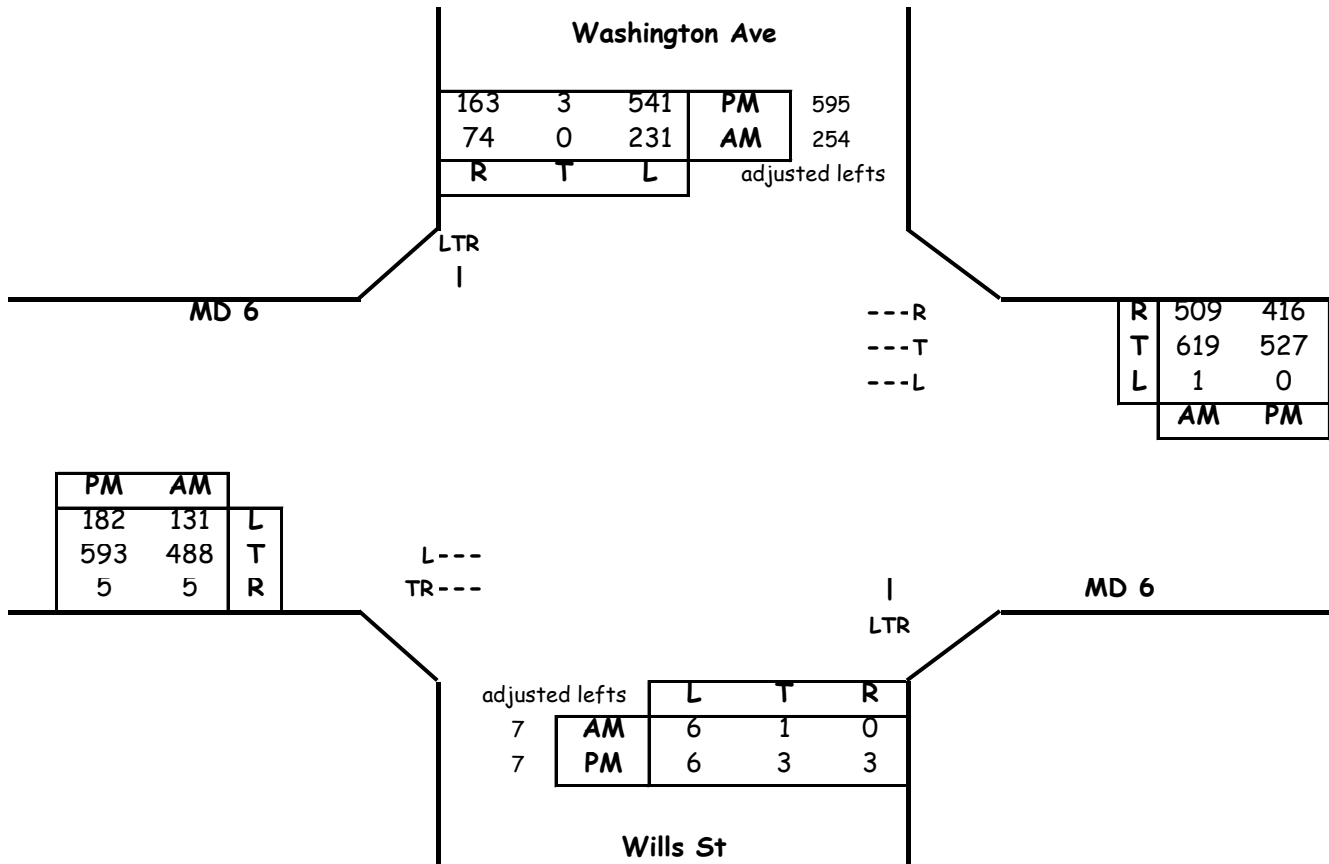
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc.			
Traffic Engineering & Transportation Planning			
		US 301 & MD 6	Intersection 7
		(Total Traffic with Potential Imp's)	

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	8	1.00	8	231	1	231	334
SB	328	1.00	328	6	1	6	
EB	493	1	493	1	1	1	750
WB	619	1	619	131	1	131	
CLV TOTAL=							1084
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	13	1.00	13	541	1	541	767
SB	761	1.00	761	6	1	6	
EB	598	1	598	0	1	0	709
WB	527	1	527	182	1	182	
CLV TOTAL=							1476
Level of Service (LOS) =							E

Critical Lane Volume Analysis



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**MD 6 &
 Washington Ave
 (BACKGROUND TRAFFIC)**

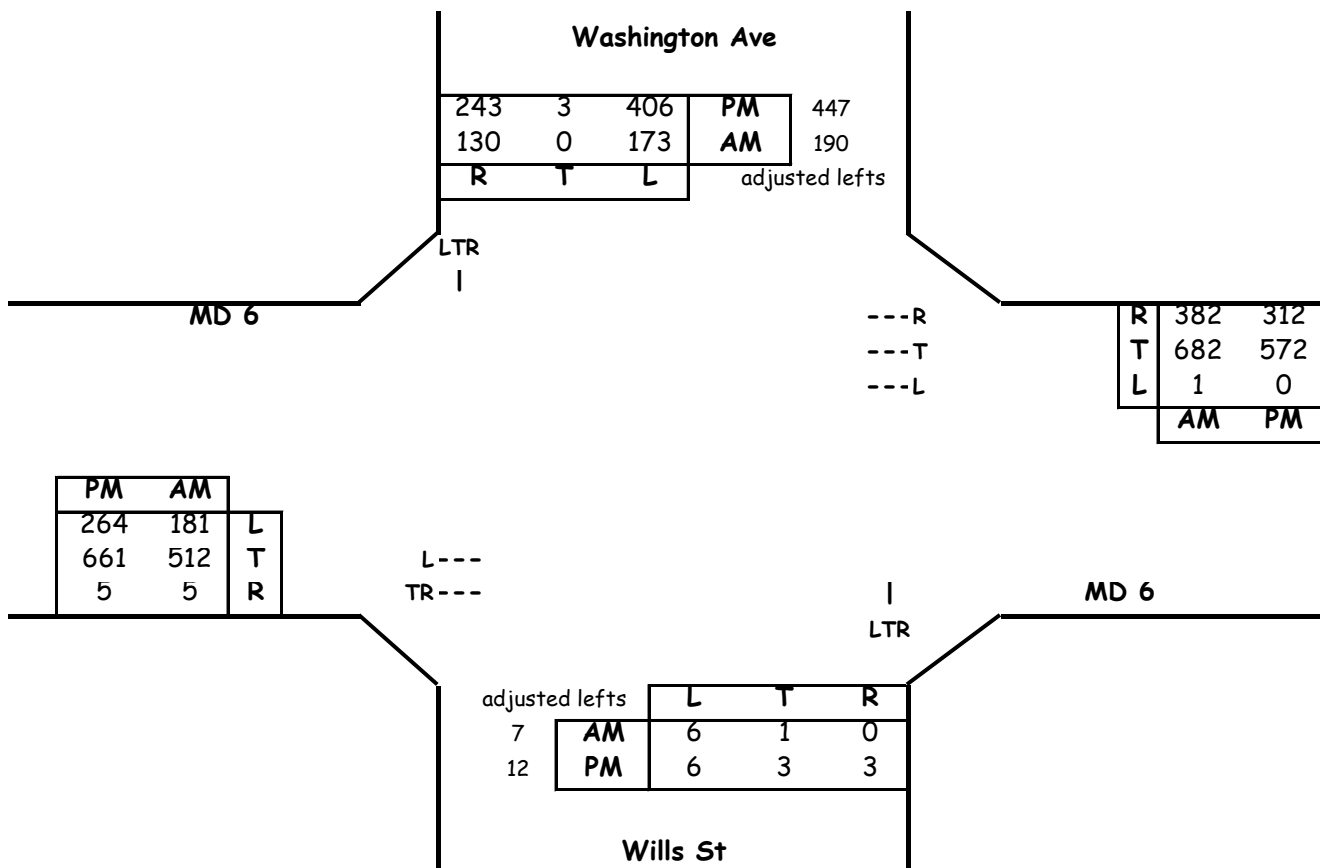
**Intersection
 8**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	8	1.00	8	173	1	173	326
SB	320	1.00	320	6	1	6	
EB	517	1	517	1	1	1	863
WB	682	1	682	181	1	181	
CLV TOTAL=							1189
Level of Service (LOS) =							C

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	18	1.00	18	406	1	406	699
SB	693	1.00	693	6	1	6	
EB	666	1	666	0	1	0	836
WB	572	1	572	264	1	264	
CLV TOTAL=							1535
Level of Service (LOS) =							E

Critical Lane Volume Analysis



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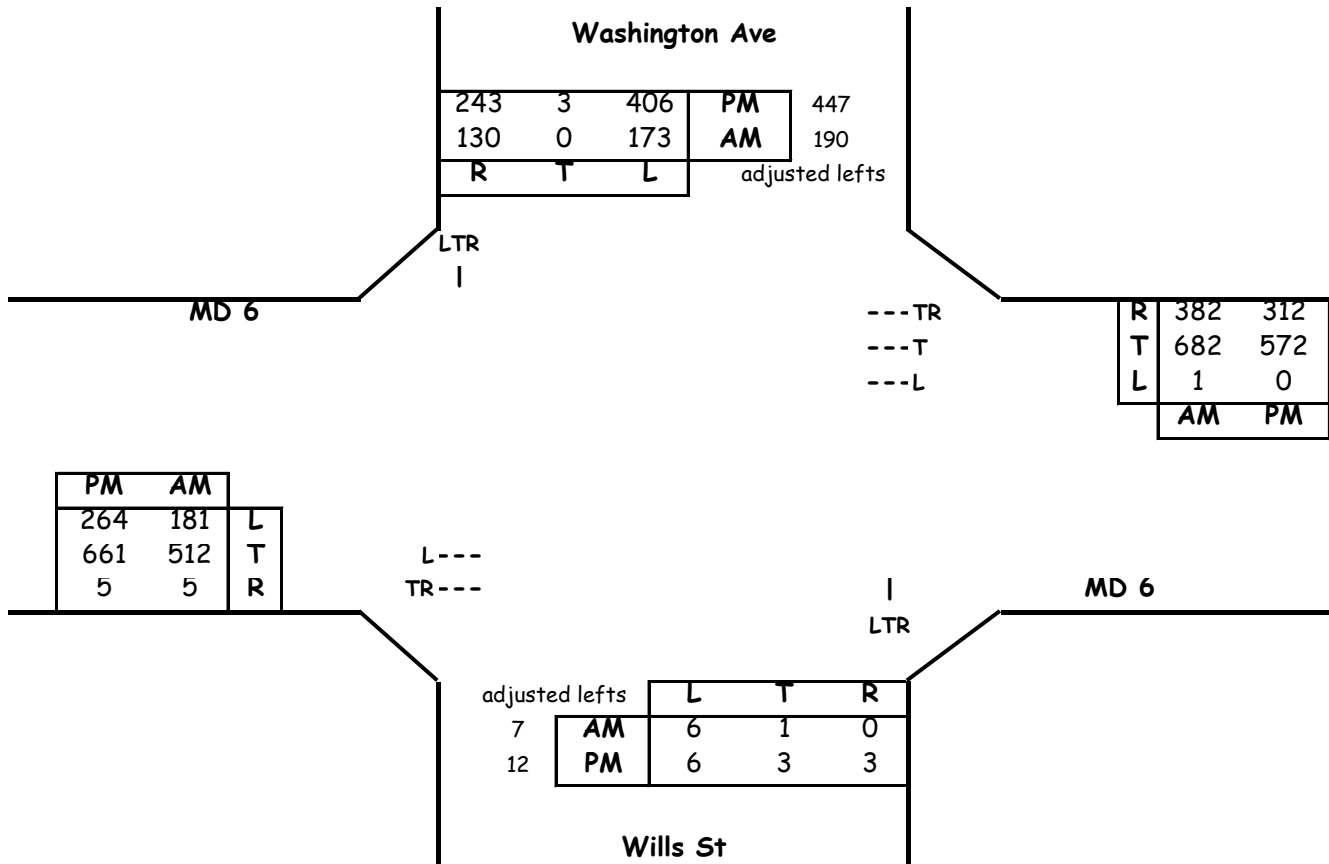
**MD 6 &
 Washington Ave
 (TOTAL TRAFFIC)**

**Intersection
 8**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 6
Minor Street: Washington Ave
Study Period: Total Traffic with Potential Imps
Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	8	1.00	8	173	1	173	326
SB	320	1.00	320	6	1	6	
EB	517	1	517	1	1	1	766
WB	1064	0.55	585	181	1	181	
CLV TOTAL=							1092
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	18	1.00	18	406	1	406	699
SB	693	1.00	693	6	1	6	
EB	666	1	666	0	1	0	750
WB	884	0.55	486	264	1	264	
CLV TOTAL=							1449
Level of Service (LOS) =							D

Critical Lane Volume Analysis



**MD 6 &
 Washington Ave**
 (Total Traffic with Potential Imps)

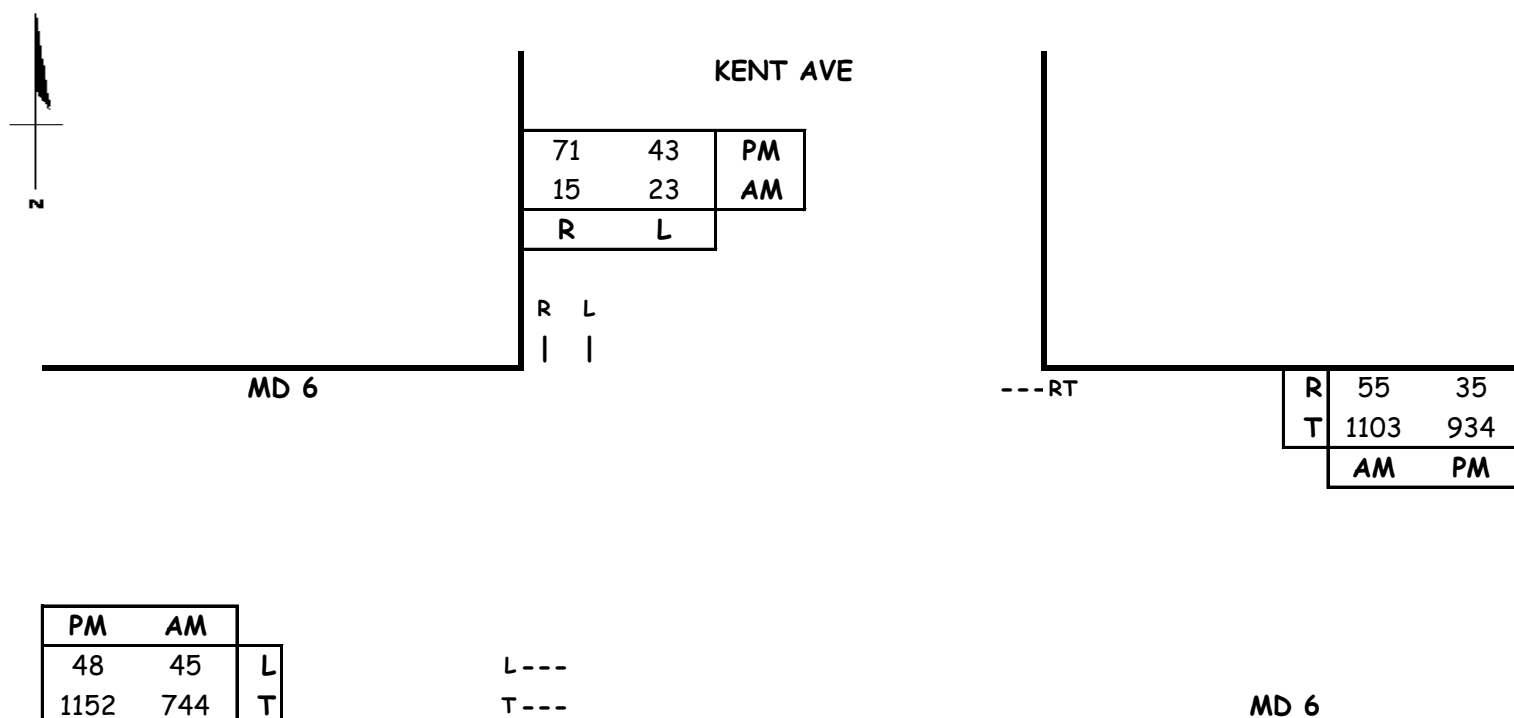
**Intersection
 8**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: MD 6
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	744	1.00	744			
WB	1158	1.00	1158	45	1.00	45
CLV TOTAL=						1226
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	43	1.00	43			
EB	1152	1.00	1152			
WB	969	1.00	969	48	1.00	48
CLV TOTAL=						1195
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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Kent Ave &
MD 6
(Background Traffic)

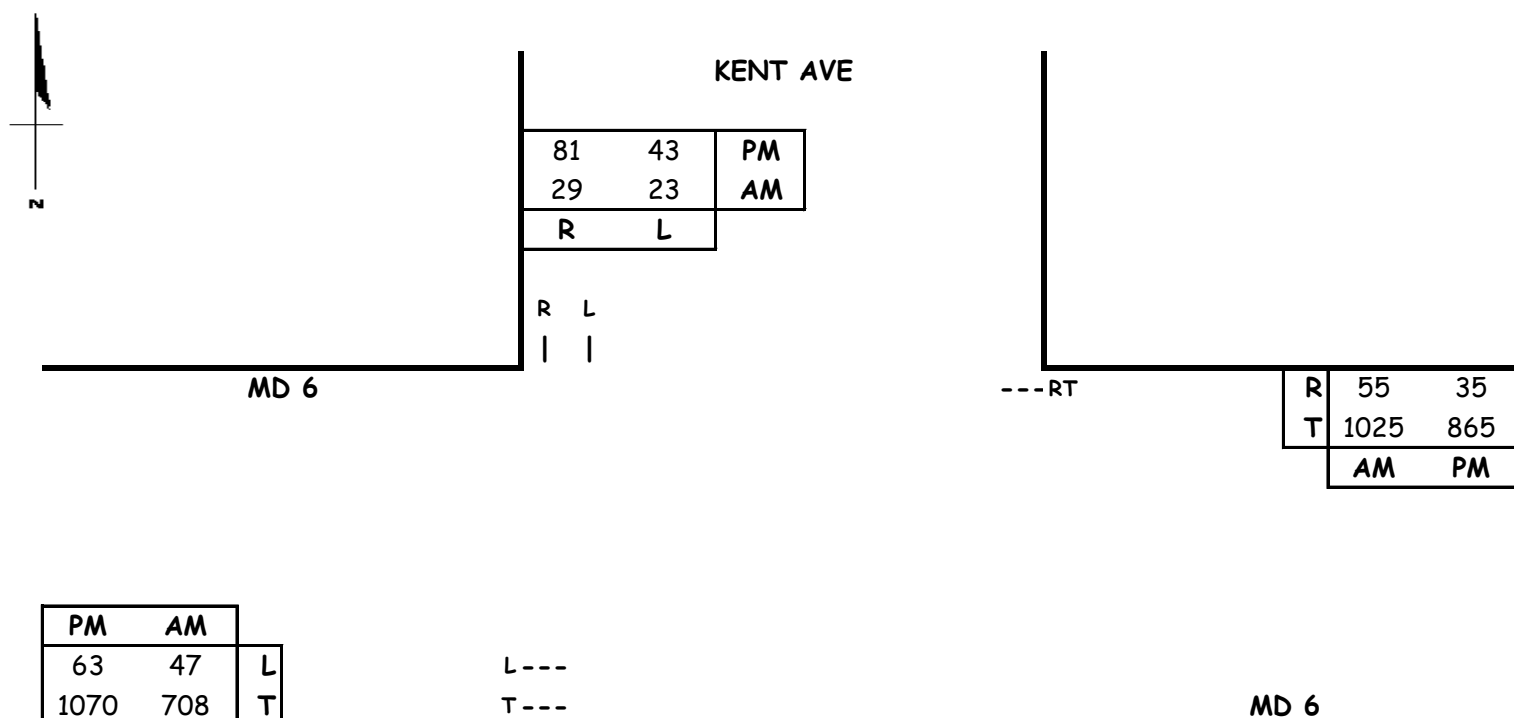
Intersection
9

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: MD 6
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	708	1.00	708			
WB	1080	1.00	1080	47	1.00	47
CLV TOTAL=						1150
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	43	1.00	43			
EB	1070	1.00	1070			
WB	900	1.00	900	63	1.00	63
CLV TOTAL=						1113
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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Kent Ave &
MD 6
(Total Traffic)

Intersection
9

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Willow Rd

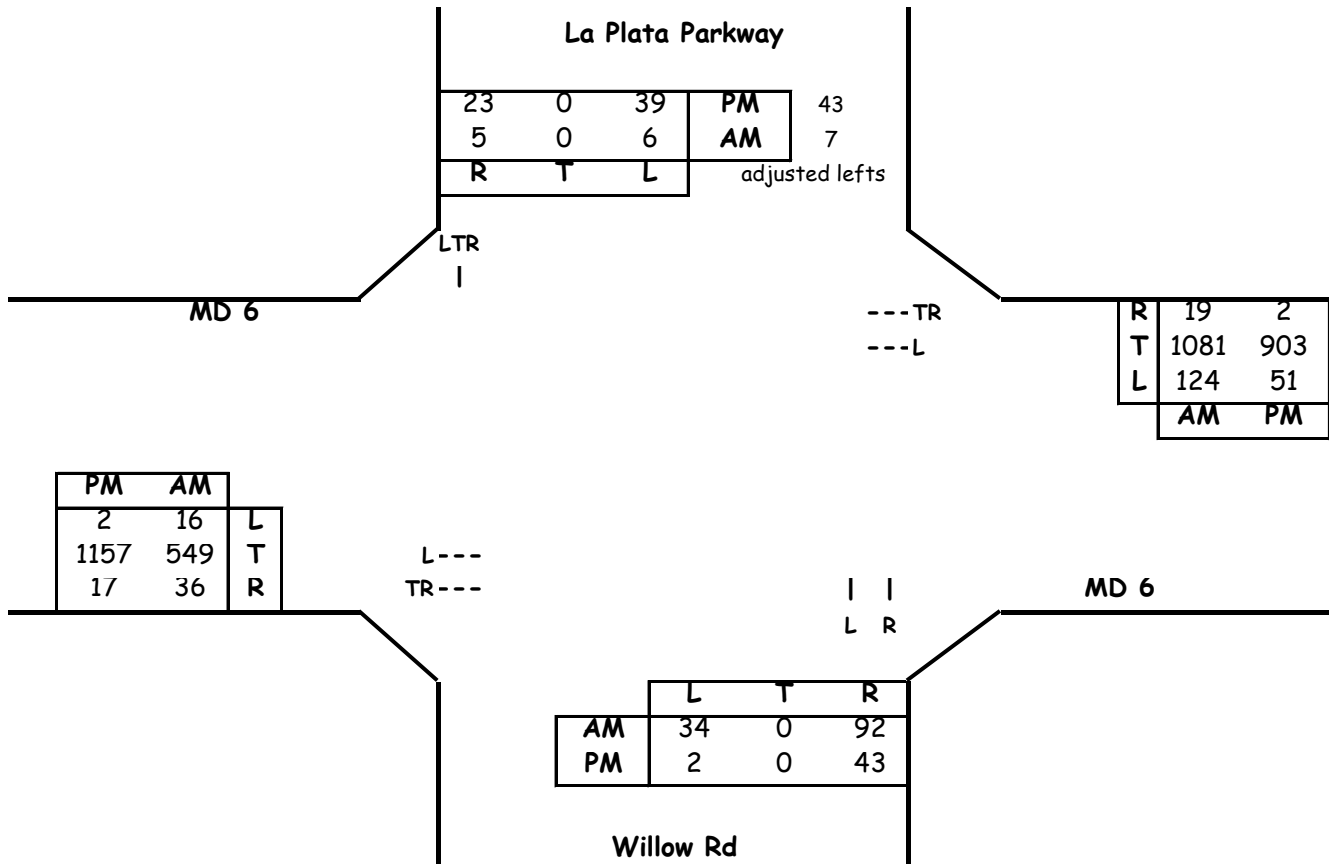
Minor Street: MD 6

Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting

Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	0	0.00	0	6	1	6	46
SB	12	1.00	12	34	1	34	
EB	585	1	585	124	1	124	1116
WB	1100	1	1100	16	1	16	
CLV TOTAL=							1162
Level of Service (LOS) =							C

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF = Total		VOL	x LUF = Total		CLV
NB	0	0.00	0	39	1	39	68
SB	66	1.00	66	2	1	2	
EB	1174	1	1174	51	1	51	1225
WB	905	1	905	2	1	2	
CLV TOTAL=							1293
Level of Service (LOS) =							C

Critical Lane Volume Analysis



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Willow Rd &
MD 6
(BACKGROUND TRAFFIC)

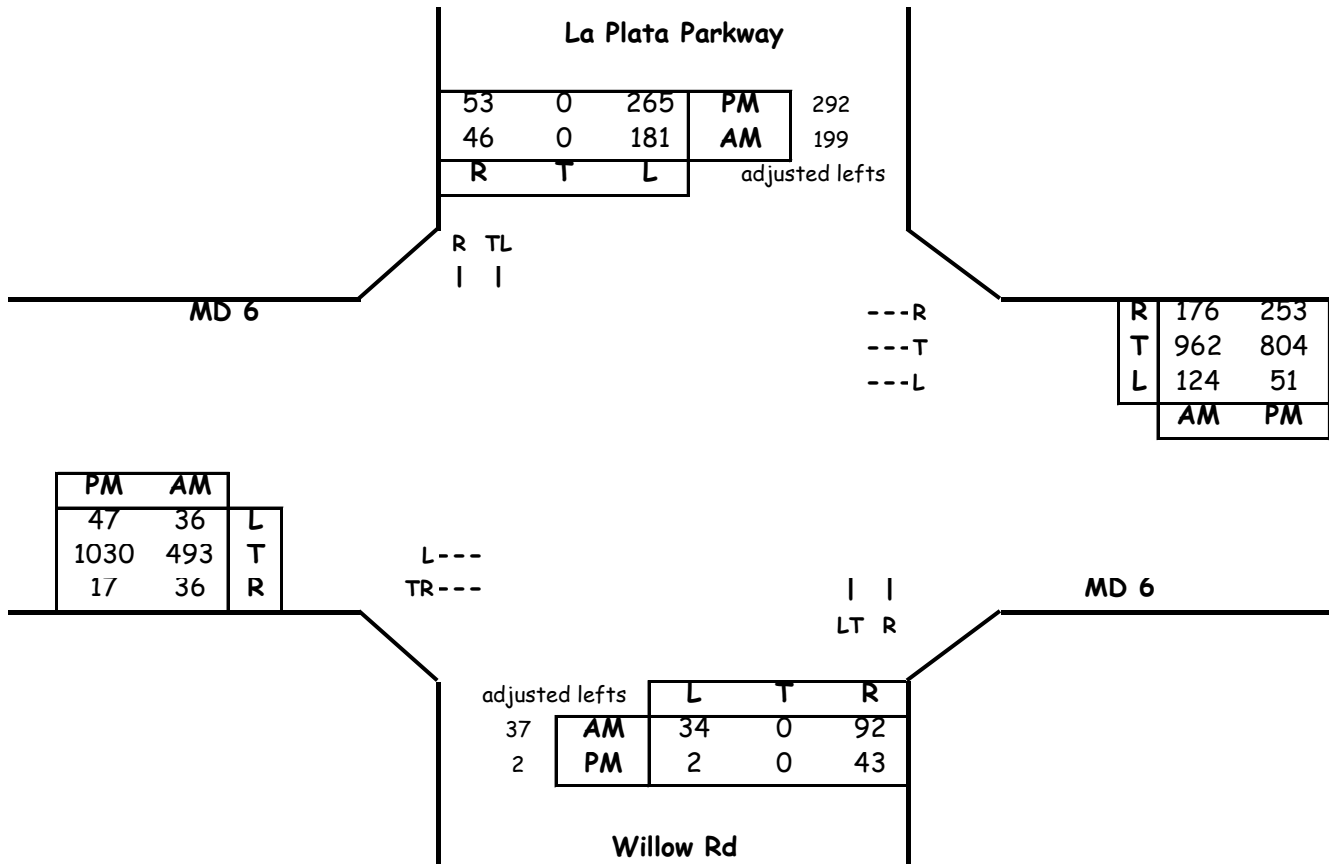
Intersection
11

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Willow Rd
Minor Street: MD 6
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	37	1.00	37	181	1	181
SB	199	1.00	199	34	1	34
EB	529	1	529	124	1	124
WB	962	1	962	36	1	36
CLV TOTAL=						1231
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	2	1.00	2	265	1	265
SB	292	1.00	292	2	1	2
EB	1047	1	1047	51	1	51
WB	804	1	804	47	1	47
CLV TOTAL=						1392
Level of Service (LOS) =						D

Critical Lane Volume Analysis



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**Willow Rd &
 MD 6
 (TOTAL TRAFFIC)**

**Intersection
 10**

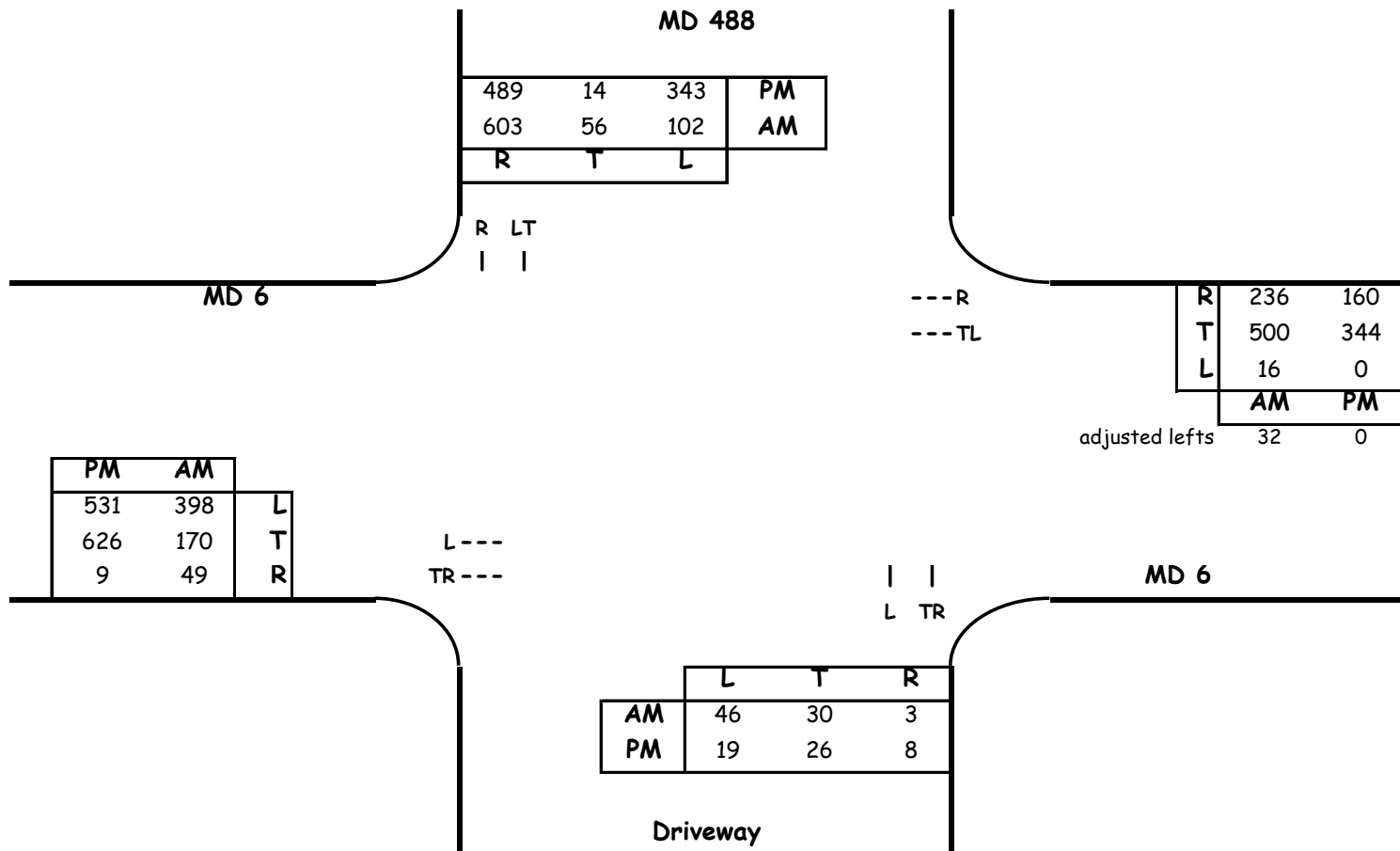
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: MD 6

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Conditions: BACKGROUND TRAFFIC

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	46	1	46			
SB	205	1	205			
EB	219	1	219	16	1	16
WB	532	1	532	398	1	398
CLV TOTAL=						1181
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	34	1	34			
SB	357	1	357			
EB	635	1	635	0	1	0
WB	344	1	344	531	1	531
CLV TOTAL=						1266
Level of Service (LOS) =						C

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 488 &
MD 6
(BACKGROUND TRAFFIC)

Intersection
10

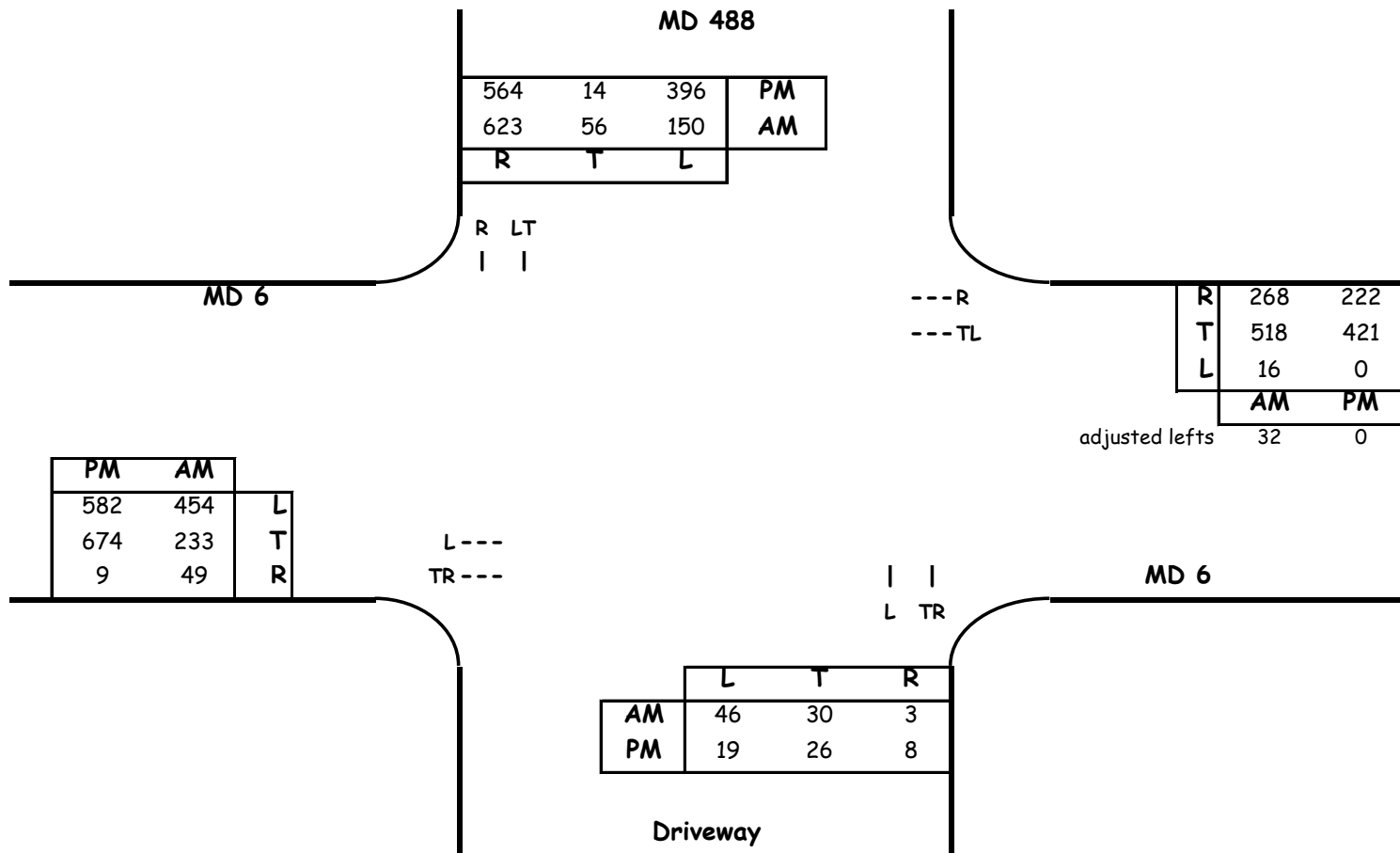
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: MD 6

Conditions: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	46	1	46			
SB	206	1	206			
EB	282	1	282	16	1	16
WB	550	1	550	454	1	454
CLV TOTAL=						1256
Level of Service (LOS) =						C

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	34	1	34			
SB	410	1	410			
EB	683	1	683	0	1	0
WB	421	1	421	582	1	582
CLV TOTAL=						1447
Level of Service (LOS) =						D

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 488 &
MD 6
(TOTAL TRAFFIC)

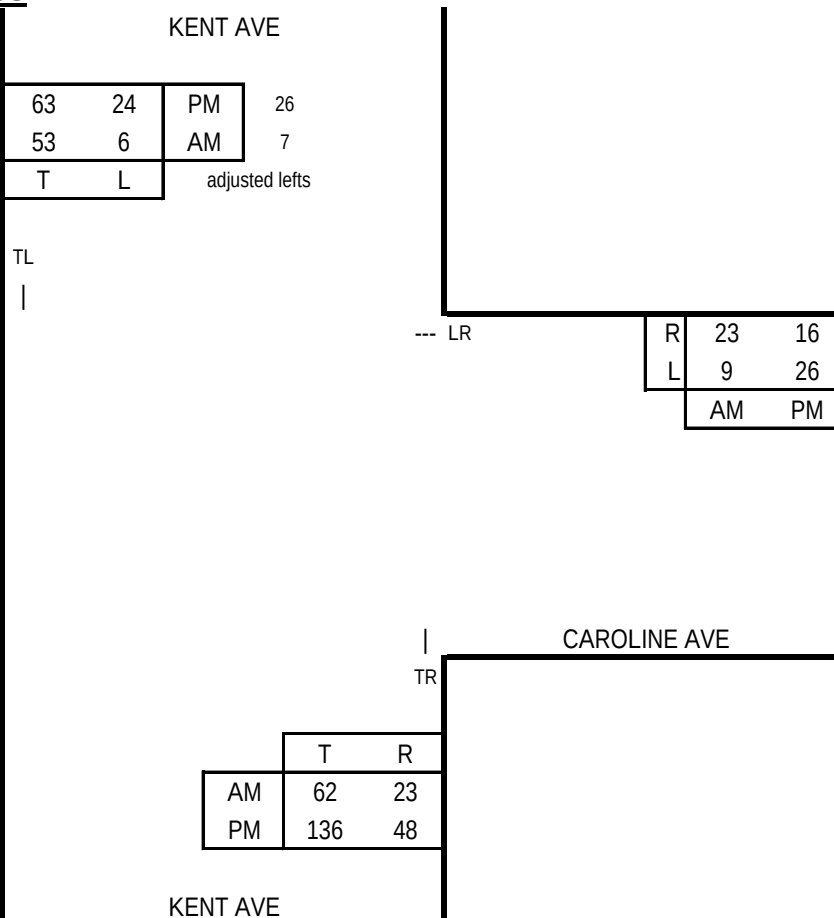
Intersection
11

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Caroline Ave
Conditions: Background Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

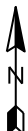
Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	32	1.00	32			
NB	85	1.00	85	6	1.00	6
SB	60	1.00	60			
CLV TOTAL=						123
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
WB	42	1.00	42			
NB	184	1.00	184	24	1.00	24
SB	89	1.00	89			
CLV TOTAL=						250
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**Kent Ave &
Caroline Ave
(Background Traffic)**

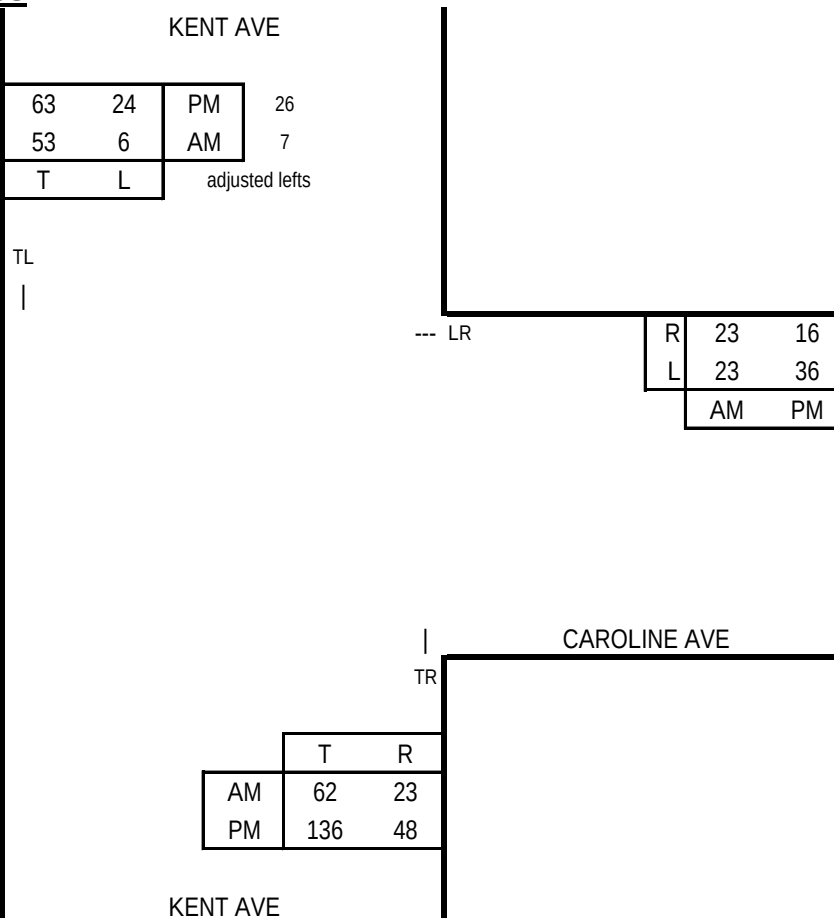
**Intersection
12**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Caroline Ave
Conditions: Total Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

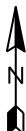
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	46	1.00	46				46
NB	85	1.00	85	6	1.00	6	91
SB	60	1.00	60				
CLV TOTAL=							137
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	52	1.00	52				52
NB	184	1.00	184	24	1.00	24	208
SB	89	1.00	89				
CLV TOTAL=							260
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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Kent Ave &
Caroline Ave
(Total Traffic)

Intersection
12

Analyst: Lenhart Traffic
Condition: Full Build Out

The diagram illustrates a road intersection and surrounding streets. Kent Ave runs horizontally at the top and bottom. Dorchester Ave runs horizontally in the middle. A vertical road intersects Dorchester Ave, featuring a traffic light labeled 'T' and a 'TR' (Traffic Right) sign. A table on the left lists traffic signal phases, and a table at the bottom shows vehicle counts for different directions.

81	PM
64	AM
T	

	T	R
AM	55	24
PM	129	51

Morning Peak Hour							AM CLV
Thru Volumes				+ Opposing Lefts			
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	0	0.00	0				0
NB	79	1.00	79	0	0.00	0	79
SB	64	1.00	64				
CLV TOTAL=							79
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	180	1.00	180	0	0.00	0	180
SB	81	1.00	81				
CLV TOTAL=							180
Level of Service (LOS) =							A

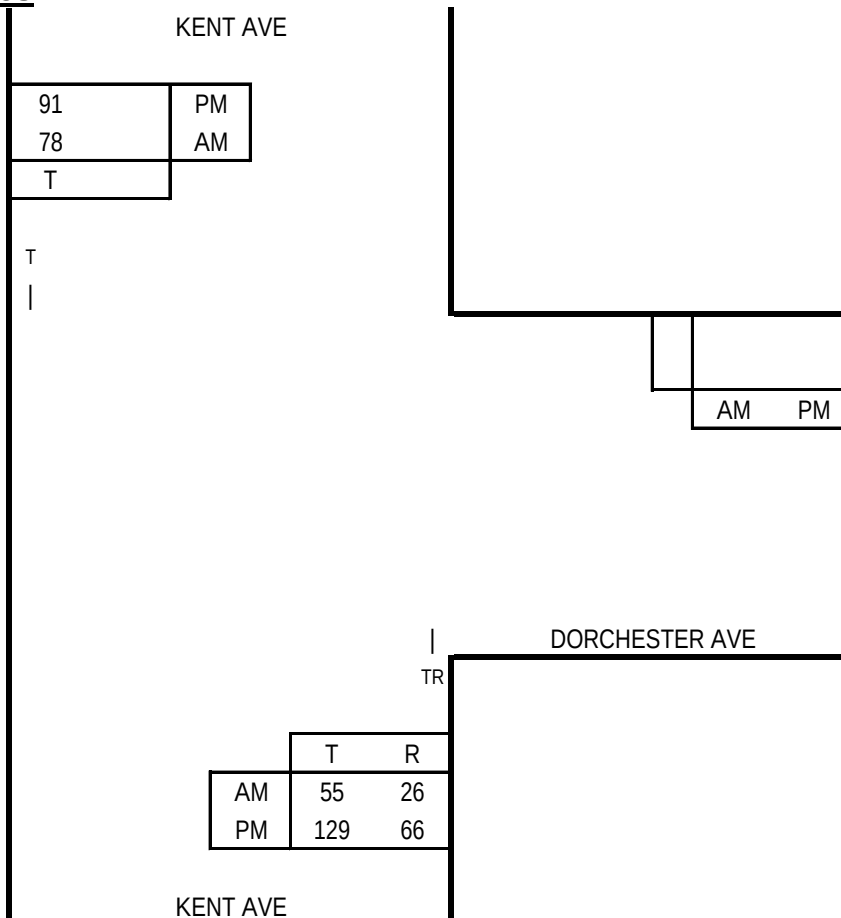
Intersection 13

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Kent Ave
and: Dorchester Ave
Conditions: Total Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

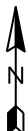
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	81	1.00	81	0	0.00	0	81
SB	78	1.00	78				
CLV TOTAL=							81
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
WB	0	0.00	0				0
NB	195	1.00	195	0	0.00	0	195
SB	91	1.00	91				
CLV TOTAL=							195
Level of Service (LOS)=							A

Critical Lane Volume Analysis



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Kent Ave &
 Dorchester Ave
 (Total Traffic)

Intersection
13

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Rosewick Rd
Minor Street: Radio Station Rd
Study Period: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

ROSEWICK RD

---T
 ---T
 ---L

	AM	PM
T	366	574
L	216	406

PM	AM	
524	326	T
278	191	R

U---
 T---
 T---
 R---

ROSEWICK RD

| |
 L R

Radio Station Rd

	L	R
AM	167	303
PM	195	317

Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	167	1.00	167			
EB	326	0.55	179	216	1.00	216
WB	366	0.55	201			
CLV TOTAL=						562
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	195	1.00	195			
EB	524	0.55	288	406	1.00	406
WB	574	0.55	316			
CLV TOTAL=						889
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Rosewick Rd &
 Radio Station Rd
 (Background Traffic)

Intersection
14

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Rosewick Rd
Minor Street: Radio Station Rd
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

ROSEWICK RD

---T
 ---T
 ---L

	AM	PM
T	603	1058
L	232	441

PM	AM	
939	680	T
450	296	R

U---
 T---
 T---
 R---

ROSEWICK RD

| |
 L R

Radio Station Rd

	L	R
AM	290	337
PM	356	340

Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	290	1.00	290				290
EB	680	0.55	374	232	1.00	232	606
WB	603	0.55	332				
CLV TOTAL=							896
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	356	1.00	356				356
EB	939	0.55	516	441	1.00	441	957
WB	1058	0.55	582				
CLV TOTAL=							1313
Level of Service (LOS) =							D

Critical Lane Volume Analysis



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Rosewick Rd &
 Radio Station Rd
 (Total Traffic)

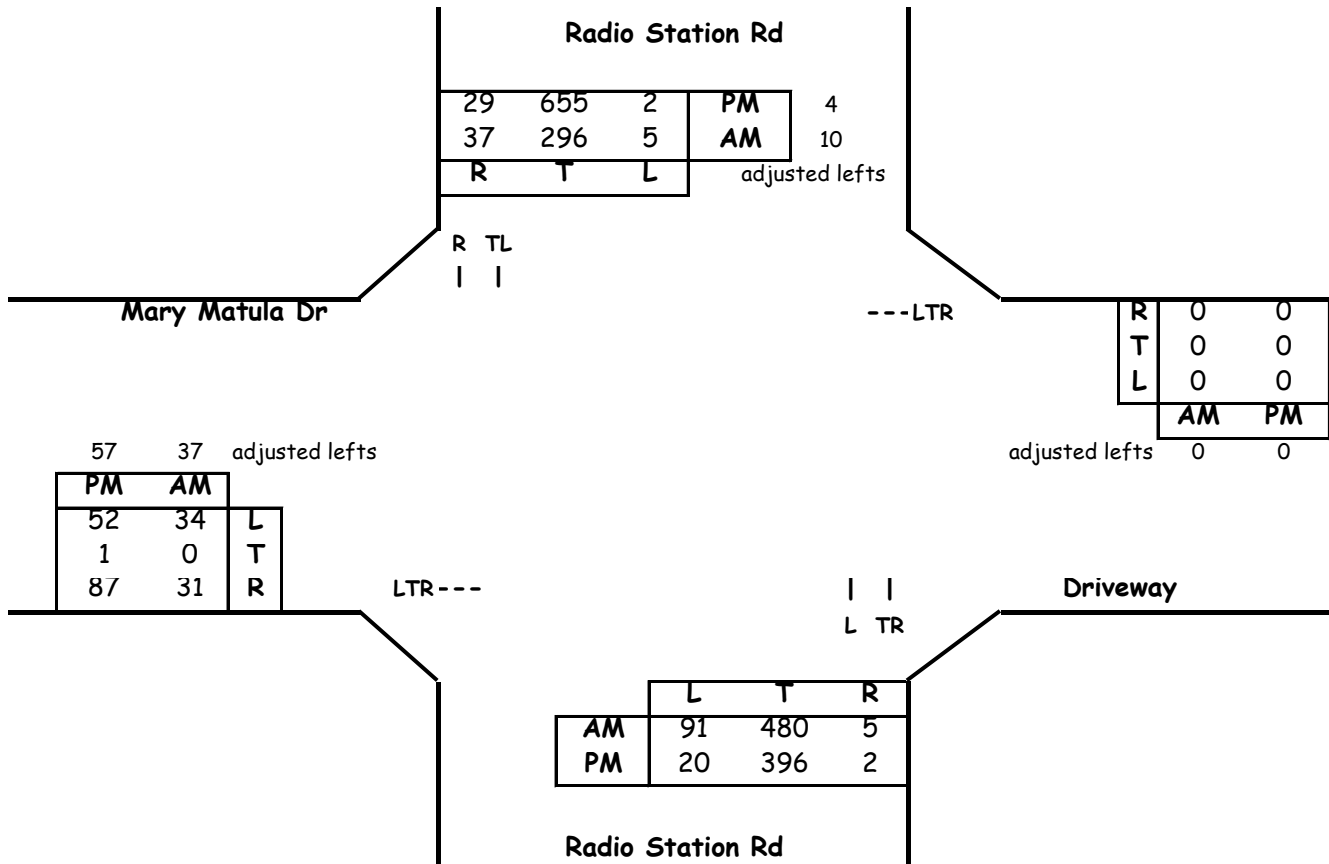
Intersection
14

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Radio Station Rd
Minor Street: Mary Matula Dr
Study Period: BACKGROUND TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	485	1.00	485	5	1	5
SB	306	1.00	306	91	1	91
EB	68	1	68	0	1	0
WB	0	1	0	34	1	34
CLV TOTAL=						558
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	398	1.00	398	2	1	2
SB	659	1.00	659	20	1	20
EB	145	1	145	0	1	0
WB	0	1	0	52	1	52
CLV TOTAL=						824
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Radio Station Rd &
 Mary Matula Dr
 (BACKGROUND TRAFFIC)**

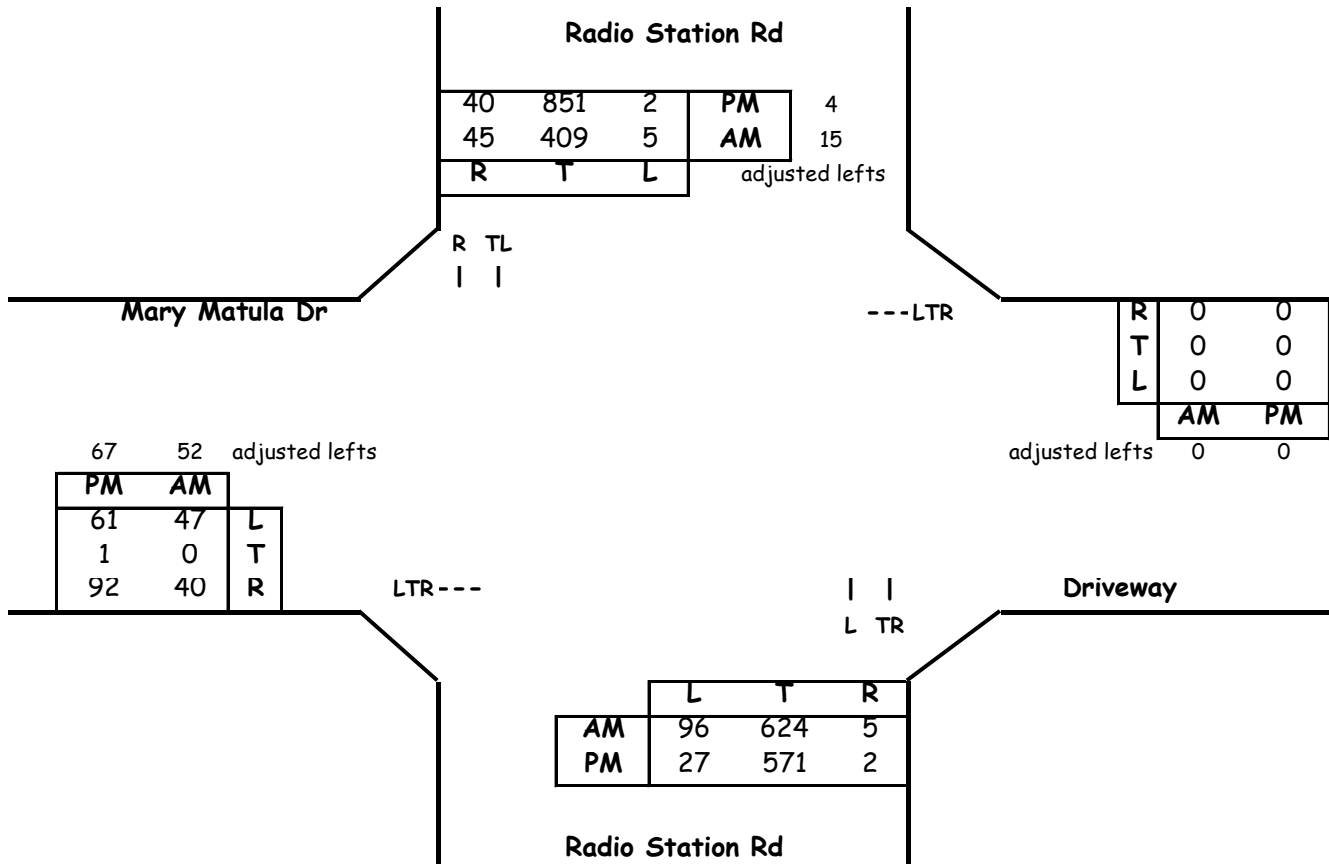
**Intersection
 15**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Radio Station Rd
Minor Street: Mary Matula Dr
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	629	1.00	629	5	1	5
SB	424	1.00	424	96	1	96
EB	92	1	92	0	1	0
WB	0	1	0	47	1	47
CLV TOTAL=						726
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	573	1.00	573	2	1	2
SB	855	1.00	855	27	1	27
EB	160	1	160	0	1	0
WB	0	1	0	61	1	61
CLV TOTAL=						1042
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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**Radio Station Rd &
 Mary Matula Dr
 (TOTAL TRAFFIC)**

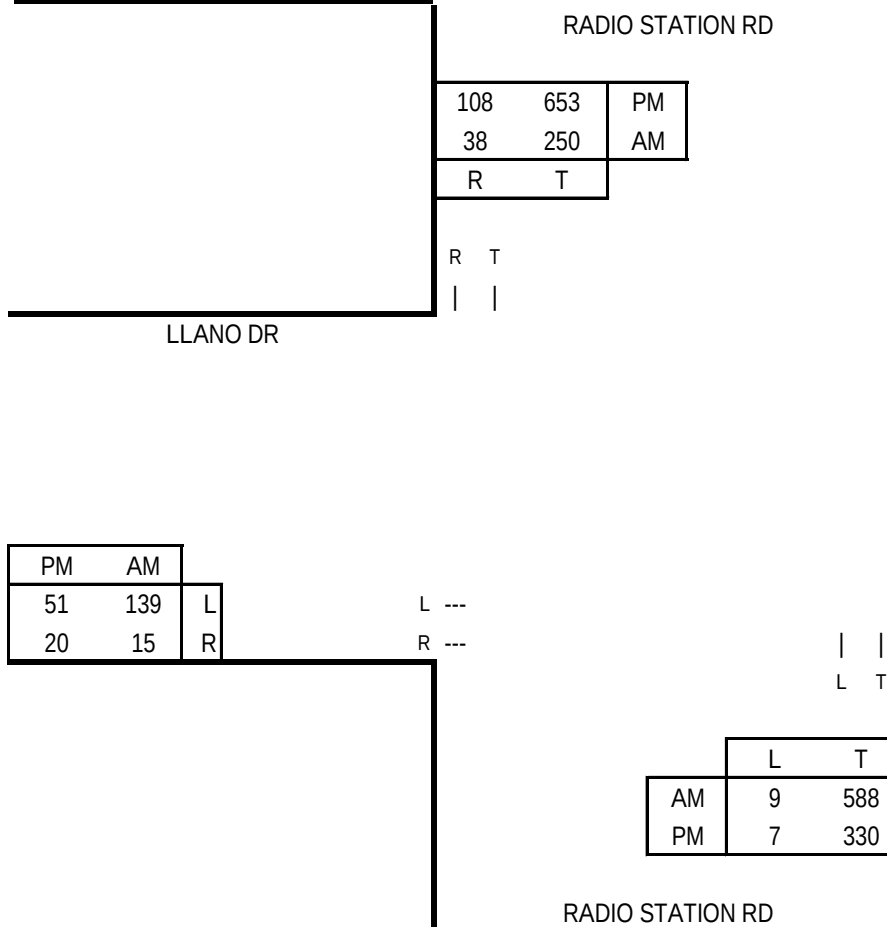
**Intersection
 15**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: Llano Dr
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	139	1.00	139			
NB	588	1.00	588			
SB	250	1.00	250	9	1.00	9
CLV TOTAL=						727
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	51	1.00	51			
NB	330	1.00	330			
SB	653	1.00	653	7	1.00	7
CLV TOTAL=						711
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Radio Station Rd &
Llano Dr
(Background Traffic)

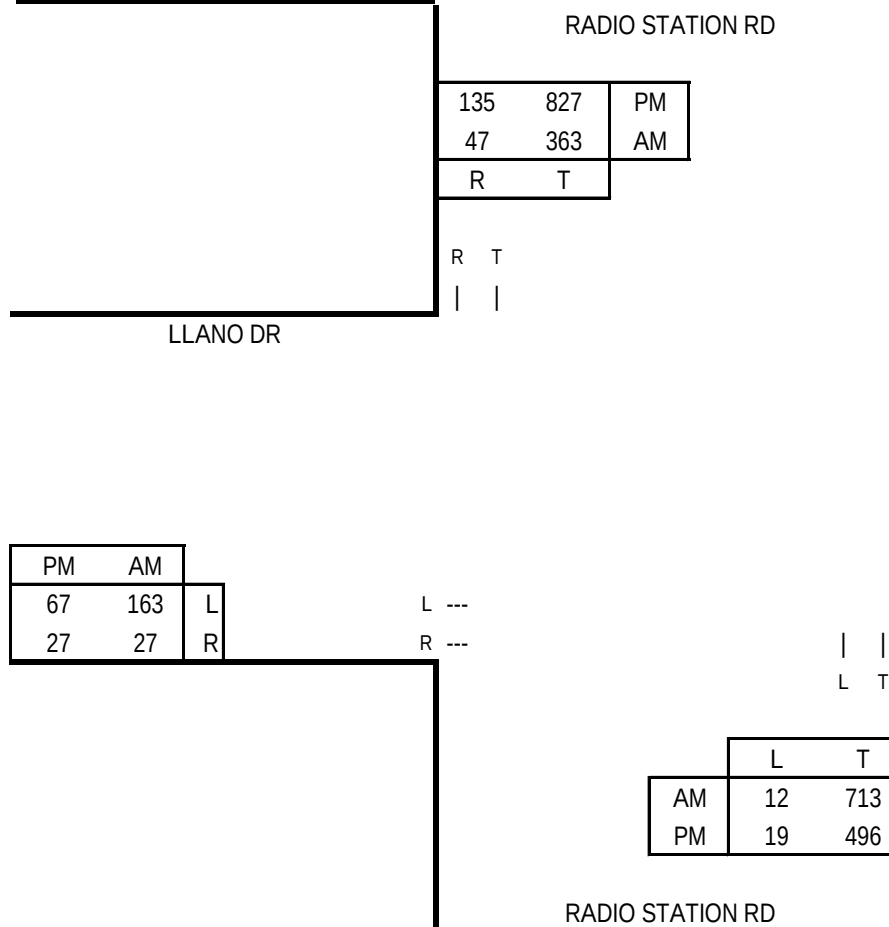
Intersection
16

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: Llano Dr
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	163	1.00	163			
NB	713	1.00	713			
SB	363	1.00	363	12	1.00	12
CLV TOTAL=						876
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	67	1.00	67			
NB	496	1.00	496			
SB	827	1.00	827	19	1.00	19
CLV TOTAL=						913
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**Radio Station Rd &
Llano Dr
(Total Traffic)**

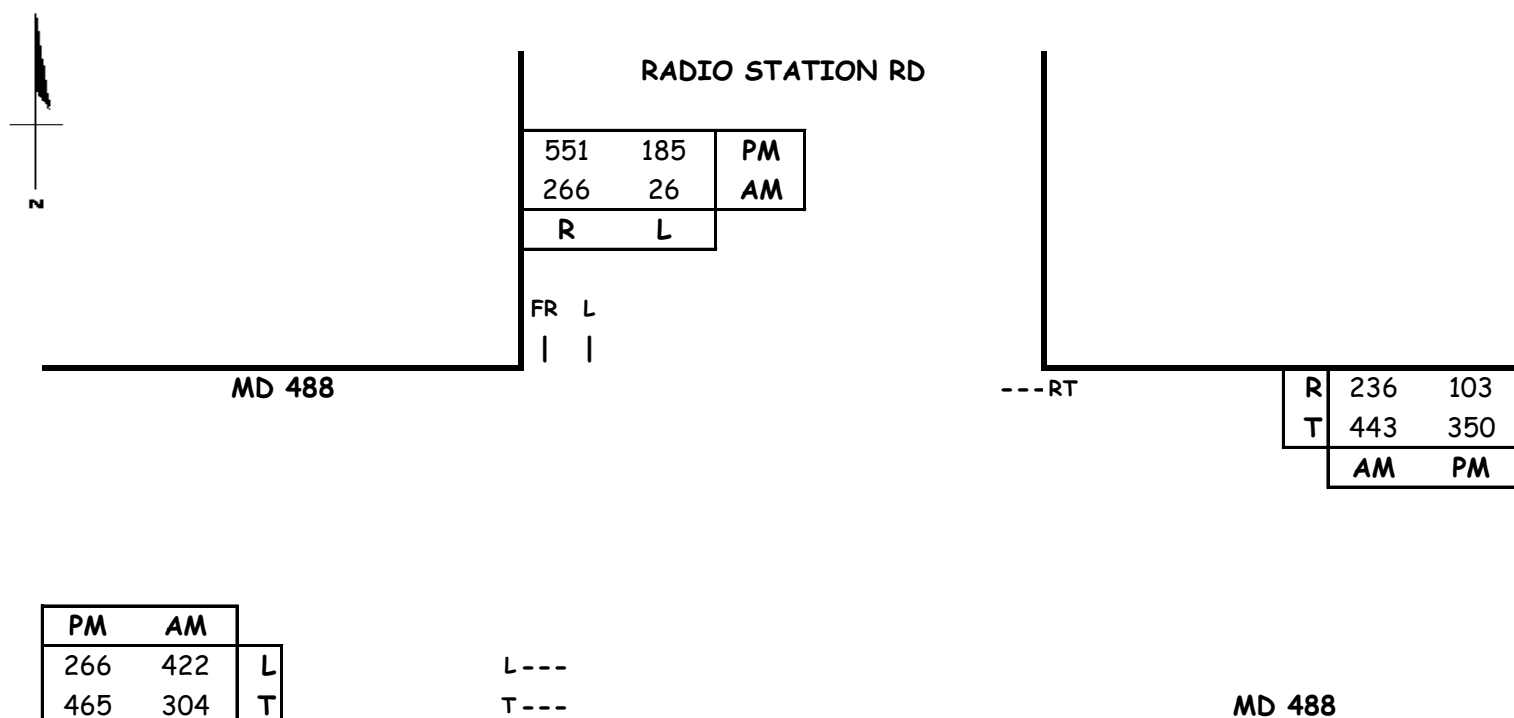
**Intersection
16**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: MD 488
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	26	1.00	26			
EB	304	1.00	304			
WB	679	1.00	679	422	1.00	422
CLV TOTAL=						1127
Level of Service (LOS) =						B

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	185	1.00	185			
EB	465	1.00	465			
WB	453	1.00	453	266	1.00	266
CLV TOTAL=						904
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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Radio Station Rd &
MD 488
(Background Traffic)

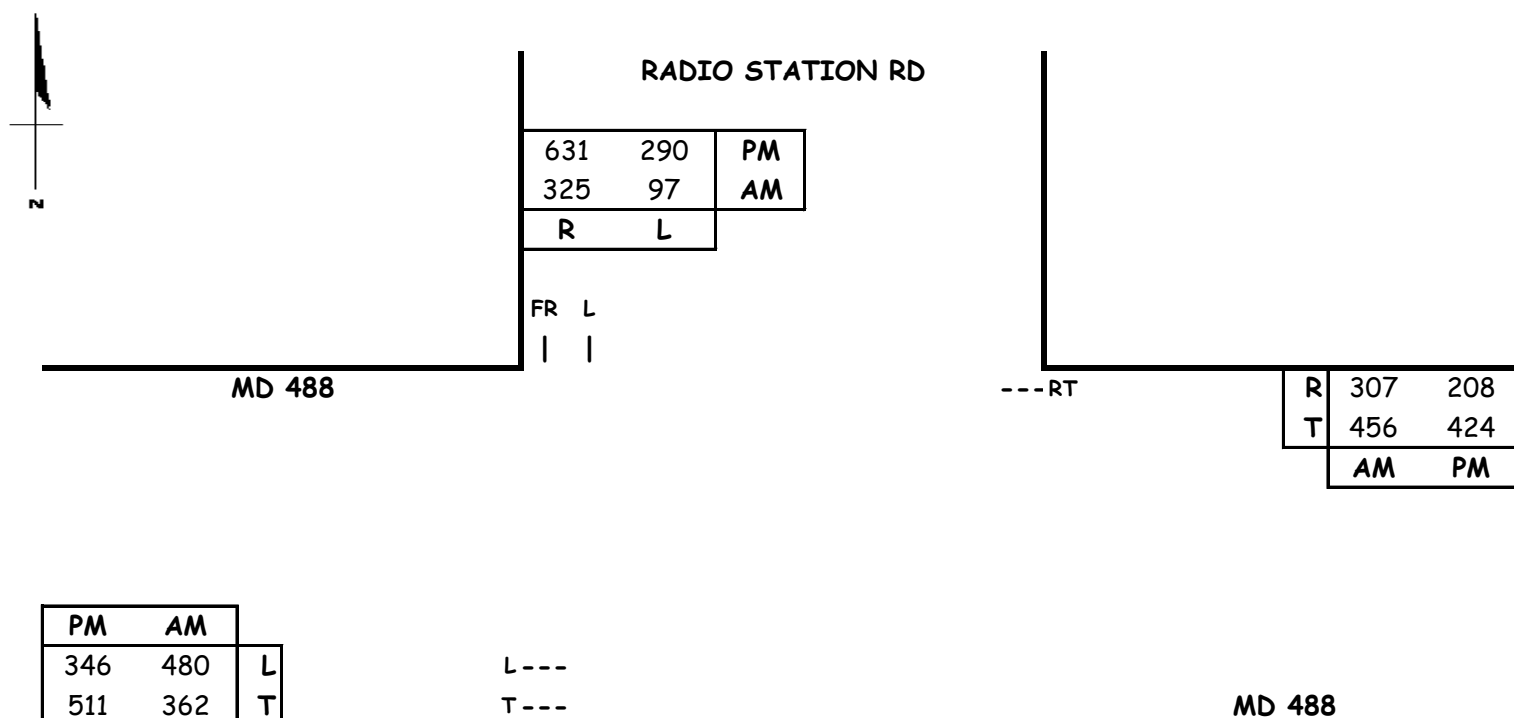
Intersection
17

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Radio Station Rd
and: MD 488
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	97	1.00	97			
EB	362	1.00	362			
WB	763	1.00	763	480	1.00	480
CLV TOTAL=						1340
Level of Service (LOS) =						D

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	290	1.00	290			
EB	511	1.00	511			
WB	632	1.00	632	346	1.00	346
CLV TOTAL=						1268
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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MD 488
(Total Traffic)

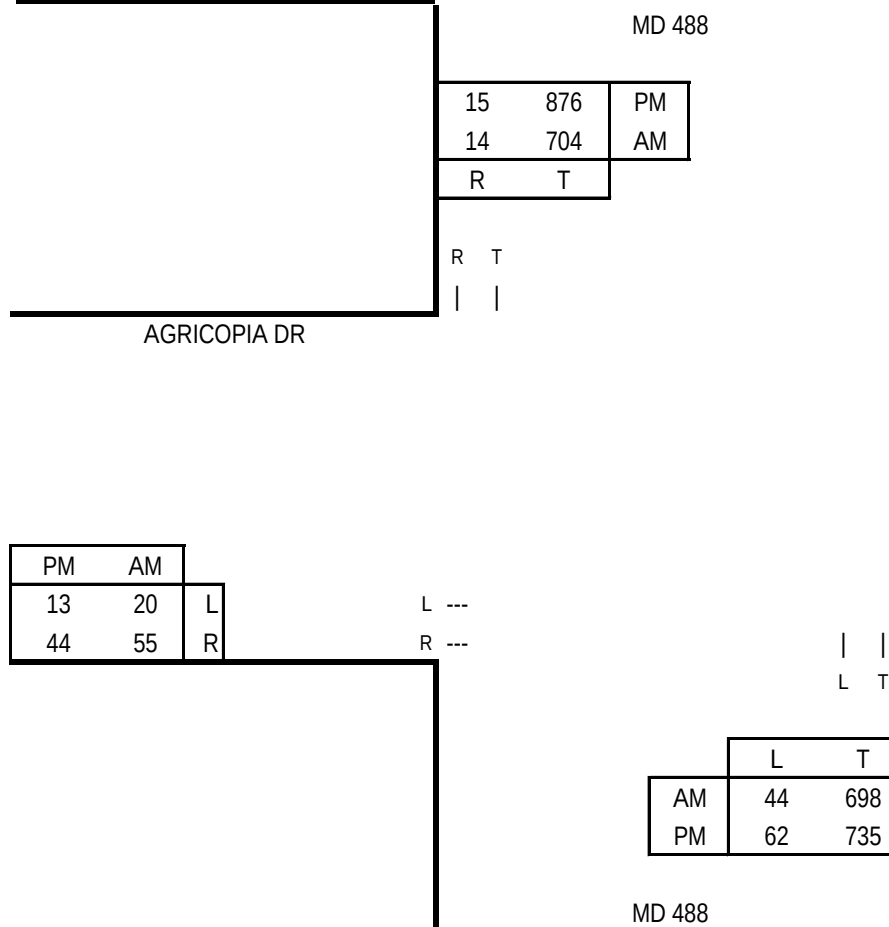
Intersection
17

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: Agricopia Dr
Conditions: Background Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	20	1.00	20			
NB	698	1.00	698			
SB	704	1.00	704	44	1.00	44
CLV TOTAL=						768
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	13	1.00	13			
NB	735	1.00	735			
SB	876	1.00	876	62	1.00	62
CLV TOTAL=						951
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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**MD 488 &
Agricopia Dr
(Background Traffic)**

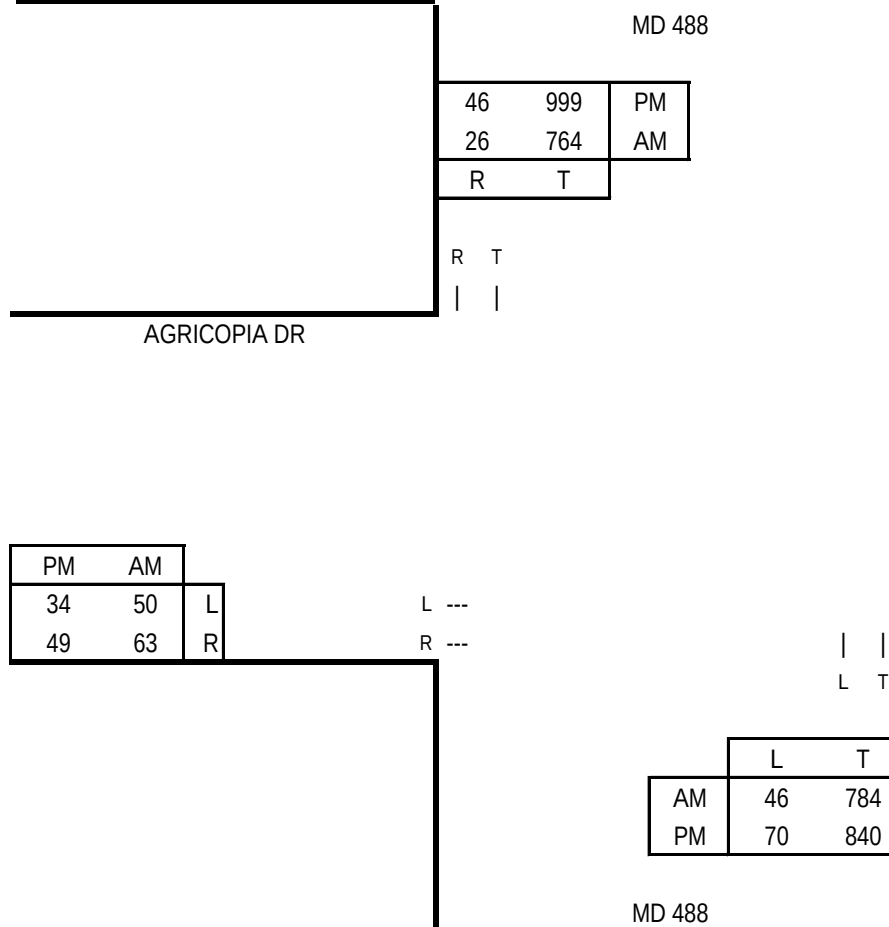
**Intersection
18**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 488
and: Agricopia Dr
Conditions: Total Traffic

Analyst: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	50	1.00	50			
NB	784	1.00	784			
SB	764	1.00	764	46	1.00	46
CLV TOTAL=						860
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	34	1.00	34			
NB	840	1.00	840			
SB	999	1.00	999	70	1.00	70
CLV TOTAL=						1103
Level of Service (LOS)=						B

Critical Lane Volume Analysis



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**MD 488 &
Agricopia Dr
(Total Traffic)**

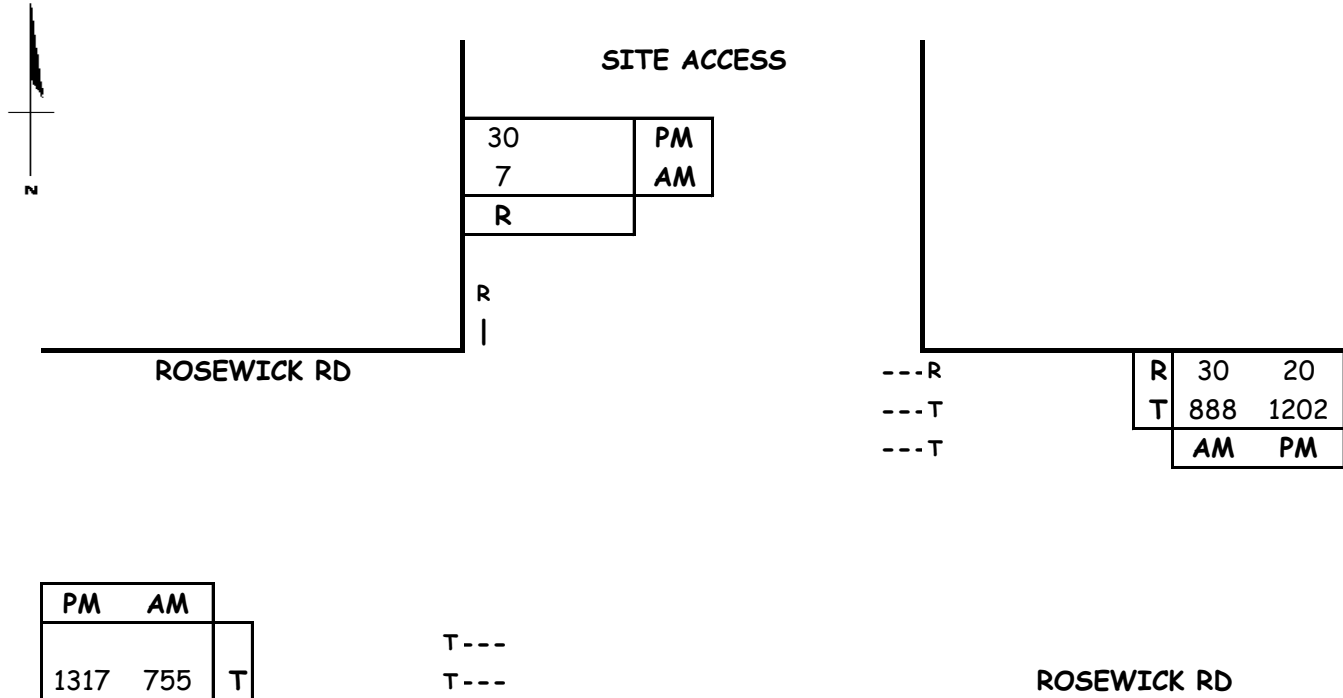
**Intersection
18**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Site Access
and: Rosewick Rd
Conditions: Total Traffic

Date of Count: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	7	1.00	7			
EB	755	0.55	415			
WB	888	0.55	488	0	0.00	0
CLV TOTAL=						495
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	30	1.00	30			
EB	1317	0.55	724			
WB	1202	0.55	661	0	0.00	0
CLV TOTAL=						754
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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Site Access &
Rosewick Rd
(Total Traffic)

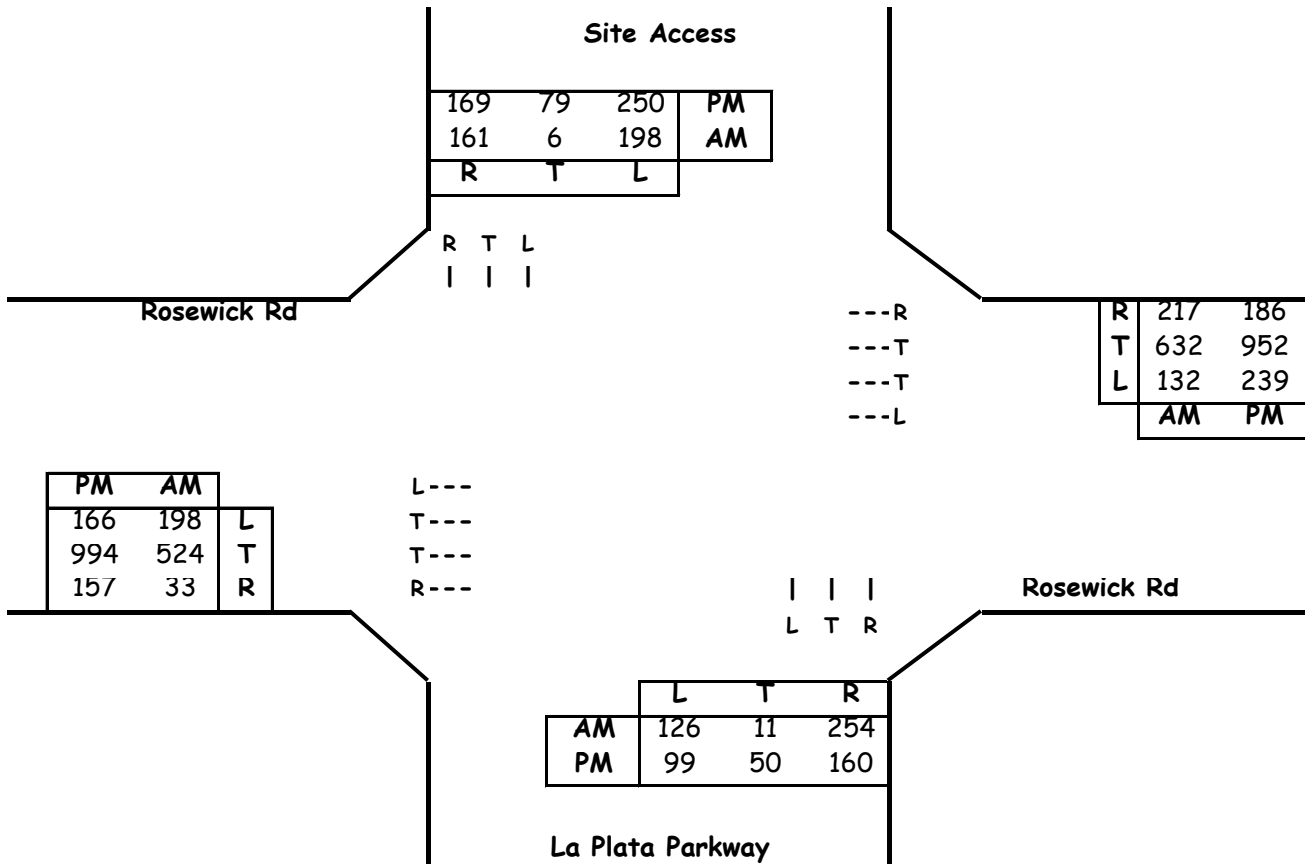
Intersection
19

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: Rosewick Rd
Minor Street: Site Access
Study Period: TOTAL TRAFFIC

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	122	1.00	122	198	1	198
SB	6	1.00	6	126	1	126
EB	524	0.55	288	132	1	132
WB	632	0.55	348	198	1	198
CLV TOTAL=						866
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	50	1.00	50	250	1	250
SB	79	1.00	79	99	1	99
EB	994	0.55	547	239	1	239
WB	952	0.55	524	166	1	166
CLV TOTAL=						1086
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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**Rosewick Rd &
 Site Access
 (TOTAL TRAFFIC)**

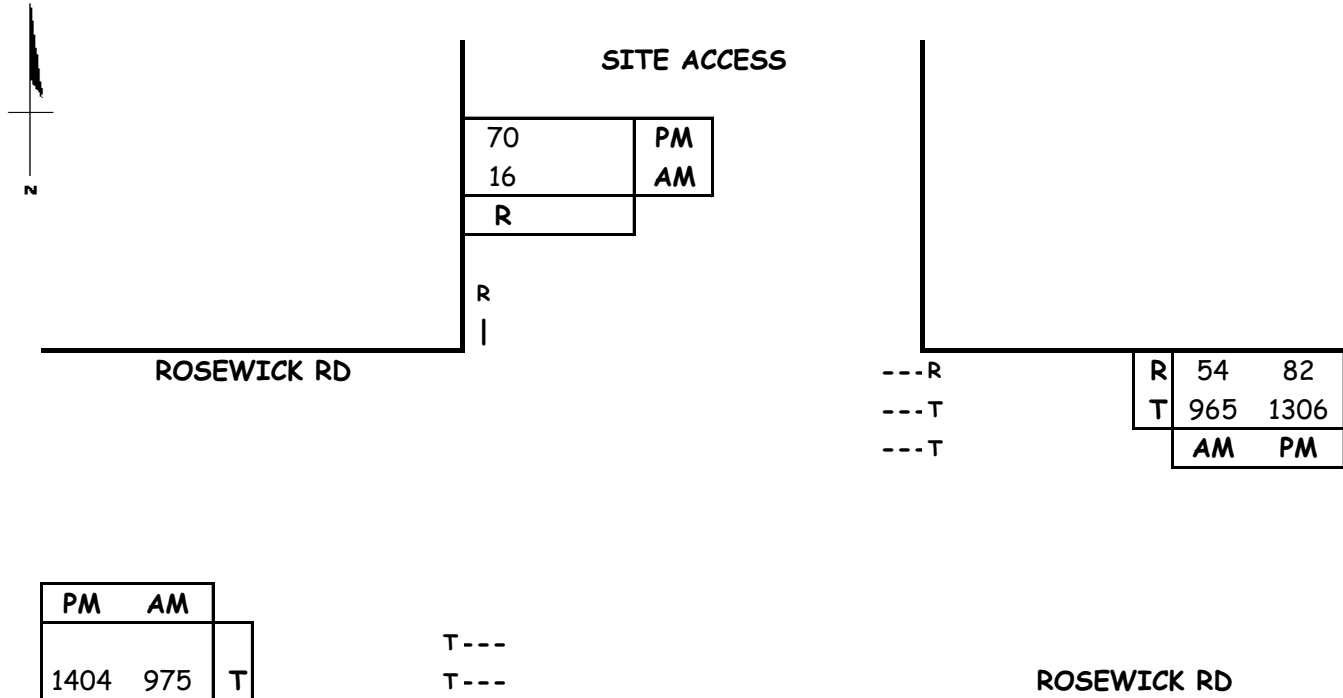
**Intersection
 20**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: Site Access
and: Rosewick Rd
Conditions: Total Traffic

Date of Count: Lenhart Traffic Consulting
Condition: Full Build Out

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	16	1.00	16			
EB	975	0.55	536			
WB	965	0.55	531	0	0.00	0
CLV TOTAL=						552
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	70	1.00	70			
EB	1404	0.55	772			
WB	1306	0.55	718	0	0.00	0
CLV TOTAL=						842
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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Site Access &
Rosewick Rd
(Total Traffic)

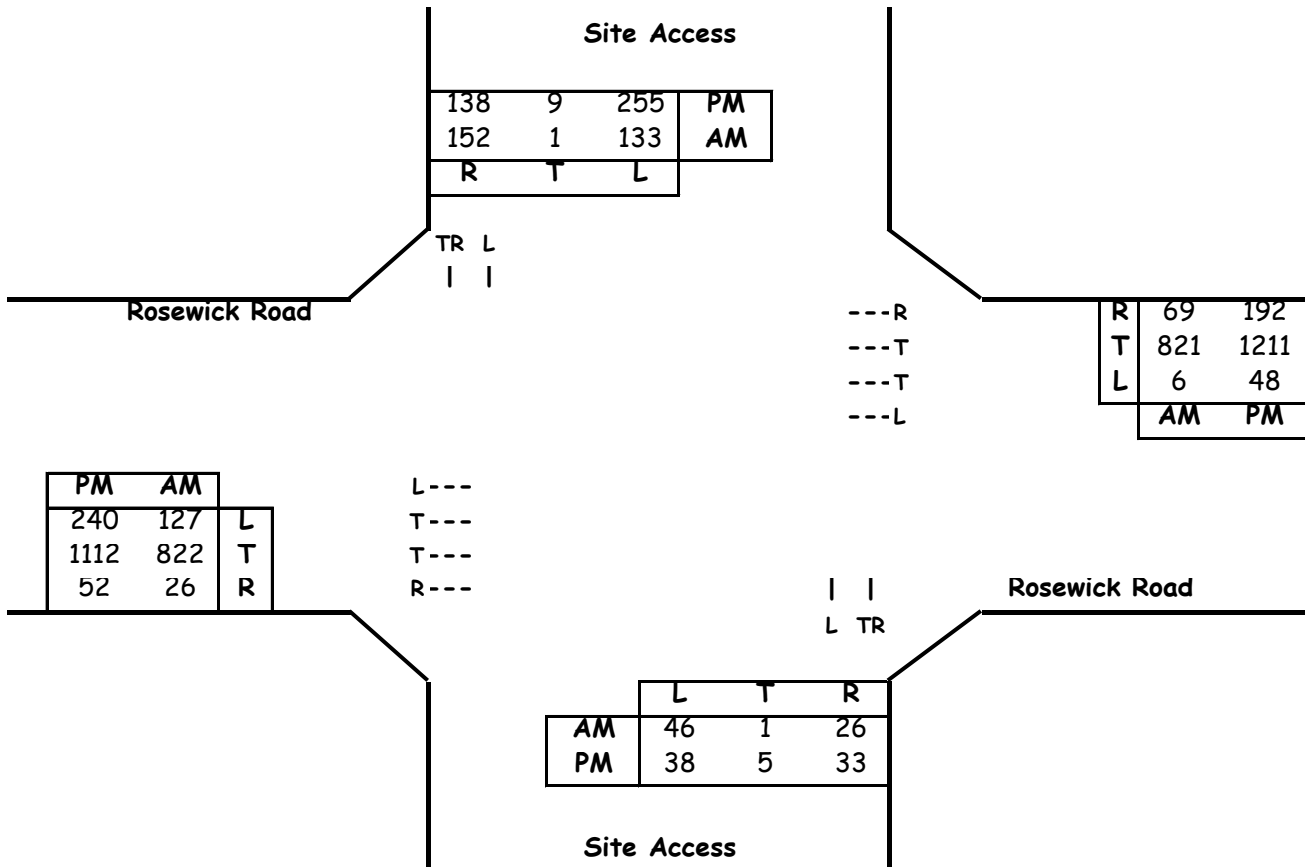
Intersection
21

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: Rosewick Road
Minor Street: Site Access
Study Period: Total Traffic

Analyst: Lenhart Traffic
Condition: Full Build Out

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	27	1.00	27	133	1	133
SB	153	1.00	153	46	1	46
EB	822	0.55	452	6	1	6
WB	821	0.55	452	127	1	127
CLV TOTAL=						778
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	38	1.00	38	255	1	255
SB	147	1.00	147	38	1	38
EB	1112	0.55	612	48	1	48
WB	1211	0.55	666	240	1	240
CLV TOTAL=						1199
Level of Service (LOS) =						C

Critical Lane Volume Analysis



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**Rosewick Road &
 Site Access**
 (Total Traffic)

**Intersection
 22**

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Existing

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 						
Traffic Volume (vph)	150	41	0	1103	223	52	640
Future Volume (vph)	150	41	0	1103	223	52	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	45	0	1199	242	57	696
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	163	45	0	1199	242	57	696
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	9.2	82.7		54.1	82.7	6.9	65.5
Effective Green, g (s)	9.2	82.7		54.1	82.7	6.9	65.5
Actuated g/C Ratio	0.11	1.00		0.65	1.00	0.08	0.79
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	381	1583		2315	1583	147	2802
v/s Ratio Prot				c0.34		c0.03	0.20
v/s Ratio Perm	c0.05	0.03			0.15		
v/c Ratio	0.43	0.03		0.52	0.15	0.39	0.25
Uniform Delay, d1	34.3	0.0		7.5	0.0	35.9	2.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0		0.8	0.2	1.7	0.0
Delay (s)	35.1	0.0		8.3	0.2	37.6	2.3
Level of Service	D	A		A	A	D	A
Approach Delay (s)	27.5			7.0			4.9
Approach LOS	C			A			A
Intersection Summary							
HCM 2000 Control Delay			8.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.49				
Actuated Cycle Length (s)			82.7		Sum of lost time (s)		12.5
Intersection Capacity Utilization			49.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	10	216	37	210	167	57	24	166	168	43	129	14
Future Volume (vph)	10	216	37	210	167	57	24	166	168	43	129	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.64	1.00	1.00	0.45	1.00	1.00	0.67	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	1187	3539	1583	837	3539	1583	1244	1863	1583	1082	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	235	40	228	182	62	26	180	183	47	140	15
RTOR Reduction (vph)	0	0	32	0	0	41	0	0	120	0	0	10
Lane Group Flow (vph)	11	235	8	228	182	21	26	180	63	47	140	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	14.2	13.4	13.4	29.2	23.9	23.9	26.0	23.7	23.7	28.8	25.1	25.1
Effective Green, g (s)	14.2	13.4	13.4	29.2	23.9	23.9	26.0	23.7	23.7	28.8	25.1	25.1
Actuated g/C Ratio	0.21	0.19	0.19	0.42	0.35	0.35	0.38	0.34	0.34	0.42	0.36	0.36
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	686	306	506	1224	547	485	638	542	487	676	575
v/s Ratio Prot	0.00	0.07		c0.07	0.05		0.00	c0.10		c0.01	0.08	
v/s Ratio Perm	0.01		0.00	c0.12		0.01	0.02		0.04	0.03		0.00
v/c Ratio	0.04	0.34	0.03	0.45	0.15	0.04	0.05	0.28	0.12	0.10	0.21	0.01
Uniform Delay, d1	21.9	24.0	22.6	13.4	15.6	15.0	13.6	16.5	15.5	12.1	15.1	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.0	0.6	0.1	0.0	0.0	1.1	0.4	0.1	0.2	0.0
Delay (s)	22.0	24.3	22.6	14.1	15.6	15.0	13.7	17.6	16.0	12.2	15.3	14.1
Level of Service	C	C	C	B	B	B	B	B	B	B	B	B
Approach Delay (s)		24.0			14.8			16.6			14.5	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			69.1				Sum of lost time (s)			17.0		
Intersection Capacity Utilization			44.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	20	127	85	38	42	95	1062	108	84	607	8
Future Volume (vph)	66	20	127	85	38	42	95	1062	108	84	607	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1735	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	22	138	92	41	46	103	1154	117	91	660	9
RTOR Reduction (vph)	0	0	126	0	0	42	0	0	44	0	0	3
Lane Group Flow (vph)	0	94	12	65	68	4	103	1154	73	91	660	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		12.1	12.1	10.8	10.8	10.8	12.7	86.4	86.4	12.1	85.8	85.8
Effective Green, g (s)		12.1	12.1	10.8	10.8	10.8	12.7	86.4	86.4	12.1	85.8	85.8
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.09	0.62	0.62	0.09	0.62	0.62
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		155	137	130	134	122	161	2193	981	153	2178	974
v/s Ratio Prot		c0.05		0.04	c0.04		c0.06	c0.33		0.05	0.19	
v/s Ratio Perm			0.01			0.00			0.05			0.00
v/c Ratio		0.61	0.09	0.50	0.51	0.03	0.64	0.53	0.07	0.59	0.30	0.01
Uniform Delay, d1		61.4	58.6	61.7	61.7	59.5	61.1	15.0	10.6	61.3	12.7	10.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		6.6	0.3	3.0	3.0	0.1	8.1	0.9	0.1	6.1	0.4	0.0
Delay (s)		67.9	58.8	64.7	64.8	59.6	69.2	15.9	10.7	67.4	13.0	10.4
Level of Service		E	E	E	E	E	E	B	B	E	B	B
Approach Delay (s)		62.5			63.4			19.4			19.5	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			26.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			139.4				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			56.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	100	0	0	0	108	317	0	0	236	94
Future Volume (Veh/h)	68	0	100	0	0	0	108	317	0	0	236	94
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	0	109	0	0	0	117	345	0	0	257	102
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	836	836	257	945	938	345	359			345		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	836	836	257	945	938	345	359			345		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	100	86	100	100	100	90			100		
cM capacity (veh/h)	265	274	782	193	239	698	1200			1214		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	74	0	109	0	462	257	102					
Volume Left	74	0	0	0	117	0	0					
Volume Right	0	0	109	0	0	0	102					
cSH	265	1700	782	1700	1200	1214	1700					
Volume to Capacity	0.28	0.00	0.14	0.00	0.10	0.00	0.06					
Queue Length 95th (ft)	28	0	12	0	8	0	0					
Control Delay (s)	23.7	0.0	10.4	0.0	2.9	0.0	0.0					
Lane LOS	C	A	B	A	A							
Approach Delay (s)	15.8			0.0	2.9	0.0						
Approach LOS	C			A								
Intersection Summary												
Average Delay	4.2											
Intersection Capacity Utilization	48.8%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	26	225	43	113	11	275	1209	31	6	595	131
Future Volume (vph)	213	26	225	43	113	11	275	1209	31	6	595	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1838		3433	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	620	1863	1583	1377	1838		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	232	28	245	47	123	12	299	1314	34	7	647	142
RTOR Reduction (vph)	0	0	191	0	3	0	0	0	14	0	0	71
Lane Group Flow (vph)	232	28	54	47	132	0	299	1314	20	7	647	71
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	42.7	31.4	31.4	22.7	15.9		14.8	85.0	85.0	1.4	71.6	71.6
Effective Green, g (s)	42.7	31.4	31.4	22.7	15.9		14.8	85.0	85.0	1.4	71.6	71.6
Actuated g/C Ratio	0.30	0.22	0.22	0.16	0.11		0.10	0.60	0.60	0.01	0.50	0.50
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	365	410	348	237	204		356	2109	943	17	1776	794
v/s Ratio Prot	c0.10	0.02		0.01	0.07		c0.09	c0.37		0.00	0.18	
v/s Ratio Perm	c0.09		0.03	0.02					0.01			0.05
v/c Ratio	0.64	0.07	0.16	0.20	0.65		0.84	0.62	0.02	0.41	0.36	0.09
Uniform Delay, d1	40.7	44.0	44.9	51.8	60.7		62.7	18.5	11.8	70.2	21.6	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.1	0.2	0.4	6.9		15.8	1.4	0.0	15.4	0.6	0.2
Delay (s)	44.3	44.1	45.1	52.2	67.6		78.6	19.9	11.8	85.6	22.2	18.7
Level of Service	D	D	D	D	E		E	B	B	F	C	B
Approach Delay (s)		44.7			63.6			30.4			22.1	
Approach LOS		D			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			142.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	150	139	100	173	235	119	970	184	179	485	172
Future Volume (vph)	308	150	139	100	173	235	119	970	184	179	485	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	335	163	151	109	188	255	129	1054	200	195	527	187
RTOR Reduction (vph)	0	0	124	0	0	219	0	0	118	0	0	105
Lane Group Flow (vph)	245	253	27	98	199	36	129	1054	82	195	527	82
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	25.1	25.1	25.1	19.7	19.7	19.7	15.5	56.9	56.9	19.2	60.6	60.6
Effective Green, g (s)	25.1	25.1	25.1	19.7	19.7	19.7	15.5	56.9	56.9	19.2	60.6	60.6
Actuated g/C Ratio	0.18	0.18	0.18	0.14	0.14	0.14	0.11	0.41	0.41	0.14	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	303	314	286	238	250	224	197	1449	648	244	1544	690
v/s Ratio Prot	c0.15	0.15		0.06	c0.11		0.07	c0.30		c0.11	c0.15	
v/s Ratio Perm			0.02			0.02			0.05			0.05
v/c Ratio	0.81	0.81	0.10	0.41	0.80	0.16	0.65	0.73	0.13	0.80	0.34	0.12
Uniform Delay, d1	54.6	54.6	47.4	54.3	57.7	52.3	59.1	34.5	25.5	58.0	25.9	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.6	13.9	0.1	1.2	15.9	0.3	7.6	3.2	0.4	16.5	0.6	0.3
Delay (s)	69.2	68.5	47.6	55.5	73.6	52.7	66.7	37.7	25.9	74.5	26.5	23.6
Level of Service	E	E	D	E	E	D	E	D	C	E	C	C
Approach Delay (s)		63.9			60.7			38.7			36.2	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			46.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			138.9				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			73.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

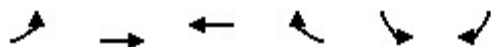
Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	420	4	1	533	389	5	1	0	146	0	64
Future Volume (vph)	113	420	4	1	533	389	5	1	0	146	0	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.97	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1788			1726	
Flt Permitted	0.16	1.00		0.43	1.00	1.00		0.87			0.79	
Satd. Flow (perm)	296	1860		797	1863	1583		1621			1410	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	457	4	1	579	423	5	1	0	159	0	70
RTOR Reduction (vph)	0	1	0	0	0	254	0	0	0	0	58	0
Lane Group Flow (vph)	123	460	0	1	579	169	0	6	0	0	171	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	57.6	52.2		44.3	43.4	43.4		41.9			41.9	
Effective Green, g (s)	57.6	52.2		44.3	43.4	43.4		41.9			41.9	
Actuated g/C Ratio	0.53	0.48		0.41	0.40	0.40		0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	288	894		333	745	633		625			544	
v/s Ratio Prot	c0.04	c0.25		0.00	c0.31			0.00			c0.12	
v/s Ratio Perm	0.19			0.00		0.11		0.00				
v/c Ratio	0.43	0.52		0.00	0.78	0.27		0.01			0.31	
Uniform Delay, d1	18.0	19.4		19.2	28.3	21.9		20.5			23.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.0	0.5		0.0	5.1	0.2		0.0			1.5	
Delay (s)	19.0	19.9		19.2	33.5	22.1		20.5			24.8	
Level of Service	B	B		B	C	C		C			C	
Approach Delay (s)		19.7			28.7			20.5			24.8	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	25.3			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	108.5			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	57.8%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	638	942	47	20	13
Future Volume (Veh/h)	39	638	942	47	20	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	693	1024	51	22	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage (veh)		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.83	
vC, conflicting volume	1075				1826	1050
vC1, stage 1 conf vol					1050	
vC2, stage 2 conf vol					777	
vCu, unblocked vol	1075				1892	1050
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				92	95
cM capacity (veh/h)	649				260	276
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	42	693	1075	22	14	
Volume Left	42	0	0	22	0	
Volume Right	0	0	51	0	14	
cSH	649	1700	1700	260	276	
Volume to Capacity	0.06	0.41	0.63	0.08	0.05	
Queue Length 95th (ft)	5	0	0	7	4	
Control Delay (s)	10.9	0.0	0.0	20.2	18.7	
Lane LOS	B			C	C	
Approach Delay (s)	0.6		0.0	19.6		
Approach LOS				C		
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			62.4%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	470	31	107	923	16	29	0	79	5	0	4
Future Volume (Veh/h)	14	470	31	107	923	16	29	0	79	5	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	511	34	116	1003	17	32	0	86	5	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1020			545			1797	1810	528	1819	1810	1003
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1020			545			1797	1810	528	1819	1810	1003
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			89			42	100	84	89	100	99
cM capacity (veh/h)	680			1024			55	68	550	45	68	294
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	15	545	116	1003	17	118	5	4				
Volume Left	15	0	116	0	0	32	5	0				
Volume Right	0	34	0	0	17	86	0	4				
cSH	680	1700	1024	1700	1700	203	45	294				
Volume to Capacity	0.02	0.32	0.11	0.59	0.01	0.58	0.11	0.01				
Queue Length 95th (ft)	2	0	10	0	0	80	9	1				
Control Delay (s)	10.4	0.0	9.0	0.0	0.0	46.5	93.8	17.4				
Lane LOS	B		A			E	F	C				
Approach Delay (s)	0.3		0.9			46.5	59.9					
Approach LOS						E	F					
Intersection Summary												
Average Delay				4.0								
Intersection Capacity Utilization				70.2%	ICU Level of Service			C				
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	146	42	14	431	196	40	26	3	75	48	512
Future Volume (vph)	340	146	42	14	431	196	40	26	3	75	48	512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1800			1860	1583	1770	1836			1807	1583
Flt Permitted	0.16	1.00			0.99	1.00	0.95	1.00			0.97	1.00
Satd. Flow (perm)	290	1800			1842	1583	1770	1836			1807	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	159	46	15	468	213	43	28	3	82	52	557
RTOR Reduction (vph)	0	11	0	0	0	126	0	3	0	0	0	150
Lane Group Flow (vph)	370	194	0	0	483	87	43	28	0	0	134	407
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	58.0	58.0			28.2	28.2	6.6	6.6			10.8	36.1
Effective Green, g (s)	58.0	58.0			28.2	28.2	6.6	6.6			10.8	36.1
Actuated g/C Ratio	0.65	0.65			0.32	0.32	0.07	0.07			0.12	0.41
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	610	1174			584	502	131	136			219	722
v/s Ratio Prot	0.17	0.11					c0.02	0.02			0.07	c0.16
v/s Ratio Perm	0.22				c0.26	0.06						0.10
v/c Ratio	0.61	0.16			0.83	0.17	0.33	0.21			0.61	0.56
Uniform Delay, d1	14.5	6.0			28.1	21.9	39.0	38.7			37.1	20.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.7	0.1			9.4	0.2	1.5	0.8			5.0	1.0
Delay (s)	16.2	6.1			37.5	22.1	40.5	39.5			42.0	21.4
Level of Service	B	A			D	C	D	D			D	C
Approach Delay (s)		12.6			32.8			40.1			25.4	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			24.8									
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			88.9									
Intersection Capacity Utilization			70.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
AM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	20	53	20	5	46
Future Volume (Veh/h)	8	20	53	20	5	46
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	22	58	22	5	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	129	69			80	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	129	69			80	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			100	
cM capacity (veh/h)	862	994			1518	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	31	80	55			
Volume Left	9	0	5			
Volume Right	22	22	0			
cSH	952	1700	1518			
Volume to Capacity	0.03	0.05	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	8.9	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			16.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	47	21	0	55
Future Volume (Veh/h)	0	0	47	21	0	55
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	51	23	0	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	122	62			74	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122	62			74	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	873	1002			1526	
Direction, Lane #	NB 1	SB 1				
Volume Total	74	60				
Volume Left	0	0				
Volume Right	23	0				
cSH	1700	1700				
Volume to Capacity	0.04	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Existing



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	263	160	185	297	134	259
Future Volume (vph)	0	263	160	185	297	134	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	286	174	201	323	146	282
RTOR Reduction (vph)	0	0	145	0	0	0	156
Lane Group Flow (vph)	0	286	29	201	323	146	126
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		11.1	11.1	12.6	28.2	29.3	29.3
Effective Green, g (s)		11.1	11.1	12.6	28.2	29.3	29.3
Actuated g/C Ratio		0.17	0.17	0.19	0.43	0.45	0.45
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		599	268	340	1523	791	708
v/s Ratio Prot		c0.08		c0.11	0.09	c0.08	
v/s Ratio Perm			0.02				0.08
v/c Ratio		0.48	0.11	0.59	0.21	0.18	0.18
Uniform Delay, d1		24.6	23.0	24.1	11.7	10.9	10.9
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.6	0.2	2.7	0.1	0.5	0.6
Delay (s)		25.2	23.2	26.8	11.8	11.4	11.4
Level of Service		C	C	C	B	B	B
Approach Delay (s)		24.4			17.5	11.4	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			17.9		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.34				
Actuated Cycle Length (s)			65.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			34.9%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis

15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	27	78	402	250	32
Future Volume (Veh/h)	29	27	78	402	250	32
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	29	85	437	272	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	879	272	307			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	879	272	307			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	96	93			
cM capacity (veh/h)	296	767	1254			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	61	85	437	272	35	
Volume Left	32	85	0	0	0	
Volume Right	29	0	0	0	35	
cSH	419	1254	1700	1700	1700	
Volume to Capacity	0.15	0.07	0.26	0.16	0.02	
Queue Length 95th (ft)	13	5	0	0	0	
Control Delay (s)	15.1	8.1	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	15.1	1.3		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			31.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

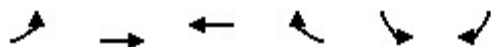
Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	132	14	9	547	232	36
Future Volume (Veh/h)	132	14	9	547	232	36
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	143	15	10	595	252	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	867	252	291			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867	252	291			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	55	98	99			
cM capacity (veh/h)	321	787	1271			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	143	15	10	595	252	39
Volume Left	143	0	10	0	0	0
Volume Right	0	15	0	0	0	39
cSH	321	787	1271	1700	1700	1700
Volume to Capacity	0.45	0.02	0.01	0.35	0.15	0.02
Queue Length 95th (ft)	55	1	1	0	0	0
Control Delay (s)	24.9	9.7	7.9	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	23.5	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			42.8%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	352	247	376	203	22	224
Future Volume (Veh/h)	352	247	376	203	22	224
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	383	268	409	221	24	243
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	630				1554	520
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630				1554	520
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	60				68	56
cM capacity (veh/h)	952				74	556
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	383	268	630	267		
Volume Left	383	0	0	24		
Volume Right	0	0	221	243		
cSH	952	1700	1700	611		
Volume to Capacity	0.40	0.16	0.37	0.44		
Queue Length 95th (ft)	49	0	0	55		
Control Delay (s)	11.3	0.0	0.0	21.6		
Lane LOS	B			C		
Approach Delay (s)	6.6		0.0	21.6		
Approach LOS				C		
Intersection Summary						
Average Delay			6.5			
Intersection Capacity Utilization			65.0%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
AM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	47	38	592	586	12
Future Volume (Veh/h)	17	47	38	592	586	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	51	41	643	637	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1362	637	650			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1362	637	650			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	89	96			
cM capacity (veh/h)	156	477	936			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	69	41	643	637	13	
Volume Left	18	41	0	0	0	
Volume Right	51	0	0	0	13	
cSH	310	936	1700	1700	1700	
Volume to Capacity	0.22	0.04	0.38	0.37	0.01	
Queue Length 95th (ft)	21	3	0	0	0	
Control Delay (s)	19.9	9.0	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.9	0.5		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			42.1%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Background - Full Build Out

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	209	115	0	1607	292	117	872
Future Volume (vph)	209	115	0	1607	292	117	872
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	125	0	1747	317	127	948
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	227	125	0	1747	317	127	948
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	11.1	86.3		51.2	86.3	11.5	67.2
Effective Green, g (s)	11.1	86.3		51.2	86.3	11.5	67.2
Actuated g/C Ratio	0.13	1.00		0.59	1.00	0.13	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	441	1583		2099	1583	235	2755
v/s Ratio Prot				c0.49		c0.07	0.27
v/s Ratio Perm	c0.07	0.08			0.20		
v/c Ratio	0.51	0.08		0.83	0.20	0.54	0.34
Uniform Delay, d1	35.1	0.0		14.1	0.0	34.9	2.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.1		4.0	0.3	2.5	0.1
Delay (s)	36.1	0.1		18.1	0.3	37.5	3.0
Level of Service	D	A		B	A	D	A
Approach Delay (s)	23.3			15.4			7.0
Approach LOS	C			B			A
Intersection Summary							
HCM 2000 Control Delay			13.6		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.74				
Actuated Cycle Length (s)			86.3		Sum of lost time (s)		12.5
Intersection Capacity Utilization			67.3%		ICU Level of Service		C
Analysis Period (min)			15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	19	294	89	259	242	68	70	195	209	53	153	22
Future Volume (vph)	19	294	89	259	242	68	70	195	209	53	153	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.59	1.00	1.00	0.38	1.00	1.00	0.56	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	1098	3539	1583	699	3539	1583	1037	1863	1583	1149	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	320	97	282	263	74	76	212	227	58	166	24
RTOR Reduction (vph)	0	0	77	0	0	47	0	0	154	0	0	17
Lane Group Flow (vph)	21	320	20	282	263	27	76	212	73	58	166	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	16.6	14.9	14.9	32.3	26.1	26.1	29.0	23.0	23.0	24.6	20.8	20.8
Effective Green, g (s)	16.6	14.9	14.9	32.3	26.1	26.1	29.0	23.0	23.0	24.6	20.8	20.8
Actuated g/C Ratio	0.23	0.21	0.21	0.45	0.36	0.36	0.41	0.32	0.32	0.34	0.29	0.29
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	270	736	329	508	1290	577	481	598	508	427	541	459
v/s Ratio Prot	0.00	0.09		c0.10	0.07		c0.01	c0.11		0.01	0.09	
v/s Ratio Perm	0.02		0.01	c0.15		0.02	0.05		0.05	0.04		0.00
v/c Ratio	0.08	0.43	0.06	0.56	0.20	0.05	0.16	0.35	0.14	0.14	0.31	0.02
Uniform Delay, d1	21.4	24.7	22.7	13.2	15.6	14.7	13.3	18.6	17.3	15.9	19.8	18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.4	0.1	1.3	0.1	0.0	0.2	1.6	0.6	0.1	0.3	0.0
Delay (s)	21.5	25.1	22.8	14.5	15.7	14.7	13.5	20.3	17.9	16.1	20.1	18.1
Level of Service	C	C	C	B	B	B	B	C	B	B	C	B
Approach Delay (s)		24.4			15.1			18.2			19.0	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			71.6			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			50.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	23	147	99	44	50	110	1591	126	99	868	9
Future Volume (vph)	77	23	147	99	44	50	110	1591	126	99	868	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1736	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1736	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	25	160	108	48	54	120	1729	137	108	943	10
RTOR Reduction (vph)	0	0	145	0	0	50	0	0	36	0	0	4
Lane Group Flow (vph)	0	109	15	77	79	4	120	1729	101	108	943	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		12.9	12.9	11.6	11.6	11.6	13.5	86.4	86.4	12.9	85.8	85.8
Effective Green, g (s)		12.9	12.9	11.6	11.6	11.6	13.5	86.4	86.4	12.9	85.8	85.8
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.10	0.61	0.61	0.09	0.61	0.61
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		163	144	137	142	129	168	2156	964	161	2141	957
v/s Ratio Prot		c0.06		c0.05	0.05		c0.07	c0.49		0.06	0.27	
v/s Ratio Perm			0.01			0.00			0.06			0.00
v/c Ratio		0.67	0.10	0.56	0.56	0.03	0.71	0.80	0.10	0.67	0.44	0.01
Uniform Delay, d1		62.4	59.1	62.7	62.6	59.9	62.3	21.2	11.6	62.4	15.1	11.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.9	0.3	5.2	4.7	0.1	13.4	3.3	0.2	10.5	0.7	0.0
Delay (s)		72.3	59.4	67.8	67.3	60.1	75.7	24.4	11.8	72.9	15.7	11.1
Level of Service		E	E	E	E	E	E	C	B	E	B	B
Approach Delay (s)		64.7			65.6			26.7			21.5	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.3									
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			141.8									
Intersection Capacity Utilization			72.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	2	116	1	1	2	125	424	1	4	334	109
Future Volume (Veh/h)	79	2	116	1	1	2	125	424	1	4	334	109
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	86	2	126	1	1	2	136	461	1	4	363	118
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1107	1105	363	1232	1222	462	481				462	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1107	1105	363	1232	1222	462	481				462	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	49	99	82	99	99	100	87				100	
cM capacity (veh/h)	168	184	682	112	156	600	1082				1099	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	86	2	126	4	598	367	118					
Volume Left	86	0	0	1	136	4	0					
Volume Right	0	0	126	2	1	0	118					
cSH	168	184	682	215	1082	1099	1700					
Volume to Capacity	0.51	0.01	0.18	0.02	0.13	0.00	0.07					
Queue Length 95th (ft)	63	1	17	1	11	0	0					
Control Delay (s)	47.1	24.8	11.5	22.1	3.2	0.1	0.0					
Lane LOS	E	C	B	C	A	A						
Approach Delay (s)	25.9			22.1	3.2	0.1						
Approach LOS	D			C								
Intersection Summary												
Average Delay	5.8											
Intersection Capacity Utilization	68.1%			ICU Level of Service					C			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	30	261	50	131	13	319	1760	36	7	851	155
Future Volume (vph)	250	30	261	50	131	13	319	1760	36	7	851	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1838		3433	3539	1583	1770	3539	1583
Flt Permitted	0.29	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	532	1863	1583	1370	1838		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	33	284	54	142	14	347	1913	39	8	925	168
RTOR Reduction (vph)	0	0	216	0	3	0	0	0	16	0	0	86
Lane Group Flow (vph)	272	33	68	54	153	0	347	1913	23	8	925	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	46.5	34.9	34.9	24.3	17.2		15.4	85.3	85.3	1.4	71.3	71.3
Effective Green, g (s)	46.5	34.9	34.9	24.3	17.2		15.4	85.3	85.3	1.4	71.3	71.3
Actuated g/C Ratio	0.32	0.24	0.24	0.17	0.12		0.10	0.58	0.58	0.01	0.49	0.49
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	377	443	376	246	215		360	2057	920	16	1720	769
v/s Ratio Prot	c0.12	0.02		0.01	0.08		c0.10	c0.54		0.00	0.26	
v/s Ratio Perm	c0.11		0.04	0.03					0.01			0.05
v/c Ratio	0.72	0.07	0.18	0.22	0.71		0.96	0.93	0.02	0.50	0.54	0.11
Uniform Delay, d1	41.1	43.4	44.5	52.7	62.4		65.4	28.0	13.0	72.3	26.2	20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.7	0.1	0.2	0.5	10.7		37.7	9.0	0.0	22.5	1.2	0.3
Delay (s)	47.8	43.4	44.7	53.1	73.0		103.0	37.0	13.1	94.8	27.4	20.7
Level of Service	D	D	D	D	E		F	D	B	F	C	C
Approach Delay (s)		46.1			67.9			46.6			26.9	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			42.4			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			146.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			89.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	174	161	116	201	273	138	1482	214	208	723	200
Future Volume (vph)	358	174	161	116	201	273	138	1482	214	208	723	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1765	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	189	175	126	218	297	150	1611	233	226	786	217
RTOR Reduction (vph)	0	0	141	0	0	219	0	0	142	0	0	127
Lane Group Flow (vph)	284	294	34	113	231	78	150	1611	91	226	786	90
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	27.8	27.8	27.8	21.5	21.5	21.5	17.6	56.5	56.5	21.2	60.1	60.1
Effective Green, g (s)	27.8	27.8	27.8	21.5	21.5	21.5	17.6	56.5	56.5	21.2	60.1	60.1
Actuated g/C Ratio	0.19	0.19	0.19	0.15	0.15	0.15	0.12	0.39	0.39	0.15	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	322	333	303	249	261	234	214	1378	616	258	1466	656
v/s Ratio Prot	0.17	c0.17		0.07	c0.13		0.08	c0.46		c0.13	c0.22	
v/s Ratio Perm			0.02			0.05			0.06			0.06
v/c Ratio	0.88	0.88	0.11	0.45	0.89	0.33	0.70	1.17	0.15	0.88	0.54	0.14
Uniform Delay, d1	57.0	57.0	48.4	56.4	60.5	55.3	61.2	44.2	28.7	60.6	32.0	26.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.4	22.9	0.2	1.3	27.9	0.8	9.9	84.2	0.5	26.5	1.4	0.4
Delay (s)	80.4	80.0	48.6	57.7	88.4	56.2	71.1	128.5	29.2	87.1	33.4	26.8
Level of Service	F	E	D	E	F	E	E	F	C	F	C	C
Approach Delay (s)		72.8			68.1			112.6			42.1	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			81.1									F
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			145.0									
Intersection Capacity Utilization			92.6%									F
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

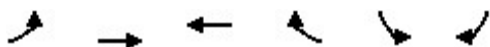
Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	488	5	1	619	509	6	1	0	231	0	74
Future Volume (vph)	131	488	5	1	619	509	6	1	0	231	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.96	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1785			1736	
Flt Permitted	0.12	1.00		0.37	1.00	1.00		0.82			0.77	
Satd. Flow (perm)	216	1860		692	1863	1583		1532			1393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	530	5	1	673	553	7	1	0	251	0	80
RTOR Reduction (vph)	0	0	0	0	0	313	0	0	0	0	61	0
Lane Group Flow (vph)	142	535	0	1	673	240	0	8	0	0	270	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	64.5	59.1		50.8	49.9	49.9		41.7			41.7	
Effective Green, g (s)	64.5	59.1		50.8	49.9	49.9		41.7			41.7	
Actuated g/C Ratio	0.56	0.51		0.44	0.43	0.43		0.36			0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	257	954		313	806	685		554			504	
v/s Ratio Prot	c0.05	0.29		0.00	c0.36							
v/s Ratio Perm	0.26			0.00		0.15		0.01			c0.19	
v/c Ratio	0.55	0.56		0.00	0.83	0.35		0.01			0.54	
Uniform Delay, d1	20.2	19.2		18.4	29.0	21.8		23.6			29.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	2.6	0.8		0.0	7.5	0.3		0.0			4.1	
Delay (s)	22.8	19.9		18.5	36.5	22.1		23.6			33.2	
Level of Service	C	B		B	D	C		C			C	
Approach Delay (s)		20.5			30.0			23.6			33.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	27.6			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.69											
Actuated Cycle Length (s)	115.2			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	68.7%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Background - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	744	1103	55	23	15
Future Volume (Veh/h)	45	744	1103	55	23	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	809	1199	60	25	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.80	
vC, conflicting volume	1259				2136	1229
vC1, stage 1 conf vol					1229	
vC2, stage 2 conf vol					907	
vCu, unblocked vol	1259				2293	1229
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	91				88	93
cM capacity (veh/h)	552				207	217
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	49	809	1259	25	16	
Volume Left	49	0	0	25	0	
Volume Right	0	0	60	0	16	
cSH	552	1700	1700	207	217	
Volume to Capacity	0.09	0.48	0.74	0.12	0.07	
Queue Length 95th (ft)	7	0	0	10	6	
Control Delay (s)	12.2	0.0	0.0	24.8	22.9	
Lane LOS	B			C	C	
Approach Delay (s)	0.7		0.0	24.0		
Approach LOS				C		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			71.4%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	549	36	124	1081	19	34	0	92	6	0	5
Future Volume (Veh/h)	16	549	36	124	1081	19	34	0	92	6	0	5
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	597	39	135	1175	21	37	0	100	7	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1196			636			2100	2116	616	2126	2115	1175
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1196			636			2100	2116	616	2126	2115	1175
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			86			0	100	80	72	100	98
cM capacity (veh/h)	584			947			32	42	490	25	42	233
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	17	636	135	1175	21	137	7	5				
Volume Left	17	0	135	0	0	37	7	0				
Volume Right	0	39	0	0	21	100	0	5				
cSH	584	1700	947	1700	1700	119	25	233				
Volume to Capacity	0.03	0.37	0.14	0.69	0.01	1.15	0.28	0.02				
Queue Length 95th (ft)	2	0	12	0	0	209	21	2				
Control Delay (s)	11.4	0.0	9.4	0.0	0.0	116.2	196.1	20.8				
Lane LOS	B		A			F	F	C				
Approach Delay (s)	0.3		1.0			116.2	123.1					
Approach LOS						F	F					
Intersection Summary												
Average Delay	8.8											
Intersection Capacity Utilization	78.8%			ICU Level of Service					D			
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green
AM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	170	49	16	500	236	46	30	3	102	56	603
Future Volume (vph)	398	170	49	16	500	236	46	30	3	102	56	603
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1801			1860	1583	1770	1839			1805	1583
Flt Permitted	0.12	1.00			0.99	1.00	0.95	1.00			0.97	1.00
Satd. Flow (perm)	218	1801			1840	1583	1770	1839			1805	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	433	185	53	17	543	257	50	33	3	111	61	655
RTOR Reduction (vph)	0	10	0	0	0	124	0	3	0	0	0	117
Lane Group Flow (vph)	433	228	0	0	560	133	50	33	0	0	172	538
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	70.1	70.1			35.8	35.8	6.5	6.5			11.9	41.7
Effective Green, g (s)	70.1	70.1			35.8	35.8	6.5	6.5			11.9	41.7
Actuated g/C Ratio	0.69	0.69			0.35	0.35	0.06	0.06			0.12	0.41
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	603	1237			645	555	112	117			210	717
v/s Ratio Prot	0.21	0.13					c0.03	0.02			0.10	c0.22
v/s Ratio Perm	0.28				c0.30	0.08						0.12
v/c Ratio	0.72	0.18			0.87	0.24	0.45	0.28			0.82	0.75
Uniform Delay, d1	22.4	5.7			30.9	23.5	46.0	45.5			44.0	25.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.1	0.1			11.9	0.2	2.8	1.3			21.4	4.4
Delay (s)	26.5	5.8			42.8	23.7	48.8	46.9			65.4	30.1
Level of Service	C	A			D	C	D	D			E	C
Approach Delay (s)		19.2			36.8			48.0			37.5	
Approach LOS		B			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			32.5									
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			102.0									
Intersection Capacity Utilization			80.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
AM Background - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	23	62	23	6	53
Future Volume (Veh/h)	9	23	62	23	6	53
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	25	67	25	7	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	152	80			92	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	80			92	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			100	
cM capacity (veh/h)	836	981			1503	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	35	92	65			
Volume Left	10	0	7			
Volume Right	25	25	0			
cSH	935	1700	1503			
Volume to Capacity	0.04	0.05	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	9.0	0.0	0.8			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	0.8			
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		17.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Background - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	55	24	0	64
Future Volume (Veh/h)	0	0	55	24	0	64
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	60	26	0	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	143	73			86	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	143	73			86	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	850	989			1510	
Direction, Lane #	NB 1	SB 1				
Volume Total	86	70				
Volume Left	0	0				
Volume Right	26	0				
cSH	1700	1700				
Volume to Capacity	0.05	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Background - Full Build Out



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↓	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (vph)	0	326	191	216	366	167	303
Future Volume (vph)	0	326	191	216	366	167	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	354	208	235	398	182	329
RTOR Reduction (vph)	0	0	170	0	0	0	185
Lane Group Flow (vph)	0	354	38	235	398	182	144
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		13.2	13.2	14.5	32.2	31.3	31.3
Effective Green, g (s)		13.2	13.2	14.5	32.2	31.3	31.3
Actuated g/C Ratio		0.18	0.18	0.20	0.45	0.44	0.44
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		653	292	358	1593	774	692
v/s Ratio Prot		c0.10		c0.13	0.11	c0.10	
v/s Ratio Perm			0.02				0.09
v/c Ratio		0.54	0.13	0.66	0.25	0.24	0.21
Uniform Delay, d1		26.4	24.4	26.2	12.2	12.6	12.4
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2	4.3	0.1	0.7	0.7
Delay (s)		27.3	24.6	30.5	12.3	13.3	13.1
Level of Service		C	C	C	B	B	B
Approach Delay (s)		26.3			19.0	13.2	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			19.7		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.41				
Actuated Cycle Length (s)			71.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			40.2%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	31	91	480	296	37
Future Volume (Veh/h)	34	31	91	480	296	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	34	99	522	322	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1042	322	362			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1042	322	362			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	95	92			
cM capacity (veh/h)	233	719	1197			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	71	99	522	322	40	
Volume Left	37	99	0	0	0	
Volume Right	34	0	0	0	40	
cSH	345	1197	1700	1700	1700	
Volume to Capacity	0.21	0.08	0.31	0.19	0.02	
Queue Length 95th (ft)	19	7	0	0	0	
Control Delay (s)	18.1	8.3	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	18.1	1.3		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	35.7%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

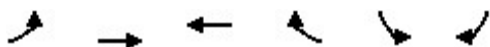
Heritage Green
AM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	139	15	9	588	250	38
Future Volume (Veh/h)	139	15	9	588	250	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	151	16	10	639	272	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	931	272	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	272	313			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	49	98	99			
cM capacity (veh/h)	294	767	1247			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	151	16	10	639	272	41
Volume Left	151	0	10	0	0	0
Volume Right	0	16	0	0	0	41
cSH	294	767	1247	1700	1700	1700
Volume to Capacity	0.51	0.02	0.01	0.38	0.16	0.02
Queue Length 95th (ft)	69	2	1	0	0	0
Control Delay (s)	29.5	9.8	7.9	0.0	0.0	0.0
Lane LOS	D	A	A			
Approach Delay (s)	27.6	0.1		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			45.3%		ICU Level of Service	
Analysis Period (min)			15		A	

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Background - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	422	304	443	236	26	266
Future Volume (Veh/h)	422	304	443	236	26	266
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	459	330	482	257	28	289
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	739				1858	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739				1858	610
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	47				26	42
cM capacity (veh/h)	867				38	494
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	459	330	739	317		
Volume Left	459	0	0	28		
Volume Right	0	0	257	289		
cSH	867	1700	1700	430		
Volume to Capacity	0.53	0.19	0.43	0.74		
Queue Length 95th (ft)	79	0	0	148		
Control Delay (s)	13.7	0.0	0.0	40.2		
Lane LOS	B			E		
Approach Delay (s)	8.0		0.0	40.2		
Approach LOS				E		
Intersection Summary						
Average Delay			10.3			
Intersection Capacity Utilization			74.4%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
AM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	55	44	698	704	14
Future Volume (Veh/h)	20	55	44	698	704	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	60	48	759	765	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1620	765	780			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1620	765	780			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	85	94			
cM capacity (veh/h)	107	403	837			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	82	48	759	765	15	
Volume Left	22	48	0	0	0	
Volume Right	60	0	0	0	15	
cSH	231	837	1700	1700	1700	
Volume to Capacity	0.35	0.06	0.45	0.45	0.01	
Queue Length 95th (ft)	38	5	0	0	0	
Control Delay (s)	28.9	9.6	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	28.9	0.6		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			48.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Total - Full Build Out

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	241	201	0	1678	335	206	899
Future Volume (vph)	241	201	0	1678	335	206	899
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	218	0	1824	364	224	977
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	262	218	0	1824	364	224	977
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	12.6	93.4		51.3	93.4	17.0	72.8
Effective Green, g (s)	12.6	93.4		51.3	93.4	17.0	72.8
Actuated g/C Ratio	0.13	1.00		0.55	1.00	0.18	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	463	1583		1943	1583	322	2758
v/s Ratio Prot				c0.52		c0.13	0.28
v/s Ratio Perm	c0.08	0.14			0.23		
v/c Ratio	0.57	0.14		0.94	0.23	0.70	0.35
Uniform Delay, d1	37.8	0.0		19.6	0.0	35.8	3.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2		10.3	0.3	6.4	0.1
Delay (s)	39.4	0.2		29.9	0.3	42.2	3.2
Level of Service	D	A		C	A	D	A
Approach Delay (s)	21.6			25.0			10.5
Approach LOS	C			C			B
Intersection Summary							
HCM 2000 Control Delay			20.1		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.83				
Actuated Cycle Length (s)			93.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			75.1%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	426	89	291	360	277	70	266	252	111	180	22
Future Volume (vph)	19	426	89	291	360	277	70	266	252	111	180	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.52	1.00	1.00	0.27	1.00	1.00	0.55	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	970	3539	1583	503	3539	1583	1018	1863	1583	789	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	463	97	316	391	301	76	289	274	121	196	24
RTOR Reduction (vph)	0	0	75	0	0	183	0	0	194	0	0	17
Lane Group Flow (vph)	21	463	22	316	391	118	76	289	80	121	196	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	19.6	17.8	17.8	36.9	30.6	30.6	28.8	22.8	22.8	28.0	22.4	22.4
Effective Green, g (s)	19.6	17.8	17.8	36.9	30.6	30.6	28.8	22.8	22.8	28.0	22.4	22.4
Actuated g/C Ratio	0.25	0.23	0.23	0.47	0.39	0.39	0.37	0.29	0.29	0.36	0.29	0.29
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	809	362	476	1391	622	434	545	463	354	536	455
v/s Ratio Prot	0.00	0.13		c0.12	0.11		0.01	c0.16		c0.02	0.11	
v/s Ratio Perm	0.02		0.01	c0.19		0.07	0.05		0.05	0.10		0.00
v/c Ratio	0.08	0.57	0.06	0.66	0.28	0.19	0.18	0.53	0.17	0.34	0.37	0.02
Uniform Delay, d1	22.0	26.6	23.5	14.1	16.1	15.5	16.2	23.0	20.5	17.4	22.0	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	1.0	0.1	3.5	0.1	0.1	0.2	3.7	0.8	0.6	0.4	0.0
Delay (s)	22.2	27.6	23.5	17.5	16.2	15.6	16.4	26.7	21.3	18.0	22.5	19.8
Level of Service	C	C	C	B	B	B	B	C	C	B	C	B
Approach Delay (s)		26.7			16.4			23.1			20.7	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			21.0									
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			77.8									
Intersection Capacity Utilization			61.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	23	147	99	44	121	110	1634	126	126	900	9
Future Volume (vph)	77	23	147	99	44	121	110	1634	126	126	900	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583	1681	1736	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1794	1583	1681	1736	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	25	160	108	48	132	120	1776	137	137	978	10
RTOR Reduction (vph)	0	0	145	0	0	121	0	0	36	0	0	4
Lane Group Flow (vph)	0	109	15	77	79	11	120	1776	101	137	978	6
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		13.0	13.0	11.6	11.6	11.6	13.5	85.7	85.7	14.2	86.4	86.4
Effective Green, g (s)		13.0	13.0	11.6	11.6	11.6	13.5	85.7	85.7	14.2	86.4	86.4
Actuated g/C Ratio		0.09	0.09	0.08	0.08	0.08	0.09	0.60	0.60	0.10	0.61	0.61
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		163	144	136	141	128	167	2128	952	176	2145	959
v/s Ratio Prot		c0.06		c0.05	0.05		0.07	c0.50		c0.08	0.28	
v/s Ratio Perm			0.01			0.01			0.06			0.00
v/c Ratio		0.67	0.10	0.57	0.56	0.08	0.72	0.83	0.11	0.78	0.46	0.01
Uniform Delay, d1		62.7	59.4	63.0	63.0	60.5	62.7	22.7	12.1	62.6	15.3	11.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.9	0.3	5.3	5.0	0.3	13.8	4.0	0.2	19.2	0.7	0.0
Delay (s)		72.6	59.7	68.3	68.0	60.8	76.4	26.8	12.3	81.8	16.0	11.1
Level of Service		E	E	E	E	E	E	C	B	F	B	B
Approach Delay (s)		64.9			64.8			28.7			23.9	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.7									
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			142.5									
Intersection Capacity Utilization			75.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	29	116	25	72	200	125	340	8	89	308	109
Future Volume (Veh/h)	79	29	116	25	72	200	125	340	8	89	308	109
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	86	32	126	27	78	217	136	370	9	97	335	118
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1432	1180	335	1318	1294	374	453				379	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1432	1180	335	1318	1294	374	453				379	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	0	79	82	66	40	68	88				92	
cM capacity (veh/h)	35	153	707	79	131	672	1108				1179	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	86	32	126	322	515	432	118					
Volume Left	86	0	0	27	136	97	0					
Volume Right	0	0	126	217	9	0	118					
cSH	35	153	707	256	1108	1179	1700					
Volume to Capacity	2.49	0.21	0.18	1.26	0.12	0.08	0.07					
Queue Length 95th (ft)	243	19	16	397	10	7	0					
Control Delay (s)	921.3	34.6	11.2	184.1	3.3	2.5	0.0					
Lane LOS	F	D	B	F	A	A						
Approach Delay (s)	335.0			184.1	3.3	2.0						
Approach LOS	F			F								
Intersection Summary												
Average Delay	88.2											
Intersection Capacity Utilization	81.6%			ICU Level of Service				D				
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	30	261	50	131	13	319	1803	36	7	883	155
Future Volume (vph)	250	30	261	50	131	13	319	1803	36	7	883	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1838		3433	3539	1583	1770	3539	1583
Flt Permitted	0.29	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	532	1863	1583	1370	1838		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	33	284	54	142	14	347	1960	39	8	960	168
RTOR Reduction (vph)	0	0	216	0	3	0	0	0	16	0	0	86
Lane Group Flow (vph)	272	33	68	54	153	0	347	1960	23	8	960	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	46.5	34.9	34.9	24.3	17.2		15.4	85.3	85.3	1.4	71.3	71.3
Effective Green, g (s)	46.5	34.9	34.9	24.3	17.2		15.4	85.3	85.3	1.4	71.3	71.3
Actuated g/C Ratio	0.32	0.24	0.24	0.17	0.12		0.10	0.58	0.58	0.01	0.49	0.49
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	377	443	376	246	215		360	2057	920	16	1720	769
v/s Ratio Prot	c0.12	0.02		0.01	0.08		c0.10	c0.55		0.00	0.27	
v/s Ratio Perm	c0.11		0.04	0.03					0.01			0.05
v/c Ratio	0.72	0.07	0.18	0.22	0.71		0.96	0.95	0.02	0.50	0.56	0.11
Uniform Delay, d1	41.1	43.4	44.5	52.7	62.4		65.4	28.8	13.0	72.3	26.6	20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.7	0.1	0.2	0.5	10.7		37.7	11.5	0.0	22.5	1.3	0.3
Delay (s)	47.8	43.4	44.7	53.1	73.0		103.0	40.3	13.1	94.8	27.9	20.7
Level of Service	D	D	D	D	E		F	D	B	F	C	C
Approach Delay (s)		46.1			67.9			49.1			27.3	
Approach LOS		D			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			43.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			146.7			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			90.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	174	161	235	201	273	138	1525	288	208	755	200
Future Volume (vph)	358	174	161	235	201	273	138	1525	288	208	755	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1760	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1760	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	189	175	255	218	297	150	1658	313	226	821	217
RTOR Reduction (vph)	0	0	142	0	0	218	0	0	192	0	0	128
Lane Group Flow (vph)	284	294	33	229	244	79	150	1658	121	226	821	89
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	27.9	27.9	27.9	22.2	22.2	22.2	17.7	56.4	56.4	21.3	60.0	60.0
Effective Green, g (s)	27.9	27.9	27.9	22.2	22.2	22.2	17.7	56.4	56.4	21.3	60.0	60.0
Actuated g/C Ratio	0.19	0.19	0.19	0.15	0.15	0.15	0.12	0.39	0.39	0.15	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	321	332	302	255	267	241	214	1368	612	258	1456	651
v/s Ratio Prot	0.17	c0.17		0.14	c0.14		0.08	c0.47		c0.13	c0.23	
v/s Ratio Perm			0.02			0.05			0.08			0.06
v/c Ratio	0.88	0.89	0.11	0.90	0.91	0.33	0.70	1.21	0.20	0.88	0.56	0.14
Uniform Delay, d1	57.4	57.4	48.7	60.7	60.9	55.1	61.5	44.7	29.7	61.0	32.9	26.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.8	23.3	0.2	30.7	33.0	0.8	9.9	102.4	0.7	26.5	1.6	0.4
Delay (s)	81.2	80.7	48.9	91.4	93.9	55.9	71.4	147.1	30.4	87.4	34.5	27.2
Level of Service	F	F	D	F	F	E	E	F	C	F	C	C
Approach Delay (s)		73.5			78.5			124.5			42.7	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			88.4			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			145.8			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			95.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

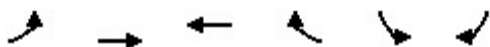
Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	512	5	1	682	382	6	1	0	173	0	130
Future Volume (vph)	181	512	5	1	682	382	6	1	0	173	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	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		1.00			0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.97	
Satd. Flow (prot)	1770	1860		1770	1863	1583		1785			1706	
Flt Permitted	0.08	1.00		0.36	1.00	1.00		0.82			0.82	
Satd. Flow (perm)	154	1860		668	1863	1583		1528			1437	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	557	5	1	741	415	7	1	0	188	0	141
RTOR Reduction (vph)	0	0	0	0	0	228	0	0	0	0	62	0
Lane Group Flow (vph)	197	562	0	1	741	187	0	8	0	0	267	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	69.1	63.6		55.0	54.0	54.0		41.5			41.5	
Effective Green, g (s)	69.1	63.6		55.0	54.0	54.0		41.5			41.5	
Actuated g/C Ratio	0.58	0.53		0.46	0.45	0.45		0.35			0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	232	989		316	841	714		530			498	
v/s Ratio Prot	c0.08	0.30		0.00	0.40							
v/s Ratio Perm	c0.41			0.00		0.12		0.01			c0.19	
v/c Ratio	0.85	0.57		0.00	0.88	0.26		0.02			0.54	
Uniform Delay, d1	30.0	18.8		18.0	29.9	20.4		25.6			31.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	24.0	0.8		0.0	10.7	0.2		0.1			4.1	
Delay (s)	54.0	19.5		18.0	40.6	20.6		25.7			35.4	
Level of Service	D	B		B	D	C		C			D	
Approach Delay (s)		28.5			33.4			25.7			35.4	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			119.6				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			74.2%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
AM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	708	1025	55	23	29
Future Volume (Veh/h)	47	708	1025	55	23	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	770	1114	60	25	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.80	
vC, conflicting volume	1174				2016	1144
vC1, stage 1 conf vol					1144	
vC2, stage 2 conf vol					872	
vCu, unblocked vol	1174				2149	1144
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	91				89	87
cM capacity (veh/h)	595				225	243
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	51	770	1174	25	32	
Volume Left	51	0	0	25	0	
Volume Right	0	0	60	0	32	
cSH	595	1700	1700	225	243	
Volume to Capacity	0.09	0.45	0.69	0.11	0.13	
Queue Length 95th (ft)	7	0	0	9	11	
Control Delay (s)	11.6	0.0	0.0	23.0	22.0	
Lane LOS	B			C	C	
Approach Delay (s)	0.7		0.0	22.5		
Approach LOS				C		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			67.3%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	493	36	124	962	176	34	0	92	181	0	46
Future Volume (vph)	36	493	36	124	962	176	34	0	92	181	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	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	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1844		1770	1863	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.72	1.00		0.68	1.00	
Satd. Flow (perm)	1770	1844		1770	1863	1583	1349	1583		1274	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	536	39	135	1046	191	37	0	100	197	0	50
RTOR Reduction (vph)	0	2	0	0	0	65	0	76	0	0	38	0
Lane Group Flow (vph)	39	573	0	135	1046	126	37	24	0	197	12	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	2.7	55.1		13.2	65.6	65.6	25.8	25.8		25.8	25.8	
Effective Green, g (s)	2.7	55.1		13.2	65.6	65.6	25.8	25.8		25.8	25.8	
Actuated g/C Ratio	0.03	0.51		0.12	0.61	0.61	0.24	0.24		0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	44	944		217	1135	965	323	379		305	379	
v/s Ratio Prot	0.02	0.31		c0.08	c0.56			0.02			0.01	
v/s Ratio Perm						0.08	0.03			c0.15		
v/c Ratio	0.89	0.61		0.62	0.92	0.13	0.11	0.06		0.65	0.03	
Uniform Delay, d1	52.3	18.6		44.8	18.7	8.9	32.0	31.6		36.8	31.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	92.1	1.1		5.5	12.1	0.1	0.7	0.3		10.1	0.2	
Delay (s)	144.4	19.7		50.3	30.8	9.0	32.7	31.9		46.9	31.5	
Level of Service	F	B		D	C	A	C	C		D	C	
Approach Delay (s)		27.6			29.7			32.1			43.8	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			30.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			107.6			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			82.7%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	233	49	16	518	268	46	30	3	150	56	623
Future Volume (vph)	454	233	49	16	518	268	46	30	3	150	56	623
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1814			1860	1583	1770	1839			1797	1583
Flt Permitted	0.11	1.00			0.99	1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	200	1814			1837	1583	1770	1839			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	493	253	53	17	563	291	50	33	3	163	61	677
RTOR Reduction (vph)	0	7	0	0	0	134	0	3	0	0	0	110
Lane Group Flow (vph)	493	299	0	0	580	157	50	33	0	0	224	567
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	75.0	75.0			38.3	38.3	6.4	6.4			11.8	44.0
Effective Green, g (s)	75.0	75.0			38.3	38.3	6.4	6.4			11.8	44.0
Actuated g/C Ratio	0.70	0.70			0.36	0.36	0.06	0.06			0.11	0.41
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	614	1275			659	568	106	110			198	719
v/s Ratio Prot	0.24	0.16					c0.03	0.02			c0.12	c0.24
v/s Ratio Perm	0.32				c0.32	0.10						0.12
v/c Ratio	0.80	0.23			0.88	0.28	0.47	0.30			1.13	0.79
Uniform Delay, d1	25.9	5.6			32.0	24.3	48.5	48.0			47.5	27.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	7.5	0.1			13.0	0.3	3.3	1.5			103.7	5.7
Delay (s)	33.4	5.7			45.1	24.6	51.8	49.6			151.2	33.0
Level of Service	C	A			D	C	D	D			F	C
Approach Delay (s)		22.8			38.3			50.9			62.4	
Approach LOS		C			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			42.2									
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			106.7									
Intersection Capacity Utilization			82.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
AM Total - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	23	62	23	6	53
Future Volume (Veh/h)	23	23	62	23	6	53
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	25	67	25	7	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	152	80			92	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	80			92	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			100	
cM capacity (veh/h)	836	981			1503	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	50	92	65			
Volume Left	25	0	7			
Volume Right	25	25	0			
cSH	903	1700	1503			
Volume to Capacity	0.06	0.05	0.00			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	9.2	0.0	0.8			
Lane LOS	A		A			
Approach Delay (s)	9.2	0.0	0.8			
Approach LOS	A					
Intersection Summary						
Average Delay		2.5				
Intersection Capacity Utilization		17.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
AM Total - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	55	26	0	78
Future Volume (Veh/h)	0	0	55	26	0	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	60	28	0	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159	74			88	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159	74			88	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	832	988			1508	
Direction, Lane #	NB 1	SB 1				
Volume Total	88	85				
Volume Left	0	0				
Volume Right	28	0				
cSH	1700	1700				
Volume to Capacity	0.05	0.05				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			7.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
AM Total - Full Build Out



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	680	296	232	603	290	337
Future Volume (vph)	0	680	296	232	603	290	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	739	322	252	655	315	366
RTOR Reduction (vph)	0	0	233	0	0	0	228
Lane Group Flow (vph)	0	739	89	252	655	315	138
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		22.8	22.8	16.3	43.6	31.3	31.3
Effective Green, g (s)		22.8	22.8	16.3	43.6	31.3	31.3
Actuated g/C Ratio		0.28	0.28	0.20	0.53	0.38	0.38
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		973	435	348	1861	668	597
v/s Ratio Prot		c0.21		c0.14	0.19	c0.18	
v/s Ratio Perm			0.06				0.09
v/c Ratio		0.76	0.20	0.72	0.35	0.47	0.23
Uniform Delay, d1		27.5	23.1	31.2	11.4	19.5	17.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.5	0.2	7.3	0.1	2.4	0.9
Delay (s)		31.0	23.3	38.5	11.5	21.9	18.5
Level of Service		C	C	D	B	C	B
Approach Delay (s)		28.7			19.0	20.1	
Approach LOS		C			B	C	
Intersection Summary							
HCM 2000 Control Delay			23.2		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.62				
Actuated Cycle Length (s)			82.9		Sum of lost time (s)		12.5
Intersection Capacity Utilization			58.1%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
AM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	40	96	624	409	45
Future Volume (Veh/h)	47	40	96	624	409	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	43	104	678	445	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1331	445	494			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1331	445	494			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	93	90			
cM capacity (veh/h)	154	613	1070			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	94	104	678	445	49	
Volume Left	51	104	0	0	0	
Volume Right	43	0	0	0	49	
cSH	234	1070	1700	1700	1700	
Volume to Capacity	0.40	0.10	0.40	0.26	0.03	
Queue Length 95th (ft)	46	8	0	0	0	
Control Delay (s)	30.3	8.7	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	30.3	1.2		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			44.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

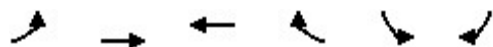
Heritage Green
AM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	163	27	12	713	363	47
Future Volume (Veh/h)	163	27	12	713	363	47
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	29	13	775	395	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1196	395	446			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1196	395	446			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	13	96	99			
cM capacity (veh/h)	203	654	1114			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	177	29	13	775	395	51
Volume Left	177	0	13	0	0	0
Volume Right	0	29	0	0	0	51
cSH	203	654	1114	1700	1700	1700
Volume to Capacity	0.87	0.04	0.01	0.46	0.23	0.03
Queue Length 95th (ft)	167	3	1	0	0	0
Control Delay (s)	81.9	10.8	8.3	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	71.9		0.1		0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			10.4			
Intersection Capacity Utilization			53.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
AM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	480	362	456	307	97	325
Future Volume (Veh/h)	480	362	456	307	97	325
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	522	393	496	334	105	353
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)					14	
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	830				2100	663
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	830				2100	663
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	35				0	23
cM capacity (veh/h)	802				20	461
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	522	393	830	458		
Volume Left	522	0	0	105		
Volume Right	0	0	334	353		
cSH	802	1700	1700	78		
Volume to Capacity	0.65	0.23	0.49	5.87		
Queue Length 95th (ft)	123	0	0	Err		
Control Delay (s)	17.5	0.0	0.0	Err		
Lane LOS	C			F		
Approach Delay (s)	10.0		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay		2082.9				
Intersection Capacity Utilization		84.7%		ICU Level of Service	E	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

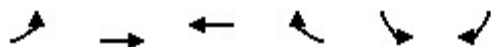
Heritage Green
AM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	63	46	784	764	26
Future Volume (Veh/h)	50	63	46	784	764	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	68	50	852	830	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1782	830	858			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1782	830	858			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	36	82	94			
cM capacity (veh/h)	84	370	783			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	122	50	852	830	28	
Volume Left	54	50	0	0	0	
Volume Right	68	0	0	0	28	
cSH	148	783	1700	1700	1700	
Volume to Capacity	0.82	0.06	0.50	0.49	0.02	
Queue Length 95th (ft)	133	5	0	0	0	
Control Delay (s)	92.7	9.9	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	92.7	0.5		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			54.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

19: Rosewick Rd & Site Access

Heritage Green
AM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Volume (veh/h)	0	755	888	30	0	7
Future Volume (Veh/h)	0	755	888	30	0	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	821	965	33	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			715			
pX, platoon unblocked						
vC, conflicting volume	998				1376	482
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	998				1376	482
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	689				136	530
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	410	410	482	482	33	8
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	33	8
cSH	1700	1700	1700	1700	1700	530
Volume to Capacity	0.24	0.24	0.28	0.28	0.02	0.02
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.9
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.9
Approach LOS						B
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			34.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

20: La Plata Parkway/Site Access & Rosewick Rd

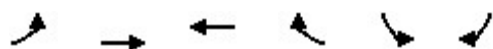
Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	198	2	33	132	96	217	126	11	267	198	6	161
Future Volume (vph)	198	2	33	132	96	217	126	11	267	198	6	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1403	1863	1583	917	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	2	36	143	104	236	137	12	290	215	7	175
RTOR Reduction (vph)	0	0	31	0	0	193	0	0	248	0	0	136
Lane Group Flow (vph)	215	2	5	143	104	43	137	12	42	215	7	39
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	12.2	9.0	9.0	14.1	10.9	10.9	13.7	8.6	8.6	22.7	13.1	13.1
Effective Green, g (s)	12.2	9.0	9.0	14.1	10.9	10.9	13.7	8.6	8.6	22.7	13.1	13.1
Actuated g/C Ratio	0.21	0.15	0.15	0.24	0.18	0.18	0.23	0.15	0.15	0.38	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	364	537	240	420	650	290	355	270	229	489	411	349
v/s Ratio Prot	c0.12	0.00		0.08	c0.03		0.03	0.01		c0.07	0.00	
v/s Ratio Perm			0.00			0.03	0.06		0.03	c0.10		0.02
v/c Ratio	0.59	0.00	0.02	0.34	0.16	0.15	0.39	0.04	0.18	0.44	0.02	0.11
Uniform Delay, d1	21.3	21.3	21.4	18.7	20.4	20.3	19.0	21.8	22.3	13.1	18.1	18.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.0	0.0	0.5	0.1	0.2	0.7	0.1	0.4	0.6	0.0	0.1
Delay (s)	23.9	21.3	21.4	19.2	20.5	20.6	19.7	21.9	22.7	13.7	18.1	18.6
Level of Service	C	C	C	B	C	C	B	C	C	B	B	B
Approach Delay (s)		23.5			20.1			21.7			15.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			20.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			59.3			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			42.9%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

21: Rosewick Rd & Site Access

Heritage Green
AM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (veh/h)	0	975	965	54	0	16
Future Volume (Veh/h)	0	975	965	54	0	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1060	1049	59	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		836	591			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	1049				1608	554
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	638				1316	39
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	778				123	846
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	530	530	699	409	17	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	59	17	
cSH	1700	1700	1700	1700	846	
Volume to Capacity	0.31	0.31	0.41	0.24	0.02	
Queue Length 95th (ft)	0	0	0	0	2	
Control Delay (s)	0.0	0.0	0.0	0.0	9.3	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		9.3	
Approach LOS					A	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			38.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

22: Site Access & Rosewick Rd

Heritage Green
AM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	127	822	26	6	821	69	46	1	26	133	1	152
Future Volume (vph)	127	822	26	6	821	69	46	1	26	133	1	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00			1.00	0.85	1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3523			3538	1583	1770	1593		1770	1585	
Flt Permitted	0.95	1.00			0.95	1.00	0.65	1.00		0.57	1.00	
Satd. Flow (perm)	1770	3523			3356	1583	1215	1593		1068	1585	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	893	28	7	892	75	50	1	28	145	1	165
RTOR Reduction (vph)	0	2	0	0	0	39	0	25	0	0	142	0
Lane Group Flow (vph)	138	919	0	0	899	36	50	4	0	145	24	0
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	8.6	51.7			38.6	38.6	11.7	8.7		16.7	11.2	
Effective Green, g (s)	8.6	51.7			38.6	38.6	11.7	8.7		16.7	11.2	
Actuated g/C Ratio	0.11	0.65			0.49	0.49	0.15	0.11		0.21	0.14	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	191	2293			1631	769	200	174		273	223	
v/s Ratio Prot	c0.08	0.26					0.01	0.00		c0.04	0.02	
v/s Ratio Perm					c0.27	0.02	0.03			c0.07		
v/c Ratio	0.72	0.40			0.55	0.05	0.25	0.02		0.53	0.11	
Uniform Delay, d1	34.2	6.5			14.3	10.7	29.7	31.6		27.0	29.7	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.7	0.1			0.4	0.0	0.7	0.1		2.0	0.2	
Delay (s)	46.9	6.7			14.7	10.8	30.4	31.6		29.0	30.0	
Level of Service	D	A			B	B	C	C		C	C	
Approach Delay (s)		11.9			14.4			30.8			29.5	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			15.8									
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			79.4									
Intersection Capacity Utilization			75.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
AM Total - Full Build Out with Potential Improvements

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	241	201	0	1678	335	206	899
Future Volume (vph)	241	201	0	1678	335	206	899
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.97	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	3433	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	218	0	1824	364	224	977
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	262	218	0	1824	364	224	977
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	13.4	106.4		68.2	106.4	12.3	85.0
Effective Green, g (s)	13.4	106.4		68.2	106.4	12.3	85.0
Actuated g/C Ratio	0.13	1.00		0.64	1.00	0.12	0.80
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	432	1583		2268	1583	396	2827
v/s Ratio Prot				c0.52		c0.07	0.28
v/s Ratio Perm	c0.08	0.14			0.23		
v/c Ratio	0.61	0.14		0.80	0.23	0.57	0.35
Uniform Delay, d1	44.0	0.0		14.2	0.0	44.5	3.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.2		3.1	0.3	1.9	0.1
Delay (s)	46.4	0.2		17.3	0.3	46.4	3.0
Level of Service	D	A		B	A	D	A
Approach Delay (s)	25.4			14.5			11.1
Approach LOS	C			B			B
Intersection Summary							
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.74				
Actuated Cycle Length (s)			106.4		Sum of lost time (s)		12.5
Intersection Capacity Utilization			69.6%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
AM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	30	261	50	131	13	319	1803	36	7	883	155
Future Volume (vph)	250	30	261	50	131	13	319	1803	36	7	883	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1838		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.74	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1370	1838		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	33	284	54	142	14	347	1960	39	8	960	168
RTOR Reduction (vph)	0	0	228	0	3	0	0	0	14	0	0	81
Lane Group Flow (vph)	272	33	56	54	153	0	347	1960	25	8	960	87
Turn Type	Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8					2			6
Actuated Green, G (s)	15.8	28.6	28.6	22.0	17.4		18.5	92.6	92.6	1.0	75.1	75.1
Effective Green, g (s)	15.8	28.6	28.6	22.0	17.4		18.5	92.6	92.6	1.0	75.1	75.1
Actuated g/C Ratio	0.11	0.20	0.20	0.15	0.12		0.13	0.64	0.64	0.01	0.52	0.52
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	374	367	312	220	220		438	2263	1012	12	1835	821
v/s Ratio Prot	c0.08	0.02		0.01	c0.08		c0.10	c0.55		0.00	0.27	
v/s Ratio Perm			0.04	0.03					0.02			0.06
v/c Ratio	0.73	0.09	0.18	0.25	0.70		0.79	0.87	0.02	0.67	0.52	0.11
Uniform Delay, d1	62.4	47.5	48.3	53.7	61.2		61.3	21.1	9.6	71.7	23.0	17.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	0.1	0.3	0.6	9.2		9.5	4.8	0.0	89.5	1.1	0.3
Delay (s)	69.3	47.6	48.6	54.3	70.4		70.8	25.9	9.6	161.2	24.1	18.0
Level of Service	E	D	D	D	E		E	C	A	F	C	B
Approach Delay (s)		58.1			66.3			32.2			24.2	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay	35.3			HCM 2000 Level of Service			D					
HCM 2000 Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	144.8			Sum of lost time (s)			18.0					
Intersection Capacity Utilization	83.8%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

AM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	174	161	235	201	273	138	1525	288	208	755	200
Future Volume (vph)	358	174	161	235	201	273	138	1525	288	208	755	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1739	1583	1681	1760	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1739	1583	1681	1760	1583	1770	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	189	175	255	218	297	150	1658	313	226	821	217
RTOR Reduction (vph)	0	0	140	0	0	216	0	0	185	0	0	132
Lane Group Flow (vph)	284	294	35	229	244	81	150	1658	128	226	821	85
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	27.4	27.4	27.4	22.1	22.1	22.1	17.0	56.9	56.9	14.5	54.4	54.4
Effective Green, g (s)	27.4	27.4	27.4	22.1	22.1	22.1	17.0	56.9	56.9	14.5	54.4	54.4
Actuated g/C Ratio	0.20	0.20	0.20	0.16	0.16	0.16	0.12	0.41	0.41	0.10	0.39	0.39
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	343	312	267	280	251	216	1449	648	358	1386	619
v/s Ratio Prot	0.17	c0.17		0.14	c0.14		c0.08	c0.47		0.07	0.23	
v/s Ratio Perm			0.02			0.05			0.08			0.05
v/c Ratio	0.86	0.86	0.11	0.86	0.87	0.32	0.69	1.14	0.20	0.63	0.59	0.14
Uniform Delay, d1	53.9	53.9	45.8	56.9	57.0	51.8	58.5	41.0	26.3	59.6	33.5	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.2	18.6	0.2	22.8	24.3	0.7	9.3	73.6	0.7	3.6	1.9	0.5
Delay (s)	73.1	72.4	45.9	79.6	81.3	52.5	67.8	114.6	27.0	63.2	35.3	27.6
Level of Service	E	E	D	E	F	D	E	F	C	E	D	C
Approach Delay (s)		66.5			69.7			98.4			39.0	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			73.7									
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			138.9									
Intersection Capacity Utilization			89.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

Heritage Green

AM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	512	5	1	682	382	6	1	0	173	0	130
Future Volume (vph)	181	512	5	1	682	382	6	1	0	173	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.95			1.00			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.97	
Satd. Flow (prot)	1770	1860		1770	3349			1785			1706	
Flt Permitted	0.08	1.00		0.35	1.00			0.82			0.82	
Satd. Flow (perm)	158	1860		644	3349			1535			1437	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	557	5	1	741	415	7	1	0	188	0	141
RTOR Reduction (vph)	0	0	0	0	69	0	0	0	0	0	60	0
Lane Group Flow (vph)	197	562	0	1	1087	0	0	8	0	0	269	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	62.1	56.7		47.8	46.9			41.6			41.6	
Effective Green, g (s)	62.1	56.7		47.8	46.9			41.6			41.6	
Actuated g/C Ratio	0.55	0.50		0.42	0.42			0.37			0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	240	935		282	1393			566			530	
v/s Ratio Prot	c0.08	0.30		0.00	0.32							
v/s Ratio Perm	c0.37			0.00				0.01			c0.19	
v/c Ratio	0.82	0.60		0.00	0.78			0.01			0.51	
Uniform Delay, d1	26.4	19.9		19.2	28.4			22.5			27.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	19.7	1.1		0.0	2.9			0.0			3.4	
Delay (s)	46.1	21.0		19.3	31.4			22.6			31.0	
Level of Service	D	C		B	C			C			C	
Approach Delay (s)		27.5			31.3			22.6			31.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			112.7			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			69.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Existing

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 			 			 
Traffic Volume (vph)	210	96	0	983	340	96	1232
Future Volume (vph)	210	96	0	983	340	96	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	104	0	1068	370	104	1339
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	228	104	0	1068	370	104	1339
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	11.0	85.3		53.0	85.3	8.8	66.3
Effective Green, g (s)	11.0	85.3		53.0	85.3	8.8	66.3
Actuated g/C Ratio	0.13	1.00		0.62	1.00	0.10	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	442	1583		2198	1583	182	2750
v/s Ratio Prot				0.30		0.06	c0.38
v/s Ratio Perm	c0.07	0.07			0.23		
v/c Ratio	0.52	0.07		0.49	0.23	0.57	0.49
Uniform Delay, d1	34.7	0.0		8.8	0.0	36.5	3.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.1		0.8	0.3	4.3	0.1
Delay (s)	35.7	0.1		9.5	0.3	40.7	3.5
Level of Service	D	A		A	A	D	A
Approach Delay (s)	24.5			7.2			6.2
Approach LOS	C			A			A
Intersection Summary							
HCM 2000 Control Delay			8.5		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.52				
Actuated Cycle Length (s)			85.3		Sum of lost time (s)		12.5
Intersection Capacity Utilization			53.4%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	10	303	82	377	234	52	47	139	294	75	142	24
Future Volume (vph)	10	303	82	377	234	52	47	139	294	75	142	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.59	1.00	1.00	0.36	1.00	1.00	0.66	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1107	3539	1583	665	3539	1583	1228	1863	1583	1109	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	329	89	410	254	57	51	151	320	82	154	26
RTOR Reduction (vph)	0	0	71	0	0	33	0	0	225	0	0	18
Lane Group Flow (vph)	11	329	18	410	254	24	51	151	95	82	154	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	17.1	16.2	16.2	38.6	33.2	33.2	28.0	23.8	23.8	30.6	25.1	25.1
Effective Green, g (s)	17.1	16.2	16.2	38.6	33.2	33.2	28.0	23.8	23.8	30.6	25.1	25.1
Actuated g/C Ratio	0.21	0.20	0.20	0.48	0.41	0.41	0.35	0.30	0.30	0.38	0.31	0.31
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	713	318	565	1461	653	455	551	468	467	581	494
v/s Ratio Prot	0.00	0.09		c0.16	0.07		0.01	0.08		c0.01	c0.08	
v/s Ratio Perm	0.01		0.01	c0.19		0.01	0.03		0.06	0.05		0.01
v/c Ratio	0.05	0.46	0.06	0.73	0.17	0.04	0.11	0.27	0.20	0.18	0.27	0.02
Uniform Delay, d1	25.1	28.3	25.9	14.7	14.9	14.1	17.6	21.7	21.2	16.2	20.7	19.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.5	0.1	4.6	0.1	0.0	0.1	1.2	1.0	0.2	0.2	0.0
Delay (s)	25.2	28.7	26.0	19.3	15.0	14.1	17.7	22.9	22.2	16.4	21.0	19.1
Level of Service	C	C	C	B	B	B	B	C	C	B	C	B
Approach Delay (s)		28.1			17.4			21.9			19.4	
Approach LOS		C			B			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			80.4			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			54.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	44	117	225	42	65	79	1034	141	192	1162	15
Future Volume (vph)	37	44	117	225	42	65	79	1034	141	192	1162	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	48	127	245	46	71	86	1124	153	209	1263	16
RTOR Reduction (vph)	0	0	119	0	0	63	0	0	51	0	0	6
Lane Group Flow (vph)	0	88	8	145	146	8	86	1124	102	209	1263	10
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.3	10.3	19.5	19.5	19.5	12.8	98.9	98.9	24.6	110.7	110.7
Effective Green, g (s)		10.3	10.3	19.5	19.5	19.5	12.8	98.9	98.9	24.6	110.7	110.7
Actuated g/C Ratio		0.06	0.06	0.11	0.11	0.11	0.07	0.58	0.58	0.14	0.65	0.65
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		109	95	191	194	180	132	2043	913	254	2287	1022
v/s Ratio Prot		c0.05		c0.09	0.09		0.05	0.32		c0.12	c0.36	
v/s Ratio Perm			0.00			0.01			0.06			0.01
v/c Ratio		0.81	0.08	0.76	0.75	0.04	0.65	0.55	0.11	0.82	0.55	0.01
Uniform Delay, d1		79.5	76.0	73.6	73.6	67.6	77.1	22.4	16.4	71.2	16.7	10.8
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		33.8	0.4	15.8	15.2	0.1	11.0	1.1	0.2	18.9	1.0	0.0
Delay (s)		113.4	76.4	89.4	88.7	67.7	88.0	23.5	16.6	90.2	17.6	10.8
Level of Service		F	E	F	F	E	F	C	B	F	B	B
Approach Delay (s)		91.5			84.9			26.8			27.7	
Approach LOS		F			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			37.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			171.3				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			64.5%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	0	202	0	0	0	128	307	0	0	428	201
Future Volume (Veh/h)	110	0	202	0	0	0	128	307	0	0	428	201
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	0	220	0	0	0	139	334	0	0	465	218
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1077	1077	465	1297	1295	334	683			334		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1077	1077	465	1297	1295	334	683			334		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	31	100	63	100	100	100	85			100		
cM capacity (veh/h)	174	186	597	77	138	708	910			1225		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	120	0	220	0	473	465	218					
Volume Left	120	0	0	0	139	0	0					
Volume Right	0	0	220	0	0	0	218					
cSH	174	1700	597	1700	910	1225	1700					
Volume to Capacity	0.69	1.65	0.37	Err	0.15	0.00	0.13					
Queue Length 95th (ft)	104	0	42	Err	13	0	0					
Control Delay (s)	62.5	0.0	14.5	0.0	4.1	0.0	0.0					
Lane LOS	F	A	B	A	A							
Approach Delay (s)	31.4			0.0	4.1	0.0						
Approach LOS	D			A								
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	95	379	165	127	19	245	1061	60	83	1226	251
Future Volume (vph)	297	95	379	165	127	19	245	1061	60	83	1226	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.27	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	496	1863	1583	1286	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	103	412	179	138	21	266	1153	65	90	1333	273
RTOR Reduction (vph)	0	0	128	0	4	0	0	0	31	0	0	141
Lane Group Flow (vph)	323	103	284	179	155	0	266	1153	34	90	1333	132
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	46.6	32.6	32.6	25.8	16.3		14.0	75.1	75.1	8.7	69.8	69.8
Effective Green, g (s)	46.6	32.6	32.6	25.8	16.3		14.0	75.1	75.1	8.7	69.8	69.8
Actuated g/C Ratio	0.32	0.23	0.23	0.18	0.11		0.10	0.52	0.52	0.06	0.49	0.49
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	389	422	358	262	206		333	1846	826	107	1716	767
v/s Ratio Prot	c0.15	0.06		0.05	0.09		c0.08	0.33		0.05	c0.38	
v/s Ratio Perm	c0.12		0.18	0.08					0.02			0.08
v/c Ratio	0.83	0.24	0.79	0.68	0.75		0.80	0.62	0.04	0.84	0.78	0.17
Uniform Delay, d1	41.0	45.6	52.5	54.1	61.9		63.6	24.4	16.8	66.9	30.6	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.9	0.3	11.4	7.2	14.5		12.6	1.6	0.1	41.8	3.5	0.5
Delay (s)	54.9	45.9	63.8	61.3	76.4		76.1	26.0	16.9	108.7	34.1	21.3
Level of Service	D	D	E	E	E		E	C	B	F	C	C
Approach Delay (s)		58.2			68.4			34.6			36.0	
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			0.82									
Actuated Cycle Length (s)			143.9			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			80.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	126	159	165	191	209	141	926	131	310	1165	276
Future Volume (vph)	264	126	159	165	191	209	141	926	131	310	1165	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	137	173	179	208	227	153	1007	142	337	1266	300
RTOR Reduction (vph)	0	0	147	0	0	191	0	0	93	0	0	168
Lane Group Flow (vph)	210	214	26	161	226	36	153	1007	49	337	1266	132
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	20.7	20.7	20.7	22.4	22.4	22.4	17.1	48.5	48.5	30.4	61.8	61.8
Effective Green, g (s)	20.7	20.7	20.7	22.4	22.4	22.4	17.1	48.5	48.5	30.4	61.8	61.8
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16	0.16	0.12	0.35	0.35	0.22	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	256	234	268	282	253	216	1226	548	384	1562	698
v/s Ratio Prot	c0.12	0.12		0.10	c0.13		0.09	0.28		c0.19	c0.36	
v/s Ratio Perm			0.02			0.02			0.03			0.08
v/c Ratio	0.85	0.84	0.11	0.60	0.80	0.14	0.71	0.82	0.09	0.88	0.81	0.19
Uniform Delay, d1	58.1	58.0	51.7	54.6	56.7	50.6	59.1	41.8	30.9	53.0	34.0	23.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.5	20.4	0.2	3.8	15.0	0.3	10.1	6.3	0.3	19.6	4.7	0.6
Delay (s)	80.6	78.4	51.9	58.4	71.7	50.8	69.2	48.1	31.2	72.6	38.7	24.4
Level of Service	F	E	D	E	E	D	E	D	C	E	D	C
Approach Delay (s)		71.5			60.5			48.7			42.4	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			78.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

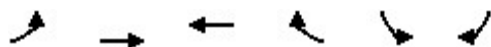
Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	511	4	0	454	298	5	3	3	412	3	140
Future Volume (vph)	157	511	4	0	454	298	5	3	3	412	3	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.96			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.96	
Satd. Flow (prot)	1770	1861			1863	1583		1754			1735	
Flt Permitted	0.13	1.00			1.00	1.00		0.87			0.77	
Satd. Flow (perm)	249	1861			1863	1583		1563			1394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	555	4	0	493	324	5	3	3	448	3	152
RTOR Reduction (vph)	0	0	0	0	0	222	0	1	0	0	9	0
Lane Group Flow (vph)	171	559	0	0	493	102	0	10	0	0	594	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	45.1	45.1			35.3	35.3		57.5			57.5	
Effective Green, g (s)	45.1	45.1			35.3	35.3		57.5			57.5	
Actuated g/C Ratio	0.40	0.40			0.32	0.32		0.52			0.52	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	172	752			589	500		805			718	
v/s Ratio Prot	c0.05	0.30			0.26							
v/s Ratio Perm	c0.35					0.06		0.01			c0.43	
v/c Ratio	0.99	0.74			0.84	0.20		0.01			0.83	
Uniform Delay, d1	32.1	28.3			35.5	27.9		13.2			22.8	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	66.6	4.0			10.0	0.2		0.0			10.6	
Delay (s)	98.7	32.3			45.5	28.1		13.2			33.4	
Level of Service	F	C			D	C		B			C	
Approach Delay (s)		47.9			38.6			13.2			33.4	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			40.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			111.6				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			82.0%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	984	799	30	37	61
Future Volume (Veh/h)	41	984	799	30	37	61
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	1070	868	33	40	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage (veh)		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.74	
vC, conflicting volume	901				2044	884
vC1, stage 1 conf vol					884	
vC2, stage 2 conf vol					1160	
vCu, unblocked vol	901				2239	884
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				80	81
cM capacity (veh/h)	754				198	344
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	45	1070	901	40	66	
Volume Left	45	0	0	40	0	
Volume Right	0	0	33	0	66	
cSH	754	1700	1700	198	344	
Volume to Capacity	0.06	0.63	0.53	0.20	0.19	
Queue Length 95th (ft)	5	0	0	18	17	
Control Delay (s)	10.1	0.0	0.0	27.7	17.9	
Lane LOS	B			D	C	
Approach Delay (s)	0.4		0.0	21.6		
Approach LOS				C		
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			61.8%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	988	15	44	773	2	2	0	37	34	0	20
Future Volume (Veh/h)	2	988	15	44	773	2	2	0	37	34	0	20
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1074	16	48	840	2	2	0	40	37	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	842			1090			2044	2024	1082	2034	2030	840
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	842			1090			2044	2024	1082	2034	2030	840
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			95	100	85	0	100	94
cM capacity (veh/h)	794			640			37	53	264	34	53	365
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	2	1090	48	840	2	42	37	22				
Volume Left	2	0	48	0	0	2	37	0				
Volume Right	0	16	0	0	2	40	0	22				
cSH	794	1700	640	1700	1700	278	34	365				
Volume to Capacity	0.00	0.64	0.07	0.49	0.00	0.15	1.10	0.06				
Queue Length 95th (ft)	0	0	6	0	0	13	98	5				
Control Delay (s)	9.5	0.0	11.1	0.0	0.0	25.2	364.8	15.5				
Lane LOS	A		B			D	F	C				
Approach Delay (s)	0.0		0.6			25.2	234.5					
Approach LOS						D	F					
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	449	539	8	0	296	123	16	22	7	285	12	416
Future Volume (vph)	449	539	8	0	296	123	16	22	7	285	12	416
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1793			1777	1583
Flt Permitted	0.22	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	413	1859			1863	1583	1770	1793			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	586	9	0	322	134	17	24	8	310	13	452
RTOR Reduction (vph)	0	1	0	0	0	104	0	7	0	0	0	221
Lane Group Flow (vph)	488	594	0	0	322	30	17	25	0	0	323	231
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	48.9	48.9			17.9	17.9	6.2	6.2			11.8	38.3
Effective Green, g (s)	48.9	48.9			17.9	17.9	6.2	6.2			11.8	38.3
Actuated g/C Ratio	0.61	0.61			0.22	0.22	0.08	0.08			0.15	0.48
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	698	1130			414	352	136	138			260	842
v/s Ratio Prot	c0.23	0.32			0.17		0.01	c0.01			c0.18	0.09
v/s Ratio Perm	c0.19					0.02						0.06
v/c Ratio	0.70	0.53			0.78	0.08	0.12	0.18			1.24	0.27
Uniform Delay, d1	12.5	9.1			29.4	24.8	34.6	34.7			34.3	12.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.1	0.4			8.9	0.1	0.4	0.6			137.2	0.2
Delay (s)	15.6	9.5			38.3	24.9	35.0	35.3			171.5	12.9
Level of Service	B	A			D	C	C	D			F	B
Approach Delay (s)		12.2			34.3			35.2			79.0	
Approach LOS		B			C			D			E	
Intersection Summary												
HCM 2000 Control Delay			38.9									
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			80.4									
Intersection Capacity Utilization			78.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
PM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	14	117	41	21	54
Future Volume (Veh/h)	22	14	117	41	21	54
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	15	127	45	23	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	254	150			172	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254	150			172	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			98	
cM capacity (veh/h)	722	897			1405	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	39	172	82			
Volume Left	24	0	23			
Volume Right	15	45	0			
cSH	781	1700	1405			
Volume to Capacity	0.05	0.10	0.02			
Queue Length 95th (ft)	4	0	1			
Control Delay (s)	9.9	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	2.2			
Approach LOS	A					
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		26.0%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	111	44	0	70
Future Volume (Veh/h)	0	0	111	44	0	70
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	121	48	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	221	145			169	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	221	145			169	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	767	902			1409	
Direction, Lane #	NB 1	SB 1				
Volume Total	169	76				
Volume Left	0	0				
Volume Right	48	0				
cSH	1700	1700				
Volume to Capacity	0.10	0.04				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			11.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Existing



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇐⇐	⇐	⇐	⇐⇐	⇐	⇐
Traffic Volume (vph)	0	431	230	348	472	159	271
Future Volume (vph)	0	431	230	348	472	159	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	468	250	378	513	173	295
RTOR Reduction (vph)	0	0	192	0	0	0	219
Lane Group Flow (vph)	0	468	58	378	513	173	76
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		14.6	14.6	19.3	38.4	16.1	16.1
Effective Green, g (s)		14.6	14.6	19.3	38.4	16.1	16.1
Actuated g/C Ratio		0.23	0.23	0.31	0.61	0.26	0.26
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		826	369	546	2174	455	407
v/s Ratio Prot		c0.13		c0.21	0.14	c0.10	
v/s Ratio Perm			0.04				0.05
v/c Ratio		0.57	0.16	0.69	0.24	0.38	0.19
Uniform Delay, d1		21.2	19.1	19.0	5.4	19.1	18.1
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2	3.8	0.1	2.4	1.0
Delay (s)		22.1	19.3	22.8	5.5	21.5	19.1
Level of Service		C	B	C	A	C	B
Approach Delay (s)		21.1			12.8	20.0	
Approach LOS		C			B	B	
Intersection Summary							
HCM 2000 Control Delay			17.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.55				
Actuated Cycle Length (s)			62.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			50.0%		ICU Level of Service		A
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis 15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	75	17	331	553	25
Future Volume (Veh/h)	45	75	17	331	553	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	82	18	360	601	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	997	601	628			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	997	601	628			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	84	98			
cM capacity (veh/h)	266	500	954			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	131	18	360	601	27	
Volume Left	49	18	0	0	0	
Volume Right	82	0	0	0	27	
cSH	376	954	1700	1700	1700	
Volume to Capacity	0.35	0.02	0.21	0.35	0.02	
Queue Length 95th (ft)	38	1	0	0	0	
Control Delay (s)	19.6	8.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	19.6	0.4		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			42.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

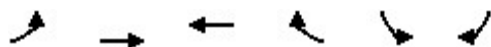
Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	19	7	303	609	103
Future Volume (Veh/h)	49	19	7	303	609	103
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	53	21	8	329	662	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1007	662	774			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1007	662	774			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	95	99			
cM capacity (veh/h)	264	462	842			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	53	21	8	329	662	112
Volume Left	53	0	8	0	0	0
Volume Right	0	21	0	0	0	112
cSH	264	462	842	1700	1700	1700
Volume to Capacity	0.20	0.05	0.01	0.19	0.39	0.07
Queue Length 95th (ft)	18	4	1	0	0	0
Control Delay (s)	22.0	13.2	9.3	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	19.5	0.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			42.1%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Existing



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	219	392	287	89	159	463
Future Volume (Veh/h)	219	392	287	89	159	463
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	238	426	312	97	173	503
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)					14	
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	409				1262	360
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				1262	360
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				0	26
cM capacity (veh/h)	1150				149	684
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	238	426	409	676		
Volume Left	238	0	0	173		
Volume Right	0	0	97	503		
cSH	1150	1700	1700	581		
Volume to Capacity	0.21	0.25	0.24	1.16		
Queue Length 95th (ft)	19	0	0	573		
Control Delay (s)	8.9	0.0	0.0	64.7		
Lane LOS	A			F		
Approach Delay (s)	3.2		0.0	64.7		
Approach LOS				F		
Intersection Summary						
Average Delay		26.2				
Intersection Capacity Utilization		55.9%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
PM Existing

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	38	53	610	739	13
Future Volume (Veh/h)	11	38	53	610	739	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	41	58	663	803	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1582	803	817			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1582	803	817			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	89	93			
cM capacity (veh/h)	111	383	811			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	53	58	663	803	14	
Volume Left	12	58	0	0	0	
Volume Right	41	0	0	0	14	
cSH	247	811	1700	1700	1700	
Volume to Capacity	0.21	0.07	0.39	0.47	0.01	
Queue Length 95th (ft)	20	6	0	0	0	
Control Delay (s)	23.5	9.8	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	23.5	0.8		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			54.0%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Background - Full Build Out

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 			 			 
Traffic Volume (vph)	279	178	0	1371	435	187	1774
Future Volume (vph)	279	178	0	1371	435	187	1774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	193	0	1490	473	203	1928
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	303	193	0	1490	473	203	1928
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	13.7	93.7		51.4	93.7	16.1	72.0
Effective Green, g (s)	13.7	93.7		51.4	93.7	16.1	72.0
Actuated g/C Ratio	0.15	1.00		0.55	1.00	0.17	0.77
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	501	1583		1941	1583	304	2719
v/s Ratio Prot				c0.42		0.11	c0.54
v/s Ratio Perm	c0.09	0.12			0.30		
v/c Ratio	0.60	0.12		0.77	0.30	0.67	0.71
Uniform Delay, d1	37.5	0.0		16.5	0.0	36.3	5.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2		3.0	0.5	5.5	0.9
Delay (s)	39.5	0.2		19.5	0.5	41.8	6.4
Level of Service	D	A		B	A	D	A
Approach Delay (s)	24.2			14.9			9.8
Approach LOS	C			B			A
Intersection Summary							
HCM 2000 Control Delay			13.5		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.75				
Actuated Cycle Length (s)			93.7		Sum of lost time (s)		12.5
Intersection Capacity Utilization			70.3%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	18	408	139	456	326	63	106	165	360	90	167	36
Future Volume (vph)	18	408	139	456	326	63	106	165	360	90	167	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.54	1.00	1.00	0.26	1.00	1.00	0.52	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1006	3539	1583	487	3539	1583	968	1863	1583	1116	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	443	151	496	354	68	115	179	391	98	182	39
RTOR Reduction (vph)	0	0	119	0	0	38	0	0	285	0	0	29
Lane Group Flow (vph)	20	443	32	496	354	30	115	179	106	98	182	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	19.5	17.7	17.7	43.8	37.5	37.5	29.8	23.0	23.0	27.2	21.7	21.7
Effective Green, g (s)	19.5	17.7	17.7	43.8	37.5	37.5	29.8	23.0	23.0	27.2	21.7	21.7
Actuated g/C Ratio	0.23	0.21	0.21	0.52	0.44	0.44	0.35	0.27	0.27	0.32	0.26	0.26
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	247	738	330	578	1565	700	404	505	429	400	476	405
v/s Ratio Prot	0.00	0.13		c0.22	0.10		c0.02	0.10		0.02	c0.10	
v/s Ratio Perm	0.02		0.02	c0.22		0.02	0.08		0.07	0.06		0.01
v/c Ratio	0.08	0.60	0.10	0.86	0.23	0.04	0.28	0.35	0.25	0.24	0.38	0.02
Uniform Delay, d1	25.4	30.3	27.1	15.4	14.7	13.4	19.2	24.9	24.1	20.7	26.0	23.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	1.4	0.1	12.0	0.1	0.0	0.4	1.9	1.4	0.3	0.5	0.0
Delay (s)	25.6	31.7	27.2	27.5	14.7	13.5	19.6	26.9	25.5	21.0	26.5	23.7
Level of Service	C	C	C	C	B	B	B	C	C	C	C	C
Approach Delay (s)		30.4			21.5			24.9			24.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			84.8				Sum of lost time (s)			17.0		
Intersection Capacity Utilization			65.0%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	51	136	262	49	77	92	1468	165	224	1727	17
Future Volume (vph)	43	51	136	262	49	77	92	1468	165	224	1727	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	55	148	285	53	84	100	1596	179	243	1877	18
RTOR Reduction (vph)	0	0	132	0	0	74	0	0	44	0	0	7
Lane Group Flow (vph)	0	102	16	168	170	10	100	1596	135	243	1877	11
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.5	10.5	21.5	21.5	21.5	13.7	97.1	97.1	27.3	110.7	110.7
Effective Green, g (s)		10.5	10.5	21.5	21.5	21.5	13.7	97.1	97.1	27.3	110.7	110.7
Actuated g/C Ratio		0.06	0.06	0.12	0.12	0.12	0.08	0.56	0.56	0.16	0.63	0.63
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		109	95	207	210	195	139	1970	881	277	2246	1004
v/s Ratio Prot		c0.06		c0.10	0.10		0.06	0.45		c0.14	c0.53	
v/s Ratio Perm			0.01			0.01			0.09			0.01
v/c Ratio		0.94	0.17	0.81	0.81	0.05	0.72	0.81	0.15	0.88	0.84	0.01
Uniform Delay, d1		81.6	77.8	74.5	74.5	67.5	78.5	31.2	18.7	71.9	24.8	11.7
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		65.4	0.9	20.9	20.1	0.1	16.3	3.7	0.4	25.2	3.9	0.0
Delay (s)		147.1	78.7	95.4	94.5	67.6	94.8	34.9	19.1	97.2	28.6	11.7
Level of Service		F	E	F	F	E	F	C	B	F	C	B
Approach Delay (s)		106.6			89.5			36.6			36.3	
Approach LOS		F			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			45.0									
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			174.4									
Intersection Capacity Utilization			79.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	2	235	2	3	5	149	425	1	3	558	233
Future Volume (Veh/h)	128	2	235	2	3	5	149	425	1	3	558	233
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	2	255	2	3	5	162	462	1	3	607	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1406	1400	607	1656	1652	462	860				463	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1406	1400	607	1656	1652	462	860				463	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	0	98	49	94	96	99	79				100	
cM capacity (veh/h)	94	111	496	31	78	599	781				1098	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	139	2	255	10	625	610	253					
Volume Left	139	0	0	2	162	3	0					
Volume Right	0	0	255	5	1	0	253					
cSH	94	111	496	91	781	1098	1700					
Volume to Capacity	1.47	0.02	0.51	0.11	0.21	0.00	0.15					
Queue Length 95th (ft)	263	1	72	9	19	0	0					
Control Delay (s)	341.3	38.1	19.7	49.7	5.1	0.1	0.0					
Lane LOS	F	E	C	E	A	A						
Approach Delay (s)	132.7			49.7	5.1	0.1						
Approach LOS	F			E								
Intersection Summary												
Average Delay			29.7									
Intersection Capacity Utilization			84.0%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	110	440	192	147	22	284	1497	70	96	1799	294
Future Volume (vph)	349	110	440	192	147	22	284	1497	70	96	1799	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.22	1.00	1.00	0.68	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	413	1863	1583	1266	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	379	120	478	209	160	24	309	1627	76	104	1955	320
RTOR Reduction (vph)	0	0	110	0	4	0	0	0	38	0	0	155
Lane Group Flow (vph)	379	120	368	209	180	0	309	1627	38	104	1955	165
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	50.8	36.8	36.8	27.6	18.1		14.5	74.9	74.9	8.7	69.1	69.1
Effective Green, g (s)	50.8	36.8	36.8	27.6	18.1		14.5	74.9	74.9	8.7	69.1	69.1
Actuated g/C Ratio	0.34	0.25	0.25	0.19	0.12		0.10	0.51	0.51	0.06	0.47	0.47
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	400	463	393	268	223		336	1792	801	104	1653	739
v/s Ratio Prot	c0.18	0.06		0.05	0.10		c0.09	0.46		0.06	c0.55	
v/s Ratio Perm	c0.14		0.23	0.10					0.02			0.10
v/c Ratio	0.95	0.26	0.94	0.78	0.81		0.92	0.91	0.05	1.00	1.18	0.22
Uniform Delay, d1	41.6	44.6	54.4	56.0	63.2		66.1	33.3	18.5	69.6	39.4	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.5	0.3	29.6	13.4	19.1		29.1	8.3	0.1	88.3	88.7	0.7
Delay (s)	73.1	44.9	84.1	69.4	82.3		95.2	41.6	18.6	157.9	128.1	24.1
Level of Service	E	D	F	E	F		F	D	B	F	F	C
Approach Delay (s)		75.0			75.4			49.0			115.5	
Approach LOS		E			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			82.6			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			147.9			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			101.2%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	306	146	185	192	222	243	164	1340	152	360	1729	320
Future Volume (vph)	306	146	185	192	222	243	164	1340	152	360	1729	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1763	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	333	159	201	209	241	264	178	1457	165	391	1879	348
RTOR Reduction (vph)	0	0	170	0	0	220	0	0	112	0	0	173
Lane Group Flow (vph)	243	249	31	188	262	44	178	1457	53	391	1879	175
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	22.5	22.5	22.5	24.8	24.8	24.8	19.1	47.6	47.6	34.3	62.8	62.8
Effective Green, g (s)	22.5	22.5	22.5	24.8	24.8	24.8	19.1	47.6	47.6	34.3	62.8	62.8
Actuated g/C Ratio	0.15	0.15	0.15	0.17	0.17	0.17	0.13	0.32	0.32	0.23	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	256	265	241	283	297	266	229	1144	511	412	1509	675
v/s Ratio Prot	c0.14	0.14		0.11	c0.15		0.10	0.41		c0.22	c0.53	
v/s Ratio Perm			0.02			0.03			0.03			0.11
v/c Ratio	0.95	0.94	0.13	0.66	0.88	0.17	0.78	1.27	0.10	0.95	1.25	0.26
Uniform Delay, d1	61.8	61.7	53.9	57.3	59.8	52.4	62.0	49.8	34.9	55.6	42.2	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.9	38.7	0.2	5.8	24.9	0.3	15.2	130.1	0.4	31.2	116.1	0.9
Delay (s)	103.7	100.4	54.1	63.1	84.7	52.7	77.2	179.9	35.3	86.8	158.3	28.1
Level of Service	F	F	D	E	F	D	E	F	D	F	F	C
Approach Delay (s)		88.1			67.2			156.4			130.3	
Approach LOS		F			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			125.6				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			147.2				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			96.0%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

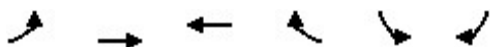
Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	593	5	0	527	416	6	3	3	541	3	163
Future Volume (vph)	182	593	5	0	527	416	6	3	3	541	3	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.97			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.97			0.96	
Satd. Flow (prot)	1770	1861			1863	1583		1757			1738	
Flt Permitted	0.09	1.00			1.00	1.00		0.81			0.77	
Satd. Flow (perm)	173	1861			1863	1583		1464			1386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	645	5	0	573	452	7	3	3	588	3	177
RTOR Reduction (vph)	0	0	0	0	0	296	0	2	0	0	9	0
Lane Group Flow (vph)	198	650	0	0	573	156	0	11	0	0	759	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	50.1	50.1			40.3	40.3		57.3			57.3	
Effective Green, g (s)	50.1	50.1			40.3	40.3		57.3			57.3	
Actuated g/C Ratio	0.43	0.43			0.35	0.35		0.49			0.49	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	147	800			645	548		720			682	
v/s Ratio Prot	c0.06	0.35			0.31							
v/s Ratio Perm	c0.52					0.10		0.01			c0.55	
v/c Ratio	1.35	0.81			0.89	0.29		0.02			1.11	
Uniform Delay, d1	30.1	29.0			35.9	27.6		15.1			29.6	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	194.3	6.3			14.0	0.3		0.0			70.0	
Delay (s)	224.4	35.3			50.0	27.9		15.2			99.5	
Level of Service	F	D			D	C		B			F	
Approach Delay (s)		79.5			40.2			15.2			99.5	
Approach LOS		E			D			B			F	
Intersection Summary												
HCM 2000 Control Delay	69.8			HCM 2000 Level of Service			E					
HCM 2000 Volume to Capacity ratio	1.25											
Actuated Cycle Length (s)	116.4			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	95.8%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Background - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	1152	934	35	43	71
Future Volume (Veh/h)	48	1152	934	35	43	71
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	1252	1015	38	47	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.68	
vC, conflicting volume	1053				2390	1034
vC1, stage 1 conf vol					1034	
vC2, stage 2 conf vol					1356	
vCu, unblocked vol	1053				2808	1034
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				66	73
cM capacity (veh/h)	661				140	282
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	52	1252	1053	47	77	
Volume Left	52	0	0	47	0	
Volume Right	0	0	38	0	77	
cSH	661	1700	1700	140	282	
Volume to Capacity	0.08	0.74	0.62	0.34	0.27	
Queue Length 95th (ft)	6	0	0	34	27	
Control Delay (s)	10.9	0.0	0.0	43.1	22.5	
Lane LOS	B			E	C	
Approach Delay (s)	0.4		0.0	30.3		
Approach LOS				D		
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			70.6%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1157	17	51	903	2	2	0	43	39	0	23
Future Volume (Veh/h)	2	1157	17	51	903	2	2	0	43	39	0	23
Sign Control	Free		Free		Stop		Stop					
Grade	0%		0%		0%		0%					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1258	18	55	982	2	2	0	47	42	0	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	5											
Median type	None			None								
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	984			1276			2388	2365	1267	2378	2372	982
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	984			1276			2388	2365	1267	2378	2372	982
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			90	100	77	0	100	92
cM capacity (veh/h)	702			544			20	31	206	17	31	302
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2				
Volume Total	2	1276	55	982	2	49	42	25				
Volume Left	2	0	55	0	0	2	42	0				
Volume Right	0	18	0	0	2	47	0	25				
cSH	702	1700	544	1700	1700	215	17	302				
Volume to Capacity	0.00	0.75	0.10	0.58	0.00	0.23	2.47	0.08				
Queue Length 95th (ft)	0	0	8	0	0	21	146	7				
Control Delay (s)	10.1	0.0	12.4	0.0	0.0	34.8	1135.1	18.0				
Lane LOS	B		B			D	F	C				
Approach Delay (s)	0.0		0.7			34.8	718.3					
Approach LOS						D	F					
Intersection Summary												
Average Delay	20.8											
Intersection Capacity Utilization	78.6%			ICU Level of Service			D					
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green
PM Background - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	531	626	9	0	344	160	19	26	8	343	14	489
Future Volume (vph)	531	626	9	0	344	160	19	26	8	343	14	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1795			1777	1583
Flt Permitted	0.13	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	247	1859			1863	1583	1770	1795			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	577	680	10	0	374	174	21	28	9	373	15	532
RTOR Reduction (vph)	0	0	0	0	0	118	0	8	0	0	0	121
Lane Group Flow (vph)	577	690	0	0	374	56	21	29	0	0	388	411
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	66.5	66.5			25.7	25.7	7.1	7.1			27.6	63.9
Effective Green, g (s)	66.5	66.5			25.7	25.7	7.1	7.1			27.6	63.9
Actuated g/C Ratio	0.58	0.58			0.22	0.22	0.06	0.06			0.24	0.56
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	625	1077			417	354	109	111			427	944
v/s Ratio Prot	c0.29	0.37			0.20		0.01	c0.02			c0.22	0.14
v/s Ratio Perm	c0.24					0.04						0.12
v/c Ratio	0.92	0.64			0.90	0.16	0.19	0.26			0.91	0.44
Uniform Delay, d1	30.0	16.1			43.2	35.8	51.1	51.3			42.3	14.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	19.4	1.3			21.2	0.2	0.9	1.2			22.7	0.3
Delay (s)	49.4	17.4			64.4	36.0	51.9	52.5			65.0	15.2
Level of Service	D	B			E	D	D	D			E	B
Approach Delay (s)		32.0			55.4			52.3			36.2	
Approach LOS		C			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			38.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			114.7				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			89.3%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 12: Kent Ave & Caroline Dr

Heritage Green
PM Background - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	16	136	48	24	63
Future Volume (Veh/h)	26	16	136	48	24	63
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	17	148	52	26	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294	174			200	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294	174			200	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			98	
cM capacity (veh/h)	684	869			1372	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	45	200	94			
Volume Left	28	0	26			
Volume Right	17	52	0			
cSH	744	1700	1372			
Volume to Capacity	0.06	0.12	0.02			
Queue Length 95th (ft)	5	0	1			
Control Delay (s)	10.2	0.0	2.2			
Lane LOS	B		A			
Approach Delay (s)	10.2	0.0	2.2			
Approach LOS	B					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			28.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Background - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	129	51	0	81
Future Volume (Veh/h)	0	0	129	51	0	81
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	140	55	0	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	256	168			195	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	168			195	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	733	877			1378	
Direction, Lane #	NB 1	SB 1				
Volume Total	195	88				
Volume Left	0	0				
Volume Right	55	0				
cSH	1700	1700				
Volume to Capacity	0.11	0.05				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			13.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Background - Full Build Out



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↓	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (vph)	0	524	278	406	574	195	317
Future Volume (vph)	0	524	278	406	574	195	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	570	302	441	624	212	345
RTOR Reduction (vph)	0	0	223	0	0	0	262
Lane Group Flow (vph)	0	570	79	441	624	212	83
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		17.4	17.4	20.6	42.5	16.1	16.1
Effective Green, g (s)		17.4	17.4	20.6	42.5	16.1	16.1
Actuated g/C Ratio		0.26	0.26	0.31	0.64	0.24	0.24
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		924	413	547	2258	427	382
v/s Ratio Prot		c0.16		c0.25	0.18	c0.12	
v/s Ratio Perm			0.05				0.05
v/c Ratio		0.62	0.19	0.81	0.28	0.50	0.22
Uniform Delay, d1		21.7	19.1	21.2	5.3	21.8	20.2
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2	0.2	8.5	0.1	4.1	1.3
Delay (s)		22.9	19.4	29.6	5.4	25.8	21.5
Level of Service		C	B	C	A	C	C
Approach Delay (s)		21.7			15.4	23.2	
Approach LOS		C			B	C	
Intersection Summary							
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.65				
Actuated Cycle Length (s)			66.6		Sum of lost time (s)		12.5
Intersection Capacity Utilization			57.8%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis

15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	87	20	396	655	29
Future Volume (Veh/h)	52	87	20	396	655	29
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	95	22	430	712	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1186	712	744			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1186	712	744			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	72	78	97			
cM capacity (veh/h)	203	432	864			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	152	22	430	712	32	
Volume Left	57	22	0	0	0	
Volume Right	95	0	0	0	32	
cSH	304	864	1700	1700	1700	
Volume to Capacity	0.50	0.03	0.25	0.42	0.02	
Queue Length 95th (ft)	66	2	0	0	0	
Control Delay (s)	28.1	9.3	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	28.1	0.5		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			49.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

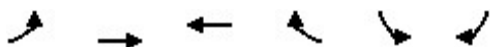
Heritage Green
PM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	20	7	330	653	108
Future Volume (Veh/h)	51	20	7	330	653	108
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	22	8	359	710	117
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1085	710	827			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1085	710	827			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	95	99			
cM capacity (veh/h)	237	434	804			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	55	22	8	359	710	117
Volume Left	55	0	8	0	0	0
Volume Right	0	22	0	0	0	117
cSH	237	434	804	1700	1700	1700
Volume to Capacity	0.23	0.05	0.01	0.21	0.42	0.07
Queue Length 95th (ft)	22	4	1	0	0	0
Control Delay (s)	24.7	13.7	9.5	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	21.6	0.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			44.4%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Background - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	266	465	350	103	185	551
Future Volume (Veh/h)	266	465	350	103	185	551
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	289	505	380	112	201	599
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						14
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	492				1519	436
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	492				1519	436
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	73				0	3
cM capacity (veh/h)	1071				96	620
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	289	505	492	800		
Volume Left	289	0	0	201		
Volume Right	0	0	112	599		
cSH	1071	1700	1700	308		
Volume to Capacity	0.27	0.30	0.29	2.59		
Queue Length 95th (ft)	27	0	0	1650		
Control Delay (s)	9.6	0.0	0.0	752.1		
Lane LOS	A			F		
Approach Delay (s)	3.5		0.0	752.1		
Approach LOS				F		
Intersection Summary						
Average Delay			289.8			
Intersection Capacity Utilization			65.5%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

Heritage Green
PM Background - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	44	62	735	876	15
Future Volume (Veh/h)	13	44	62	735	876	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	48	67	799	952	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1885	952	968			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1885	952	968			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	85	91			
cM capacity (veh/h)	70	315	712			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	62	67	799	952	16	
Volume Left	14	67	0	0	0	
Volume Right	48	0	0	0	16	
cSH	176	712	1700	1700	1700	
Volume to Capacity	0.35	0.09	0.47	0.56	0.01	
Queue Length 95th (ft)	37	8	0	0	0	
Control Delay (s)	36.1	10.6	0.0	0.0	0.0	
Lane LOS	E	B				
Approach Delay (s)	36.1	0.8		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			61.6%		ICU Level of Service	
					B	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Total - Full Build Out

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	 			 			 
Traffic Volume (vph)	337	284	0	1424	486	468	1854
Future Volume (vph)	337	284	0	1424	486	468	1854
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	309	0	1548	528	509	2015
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	366	309	0	1548	528	509	2015
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	16.9	110.0		51.1	110.0	29.5	85.1
Effective Green, g (s)	16.9	110.0		51.1	110.0	29.5	85.1
Actuated g/C Ratio	0.15	1.00		0.46	1.00	0.27	0.77
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	527	1583		1644	1583	474	2737
v/s Ratio Prot				c0.44		c0.29	0.57
v/s Ratio Perm	c0.11	0.20			0.33		
v/c Ratio	0.69	0.20		0.94	0.33	1.07	0.74
Uniform Delay, d1	44.1	0.0		28.0	0.0	40.2	6.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.3		12.1	0.6	62.6	1.1
Delay (s)	48.1	0.3		40.1	0.6	102.8	7.6
Level of Service	D	A		D	A	F	A
Approach Delay (s)	26.2			30.1			26.8
Approach LOS	C			C			C
Intersection Summary							
HCM 2000 Control Delay			28.0		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.94				
Actuated Cycle Length (s)			110.0		Sum of lost time (s)		12.5
Intersection Capacity Utilization			85.3%		ICU Level of Service		E
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

3: Washington Avenue & Rosewick Road

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	18	740	139	514	490	267	106	217	410	210	247	36
Future Volume (vph)	18	740	139	514	490	267	106	217	410	210	247	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.45	1.00	1.00	0.17	1.00	1.00	0.39	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	845	3539	1583	308	3539	1583	726	1863	1583	812	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	804	151	559	533	290	115	236	446	228	268	39
RTOR Reduction (vph)	0	0	119	0	0	155	0	0	335	0	0	29
Lane Group Flow (vph)	20	804	32	559	533	135	115	236	111	228	268	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.7	19.7	19.7	49.6	43.1	43.1	30.4	23.1	23.1	30.8	23.3	23.3
Effective Green, g (s)	21.7	19.7	19.7	49.6	43.1	43.1	30.4	23.1	23.1	30.8	23.3	23.3
Actuated g/C Ratio	0.23	0.21	0.21	0.54	0.46	0.46	0.33	0.25	0.25	0.33	0.25	0.25
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	752	336	565	1645	736	320	464	394	347	468	397
v/s Ratio Prot	0.00	0.23		c0.27	0.15		0.03	0.13		c0.05	0.14	
v/s Ratio Perm	0.02		0.02	c0.26		0.09	0.09		0.07	c0.17		0.01
v/c Ratio	0.09	1.07	0.10	0.99	0.32	0.18	0.36	0.51	0.28	0.66	0.57	0.02
Uniform Delay, d1	27.5	36.5	29.3	25.2	15.6	14.5	22.8	29.9	28.1	25.1	30.3	26.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	52.9	0.1	34.7	0.1	0.1	0.7	3.9	1.8	4.4	1.7	0.0
Delay (s)	27.7	89.4	29.5	59.9	15.7	14.6	23.5	33.9	29.9	29.6	32.0	26.2
Level of Service	C	F	C	E	B	B	C	C	C	C	C	C
Approach Delay (s)		78.8			33.4			30.1			30.6	
Approach LOS		E			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			44.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			92.7			Sum of lost time (s)				17.0		
Intersection Capacity Utilization			85.7%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: US 301 & Driveway/Heritage Green Parkway

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	51	136	262	49	130	92	1519	165	304	1785	17
Future Volume (vph)	43	51	136	262	49	130	92	1519	165	304	1785	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1821	1583	1681	1711	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	55	148	285	53	141	100	1651	179	330	1940	18
RTOR Reduction (vph)	0	0	130	0	0	124	0	0	44	0	0	7
Lane Group Flow (vph)	0	102	18	168	170	17	100	1651	135	330	1940	11
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)		10.5	10.5	21.8	21.8	21.8	13.8	95.6	95.6	30.5	112.3	112.3
Effective Green, g (s)		10.5	10.5	21.8	21.8	21.8	13.8	95.6	95.6	30.5	112.3	112.3
Actuated g/C Ratio		0.06	0.06	0.12	0.12	0.12	0.08	0.54	0.54	0.17	0.64	0.64
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		108	94	207	211	195	138	1917	857	306	2253	1007
v/s Ratio Prot		c0.06		c0.10	0.10		0.06	0.47		c0.19	c0.55	
v/s Ratio Perm			0.01			0.01			0.08			0.01
v/c Ratio		0.94	0.19	0.81	0.81	0.09	0.72	0.86	0.16	1.08	0.86	0.01
Uniform Delay, d1		82.7	78.9	75.3	75.2	68.5	79.4	34.7	20.2	73.0	25.8	11.7
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		68.5	1.0	20.9	19.6	0.2	17.1	5.4	0.4	73.9	4.6	0.0
Delay (s)		151.2	79.9	96.2	94.9	68.7	96.6	40.1	20.6	146.9	30.4	11.8
Level of Service		F	E	F	F	E	F	D	C	F	C	B
Approach Delay (s)		109.0			87.6			41.2			47.0	
Approach LOS		F			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			51.8									
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			176.4									
Intersection Capacity Utilization			85.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

5: Washington Ave & Heritage Green Pkwy

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	82	235	24	56	161	149	371	33	218	481	233
Future Volume (Veh/h)	128	82	235	24	56	161	149	371	33	218	481	233
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	139	89	255	26	61	175	162	403	36	237	523	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1948	1760	523	2042	1995	421	776				439	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1948	1760	523	2042	1995	421	776				439	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	0	0	54	0	0	72	81				79	
cM capacity (veh/h)	0	54	554	0	38	632	840				1121	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1	SB 1	SB 2					
Volume Total	139	89	255	262	601	760	253					
Volume Left	139	0	0	26	162	237	0					
Volume Right	0	0	255	175	36	0	253					
cSH	0	54	554	0	840	1121	1700					
Volume to Capacity	Err	1.65	0.46	Err	0.19	0.21	0.15					
Queue Length 95th (ft)	Err	210	60	Err	18	20	0					
Control Delay (s)	Err	486.8	16.9	Err	4.7	4.7	0.0					
Lane LOS	F	F	C	F	A	A						
Approach Delay (s)	Err			Err	4.7	3.6						
Approach LOS	F			F								
Intersection Summary												
Average Delay				Err								
Intersection Capacity Utilization				101.7%	ICU Level of Service				G			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	110	440	192	147	22	284	1548	70	96	1857	294
Future Volume (vph)	349	110	440	192	147	22	284	1548	70	96	1857	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.22	1.00	1.00	0.68	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	413	1863	1583	1266	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	379	120	478	209	160	24	309	1683	76	104	2018	320
RTOR Reduction (vph)	0	0	109	0	4	0	0	0	37	0	0	150
Lane Group Flow (vph)	379	120	369	209	180	0	309	1683	39	104	2018	170
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)	50.8	36.8	36.8	27.6	18.1		14.5	75.0	75.0	8.7	69.2	69.2
Effective Green, g (s)	50.8	36.8	36.8	27.6	18.1		14.5	75.0	75.0	8.7	69.2	69.2
Actuated g/C Ratio	0.34	0.25	0.25	0.19	0.12		0.10	0.51	0.51	0.06	0.47	0.47
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	400	463	393	268	223		336	1793	802	104	1654	740
v/s Ratio Prot	c0.18	0.06		0.05	0.10		c0.09	0.48		0.06	c0.57	
v/s Ratio Perm	c0.14		0.23	0.10					0.02			0.11
v/c Ratio	0.95	0.26	0.94	0.78	0.81		0.92	0.94	0.05	1.00	1.22	0.23
Uniform Delay, d1	41.7	44.7	54.5	56.1	63.3		66.2	34.3	18.5	69.7	39.4	23.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.5	0.3	30.0	13.4	19.1		29.1	11.0	0.1	88.3	104.7	0.7
Delay (s)	73.2	45.0	84.5	69.4	82.3		95.3	45.3	18.6	157.9	144.1	24.2
Level of Service	E	D	F	E	F		F	D	B	F	F	C
Approach Delay (s)		75.2			75.5			51.8			129.0	
Approach LOS		E			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			89.3			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			148.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			102.8%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	306	146	185	317	222	243	164	1391	302	360	1787	320
Future Volume (vph)	306	146	185	317	222	243	164	1391	302	360	1787	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1752	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1752	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	333	159	201	345	241	264	178	1512	328	391	1942	348
RTOR Reduction (vph)	0	0	171	0	0	190	0	0	224	0	0	169
Lane Group Flow (vph)	243	249	30	286	300	74	178	1512	104	391	1942	179
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	22.5	22.5	22.5	26.5	26.5	26.5	19.3	47.5	47.5	34.6	62.8	62.8
Effective Green, g (s)	22.5	22.5	22.5	26.5	26.5	26.5	19.3	47.5	47.5	34.6	62.8	62.8
Actuated g/C Ratio	0.15	0.15	0.15	0.18	0.18	0.18	0.13	0.32	0.32	0.23	0.42	0.42
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	253	262	238	298	311	281	229	1127	504	410	1490	666
v/s Ratio Prot	c0.14	0.14		0.17	c0.17		0.10	0.43		c0.22	c0.55	
v/s Ratio Perm			0.02			0.05			0.07			0.11
v/c Ratio	0.96	0.95	0.13	0.96	0.96	0.26	0.78	1.34	0.21	0.95	1.30	0.27
Uniform Delay, d1	62.9	62.7	54.8	60.8	60.8	52.9	62.8	50.8	37.1	56.5	43.1	28.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	45.5	42.0	0.2	40.8	41.2	0.5	15.2	159.8	0.9	32.5	141.5	1.0
Delay (s)	108.3	104.8	55.0	101.5	102.0	53.4	78.0	210.6	38.0	89.0	184.7	29.2
Level of Service	F	F	E	F	F	D	E	F	D	F	F	C
Approach Delay (s)		91.6			86.7			170.8			150.5	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			141.9				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			149.1				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			100.4%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

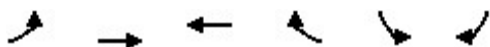
Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	661	5	0	572	312	6	3	3	406	3	243
Future Volume (vph)	264	661	5	0	572	312	6	3	3	406	3	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00			1.00	1.00		0.97			0.97	
Satd. Flow (prot)	1770	1861			1863	1583		1757			1716	
Flt Permitted	0.09	1.00			1.00	1.00		0.82			0.80	
Satd. Flow (perm)	159	1861			1863	1583		1476			1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	718	5	0	622	339	7	3	3	441	3	264
RTOR Reduction (vph)	0	0	0	0	0	218	0	2	0	0	18	0
Lane Group Flow (vph)	287	723	0	0	622	121	0	11	0	0	690	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	52.1	52.1			42.3	42.3		57.2			57.2	
Effective Green, g (s)	52.1	52.1			42.3	42.3		57.2			57.2	
Actuated g/C Ratio	0.44	0.44			0.36	0.36		0.48			0.48	
Clearance Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	142	819			666	566		713			686	
v/s Ratio Prot	c0.09	0.39			0.33							
v/s Ratio Perm	c0.80					0.08		0.01			c0.49	
v/c Ratio	2.02	0.88			0.93	0.21		0.02			1.01	
Uniform Delay, d1	30.1	30.3			36.7	26.4		15.9			30.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	483.4	11.1			20.2	0.2		0.0			36.0	
Delay (s)	513.4	41.4			56.9	26.6		15.9			66.5	
Level of Service	F	D			E	C		B			E	
Approach Delay (s)		175.5			46.2			15.9			66.5	
Approach LOS		F			D			B			E	
Intersection Summary												
HCM 2000 Control Delay	99.9			HCM 2000 Level of Service			F					
HCM 2000 Volume to Capacity ratio	1.52											
Actuated Cycle Length (s)	118.3			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	100.2%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

9: MD 6 & Kent Ave

Heritage Green
PM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	1070	865	35	43	81
Future Volume (Veh/h)	63	1070	865	35	43	81
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	1163	940	38	47	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TL			
Median storage veh		2	2			
Upstream signal (ft)		814				
pX, platoon unblocked					0.63	
vC, conflicting volume	978				2258	959
vC1, stage 1 conf vol					959	
vC2, stage 2 conf vol					1299	
vCu, unblocked vol	978				2708	959
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	90				68	72
cM capacity (veh/h)	706				145	312
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	68	1163	978	47	88	
Volume Left	68	0	0	47	0	
Volume Right	0	0	38	0	88	
cSH	706	1700	1700	145	312	
Volume to Capacity	0.10	0.68	0.58	0.32	0.28	
Queue Length 95th (ft)	8	0	0	33	28	
Control Delay (s)	10.6	0.0	0.0	41.3	21.0	
Lane LOS	B			E	C	
Approach Delay (s)	0.6		0.0	28.1		
Approach LOS				D		
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			66.3%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

10: Willow Rd/Site Access & MD 6

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	1030	17	51	804	253	2	0	43	265	0	53
Future Volume (vph)	47	1030	17	51	804	253	2	0	43	265	0	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	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	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1858		1770	1863	1583	1770	1583		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.72	1.00		0.73	1.00	
Satd. Flow (perm)	1770	1858		1770	1863	1583	1340	1583		1353	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1120	18	55	874	275	2	0	47	288	0	58
RTOR Reduction (vph)	0	0	0	0	0	103	0	36	0	0	45	0
Lane Group Flow (vph)	51	1138	0	55	874	172	2	11	0	288	13	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	4.9	73.5		4.1	72.7	72.7	27.2	27.2		27.2	27.2	
Effective Green, g (s)	4.9	73.5		4.1	72.7	72.7	27.2	27.2		27.2	27.2	
Actuated g/C Ratio	0.04	0.62		0.03	0.61	0.61	0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	1154		61	1144	972	308	363		311	363	
v/s Ratio Prot	0.03	c0.61		c0.03	0.47			0.01			0.01	
v/s Ratio Perm						0.11	0.00			c0.21		
v/c Ratio	0.70	0.99		0.90	0.76	0.18	0.01	0.03		0.93	0.04	
Uniform Delay, d1	56.0	21.9		56.9	16.6	9.9	35.1	35.3		44.6	35.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.3	22.9		80.6	3.1	0.1	0.0	0.2		35.2	0.2	
Delay (s)	81.2	44.8		137.5	19.7	10.0	35.2	35.5		79.8	35.6	
Level of Service	F	D		F	B	A	D	D		E	D	
Approach Delay (s)		46.3			22.8			35.5			72.4	
Approach LOS		D			C			D			E	
Intersection Summary												
HCM 2000 Control Delay	39.2			HCM 2000 Level of Service			D					
HCM 2000 Volume to Capacity ratio	0.97											
Actuated Cycle Length (s)	118.3			Sum of lost time (s)			13.5					
Intersection Capacity Utilization	84.1%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Driveway/MD 488 & MD 6

Heritage Green

PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	582	674	9	0	421	222	19	26	8	396	14	564
Future Volume (vph)	582	674	9	0	421	222	19	26	8	396	14	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
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	0.85	1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	1859			1863	1583	1770	1795			1777	1583
Flt Permitted	0.12	1.00			1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	220	1859			1863	1583	1770	1795			1777	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	733	10	0	458	241	21	28	9	430	15	613
RTOR Reduction (vph)	0	0	0	0	0	132	0	9	0	0	0	83
Lane Group Flow (vph)	633	743	0	0	458	109	21	28	0	0	445	530
Turn Type	pm+pt	NA			NA	Perm	Split	NA		Split	NA	pm+ov
Protected Phases	7	4			8		2	2		6	6	7
Permitted Phases	4			8		8						6
Actuated Green, G (s)	70.5	70.5			29.3	29.3	6.1	6.1			29.8	66.5
Effective Green, g (s)	70.5	70.5			29.3	29.3	6.1	6.1			29.8	66.5
Actuated g/C Ratio	0.59	0.59			0.24	0.24	0.05	0.05			0.25	0.55
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	603	1093			455	386	90	91			441	937
v/s Ratio Prot	c0.32	0.40			0.25		0.01	c0.02			c0.25	0.17
v/s Ratio Perm	c0.29					0.07						0.16
v/c Ratio	1.05	0.68			1.01	0.28	0.23	0.31			1.01	0.57
Uniform Delay, d1	34.4	16.9			45.3	36.8	54.7	54.9			45.1	17.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	50.4	1.7			43.8	0.4	1.3	2.0			45.1	0.8
Delay (s)	84.8	18.6			89.1	37.2	56.0	56.8			90.2	18.1
Level of Service	F	B			F	D	E	E			F	B
Approach Delay (s)		49.1			71.2			56.5			48.4	
Approach LOS		D			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			53.8									
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			119.9									
Intersection Capacity Utilization			98.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

12: Kent Ave & Caroline Dr

Heritage Green
PM Total - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	16	136	48	24	63
Future Volume (Veh/h)	36	16	136	48	24	63
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	17	148	52	26	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294	174			200	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294	174			200	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	98			98	
cM capacity (veh/h)	684	869			1372	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	56	200	94			
Volume Left	39	0	26			
Volume Right	17	52	0			
cSH	731	1700	1372			
Volume to Capacity	0.08	0.12	0.02			
Queue Length 95th (ft)	6	0	1			
Control Delay (s)	10.3	0.0	2.2			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	2.2			
Approach LOS	B					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			28.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Kent Ave & Dorchester Ave

Heritage Green
PM Total - Full Build Out

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	129	66	0	91
Future Volume (Veh/h)	0	0	129	66	0	91
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	140	72	0	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275	176			212	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275	176			212	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	715	867			1358	
Direction, Lane #	NB 1	SB 1				
Volume Total	212	99				
Volume Left	0	0				
Volume Right	72	0				
cSH	1700	1700				
Volume to Capacity	0.12	0.06				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS						
Approach Delay (s)	0.0	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			14.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Heritage Green
PM Total - Full Build Out



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇑⇑	⇑	⇑	⇑⇑	⇑	⇑
Traffic Volume (vph)	0	939	450	441	1058	356	340
Future Volume (vph)	0	939	450	441	1058	356	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539	1770	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		3539	1583	1770	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1021	489	479	1150	387	370
RTOR Reduction (vph)	0	0	292	0	0	0	298
Lane Group Flow (vph)	0	1021	197	479	1150	387	72
Turn Type	Perm	NA	Perm	Prot	NA	Prot	Perm
Protected Phases		4		3	8	2	
Permitted Phases	4		4				2
Actuated Green, G (s)		33.3	33.3	20.6	58.4	16.1	16.1
Effective Green, g (s)		33.3	33.3	20.6	58.4	16.1	16.1
Actuated g/C Ratio		0.40	0.40	0.25	0.71	0.20	0.20
Clearance Time (s)		4.0	4.0	4.5	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1428	638	441	2505	345	308
v/s Ratio Prot		c0.29		c0.27	0.32	c0.22	
v/s Ratio Perm			0.12				0.05
v/c Ratio		0.71	0.31	1.09	0.46	1.12	0.23
Uniform Delay, d1		20.6	16.8	30.9	5.2	33.2	28.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.7	0.3	68.1	0.1	85.6	1.8
Delay (s)		22.4	17.0	99.0	5.3	118.8	29.8
Level of Service		C	B	F	A	F	C
Approach Delay (s)		20.6			32.9	75.3	
Approach LOS		C			C	E	
Intersection Summary							
HCM 2000 Control Delay			36.4		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.92				
Actuated Cycle Length (s)			82.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			80.5%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis

15: Radio Station Rd & Mary Matula Dr

Heritage Green
PM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	92	27	571	851	40
Future Volume (Veh/h)	61	92	27	571	851	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	100	29	621	925	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1604	925	968			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1604	925	968			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	41	69	96			
cM capacity (veh/h)	111	326	712			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	166	29	621	925	43	
Volume Left	66	29	0	0	0	
Volume Right	100	0	0	0	43	
cSH	185	712	1700	1700	1700	
Volume to Capacity	0.90	0.04	0.37	0.54	0.03	
Queue Length 95th (ft)	170	3	0	0	0	
Control Delay (s)	93.6	10.3	0.0	0.0	0.0	
Lane LOS	F	B				
Approach Delay (s)	93.6	0.5		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			8.9			
Intersection Capacity Utilization			60.5%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

16: Radio Station Rd & Llano Dr

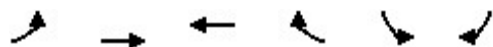
Heritage Green
PM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	27	19	496	827	135
Future Volume (Veh/h)	67	27	19	496	827	135
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	73	29	21	539	899	147
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1480	899	1046			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1480	899	1046			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	91	97			
cM capacity (veh/h)	134	338	665			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	73	29	21	539	899	147
Volume Left	73	0	21	0	0	0
Volume Right	0	29	0	0	0	147
cSH	134	338	665	1700	1700	1700
Volume to Capacity	0.55	0.09	0.03	0.32	0.53	0.09
Queue Length 95th (ft)	67	7	2	0	0	0
Control Delay (s)	60.2	16.7	10.6	0.0	0.0	0.0
Lane LOS	F	C	B			
Approach Delay (s)	47.8	0.4		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			53.9%		ICU Level of Service	
Analysis Period (min)			15			
			A			

HCM Unsignalized Intersection Capacity Analysis

17: MD 488 & Radio Station Rd

Heritage Green
PM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	346	511	424	208	290	631
Future Volume (Veh/h)	346	511	424	208	290	631
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	376	555	461	226	315	686
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)					14	
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	687				1881	574
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687				1881	574
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	59				0	0
cM capacity (veh/h)	907				46	518
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	376	555	687	1001		
Volume Left	376	0	0	315		
Volume Right	0	0	226	686		
cSH	907	1700	1700	123		
Volume to Capacity	0.41	0.33	0.40	8.12		
Queue Length 95th (ft)	52	0	0	Err		
Control Delay (s)	11.8	0.0	0.0	Err		
Lane LOS	B			F		
Approach Delay (s)	4.7		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay			3823.4			
Intersection Capacity Utilization			80.7%	ICU Level of Service		D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

18: MD 488 & Agricopia Dr

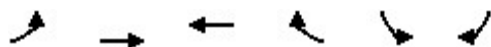
Heritage Green
PM Total - Full Build Out

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	49	70	840	999	46
Future Volume (Veh/h)	34	49	70	840	999	46
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	53	76	913	1086	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2151	1086	1136			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2151	1086	1136			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	20	80	88			
cM capacity (veh/h)	46	263	615			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	90	76	913	1086	50	
Volume Left	37	76	0	0	0	
Volume Right	53	0	0	0	50	
cSH	90	615	1700	1700	1700	
Volume to Capacity	1.00	0.12	0.54	0.64	0.03	
Queue Length 95th (ft)	145	11	0	0	0	
Control Delay (s)	179.1	11.7	0.0	0.0	0.0	
Lane LOS	F	B				
Approach Delay (s)	179.1	0.9		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			7.7			
Intersection Capacity Utilization			69.7%		ICU Level of Service	
Analysis Period (min)			15			
			C			

HCM Unsignalized Intersection Capacity Analysis

19: Rosewick Rd & Site Access

Heritage Green
PM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Volume (veh/h)	0	1317	1202	20	0	30
Future Volume (Veh/h)	0	1317	1202	20	0	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1432	1307	22	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)			715			
pX, platoon unblocked						
vC, conflicting volume	1329				2023	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1329				2023	654
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	515				50	410
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	716	716	654	654	22	33
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	22	33
cSH	1700	1700	1700	1700	1700	410
Volume to Capacity	0.42	0.42	0.38	0.38	0.01	0.08
Queue Length 95th (ft)	0	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.6
Lane LOS						B
Approach Delay (s)	0.0		0.0			14.6
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			43.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

20: La Plata Parkway/Site Access & Rosewick Rd

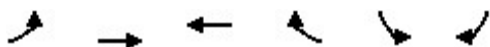
Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	166	179	157	239	146	186	99	50	158	250	79	169
Future Volume (vph)	166	179	157	239	146	186	99	50	158	250	79	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.70	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1306	1863	1583	883	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	195	171	260	159	202	108	54	172	272	86	184
RTOR Reduction (vph)	0	0	146	0	0	163	0	0	148	0	0	137
Lane Group Flow (vph)	180	195	25	260	159	39	108	54	24	272	86	47
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	11.7	9.1	9.1	14.4	11.8	11.8	13.2	8.6	8.6	24.7	15.6	15.6
Effective Green, g (s)	11.7	9.1	9.1	14.4	11.8	11.8	13.2	8.6	8.6	24.7	15.6	15.6
Actuated g/C Ratio	0.19	0.15	0.15	0.23	0.19	0.19	0.21	0.14	0.14	0.40	0.25	0.25
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	521	233	413	676	302	313	259	220	520	471	400
v/s Ratio Prot	0.10	c0.06		c0.15	c0.04		0.03	0.03		c0.10	0.05	
v/s Ratio Perm			0.02			0.02	0.05		0.02	c0.11		0.03
v/c Ratio	0.54	0.37	0.11	0.63	0.24	0.13	0.35	0.21	0.11	0.52	0.18	0.12
Uniform Delay, d1	22.6	23.7	22.8	21.3	21.1	20.7	20.3	23.5	23.2	13.3	18.1	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.5	0.2	3.0	0.2	0.2	0.7	0.4	0.2	1.0	0.2	0.1
Delay (s)	24.2	24.2	23.0	24.3	21.3	20.9	21.0	23.9	23.4	14.3	18.2	17.9
Level of Service	C	C	C	C	C	C	C	C	C	B	B	B
Approach Delay (s)		23.8			22.4			22.7			16.1	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.2									
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			61.7									
Intersection Capacity Utilization			50.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

21: Rosewick Rd & Site Access

Heritage Green
PM Total - Full Build Out



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (veh/h)	0	1404	1306	82	0	70
Future Volume (Veh/h)	0	1404	1306	82	0	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1526	1420	89	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		836	591			
pX, platoon unblocked	0.68				0.68	0.68
vC, conflicting volume	1420				2228	754
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	662				1857	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	623				44	733
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	763	763	947	562	76	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	89	76	
cSH	1700	1700	1700	1700	733	
Volume to Capacity	0.45	0.45	0.56	0.33	0.10	
Queue Length 95th (ft)	0	0	0	0	9	
Control Delay (s)	0.0	0.0	0.0	0.0	10.5	
Lane LOS					B	
Approach Delay (s)	0.0		0.0		10.5	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			49.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

22: Site Access & Rosewick Rd

Heritage Green
PM Total - Full Build Out

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	240	1112	52	48	1211	192	38	5	33	255	9	138
Future Volume (vph)	240	1112	52	48	1211	192	38	5	33	255	9	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99			1.00	0.85	1.00	0.87		1.00	0.86	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515			3533	1583	1770	1617		1770	1601	
Flt Permitted	0.95	1.00			0.84	1.00	0.64	1.00		0.60	1.00	
Satd. Flow (perm)	1770	3515			2968	1583	1191	1617		1120	1601	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	1209	57	52	1316	209	41	5	36	277	10	150
RTOR Reduction (vph)	0	2	0	0	0	94	0	32	0	0	115	0
Lane Group Flow (vph)	261	1264	0	0	1368	115	41	9	0	277	45	0
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	7.5	52.5			40.5	40.5	12.3	9.3		16.3	11.3	
Effective Green, g (s)	7.5	52.5			40.5	40.5	12.3	9.3		16.3	11.3	
Actuated g/C Ratio	0.09	0.65			0.50	0.50	0.15	0.12		0.20	0.14	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	165	2298			1496	798	204	187		267	225	
v/s Ratio Prot	c0.15	0.36					0.01	0.01		c0.06	0.03	
v/s Ratio Perm					c0.46	0.07	0.02			c0.15		
v/c Ratio	1.58	0.55			0.91	0.14	0.20	0.05		1.04	0.20	
Uniform Delay, d1	36.4	7.5			18.3	10.6	29.5	31.6		31.7	30.5	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	288.7	0.3			8.9	0.1	0.5	0.1		65.2	0.4	
Delay (s)	325.1	7.8			27.2	10.7	30.0	31.7		96.9	30.9	
Level of Service	F	A			C	B	C	C		F	C	
Approach Delay (s)		62.0			25.1			30.8			72.7	
Approach LOS		E			C			C			E	
Intersection Summary												
HCM 2000 Control Delay			46.5									
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			80.3									
Intersection Capacity Utilization			100.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: US 301 & Rosewick Road

Heritage Green
PM Total - Full Build Out with Potential Improvements

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	337	284	0	1424	486	468	1854
Future Volume (vph)	337	284	0	1424	486	468	1854
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.97	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		3539	1583	3433	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	309	0	1548	528	509	2015
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	366	309	0	1548	528	509	2015
Turn Type	Perm	Free	Perm	NA	Free	Prot	NA
Protected Phases				2		1	6
Permitted Phases	8	Free	2		Free		
Actuated Green, G (s)	17.1	112.5		62.2	112.5	20.7	87.4
Effective Green, g (s)	17.1	112.5		62.2	112.5	20.7	87.4
Actuated g/C Ratio	0.15	1.00		0.55	1.00	0.18	0.78
Clearance Time (s)	4.0			4.0		4.5	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	521	1583		1956	1583	631	2749
v/s Ratio Prot				c0.44		c0.15	0.57
v/s Ratio Perm	c0.11	0.20			0.33		
v/c Ratio	0.70	0.20		0.79	0.33	0.81	0.73
Uniform Delay, d1	45.3	0.0		20.0	0.0	44.0	6.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.3		3.4	0.6	7.5	1.0
Delay (s)	49.6	0.3		23.4	0.6	51.4	7.5
Level of Service	D	A		C	A	D	A
Approach Delay (s)	27.0			17.6			16.4
Approach LOS	C			B			B
Intersection Summary							
HCM 2000 Control Delay			18.2		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.78				
Actuated Cycle Length (s)			112.5		Sum of lost time (s)		12.5
Intersection Capacity Utilization			74.2%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

6: US 301 & MD 225/Hawthorne Rd

Heritage Green
PM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	110	440	192	147	22	284	1548	70	96	1857	294
Future Volume (vph)	349	110	440	192	147	22	284	1548	70	96	1857	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1826		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.68	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1266	1826		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	379	120	478	209	160	24	309	1683	76	104	2018	320
RTOR Reduction (vph)	0	0	103	0	3	0	0	0	36	0	0	152
Lane Group Flow (vph)	379	120	375	209	181	0	309	1683	40	104	2018	168
Turn Type	Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8					2			6
Actuated Green, G (s)	20.0	36.5	36.5	28.7	22.6		13.5	79.1	79.1	10.3	75.9	75.9
Effective Green, g (s)	20.0	36.5	36.5	28.7	22.6		13.5	79.1	79.1	10.3	75.9	75.9
Actuated g/C Ratio	0.13	0.24	0.24	0.19	0.15		0.09	0.53	0.53	0.07	0.51	0.51
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	457	453	385	262	275		308	1866	834	121	1790	800
v/s Ratio Prot	c0.11	0.06		0.03	0.10		c0.09	c0.48		0.06	c0.57	
v/s Ratio Perm			c0.24	0.12					0.03			0.11
v/c Ratio	0.83	0.26	0.97	0.80	0.66		1.00	0.90	0.05	0.86	1.13	0.21
Uniform Delay, d1	63.3	45.9	56.3	56.8	60.0		68.2	32.0	17.2	69.1	37.0	20.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.8	0.3	38.8	15.4	5.6		52.1	7.6	0.1	41.7	65.1	0.6
Delay (s)	75.1	46.2	95.0	72.3	65.6		120.4	39.5	17.3	110.8	102.2	21.1
Level of Service	E	D	F	E	E		F	D	B	F	F	C
Approach Delay (s)		81.3			69.1			50.8			91.9	
Approach LOS		F			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			74.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			100.5%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: US 301 & MD 6

Heritage Green

PM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	306	146	185	317	222	243	164	1391	302	360	1787	320
Future Volume (vph)	306	146	185	317	222	243	164	1391	302	360	1787	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1738	1583	1681	1752	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1738	1583	1681	1752	1583	1770	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	333	159	201	345	241	264	178	1512	328	391	1942	348
RTOR Reduction (vph)	0	0	156	0	0	145	0	0	191	0	0	174
Lane Group Flow (vph)	243	249	45	286	300	119	178	1512	137	391	1942	174
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.7	21.7	21.7	28.5	28.5	28.5	14.7	61.9	61.9	18.6	65.8	65.8
Effective Green, g (s)	21.7	21.7	21.7	28.5	28.5	28.5	14.7	61.9	61.9	18.6	65.8	65.8
Actuated g/C Ratio	0.15	0.15	0.15	0.19	0.19	0.19	0.10	0.42	0.42	0.13	0.44	0.44
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	253	231	322	335	303	174	1473	658	429	1566	700
v/s Ratio Prot	c0.14	0.14		0.17	c0.17		0.10	0.43		c0.11	c0.55	
v/s Ratio Perm			0.03			0.08			0.09			0.11
v/c Ratio	0.99	0.98	0.19	0.89	0.90	0.39	1.02	1.03	0.21	0.91	1.24	0.25
Uniform Delay, d1	63.4	63.3	55.8	58.5	58.6	52.5	67.0	43.4	27.7	64.2	41.4	26.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	55.0	51.8	0.4	24.2	24.8	0.8	74.4	30.5	0.7	23.3	113.7	0.8
Delay (s)	118.4	115.1	56.2	82.8	83.5	53.4	141.4	73.9	28.4	87.6	155.1	26.8
Level of Service	F	F	E	F	F	D	F	E	C	F	F	C
Approach Delay (s)		99.2			73.9			72.4			128.6	
Approach LOS		F			E			E			F	
Intersection Summary												
HCM 2000 Control Delay			99.7				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			148.7				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			100.4%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Wills St/Washington Ave & MD 6

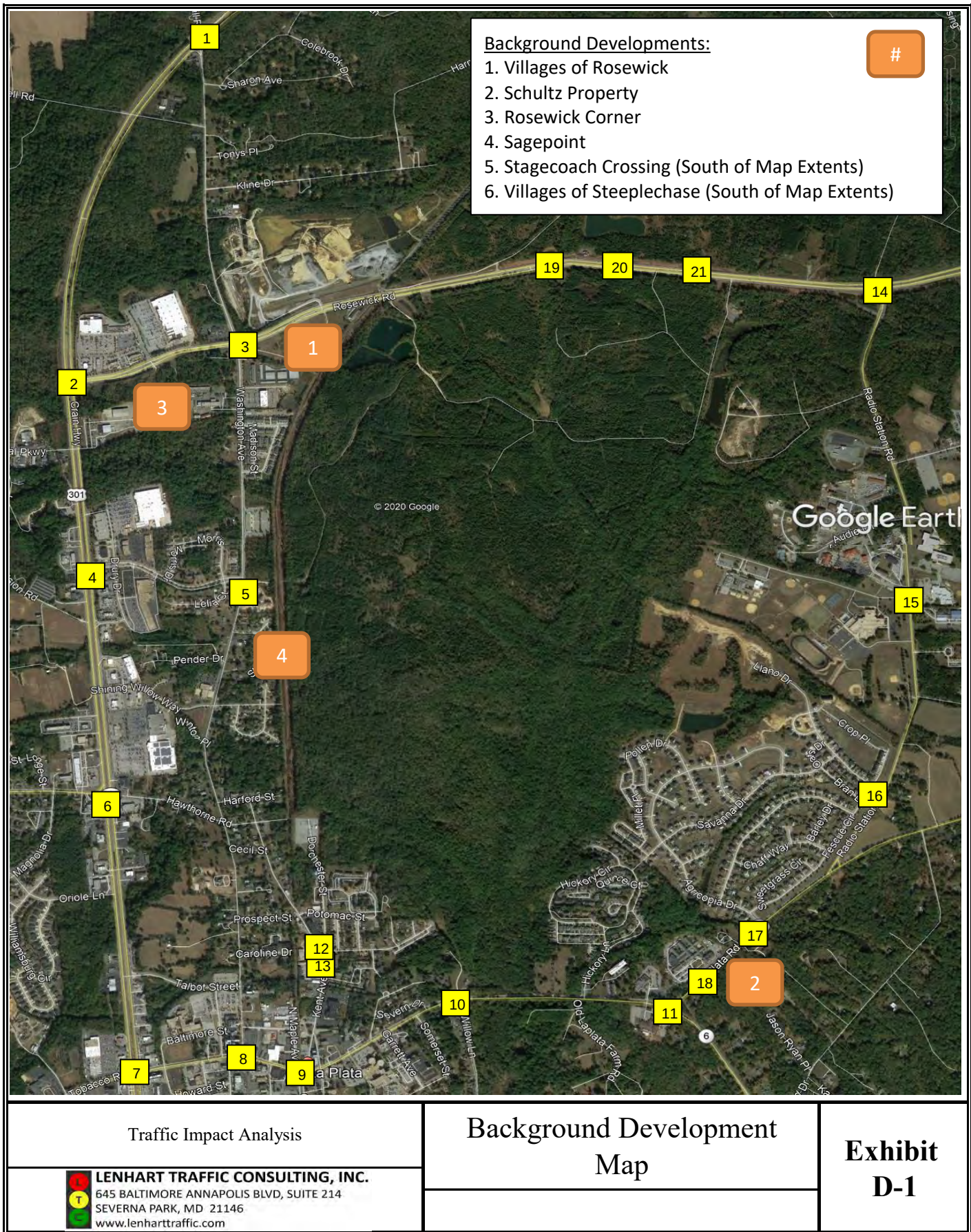
Heritage Green

PM Total - Full Build Out with Potential Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	661	5	0	572	312	6	3	3	406	3	243
Future Volume (vph)	264	661	5	0	572	312	6	3	3	406	3	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5			4.5			4.5	
Lane Util. Factor	1.00	1.00			0.95			1.00			1.00	
Frt	1.00	1.00			0.95			0.97			0.95	
Flt Protected	0.95	1.00			1.00			0.97			0.97	
Satd. Flow (prot)	1770	1861			3352			1757			1716	
Flt Permitted	0.10	1.00			1.00			0.82			0.80	
Satd. Flow (perm)	181	1861			3352			1475			1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	718	5	0	622	339	7	3	3	441	3	264
RTOR Reduction (vph)	0	0	0	0	64	0	0	2	0	0	17	0
Lane Group Flow (vph)	287	723	0	0	897	0	0	11	0	0	691	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.5	52.5			36.6			53.0			53.0	
Effective Green, g (s)	52.5	52.5			36.6			53.0			53.0	
Actuated g/C Ratio	0.46	0.46			0.32			0.46			0.46	
Clearance Time (s)	4.5	4.5			4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	241	853			1071			682			657	
v/s Ratio Prot	c0.12	0.39			0.27							
v/s Ratio Perm	c0.43							0.01			c0.49	
v/c Ratio	1.19	0.85			0.84			0.02			1.05	
Uniform Delay, d1	31.8	27.5			36.2			16.6			30.8	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	119.4	7.8			5.8			0.0			49.4	
Delay (s)	151.2	35.3			42.0			16.7			80.2	
Level of Service	F	D			D			B			F	
Approach Delay (s)		68.2			42.0			16.7			80.2	
Approach LOS		E			D			B			F	
Intersection Summary												
HCM 2000 Control Delay		61.8			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.15										
Actuated Cycle Length (s)		114.5			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		95.9%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

Appendix D

Background Developments



Trip Generaton Rates

Multifamily Housing, Mid-Rise (ITE-221, Units) [Close to Rail Transit]	<u>Trip Distribution (In/Out)</u>
Morning Trips = $0.31 \times \text{Units} + 1.06$	56/44
Evening Trips = $0.29 \times \text{Units} - 0.09$	43/57
Mid Rise Residential with 1st-Floor Commercial (ITE-231, Units)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $0.30 \times \text{Units}$	28/72
Evening Trips = $0.36 \times \text{Units}$	70/30
Shopping Center (General Urban/Suburban, ksf, ITE-820)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $0.94 \times \text{ksf}$	62/38
Evening Trips = $3.81 \times \text{ksf}$	48/52
General Office (ksf, ITE-710)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $1.16 \times \text{ksf}$	86/14
Evening Trips = $1.15 \times \text{ksf}$	16/84
Single-Family Detached (ITE-210, Units)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $0.71 \times (\text{Units}) + 4.80$	25/75
$\text{Ln}(\text{Evening Trips}) = 0.96 \times \text{Ln}(\text{Units}) + 0.20$	63/37
Fast Casual Restaurant (ksf, ITE-930)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $2.07 \times \text{ksf}$	67/33
Evening Trips = $14.13 \times \text{ksf}$	55/45
Drive-in Bank (ksf, ITE-912)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $9.50 \times \text{ksf}$	58/42
Evening Trips = $20.45 \times \text{ksf}$	50/50
Supermarket (ksf, ITE-850)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $3.82 \times \text{ksf}$	62/38
$\text{Ln}(\text{Evening Trips}) = 0.75 \times \text{Ln}(\text{ksf}) + 3.21$	51/49
Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $16.1 \times \text{Fueling Positions} + 135 \times \text{ksf} - 483$	50/50
Evening Trips = $11.5 \times \text{Fueling Positions} + 82.9 \times \text{ksf} - 226$	50/50
Day Care Center (ksf, ITE-565)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $11.00 \times \text{ksf}$	53/47
Evening Trips = $11.12 \times \text{ksf}$	47/53
Library (ksf, ITE-590)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $1.00 \times \text{ksf}$	71/29
Evening Trips = $8.16 \times \text{ksf}$	48/52
Assisted Living (ITE-254, Beds)	<u>Trip Distribution (In/Out)</u>
Morning Trips = $0.19 \times \text{Beds}$	63/37
Evening Trips = $0.26 \times \text{Beds}$	38/62
Multifamily Housing, Low-Rise (ITE-220, Units)	<u>Trip Distribution (In/Out)</u>
$\text{Ln}(\text{Morning Trips}) = 0.95 \times \text{Ln}(\text{Units}) - 0.51$	23/77
$\text{Ln}(\text{Evening Trips}) = 0.89 \times \text{Ln}(\text{Units}) - 0.02$	63/37

NOTE: Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition or Approved TIA's for each development

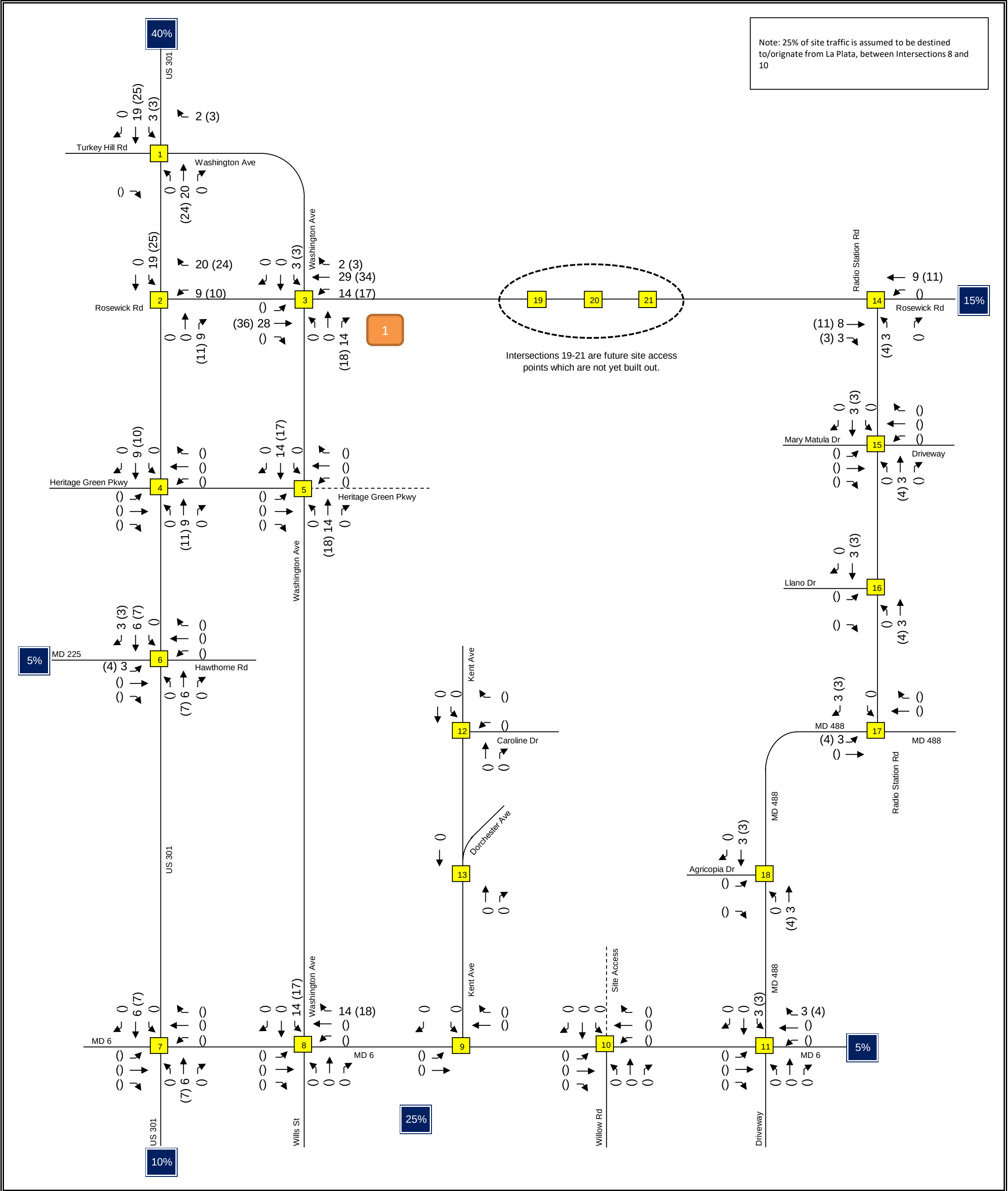
Traffic Impact Analysis	Background Development Trip Generation	Exhibit D-2
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Trip Generaton Totals

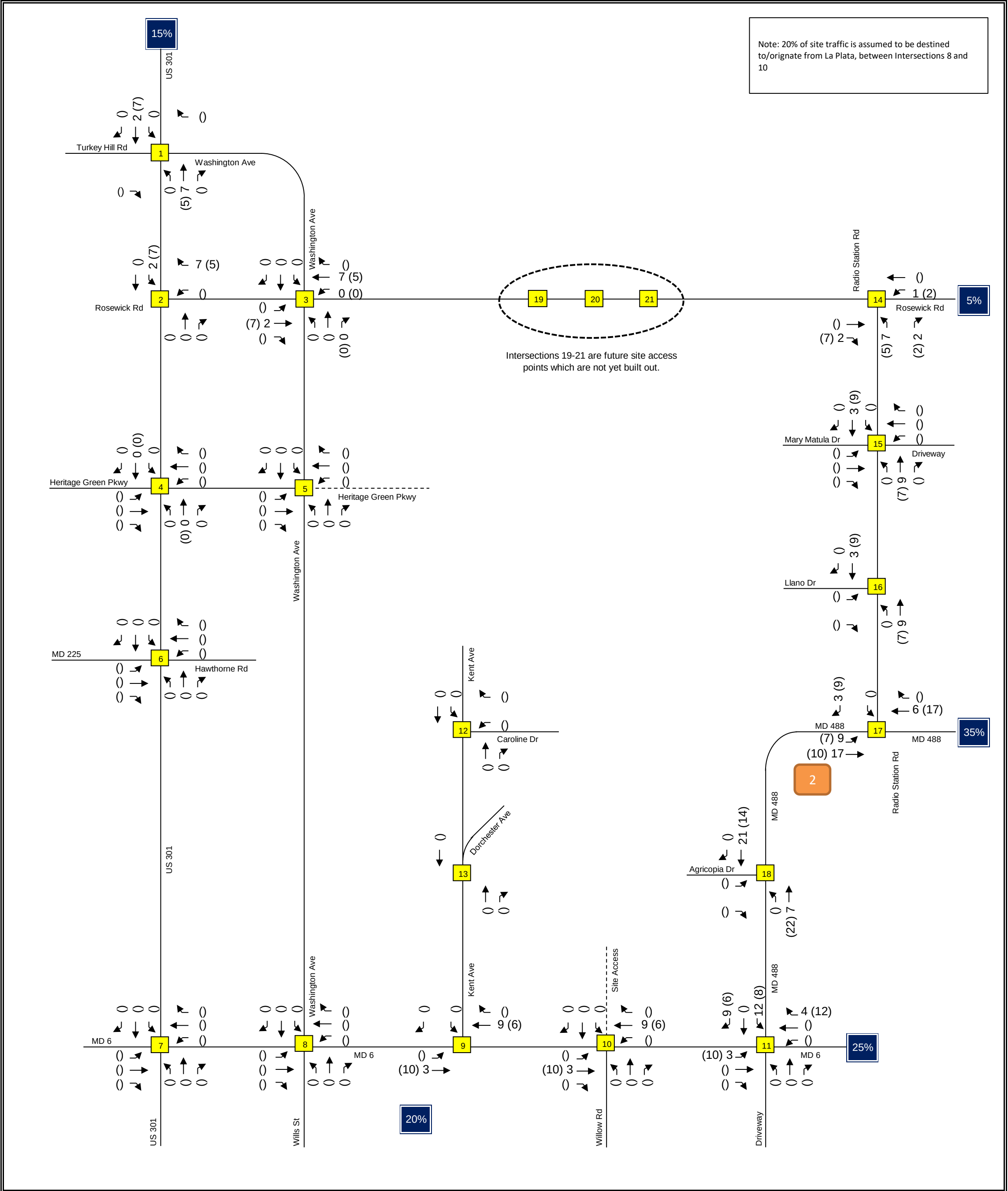
			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
1. Villages of Rosewick	Multifamily Housing, Mid-Rise (ITE-221, Urban/Suburban, Units) [Closest]	40 units	7	6	13	5	7	12
	Mid Rise Residential with 1st-Floor Commercial (ITE-231, Units)	192 units	16	42	58	48	21	69
	Shopping Center (ksf, ITE-820)	9,600 sq.ft.	6	3	9	18	19	37
	Pass-by at 0% AM/34% PM:		0	0	0	-6	-7	-13
	General Office (ksf, ITE-710)	28,800 sq.ft.	28	5	33	5	28	33
Total Primary Trips:			57	56	113	70	68	138
2. Schultz Property	Single-Family Detached (ITE-210, Units)	24 units	5	17	22	16	10	26
	Multifamily Housing, Mid-Rise (ITE-221, Units)	120 units	11	30	41	32	21	53
	Total Primary Trips:		16	47	63	48	31	79
3. Rosewick Corner	Shopping Center (ksf, ITE-820)	7,000 sq.ft.	4	3	7	13	14	27
	Pass-by at 0% AM/34% PM:		0	0	0	-4	-5	-9
	Fast Casual Restaurant (ksf, ITE-930)	3,428 sq.ft.	5	2	7	26	22	48
	Internal Trips:		-4	0	-4	-12	-13	-25
	Pass-by at 0% AM/43% PM:		0	0	0	-6	-4	-10
	Supermarket (ksf, ITE-850)	19,209 sq.ft.	44	29	73	116	111	227
	Internal Trips:		0	-3	-3	-22	-31	-53
	Pass-by at 0% AM/36% PM:		0	0	0	-34	-29	-63
	Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960)	16 Fueling Positions 5000 sq. ft.	225	225	450	186	187	373
	Pass-by at 76% AM/76% PM:		-171	-171	-342	-141	-142	-283
	Multifamily Housing, Mid-Rise (ITE-221 Urban/Suburban, Units)	193 units	17	48	65	51	32	83
	Internal Trips:		0	-1	-1	-27	-17	-44
	Net Primary External Trips:		120	132	252	146	125	271
4. Sagepoint	Assisted Living (ITE-254, Beds)	60 beds	7	4	11	6	10	16
	Total Primary Trips:		7	4	11	6	10	16
5. Villages of Steeplechase	Single-Family Detached Housing (ITE-210, Units)	36 units	6	19	25	21	13	34
	Single-Family Attached Housing (ITE-215, Units)	196 units	30	66	96	65	49	114
6. Stagecoach Crossing	Single-Family Detached Housing (ITE-210, Units)	322 units	58	167	225	191	112	303
	Single-Family Attached Housing (ITE-215, Units)	314 units	49	109	158	105	79	184

NOTES: 1. Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition or Approved TIA's for each development.
2. Internal Capture Sheets for Rosewick Corner included at the end of Appendix D.

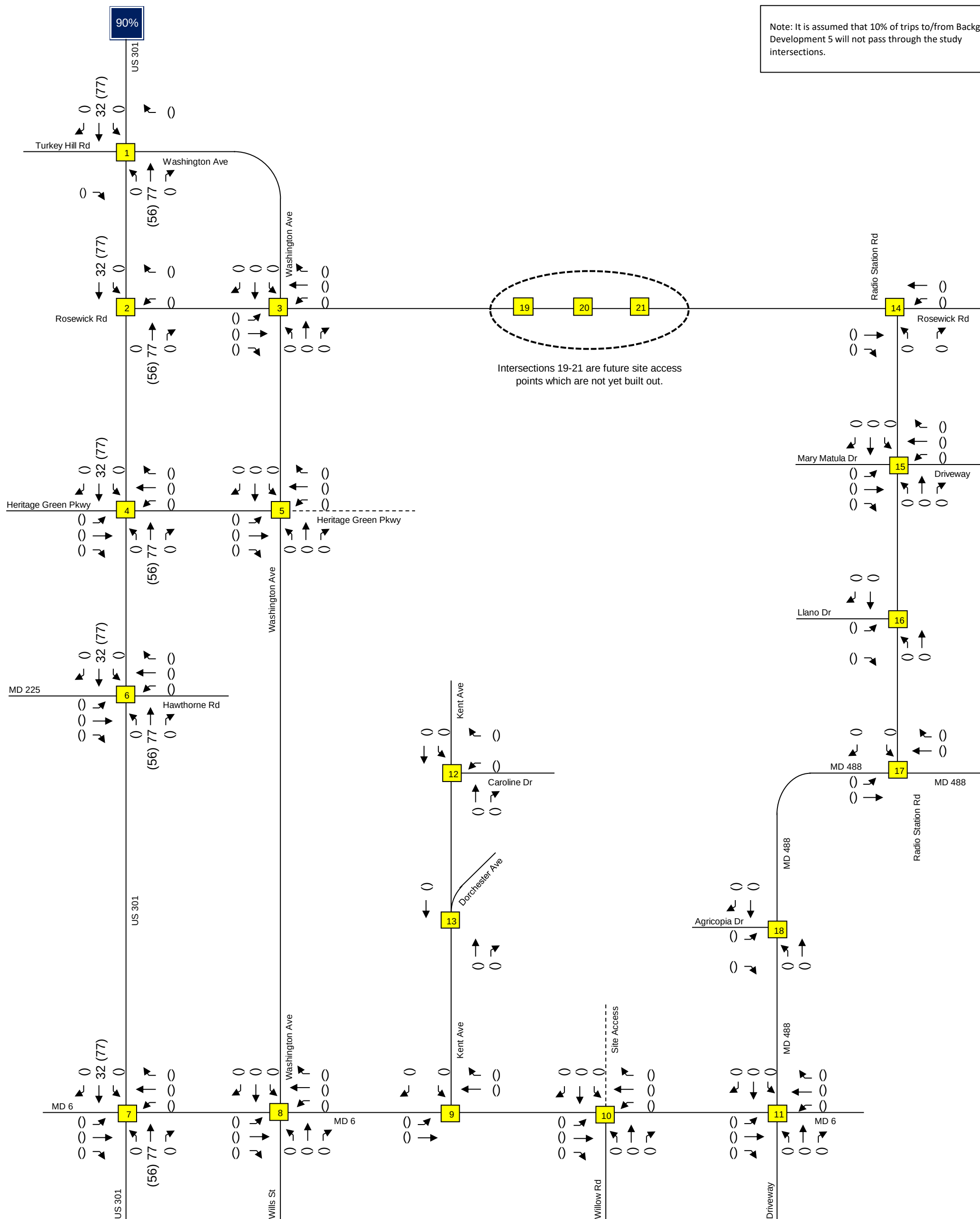
Traffic Impact Analysis	Background Development Trip Generation	Exhibit D-3
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



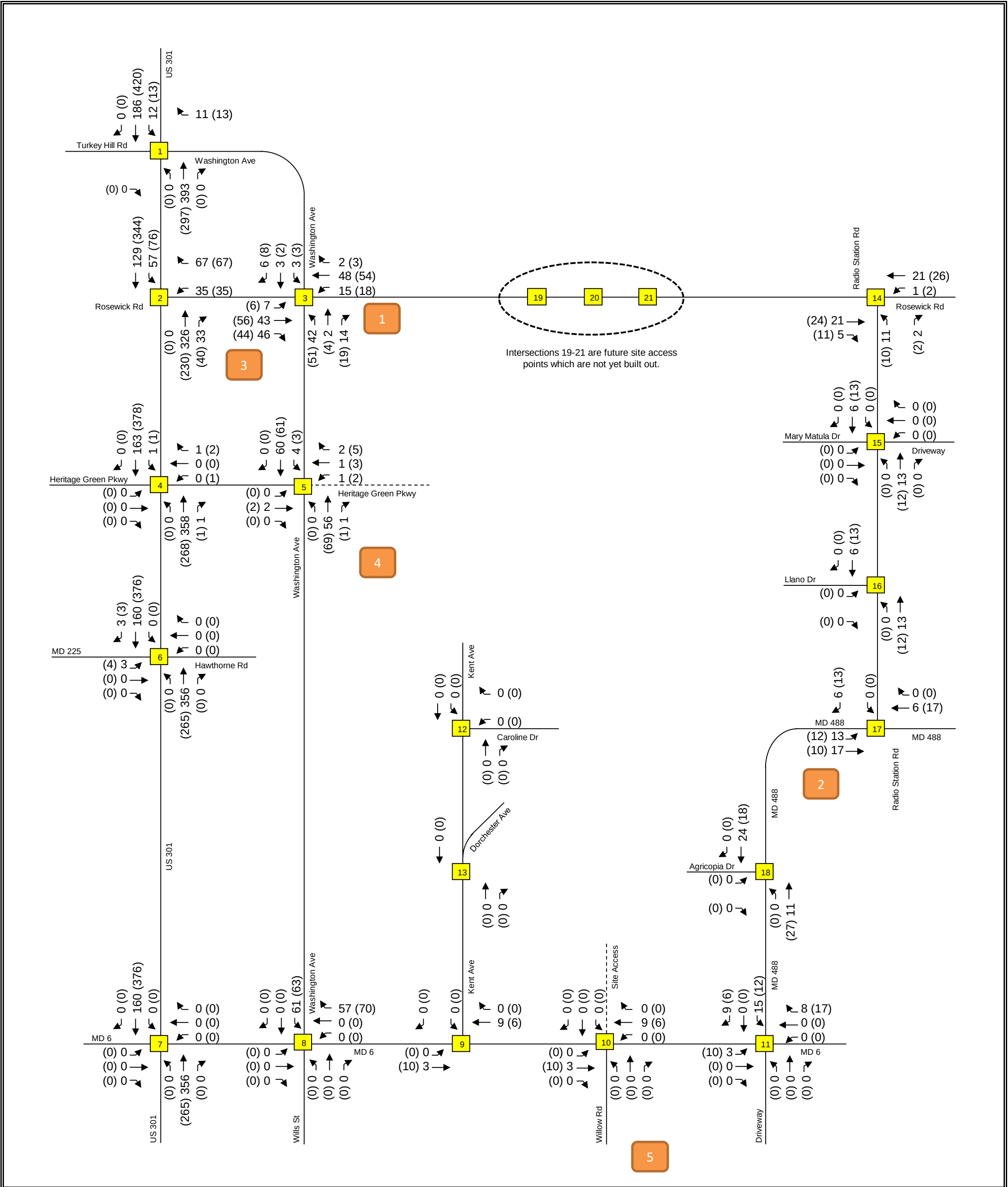
Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Background Development 1 Trip Assignment Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit D-4
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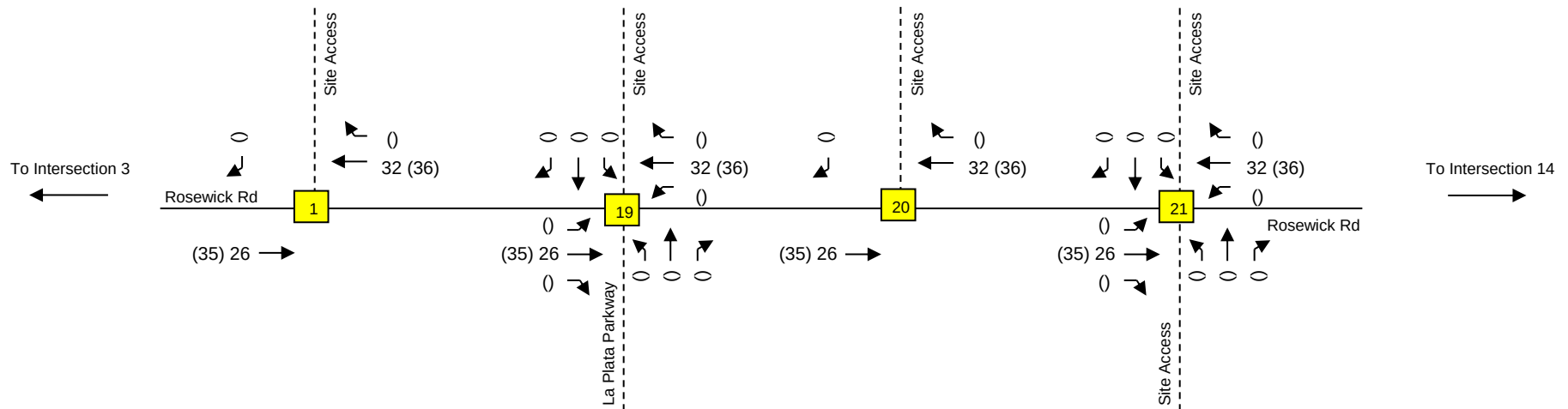
Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Background Development 2 Trip Assignment Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit D-5
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Traffic Impact Analysis	Background Development 5	Exhibit
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Trip Assignment	D-8
	Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	



Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Combined Background Development Trips Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit D-10
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Traffic Impact Analysis



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Combined Background Development Trips through Site Access Points

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
D-11**

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Rosewick Corner			Organization:	Lenhart Traffic Consulting
Project Location:	La Plata, MD			Performed By:	
Scenario Description:	Scenario 2			Date:	4/7/2020
Analysis Year:				Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail			--	80	48	32
Restaurant			--	7	5	2
Cinema/Entertainment				0		
Residential				65	17	48
Hotel				0		
All Other Land Uses ²				0		
Total				152	70	82

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment						
Residential	1.00	0%	0%	1.00	0%	0%
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		3	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	152	70	82
Internal Capture Percentage	5%	6%	5%
External Vehicle-Trips ³	144	66	78
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	0%	9%
Restaurant	80%	0%
Cinema/Entertainment	N/A	N/A
Residential	0%	2%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
⁴ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
<i>Estimation Tool Developed by the Texas Transportation Institute</i>

Project Name:	Rosewick Corner
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips				Table 7-A (O): Exiting Trips	
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Person-Trips*
Office	1.00	0	0		1.00	0
Retail	1.00	48	48		1.00	32
Restaurant	1.00	5	5		1.00	2
Cinema/Entertainment	1.00	0	0		1.00	0
Residential	1.00	17	17		1.00	48
Hotel	1.00	0	0		1.00	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	9		4	0	4	0
Restaurant	1	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	10	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		15	1	0	0	0
Retail	0		3	0	0	0
Restaurant	0	4		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	8	1	0		0
Hotel	0	2	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates				External Trips by Mode*	
	Internal	External	Total		Vehicles ¹	Transit ²
Office	0	0	0		0	0
Retail	0	48	48		48	0
Restaurant	4	1	5		1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	17	17		17	0
Hotel	0	0	0		0	0
All Other Land Uses ³	0	0	0		0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates				External Trips by Mode*	
	Internal	External	Total		Vehicles ¹	Transit ²
Office	0	0	0		0	0
Retail	3	29	32		29	0
Restaurant	0	2	2		2	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	47	48		47	0
Hotel	0	0	0		0	0
All Other Land Uses ³	0	0	0		0	0

¹ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
² Person-Trips
³ Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Rosewick Corner			Organization:	Lenhart Traffic Consulting
Project Location:	La Plata, MD			Performed By:	
Scenario Description:	Scenario 1			Date:	4/7/2020
Analysis Year:				Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				254	129	125
Restaurant				48	26	22
Cinema/Entertainment				0		
Residential				83	51	32
Hotel				0		
All Other Land Uses ²				0		
Total				385	206	179

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment						
Residential	1.00	0%	0%	1.00	0%	0%
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		8	0	23	0
Restaurant	0	9		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	13	4	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	385	206	179
Internal Capture Percentage	32%	30%	34%
External Vehicle-Trips ³	263	145	118
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	17%	25%
Restaurant	46%	59%
Cinema/Entertainment	N/A	N/A
Residential	53%	53%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
⁴ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
<i>Estimation Tool Developed by the Texas Transportation Institute</i>

Project Name:	Rosewick Corner
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	129	129	1.00	125	125
Restaurant	1.00	26	26	1.00	22	22
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	51	51	1.00	32	32
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	3		36	5	33	6
Restaurant	1	9		2	4	2
Cinema/Entertainment	0	0	0		0	0
Residential	1	13	7	0		1
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		10	1	0	2	0
Retail	0		8	0	23	0
Restaurant	0	65		0	8	0
Cinema/Entertainment	0	5	1		2	0
Residential	0	13	4	0		0
Hotel	0	3	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	22	107	129	107	0	0
Restaurant	12	14	26	14	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	27	24	51	24	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	31	94	125	94	0	0
Restaurant	13	9	22	9	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	17	15	32	15	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
² Person-Trips
³ Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

Appendix E

Internal Trip Calculations for Full Build Out

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Heritage Green			Organization:	Lenhart Traffic Consulting
Project Location:	La Plata, MD			Performed By:	
Scenario Description:				Date:	10/14/2021
Analysis Year:				Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)							
Land Use	Development Data (For Information Only)				Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units		Total	Entering	Exiting
Office					172	142	30
Retail					229	142	87
Restaurant							
Cinema/Entertainment							
Residential					1509	410	1099
Hotel							
All Other Land Uses ²							
Total					1910	694	1216

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant						
Cinema/Entertainment						
Residential	1.00	0%	0%	1.00	0%	0%
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	0	0	0	0
Retail	6		0	0	8	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	11	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,910	694	1,216
Internal Capture Percentage	4%	5%	3%
External Vehicle-Trips ³	1,836	657	1,179
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	7%	27%
Retail	13%	16%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
⁴ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
<i>Estimation Tool Developed by the Texas Transportation Institute</i>

Project Name:	Heritage Green
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips				Table 7-A (O): Exiting Trips	
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Person-Trips*
Office	1.00	142	142		1.00	30
Retail	1.00	142	142		1.00	87
Restaurant	1.00	0	0		1.00	0
Cinema/Entertainment	1.00	0	0		1.00	0
Residential	1.00	410	410		1.00	1099
Hotel	1.00	0	0		1.00	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	19	0	0	0
Retail	25		11	0	12	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	22	11	220	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		45	0	0	0	0
Retail	6		0	0	8	0
Restaurant	20	11		0	21	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	24	0	0		0
Hotel	4	6	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates				External Trips by Mode*	
	Internal	External	Total		Vehicles ¹	Transit ²
Office	10	132	142		132	0
Retail	19	123	142		123	0
Restaurant	0	0	0		0	0
Cinema/Entertainment	0	0	0		0	0
Residential	8	402	410		402	0
Hotel	0	0	0		0	0
All Other Land Uses ³	0	0	0		0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates				External Trips by Mode*	
	Internal	External	Total		Vehicles ¹	Transit ²
Office	8	22	30		22	0
Retail	14	73	87		73	0
Restaurant	0	0	0		0	0
Cinema/Entertainment	0	0	0		0	0
Residential	15	1084	1099		1084	0
Hotel	0	0	0		0	0
All Other Land Uses ³	0	0	0		0	0

¹ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
² Person-Trips
³ Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Heritage Green			Organization:	Lenhart Traffic Consulting
Project Location:	La Plata, MD			Performed By:	
Scenario Description:				Date:	10/14/2021
Analysis Year:				Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				228	60	168
Retail				801	384	417
Restaurant				0		
Cinema/Entertainment				0		
Residential				1973	1215	758
Hotel				0		
All Other Land Uses ²				0		
Total				3002	1659	1343

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant						
Cinema/Entertainment						
Residential	1.00	0%	0%	1.00	0%	0%
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		31	0	0	3	0
Retail	8		0	0	108	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	30	38	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	3,002	1,659	1,343
Internal Capture Percentage	15%	13%	16%
External Vehicle-Trips ³	2,566	1,441	1,125
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	63%	20%
Retail	18%	28%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	9%	9%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
⁴ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
<i>Estimation Tool Developed by the Texas Transportation Institute</i>

Project Name:	Heritage Green
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips				Table 7-P (O): Exiting Trips	
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Person-Trips*
Office	1.00	60	60		1.00	168
Retail	1.00	384	384		1.00	417
Restaurant	1.00	0	0		1.00	0
Cinema/Entertainment	1.00	0	0		1.00	0
Residential	1.00	1215	1215		1.00	758
Hotel	1.00	0	0		1.00	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		34	7	0	3	0
Retail	8		121	17	108	21
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	30	318	159	0		23
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		31	0	0	49	0
Retail	19		0	0	559	0
Restaurant	18	192		0	194	0
Cinema/Entertainment	4	15	0		49	0
Residential	34	38	0	0		0
Hotel	0	8	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)							
Destination Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²
Office	38	22	60		22	0	0
Retail	69	315	384		315	0	0
Restaurant	0	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	111	1104	1215		1104	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses ³	0	0	0		0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)							
Origin Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²
Office	34	134	168		134	0	0
Retail	116	301	417		301	0	0
Restaurant	0	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	68	690	758		690	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses ³	0	0	0		0	0	0

¹ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
² Person-Trips
³ Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

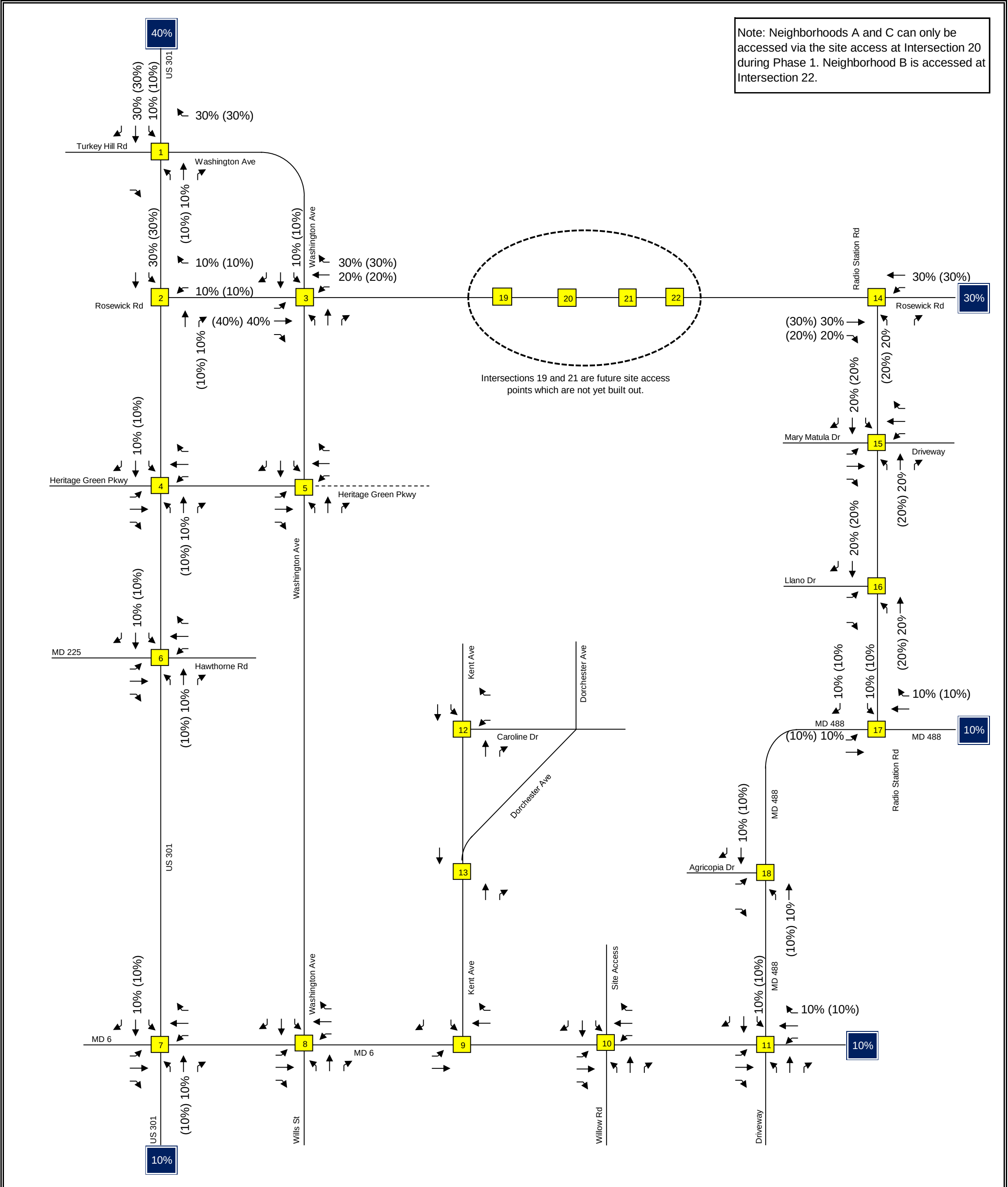
Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

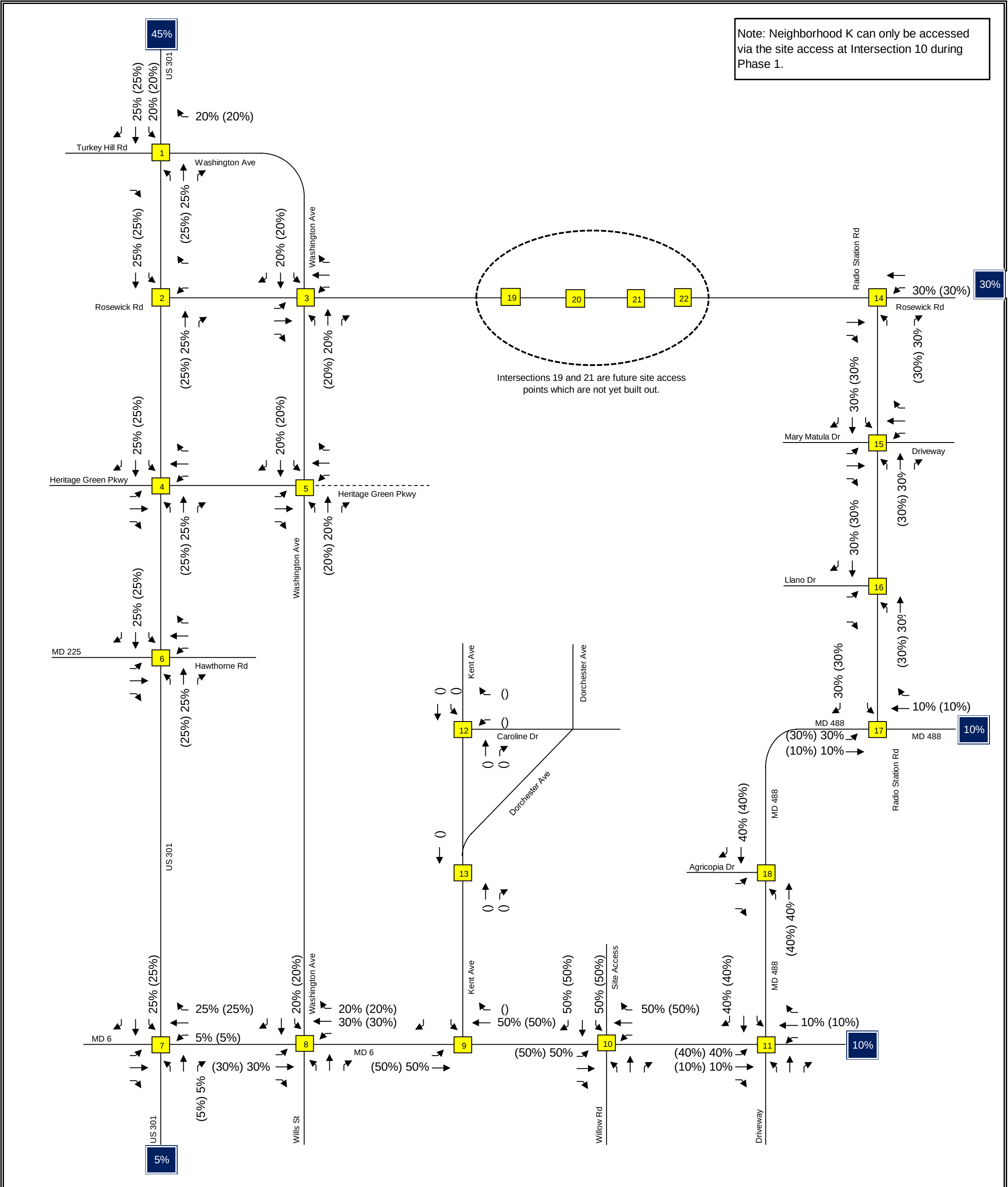
Appendix F

Partial Build Out Detailed Trip Assignment Worksheets

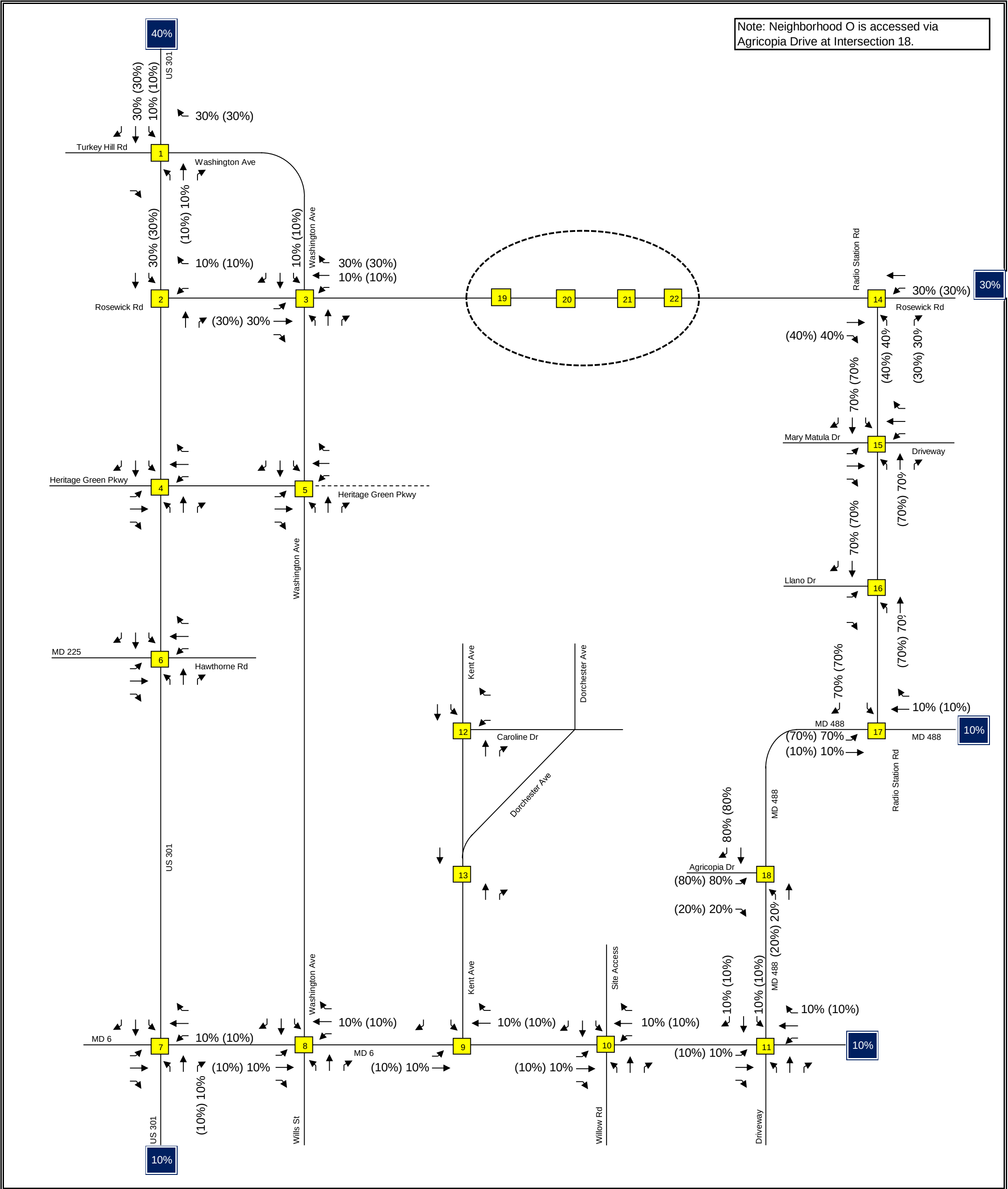


Traffic Impact Analysis	Phase 1 Trip Assignment Neighborhoods A, B, and C	Exhibit F1
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Key: xx = AM Peak Percentages (xx) = PM Peak Percentages



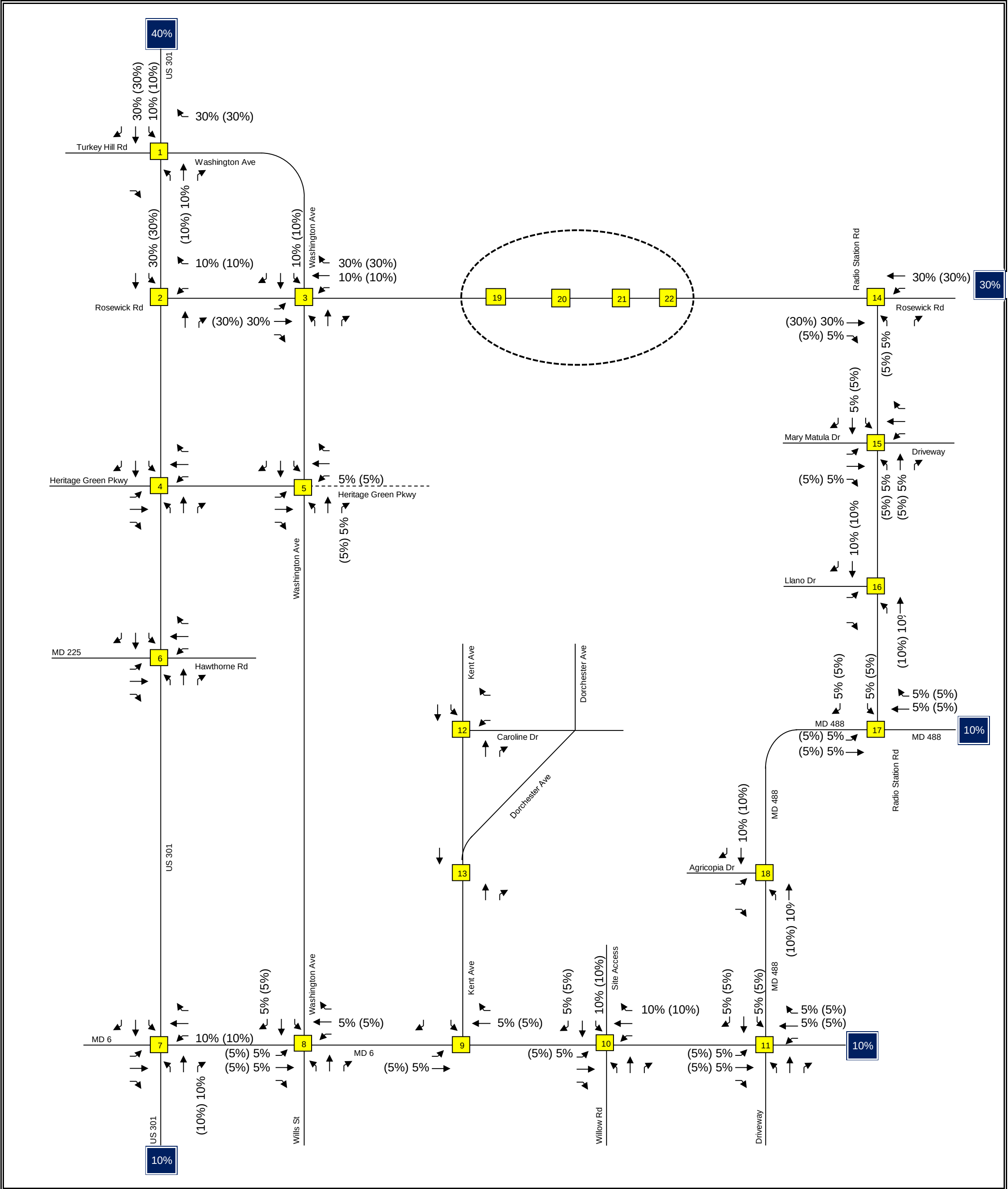
Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Phase 1 Trip Assignment Neighborhood K Key: xx = AM Peak Percentages (xx) = PM Peak Percentages	Exhibit F2
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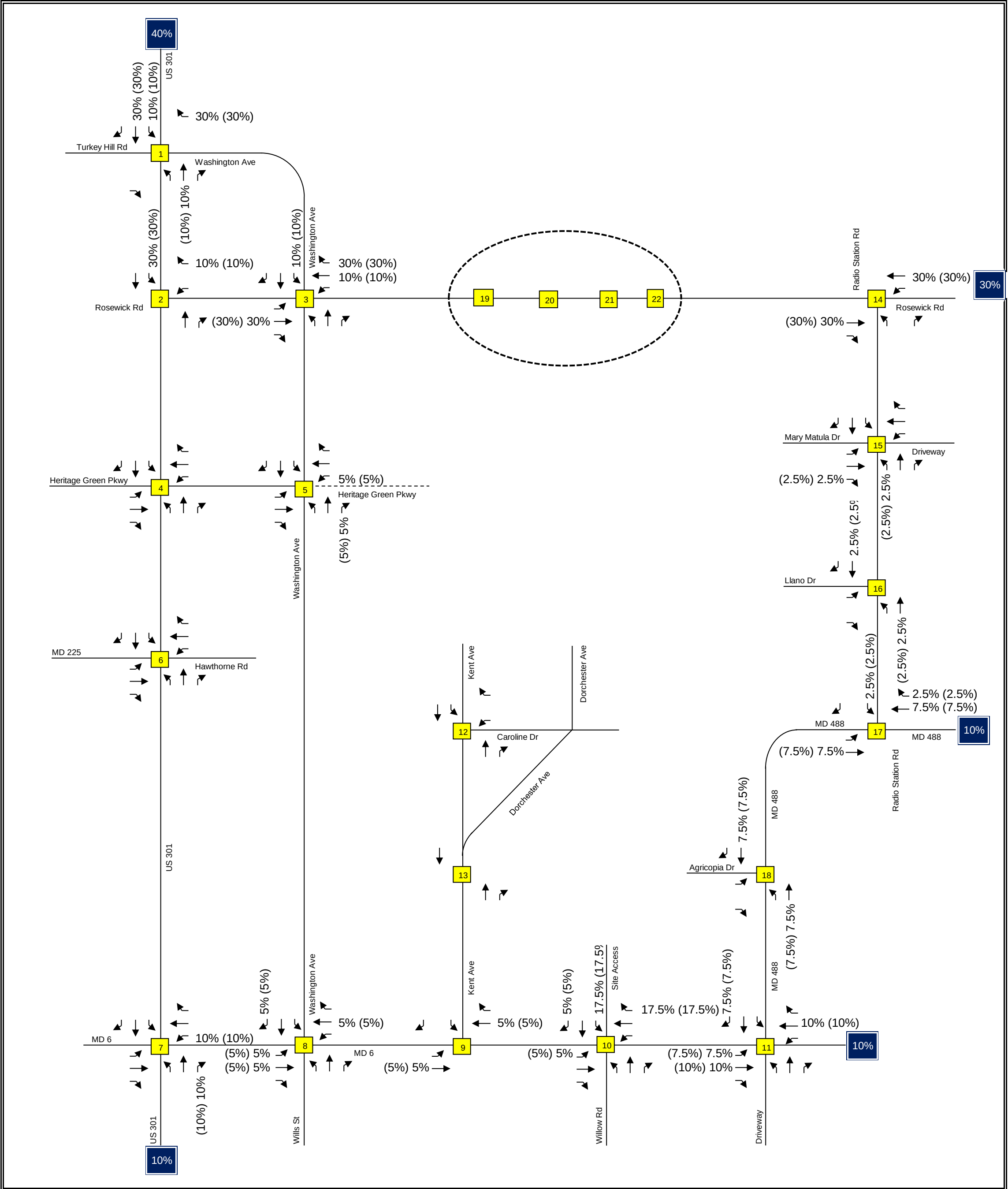
Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Partial Build Out Trip Assignment Neighborhood O Key: xx = AM Peak Percentages (xx) = PM Peak Percentages	Exhibit F3
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Appendix G

Full Build Out Detailed Trip Assignment Worksheets

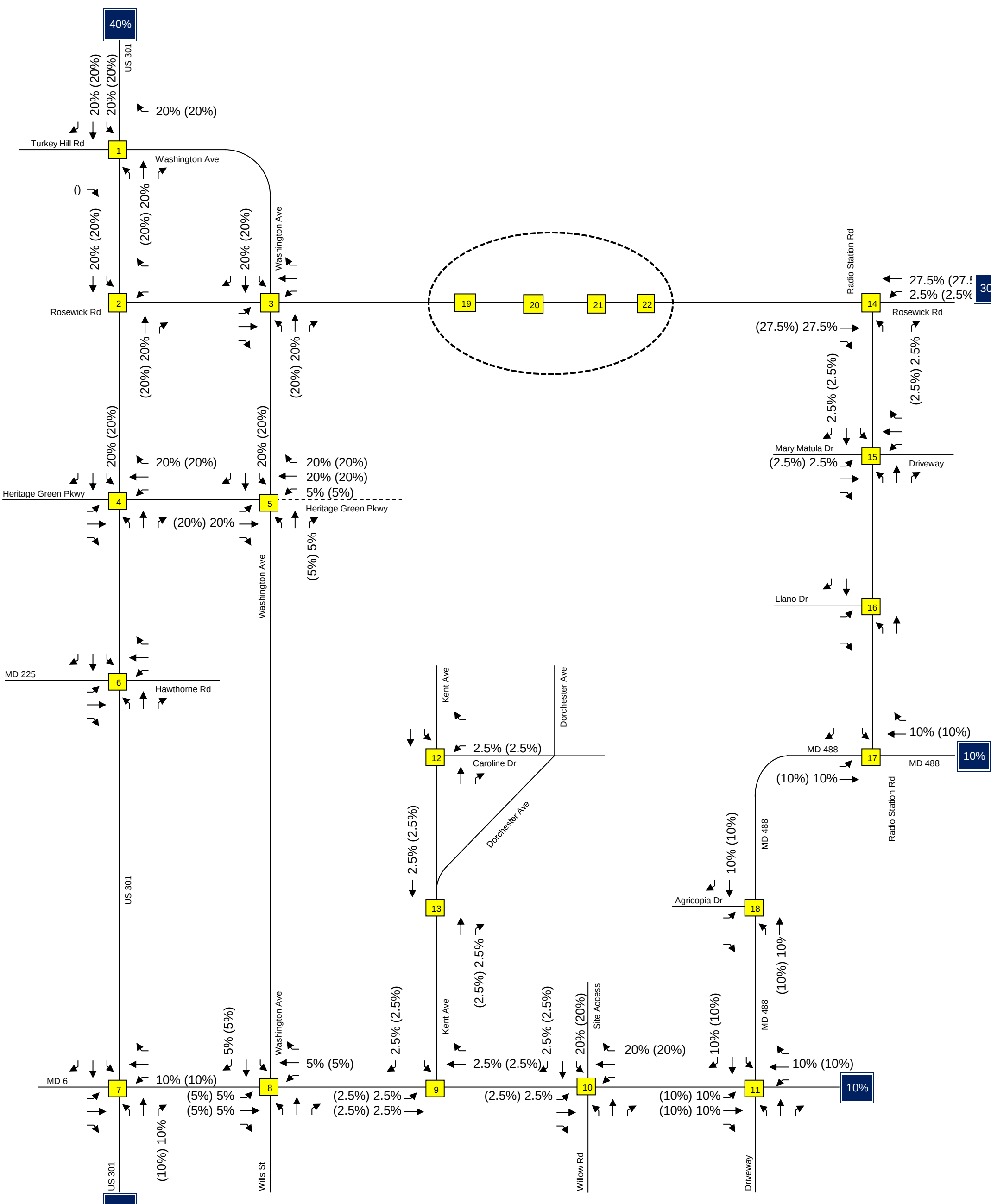


Traffic Impact Analysis  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Full Build Out Trip Assignment Neighborhoods A, B, C Key: xx = AM Peak Percentages (xx) = PM Peak Percentages	Exhibit G1
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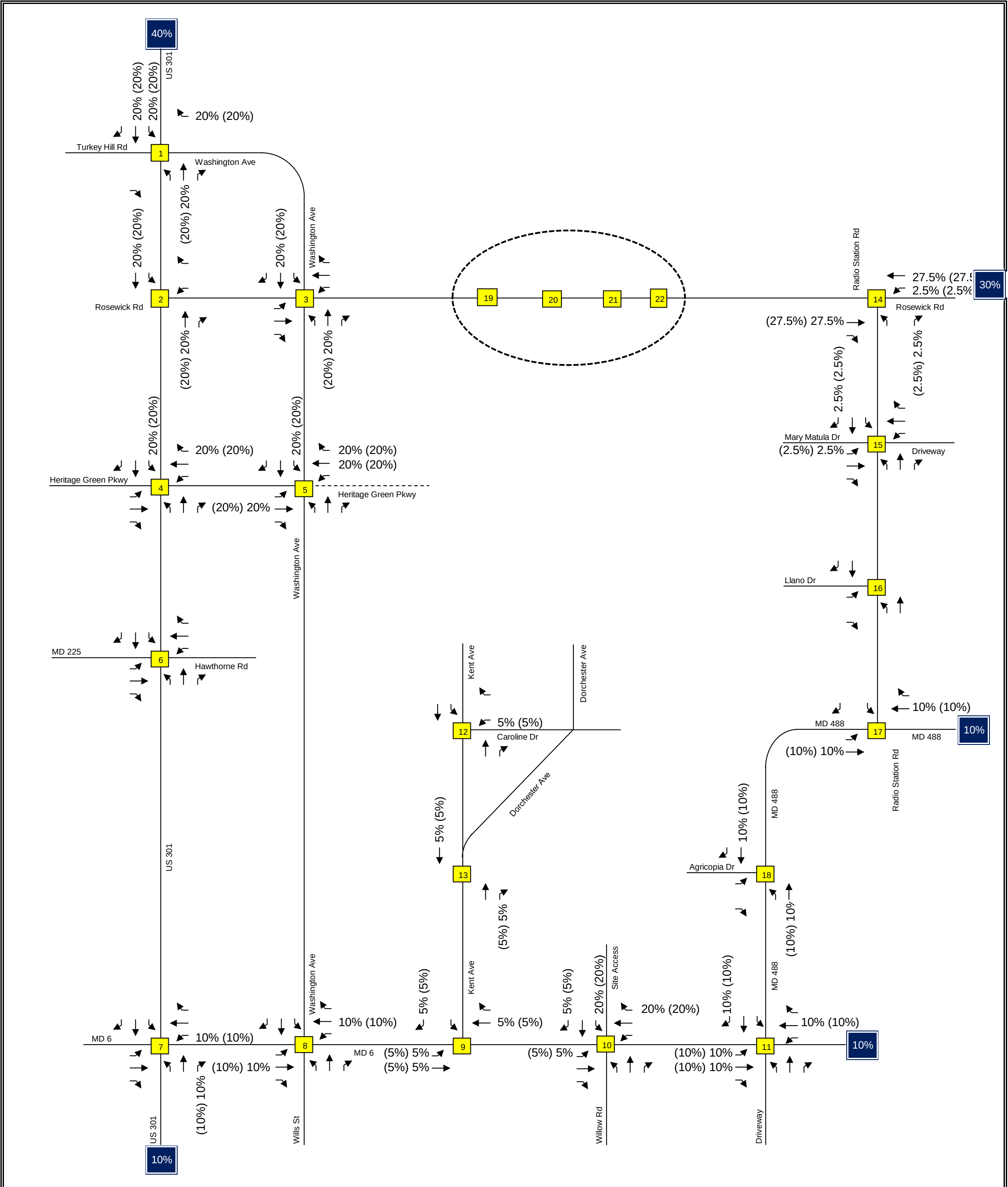


Traffic Impact Analysis	Full Build Out Trip Assignment Neighborhoods D, E, G, and L	Exhibit G2
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

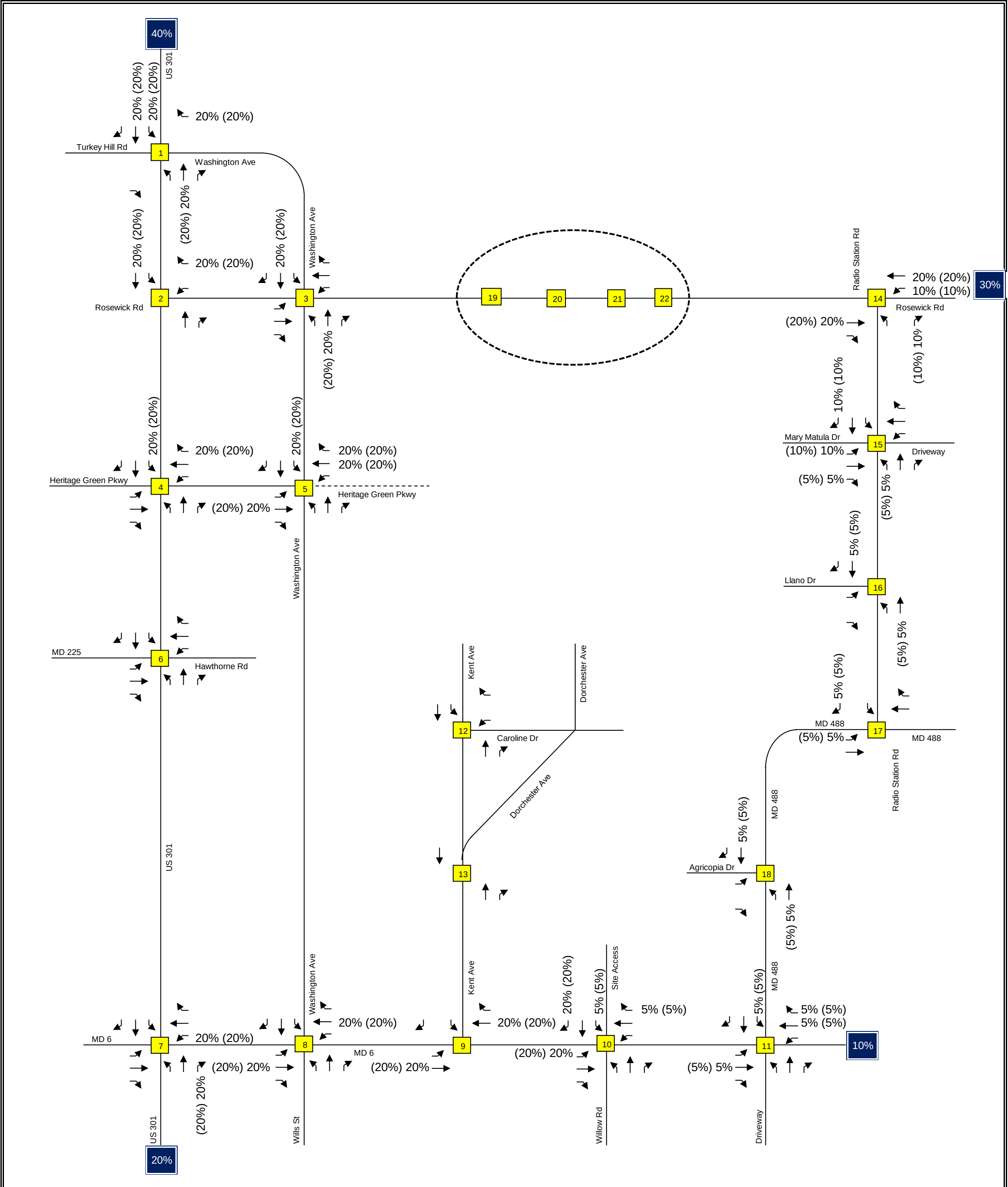
Key: xx = AM Peak Percentages (xx) = PM Peak Percentages



Traffic Impact Analysis	Full Build Out Trip Assignment		Exhibit
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146	Neighborhoods F and H		G3
	Key: xx = AM Peak Percentages (xx) = PM Peak Percentages		

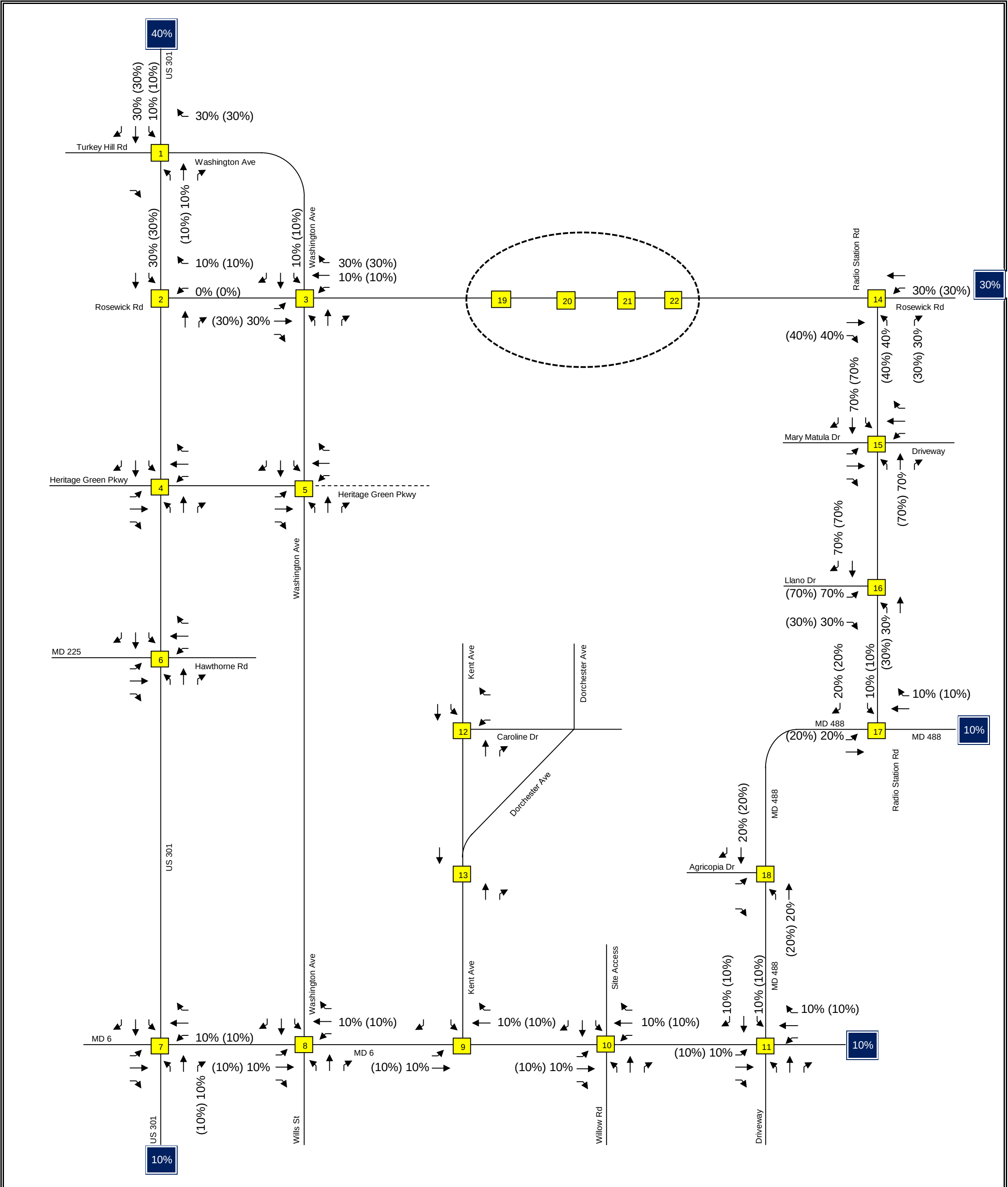


Traffic Impact Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Full Build Out Trip Assignment Neighborhoods I, J, K Key: xx = AM Peak Percentages (xx) = PM Peak Percentages	Exhibit G4
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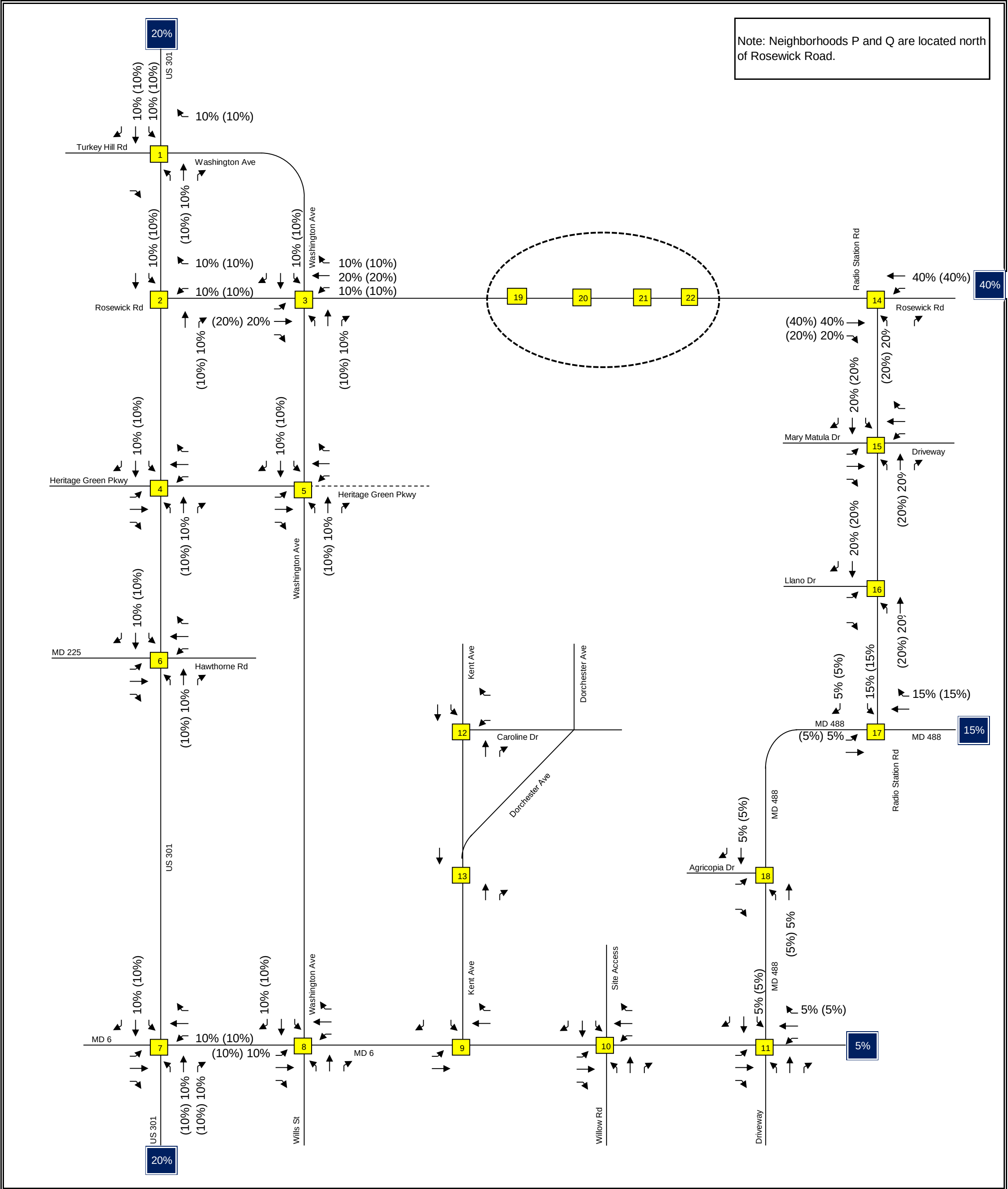


Traffic Impact Analysis	Full Build Out Trip Assignment Neighborhood M	Exhibit G5
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

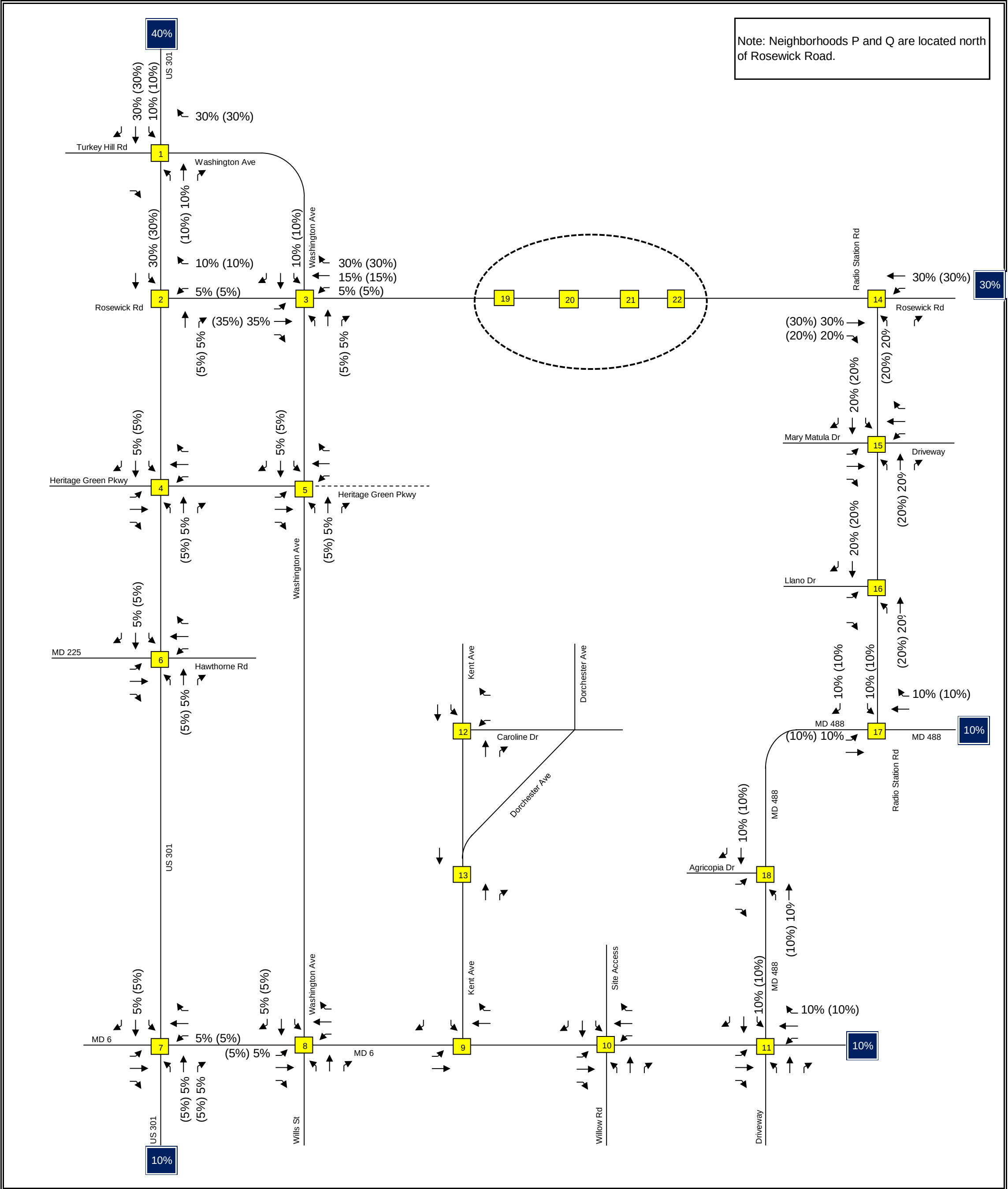
Key: xx = AM Peak Percentages (xx) = PM Peak Percentages



Traffic Impact Analysis  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	Full Build Out Trip Assignment Neighborhood N Key: xx = AM Peak Percentages (xx) = PM Peak Percentages	Exhibit G6
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Traffic Impact Analysis	Full Build Out Trip Assignment Neighborhoods P and Q - Commercial	Exhibit G8-a
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		Key: xx = AM Peak Percentages (xx) = PM Peak Percentages



Traffic Impact Analysis	Full Build Out Trip Assignment Neighborhoods P and Q - Residential	Exhibit G8-b
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		Key: xx = AM Peak Percentages (xx) = PM Peak Percentages

Appendix H

Queuing Analysis: Radio Station Road & Rosewick Road

Intersection: 14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	162	160	167	199	132	110	170	127
Average Queue (ft)	86	94	69	108	62	49	68	55
95th Queue (ft)	136	145	125	170	102	94	131	103
Link Distance (ft)	3143	3143			1642	1642		1062
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			375	400			198	
Storage Blk Time (%)							0	
Queuing Penalty (veh)							0	

Intersection: 14: Radio Station Rd & Rosewick Road/St. Charles Parkway

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	T	T	L	R
Maximum Queue (ft)	190	203	197	355	218	239	216	256
Average Queue (ft)	99	104	90	199	59	59	129	81
95th Queue (ft)	160	170	166	333	174	173	213	187
Link Distance (ft)	3143	3143			1642	1642		1062
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			375	400			198	
Storage Blk Time (%)				1	0		4	0
Queuing Penalty (veh)				2	0		11	0

COUNCIL OF THE TOWN OF LA PLATA
Resolution 21-08

Introduced By:Mayor Jeannine James

Date Introduced:April 19, 2021

Date Adopted:April 19, 2021

Date Effective:April 19, 2021

A RESOLUTION concerning

HERITAGE GREEN – REVISED MASTER SITE DEVELOPMENT PLAN

FOR the purpose of approving a revised Master Site Development Plan for Heritage Green.

* * * * *

EXPLANATORY STATEMENT: DR Horton, Inc., the owner of the project known as Heritage Green, consisting of approximately 1,021 acres, more or less, submitted an application for approval of a revised Master Site Development Plan (“MSDP”) for the project. The MSDP for which approval is sought consists of two documents: (i) a MSDP Narrative dated December 11, 2020, a copy of which is attached to this Resolution as Exhibit 1, and (ii) a MSDP Plan Set dated December 11, 2020, a copy of which is attached to this Resolution as Exhibit 2. Exhibits 1 and 2 comprise the MSDP.

Before the Town Council may approve the application the Council must make certain findings required by Sections 191-11.J.4 and 191-33.E.3. of the Code of the Town of La Plata. Town Planning Staff submitted to the Town Council a Staff Report (Memorandum) dated February 2, 2021, as updated. The Staff Report thoroughly analyzed the revised MSDP application, supporting documentation, and the required findings. The Town Council relies upon the Staff Report as a foundation for this Resolution and incorporates the Report by reference.

This Resolution consists of the following: Heritage Green Historical Background and Description of Current MSDP, Description and Summary of Proposed Revised MSDP, and Required Findings.

Heritage Green Historical Background and Description of Current MSDP

The Davis annexation Resolution No. 89-11 (Heritage Green) was adopted on March 20, 1990 and became effective on May 4, 1990. The Planning Commission approved the Master Site Development Plan within the Mixed-Use Zoning District (MUD-3) on September 4, 1990. The

key features of the MSDP as initially approved are as follows:

The property was approved as a mixed-use development to include approximately 1,600 single family detached dwellings, 850 townhomes, 350 condominium units, 300 apartments, 53 acres of commercial use, 150 acres of industrial use and 300 acres of open space. The maximum number of residential units was set at 3,170 units. The master site development plan proposed an eighteen-hole golf course, two recreation centers, an elementary school with softball and soccer fields, a site for a water tower, wells, a satellite public works facility and a new fire station.

The “northern bypass” was shown as a four lane, sixty-eight foot right-of-way with curb, gutter and sidewalks. Connections to the bypass were shown at Caroline Drive and to Heritage Green Parkway across the CSX Railroad right-of-way.

The Annexation Agreement has been amended three times since it was first adopted, as follows:

1. The first Annexation Agreement amendment (Resolution 97-2) was adopted on March 17, 1998, to amend the following:
 - a. Northern Bypass
 - b. Recreation Package
 - c. Landscaping and sign package
 - d. Homeowner’s Association Establishment
 - e. School Site
2. The second Annexation Agreement amendment (Resolution 12-5) was adopted on December 18, 2012, to amend the following:
 - a. Recreation Package, to remove the golf course
 - b. Hiker/Biker Trail
 - c. Parks and Gardens
 - d. Building Site for Town Recreation Center
3. The third Annexation Agreement amendment (Resolution 17-13) was adopted on February 26, 2018 for that portion of the tract lying between Washington Avenue and the Conrail Right-of-Way so that:
 - a. A Senior Housing restriction was removed and the property may be developed, used and or enjoyed for uses permitted by the MUD Zone.
 - b. The Town may issue subdivision approvals and building permits for the property without regard to the status of the development and development related milestones set forth in the Annexation Agreement including but not limited to:
 - i. any requirements related to the “northern bypass”;
 - ii. any requirements related to recreational facilities within the Heritage Green project;
 - iii. any requirements related to the formation and/or operation of one or more homeowners associations;
 - iv. any requirements related to landscaping and/or signage;
 - v. any requirements related to the establishment of covenants, conditions and restrictions;

- 77 vi. any requirements related to recreation and park facilities; and
- 78 vii. any other items set forth in the Annexation Agreement which would
- 79 restrict the Property under the Senior Housing Restriction prior to the
- 80 performance or accomplishment of the applicable requirement.
- 81 c. The property may be developed and used for a mix of residential and commercial
- 82 uses as permitted by the MUD zoning and as approved by the Town Planning
- 83 Commission.

84

85 The MSDP was amended once and approved on May 9, 2005, to account for environmental

86 features on the site, the proposed alignment of the Heritage Green Parkway and to accommodate

87 a change in market trends at the time. Amendments to the MSDP were not completed for the

88 second and third Annexation Agreement amendments.

89

90 The Development Rights and Responsibilities Agreement (DRRA) regarding school seat

91 allocations became effective on May 8, 2008.

92

93 The property was re-zoned to the Traditional Development Mixed Use Zone (TDX) on August

94 15, 2018. Because of the minimal activity on the project for nearly 30 years all aspects of the

95 project lost the right to Mixed Use District grandfathering provisions except the Sewer Trunk

96 Line engineering plans, the Route 6 Intersection engineering plans and the first phase of the La

97 Plata Parkway engineering plans.

98

99 In August, 2020, property ownership was transferred to D.R. Horton Inc. and the development

100 has proceeded forward with the proposed amended MSDP.

101 Description and Summary of Proposed Revised MSDP

102

103

104 Under the proposed revised MSDP the Heritage Green development will continue to be

105 developed as a mixed-use community that will create up to 3,170 dwelling units in the Town in

106 accordance with the current Annexation Agreement. The applicant will be providing a range of

107 units to allow the flexibility to adjust the plan at final design while achieving the density

108 envisioned. The project proposes single family detached, townhouses, multi-family, and

109 duplexes, along with commercial, retail, office and industrial uses as shown on the revised

110 MSDP. The La Plata Parkway is a defining feature of the development which will connect

111 Charles Street (Route 6), Rosewick Road, Washington Avenue. The applicant is also proposing

112 inter-parcel connections to Pollen Drive (Agricopia Subdivision), County School property on the

113 western border and potentially Dorchester Avenue. Per the Annexation Agreement, Caroline

114 Drive is to connect to La Plata Parkway; although there may be an alternative connection that

115 would not impact the residential community along Caroline Drive. As part of this revised MSDP

116 the applicant is proposing an alternate option to connect Dorchester Street past the water tower

117 north and east to La Plata Parkway. The Heritage Green Team is currently evaluating this

118 alternate connection. There are specific right-of-way's and pavement dimensions, along with

119 various other details in the Annexation Agreement that will need to be updated. The Annexation

Agreement may need to be reconciled with the revised MSDP as needed.

The development has a proposed twenty (20) acre school site as required by the Annexation Agreement. The applicant has provided two alternative sites for the Charles County School Board to select from. The goal is to provide an inter-parcel connection from the parkway through the existing school site that connects to Radio Station Road.

The applicant has proposed a phasing schedule, which may be adjusted as the development progresses. In Phase 1 the applicant is proposing to install the parkway system beginning at Charles Street and the trunk sewer line that will begin at the existing Willow Lane pump station and follow the eastern property boundary to Rosewick Road. Neighborhoods A, B, C, K (previously Phase 1A), O and P will also be developed in the first phase. In Phase 2 neighborhoods Q, D, E, F, G, H, I, J, L, M, and N will conclude the development.

The project is also proposing an interconnected series of greenways, trails, ponds and recreation amenities in accordance with the 2012 second Annexation Agreement amendment. The focal point of the development will be a 110 acre central park with tot lots, multi-purpose athletic courts, open play fields for field games; outdoor picnic areas, picnic pavilions, trails and hiking paths; community garden areas with individual garden plots; an outdoor amphitheater, maintained meadows, restored and maintained ponds, 1 large reflecting pond and three urban fountains and other amenities. Other environmental and recreational features include restored wetland habitats, stream restoration and enhancement of natural meadows, an expanded Trail System, a building site for a Town Recreation Center, and individual neighborhood Parks.

The significant differences between the current MSDP and the proposed revised MSDP are as follows:

1. The alignment and design of La Plata Parkway have been significantly changed from the approved 2005 MSDP. The current Parkway was deemed a "bypass" in 2005 and would have been a four-lane right-of-way with industrial lighting fixtures down the center median. The proposed Parkway will be a two-lane right-of-way with street lights on either side of the road with appropriate turn lanes at intersections, roundabouts, and meandering lanes for scenic interest.
2. The MSDP approved in 2005 was exempt from Forest Conservation regulations since the original annexation was approved in 1990, three years before the Town adopted the Forest Conservation Ordinance. The proposed revisions include the provisions for preserving over 100 acres of existing forest cover.
3. The school site required by the Annexation Agreement has been relocated on the site from the western side of the property to the eastern side of the property adjacent to the existing Board of Education property located off Radio Station Road.
4. The proposed commercial development for Heritage Green has been moved to one location on the site north of Rosewick Road. The approved 2005 MSDP contains a few areas of commercial development mixed into the residential portion with the majority of

the commercial uses concentrated north of Rosewick Road.

Required Findings

In accordance with Sections 191-11.J.4. and 191-33.E.3. of the Town Code, the Mayor and Council make the following findings:

Section 191-11.J.4. requires that in addition to such other information and documentation as reasonably may be required by the town as part of the application, the applicant shall include the following information with each MSDP application:

A. A narrative describing the existing conditions on the site and within five hundred feet (500') of all boundaries of the site. This Narrative should be accompanied by documenting photographs and a site plan drawn at a scale not less than one inch (1") equals one Hundred feet (100'). Existing structures, impervious areas, public streets, alleys, sidewalks, walkways, utilities, topography, Natural features and vegetation should be depicted on the site Plan;

Finding: The narrative and required documentation has been submitted in compliance with this requirement.

B. The MSDP narrative must describe all proposed land uses and proposed infill and redevelopment, and the plan shall depict the size (area), location, and density (if applicable) of each proposed use and other features of the proposed development required by this section. The type of housing stock and density proposed for each portion of the property proposed for residential use must also be identified in the narrative and depicted on the plan;

Finding: The narrative describes the proposed land uses and the plan depicts the size, location and density of each proposed use including the type of housing stock in compliance with this section.

C. The MSDP must demonstrate the compatible relationship of the proposed development within the context of the surrounding neighborhood. To address this burden of proof of compatibility, a proposal for MSDP approval must:

(1) exhibit exemplary site planning, architectural design and high quality materials that are harmonious with the surrounding area;

Finding: The MSDP exhibits exemplary site planning, architectural design commitment and will be harmonious with the surrounding area.

(2) create opportunities for pedestrian connections, interaction and circulation

between the properties where appropriate; and

Finding: The MSDP creates opportunities for pedestrian connections in compliance with this requirement.

(3) optimize the privacy of residents and adjoining land uses Through the appropriate usage of buffer yards, screening, building orientation, and window and entry placement.

Finding: The MSDP optimizes privacy of residents and adjoining land uses by providing appropriate forest retention and building orientation.

D. The project narrative shall include a report that summarizes the Project concept and provides the following information:

(1) names and addresses of principal parties (record owner, Development consultants, contact person);

Finding: The names and addresses of principal parties have been provided.

(2) description of the proposed development, including the project name, uses, activities and anticipated project phasing plan stating a tentative time table and staging of development and improvements;

Finding: The proposed description of the development, project name, uses, activities and anticipated phasing schedule have been provided.

(3) description of existing zoning and subdivision platting on the Subject property, and justification of the proposed rezoning;

Finding: The description of the existing zoning has been provided. The applicant is not proposing to re-zone the property as part of this amendment.

(4) gross project area, in acres;

Finding: The gross project area in acres has been provided.

(5) existing and proposed open green space acreage;

Finding: The existing and proposed open space in acres has been provided.

(6) gross land acreage for each proposed land use or category (commercial, residential, light industrial) as applicable; include density and number or

percentage of housing units, by type of housing stock, for each residential site within the project, and approximate floor-to-area ratios for each non-residential site;

Finding: The gross land acreage for each proposed land use including the density, number, percentage of housing units by type and the approximate floor-to-area ratio for each non-residential site has been provided.

(7) statement of commitment to comply with the applicable town of La Plata community design as the standard for site development, Including buildings, streetscapes, signage and landscaping;

Finding: The applicant has provided a statement of commitment to comply with the applicable Town of La Plata community design as depicted in Section 191-33.E.3 (A-E).

(8) anticipated schedule for approvals, design, and construction, including any off-site infrastructure improvement work that must be completed to enable the project to be completed;

Finding: The applicant has provided the anticipated schedule for approvals as defined by the existing Annexation Agreement.

(9) anticipated or requested public sector funding and/or Infrastructure improvements that must be completed to enable the project to be completed a preliminary traffic impact study and plan defining the anticipated traffic demand for the site based on the amount and mix of development, demonstrating Adequacy of the site access points and adjoining intersections and defining links between key traffic improvements to site access and development phasing if necessary. The study shall include preliminary comments from the State Highway Administration to the extent that the administration is willing to provide such comments;

Finding: The applicant has provided information regarding the infrastructure improvements that must be completed, and has included a traffic study in compliance with this requirement.

(10) a preliminary market study demonstrating the viability of the development concept and estimating the general rate of absorption of the proposed development program land uses within the stated development time frames. The study should take into consideration assumptions about market changes over the course of the development projected build-out time frame. These assumptions may include estimates of new development and population growth in the surrounding market area in conjunction with the timing of development phases on

this site. With approval of the town, the applicant may rely upon existing studies to satisfy all or part of the requirements of this paragraph; and

Finding: The applicant has produced a preliminary market study demonstrating the viability of the development in compliance with this requirement.

(11) a cost-revenue ratio analysis of the proposed development plan development program demonstrating the anticipated direct and indirect economic benefits and impacts to the town.

Finding: The applicant has produced a cost-revenue ratio analysis of the proposed development demonstrating direct and indirect economic benefits and impacts to the Town.

E. A MSDP for a development with the Traditional Neighborhood Development mixed use zone (TDX) must demonstrate superior land design in accordance with Section §191-33.E.3 and a proposed Resolution shall be prepared that governs the overall development of the site.

Finding: The MSDP has demonstrated superior land design in accordance with Section 191-33.E.3 as depicted below.

Section 191-33.E.3. requires the town council to find as part of the council's resolution approving the Master Site Development Plan that the applicant meets all of the following goals (A-E) below, which are meant to be flexible, recognizing the wide range of commercial and residential needs in the community and the creativity of the market. The applicant may also propose other design criteria that provide superior land design, which the town council, in its discretion, may approve, deny or modify.

A. Site design

(1) publicly accessible open spaces and plazas are key focal points and organizing features within the site.

Finding: The applicant is providing open spaces, trails, greenways and amenities for the community in compliance with this design criteria.

(2) active retail and commercial uses improve the pedestrian experience along the street level of all buildings, including parking structures.

Finding: The applicant is proposing commercial uses within parcels P and Q north of Rosewick Road. The applicant will provide active retail and commercial uses to improve the pedestrian experience at the street level.

(3) sustainable site design achieves a balance between development priorities and environmental best practices, enhancing the desirability of the site.

Finding: The applicant has shown many sustainable site design features that will protect the environmental features on the site as much as possible. The parkway has been redesigned to provide the least amount of stream crossings as possible and greenways are being provided. Each parcel will be evaluated using the most recent stormwater management regulations and must receive approval from the Soil Conservation District and the Maryland Department of the Environment where necessary.

(4) all commercial parking shall be located in the rear or along the side of a building. If parking is proposed along the front of a commercial property, the applicant shall propose additional landscaping, which the town council, in its discretion, may approve, deny or modify.

Finding: The applicant has stated that all parking will be located in the rear or along the side of the building, unless otherwise approved by the Town.

(5) pedestrian access shall be provided from the street and along all street frontages.

Finding: As noted on the plans, all streets will have sidewalks and a shared use trail is proposed along La Plata Parkway.

B. Architectural design

(1) all visible sides of a building are given equal design consideration. All building sides are designed purposefully.

(2) along high visibility areas, buildings are pushed close to the street and incorporate a variety of ground story activation elements (e.g., windows, awnings, outdoor patios), to create a pedestrian-friendly environment.

(3) buildings should express the uses inside to the viewer outside to be more integrated into the streetscape.

(4) buildings should fit within their context in terms of mass and scale to enhance the character of a block or street

(5) buildings should be designed for low energy and water use, human comfort and sustainable best practices.

(6) buildings should be constructed with durable, sustainable and low-maintenance materials to withstand the test of time.

(7) building design should reflect creativity and unique expression.

(8) buildings may utilize flexibility in meeting “build to” standards through allowed alternatives, such as garden or service screening walls, provided the alternative achieves the same pedestrian-friendly intent and employs the same

quality materials required of the primary building.

(9) buildings should include human-scaled architectural elements through changes in plane, material, texture and detail, and through the interplay of light and shadow.

Finding: The applicant has stated that the variety, design and style of housing will vary. DR Horton will be marketing with four different builders depending on the type of housing proposed. The applicant has amended its submission to indicate that they will meet all of the architectural design criteria in accordance with these requirements.

C. Streetscape

(1) streets should be landscaped with an aligned planting of deciduous trees to create a tree canopy at maturity and a cohesive, unified character for the site.

(2) a monoculture of all the same tree species should be avoided.

(3) street furniture, such as benches, should be placed in public open spaces and plazas that have heavy pedestrian use.

(4) site furniture using high quality materials should be used throughout the site in all public areas.

(5) adequate quantities of street furniture should be used in all public areas, including benches, bicycle racks, and trash receptacles.

Finding: Street trees and are required under the Town Code and will be evaluated for compliance during each major site plan review. The applicant has indicated that various forms of street furniture and amenities will be provided throughout the community, parks and open spaces.

D. Pedestrian access, safety and comfort

(1) the site should be designed to create a pedestrian-friendly street environment and encourage visitors to walk between multiple destinations within the site.

(2) uninterrupted sidewalks should be installed along active building edges to enhance the pedestrian experience.

(3) sidewalks should be a minimum of six (6) feet wide.

Finding: The applicant is providing pedestrian friendly amenities including sidewalks and trails in compliance with this requirement.

E. Crime prevention and security

(1) all buildings should provide adequate lighting at a pedestrian or human scale;

(2) clear lines of sight should be retained into and out of entries and open spaces;

(3) landscaping should not inhibit line of sight for pedestrians or vehicles;

Resolution 21-08

11

Finding: The applicant will provide all necessary crime prevention and security elements on the site in compliance with these requirements, including adequate lighting, clear lines of site and appropriate landscaping that will not hinder the site distance for pedestrians or vehicles.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE TOWN OF LA PLATA that the revised Master Site Development Plan for Heritage Green, as set forth in Exhibits 1 and 2 is hereby approved, subject to the following conditions:

1. The Heritage Green project shall be designed and developed in accordance with the approved Master Site Development Plan, and future detailed project designs and development also shall comply with specific requirements of 191-33.E.3. of the La Plata Town Code as amended from time to time.

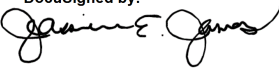
ADOPTED AND APPROVED by the Council of the Town of La Plata on April 19, 2021.

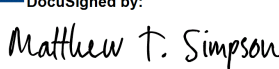
Resolution 21-08

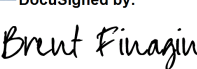
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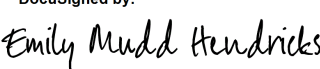
COUNCIL OF THE TOWN OF LA PLATA

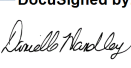
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Jeannine E. James, Mayor

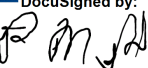
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Matthew T. Simpson, Councilman

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Brent Finagin, Councilman

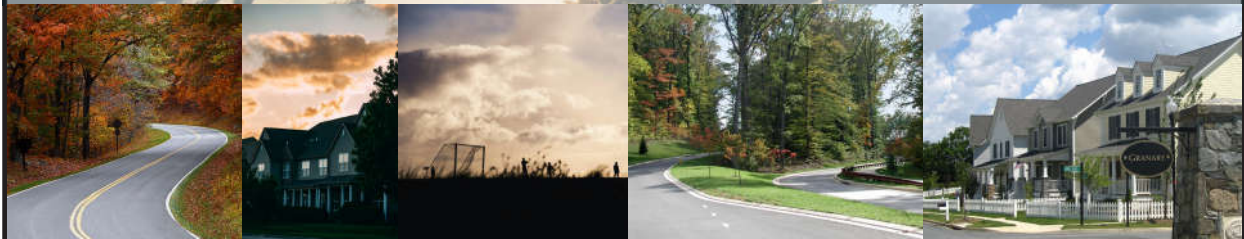
Attest:

DocuSigned by:

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Emily Mudd Hendricks, Councilwoman

DocuSigned by:

083195F1B6D34A7...
Danielle Mandley, CMC
Town Clerk

DocuSigned by:

432617AB423A421...
Paddy Mudd, Councilwoman

Date: April 19, 2021



HERITAGE GREEN

Master Site Development Plan



OWNER/DEVELOPER

D·R·HORTON
America's Builder

181 HARRY S TRUMAN PKWY, SUITE 250
ANNAPOLIS, MD 21401
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PLANNER / ENGINEER

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NARRATIVE

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

The following is a brief history of the Heritage Green property with the Master Site Development Plan (MSDP) Amendment narrative to follow. Specific documents are included in the Appendix.

HISTORY

YEAR	ACTION
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One of the big ideas to update the vision for Heritage Green is to create a true Parkway system that compliments the greenway/park system; interconnects the neighborhoods within the Community and connects with the Town street network. This is not a 4 lane bypass highway, but a 2 lane pedestrian scaled parkway with trails and sidewalks linked to the neighborhoods and greenways. Heritage Green Parkway running east/west will connect to La Plata Parkway connecting Charles Street to the south to Rosewick Road to the north. Ideally this also connects to the County school campus at the property's western border. This is primarily a 2 lane road with appropriate turn lanes at intersections; roundabouts; and meandering lanes for scenic interest.

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A key design factor of the parkways will be to incorporate signature tree/forest save areas that will establish the character of the Community by focusing on and saving forest that complements the Greenway system linking the neighborhoods together. The Parkway will be landscaped, including street trees and appropriate street lights.

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The community is a series of residential neighborhoods interconnected by greenways and parkways. The individual land bays are labeled A thru Q. The range of numbers total more than the 3,170 units permitted as the ranges will be adjusted as each neighborhood is finalized and approved by the Town of La Plata. The total will be tracked and will not exceed 3,170 units. In addition to the residential units the mix of civic, retail, office, industrial, and mixed use commercial is noted on the MSDP.

2. DESIGN PRINCIPLES

- A. The series of neighborhoods is organized by the parameters of a 5 and, or 10 minute walk.
- B. The plan will meet or exceed the TDX zone standards and requirements. A series of modifications, waivers and/or text amendments may be needed as the plan is finally planned and engineered to accomplish the vision for the Community. This may include road code adjustments, traffic calming techniques, private streets, parking courts, cul de sacs, or zoning standards. Any design modifications will be coordinated with the Town as the plan designs progress.
- C. The intent is to have more single family residential units and to incorporate front garage units with backyards in addition to neo-traditional rear garage units. The commercial uses have been moved north of Rosewick Road in neighborhoods P and Q.

3. SCHOOL SITE

- A. A 20 acres school site is included per the annexation agreement. Two alternate sites are shown on the MSDP. The location is moved to be adjacent to the existing school campus east of the property. The goal is to interconnect the site via a road and, or trails subject to coordination with the Charles County School Board. One site will be selected with the other site to be residential.

4. TDX ZONE

Traditional development mixed use zone (TDX). The TDX zone in coordination with the annexation agreement will need to be updated, amended, modified or waived periodically to accomplish the goals of the Master Site Development Plan. Any waivers or modifications to the Zone will be identified and coordinated with the Town as final designs move forward for approval.

Purpose and intent

The purpose of these regulations is to allow the optional development and redevelopment of land consistent with the design principles of traditional neighborhood design. Further, the Town Council recognizes that due to the location, size and timing of any particular development there are inherent design and market characteristics that require alternative regulatory standards. The TDX zone will be implemented in a manner that recognizes this alternative and accommodating approach to land design and development, in an effort to provide a range of residential and non-residential opportunities for the town. A traditional development mixed use zone:

- a. Is compact;
- b. Is designed for the human scale;
- c. Provides a mix of uses, including residential, commercial, civic, and open space uses in close proximity to one another within the neighborhood;
- d. Provides a mix of housing styles, types, and sizes to accommodate households of all ages, sizes, and incomes;
- e. Retains existing buildings with historical features or architectural features that enhance the visual character of the community;
- f. Incorporates significant environmental features into the design;
- g. Encourages enhanced development techniques including; superior open space, parkland, land planning and architecture.
- h. Provides a more flexible approach to the development of land in terms of land use, density and design on large tracts of land.
- i. Develops commercial and mixed-use areas that are safe, comfortable and attractive to pedestrians;
- j. Provides flexibility in the siting and design of new developments and redevelopment to anticipate changes in the marketplace;
- k. Provide both roadway and pedestrian connections;
- l. Provide transitions between high traffic streets and neighborhoods;
- m. Encourage efficient land use by facilitating compact, high density development and minimizing the amount of land that is needed for Surface parking;
- n. Facilitate development (land use mix, density and design) that supports public transit, where applicable; and
- o. Is consistent with the town's comprehensive plan, and TDX design guidelines.

NARRATIVE

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

6. WALKABILITY

- A. All neighborhoods are to have sidewalks, bikeways and trails interconnected to the greenway park system and to the parkways. As noted in the annexation agreements a trail system will link the property together. The goal is to have sidewalks adjacent to all neighborhood streets, including street trees. Exceptions to the rule may eliminate walks due to environmental constraints, site conditions or instances where walks or trails are not needed; to be determined at final design in coordination with Town approvals.

7. PHASING

- A. DR Horton purchased the property in 2020. The intent is to start multiple parts along the north and southern portions of the property. The phasing noted below is a general outline of how the project will proceed. It is subject to change and may be adjusted as the development moves forward. The Town will be updated regarding the status of the phasing as each neighborhood comes forward for final planning and engineering approvals.
- B. Phase 1
 - Neighborhoods A, B, C, K, O, P, Parkway system, Trunk sewer and supporting infrastructure
- C. Phase 2
 - Neighborhoods, Q, D, E, F, G, H, I, J, L M, N

GREENWAYS; PARK SYSTEM

An interconnected series of neighborhoods and a park system of greenways is to be dedicated to the Town, and/or established as a private system, including six identified elements. All program elements, if approved by the Town Planning Commission, Petitioner may substitute comparable types and quantities of sub-elements in lieu of those described in each element.

The following is a summary of the 2012 second annexation agreement. Refer to the agreement for all specific details.

ELEMENT 1

Central Park, including but not limited to approximately 110 acres with the following sub elements: 4 tot lots, 6 multi-purpose athletic courts, open play fields for field games; 4 outdoor picnic area, 2 picnic pavilions, trails and hiking paths (exclusive of sidewalks); community garden areas with individual garden plots; an outdoor amphitheater, maintained meadows, 3 restored and maintained ponds, 1 large reflecting pond and three urban fountains and other amenities.

ELEMENT 2

Eco Park Within Clark Run, including approximately 100 acres with the following sub elements; 2.25 miles of soft surface trails and paths (exclusive of sidewalks) to be finished with native gravel, wood mulch, and or wood chips or equivalent, with footbridges, interpretive signs and exercise stations; 4 outdoor picnic areas and restored pond combined to meet SWM needs and to serve as a community amenity, restored wetland habitats, stream restoration and enhancement of natural meadows.

ELEMENT 3

Expanded Trail System, Including an expanded trail system through the property, a Clark Run trail and connecting network to neighborhoods, recreation elements. All off street trails to be improved with asphalt or similar improved surface sufficient and appropriate for walking, jogging, bicycling, and similar activities except as noted in Element 2.

ELEMENT 4

Building Site for a Town Recreation Center, "Building Site", not more than 3 acres for a community recreation center to be built by the Town of La Plata. To be located within the Central Park of within 1,800 feet from the perimeter of the school site. The specific site design criteria is in the agreement

ELEMENT 5

Amenity Ponds, Amenity ponds conceptually depicted in the agreement shall consist of ponds that serve as an attractive Heritage Green community or public amenity, or as an attractive dual purpose public amenity and SWM facility. Improvements and access and recreation design to be considered to for the public use and enjoyment.

ELEMENT 6

Neighborhood Parks Minimum Acreage and Phasing; Neighborhood Parks must be developed at a minimum acreage of, one acre per one hundred dwelling units and shall be situated to provide a clustering of activities in a particular area.

MASTER SITE DEVELOPMENT PLAN - NOTES

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

HERITAGE GREEN
Master Site Development Plan Tabulation

Parcel Letter	Land Use	Gross Acreage (±)	Density # du/ac		# Residential Unit Allowed (gross acreage*max density)	Net Acreage (20% removed for roads)	Proposed Density			
			Min.	Max.			*du/ac	units	Commercial	Industrial
A	Attached Dwelling	26	6.5	15	390	21	10-13	226-325		
B	Detached Dwelling	27	6.5	15	405	21	5-8	115-208		
C	Detached Dwelling	88	6.5	15	1320	70	3-4	264-352		
D	Attached Dwelling	18	6.5	15	270	14	8-12	144-216		
E	Detached Dwelling	68	6.5	15	1020	48	3-4	180-245		
F	Detached Dwelling	25	6.5	15	375	18	3-5	66-110		
G	Detached Dwelling	47	6.5	15	705	35	4-5	176-220		
H	Attached Dwelling	23	6.5	15	345	14	8-10	144-180		
I	Detached Dwelling	50	6.5	15	750	40	3-4	150-200		
J	Attached Dwelling	18	6.5	15	270	14	8-10	144-180		
K	Detached Dwelling	58	6.5	15	870	48	3-4	180-240		
L	Attached Dwelling	10	6.5	15	150	8	10-13	100-130		
M	Alternate A Public Use (Education Facility) or Attached Dwelling	20	6.5	15	300	16	6-8	120-160		
N	Alternate B Public Use (Education Facility) or Detached Dwelling	19	6.5	15	285	15	3-4	57-76		
O	Detached Dwelling	19	6.5	15	285	15	3-4	54-72		
P	Multifamily Dwelling/Commercial Core	22	6.5	15	330	18		240-340 (288)		Mini-Warehouse 225,000 sf
Q	Mixed Use/Commercial Core	82	6.5	15	1230	66		400-600 (576)	644,365 sf Shopping Ctr 644,365 sf Office	
	Parkway ROW	95								
	"Central" Park ±153 ac Eco Park at Clark Run ±153 ac (295 ac min)	306								
	Subtotal				3170 units			2,520-3,240	1,288,730 sf	225,000 sf
	Total	1021								

*7. Per the Zoning Code, the development must provide a minimum density of 6.5 dwelling units per net acre for the overall development. Individual Landbay density may vary.

NOTES:

1. Unit types may be reorganized subject to total development yield and mix to be maintained per the Master Site Development Plan Tabulation.

2. Existing land use of the Property is farming with existing homesteads.

3. This Master Site Development Plan depicts the generalized nature of the development. Future refinements and revisions may occur at time of preliminary subdivision/ final site plan, subject to review and approval by the Town of La Plata. Unit types may be reorganized subject to total development yield and mix to be maintained per project summary table described below and reflected in the Master Site Development Plan Tabulation.

4. School site locations shown are preliminary and this Master Site Development Plan illustrates two options for the Town of La Plata, on Landbays M and N. Final locations, entrances, and layout will be determined at Preliminary/Site Plan. The unselected Landbay shall be proposed as residential.

General Notes

- This Plan is comprised of Parcels 43, 163, and 440, east side of CSX Railway, Town of La Plata as shown on Charles County Tax Map Grid 33.
- Boundary information shown hereon is based on a boundary survey conducted by Rodgers Consulting, Inc., in December 2020. Coordinates and distances shown hereon are at the surface based on Maryland Coordinate System [NAD 83(2011), SPCS Zone 1900(MD), U.S. Survey Feet], based on static GPS observations post-processed by the National Geodetic Survey's Online Positioning User Service (OPUS). Measure points include RCI Control Points 9500 and 9501. The average combined (map scale x elevation) factor for the site is 0.99996234. (9500: N 314713.020, E 1318272.646; 9501: N 321206.100, E 1324596.386). Topography shown hereon was taken from LIDAR and photogrammetric mapping dated July 14, 2020, as compiled by McKenzie Snyder, Inc. Contours are shown at 2 foot contour intervals and vertical datum is NAVD88, based on static GPS and conventional survey measurements to National Geodetic Survey bench marks PID HV0858 (X 123) and PID HV0857 (Y 123). (X 123: NAVD88 Ortho Height 181.39; Y 123: NAVD88 Ortho Height 185.05).
- The topographic information shown hereon is from Rodgers Consulting, Inc. and is shown at a 2 foot contour interval (December 2020).
- Gross property is approximately 1021 ac. per Boundary Plat by Rodgers Consulting, Inc. (December 2020).
- Property is zoned TDX (Traditional Development Mixed-Use District).
- Floodplain information for this plan is shown on FEMA Firm Panel #24017C0186C and #24017C0187C. There are ±43.99 acres of Zone AE 100 year floodplain on the Property.
- Natural Resource Inventory/Forest Stand Delineation associated with this Master Plan application: FSD-000382-2019, approved May 7, 2019.
- Per the Zoning Code, the development must provide a minimum density of 6.5 dwelling units per net acre for the overall development. Individual Landbay density may vary.
- DR Horton purchased the property in 2020. The intent is to start multiple parts along the north and southern portions of the property. The Phasing noted below is a general outline of how the project will proceed. It is subject to change and may be adjusted as the development moves forward. The Town will be updated regarding the status of the Phasing as each neighborhood comes forward for final planning and engineering approvals.
 - Phase 1
 - Neighborhoods A, B, C, K, O, P, Parkway system, Trunk sewer and supporting infrastructure
 - Phase 2
 - Neighborhoods, Q, D, E, F, G, H, I, J, L, M, N
- The net Landbay areas by use in the Master Site Development Plan Tabulation are approximate and intended to be transferable between Landbays, subject to balance being maintained.
- Unit types may be reorganized subject to total development yield and mix to be maintained per the Master Site Development Plan Tabulation.
- There are no historic sites on property.
- This Master Site Development Plan depicts the generalized nature of the development. Future refinements and revisions may occur at time of preliminary subdivision/ final site plan, subject to review and approval by the Town of La Plata. Unit types may be reorganized subject to total development yield and mix to be maintained per project summary table described below and reflected in the Master Site Development Plan Tabulation. Asterisk symbols are graphic representations and denote possible locations.
- The Property is subject to the conditions of the second and third amendments of the Annexation Agreement (Resolution No. 12-5), effective February 2, 2013, (Resolution No. 17-13), effective April 12, 2018, respectively.
- School site locations shown are preliminary and this Master Site Development Plan illustrates two options for the Town of La Plata, on Landbays M and N. Final locations, entrances, and layout will be determined at preliminary/site plan. The unselected Landbay shall be proposed as residential.
- If approved by the Town Planning Commission, Petitioner may substitute comparable types and quantities of sub-elements in lieu of Elements 1-6 described within the second amendment of the Annexation Agreement (Resolution No. 12-5).
- Intersection spacing, preliminary street design and alignments and geometry are schematic and may change at preliminary/site plan stage.
- Final street sections and dimensions to be determined at preliminary/site plan stage.
- Per the second amendment to the Annexation Agreement 2012, a ±3 acre "building site" for a Town recreation center, to be built by the Town of La Plata. The final location for the "building site" will be determined at preliminary/site development plan stage, either in the central green or within 1,800 ft from the perimeter of a school site as determined.

TOWN OF LA PLATA MARYLAND

Scenic La Plata Parkway with Tree Save Areas

Lots fronting on common driveways, courtyards

Walking and Nature Trails

Active Recreation

Neighborhood identity

Walking Trails/Nature Trails

Firepit and Grilling Areas

Scenic Lakes and Fishing Pier

Playgrounds and Dog Park

Clubhouses and Pools

Forest Reserves and Overlooks

Gardens and Natural Areas

Active Recreation and Reserve

Minimum Speed Design Roads

Gardens /Overlook Areas

Housing Variety

Environmental Site Design Areas

Community Places

HERITAGE GREEN

Master Site Development Plan
Amenity Structure Plan

D.H. HORTON American Developer

RODGERS CONSULTING

LEGEND

Major Roadway
Minor Roadway
Bicycle Lane
Walking Trail
Natural Area
Water Body
Tree Save Area

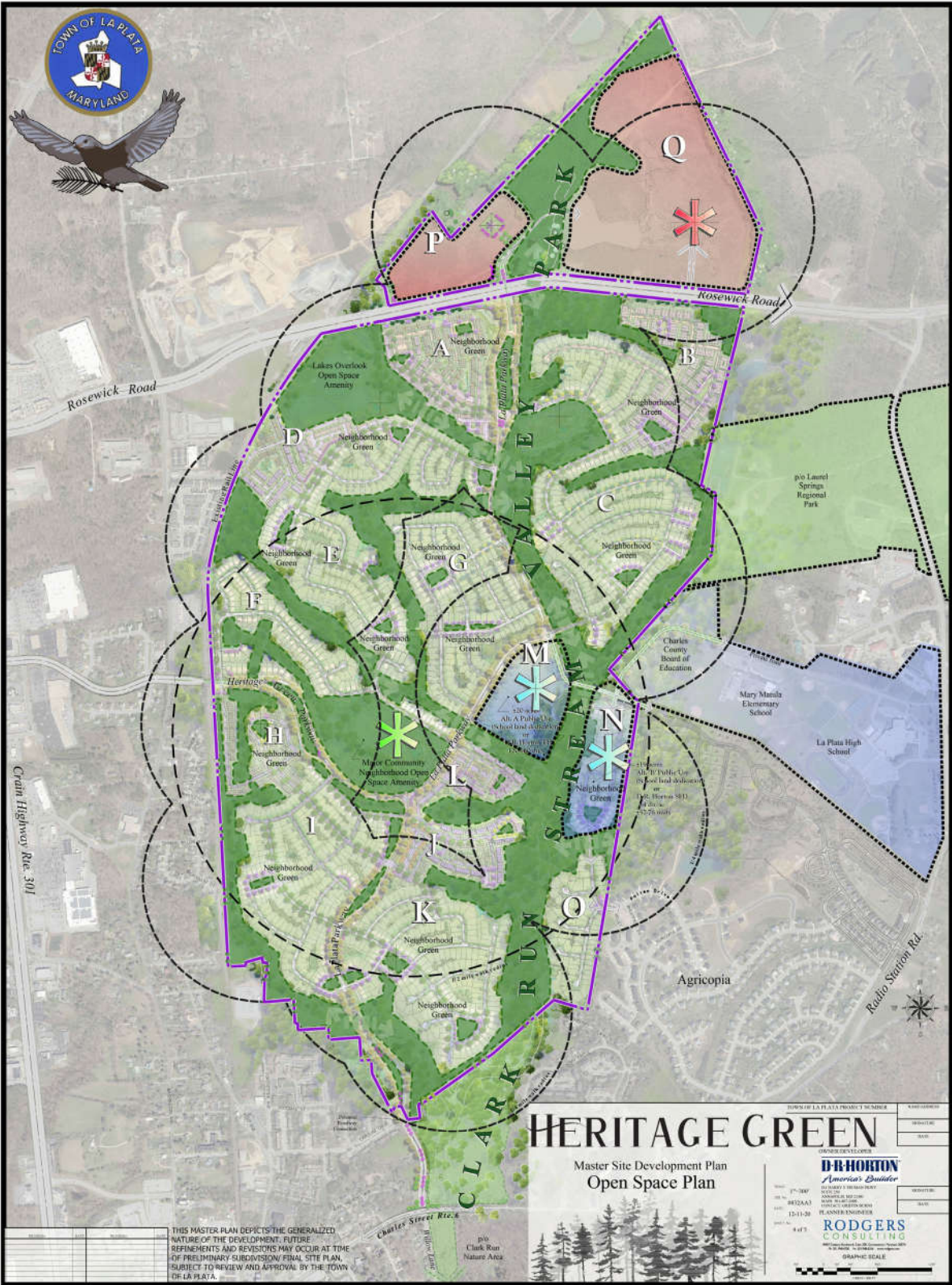
GRAPHIC SCALE

NORTH ARROW

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OPEN SPACE PLAN

Heritage Green Master Site Development Plan - Town of La Plata, Charles County



*Plan shown is not to scale, for illustrative purposes of this document only.

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FINAL
12/11/20

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2. DESIGN PRINCIPLES

- A. The series of neighborhoods is organized by the parameters of a 5 and, or 10 minute walk.
- B. The plan will meet or exceed the TDX zone standards and requirements. A series of modifications, waivers and/or text amendments may be needed as the plan is finally planned and engineered to accomplish the vision for the Community. This may include road code adjustments, traffic calming techniques, private streets, parking courts, cul de sacs, or zoning standards. Any design modifications will be coordinated with the Town as the plan designs progress.
- C. The intent is to have more single family residential units and to incorporate front garage units with backyards in addition to neo-traditional rear garage units. The commercial uses have been moved north of Rosewick Road in neighborhoods P and Q.

3. SCHOOL SITE

- A. A 20 acres school site is included per the annexation agreement. Two alternate sites are shown on the MSDP. The location is moved to be adjacent to the existing school campus east of the property. The goal is to interconnect the site via a road and, or trails subject to coordination with the Charles County School Board. One site will be selected with the other site to be residential.

4. TDX ZONE

Traditional development mixed use zone (TDX). The TDX zone in coordination with the annexation agreement will need to be updated, amended, modified or waived periodically to accomplish the goals of the Master Site Development Plan. Any waivers or modifications to the Zone will be identified and coordinated with the Town as final designs move forward for approval.

Purpose and intent

The purpose of these regulations is to allow the optional development and redevelopment of land consistent with the design principles of traditional neighborhood design. Further, the Town Council recognizes that due to the location, size and timing of any particular development there are inherent design and market characteristics that require alternative regulatory standards. The TDX zone will be implemented in a manner that recognizes this alternative and accommodating approach to land design and development, in an effort to provide a range of residential and non-residential opportunities for the town. A traditional development mixed use zone:

- a. Is compact;
- b. Is designed for the human scale;
- c. Provides a mix of uses, including residential, commercial, civic, and open space uses in close proximity to one another within the neighborhood;
- d. Provides a mix of housing styles, types, and sizes to accommodate households of all ages, sizes, and incomes;
- e. Retains existing buildings with historical features or architectural features that enhance the visual character of the community;
- f. Incorporates significant environmental features into the design;
- g. Encourages enhanced development techniques including; superior open space, parkland, land planning and architecture.
- h. Provides a more flexible approach to the development of land in terms of land use, density and design on large tracts of land.
- i. Develops commercial and mixed-use areas that are safe, comfortable and attractive to pedestrians;
- j. Provides flexibility in the siting and design of new developments and redevelopment to anticipate changes in the marketplace;
- k. Provide both roadway and pedestrian connections;
- l. Provide transitions between high traffic streets and neighborhoods;
- m. Encourage efficient land use by facilitating compact, high density development and minimizing the amount of land that is needed for Surface parking;
- n. Facilitate development (land use mix, density and design) that supports public transit, where applicable; and
- o. Is consistent with the town's comprehensive plan, and TDX design guidelines.

NARRATIVE

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

6. WALKABILITY

- A. All neighborhoods are to have sidewalks, bikeways and trails interconnected to the greenway park system and to the parkways. As noted in the annexation agreements a trail system will link the property together. The goal is to have sidewalks adjacent to all neighborhood streets, including street trees. Exceptions to the rule may eliminate walks due to environmental constraints, site conditions or instances where walks or trails are not needed; to be determined at final design in coordination with Town approvals.

7. PHASING

- A. DR Horton purchased the property in 2020. The intent is to start multiple parts along the north and southern portions of the property. The phasing noted below is a general outline of how the project will proceed. It is subject to change and may be adjusted as the development moves forward. The Town will be updated regarding the status of the phasing as each neighborhood comes forward for final planning and engineering approvals.
- B. Phase 1
 - Neighborhoods A, B, C, K, O, P, Parkway system, Trunk sewer and supporting infrastructure
- C. Phase 2
 - Neighborhoods, Q, D, E, F, G, H, I, J, L M, N

GREENWAYS; PARK SYSTEM

An interconnected series of neighborhoods and a park system of greenways is to be dedicated to the Town, and/or established as a private system, including six identified elements. All program elements, if approved by the Town Planning Commission, Petitioner may substitute comparable types and quantities of sub-elements in lieu of those described in each element.

The following is a summary of the 2012 second annexation agreement. Refer to the agreement for all specific details.

ELEMENT 1

Central Park, including but not limited to approximately 110 acres with the following sub elements: 4 tot lots, 6 multi-purpose athletic courts, open play fields for field games; 4 outdoor picnic area, 2 picnic pavilions, trails and hiking paths (exclusive of sidewalks); community garden areas with individual garden plots; an outdoor amphitheater, maintained meadows, 3 restored and maintained ponds, 1 large reflecting pond and three urban fountains and other amenities.

ELEMENT 2

Eco Park Within Clark Run, including approximately 100 acres with the following sub elements; 2.25 miles of soft surface trails and paths (exclusive of sidewalks) to be finished with native gravel, wood mulch, and or wood chips or equivalent, with footbridges, interpretive signs and exercise stations; 4 outdoor picnic areas and restored pond combined to meet SWM needs and to serve as a community amenity, restored wetland habitats, stream restoration and enhancement of natural meadows.

ELEMENT 3

Expanded Trail System, Including an expanded trail system through the property, a Clark Run trail and connecting network to neighborhoods, recreation elements. All off street trails to be improved with asphalt or similar improved surface sufficient and appropriate for walking, jogging, bicycling, and similar activities except as noted in Element 2.

ELEMENT 4

Building Site for a Town Recreation Center, 'Building Site", not more than 3 acres for a community recreation center to be built by the Town of La Plata. To be located within the Central Park of within 1,800 feet from the perimeter of the school site. The specific site design criteria is in the agreement

ELEMENT 5

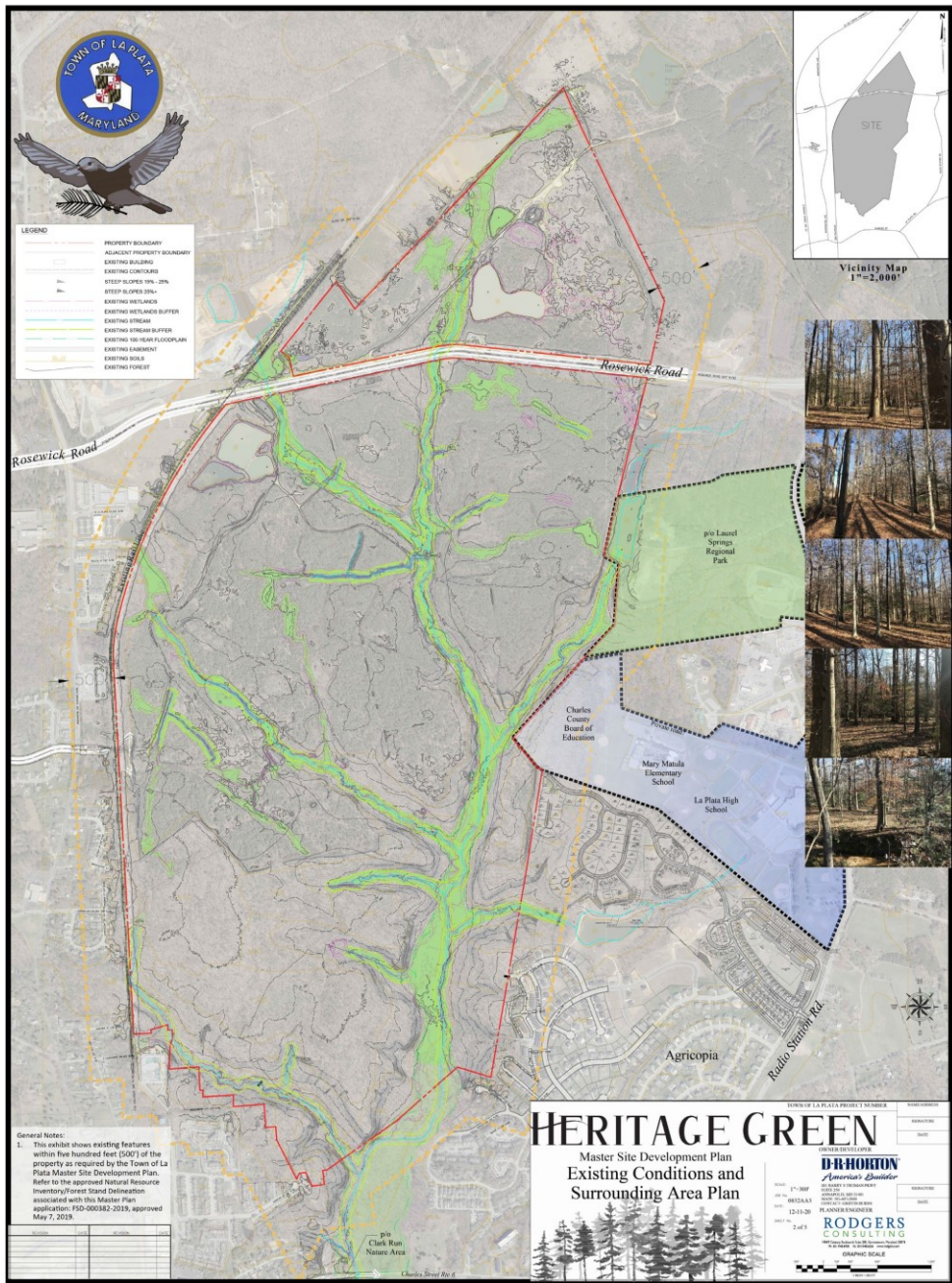
Amenity Ponds, Amenity ponds conceptually depicted in the agreement shall consist of ponds that serve as an attractive Heritage Green community or public amenity, or as an attractive dual purpose public amenity and SWM facility. Improvements and access and recreation design to be considered to for the public use and enjoyment.

ELEMENT 6

Neighborhood Parks Minimum Acreage and Phasing; Neighborhood Parks must be developed at a minimum acreage of, one acre per one hundred dwelling units and shall be situated to provide a clustering of activities in a particular area.

EX. CONDITIONS AND SURROUNDING AREA PLAN

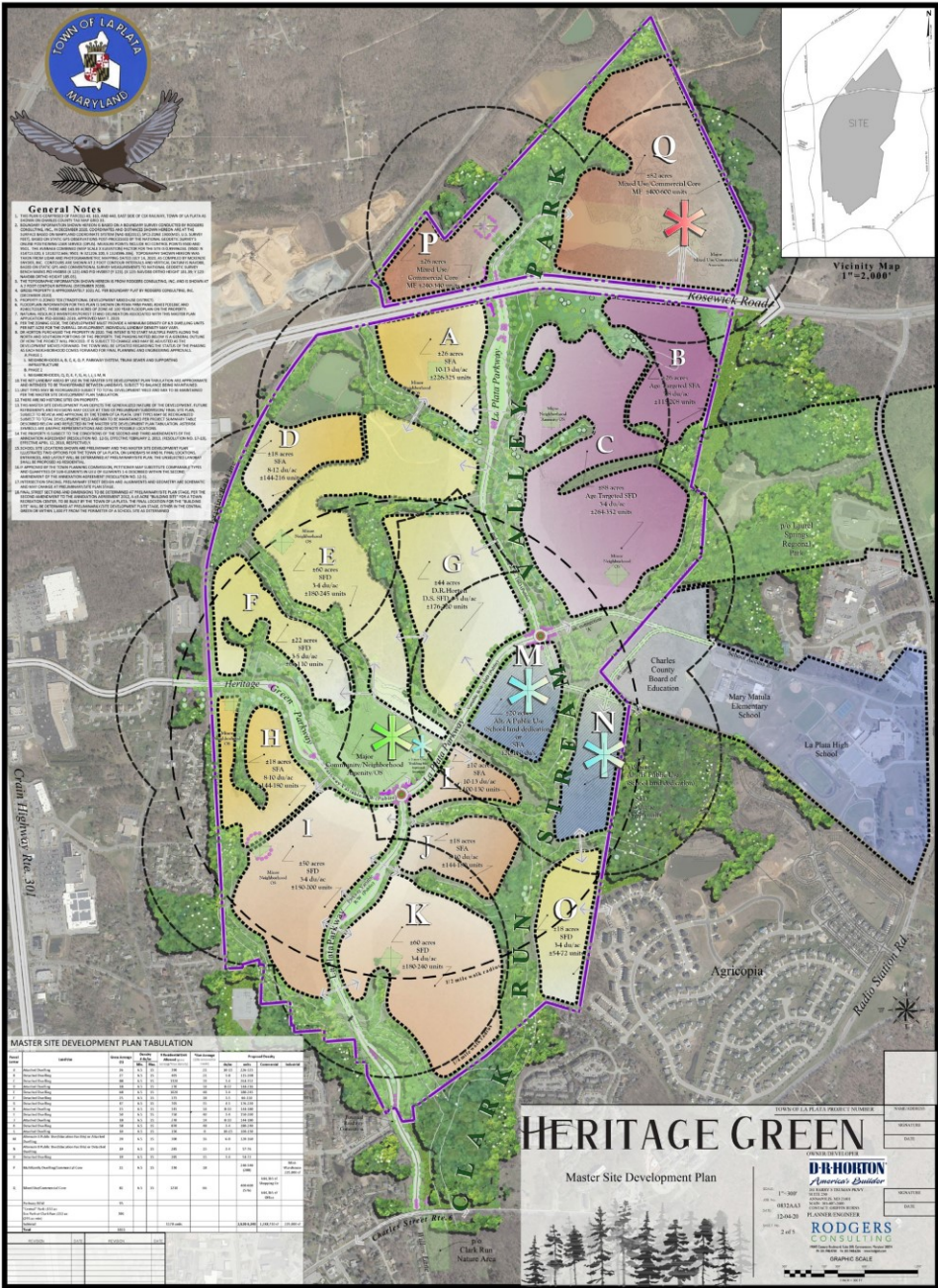
Heritage Green Master Site Development Plan- Town of La Plata, Charles County



*Plan shown is not to scale, for illustrative purposes of this document only.

MASTER SITE DEVELOPMENT PLAN

Heritage Green Master Site Development Plan- Town of La Plata, Charles County



*Plan shown is not to scale, for illustrative purposes of this document only.

MASTER SITE DEVELOPMENT PLAN - NOTES

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

HERITAGE GREEN
Master Site Development Plan Tabulation

Parcel Letter	Land Use	Gross Acreage (±)	Density # du/ac		# Residential Unit Allowed (gross acreage*max density)	Net Acreage (20% removed for roads)	Proposed Density			
			Min.	Max.			*du/ac	units	Commercial	Industrial
A	Attached Dwelling	26	6.5	15	390	21	10-13	226-325		
B	Detached Dwelling	27	6.5	15	405	21	5-8	115-208		
C	Detached Dwelling	88	6.5	15	1320	70	3-4	264-352		
D	Attached Dwelling	18	6.5	15	270	14	8-12	144-216		
E	Detached Dwelling	68	6.5	15	1020	48	3-4	180-245		
F	Detached Dwelling	25	6.5	15	375	18	3-5	66-110		
G	Detached Dwelling	47	6.5	15	705	35	4-5	176-220		
H	Attached Dwelling	23	6.5	15	345	14	8-10	144-180		
I	Detached Dwelling	50	6.5	15	750	40	3-4	150-200		
J	Attached Dwelling	18	6.5	15	270	14	8-10	144-180		
K	Detached Dwelling	58	6.5	15	870	48	3-4	180-240		
L	Attached Dwelling	10	6.5	15	150	8	10-13	100-130		
M	Alternate A Public Use (Education Facility) or Attached Dwelling	20	6.5	15	300	16	6-8	120-160		
N	Alternate B Public Use (Education Facility) or Detached Dwelling	19	6.5	15	285	15	3-4	57-76		
O	Detached Dwelling	19	6.5	15	285	15	3-4	54-72		
P	Multifamily Dwelling/Commercial Core	22	6.5	15	330	18		240-340 (288)		Mini-Warehouse 225,000 sf
Q	Mixed Use/Commercial Core	82	6.5	15	1230	66		400-600 (576)	644,365 sf Shopping Ctr 644,365 sf Office	
	Parkway ROW	95								
	"Central" Park ±153 ac Eco Park at Clark Run ±153 ac (295 ac min)	306								
	Subtotal				3170 units			2,520-3,240	1,288,730 sf	225,000 sf
	Total	1021								

*1. Per the Zoning Code, the development must provide a minimum density of 6.5 dwelling units per net acre for the overall development. Individual Landbay density may vary.

NOTES:

1. Unit types may be reorganized subject to total development yield and mix to be maintained per the Master Site Development Plan Tabulation.

2. Existing land use of the Property is farming with existing homesteads.

3. This Master Site Development Plan depicts the generalized nature of the development. Future refinements and revisions may occur at time of preliminary subdivision/ final site plan, subject to review and approval by the Town of La Plata. Unit types may be reorganized subject to total development yield and mix to be maintained per project summary table described below and reflected in the Master Site Development Plan Tabulation.

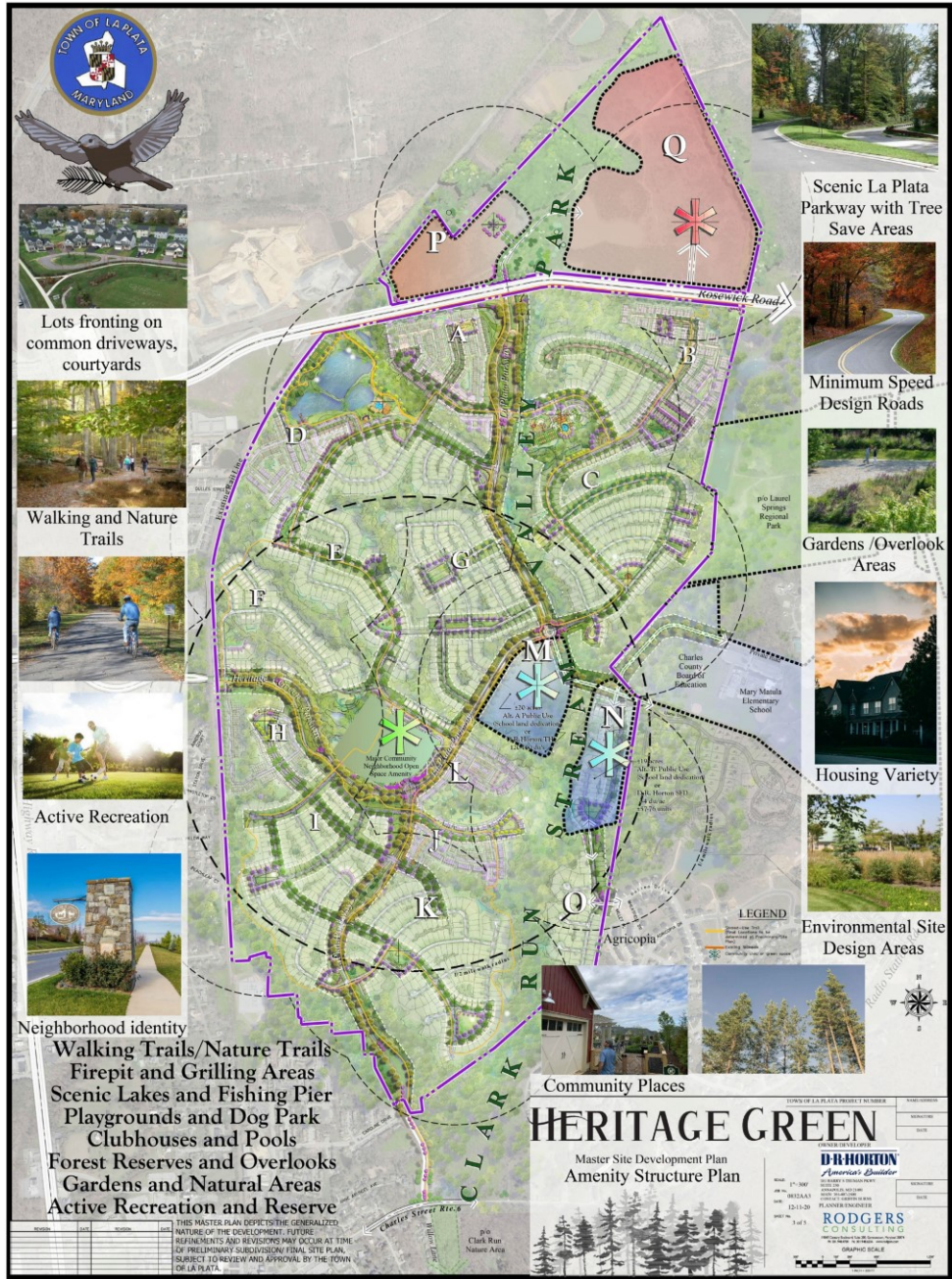
4. School site locations shown are preliminary and this Master Site Development Plan illustrates two options for the Town of La Plata, on Landbays M and N. Final locations, entrances, and layout will be determined at Preliminary/Site Plan. The unselected Landbay shall be proposed as residential.

General Notes

- This Plan is comprised of Parcels 43, 163, and 440, east side of CSX Railway, Town of La Plata as shown on Charles County Tax Map Grid 33.
- Boundary information shown hereon is based on a boundary survey conducted by Rodgers Consulting, Inc., in December 2020. Coordinates and distances shown hereon are at the surface based on Maryland Coordinate System (NAD 83(2011), SPCS Zone 1900(MD), U.S. Survey Feet), based on static GPS observations post-processed by the National Geodetic Survey's Online Positioning User Service (OPUS). Measure points include RCI Control Points 9500 and 9501. The average combined (map scale x elevation) factor for the site is 0.99996234. (9500: N 314713.020, E 1318272.646; 9501: N 321206.100, E 1324596.386). Topography shown hereon was taken from LIDAR and photogrammetric mapping dated July 14, 2020, as compiled by McKenzie Snyder, Inc. Contours are shown at 2 foot contour intervals and vertical datum is NAVD83, based on static GPS and conventional survey measurements to National Geodetic Survey bench marks PID HV0858 (X 123) and PID HV0857 (Y 123). (X 123: NAVD83 Ortho Height 181.39; Y 123: NAVD83 Ortho Height 185.05).
- The topographic information shown hereon is from Rodgers Consulting, Inc. and is shown at a 2 foot contour interval (December 2020).
- Gross property is approximately 1021 ac. per Boundary Plat by Rodgers Consulting, Inc. (December 2020).
- Property is zoned TD (Traditional Development Mixed-Use District).
- Floodplain information for this plan is shown on FEMA Firm Panel #24017C0186C and #24017C0187C. There are ±43.99 acres of Zone AE 100 year floodplain on the Property.
- Natural Resource Inventory/Forest Stand Delineation associated with this Master Plan application: FSD-000382-2019, approved May 7, 2019.
- Per the Zoning Code, the development must provide a minimum density of 6.5 dwelling units per net acre for the overall development. Individual Landbay density may vary.
- DR Horton purchased the property in 2020. The intent is to start multiple parts along the north and southern portions of the property. The Phasing noted below is a general outline of how the project will proceed. It is subject to change and may be adjusted as the development moves forward. The Town will be updated regarding the status of the Phasing as each neighborhood comes forward for final planning and engineering approvals.
 - Phase 1
 - Neighborhoods A, B, C, K, O, P, Parkway system, Trunk sewer and supporting infrastructure
 - Phase 2
 - Neighborhoods Q, D, E, F, G, H, I, J, L, M, N
- The net Landbay areas by use in the Master Site Development Plan Tabulation are approximate and intended to be transferable between Landbays, subject to balance being maintained.
- Unit types may be reorganized subject to total development yield and mix to be maintained per the Master Site Development Plan Tabulation.
- There are no historic sites on property.
- This Master Site Development Plan depicts the generalized nature of the development. Future refinements and revisions may occur at time of preliminary subdivision/ final site plan, subject to review and approval by the Town of La Plata. Unit types may be reorganized subject to total development yield and mix to be maintained per project summary table described below and reflected in the Master Site Development Plan Tabulation. Asterisk symbols are graphic representations and denote possible locations.
- The Property is subject to the conditions of the second and third amendments of the Annexation Agreement (Resolution No. 12-5), effective February 2, 2013, (Resolution No. 17-13), effective April 12, 2018, respectively.
- School site locations shown are preliminary and this Master Site Development Plan illustrates two options for the Town of La Plata, on Landbays M and N. Final locations, entrances, and layout will be determined at preliminary/site plan. The unselected Landbay shall be proposed as residential.
- If approved by the Town Planning Commission, Petitioner may substitute comparable types and quantities of sub-elements in lieu of Elements 1-6 described within the second amendment of the Annexation Agreement (Resolution No. 12-5).
- Intersection spacing, preliminary street design and alignments and geometry are schematic and may change at preliminary/site plan stage.
- Final street sections and dimensions to be determined at preliminary/site plan stage.
- Per the second amendment to the Annexation Agreement 2012, a ±3 acre "building site" for a Town recreation center, to be built by the Town of La Plata. The final location for the "building site" will be determined at preliminary/site development plan stage, either in the central green or within 1,800 ft from the perimeter of a school site as determined.

AMENITY STRUCTURE PLAN

Heritage Green Master Site Development Plan- Town of La Plata, Charles County



*Plan shown is not to scale, for illustrative purposes of this document only.

OPEN SPACE PLAN

Heritage Green Master Site Development Plan- Town of La Plata, Charles County



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APPENDIX

Heritage Green Master Site Development Plan- Town of La Plata, Charles County

1. D.R. Horton Deed
2. Rodgers, Inc. Boundary Exhibit (December 2020)
3. Lenhart Consulting 2020 Parkway Memo
4. Approved Forest Stand Delineation
5. 2005 Approved Master Site Development Plan
6. 1990 Annexation Agreement
7. 1998 First Amendment of Annexation Agreement
8. 2012 Second Amendment of Annexation Agreement
9. 2018 Third Amendment of Annexation Agreement

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AFTER RECORDATION PLEASE RETURN TO:
RESIDENTIAL TITLE & ESCROW COMPANY
 100 Painters Mill Road, Suite 200
 Owings Mills, Maryland 21117
 File No. 96236

TOWN OF LA PLATA, MARYLAND
 THIS 21 DAY OF September
 VERIFICATION IS MADE THAT, EXCEPT FOR REAL
 ESTATE TAXES, ALL MONIES DUE THE TOWN AGAINST
 THIS PROPERTY HAVE BEEN PAID.

TREASURER OF LA PLATA, MARYLAND

Tax ID Nos. See Attached List

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED, Made this 18th day of August, 2020, by and between **MARYLAND DEVELOPMENTS LLC**, a Delaware limited liability company, Grantor and party of the first part; and **D. R. Horton, Inc.**, a Delaware corporation, Grantee and party of the second part.

WITNESSETH, That in consideration of the sum of **NINETEEN MILLION AND NO/100THS DOLLARS (\$19,000,000.00)**, and other and good and valuable consideration the receipt whereof is hereby acknowledged, the said party of the first part does grant and convey to the party of the second party, its successors and assigns, in fee simple, all of that parcel of ground situate, lying and being in Charles County, Maryland as more particularly described as follows:

REC 75
 SUR 40
 ST 95000.00

SEE EXHIBIT "A", LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF;

CO _____
 NR _____

BEING all that property which by Deed dated March 1, 2018 and recorded among the Land Records of Charles County, Maryland in Book 10198, Page 9, was granted and conveyed by Heritage Green Development, LLC, a Virginia limited liability company, unto Maryland Developments LLC, a Delaware limited liability company, the Grantor herein.

Together with all right, title and interest, if any, of Grantor in and to any streets and roads abutting the above described premises to the center lines thereof; Together with the appurtenances and all of the estate rights of Grantor in and to said premises;

TOGETHER with the buildings thereupon, and the rights, alleys, ways, waters, privileges, appurtenances and advantages thereto belonging, or in anywise appertaining.

APPROVED FOR TRANSFER
 OFFICE OF THE TREASURER
 FOR CHARLES COUNTY
 PER: UB DATE 9-21-20

TAXES LEVIED AND ON
 RECORD ARE PAID.
 RECORDATION TAX \$ 190,000.00
 COUNTY TRANSFER TAX \$ 95,000.00
 Page 660 of 682

EXHIBIT A

Real property in the City of La Plata, County of Charles, State of Maryland, described as follows:

Tract 1

Beginning for the same at a rebar and cap set lying on the northern right-of-way line of Rosewick Road, one hundred and fifty (150) feet wide, said point also marking the southeastern corner of a piece or parcel of land standing in the name of Bardon, Inc. as recorded among the Land Records of Charles County, Maryland in Liber 3433 at Folio 135 and in Liber 3433 at Folio 119, said point further marking the southwestern corner of the herein described parcel; thence departing said point so fixed and binding on the eastern outline of said Bardon lands the following seven courses and distances

1. North $11^{\circ}56'38''$ West, 213.86 feet to a rebar and cap found; thence
2. North $51^{\circ}38'13''$ West, 121.92 feet to a rebar and cap set; thence
3. North $38^{\circ}38'31''$ East, 987.34 feet to a rebar and cap set; thence
4. South $34^{\circ}04'45''$ East, 368.93 feet to a rebar and cap found; thence
5. North $43^{\circ}26'59''$ East, 2000.91 feet to a rebar and cap set; thence
6. North $43^{\circ}03'51''$ East, 842.33 feet to a rebar and cap set; thence
7. North $43^{\circ}18'31''$ East, 535.20 feet to a rebar and cap found intersecting the western outline of a piece or parcel of land standing in the name of Frank E. Connell as recorded among the Land Records of Charles County, Maryland in Liber 65 at Folio 488; thence binding on the western outline of said Connell lands the following three courses and distances
8. South $23^{\circ}24'22''$ East, 284.83 feet to a rebar and cap set; thence
9. South $25^{\circ}28'18''$ East, 1001.29 feet to a rebar and cap set; thence
10. South $25^{\circ}51'13''$ East, 641.67 feet to an iron pipe found marking the northwestern corner of a piece or parcel of land standing in the name of Rosewick Road Development, LLC as recorded among the Land Records of Charles County, Maryland in Liber 5580 at Folio 155; thence binding on the western outline of said Rosewick Road Development, LLC lands the following two courses and distances
11. South $25^{\circ}36'55''$ East, 692.35 feet to a rebar and cap found; thence
12. South $12^{\circ}34'33''$ West, 727.25 feet to a rebar and cap set intersecting the northern right of way line of said Rosewick Road; thence departing the western outline of said Rosewick Road Development, LLC lands and running with a portion of the northern right of way line of Rosewick Road the following three courses and distances
13. North $83^{\circ}59'18''$ West, 2086.58 feet to a rebar and cap set; thence
14. 282.56 feet along the arc of a curve deflecting to the left, having a radius of 910.51 feet and a chord bearing and distance of South $87^{\circ}07'17''$ West, 281.43 feet to a rebar and cap set; thence
15. South $78^{\circ}13'51''$ West, 1644.70 feet to the point and place of beginning.

The above described parcel contains 6,468,589 square feet or 148.4984 acres more or less.

Tract 2

Beginning for the same at a rebar and cap set lying on the southern right-of-way line of Rosewick Road, one hundred and fifty (150) feet wide, said point also marking the northwestern corner of a piece or parcel of land standing in the name of Rosewick Road Development, LLC as recorded among the Land Records of Charles County, Maryland in Liber 5580 at Folio 155, said point further marking the northeastern corner of the herein described parcel; thence departing said point so fixed and binding on the western outline of said Rosewick Road Development, LLC lands

1. South $13^{\circ}57'01''$ West, 257.43 feet to an iron pipe found marking the northwestern corner of a piece or parcel of land standing in the name of Fraternal Order of Police Lodge 24 as recorded among the Land Records of Charles County, Maryland in Liber 888 at Folio 224; thence

2. South $14^{\circ}04'57''$ West, 517.02 feet to an iron pipe found marking the northwestern corner of a piece or parcel of land standing in the name of Mario E. Barrera and Reyna M. Barrera as recorded among the Land Records of Charles County, Maryland in Liber 9542 at Folio 431; thence binding on the western outline of said Barrera lands and the western outline of a piece or parcel of land standing in the name of Thomas M. Tayman and Eileen M. Tayman as recorded among the Land Records of Charles County, Maryland in Liber 3450 at Folio 73

3. South $14^{\circ}04'07''$ West, 582.09 feet to an iron pipe found marking the northwestern corner of a piece or parcel of land standing in the name of Charles County Court House as recorded among the Land Records of Charles County, Maryland in Liber 368 at Folio 278; thence binding on the western outline of said Charles County Court House lands the following four courses and distances

4. South $13^{\circ}01'31''$ West, 671.34 feet to a concrete monument found; thence

5. South $61^{\circ}42'13''$ East, 185.57 feet to a concrete monument found; thence

6. South $3^{\circ}44'00''$ West, 678.51 feet to a concrete monument found; thence

7. South $41^{\circ}39'38''$ West, 499.93 feet to an iron pipe found marking the northwestern corner of a piece or parcel of land standing in the name of the Board of Education of Charles County Maryland as recorded among the Land Records of Charles County, Maryland in Liber 293 at Folio 235; thence binding on the western outline of said Board of Education lands the following three courses and distances

8. South $41^{\circ}42'56''$ West, 1297.26 feet to an iron pipe found; thence

9. South $41^{\circ}06'12''$ East, 427.13 feet to a rebar and cap found; thence

10. South $61^{\circ}55'03''$ East, 55.68 feet to an iron pipe found marking the northwestern corner of "Agricopia Subdivision" as recorded among the Plat Records of Charles County, Maryland in Plat Book 58, Page 503, Plat Book 54, Page 357, Plat Book 58, Pages 192-198 and Plat Book 56, Page 405; thence binding on the western outline of said Agricopia Subdivision the following two courses and distances

11. South $9^{\circ}02'59''$ West, 1145.35 feet to an iron pipe found; thence

12. South $9^{\circ}39'10''$ West, 2318.62 feet to an iron pipe found intersecting the northern line of Lot 11-A as shown on a plat entitled "Hickory Ridge Subdivision" and recorded among the Plat Records of Charles County, Maryland in Plat Book 35 at Page 232; thence binding on the northern line of Lots 11-A, 12-A, 13-A and a piece or parcel of land standing in the name of BMK, Inc. as recorded among the Land Records of Charles County, Maryland in Liber 968 at Folio 274

13. North 73°20'38" West, 388.76 feet to an iron pipe found; thence continuing with the northern line of said BMK, Inc. lands and the northern line of a piece or parcel of land standing in the name of Merle K. Turner, Trustee as recorded among the Land Records of Charles County, Maryland in Liber 8469 at Folio 455 the following five courses and distances

14. South 48°39'07" West, 901.12 feet to an iron pipe found; thence

15. South 54°43'26" West, 947.23 feet to an iron pipe found; thence

16. South 83°07'51" West, 46.38 feet to a rebar and cap set; thence

17. South 6°42'44" East, 157.67 feet to a rebar and cap set; thence

18. South 83°17'16" West, 137.56 feet to a rebar and cap set marking the southeastern corner of a dedication parcel to the Town of LaPlata as recorded among the Land Records of Charles County, Maryland in Liber 6465 at Folio 176; thence binding on a portion of the eastern and northern outline of said dedication parcel the following three courses and distances

19. North 25°57'28" West, 166.45 feet to a rebar and cap set; thence

20. South 83°07'51" West, 71.51 feet to an iron pipe found; thence

21. South 24°42'14" West, 70.67 feet to an iron pipe found marking the southeastern corner of a piece or parcel of land standing in the name of James I. Lee and Herman J. Lee as recorded among the Land Records of Charles County, Maryland in Liber 669 at Folio 10; thence binding on the eastern outline of said Lee lands

22. North 27°01'31" West, 485.74 feet to an iron pipe found marking the southeastern corner of a piece or parcel of land standing in the name of Salem Partnership as recorded among the Land Records of Charles County, Maryland in Liber 1261 at Folio 32; thence binding on the eastern outline of said Salem Partnership lands the following two courses and distances

23. North 4°09'00" West, 150.43 feet to an iron pipe found; thence

24. South 85°52'26" West, 109.94 feet to an iron pipe found marking the southeastern corner of a piece or parcel of land standing in the name of Salem Partnership as recorded among the Land Records of Charles County, Maryland in Liber 1261 at Folio 38; thence binding on the eastern outline of said Salem Partnership lands the following two courses and distances

25. North 4°09'02" West, 256.52 feet to an iron pipe found; thence

26. South 85°50'58" West, 330.50 feet to a rebar and cap set; thence

27. South 86°21'47" West, 13.57 feet to a rebar and cap set marking the southeastern corner of a piece or parcel of land standing in the name of Leo K. Farrall, Jr. as recorded among the Land Records of Charles County, Maryland in Liber 3483 at Folio 480; thence binding on the eastern outline of said Farrall property the following two courses and distances

28. North 0°36'38" East, 128.00 feet to a rebar and cap set; thence

29. South 86°21'47" West, 340.33 feet to a rebar and cap set intersecting the eastern property line of a piece or parcel of land standing in the name of the Town of LaPlata as recorded among the Land Records

of Charles County, Maryland in Liber 355 at Folio 60; thence binding on said Town of LaPlata property the following two courses and distances

30. North 00°36'38" East, 75.05 feet to an iron pipe found; thence

31. South 85°49'12" West, 33.00 feet to an iron pipe found marking the southeastern corner of a piece or parcel of land standing in the name of the Smeco Foundation Properties, LLC as recorded among the Land Records of Charles County, Maryland in Liber 9923 at Folio 92; thence binding on the eastern outline of said Smeco lands the following two courses and distances

32. North 2°44'21" West, 263.88 feet to an iron pipe found; thence

33. South 85°20'11" West, 329.61 feet to an iron pipe found intersecting the eastern outline of a piece or parcel of land standing in the name of the Southern Maryland Electric Cooperative as recorded among the Land Records of Charles County, Maryland in Liber 7595 at Folio 113; thence binding on the eastern and northern outline of said Southern Maryland Electric Cooperative lands the following eight courses and distances

34. North 1°35'51" East, 246.22 feet to an iron pipe found; thence

35. North 17°06'00" East, 85.00 feet to an iron pipe found; thence

36. North 0°36'00" East, 108.01 feet to an iron pipe found; thence

37. North 89°20'15" West, 50.00 feet to an iron pipe found; thence

38. North 1°28'46" East, 57.00 feet to an iron pipe found; thence

39. South 73°47'57" West, 197.41 feet to an iron pipe found; thence

40. South 7°45'49" East, 37.57 feet to an iron pipe found; thence

41. South 87°07'37" West, 195.58 feet to an iron pipe found intersecting the eastern right of way line (sixty-six feet wide) of the New York Central Lines, LLC as recorded among the Land Records of Charles County, Maryland in Liber 2885 at Folio 456; thence binding on the eastern right of way line of said New York Central Lines, LLC the following four courses and distances

42. North 3°07'38" West, 4116.61 feet to an iron pipe found; thence

43. 477.38 feet along the arc of a curve deflecting to the right, having a radius of 1703.48 feet and a chord bearing and distance of North 4°54'04" East, 475.82 feet to an iron pipe found; thence

44. 2545.32 feet along the arc of a curve deflecting to the right, having a radius of 5696.65 feet and a chord bearing and distance of North 25°43'46" East, 2524.20 feet to a rebar and cap set; thence

45. North 38°31'46" East, 181.73 feet to a rebar and cap set intersecting the southern right of way line of said Rosewick Road; thence binding on the southern right of way line of said Rosewick Road the following three courses and distances

46. North 78°13'51" East, 2439.64 feet to a rebar and cap set; thence

47. 236.01 feet along the arc of a curve deflecting to the right, having a radius of 760.51 feet and a chord bearing and distance of North 87°07'17" East, 235.07 feet to a rebar and cap set; thence

48. South 83°59'18" East, 2068.73 feet to the point and place of beginning.

The above described parcel contains 38,008,399 square feet or 872.5528 acres, with a total of 44,476,988 square feet or 1,021.0511 acres for the two tracts of land.

Being a portion of all that piece or parcel of land conveyed by The Davis Corporation to Heritage Green Development, LLC dated January 9, 2003 and recorded among the Land Records of Charles County, Maryland in Liber 3868 at Folio 119 and a portion of all that piece or parcel of land conveyed by Vestry of Port Tobacco Parish to Heritage Green Development, LLC dated September 12, 2005 and recorded among the Land Records of Charles County, Maryland in Liber 6004 at Folio 671.

TO HAVE AND TO HOLD the said described parcel of ground and premises to the said party of the second part, its successors and assigns, forever in fee simple.

AND the said party of the first part does hereby covenant that it has not done or suffered to be done any act, matter or thing whatsoever, to encumber the property hereby conveyed; that it will warrant specially the property hereby granted; and that it will execute such further assurances of the same as may be requisite.

{SIGNATURE ON FOLLOWING PAGE}

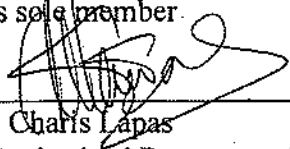
WITNESS the hand and seal of said Grantor.

WITNESS:

Maryland Developments LLC, a
Delaware limited liability company

By: Vulcan Investments Limited

Its sole member

By:  (Seal)

Name: Charis Lapas

Title: Authorized Representative

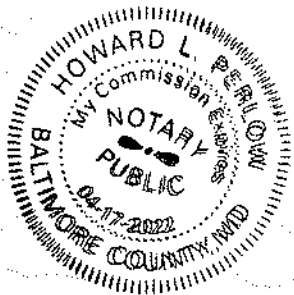
{Acknowledgement on Following Page}

ACKNOWLEDGEMENT

STATE OF MARYLAND, CITY/COUNTY OF Baltimore, to wit:

I HEREBY CERTIFY, that on this 13 day of July, 2020, before me, the subscriber, a Notary Public of the State aforesaid, in and for the County/City aforesaid, personally appeared Charis Lapas, as Authorized Representative of the Sole Member of Vulcan Investments Limited, the sole member of Maryland Developments LLC, a Delaware limited liability company, and that he as such Authorized Representative, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing in my presence the name of the company by himself as authorized representative.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



(Signature)
 Notary Public

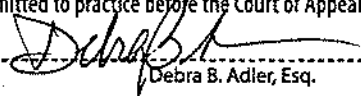
My Commission expires:

4/17/2022

CERTIFICATION

This is to certify that the within instrument was prepared by or under the supervision of the undersigned, an attorney duly admitted to practice before the Court of Appeals of Maryland.

This is to certify that the within instrument was prepared by or under the supervision of the undersigned, an attorney duly admitted to practice before the Court of Appeals of Maryland.


Debra B. Adler, Esq.

AFTER RECORDATION PLEASE RETURN TO:

RESIDENTIAL TITLE & ESCROW COMPANY

100 Painters Mill Road, Suite 200

Owings Mills, Maryland 21117

2020

**MARYLAND
FORM
WH-AR**
**Certification of Exemption from Withholding Upon
Disposition of Maryland Real Estate Affidavit of
Residence or Principal Residence**

Based on the certification below, Transferor claims exemption from the tax withholding requirements of §10-912 of the Tax-General Article, Annotated Code of Maryland. Section 10-912 provides that certain tax payments must be withheld and paid when a deed or other instrument that effects a change

in ownership of real property is presented for recordation. The requirements of §10-912 do not apply when a transferor provides a certification of Maryland residence or certification that the transferred property is the transferor's principal residence.

1. Transferor Information

Name of Transferor Maryland Developments LLC, a Delaware LLC

2. Description of Property (Street address. If no address is available, include county, district, subdistrict and lot numbers).

Charles County, Heritage Green Subdivision, See Attached list of lot numbers

3. Reasons for Exemption**Resident Status**☐

As of the date this form is signed, I, Transferor, am a resident of the State of Maryland.

☒

Transferor is a resident entity as defined in Code of Maryland Regulations (COMAR)03.04.12.02B(11), I am an agent of Transferor, and I have authority to sign this document on Transferor's behalf.

Principal Residence☐

Although I am no longer a resident of the State of Maryland, the Property is my principal residence as defined in IRC 121 (principal residence for 2 (two) of the last 5 (five) years) and is currently recorded as such with the State Department of Assessments and Taxation.

Under penalty of perjury, I certify that I have examined this declaration and that, to the best of my knowledge, it is true, correct, and complete.

3a. Individual Transferors

Witness

Name

**Date

Signature

3b. Entity Transferors

Witness/Attest

Maryland Developments LLC,

Name of Entity **by: Vulcan Investments Limited**

by: Charis Lapas

By

Charis Lapas

Name

**Date

Authorized Representative

Title

** Form must be dated to be valid.

Note: Form is only valid if it was executed on the date the Property was transferred and is properly recorded with the Clerk of the Court.

To the Clerk of the Court: Only an un-altered Form WH-AR should be considered a valid certification for purposes of Section 10-912.

State of Maryland Land Instrument Intake Sheet							
☐ Baltimore City ☒ County: Charles Information provided is for the use of the Clerk's Office, State Department of Assessments and Taxation, and County Finance Office Only. (Type or Print in Black Ink Only-All Copies Must Be Legible)							
1	Type(s) of Instruments	☐ Check Box if addendum Intake Form is Attached. ☒ Deed ☐ Mortgage ☐ Other _____ ☐ Deed of Trust ☐ Lease ☐ _____					
2	Conveyance Type Checkbox	☐ Improved Sale Arms-Length [1] ☐ Unimproved Sale Arms-Length [2] ☐ Multiple Accounts Arms-Length [3] ☐ Not an Arms-Length Sale [9]					
3	Tax Exemptions (if applicable) Cite or Explain Authority	Recordation State Transfer County Transfer					
4	Consideration and Tax Calculations	Consideration Amount Purchase Price/Consideration \$19,000,000.00 Any New Mortgage \$ Balance of Existing Mortgage \$ Other: \$ Other: \$ Full Cash Value: \$				Finance Office Use Only Transfer and Recordation Tax Consideration Transfer Tax Consideration \$ X () % = \$ Less Exemption Amount \$ Total Transfer Tax = \$ Recordation Tax Consideration \$ X () % per \$500 = \$ TOTAL DUE \$	
5	Fees	Amount of Fees Recording Charge \$ Surcharge \$ State Recordation Tax \$190,000.00 State Transfer Tax \$95,000.00 County Transfer Tax \$95,000.00 Other \$ Other \$				Doc. 1 Doc. 2 Agent: Tax Bill: C.B. Credit Ag. Tax/Other	
6	Description of Property SDAT requires submission of all applicable information. A maximum of 40 characters will be indexed in accordance with the priority cited in Real Property Article Section 3-104(g)(3)(i).	District _____ Property Tax ID No. (1) _____ Grantor Liber/Folio _____ Map _____ Parcel No. _____ Var. LOG ☐ (5) See Attached Subdivision Name _____ Lot (3a) _____ Block (3b) _____ Sect/AR (3c) _____ Plat Ref. _____ SqFt/Acreage (4) _____ Heritage Green Location/Address of Property Being Conveyed (2) Washington Avenue, LaPlata, MD 20646 Other Property Identifiers (if applicable) _____ Water Meter Account No. _____ Residential ☒ or Non-Residential ☐ Fee Simple ☐ or Ground Rent ☒ Amount: _____ Partial Conveyance? ☐ Yes ☒ No Description/Amt. of SqFt/Acreage Transferred: _____ If Partial Conveyance, List Improvements Conveyed: _____					
7	Transferred From	Doc. 1 - Grantor(s) Name(s) _____ Doc. 2 - Grantor(s) Name(s) _____ Maryland Developments LLC, a Delaware LLC Doc. 1 - Owner(s) of Record, if Different from Grantor(s) _____ Doc. 2 - Owner(s) of Record, if Different from Grantor(s) _____					
8	Transferred To	Doc. 1 - Grantee(s) Name(s) _____ Doc. 2 - Grantee(s) Name(s) _____ D. R. Horton, Inc., a Delaware corporation New Owner's (Grantee) Mailing Address _____					
9	Other Names to Be Indexed	Doc. 1 - Additional Names to be Indexed (Optional) _____ Doc. 2 - Additional Names to be Indexed (Optional) _____					
10	Contact/Mail Information	Instrument Submitted By or Contact Person Name: Beth Book Firm: Residential Title & Escrow Company Address: 100 Painters Mill Road, Suite 200, Owings Mills, MD 21117 Phone: (410) 653-3400 ☒ Return to Contact Person ☐ Hold for Pickup ☐ Return Address Provided					
11	IMPORTANT: BOTH THE ORIGINAL DEED AND A PHOTOCOPY MUST ACCOMPANY EACH TRANSFER Assessment Information ☐ Yes ☒ No Will the property being conveyed be the grantee's principal residence? ☐ Yes ☒ No Does transfer include personal property? If yes, identify: _____ ☐ Yes ☒ No Was property surveyed? If yes, attach copy of survey (if recorded, no copy required).						
Assessment Use Only - Do Not Write Below This Line							
Terminal Verification _____ Agricultural Verification _____ Whole _____ Part _____ Tran. Process Verification _____							
Transfer Number		Date Received		Deed Reference		Assigned Property No.	
Year	20	20	Geo.	Map	Sub	Block	
Land			Zoning	Grid	Plat	Lot	
Buildings			Use	Parcel	Section	Occ. Cd.	
Total			Town Cd.	Ex. St.	Ex. Cd.		
REMARKS:							

AQC-CC-300 (5/2007)

Submit 4 copies

Property #	Owner Name
09-01-017942	Heritage Green Development LLC
09-01-010875	Heritage Green Development LLC
09-01-012843	Heritage Green Development LLC
09-01-089307	Heritage Green Development LLC
09-01-006681	Heritage Green Development LLC
09-01-085352	Heritage Green Development LLC
09-01-085360	Heritage Green Development LLC
09-01-085379	Heritage Green Development LLC
09-01-085387	Heritage Green Development LLC
09-01-085395	Heritage Green Development LLC
09-01-085409	Heritage Green Development LLC
09-01-085417	Heritage Green Development LLC
09-01-085425	Heritage Green Development LLC
09-01-085433	Heritage Green Development LLC
09-01-085441	Heritage Green Development LLC
09-01-085468	Heritage Green Development LLC
09-01-085476	Heritage Green Development LLC
09-01-085484	Heritage Green Development LLC
09-01-085492	Heritage Green Development LLC
09-01-085506	Heritage Green Development LLC
09-01-085514	Heritage Green Development LLC
09-01-085522	Heritage Green Development LLC
09-01-085530	Heritage Green Development LLC
09-01-085549	Heritage Green Development LLC
09-01-085557	Heritage Green Development LLC
09-01-085565	Heritage Green Development LLC
09-01-085573	Heritage Green Development LLC
09-01-085581	Heritage Green Development LLC
09-01-085603	Heritage Green Development LLC
09-01-085611	Heritage Green Development LLC
09-01-085638	Heritage Green Development LLC
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09-01-085662	Heritage Green Development LLC
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09-01-085727	Heritage Green Development LLC
09-01-085735	Heritage Green Development LLC
09-01-085743	Heritage Green Development LLC
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09-01-085794	Heritage Green Development LLC
09-01-085808	Heritage Green Development LLC
09-01-085816	Heritage Green Development LLC
09-01-085824	Heritage Green Development LLC
09-01-085832	Heritage Green Development LLC
09-01-085867	Heritage Green Development LLC
09-01-085840	Heritage Green Development LLC
09-01-085859	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0040, MSA_CE52_10217, Date available 03/16/2018, Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0482, MSA_CE52_11353, Date available 09/24/2020, Printed 09/25/2020.

09-01-085875	Heritage Green Development LLC
09-01-085883	Heritage Green Development LLC
09-01-085891	Heritage Green Development LLC
09-01-085905	Heritage Green Development LLC
09-01-085913	Heritage Green Development LLC
09-01-085921	Heritage Green Development LLC
09-01-085948	Heritage Green Development LLC
09-01-085956	Heritage Green Development LLC
09-01-085964	Heritage Green Development LLC
09-01-085972	Heritage Green Development LLC
09-01-085980	Heritage Green Development LLC
09-01-085999	Heritage Green Development LLC
09-01-086006	Heritage Green Development LLC
09-01-086014	Heritage Green Development LLC
09-01-086022	Heritage Green Development LLC
09-01-086030	Heritage Green Development LLC
09-01-086049	Heritage Green Development LLC
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09-01-086065	Heritage Green Development LLC
09-01-086073	Heritage Green Development LLC
09-01-086081	Heritage Green Development LLC
09-01-086103	Heritage Green Development LLC
09-01-086111	Heritage Green Development LLC
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09-01-086227	Heritage Green Development LLC
09-01-086235	Heritage Green Development LLC
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09-01-086251	Heritage Green Development LLC
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09-01-086316	Heritage Green Development LLC
09-01-086324	Heritage Green Development LLC
09-01-086332	Heritage Green Development LLC
09-01-086340	Heritage Green Development LLC
09-01-086359	Heritage Green Development LLC
09-01-086367	Heritage Green Development LLC
09-01-086375	Heritage Green Development LLC
09-01-086383	Heritage Green Development LLC
09-01-086391	Heritage Green Development LLC
09-01-086405	Heritage Green Development LLC
09-01-086413	Heritage Green Development LLC
09-01-086421	Heritage Green Development LLC
09-01-086448	Heritage Green Development LLC
09-01-086456	Heritage Green Development LLC
09-01-086464	Heritage Green Development LLC
09-01-086472	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0041, MSA_CE52_10217. Date available 03/16/2018. Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0483, MSA_CE52_11353. Date available 09/24/2020. Printed 09/25/2020.

09-01-086480	Heritage Green Development LLC
09-01-086499	Heritage Green Development LLC
09-01-086502	Heritage Green Development LLC
09-01-086510	Heritage Green Development LLC
09-01-086529	Heritage Green Development LLC
09-01-086537	Heritage Green Development LLC
09-01-086545	Heritage Green Development LLC
09-01-086553	Heritage Green Development LLC
09-01-086561	Heritage Green Development LLC
09-01-086588	Heritage Green Development LLC
09-01-086596	Heritage Green Development LLC
09-01-086618	Heritage Green Development LLC
09-01-086626	Heritage Green Development LLC
09-01-086634	Heritage Green Development LLC
09-01-086642	Heritage Green Development LLC
09-01-086650	Heritage Green Development LLC
09-01-086669	Heritage Green Development LLC
09-01-086677	Heritage Green Development LLC
09-01-086685	Heritage Green Development LLC
09-01-086693	Heritage Green Development LLC
09-01-086707	Heritage Green Development LLC
09-01-086715	Heritage Green Development LLC
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09-01-087061	Heritage Green Development LLC
09-01-087088	Heritage Green Development LLC
09-01-087096	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0042, MSA_CE52_10217. Date available 03/16/2018. Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0484, MSA_CE52_11353. Date available 09/24/2020. Printed 09/25/2020.

09-01-087118	Heritage Green Development LLC
09-01-087126	Heritage Green Development LLC
09-01-087134	Heritage Green Development LLC
09-01-087142	Heritage Green Development LLC
09-01-087150	Heritage Green Development LLC
09-01-087169	Heritage Green Development LLC
09-01-087177	Heritage Green Development LLC
09-01-087185	Heritage Green Development LLC
09-01-087193	Heritage Green Development LLC
09-01-087207	Heritage Green Development LLC
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09-01-087487	Heritage Green Development LLC
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09-01-087509	Heritage Green Development LLC
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09-01-087525	Heritage Green Development LLC
09-01-087533	Heritage Green Development LLC
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09-01-087568	Heritage Green Development LLC
09-01-087576	Heritage Green Development LLC
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09-01-087657	Heritage Green Development LLC
09-01-087665	Heritage Green Development LLC
09-01-087673	Heritage Green Development LLC
09-01-087681	Heritage Green Development LLC
09-01-087703	Heritage Green Development LLC
09-01-087711	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0043, MSA_CE52_10217. Date available 03/16/2018. Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0485, MSA_CE52_11353. Date available 09/24/2020. Printed 09/25/2020.

09-01-087738	Heritage Green Development LLC
09-01-087746	Heritage Green Development LLC
09-01-087754	Heritage Green Development LLC
09-01-087762	Heritage Green Development LLC
09-01-087770	Heritage Green Development LLC
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09-01-088254	Heritage Green Development LLC
09-01-088262	Heritage Green Development LLC
09-01-088270	Heritage Green Development LLC
09-01-088289	Heritage Green Development LLC
09-01-088297	Heritage Green Development LLC
09-01-088300	Heritage Green Development LLC
09-01-088319	Heritage Green Development LLC
09-01-088327	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0044, MSA_CE52_10217. Date available 03/16/2018. Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0486, MSA_CE52_11353. Date available 09/24/2020. Printed 09/25/2020.

09-01-088335	Heritage Green Development LLC
09-01-088343	Heritage Green Development LLC
09-01-088351	Heritage Green Development LLC
09-01-088378	Heritage Green Development LLC
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09-01-088459	Heritage Green Development LLC
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09-01-088777	Heritage Green Development LLC
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09-01-088963	Heritage Green Development LLC
09-01-088971	Heritage Green Development LLC
09-01-088998	Heritage Green Development LLC
09-01-089013	Heritage Green Development LLC
09-01-089021	Heritage Green Development LLC
09-01-089048	Heritage Green Development LLC
09-01-089056	Heritage Green Development LLC
09-01-089064	Heritage Green Development LLC
09-01-089072	Heritage Green Development LLC
09-01-089080	Heritage Green Development LLC
09-01-089099	Heritage Green Development LLC
09-01-089102	Heritage Green Development LLC
09-01-089110	Heritage Green Development LLC
09-01-089129	Heritage Green Development LLC
09-01-089137	Heritage Green Development LLC

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0045, MSA_CE52_10217, Date available 03/16/2018, Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0487, MSA_CE52_11353, Date available 09/24/2020, Printed 09/25/2020.

09-01-089145	Heritage Green Development LLC
09-01-089153	Heritage Green Development LLC
09-01-089161	Heritage Green Development LLC
09-01-089188	Heritage Green Development LLC
09-01-089196	Heritage Green Development LLC
09-01-089218	Heritage Green Development LLC
09-01-089226	Heritage Green Development LLC
09-01-089234	Heritage Green Development LLC
09-01-089242	Heritage Green Development LLC
09-01-089250	Heritage Green Development LLC

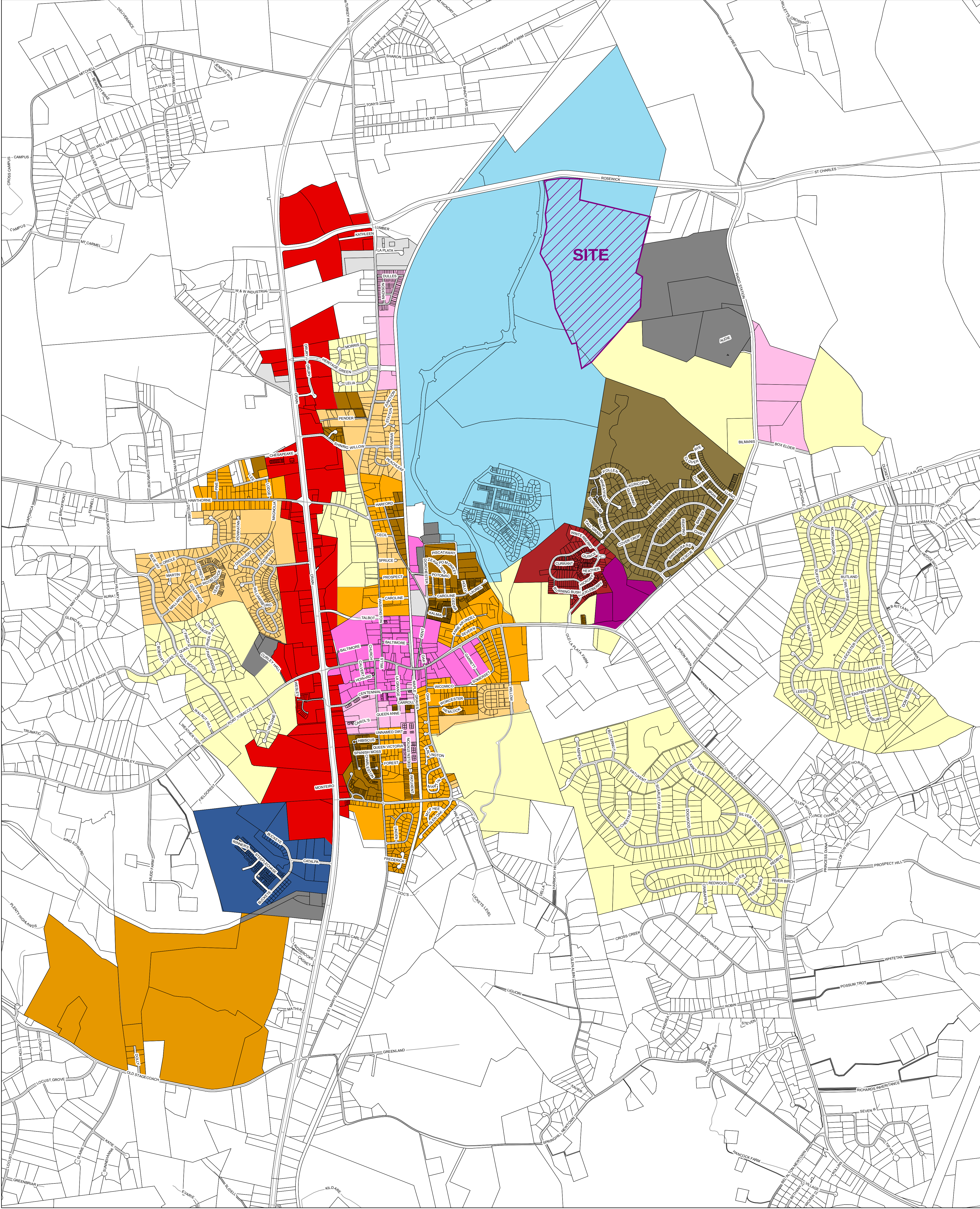
CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 10198, p. 0046, MSA_CE52_10217. Date available 03/16/2018. Printed 07/09/2020.

CHARLES COUNTY CIRCUIT COURT (Land Records) SLH 11334, p. 0488, MSA_CE52_11353. Date available 09/24/2020. Printed 09/25/2020.

DOCUMENT VALIDATION

Sharon L. Hancock, Clerk
 Circuit Court for Charles County
 200 Charles Street
 La Plata, MD. 20646
 301-932-3202

LR - Deed (w Taxes)
 Recording only 5175.00
 Name: D R Horton Inc
 Ref: Mail
 LR - Deed (with Taxes)
 Surcharge 40.00
 LR - Deed State
 Transfer Tax 95,000.00
 LR - NR Tax - lkd 0.00
 =====
 SubTotal: 95,115.00
 =====
 Total: 95,115.00
 09/21/2020 03:45
 CC08-WN
 #14097896 CC0702 -
 Charles
 County/CC07.02.01 -
 Register 01



Legend

- Zoning**
- Central Business (CB)
 - Central Business Transition (CBT)
 - Commercial Highway (CH)
 - Industrial High (IH)
 - Industrial Low (IL)
 - Neighborhood Commercial Mixed Use (NCX)
 - Planned Development Agricopia (PD-AG)
 - Planned Development Hickory Ridge (PD-HR)
 - Planned Development Steeplechase (PD-ST)
 - Residential 10,000 SF (R10)
 - Residential 21,000 SF (R21)
 - Residential 3,000 SF (R3)
 - Residential 5,000 SF (R5)
 - Residential 8,000 SF (R8)
 - Traditional Development Mixed Use (TDX)

Town of La Plata
Official Zoning Map 2021

1 inch = 964 feet



List of Adjacent Property Owners:

Fraternal Order of Police Lodge 24
P.O. Box 1927
LaPlata, MD 20646
Tax Map 23, Grid 23, Parcel 376

Rosewick Storage and RV LLC
204 Washington Ave, Suite 201
LaPlata, MD 20646
Tax Map 33, Grid 5, Parcel 497, Lot 1R

Charles County Court House
P.O. Box 2150
LaPlata, MD 20646
Tax Map 33, Grid 5, Parcel 534

Board of Education of Charles County MD
Attn: Facilities Department
P. O. Box 2770
LaPlata, MD 20646
Tax Map 33, Grid 12, Parcel 130

Mayor
Jeannine E. James

Town of La Plata

Council
David L. Winkler
Matthew D. Trollinger
Evalyne L. Bryant-Ward
David M. Jenkins



Assistant Town Manager
Michelle D. Miner

September 16, 2024

Sent via email to bgeorg@drhorton.com

Brian Georg
Forward Planning & Land Development Manager
137 Mitchells Chance Rd., Suite 300
Edgewater, MD 21037

RE: SE-0001-2024 Special Exception for Senior Living Community

Dear Mr. Georg:

This letter is to service as the written decision from the Zoning Inspector as to why a Special Exception for a Senior Living Community is required. It is determined that Section 191-52.H.(28) of the Town Code, a Senior Living Community is permitted by special exception in the TDX Zone. Your property is located within the TDX Zone and would therefore require Special Exception approval in order to proceed with a Major Subdivision.

Should you have any questions regarding this letter, your application or the Board of Appeals process, you may reach me by phone at (301)934-8421 or by email at jharrington@townoflaplata.org.

Sincerely,

Jeanine Harrington, AICP
Director of Planning