

## MEMORANDUM

DATE: August 5, 2020  
TO: Zoning Review Office  
FROM: Office of Administrative Hearings  
RE: Case No. 2019-0534-X – Appeal Period Expired

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The appeal period for the above-referenced cases expired on August 3, 2020. There being no appeal filed, the subject file is ready for return to the Zoning Review Office and is placed in the 'pick up box.'

/dlw

c: ✓ Case File  
Office of Administrative Hearings

IN RE: **PETITION FOR SPECIAL EXCEPTION\***

(5401 Campbell Boulevard)  
15<sup>th</sup> Election District  
6<sup>th</sup> Council District  
Whitemarsh Associates, LLC  
*Legal Owner*

BEFORE THE

\*

OFFICE OF

\*

ADMINISTRATIVE HEARINGS

\*

FOR BALTIMORE COUNTY

Petitioner

\*

**Case No. 2019-0534-X**

\* \* \* \* \*

**OPINION AND ORDER**

This matter comes before the Office of Administrative Hearings (“OAH”) for consideration of a Petition for Special Exception filed on behalf of Whitemarsh Associates, LLC, Legal Owner (“Petitioners”). The special exception petition was filed pursuant to § 502.1 of the Baltimore County Zoning Regulations (“BCZR”) for a fuel service station in the ML IM zone, and for such further relief as the Administrative Law Judge (“ALJ”) may require.

Christopher Hoffman appeared in support of the petition on behalf of the conditional contract purchaser, Wawa, Inc. Adam M. Rosenblatt, Esq. represented the Petitioner. Patrick Richardson, the engineer who prepared the site plan, also appeared and was recognized as an expert in land use, engineering, and the BCZR. The site plan was admitted as Petitioner’s Exhibit 1. A traffic engineer, Mickey Cornelius appeared and was recognized as an expert in the field. Finally, Edward Steere, AICP, also appeared and was recognized as an expert in land use, real estate development, and the BCZR. There were no Protestants or interested citizens in attendance. Substantive Zoning Advisory Committee (“ZAC”) comments were received from the Department of Environmental Protection and Sustainability (“DEPS”) which indicated that the property must comply with Critical Area regulations, and that the plans must also be presented to the

Development Review Committee (“DRC”) for determination of plan process prior to the issuance

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Date 7/2/20

By D. Dignon

of any permits for grading and construction. In addition, ZAC comments were received from the State Highway Administration ("SHA") indicating that the Petitioner must contact the SHA to obtain an entrance permit. Finally, the Department of Planning ("DOP") also submitted comments in opposition to the requested relief, primarily because of the flood plain issue discussed below.

### **BACKGROUND**

The subject parcel was the subject of Case No. 2019-0451-SPH in which a floodplain waiver was requested and ultimately granted. Initially, by Order dated December 5, 2019 the undersigned denied the waiver based on the misconception that even after all the stormwater construction was completed the proposed Wawa development would still be at least partially within the floodplain. The Petitioner filed a timely Motion for Reconsideration which explained and documented the fact that the floodplain waiver would enable Petitioner to construct such stormwater management facilities as would be required to take the proposed Wawa development *outside* the floodplain. Based on these representations I granted the requested waiver, stating that *"I will defer to the judgment and expertise of the Director of Public Works, who has reviewed Petitioner's engineering studies and concludes that the proposed floodplain site work "will have zero adverse impact on the floodplain."* However, I condition this approval as follows:

"All provisions of Baltimore County Code ("BCC") § 32-8-207 shall be satisfied before any permits are issued or any development may proceed."

In the instant case Mr. Rosenblatt acknowledges that should the requested Special Exception be granted the Petitioner must still comply with all provisions of BCC § 32-8-207 before they will be granted permits for any of their proposed construction (other than stormwater management construction related to floodplain ameliorization). In other words, they must still obtain all required floodplain waivers and permits from all federal, state, and county agencies.

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Date 7/2/20

By Orlignan



However, as Mr. Rosenblatt also points out, under the holding in *Attar v. DMS Tollgate, LLC*, 451 Md. 272, 289 (2017), in a case such as this, a petitioner, “is not prevented by the BCZR from proceeding with the request for the Special Exception before receiving approval for the proposed floodplain relocation.” It is in this context that the Special Exception relief in this case will be considered. In other words, as I made clear to Mr. Rosenblatt and the Petitioner, the merits of the Special Exception petition will be considered separate and apart from the floodplain issue; but any Special Exception relief I grant will still be conditioned upon them obtaining all the necessary floodplain approvals. Requiring the Petitioner to comply with all the onerous floodplain regulations will satisfy the sustainability goals of the Baltimore County Master Plan 2020, which requires the continued enforcement of development regulations “for the protection of water quality, streams, wetlands, and floodplains.” *Id.* at 156.

#### **FINDINGS OF FACT**

The site is approximately 4.05 acres in size and zoned ML and IM. As depicted on the site plan, the subject property lies at the southeast corner of Philadelphia Road and Campbell Avenue in White Marsh. As described by the witnesses and as depicted in an aerial photograph (Petitioner’s Exhibit 4), the surrounding area consists of a variety of commercial uses such as a FedEx Ground facility, car dealerships, a Lowe’s Home Improvement store, and assorted fast food restaurants. As discussed below, there are four other fuel service stations within the relevant “trade area” of this site; however, none are in close proximity—as also demonstrated by the aerial photo. Of note, there are no residential uses nearby.

#### **A. The requirements of BCZR §§ 253 and 405 concerning fuel service stations**

Because there were no protestants at the hearing Mr. Rosenblatt was allowed to proffer the

following. The proposed development is for a 4700 sq. ft. Wawa convenience store and 12 fuel

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Date

7/12/20

By

Orlignan



pumps covered by canopies. The site plan fully conforms with the standards set forth in BCZR § 405.4. There is far more than the required square footage; the proposed parking exceeds requirements; the landscape transition areas are provided and all landscaping will comply with the Baltimore County Landscape Manual. Further, all setbacks, traffic flow, and parking regulations are satisfied. Finally, restrooms, water, and compressed air pumps will also be provided. At present, there are no plans for seating within or outside the Wawa store.

In its ZAC comments the DOP noted that under BCZR § 253.2.B the grant of a special exception for a fuel service station must be based on a finding that “such use will serve primarily the industrial uses and related activities in the surrounding industrial area.” And DOP observes that the proposed facility will not provide truck refueling access for the nearby FedEx facility. While this is true, I’m quite sure that FedEx has its own fueling facilities. Moreover, I find that the proposed Wawa facility will indeed primarily serve the surrounding industrial area, *and related activities*, by providing fuel and all the accoutrements of a modern fuel/food/beverage store to the employees and customers of the surrounding businesses. As noted above, there are no other such facilities in the immediate vicinity.

Petitioner’s land use and planning expert, Edward Steere, produced a detailed and informative impact analysis for this proposed project. (Petitioner’s Exhibit 10A, and 10B). this impact analysis clearly establishes that this proposed Wawa facility will primarily serve the surrounding industrial uses, as required by BCZR § 253.2.B. This impact analysis also establishes that there is sufficient unmet demand for fuel and services to support this additional fuel/convenience store in this proposed location. In fact, after considering the existing and projected average daily car trips in the area, as well as the four other existing fuel/convenience centers, Mr. Steere found that there is an unmet demand of over 5 million gallons of fuel per year.

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Date

7/2/20

By

D. Dignan

Further, even if there was opposition from any of the other four fuel centers (and there is not), that would not be a valid reason to deny the special exception because “prevention of competition is not a proper element of zoning.” *Attar, supra*, 451 Md. at 290, quoting, *Kreatchman v. Ramsburg*, 224 Md. 209, 219 (1961). Finally, there are no abandoned fuel stations within a half mile of the site, so the special exception is permitted under BCZR § 405.3.

**B. The requirements of BCZR § 502.1 governing Special Exceptions**

In order to comply with BCZR § 502.1 a special exception request must satisfy nine separate conditions, if applicable. The record evidence in this case satisfies all applicable conditions. First, provided that the developer complies with all federal, state and county floodplain laws, the proposed special exception use will not, in my view, be detrimental to the health, safety or general welfare of the surrounding areas.

Second, the traffic engineer, Mr. Cornelius, produced a detailed traffic study based on state and county standards that establishes this proposed use will not create congestion on the surrounding roads. (Petitioner’s Exhibit 7). This traffic study was approved by the SHA in December 2018 and is valid for 5 years. (Petitioner’s Exhibit 8). As Cornelues explained, the vast majority of the projected traffic in the area consists of customers and employees of the existing businesses in the area. In other words, it is already present. The Wawa will merely experience “pass by” traffic; that is, motorists who are heading to these other existing locations who stop in for fuel and/or convenience items at this proposed Wawa. In addition, and as requested by the SHA, the access off of Philadelphia Road will be a single right turn only lane into the Wawa, with no egress onto Philadelphia Road. This will serve to avoid traffic hazards and congestion on that busy arterial road. The sole egress point will be on Campbell Boulevard well back from its intersection with Philadelphia Road. Just east of the proposed site Campbell Boulevard dead ends,

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Date

7/2/20

By

D. Mignone



and there are only a couple businesses located east of this proposed site. In sum, this proposed special exception use will have minimal impacts on traffic.

I also find that this proposed Wawa will not cause a fire hazard, will not overcrowd the land, will not cause an undue concentration of population, and will not interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public services. There are no basic service map issues in this vicinity.

Finally, as to the remaining § 502.1 criteria, which all relate to environmental impacts, I again find that so long as the floodplain issues are fully addressed this proposed Wawa will have no greater environmental impact at this location than it would anywhere else in the BL or IM zones.

#### Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC, supra*, where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use. Based on the record evidence in this case I find that the special exception relief should be granted under these legal standards.

THEREFORE, IT IS ORDERED this **2nd** day of **July, 2020**, by this Administrative Law Judge, that the Petition for Special Exception seeking relief from BCZR § 502.1 for a fuel service station in the ML IM zone, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

ORDER RECEIVED FOR FILING

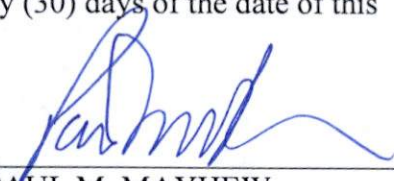
Date

By



1. Petitioner may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioner is hereby made aware that proceeding at this time is at its own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioner would be required to return the subject property to its original condition.
2. Prior to issuance of Permits, Petitioner must comply with the ZAC comments submitted by DEPS and SHA; copies of which are attached hereto and made a part hereof.
3. As stated in the prior Order in Case No. 2019-0451-SPH, all provisions of BCC §. 32-8-207 shall be satisfied before any permits are issued or any development may proceed.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

  
\_\_\_\_\_  
PAUL M. MAYHEW  
Managing Administrative Law Judge  
for Baltimore County

PMM:dlw

ORDER RECEIVED FOR FILING

Date 7/2/20  
By D. Mignone



# PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 5401 Campbell Boulevard which is presently zoned ML IM  
 Deed References: 13490/220 10 Digit Tax Account # 1 5 1 4 6 5 1 4 4 0  
 Property Owner(s) Printed Name(s) Whitemarsh Associates, LLC

(SELECT THE HEARING(S) BY MARKING **X** AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1.        a **Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve
2.   X   a **Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for  
SEE ATTACHED
3.        a **Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons:  
 (Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

**Legal Owner(s) Affirmation:** I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

## Contract Purchaser/Lessee:

N/A SEE ATTACHED

Name- Type or Print

Signature

Mailing Address

City

State

Zip Code

Telephone #

Email Address

## Attorney for Petitioner:

Adam M. Rosenblatt

Name- Type or Print

Signature

Venable, 210 W. Pennsylvania Ave, Suite 500, Towson, MD

Mailing Address

City

State

21204

/ 410-494-6271

/amrosenblatt@venable.com

Zip Code

Telephone #

Email Address

## Legal Owners (Petitioners):

SEE ATTACHED

Name #1 – Type or Print

Name #2 – Type or Print

Signature #1

Signature #2

Mailing Address

City

State

Zip Code

Telephone #

Email Address

## Representative to be contacted:

Adam M. Rosenblatt

Name- Type or Print

Signature

Venable, 210 W. Pennsylvania Ave., Suite 500, Towson, MD

Mailing Address

City

State

21204

/ 410-494-6271

/amrosenblatt@venable.com

Zip Code

Telephone #

Email Address

CASE NUMBER 2019-0534-X

Filing Date 12/5/2019

Do Not Schedule Dates: \_\_\_\_\_

Reviewer [Signature]



**ATTACHMENT TO  
PETITION FOR SPECIAL EXCEPTION**

**REQUESTED RELIEF**

1. Special Exception for a fuel service station in the ML IM zone.
2. Also, for such further relief as the Administrative Law Judge may require.

**ATTACHMENT TO  
ZONING PETITION**

**OWNER:**

**WHITEMARSH ASSOCIATES, LLC**

BY:   
Jack Gease  
Authorized Representative

2019-0534-X



**ZONING PROPERTY DESCRIPTION FOR  
5401 CAMPBELL BOULEVARD  
15<sup>TH</sup> ELECTION DISTRICT  
6<sup>TH</sup> COUNCILMANIC DISTRICT  
BALTIMORE COUNTY, MARYLAND**

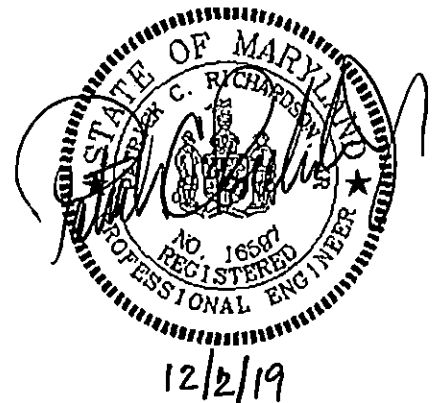
**BEGINNING FOR THE SAME** at a point on the **southeast** side right-of-way of **Philadelphia Road (Maryland Route #7)** at a distance of **385 +/- feet south** of the centerline of the nearest improved intersecting street **Campbell Boulevard**:

Thence the following courses and distances:

- (1) North 30 degrees 21 minutes 40 seconds East 319.87 feet,
- (2) North 30 degrees 21 minutes 40 seconds East 60.80 feet,
- (3) South 50 degrees 21 minutes 27 seconds East 186.78 feet,
- (4) 305.48 feet along the arc of a non-tangent curve to the right having a radius of 957.00 feet subtended by a chord bearing South 41 degrees 12 minutes 46 seconds East 304.18 feet,
- (5) 30.23 feet along the arc of a non-tangent curve to the right having a radius of 385.74 feet subtended by a chord bearing South 29 degrees 49 minutes 23 seconds East 30.22 feet,
- (6) North 62 degrees 25 minutes 20 seconds East 60.00 feet;
- (7) 102.65 feet along the arc of a non-tangent curve to the right having a radius of 445.74 feet subtended by a chord bearing South 20 degrees 58 minutes 48 seconds East 102.43 feet,
- (8) South 14 degrees 22 minutes 57 seconds East 70.46 feet,
- (9) North 74 degrees 34 minutes 22 seconds West 4.39 feet,
- (10) North 74 degrees 34 minutes 22 seconds West 679.28 feet to the point of beginning.

Containing a net area of 144,708 square feet or 3.322 acres.

**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 NUMBER 16597,  
EXPIRATION DATE: 08-15-2021



2019-0534-X

7-1  
10Am

**Debra Wiley**

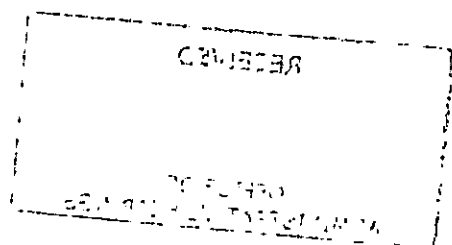
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**From:** SGT ROBERT BLACK <1opie@comcast.net>  
**Sent:** Monday, June 29, 2020 10:19 PM  
**To:** Barbara Lukasevich; CARobinson@Venable.com; amrosenblatt@venable.com; Administrative Hearings; DKarceski@Venable.com  
**Subject:** Recertification's For 2020-0046-A, 2020-0041-X And 2019-0534-X  
**Attachments:** Re-Cert 1 2019-0534-X.doc; Re-Cert 2 2019-0534-X.doc; Re-Cert 1 2020-0041-X.doc; Re-Cert 2 2020-0041-X.doc; Re-Cert 1 2020-0046-A.doc; Re-Cert 2 2020-0046-A.doc

**CAUTION:** This message from 1opie@comcast.net originated from a non Baltimore County Government or non BCPL email system. Hover over any links before clicking and use caution opening attachments.

Recertification's for 7908 New Battle Grove Road, 4313 Ebenezer Road and 5401 Campbell Boulevard. Thanks.







# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

**Whitemarsh Associates, LLC**

**July 1, 2020**

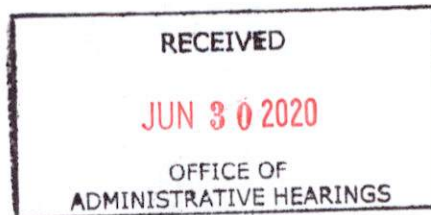
Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

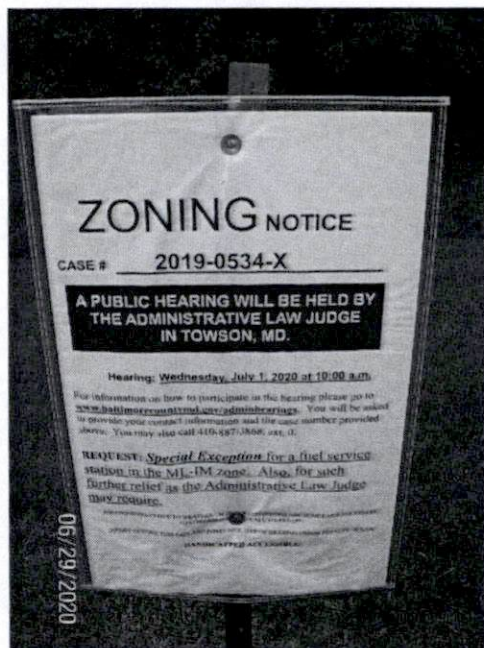


5401 Campbell Boulevard

## SIGN 1 Recertification

**June 11, 2020**

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

A handwritten signature in black ink, appearing to read "Robert Black".

**June 29, 2020**

(Signature of Sign Poster)

(Date)

**SSG Robert Black**

(Print Name)

**1508 Leslie Road**

(Address)

**Dundalk, Maryland 21222**

(City, State, Zip Code)

**(410) 282-7940**

(Telephone Number)

# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

Whitemarsh Associates, LLC

July 1, 2020

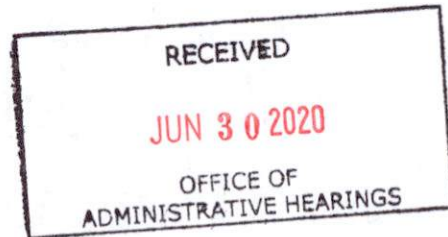
Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

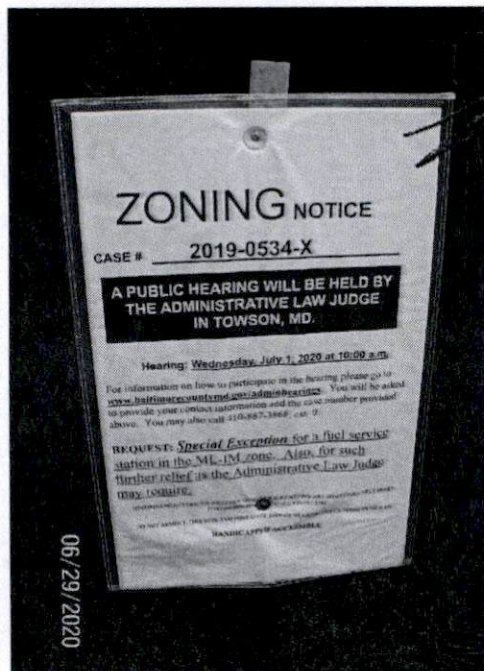


5401 Campbell Boulevard

## SIGN 2 Recertification

June 11, 2020

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

  
(Signature of Sign Poster)

June 29, 2020

(Date)

SSG Robert Black

(Print Name)

1508 Leslie Road

(Address)

Dundalk, Maryland 21222

(City, State, Zip Code)

(410) 282-7940

(Telephone Number)



copy emailed



JOHN A. OLSZEWSKI, JR.  
County Executive

MICHAEL D. MALLINOFF, Director  
Department of Permits,  
Approvals & Inspections

June 9, 2020

## NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a virtual hearing on the property identified herein as follows:

**CASE NUMBER: 2019-0534-X**

5401 Campbell Boulevard

S/west corner of intersection at Philadelphia Road and Campbell Blvd.

15<sup>th</sup> Election District – 6<sup>th</sup> Councilmanic District

Legal Owners: Whitmarsh Associates, LLC

Special Exception for a fuel service station in the ML-IM zone. Also, for such further relief as the Administrative Law Judge may require.

**Hearing:** Wednesday, July 1, 2020 at 10:00 a.m.

For information on how to participate in the hearings please go to [www.baltimorecountymd.gov/adminhearings](http://www.baltimorecountymd.gov/adminhearings). You will be asked to provide your contact information and the case number provided above. You may also call 410-887-3868, ext. 0.

A handwritten signature in black ink, appearing to read "Michael Mallinoff".

Michael Mallinoff  
Director

MM:kl

C: Adam Rosenblatt, 210 W. Pennsylvania Avenue, Rm. 500, Towson 21204

**NOTE: (1) THE PETITIONER MUST HAVE THE ZONING NOTICE SIGN POSTED BY AN APPROVED POSTER ON THE PROPERTY BY THURSDAY, JUNE 11, 2020.**



# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

Whitemarsh Associates, LLC

July 1, 2020

Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

5401 Campbell Boulevard

**SIGN 1**

June 11, 2020

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

 June 11, 2020  
(Signature of Sign Poster) (Date)

SSG Robert Black

(Print Name)

1508 Leslie Road

(Address)

Dundalk, Maryland 21222

(City, State, Zip Code)

(410) 282-7940

(Telephone Number)



# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

Whitemarsh Associates, LLC

July 1, 2020

Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

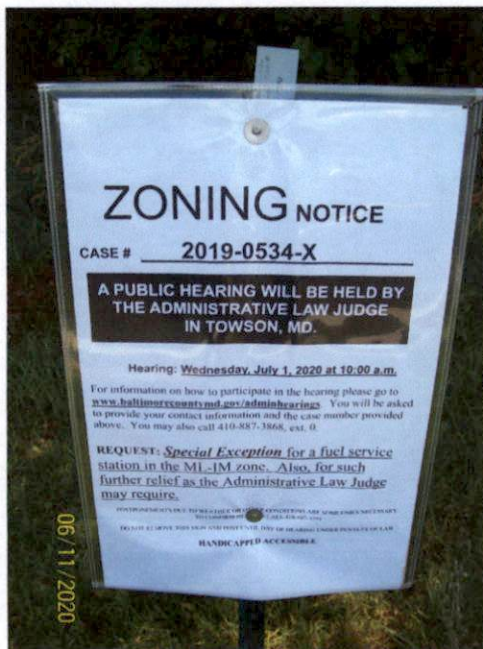
This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

5401 Campbell Boulevard

**SIGN 2**

June 11, 2020

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

 June 11, 2020  
\_\_\_\_\_  
(Signature of Sign Poster) (Date)

SSG Robert Black

\_\_\_\_\_  
(Print Name)

1508 Leslie Road

\_\_\_\_\_  
(Address)

Dundalk, Maryland 21222

\_\_\_\_\_  
(City, State, Zip Code)

(410) 282-7940

\_\_\_\_\_  
(Telephone Number)

# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

Whitemarsh Associates, LLC

March 27, 2020

Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

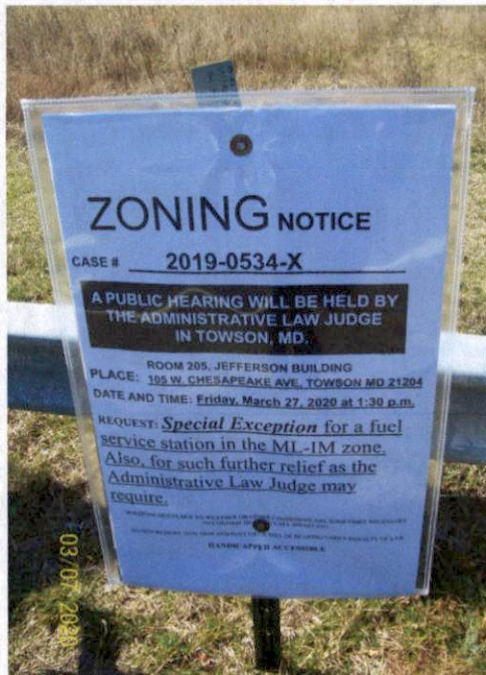
This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

5401 Campbell Boulevard

**SIGN 1**

March 7, 2020

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

 March 7, 2020  
(Signature of Sign Poster) (Date)

SSG Robert Black

(Print Name)

1508 Leslie Road

(Address)

Dundalk, Maryland 21222

(City, State, Zip Code)

(410) 282-7940

(Telephone Number)



# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

**Whitemarsh Associates, LLC**

**March 27, 2020**

Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

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5401 Campbell Boulevard

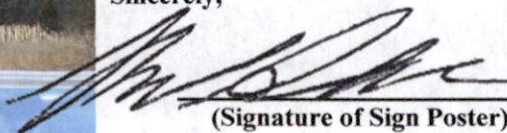
**SIGN 2**

**March 7, 2020**

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,



**March 7, 2020**

(Signature of Sign Poster) (Date)

**SSG Robert Black**

(Print Name)

**1508 Leslie Road**

(Address)

**Dundalk, Maryland 21222**

(City, State, Zip Code)

**(410) 282-7940**

(Telephone Number)



**The Daily Record**

200 St. Paul Place Suite 2480

Baltimore, Maryland 21202

1 (443) 524-8100

www.thedailyrecord.com

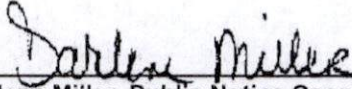
**PUBLISHER'S AFFIDAVIT**

We hereby certify that the annexed advertisement was published in **The Daily Record**, a daily newspaper published in the State of Maryland 1 times on the following dates:

3/6/2020

Order #: 11865450  
Case #: 2019-0534-X  
Description:

NOTICE OF ZONING HEARING - CASE NUMBER: 2019-0534-X



Darlene Miller, Public Notice Coordinator  
(Representative Signature)

**Baltimore County****NOTICE OF ZONING HEARING**

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

**CASE NUMBER: 2019-0534-X**

5401 Campbell Boulevard

S/west corner of intersection at Philadelphia Road and Campbell Blvd.

15th Election District - 6th Councilmanic District

Legal Owners: Whitmarsh Associates, LLC

Special Exception for a fuel service station in the ML-1M zone. Also, for such further relief as the Administrative Law Judge may require.

Hearing: Friday, March 27, 2020 at 1:30 p.m. in Room 205, Jefferson Building,  
105 West Chesapeake Avenue, Towson 21204

Michael Mallinoff

Director of Permits, Approvals and Inspections for Baltimore County

NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE. FOR SPECIAL ACCOMMODATIONS, PLEASE CONTACT THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.

(2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.  
mh6

# CERTIFICATE OF POSTING

**2019-0534-X**

RE: Case No.: \_\_\_\_\_

**Petitioner/Developer:** \_\_\_\_\_

**Whitemarsh Associates, LLC**

**March 27, 2020**

**Date of Hearing/Closing:** \_\_\_\_\_

**Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204**

**Attn: Kristen Lewis:**

**Ladies and Gentlemen:**

**This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_**

**5401 Campbell Boulevard**

## SIGN 1

**March 7, 2020**

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)

**Sincerely,**

March 7, 2020

**(Signature of Sign Poster)**

**(Date)**

**SSG Robert Black**

**(Print Name)**

**1508 Leslie Road**

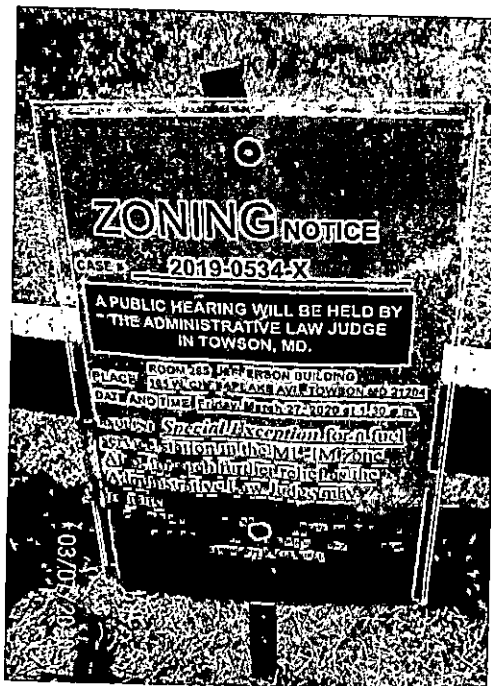
**(Address)**

**Dundalk, Maryland 21222**

**(City, State, Zip Code)**

**(410) 282-7940**

(Telephone Number)



# CERTIFICATE OF POSTING

2019-0534-X

RE: Case No.: \_\_\_\_\_

Petitioner/Developer: \_\_\_\_\_

Whitemarsh Associates, LLC

March 27, 2020

Date of Hearing/Closing: \_\_\_\_\_

Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 111  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Attn: Kristen Lewis:

Ladies and Gentlemen:

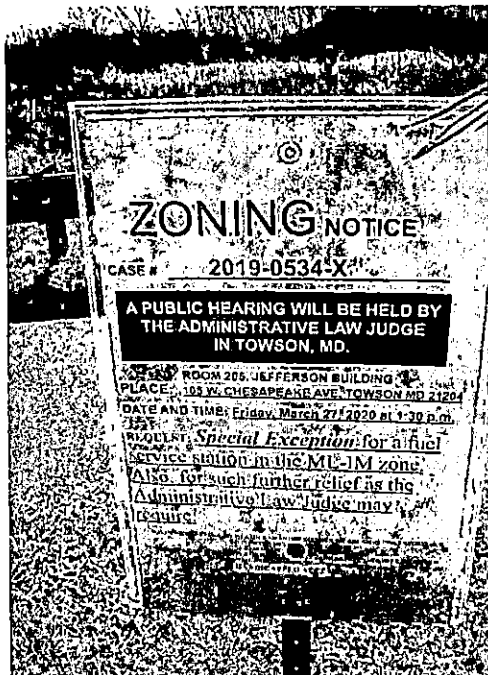
This letter is to certify under the penalties of perjury that the necessary sign(s) required by law were posted conspicuously on the property located at: \_\_\_\_\_

5401 Campbell Boulevard

## SIGN 2

March 7, 2020

The sign(s) were posted on \_\_\_\_\_  
(Month, Day, Year)



Sincerely,

March 7, 2020

(Signature of Sign Poster)

(Date)

SSG Robert Black

(Print Name)

1508 Leslie Road

(Address)

Dundalk, Maryland 21222

(City, State, Zip Code)

(410) 282-7940

(Telephone Number)





JOHN A. OLSZEWSKI, JR.  
County Executive

MICHAEL D. MALLINOFF, Director  
Department of Permits,  
Approvals & Inspections

February 25, 2020

## NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

**CASE NUMBER: 2019-0534-X**

5401 Campbell Boulevard

S/west corner of intersection at Philadelphia Road and Campbell Blvd.

15<sup>th</sup> Election District – 6<sup>th</sup> Councilmanic District

Legal Owners: Whitmarsh Associates, LLC

Special Exception for a fuel service station in the ML-IM zone. Also, for such further relief as the Administrative Law Judge may require.

Hearing: Friday, March 27, 2020 at 1:30 p.m. in Room 205, Jefferson Building,  
105 West Chesapeake Avenue, Towson 21204

A handwritten signature in cursive script, appearing to read "Michael Mallinoff".

Michael Mallinoff  
Director

MM:kl

C: Adam Rosenblatt, 210 W. Pennsylvania Avenue, Rm. 500, Towson 21204

- NOTES: (1) THE PETITIONER MUST HAVE THE ZONING NOTICE SIGN POSTED BY AN APPROVED POSTER ON THE PROPERTY BY SATURDAY, MARCH 7, 2020.**
- (2) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMMODATIONS PLEASE CALL THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.**
- (3) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.**

TO: THE DAILY RECORD  
Friday, March 6, 2020 – Issue

Please forward billing to:

Adam Rosenblatt

410-494-6271

Venable

210 W. Pennsylvania Avenue, Ste. 500

Towson, MD 21204

---

## NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

**CASE NUMBER: 2019-0534-X**

5401 Campbell Boulevard

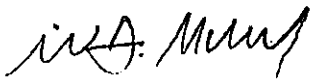
S/west corner of intersection at Philadelphia Road and Campbell Blvd.

15<sup>th</sup> Election District – 6<sup>th</sup> Councilmanic District

Legal Owners: Whitemarsh Associates, LLC

Special Exception for a fuel service station in the ML-IM zone. Also, for such further relief as the Administrative Law Judge may require.

Hearing: Friday, March 27, 2020 at 1:30 p.m. in Room 205, Jefferson Building,  
105 West Chesapeake Avenue, Towson 21204



Michael Mallinoff

Director of Permits, Approvals and Inspections for Baltimore County

- NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMODATIONS, PLEASE CONTACT THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.
- (2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

RE: PETITION FOR SPECIAL EXCEPTION \* BEFORE THE OFFICE  
5401 Campbell Boulevard; SW of intersection \* OF ADMINISTRATIVE  
of Philadelphia Road and Campbell Blvd \* HEARINGS FOR  
15<sup>th</sup> Election & 6<sup>th</sup> Councilmanic Districts \*  
Legal Owner(s): Whitemarsh Associates, LLC \*  
Petitioner(s) \* BALTIMORE COUNTY  
\* 2019-534-X

\* \* \* \* \*

**ENTRY OF APPEARANCE**

Pursuant to Baltimore County Charter § 524.1, please enter the appearance of People's Counsel for Baltimore County as an interested party in the above-captioned matter. Notice should be sent of any hearing dates or other proceedings in this matter and the passage of any preliminary or final Order. All parties should copy People's Counsel on all correspondence sent and all documentation filed in the case.

*Peter Max Zimmerman*

PETER MAX ZIMMERMAN  
People's Counsel for Baltimore County

*Carole S. Demilio*

CAROLE S. DEMILIO  
Deputy People's Counsel  
Jefferson Building, Room 204  
105 West Chesapeake Avenue  
Towson, MD 21204  
(410) 887-2188

RECEIVED

DEC 11 2019

**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on this 11<sup>th</sup> day of December, 2019, a copy of the foregoing Entry of Appearance was mailed to Adam Rosenblatt, Esquire, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Attorney for Petitioner(s).

*Peter Max Zimmerman*

PETER MAX ZIMMERMAN  
People's Counsel for Baltimore County





JOHN A. OLSZEWSKI, JR.  
*County Executive*

MICHAEL D. MALLINOFF, *Director*  
*Department of Permits,*  
*Approvals & Inspections*

June 22, 2020

Adam M. Rosenblatt,  
Venable 210 W. Pennsylvania Ave Suite 500  
Towson MD 21204

RE: Case Number: 2019-0534-X, 5401 Campbell Boulevard

To Whom It May Concern:

The above referenced petition was accepted for processing **ONLY** by the Bureau of Zoning Review, Department of Permits, Approvals, and Inspection (PAI) on December 05, 2019. This letter is not an approval, but only a **NOTIFICATION**.

The Zoning Advisory Committee (ZAC), which consists of representatives from several approval agencies, has reviewed the plans that were submitted with your petition. All comments submitted thus far from the members of the ZAC are attached. These comments are not intended to indicate the appropriateness of the zoning action requested, but to ensure that all parties (zoning commissioner, attorney, petitioner, etc.) are made aware of plans or problems with regard to the proposed improvements that may have a bearing on this case. All comments will be placed in the permanent case file.

If you need further information or have any questions, please do not hesitate to contact the commenting agency.

Very truly yours,

A handwritten signature in dark ink, appearing to read "W. Carl Richards, Jr.", is written over the "Very truly yours," text.

W. Carl Richards, Jr.  
Supervisor, Zoning Review

WCR/kl

Enclosures

c: People's Counsel



Dee



**BALTIMORE COUNTY, MARYLAND**

**Inter-Office Correspondence**



TO: Hon. Paul M. Mayhew; Managing Administrative Law Judge  
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and  
Sustainability (EPS) - Development Coordination

DATE: December 13, 2019

SUBJECT: DEPS Comment for Zoning Item # 2019-0534-X  
Address 5401 Campbell Blvd.  
(Whitemarsh Associates, LLC  
Property)

Zoning Advisory Committee Meeting of **December 16, 2019.**

- X The Department of Environmental Protection and Sustainability offers the following comments on the above-referenced zoning item:
- X Development of the property must comply with the Regulations for the Protection of Water Quality, Streams, Wetlands and Floodplains (Sections 33-3-101 through 33-3-120 of the Baltimore County Code).

Additional Comments:

1. Development of this site would require a variance to the Law for the Protection of Water Quality Streams, Wetlands and Floodplains. Any such buffer variance request must clearly meet the requirements of Section 33-3-106 and the legislative intent outlined in Section 33-3-103. Given the amount of impact to forested non-tidal wetlands and Forest Buffer Easement proposed on the plan accompanying the zoning petition, the development proposal does not appear to meet the variance criteria.
2. This project will require presentation to the Development Review Committee (DRC) for determination of plan process prior to issuance of any permits for grading or construction.

Reviewers: Glenn Shaffer & Steve Ford



301

**BALTIMORE COUNTY, MARYLAND**

**Inter-Office Correspondence**



TO: Hon. Paul M. Mayhew; Managing Administrative Law Judge  
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and  
Sustainability (EPS) - Development Coordination

DATE: December 13, 2019

SUBJECT: DEPS Comment for Zoning Item # 2019-0534-X  
Address 5401 Campbell Blvd.  
(Whitemarsh Associates, LLC  
Property)

Zoning Advisory Committee Meeting of **December 16, 2019.**

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2. This project will require presentation to the Development Review Committee (DRC) for determination of plan process prior to issuance of any permits for grading or construction.

Reviewers: Glenn Shaffer & Steve Ford

Date: 12/11/19

Ms. Kristen Lewis  
Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 109  
111 West Chesapeake Avenue  
Towson, Maryland 21204

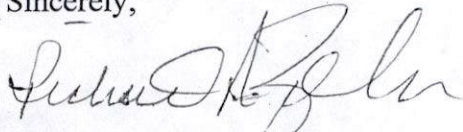
Dear Ms. Lewis:

We have reviewed the site plan to accompany the petition for variance on the subject of the Case number referenced below, which was received on 12/11/19. A field inspection and internal review reveals that an entrance onto MD 7 consistent with current State Highway Administration guidelines is required. As a condition of approval for 2019-0534-X, Case Number 2019-0534-X.

*Special Exception*  
*Whiteman Associates, LLC*  
*5401 Campbell Boulevard*

The applicant must contact the State Highway Administration to obtain an entrance permit. Should you have any questions regarding this matter feel free to contact Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at ([rzeller@mdot.maryland.gov](mailto:rzeller@mdot.maryland.gov)).

Sincerely,



Wendy Wolcott, P.L.A.  
Metropolitan District Engineer  
Maryland Department of Transportation  
State Highway Administration  
District 4 - Baltimore and Harford Counties

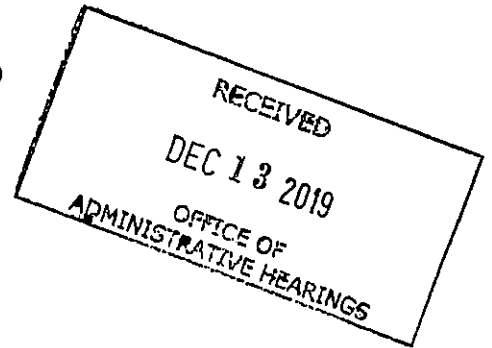
WW/RAZ

cc: Mr. Michael Pasquariello, Utility Engineer, SHA



BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence



TO: Hon. Paul M. Mayhew; Managing Administrative Law Judge  
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and  
Sustainability (EPS) - Development Coordination

DATE: December 13, 2019

SUBJECT: DEPS Comment for Zoning Item # 2019-0534-X  
Address 5401 Campbell Blvd.  
(Whitemarsh Associates, LLC  
Property)

Zoning Advisory Committee Meeting of **December 16, 2019.**

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Additional Comments:

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2. This project will require presentation to the Development Review Committee (DRC) for determination of plan process prior to issuance of any permits for grading or construction.

Reviewers: Glenn Shaffer & Steve Ford



**MDOT**  
MARYLAND DEPARTMENT  
OF TRANSPORTATION  
STATE HIGHWAY  
ADMINISTRATION

Larry Hogan  
Governor  
Boyd K. Rutherford  
Lt. Governor  
Pete K. Rahn  
Secretary  
Gregory Slater  
Administrator

Date: 12/11/19

Ms. Kristen Lewis  
Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 109  
111 West Chesapeake Avenue  
Towson, Maryland 21204

Dear Ms. Lewis:

We have reviewed the site plan to accompany the petition for variance on the subject of the Case number referenced below, which was received on 12/11/19. A field inspection and internal review reveals that an entrance onto MD 7 consistent with current State Highway Administration guidelines is required. As a condition of approval for 2019-0534-X, Case Number 2019-0534X.

*Whitehouse Associates, LLC  
5401 Campbell Boulevard*

*Special Exception 1081*

The applicant must contact the State Highway Administration to obtain an entrance permit. Should you have any questions regarding this matter feel free to contact Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at ([rzeller@mdot.maryland.gov](mailto:rzeller@mdot.maryland.gov)).

Sincerely,



Wendy Wolcott, P.L.A.  
Metropolitan District Engineer  
Maryland Department of Transportation  
State Highway Administration  
District 4 - Baltimore and Harford Counties

WW/RAZ

cc: Mr. Michael Pasquariello, Utility Engineer, SHA

# BALTIMORE COUNTY, MARYLAND

## INTER-OFFICE MEMORANDUM

**TO:** Michael D. Mallinoff  
Director, Department of Permits, Approvals and Inspections

**DATE:** 6/30/2020

**FROM:** C. Pete Gutwald  
Director, Department of Planning

**SUBJECT:** ZONING ADVISORY COMMITTEE COMMENTS (Amended)  
Case Number: 19-534



**INFORMATION:**

**Property Address:** 5401 Campbell Boulevard  
**Petitioner:** Whitmarsh Associates, LLC  
**Zoning:** ML-IM  
**Requested Action:** Special Exception

The Department of Planning has reviewed the petition for a special exception for a fuel station and convenience store.

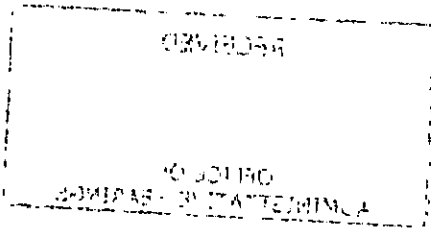
A site visit was conducted on September 30, 2019. The site sits at the southeast intersection of Campbell Boulevard and Philadelphia Roads. To the north of the site is a commercial and office complex. To the west are commercial uses. It is nearly entirely vegetated with forest along the southern portion of the site, wetlands and extensive floodplain covering the majority of the site. It is bounded on the south by the floodplain and forested buffer to a tributary to White Marsh Run that drains into Bird River. In summary the site has particularly extensive environmental conditions and is bordered to the north and west by intensively developed commercial and industrial uses.

The Department did not support the ZAC 19-453 request for a waiver to floodplain on the basis of compliance with the Baltimore County Master Plan 2020 sustainability goals – specifically: “Continue to protect, enhance, and restore degraded waterways to meet water quality standards and permit requirements. (1) Continue to enforce development regulations “Continue to enforce development regulations for the protection of water quality, streams, wetlands, and floodplains” (Page 156).

The petitioner has not demonstrated the proposed development of the convenience store and gas pumps meets Baltimore County Zoning Regulations (BCZR 253.1.B.1. and BCZR 405 Fuel Service Stations). BCZR Section 253.2.B. states “or in an I. M. District; provided, further, that it is shown that any such use will service primarily the industrial uses and related activities in the surrounding industrial area”. The nearest industrial use is a Fed Ex trucking operation that has an access directly across from the site. The proposed design does not provide for truck access and refueling to serve this use or other similar industrial uses that might require fueling. No information has been submitted by the Petitioner to indicate how the use “will service primarily the industrial uses and related activities...” of the area. Relevant to this issue Whitmarsh Associates, LLC submitted a 2020 Comprehensive Zoning Map Process petition Issue 6-025 requesting a change in zoning from ML-IM to BM-IM.

In the event that the petition is approved the Department has the following design comments:

1. Relocate the dumpster away from Philadelphia Road to an internal location.

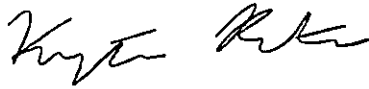




2. Design the canopy and store to be compatible with adjacent uses and provide documentation of the basis for the design (BCZR 405.4.C.1.e.) Submit a design plan for the canopy and store with accompanying illustrations

For further information concerning the matters stated herein, please contact Wally Lippincott at 410-887-3480.

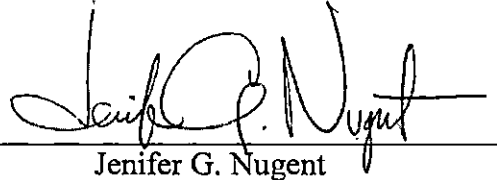
**Prepared by:**



---

Krystle Patchak

**Division Chief:**



---

Jenifer G. Nugent

CPG/JGN/kma/

c: Wally Lippincott

James Hermann, R.L.A., Department of Permits, Approvals and Inspections

Adam Rosenblatt, Venable LLP

Office of the Administrative Hearings

People's Counsel for Baltimore County

Date: 12/11/19

Ms. Kristen Lewis  
Baltimore County Department of  
Permits, Approvals and Inspections  
County Office Building, Room 109  
111 West Chesapeake Avenue  
Towson, Maryland 21204

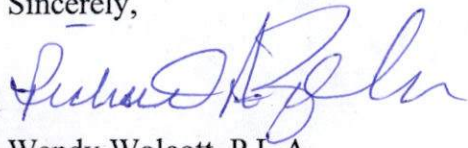
Dear Ms. Lewis:

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*Special Exception*  
*Whiteman Associates, LLC*  
*5401 Campbell Boulevard*

The applicant must contact the State Highway Administration to obtain an entrance permit. Should you have any questions regarding this matter feel free to contact Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at ([rzeller@mdot.maryland.gov](mailto:rzeller@mdot.maryland.gov)).

Sincerely,



Wendy Wolcott, P.L.A.  
Metropolitan District Engineer  
Maryland Department of Transportation  
State Highway Administration  
District 4 - Baltimore and Harford Counties

WW/RAZ

cc: Mr. Michael Pasquariello, Utility Engineer, SHA

## Donna Mignon

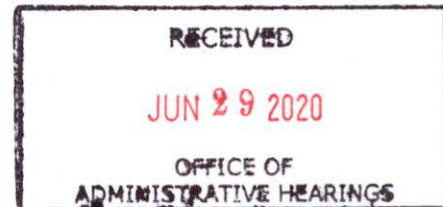
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**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Monday, June 29, 2020 12:38 PM  
**To:** Donna Mignon  
**Cc:** Administrative Hearings  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.  
**Attachments:** Exhibit 3\_ Richardson Resume(49466214.1).pdf; Exhibit 2\_ Attar Case(49466204.1).pdf; Exhibit 1\_ Site Plan(49466160.1).pdf; Exhibit 4 Aerial Photograph.PNG; Exhibit 5A-E(49467505.1).pdf; Exhibit 9\_ Ed Steere Resume(49466693.1).pdf; Exhibit 8\_ SHA Approval of Traffic Study(49466337.1).pdf; Exhibit 7\_ Traffic Study(49466267.1).pdf; Exhibit 6\_ Mickey Resume(49466242.1).doc; Exhibit 10A Executive Summary.pdf; Exhibit 10B Full Report.pdf; Exhibit 11 Wawa Aerial.jpg

**CAUTION:** This message from AMRosenblatt@venable.com originated from a non Baltimore County Government or non BCPL email system. Hover over any links before clicking and use caution opening attachments.

Donna, here are the Exhibits for this hearing:

1. Site Plan
2. Attar case
3. Rick Richardson Resume
4. Aerial photograph
5. Site photos
6. Mickey Cornelius Resume
7. Traffic Impact Analysis
8. SHA Approval Letter
9. Ed Steere Resume
10. Ed Steere Report
  - a. Executive Summary
  - b. Full Report
11. Wawa Exhibit



Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

---

**From:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Sent:** Monday, June 29, 2020 11:17 AM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Hi Adam,  
No problem. Thank you.

Donna



---

**From:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Sent:** Monday, June 29, 2020 11:16 AM  
**To:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from [AMRosenblatt@venable.com](mailto:AMRosenblatt@venable.com) originated from a non-Baltimore County Government or non-BCPL email system. Hover over any links before clicking and use caution opening attachments.

Just waiting on one more exhibit and I will send them all to you. Should be early afternoon. Thank you again.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

---

**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Friday, June 26, 2020 11:44 AM  
**To:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Hi Adam,

Thank you.

Have a great weekend.

Donna

---

**From:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Sent:** Friday, June 26, 2020 11:40 AM  
**To:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from [AMRosenblatt@venable.com](mailto:AMRosenblatt@venable.com) originated from a non-Baltimore County Government or non-BCPL email system. Hover over any links before clicking and use caution opening attachments.

Hi Donna,

As we just discussed I will email the exhibits and the second sign certification to you on Monday for this Wednesday hearing.

Thank you and have a nice weekend.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

---

**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Tuesday, June 23, 2020 11:49 AM

**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>

**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Thank you so much.

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>

**Sent:** Tuesday, June 23, 2020 11:47 AM

**To:** Donna Mignon <dmignon@baltimorecountymd.gov>

**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Absolutely. My plan is to email everything on Friday.

Adam M. Rosenblatt, Esq. | Venable LLP

t 410.494.6271 | f 410.821.0147 | m 410.294.9430

210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

---

**From:** Donna Mignon <dmignon@baltimorecountymd.gov>

**Sent:** Tuesday, June 23, 2020 11:31 AM

**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>

**Subject:** 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Good Morning Adam,

Just a friendly reminder, that we need any exhibits you wish to present at the hearing emailed to us at  
: [administrativehearings@baltimorecountymd.gov](mailto:administrativehearings@baltimorecountymd.gov)

Thank you so much.

Have a great day.

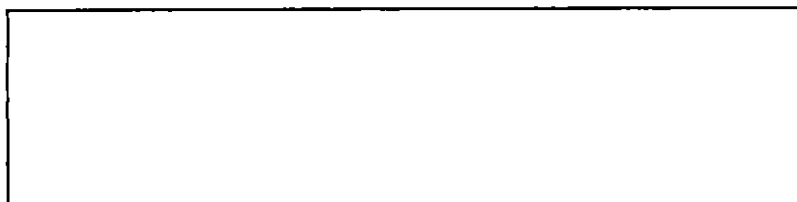
Donna Mignon, Legal Assistant

Baltimore County Office of Administrative Hearings

105 West Chesapeake Avenue, Suite 103

Towson, Maryland 21204

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## Donna Mignon

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Monday, June 29, 2020 12:44 PM  
**To:** Administrative Hearings  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Yes, we have 4 potential witnesses registered (Rick Richardson, Christopher Hoffmann, Mickey Cornelius, and Ed Steere).

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210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

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**From:** Administrative Hearings <administrativehearings@baltimorecountymd.gov>  
**Sent:** Monday, June 29, 2020 12:43 PM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Thank you Adam.  
Did you give Kristen any witnesses names and emails, that need to speak at your hearing?

Donna Mignon, Legal Assistant  
Baltimore County Office of Administrative Hearings  
105 West Chesapeake Avenue, Suite 103  
Towson, Maryland 21204  
410-887-3868

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Monday, June 29, 2020 12:38 PM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Cc:** Administrative Hearings <administrativehearings@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Donna, here are the Exhibits for this hearing:

1. Site Plan
2. Attar case
3. Rick Richardson Resume
4. Aerial photograph
5. Site photos
6. Mickey Cornelius Resume
7. Traffic Impact Analysis
8. SHA Approval Letter
9. Ed Steere Resume
10. Ed Steere Report
  - a. Executive Summary
  - b. Full Report
11. Wawa Exhibit

Adam M. Rosenblatt, Esq. | Venable LLP  
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210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

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**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Monday, June 29, 2020 11:17 AM  
**To:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**Caution: External Email**

Hi Adam,  
No problem. Thank you.

Donna

---

**From:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Sent:** Monday, June 29, 2020 11:16 AM  
**To:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

|                                                                                                                                                                                                                                                                |
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Just waiting on one more exhibit and I will send them all to you. Should be early afternoon. Thank you again.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
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---

**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Friday, June 26, 2020 11:44 AM  
**To:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Hi Adam,

Thank you.

Have a great weekend.

Donna

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**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Friday, June 26, 2020 11:40 AM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Hi Donna,

As we just discussed I will email the exhibits and the second sign certification to you on Monday for this Wednesday hearing.

Thank you and have a nice weekend.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

AMRosenblatt@Venable.com | www.Venable.com

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**From:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Sent:** Tuesday, June 23, 2020 11:49 AM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Thank you so much.

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**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Tuesday, June 23, 2020 11:47 AM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from AMRosenblatt@venable.com originated from a non Baltimore County Government or non BCPL email system. Hover over any links before clicking and use caution opening attachments.

Absolutely. My plan is to email everything on Friday.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430



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**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Tuesday, June 23, 2020 11:31 AM  
**To:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Subject:** 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Good Morning Adam,  
Just a friendly reminder, that we need any exhibits you wish to present at the hearing emailed to us at  
: [administrativehearings@baltimorecountymd.gov](mailto:administrativehearings@baltimorecountymd.gov)

Thank you so much.  
Have a great day.

Donna Mignon, Legal Assistant  
Baltimore County Office of Administrative Hearings  
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451 Md. 272  
Court of Appeals of Maryland.

Afshin ATTAR, et al.  
v.  
DMS TOLLGATE, LLC, et al.

No. 12 Sept. Term 2016

|  
January 23, 2017

**Synopsis**

**Background:** Protesters petitioned for judicial review of decision of county board of appeals granting, with conditions, application for special exception to zoning regulation for construction of fuel service station with convenience store with sales area larger than 1,500 square feet in land zoned as business local with automotive services. The Circuit Court, Baltimore County, Colleen Cavanaugh, J., affirmed, and protesters appealed. The Court of Special Appeals, 2015 WL 9461754, affirmed. Certiorari review was granted.

**Holdings:** The Court of Appeals, Hotten, J., held that:

[1] evidence presented to board of appeals was sufficiently precise to establish relevant neighborhood that would be impacted by grant of special exception;

[2] board did not impermissibly shift burden of persuasion to protesters;

[3] opinion of protesters' expert in traffic engineering was insufficient to show adverse effects of special exception use above and beyond those inherently associated with proposed use; and

[4] whether one of five gas stations located within one-mile radius of proposed gas station and convenience might go out of business was not relevant to whether special exception use would have adverse economic impact as it related to general welfare.

Affirmed.

**Procedural Posture(s):** On Appeal.

West Headnotes (14)

[1] **Administrative Law and Procedure** ⇌ Decision reviewed

**Administrative Law and Procedure** ⇌ Review using standard applied below

An appellate court reviews the decision of an administrative agency under the same statutory standards as the circuit court, meaning the appellate court reevaluates the decision of the agency, not the decision of the lower court.

1 Cases that cite this headnote



- [2] **Administrative Law and Procedure** ⇌ Conclusions of law in general

**Administrative Law and Procedure** ⇌ Substantial evidence

In reviewing the decision of an administrative agency, the court's role is limited to determining if there is substantial evidence in the record as a whole to support the agency's findings and conclusions, and to determine if the administrative decision is premised upon an erroneous conclusion of law.

2 Cases that cite this headnote

- [3] **Administrative Law and Procedure** ⇌ Substantial evidence

"Substantial evidence" that will support an administrative agency's findings of fact and conclusions of law is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.

3 Cases that cite this headnote

- [4] **Administrative Law and Procedure** ⇌ Review for correctness or error

**Administrative Law and Procedure** ⇌ Substantial evidence

A reviewing court may not substitute its judgment for that of the county board of appeals unless the agency's conclusions were not supported by substantial evidence or were premised on an error of law.

1 Cases that cite this headnote

- [5] **Zoning and Planning** ⇌ Auto service/retail store combinations

Evidence presented to county board of appeals was sufficiently precise to establish relevant neighborhood that would be impacted by grant of special exception for construction and operation of fuel service station with convenience store containing sales area larger than 1,500 feet, in property zoned as business local with automotive services; board referenced testimony concerning roads and intersections surrounding subject property, it referenced testimony regarding commercial development surrounding property, it referenced exhibit depicting five gas stations within one-mile radius of proposed site, and it referenced expert testimony regarding flood plain surrounding property.

- [6] **Zoning and Planning** ⇌ Findings, reasons, conclusions, minutes or records

The description of the neighborhood impacted by a special exception to a zoning regulation must be precise enough to enable a party or appellate court to comprehend the area that the county board of appeals considered, and in this context, precision is determined through a review of the evidence in the record describing the impact on the surrounding properties, as referenced within the board's opinion.

- [7] **Zoning and Planning** ⇌ Presumptions and burden of proof

**Zoning and Planning** ⇌ Variances and exceptions

A special exception to a zoning regulation is presumed to be in the interest of the general welfare, and therefore a special exception enjoys a presumption of validity.

3 Cases that cite this headnote

- [8] **Zoning and Planning** ⇌ Presumptions and burden of proof

County board of appeals did not impermissibly shift to protesters burden of persuasion on property owners' application for special exception to zoning regulation to construct fuel service station with convenience store containing sales area larger than 1,500 feet, in property zoned as business local with automotive services, when board ruled that protesters' evidence was insufficient to show adverse effects of special exception above and beyond those inherently associated with such use, and thus, that protesters' evidence was insufficient to rebut presumption of validity of special exception. Md. Rule 5-301(a).

[9] **Zoning and Planning** ⇌ Presumptions and burden of proof

Both the burden of production and the burden of persuasion on the issue of whether an application for a special exception to a zoning regulation should be granted fall on the applicant, whereby the applicant must persuade the county board of appeals by a preponderance of the evidence that the special exception will conform to all applicable requirements.

4 Cases that cite this headnote

[10] **Evidence** ⇌ Operation and Effect

A presumption does not necessarily shift the burden of persuasion; rather, it merely satisfies the burden of going forward on a fact presumed and may satisfy the burden of persuasion if no rebuttal evidence is introduced by the other side.

1 Cases that cite this headnote

[11] **Evidence** ⇌ Operation and Effect

The party favored by a presumption is not relieved of the requirement of presenting evidence to establish a prima facie case as to those issues for which he bears the burden of proof, if the adverse party sufficiently rebuts the presumption; in such instances, the presumption merely enhances the probative value of other evidence adduced.

1 Cases that cite this headnote

[12] **Zoning and Planning** ⇌ Presumptions and burden of proof

Opinion of expert in traffic engineering that proposed use of land on application for special exception to zoning regulation for construction and operation of fuel service station with convenience store containing sales area larger than 1,500 feet, in property zoned as business local with automotive services, would result in potential congestion and traffic difficulty on road as result of turning fuel delivery trucks was insufficient to show adverse effect above and beyond those inherently associated with proposed use, and thus, was insufficient to rebut presumption in favor of validity of special exception.

[13] **Zoning and Planning** ⇌ Variances and exceptions in general

There was no error for Court of Appeals to review in decision of county board of appeals granting, with conditions, application for special exception to zoning regulation for construction of fuel service station with convenience store containing sales area larger than 1,500 feet, in property zoned as business local with automotive services, with respect to evidence of possibility of negative impact of special exception use on floodplain, where board made no factual conclusion on issue but ruled that possibility of negative impact on floodplain would be determined separately by state and federal authorities, and conditioned grant of special exception upon determination that there would be no adverse effect upon safety and welfare of citizenry.

[14] **Zoning and Planning** ⇌ Presumptions and burden of proof

Whether one of five gas stations located within one-mile radius of proposed fuel service station with convenience store might go out of business was not relevant to whether special exception to zoning regulation to allow for construction of station and convenience store in property zoned as business local with automotive services would have adverse economic impact as it related to general welfare, and thus, did not rebut presumption of validity of special exception.

**\*\*767** Circuit Court for Baltimore County, Maryland, Case No. 03–C–14007926, Colleen Cavanaugh, Judge

**Attorneys and Law Firms**

G. Macy Nelson (Law Office of G. Macy Nelson, LLC, Towson, MD), on brief, for petitioners.

G. Scott Barhight (Adam D. Baker, Whiteford, Taylor & Preston, LLP, Towson, MD), on brief, for respondent.

Peter Max Zimmerman, Esq., Carole S. DeMilio, Esq., Towson, MD, for amicus curiae for People’s Counsel for Baltimore County.

Argued before Barbera, C.J., Greene, Adkins, McDonald, Watts, Hotten, Getty, JJ.

**Opinion**

Hotten, J.

**\*276** In October 2012, William and Mary Groff, the property owners, and Respondent, DMS Tollgate, LLC (collectively “Applicants”) applied for a Petition for a Special Exception of the Baltimore County Zoning Regulations (“BCZR”), to operate a fuel service station with a convenience store containing a sales area larger than 1,500 square feet. The petition requested that Tollgate be permitted to construct a Wawa on an 8.51 acre property known as 10609 Reisterstown Road (“the property”). The property is zoned as BL–AS, or Business Local with Automotive Services.<sup>1</sup> The property is bordered by Reisterstown Road, Groff Lane, and the Gwynns Falls stream.

<sup>1</sup> This zoning was obtained through the 2012 Baltimore County Comprehensive Zoning Map Process after extensive discussions between Tollgate, several county agencies and community groups. In exchange for the community groups granting the rezoning request, on August 28, 2012, Tollgate entered into a “DECLARATION OF COVENANTS AND AGREEMENTS,” which required that the property be developed “in a manner consistent with and compl[e]mentary to the historic character of” the adjacent property.

The Office of Administrative Hearings (“OAH”) conducted a hearing in which the Applicants appeared in support of the **\*277** grant of the Special Exception. Petitioners in this Court, Afshin Attar, Ashkan Rahmanattar, Malik Imran, and Perry S. Crowl (collectively “Protestants”) attended **\*\*768** in opposition. Witnesses for the Protestants testified at the hearing as to how the proposed Wawa would cause traffic congestion, a harmful environmental impact, and a detrimental effect upon the economic stability of the neighborhood. In its Opinion and Order dated October 31, 2013, OAH found that “these are impacts that are inherent in the operation of a gasoline/convenience store[.]” and granted the Petition with conditions.<sup>2</sup>

<sup>2</sup> The Opinion and Order of the Administrative Law Judge stated:  
The relief granted herein shall be subject to the following:



1. [Applicants] may apply for appropriate permits and be granted same upon receipt of this Order; however, [Applicants] are hereby made aware that proceeding at this time is at their own risk until such time as the 30-day appellate process from this Order has expired. If, for whatever reason, this Order is reversed, [Applicants] would be required to return, and be responsible for returning, said property to its original condition.
2. Unless extended by subsequent order, the special exception granted herein must be utilized within two (2) years from the date of this Order.
3. The "special exception area" shall include the 1.70 acre (74,088 SF) area of the proposed Wawa service station and convenience store, but shall not include the 0.43 acre (18,628 SF) area of proposed relocated Groff Lane.
4. Approval by Baltimore County of a landscape and light plan for the site.
5. Approval by county, state and federal authorities of the floodplain study and/or floodplain map amendment or revision as sought by [Applicants].
6. Approval and issuance of all necessary permits by the State Highway Administration.

The Protestants appealed to the Board of Appeals for Baltimore County ("the Board"), which approved the conditions for the Special Exception after a *de novo* evidentiary hearing. The Board noted that Tollgate

\*278 decided to proceed with the request for a Special Exception before receiving County approval for the proposed road relocation and approval for the flood plain relocation from [the Federal Emergency Management Agency]. Under the BCZR this approach is not prohibited and therefore the grant of a Special Exception has no bearing on the approval o[r] non-approval of the foregoing matters.

The Board granted the Special Exception "with the same conditions as those imposed by the Administrative Law Judge below."

The Protestants appealed for judicial review in the Circuit Court for Baltimore County. The circuit court found that the Board's findings: "were both reasonable and supported by substantial evidence in the record[ ]" and "were premised upon the proper application and conclusions of law[.]" The circuit court accordingly affirmed the decision of the Board on December 19, 2014. Thereafter, the Protestants appealed to the Court of Special Appeals. In an unreported opinion dated December 28, 2015, the Court of Special Appeals affirmed the decision of the circuit court. We granted the Petition for Writ of Certiorari filed by the Protestants. 447 Md. 297, 135 A.3d 416 (2016). Protestants present two questions for our review:

1. Whether Maryland's special exception jurisprudence requires the Baltimore County Board of Appeals to define the boundaries of the neighborhood of the proposed special exception before approving that special exception and, if so, whether the Board of Appeals' opinion satisfied Maryland's minimum requirements for articulating the facts found regarding the neighborhood's boundaries.
2. Whether the Court of Special Appeals erred when it held that the Applicant \*\*769 met its burden of proof, as articulated by the concurring opinion in *People's Counsel for Baltimore County, et al. v. Loyola College in Maryland*, 406 Md. 54, [956 A.2d 166] (2008).

We conclude that the Board's description of the neighborhood impacted by the special exception was precise enough to enable a party or appellate court to comprehend the area that the Board considered.

\*279 Secondly, we conclude that while an applicant for a special exception bears both the burden of persuasion and production, the coexistent presumption in favor of an applicant is not a mutually exclusive evidentiary burden. The Board correctly determined that the Protestants failed to sufficiently rebut the presumption of validity of a special exception. Accordingly, we affirm the judgment of the Court of Special Appeals.

### Standard of Review

[1] [2] [3] [4] An appellate court reviews the decision of an administrative agency “under the same statutory standards as the [c]ircuit [c]ourt,” meaning “we reevaluate the decision of the agency, not the decision of the lower court.” *Gigeous v. Eastern Correctional Inst.*, 363 Md. 481, 495–96, 769 A.2d 912, 921 (2001) (citation and footnote omitted). In reviewing the decision of an agency, our role “is limited to determining if there is substantial evidence in the record as a whole to support the agency's findings and conclusions, and to determine if the administrative decision is premised upon an erroneous conclusion of law.” *United Parcel Serv., Inc. v. People's Counsel*, 336 Md. 569, 577, 650 A.2d 226, 230 (1994). Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Md. State Police v. Warwick Supply & Equip. Co., Inc.*, 330 Md. 474, 494, 624 A.2d 1238, 1248 (1993) (citation omitted). Further, we may not substitute our judgment for that of the Board of Appeals unless the agency's conclusions were not supported by substantial evidence or were premised on an error of law. *Stansbury v. Jones*, 372 Md. 172, 182, 184, 812 A.2d 312, 318, 319 (2002).

### Discussion

#### **I. The Board's Opinion Referenced Ample Evidence of Record Which Sufficiently Enables Us to Comprehend the Area the Board Considered. Thus, the Board Sufficiently Defined the Neighborhood.**

[5] The Protestants argue that the Board erred when it failed to define the boundaries of the Wawa's neighborhood. In \*280 support, Protestants urge that an applicant for a special exception must establish the boundaries of the neighborhood, and the zoning tribunal's written decision must satisfy Maryland law's minimum requirements for articulating the facts found regarding the neighborhood's boundaries.

Under BCZR § 502.1(A), a special exception use is prohibited if it is “detrimental to the health, safety or general welfare of the locality involved.”<sup>3</sup> In *Schultz v. Pritts*, we held that an applicant for a special exception “does not have the burden of establishing affirmatively that his proposed use would be a benefit to the community. If he shows to the satisfaction of the Board that the proposed use would be conducted *without real detriment to the neighborhood* ... he has met his burden.” 291 Md. 1, 11, 432 A.2d 1319, 1325 (1981).

<sup>3</sup> BCZR § 502.1 does not explicitly require that a neighborhood's boundary be specifically defined.

We further held in *Montgomery County v. Butler*, “[t]he phrase ‘detriment to the \*\*770 neighborhood’ implies necessarily that the Board's task is to determine if there is or likely will be a detriment *to the surrounding properties*.” 417 Md. 271, 305, 9 A.3d 824, 844 (2010) (emphasis added). Thus, we held that, within the context of a special exception, the “neighborhood” means “the surrounding properties.” *Id.* See also *Montgomery v. Bd. of Cty. Comm'rs for Prince George's Cty.*, 263 Md. 1, 5, 280 A.2d 901, 903 (1971) (holding that, in the rezoning context, “[t]he concept of a neighborhood is a flexible one, and will vary according to the geographical location involved[.]”); *Woodlawn Area Citizens Ass'n v. Bd. of Cty. Comm'rs for Prince George's Cty.*, 241 Md. 187, 198, 216 A.2d 149, 156 (1966) (holding that, in the rezoning context, “what constitutes a neighborhood ... is not and should not be precisely and rigidly defined[.]”).

In *Alviani v. Dixon*, we considered whether the Anne Arundel County Board of Appeals erred when it granted variances<sup>4</sup> to enable applicants to satisfy criteria for a special \*281 exception, regarding the construction of an automotive service station. 365 Md. 95, 775 A.2d 1234 (2001). The protestants in *Alviani* specifically “allege[d] that the Board failed to properly define the relevant neighborhood that was considered when the Board found that the variances would not affect the neighborhood.” *Id.* at 117, 775 A.2d at 1247. We disagreed and found, “after examining the record, that the Board established the relevant neighborhood[.]” as the Board's description was “precise enough to enable a party or an appellate court to comprehend the area that the Board considered when deciding to grant the variances.” *Id.* at 117, 119, 775 A.2d at 1247, 1248.

4 We outline *infra* how, for purposes of determining the sufficiency of the description of the “neighborhood,” our rezoning jurisprudence is inapposite to our special exception jurisprudence. Parallel to this analysis, in *Alviani v. Dixon*, we addressed how our use variance jurisprudence is inapposite to our area variance jurisprudence. In *Alviani* we held:

The standards applied to area variances are more relaxed than those applied to use variances because the impact of an area variance is viewed as being much less drastic than that of a use variance. Consequently, the cases cited by appellants do not support their contention that the surrounding “neighborhood” must be defined with the same precision in approving area variances as is required in approving use variances.

365 Md. at 120, 775 A.2d at 1248 (citations and quotation omitted).

*Lucas v. People's Counsel for Balt. Cty.* involved a petition for a special exception for an “airport” zoning special exception on a farm zoned for agriculture, located within a National Historic District in Baltimore County. 147 Md.App. 209, 216–17, 807 A.2d 1176, 1180 (2002), *disapproved of on other grounds by People's Counsel for Balt. Cty. v. Loyola Coll. in Md.*, 406 Md. 54, 956 A.2d 166 (2008). In *Lucas*, the Honorable James A. Kenney, III employed the standard outlined in *Alviani*, and found that the Board's definition of the relevant area was insufficient, as it relied on only amorphous descriptions of the area to be considered:

The Board relied on testimony regarding the adverse effect of the airport on the “land around Helmore Farm,” on “the horse industry in the area,” on the “historical district,” and on “Greenspring Valley.” The Board's definition of the relevant area does not provide the precision required for a \*282 party or an appellate court to comprehend the adversely affected area and to determine if the neighborhood reasonably constitutes the immediate environment of the subject property.

147 Md.App. at 241, 807 A.2d at 1195.

[6] In accord with our precedent in *Alviani*, in conjunction with the special \*\*771 exception jurisprudence reflected by *Schultz*, *Butler*, and *Lucas*, we hold that the description of the neighborhood impacted by the special exception must be precise enough to enable a party or appellate court to comprehend the area that the Board considered. Precision is determined through a review of the evidence in the record describing the impact on the surrounding properties, as referenced within the Board's opinion. See also *Critical Area Comm'n for Chesapeake & Atl. Coastal Bays v. Moreland, LLC*, 418 Md. 111, 135, 12 A.3d 1223, 1238 (2011) (holding that meaningful judicial review is possible when the Board summarizes substantial evidence in support of its findings).

In the case at bar, the Board's opinion stated in relevant part:

The [Applicants] offered into evidence the testimony of Ken Schmid, of Traffic Concepts, Inc., who was admitted as an expert in the fields of Traffic Engineering and Transportation Planning. Mr. Schmid opined that the proposed use will not create congestion of the roads, streets or alleys in the area of the subject property. The proposed relocation of Groff Lane to create a four way signalized intersection, according to Mr. Schmid, will create a safer and more convenient pattern of traffic circulation for the subject property and the surrounding area.

\*\*\*

The [Applicants] called Mr. Rick Richardson, of Richardson Engineering, who was offered and accepted by the Board as an expert in the fields of civil engineering, zoning and development.

\*\*\*

\*283 Mr. Richardson testified that the proposed fuel service station is not ... located within a mile radius of any abandoned fuel service station(s).

\*\*\*

The Protestants called to testify John Seitz, of Transportation Resource Group, Inc. who was accepted by the Board as an expert in the area of Traffic Engineering. Mr. Seitz testified that as a part of his investigation of the proposed use of the subject site he evaluated the potential truck turning radius for fuel delivery trucks entering the proposed site using a computer based

traffic modeling program and determined that a fuel delivery truck attempting to turn into the proposed site would cause potential congestion and traffic difficulty of Groff Mill Road because of the wide turning angle required for such trucks.

\*\*\*

The Protestants next called Andrew Miller, PhD who was admitted as an expert in hydrological studies. Dr. Miller testified concerning the Flood Plain Study prepared by the [Applicants]. According to Dr. Miller the subject area contains a portion of the existing flood plain which will be filled in to facilitate construction of the site.

The Board's opinion references ample evidence of record for us to appreciate the area considered by the Board. The Board referenced testimony concerning the roads and intersections surrounding the subject property, including: Tollgate Road, Reisterstown Road, Groff Lane, and Reisterstown Road's intersection with Owings Mills Boulevard. The Board referenced testimony regarding the commercial development surrounding the property. In accordance with BCZR § 405.3,<sup>5</sup> the Board referenced \*\*772 testimony regarding an exhibit which depicted the five gas stations contained within a one-mile radius from the property. The Board referenced testimony regarding \*284 the flood plain surrounding the property. Unlike in *Lucas*, there was ample evidence presented to the Board regarding the immediate environs of the proposed Wawa, which the Board referenced in its opinion. Here, the evidence presented to the Board regarding the area impacted by the special exception, as referenced in the Board's opinion, was precise enough to enable a party or appellate court to comprehend the area that the Board considered. Thus, we will not disturb the Board's decision.

- <sup>5</sup> BCZR 405.3 "Condition for disapproving special exception[ ]" provides in pertinent part "the Zoning Commissioner, prior to granting any special exception for a fuel service station, shall consider the presence of abandoned fuel service stations in the vicinity of the proposed site."

The Protestants further contend that we require a delineation of the neighborhood in rezoning matters, and accordingly, this same requirement should be extended to apply in special exception cases. We disagree.

Rezoning cases are inapposite to our analysis because of the respective burdens in rezoning and special exception matters. We have stated that:

[T]here is a strong presumption of the correctness of original zoning and comprehensive rezoning and that to sustain a piecemeal change therefrom there must be produced strong evidence of mistake in the original zoning and comprehensive rezoning and that to sustain a piecemeal change therefrom there must be produced strong evidence of mistake in the original zoning or else evidence of a change in conditions resulting in a substantial change in the character of the neighborhood.

*Heller v. Prince George's Cty.*, 264 Md. 410, 412, 286 A.2d 772, 773 (1972) (citation omitted); *see also Border v. Grooms*, 267 Md. 100, 110, 297 A.2d 81, 86 (1972) (holding "that which reasonably constitutes the neighborhood of the subject property is one of the basic facts to be established by an applicant for rezoning, *and because of its fundamental involvement in any case resting on a contention of a change in the character of the neighborhood* it must be satisfactorily shown upon the record.") (emphasis added).

[7] Given the heavy burden upon the party seeking a rezoning, and the strong presumption in favor of the original zoning, "some delineation of the general boundaries encompassed" \*285 is an apt evidentiary element in the rezoning context. *Border*, 267 Md. at 110, 297 A.2d at 86; *see also Heller*, 264 Md. at 412, 286 A.2d at 773 (holding that, in the rezoning context, "there is a strong presumption of the correctness of the original zoning" and "[t]he burden of proof, of course, is quite onerous and it rests squarely on the one seeking the reclassification."). There is an inverse evidentiary presumption, however, in the



special exception context. A special exception is presumed to be in the interest of the general welfare, and therefore a special exception enjoys a presumption of validity. *Schultz*, 291 Md. at 11, 432 A.2d at 1325. Given these conflicting presumptions, our requirement for a precise definition of the neighborhood within rezoning matters does not extend to special exception cases.

## II. The Burden of Proof Was Not Inappropriately Assigned to the Protestants

[8] The Protestants argue that the Board of Appeals erred when it assigned the burden of proof to the Protestants and concluded that the Protestants' evidence did "not rebut the presumption of validity of the Special Exception use in this case." We disagree. A special exception in Baltimore \*\*773 County is granted pursuant BCZR § 502.1, which provides, in pertinent part:

Before any special exception may be granted, it must appear that the use for which the special exception is requested will not:

A. Be detrimental to the health, safety or general welfare of the locality involved;

B. Tend to create congestion in roads, streets or alleys therein[.]

In *Schultz* we held:

[T]he appropriate standard to be used in determining whether a requested special exception use would have an adverse effect and, therefore, should be denied is whether there are facts and circumstances that show that the particular use proposed at the particular location proposed would \*286 have any adverse effects above and beyond those inherently \*\*774 associated with such a special exception use irrespective of its location within the zone.

291 Md. at 22–23, 432 A.2d at 1327. We further held that a special exception is presumed to be in the interest of the general welfare, and therefore a special exception enjoys a presumption of validity. *Id.* at 11, 432 A.2d at 1325.

[9] It is undisputed that "both the burden of production and the burden of persuasion on the issue of whether the special exception should be granted[ ]" fall on the applicant, whereby the applicant must persuade the Board "by a preponderance of the evidence that the special exception will conform to all applicable requirements." *Loyola Coll. in Md.*, 406 Md. at 109, 956 A.2d at 199.

The Protestants, however, assert that the Board "assigned the burden of proof to the Protestants[ ]" when it stated: "The Protestants' concerns taken from the available evidence do not rebut the presumption of validity of the Special Exception in this case." Directly prior to this finding, however, the Board articulated the *Schultz* standard:

there is a presumption under Maryland Law that a Special Exception is in [ ] the general interest of the jurisdiction and therefore valid and that a Special Exception is properly denied only when there are facts and circumstances showing the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the Special Exception use.

[10] [11] The Board's opinion did not improperly assign the burden of proof to the Protestants. While an applicant for a special exception bears both the burden of persuasion and of production, the concurrent presumption in favor of a special exception applicant is not a mutually exclusive evidentiary burden. As the Honorable Glenn T. Harrell, Jr. explained within the context of presumptions of civil actions under Maryland Rule 5–301(a):

[A] presumption does not necessarily shift the burden of persuasion. Rather, it merely satisfies the burden of going \*287 forward on a fact presumed and *may* satisfy the burden of persuasion if no rebuttal evidence is introduced by the other side. ... Stated differently, the party favored by the presumption is not relieved of the requirement of presenting evidence to establish a *prima facie* case as to those issues for which he bears the burden of proof if the adverse party sufficiently rebuts the presumption. In such instances, the presumption merely enhances the probative value of other evidence adduced.

*Anderson v. Litzenberg*, 115 Md.App. 549, 564, 694 A.2d 150, 157 (1997). Here, the Protestants did not set forth sufficient evidence to indicate that the proposed fuel service station would have any adverse effects above and beyond those inherently associated with such use under the *Schultz* standard. 291 Md. at 15, 432 A.2d at 1327. Thus, the Board simply stated that, in light of the Applicants having presented sufficient evidence demonstrating compliance with BCZR § 502.1 and the general presumption of validity enjoyed by special exception uses, the evidence as a whole did not warrant denial of the petition for the special exception.. *See Anderson*, 115 Md.App. at 564, 694 A.2d at 157. The Board's opinion did not inappropriately assign the burden of proof.

### III. The Evidence Presented by the Protestants Was Not Sufficient to Rebut the Presumption of the Validity of a Special Exception.<sup>6</sup>

<sup>6</sup> Protestants argued in their reply brief that the issue of whether there was substantial evidence in the record to support the Board's conclusions is not before this Court. As we noted in *Garner v. Archers Glen Partners, Inc.*, 405 Md. 43, 949 A.2d 639 (2008):

Since the time when this Court's jurisdiction became largely dependent upon the issuance of a writ of certiorari, we have consistently held that, in a case decided by an intermediate appellate court, we shall not consider an issue unless it was raised in a certiorari petition, a cross-petition, or the order by this Court granting certiorari. We again decline to address an issue not raised fairly in an otherwise successful Petition for Writ of Certiorari.

405 Md. at 60–61, 949 A.2d at 649 (citations omitted). *See also* Md. Rule 8–131(b) (“Unless otherwise provided by the order granting the writ of certiorari, in reviewing a decision rendered by the Court of Special Appeals ... the Court of Appeals ordinarily will consider only an issue that has been raised in the petition for certiorari or any cross-petition and that has been preserved for review by the Court of Appeals.”). This Court granted certiorari on the question of whether the Court of Special Appeals erred when it held that the Applicants met their burden of proof, as articulated in the concurring opinion in *People's Counsel for Balt. Cty. v. Loyola Coll. in Md.*, 406 Md. 54, 956 A.2d 166 (2008). We find that the sufficiency of the evidence in this matter is a necessary facet of the burden of proof issue, on which this Court granted certiorari. Moreover, the Protestant's Petition for Writ of Certiorari argued that the Board erred because it failed to address the fact the record contained genuine questions of fact regarding the Wawa's effect on traffic congestion, the Gwynns Falls stream and its flood plain, and the economic stability of the neighborhood.

The Protestants next argue that they presented evidence generating a genuine question of fact as to whether the special \*288 exception will create congested roads per BCZR § 502.1(B), and that it will have detrimental environmental and economic impacts per BCZR § 502.1(A).

#### A. Road Congestion

[12] BCZR § 502.1(B) requires that a special exception not “[t]end to create congestion in roads, streets or alleys therein[.]” At the hearing before the Board, the Applicants called Ken Schmid of Traffic Concepts, Inc. as an expert in the fields of Traffic Engineering and Transportation Planning. Mr. Schmid testified that the proposed use will not create congestion in the roads, streets, or alleys. Mr. Schmid testified that he and his company submitted two Traffic Impact Studies on behalf of the Applicants

to the Maryland State Highway Administration in support of the planned relocation of Groff Road. On cross-examination, Mr. Schmid acknowledged that the planned road relocation had not yet received approval. The Board ultimately conditioned the grant of the Special Exception upon approval and issuance of all necessary permits by the State Highway Administration. In addition, the Applicants presented the testimony of Mr. Rick Richardson, who was accepted by the Board as an expert in the fields of civil engineering, zoning and development. Mr. Richardson testified that the Wawa will meet or surpass the requirements of \*289 BCZR § 502.1. In rebuttal, Protestants \*\*775 provided testimony from John Seitz of Transportation Resource Group to support their contention that the proposed Wawa would result in potential congestion and traffic difficulty off Groff Mill Road as a result of turning fuel delivery trucks.

The *Schultz* special exception test considers whether the proposed use will have a greater impact here than one would ordinarily expect. The Protestants did not present “facts and circumstances [pertaining to congestion in the roads, streets, or alleys] that show that the particular use proposed at the particular location proposed would have any adverse effects *above and beyond those inherently associated with such a special exception use*.” 291 Md. at 15, 432 A.2d at 1327 (emphasis added). Thus, the Protestants did not sufficiently rebut the presumption of validity under *Schultz*.

### B. Floodplain Relocation

[13] The Protestants provided evidence that the Gwynns Falls floodplain may be impacted by the construction of the Wawa. The Board, however, did not render a factual conclusion on this issue: “The possibility of a negative impact upon the flood plain by [the Applicants’] plans will be determined separately by way of the investigation by State and Federal authorities and pursuant to Baltimore County Code (Section 32–8–101 [*et seq.*] ) will only be granted when there is no adverse effect upon the safety and welfare of the citizenry.” Tollgate is not prevented by the BCZR from proceeding with the request for the Special Exception before receiving approval for the proposed floodplain relocation. Because the Board did not render, nor was it required to make, a factual conclusion on this issue, and we cannot arrive at such a conclusion, there was no error from the Board for us to review. See *United Parcel Serv., Inc. v. People’s Counsel*, 336 Md. at 577, 650 A.2d at 230 (stating that our role “is limited to determining if there is substantial evidence in the record as a whole to support the agency’s findings and conclusions, and to determine if the administrative decision is premised upon an erroneous conclusion of law.”).

### \*290 C. Economic Impact

[14] Lastly, Protestants argue that the Wawa will negatively impact the economic stability of the neighborhood, as the addition of a sixth gas station in the area may result in one of the five existing gas stations going out of business. We have held that the “prevention of competition is not a proper element of zoning.” *Kreatchman v. Ramsburg*, 224 Md. 209, 219, 167 A.2d 345, 351 (1961) (citations omitted). The economic effects of zoning should be considered only as they affect the general welfare. *Id.* at 222, 167 A.2d at 352.<sup>7</sup> The speculative testimony provided by the Protestants as to the increase in supply in excess of demand within the fuel service station market fails to rebut the presumption of validity under *Schultz*.

<sup>7</sup> As we noted, the Board conducted an analysis of BCZR 405.3 and determined that “[t]he evidence presented at the hearing established that there are no abandoned fuel service stations located within either one-half mile or one-mile of the proposed site.” Contrary to the Protestants’ contention, the Wawa may increase competition within the relevant fuel service station marketplace, increase consumer welfare, and thus, may even *increase* the general welfare of the locality.

**JUDGMENT OF THE COURT OF SPECIAL APPEALS IS AFFIRMED. COSTS TO BE PAID BY PETITIONERS.**

### All Citations

451 Md. 272, 152 A.3d 765



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Timonium, Maryland 21093

### **EDUCATION**

BSCE University of Delaware, 1982

Professional Engineer in Maryland 1988, Virginia 1993, Washington DC 1997, Delaware 1997

### **WORK EXPERIENCE**

October 1999 to Present, Richardson Engineering, LLC

Owner of engineering firm specializing in Commercial and Residential Land Development. Work includes preparation of zoning plats, site development plans and project management for site development projects. Projects including: Giant Food Stores in Baltimore City and County, Krispy Kreme Stores in Maryland, Verizon switch station expansions in Maryland, Parkway 100 and Techwood Center in Anne Arundel County, and Columbia Technology Campus in Howard County.

July 1999 to September 1999, Purdum and Jeschke, LLC

Chief engineer responsible for preparation of layout and construction documents for commercial land developments. Work included preparation of zoning plats, site development plans and project management for sites in Maryland. Projects including: Loyola College play fields, Baltimore City, Md.; St Paul's Lutheran Church, Baltimore Co.; Red Star Yeast, Baltimore City; Giant Food Stores in Baltimore City.

February 1997 to June 1999, William Monk, Inc.

Chief engineer responsible for preparation of layout and construction documents for commercial land developments. Work included preparation of zoning plats, site development plans and project management for sites in Maryland and Washington DC.

Major projects including: Edmondson Square Shopping Center, Baltimore City, Md. Amoco Oil Company, sites in Baltimore, Anne Arundel, Prince George's, Howard and Baltimore City. Chick-fil-A Restaurant, Baltimore, Anne Arundel and Frederick Co., Md. International Trade Center Office Warehouse, Anne Arundel Co. Md. KFC Restaurants in Maryland and Washington DC.

April 1986 to Jan. 1997, STV Incorporated

Project Manager in the Site Development Department. Responsible for supervision of the preparation of design documents for the department, including review and sealing all documents submitted to reviewing agencies.

Major projects including: The New International Terminal at BWI Airport: Responsible for management of the civil aspects of the site construction including airfield taxiway and hardstand construction, reconstruction of the existing roadways and extension of the upper level roadway bridge to service the building addition. FILA Warehouse - 650,000 SF warehouse in Brandon Woods Industrial Park, Anne Arundel County, Md. Work included coordination with ongoing infrastructure grading, utilities, construction and sediment control for the adjacent activities. FILA Warehouse - 500,000 SF warehouse in Holabird Industrial Park, Baltimore City, Md. Work included getting permission to construct across Municipal Utilities, and Chesapeake Bay Critical Area mitigation. Amoco Oil Company Convenience Mart on Route 140 and Sandymount Road, Carroll County, Md. Blockbuster Video - New store in Jacksonville, Baltimore County, Md. EXXON Company USA - Demolish and Rebuild Belvedere and

**PETITIONER'S**

**EXHIBIT NO.**

3



## ***Richardson Engineering, LLC***

---

York Roads, Baltimore City, Md. Parkway Crossing Shopping Center - Work included reconstruction for several stores, and a new culvert and access from Perring Parkway including a State Highway Access Permit and WRA approval. Old Dominion Freight Lines - 25,000 SF Addition to existing warehouse, Howard County, Md. Ashton Meadows 300 unit apartment complex in Howard County, Md. Sunrise House of Towson 56 unit three story assisted living facility, Baltimore County, Md. SCM Chemicals Hawkins Point Plant Numerous projects including (2) million gallon tanks and secondary containment, chlorinator replacement, railroad track improvements, technical center building addition and secondary containment for existing tanks. Work included a stormwater management master plan for the facility, Chesapeake Bay Critical Area mitigation and railroad track design. National Gypsum - Canton Plant expansion including dock improvements, storm water management for the Chesapeake Bay Critical Area, grading, utilities, and sediment control. Bayview Medical Campus - Design of infrastructure for the first phase of development of the campus including 0.6 mile road and utilities, and a 19 acre park with a pond.

February 1985 to March 1996, Spellman, Larson and Associates  
Engineer/Designer/Draftsman for land development projects in Baltimore County

May 1982 to January 1985, CBI Industries  
Engineer for construction of steel plate structures. Field engineer responsible for layout of materials, and coordination with field personnel. Worked on the Peach Bottom No. 2 Recirculation and Reheat Piping Replacement preparing procedures and policies for the construction and field supervision of the work.



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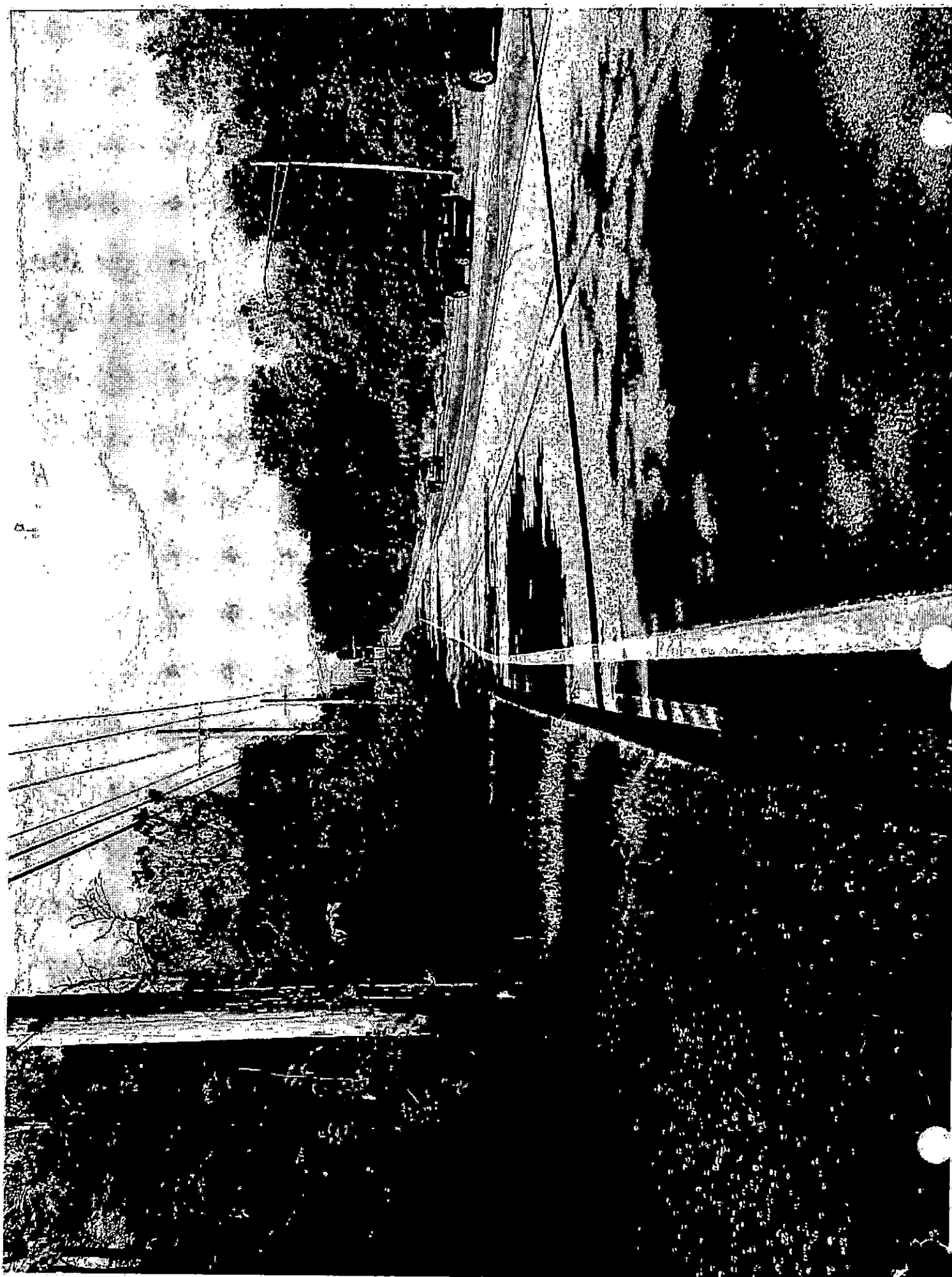
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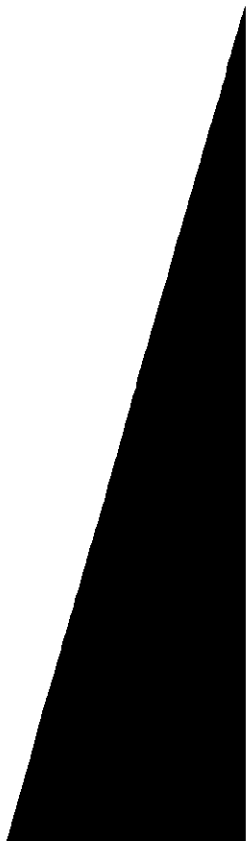














**MICKEY A. CORNELIUS**  
**P.E., PTOE, RSP**  
**Senior Vice President**



*Merging Innovation and Excellence*

**"A Leader in Sustainable Transportation Solutions"**

Cornelius, proudly one of the first certified Professional Traffic Operations Engineers (PTOE) in the nation, is a President of the firm, responsible for managing all of the firm's traffic engineering, transportation planning and data collection activities. Mr. Cornelius is among the first 100 professionals nationwide to receive the new Road Safety Professional (RSP) Level One Certification, demonstrating proficiency in the foundations of traffic engineering principles. He is experienced in many aspects of traffic engineering and transportation planning, including traffic forecasting and associated modeling, geometric design, traffic signals and signal systems evaluation/design, traffic circulation, traffic calming, and transportation systems management.

Professional Engineer, Mr. Cornelius has over 37 years of experience in the highway transportation and engineering profession. His experience in both the public and private sectors has provided him with a broad range of expertise.

Mr. Cornelius has conducted over 2,000 traffic engineering studies and has served as a transportation planning consultant for the development of Master Plans for both private firms and public agencies. His educational and professional background has qualified him as an expert in the field of traffic engineering and transportation planning before numerous local Planning and Zoning Boards in Maryland, as well as in Virginia, Pennsylvania, New Jersey and New York.

Senior studies, prestigious road safety projects, analysis, traffic planning and circulation

Senior Vice President  
 President

1987 - 1996 Traffic Engineer  
 The Traffic Group, Inc.

1984 - 1987  
 Traffic Engineering Consultant  
 Street Traffic Studies, Ltd.

1982 - 1984  
 Civil Engineer, Highway Construction  
 S.J. Groves and Sons

**Educational Background**

- B.S. in Civil Engineering with emphasis in Transportation  
 Pennsylvania State University
- Traffic Engineering Courses
  - Northwestern University Traffic Institute
  - Polytechnic Institute of New York

**Affiliations**

- Registered Professional Engineer (P.E.) - MD, DE, PA, VA, NC, SC, UT
- Certified Professional Traffic Operations Engineer (PTOE)
- Certified Road Safety Professional (RSP)

- Institute of Transportation Engineers (I.T.E.)
- National Society of Professional Engineers (N.S.P.E.)
- County Engineers Association of Maryland (CEAM)
- American Society of Civil Engineers (ASCE)

**Examples of places where Mr. Cornelius has testified as an expert witness**

**MARYLAND**

- City of Annapolis - City Council
- Anne Arundel County - Board of Appeals; Zoning Hearing Examiner
- City of Baltimore - City Council; Planning Commission
- Baltimore County - County Review Group, Zoning Commissioner, Board of Appeals; Circuit Court; District Court; Administrative Law Judge
- Town of Bel Air - Planning Board; Town Commissioners; Zoning Hearing Examiner
- Carroll County - Board of Appeals; County Commissioners; Planning Board
- City of Bowie - Planning Advisory Board; Mayor and City Council
- Cecil County - Technical Advisory Committee
- Charles County - Board of Appeals
- Dorchester County - Board of Appeals
- Frederick County - Planning Board; County Commissioners; Board of Appeals

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**MICKEY A. CORNELIUS, P.E., PTOE, RSP**  
**Senior Vice President**

- Howard County - Zoning Hearing Examiner
- Howard County - Planning Board; Zoning Board; Board of Appeals; Hearing Examiner
- Town of Indian Head - Planning Commission
- Montgomery County - Planning Board; Zoning Hearing Examiner; Board of Appeals
- Town of North East - Planning Commission
- Prince George's County - Planning Board; County Council; Hearing Examiner
- Washington County - Board of Appeals
- City of Westminster - Mayor and Common Council
- Wicomico County - Board of Zoning Appeals

**NEW JERSEY**

- State Court of Administrative Law
- Cumberland County - Manchester Township Zoning Hearing Board
- City of Millville - Planning Commission

**PENNSYLVANIA**

- York County - Manchester Township Zoning Hearing Board
- Shrewsbury Borough - Planning Commission

**NEW YORK**

- Town of East Hampton - Planning Commission

**VIRGINIA**

- Town of Warrenton - Planning Commission; Town Council
- Town of Herndon - Planning Commission; Town Council

**Mr. Cornelius' Representative List of Projects**

Bowie Town Center - Prince George's County, Maryland  
Canton Crossing - Baltimore City, Maryland  
Columbia Downtown Cordon and Travel Survey - Howard County, Maryland  
Coppin State University - Baltimore City, Maryland  
Festival at Bel Air - Harford County, Maryland  
Festival at Waldorf - Charles County, Maryland  
Fort Detrick - Frederick, Maryland  
Fort Ritchie Master Plan - Washington County, Maryland  
Foundry Row - Baltimore County, Maryland  
Frederick County Corridor Studies - Frederick County, Maryland  
Howard County Red Light Running Study - Howard County, Maryland  
Johns Hopkins Medical Campus - Baltimore County, Maryland  
Konterra - Prince George's County, Maryland  
Maple Lawn Farms - Howard County, Maryland

MD 228 Corridor Study - Charles County, Maryland  
Northrop Grumman - Anne Arundel County, Maryland  
Owings Mills Boulevard Master Plan - Baltimore County, Maryland  
Oxford Square TOD - Howard County, Maryland  
Piney Orchard - Anne Arundel County, Maryland  
Sheppard Pratt Hospital - Baltimore County, Maryland  
Sinai Hospital - Baltimore City, Maryland  
Towson University Master Plan - Baltimore County, Maryland  
Turf Valley - Howard County, Maryland  
Upper Chesapeake Hospital - Bel Air, Maryland  
VCU Master Plan - Richmond, Virginia  
Washington County Hospital - Washington County, Maryland  
Waverly Woods - Howard County, Maryland  
West Ocean City Transportation Study - Worcester County, Maryland



# **Wawa Store**

## **MD 7 @ Campbell Boulevard**

Baltimore County, Maryland

November 9, 2018

\* Revised June 26, 2020

### **Traffic Impact Analysis**

**Prepared for:**  
**Whitemarsh Associates, LLC.**



**PETITIONER' S**

**EXHIBIT NO.**

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## APPENDICES

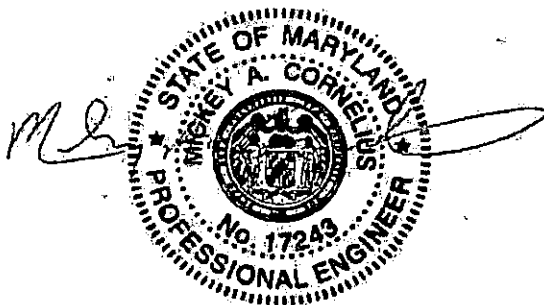
**APPENDIX A** – Intersection Turning Movement Counts and Aerial Photographs

**APPENDIX B** – Intersection Capacity Analysis Worksheets

**APPENDIX C** – Trip Assignment for Approved Developments

**APPENDIX D** – Access Concept Plan

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. 17243, Expiration Date: 02/07/2021.



Prepared by: Mickey A. Cornellius, P.E., PTOE, RSP  
Carl R. Wilson, Jr., P.E., PTOE  
Richard Huang, P.E., PTOE

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# INTRODUCTION AND SUMMARY OF FINDINGS

## Study Purpose

The Traffic Group, Inc. has prepared this Traffic Impact Study to quantify the impact the proposed development of the Wawa Convenience Store and fuel pumps in the southeast quadrant of the intersection of MD 7 (Philadelphia Road) at Campbell Boulevard will have on surrounding traffic operations. Specifically, the convenience store will feature a footprint of 4,737 sq. ft. In addition, a total of 12 fuel dispensers will be constructed on site.

Access to the property is proposed via one full movement point along Campbell Boulevard just west of MD 7. In addition, a right-in is proposed along MD 7. Full buildout of the project is expected within three years.

## Study Criteria/Methodology

This document has been prepared in accordance with requirements set forth by the Maryland Department of Transportation State Highway Administration (MDOT SHA) and Baltimore County. All Intersection Capacity Analyses are conducted using Critical Lane Volume (CLV) Methodology. In addition, a Synchro analysis has been developed for the study intersections to model traffic operations and quantify Highway Capacity manual (HCM) levels of service. The Institute of Transportation Engineers (ITE) Trip Generation Manual (10<sup>th</sup> Edition) was utilized for all future trip projections.

*Baltimore County's Basic Services Map for Transportation* was consulted to confirm that the study intersection is not situated within a deficient traffic shed.

This report is a revision to the traffic study dated November 9, 2018, to incorporate the comments of MDOT SHA in their approval of the study. No changes have been made to the traffic analyses.

## Scope of Services

- Conduct a field inspection to collect physical information concerning the nearby road system including compilation of aerial.
- Collect intersection turning movement counts during the morning, and evening peak periods at the study intersections.
- Obtain background development information from Baltimore County Representatives.



- Apply a regional traffic growth factor to the MD 7 corridor.
- Undertake trip generation and trip distribution for all approved background developments and subject sites.
- Provide an overall assessment of traffic operations.

## **Summary of Findings and Recommendations**

This analysis will demonstrate that the study intersections currently exhibit acceptable levels of service. With the full buildout of the proposed Wawa, the intersections will maintain acceptable operations without the need for capacity related improvements when considering both CLV and HCM criteria.

Queuing was reviewed based on SimTraffic output for all study intersections. The analysis reveals that the development of Wawa will have a minimal impact on queuing. With the exception of the northbound MD 7 left turn movement at Campbell Boulevard, all turning demand can be accommodated within available storage bays. The site will not contribute any vehicles to this movement as only right turns in along MD 7 are proposed. As a result of traffic added to the intersection, the projected queue length increases by less than one vehicle, and improvements are not required.

To accommodate existing pedestrian demand, crosswalks and pedestrian phasing is proposed on the south and east legs of the intersection.

It is our opinion that the subject site could be developed without need for additional improvements.

## **EXISTING TRAFFIC CONDITIONS**

### **Site Information**

The proposed Wawa is located in the southeast quadrant of the intersection of MD 7 (Philadelphia Road) at Campbell Boulevard in the White Marsh section of Baltimore County. A map detailing the location can be found in Exhibit 1. Currently the site is wooded and undeveloped. There is no existing access to the property.

### **Study Area**

Based on the location of the site and the adjacent signalized intersection, the study area for this project is MD 7 at Campbell Boulevard and MD 7 at Mohrs Lane.

In the vicinity of the subject site, MD 7 is a four-lane undivided roadway. Approximately 200 feet south of Campbell Boulevard, the roadway narrows to two lanes. The posted speed limit along this segment of the road is 40 MPH.

The intersection of MD 7 at Campbell Boulevard is signalized. Auxiliary turn lanes are available for southbound left and right turn movements. In the northbound direction, a separate left turn lane is available. The traffic signal currently operates under split phase conditions.

MDOT SHA owns and maintains MD 7. The roadway is classified as an Urban Minor Arterial on the State Secondary System. There are no access controls along the length of this route.

Within Baltimore County, MD 7 extends from US Rt. 40 (Pulaski Highway) to the Harford County Line. The roadway continues into Harford County and beyond.

Campbell Boulevard currently terminates just east of MD 7. To the west of the intersection, the roadway features two travel lanes divided by a median. Several businesses access Campbell Boulevard to the east of MD 7.

MDOT SHA required the intersection of MD 7 at Mohrs Lane to be included in this study. Currently, Mohrs Lane is a dead-end street serving less than half a dozen houses because the bridge over the CSX Rail has been removed but not yet replaced. Baltimore County has a Capital Project to ultimately replace the bridge.

Exhibit 2 has been prepared to detail the lane use and traffic control device at the study intersection. An aerial photograph of the intersection can be found in Appendix A.

## **Traffic Volumes**

Intersection turning movement counts were collected at the study intersections on May 10, 2018 during a typical weekday while schools were in session. Complete details on the turning movement counts can be found in Appendix A. Because of the short distance of the southbound MD 7 thru lane at Campbell Bouelard, thru volumes were counted by lane.

The morning and evening peak periods are summarized in Exhibit 3. As shown within the exhibit, traffic volumes are heavier in the southbound direction during the morning peak period and heavier in the northbound direction during the evening peak period.

Because the southbound MD 7 rightmost lane ends 200 feet south of the intersection with Campbell Boulevard, volumes were counted by lane to establish an accurate lane use factor. During the AM peak hour, 88% of southbound traffic used the left thru lane while 87% of PM traffic was observed in the left lane.

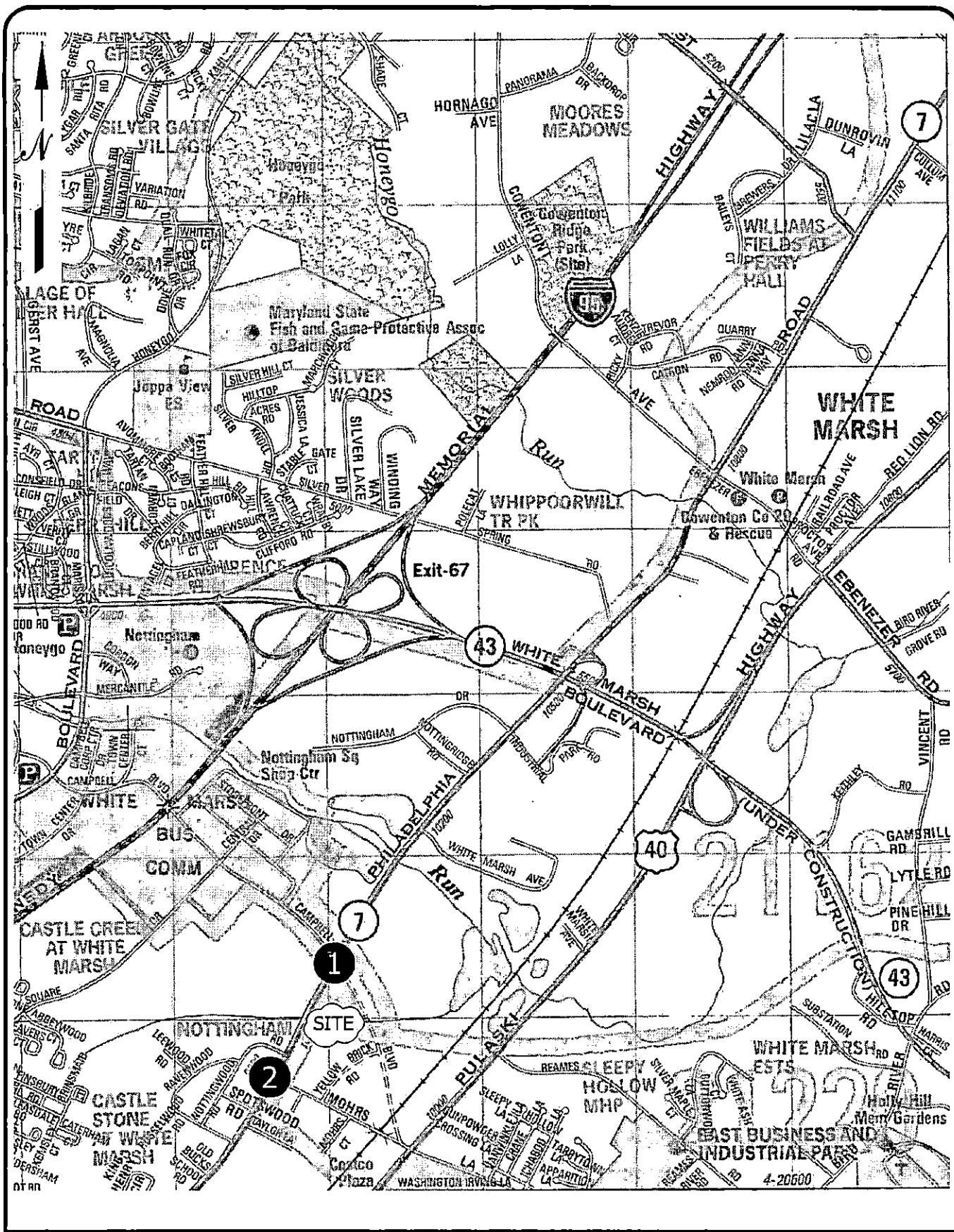
## **Analysis of Existing Traffic Conditions**

Intersection Capacity Analysis was undertaken at the study intersections using Critical Lane Volume (CLV) Methodology. A Synchro Model was also developed. The results of the analysis are summarized in Exhibit 15. Complete capacity worksheets can be found in Appendix B.

A review of Exhibit 12 reveals that the intersection of MD 7 at Campbell Boulevard and MD 7 at Mohrs Lane currently feature acceptable Levels of Service during each of the studied peak periods.

SimTraffic queuing results are summarized in Exhibit 16. Output from the simulation can be found in Appendix B. As shown, all queue lengths can be accommodated within available storage areas with the exception of the MD 7 northbound left turn to Campbell Boulevard during the PM peak.

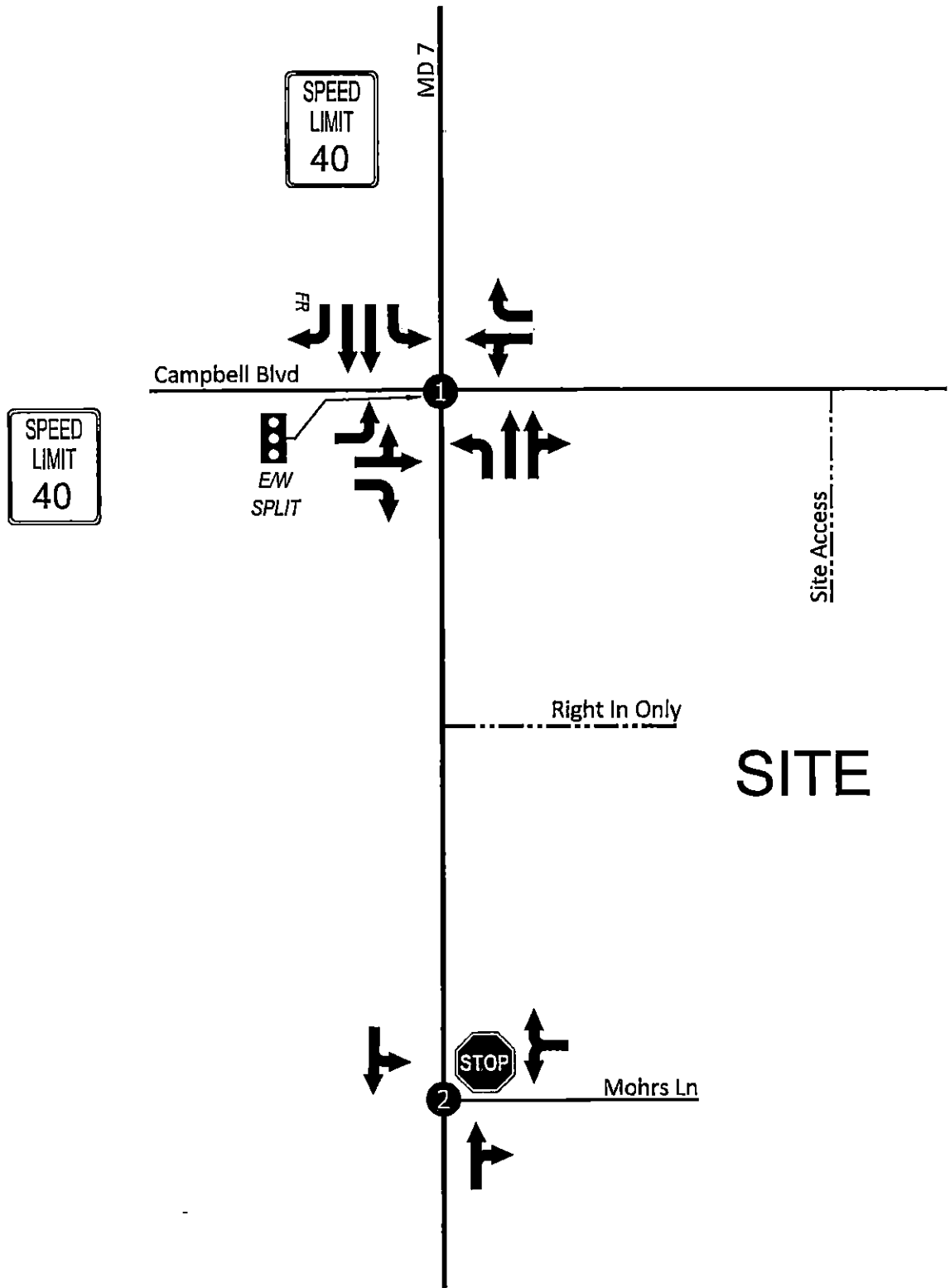
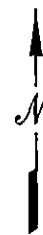
Baltimore County's Basic Services Map for Transportation was consulted to review levels of service based on Baltimore County's Loaded Cycle Methodology. Loaded Cycle Methodology is based on the number of cycle failures observed at an intersection during the peak hour. Since this methodology cannot be reflected for future conditions, it reported for the existing condition only. The intersection is acceptable and there are no deficient traffic sheds in the area. A portion of the Basic Services Map detailing the relevant location can be found in Appendix A. The updated 2020 map shows no changes to the study area.



# STUDY INTERSECTION

EXHIBIT 1  
SITE LOCATION MAP



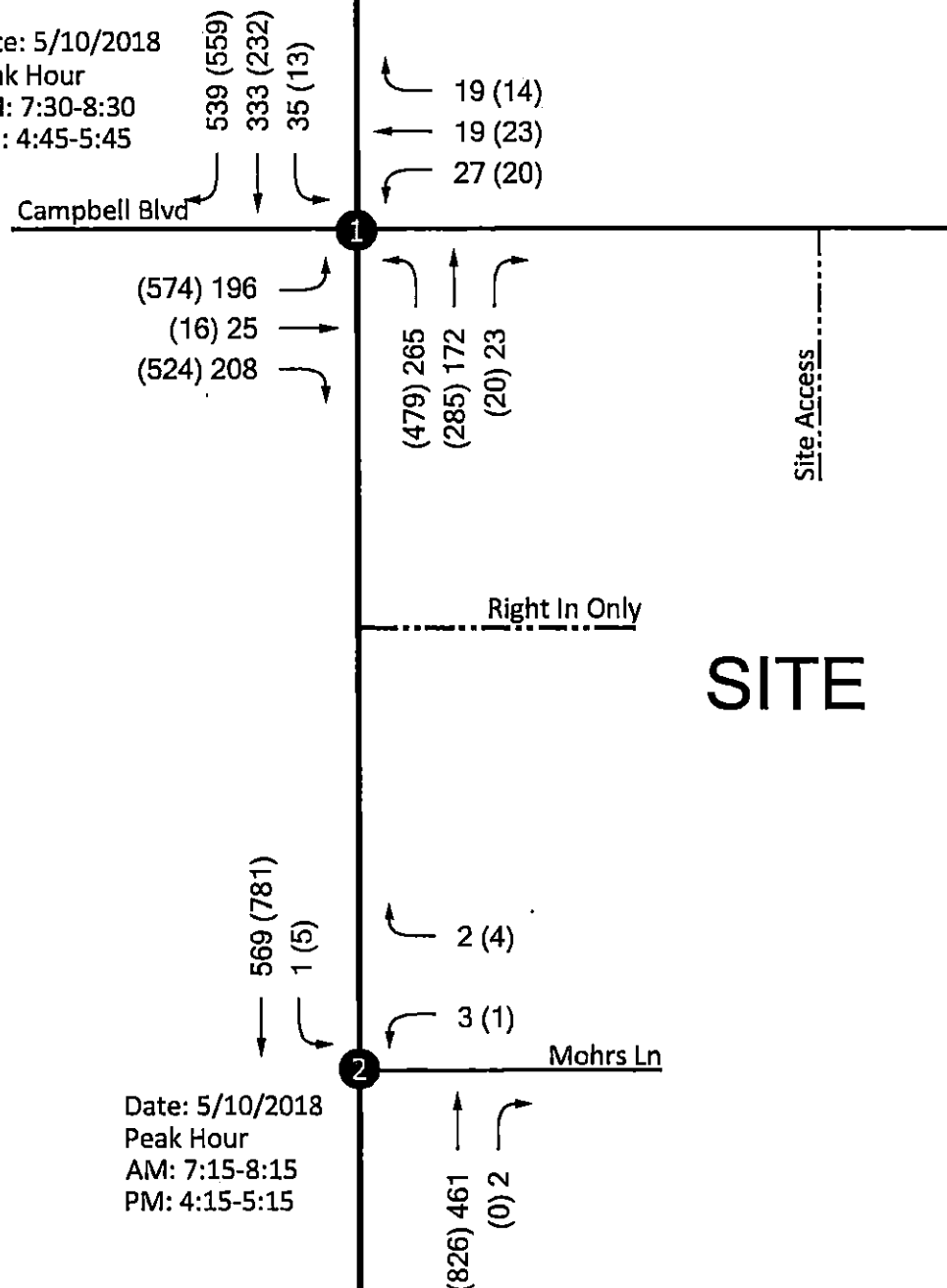


NOT TO SCALE

EXHIBIT 2  
EXISTING LANE USE



Date: 5/10/2018  
Peak Hour  
AM: 7:30-8:30  
PM: 4:45-5:45



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 3  
2018 EXISTING PEAK HOUR  
TRAFFIC VOLUMES

## **BACKGROUND TRAFFIC CONDITIONS**

### **Design Year**

It is anticipated that full buildout of the Wawa Site located in the southeast quadrant of MD 7 at Campbell Boulevard will be by the year 2021. MDOT SHA historic volumes for the MD 7 corridor indicate a slight reduction in volume over 10 years. A summary of the volumes can be found in Exhibit 4. To present a conservative analysis, a 1% annual growth rate was applied to MD 7 for a period of three years. Exhibit 4 contains a summary of the regional traffic growth. Adding the regional traffic growth to the existing peak hour traffic conditions results in the 2021 base peak hour traffic volumes as shown in Exhibit 5.

### **Background Traffic**

Based on previous Traffic Impact Studies undertaken by The Traffic Group, Inc. and information received from Baltimore County, a total of four background developments have been identified in the vicinity of the site. They include the following:

- Cowenton North
- Cowenton South
- Philadelphia Road Commercial
- Nottingham Ridge Industrial Site

The map showing the relative location of each of the approved background developments can be found in Exhibit 7. Exhibit 8 contains a list of the background developments and includes details on the trip generation determined for each. The trip generation is based on material contained in ITE's Trip Generation Manual (10<sup>th</sup> Edition).

Based on the previously approved Traffic Impact Studies, the trips were distributed and assigned to the surrounding road network. Details on the trip distribution and assignment for individual background developments can be found in Appendix C. The combined trips generated by all approved developments are summarized in Exhibit 9. Combining the trips generated by the background developments with the base peak hour traffic volumes results in the 2021 background peak hour traffic volumes as shown in Exhibit 10.

## **Analysis of Background Traffic Conditions**

CLV Analysis was undertaken for the background condition which considers regional traffic growth and the impact of approved background developments. All results are shown in Exhibit 15. Complete capacity worksheets can be found in Appendix B.

A review of Exhibit 15 reveals that under the background condition, each intersection is projected to maintain Level of Service "C" or better conditions which is acceptable to both MDOT SHA and Baltimore County.

Similarly, the Synchro Model was updated to show the background condition. Results of the levels of service can be found in Exhibit 15, while worksheets are contained in Appendix B. A review of the results shows acceptable conditions are projected at both locations.

The SimTraffic Model results are shown in Exhibit 16. All queue lengths are projected to remain acceptable with the exception of the northbound MD 7 left turn to Campbell Boulevard. This movement currently exceeds its storage bay.



## TRAFFIC GROWTH PROJECTION

Average Growth: -0.19%  
Mathematical Growth: -0.23%

| Year | ADT Volume | Vol. increase | % increase | Average % |
|------|------------|---------------|------------|-----------|
| 2007 | 17,031     |               |            |           |
| 2008 | 16,522     | -509          | -2.99%     | -2.99%    |
| 2009 | 16,450     | -72           | -0.44%     | -1.71%    |
| 2010 | 16,551     | 101           | 0.61%      | -0.94%    |
| 2011 | 16,622     | 71            | 0.43%      | -0.60%    |
| 2012 | 15,550     | -1,072        | -6.45%     | -1.77%    |
| 2013 | 15,581     | 31            | 0.20%      | -1.44%    |
| 2014 | 15,532     | -49           | -0.31%     | -1.28%    |
| 2015 | 15,943     | 411           | 2.65%      | -0.79%    |
| 2016 | 16,254     | 311           | 1.95%      | -0.48%    |
| 2017 | 16,645     | 391           | 2.41%      | -0.19%    |

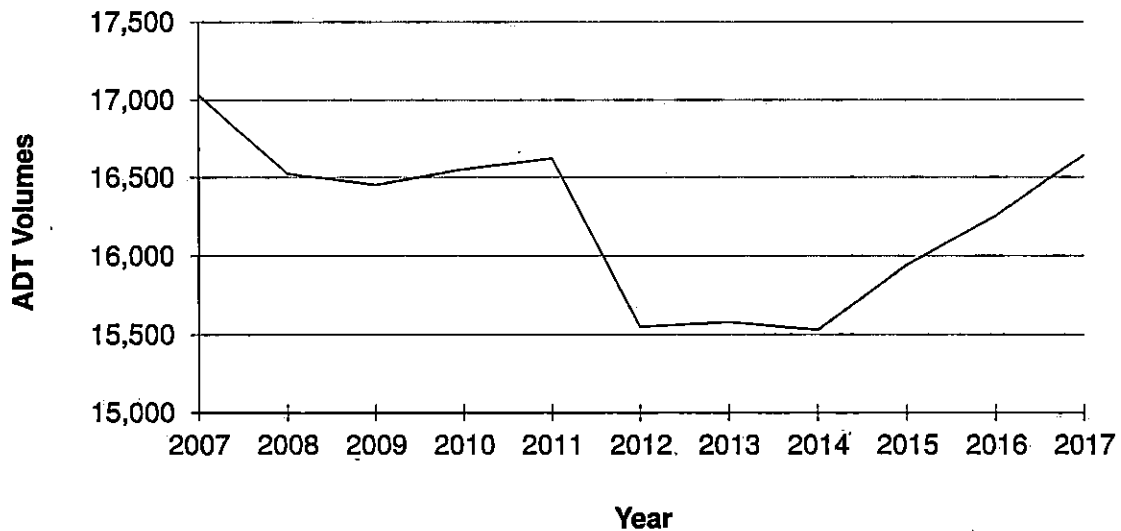
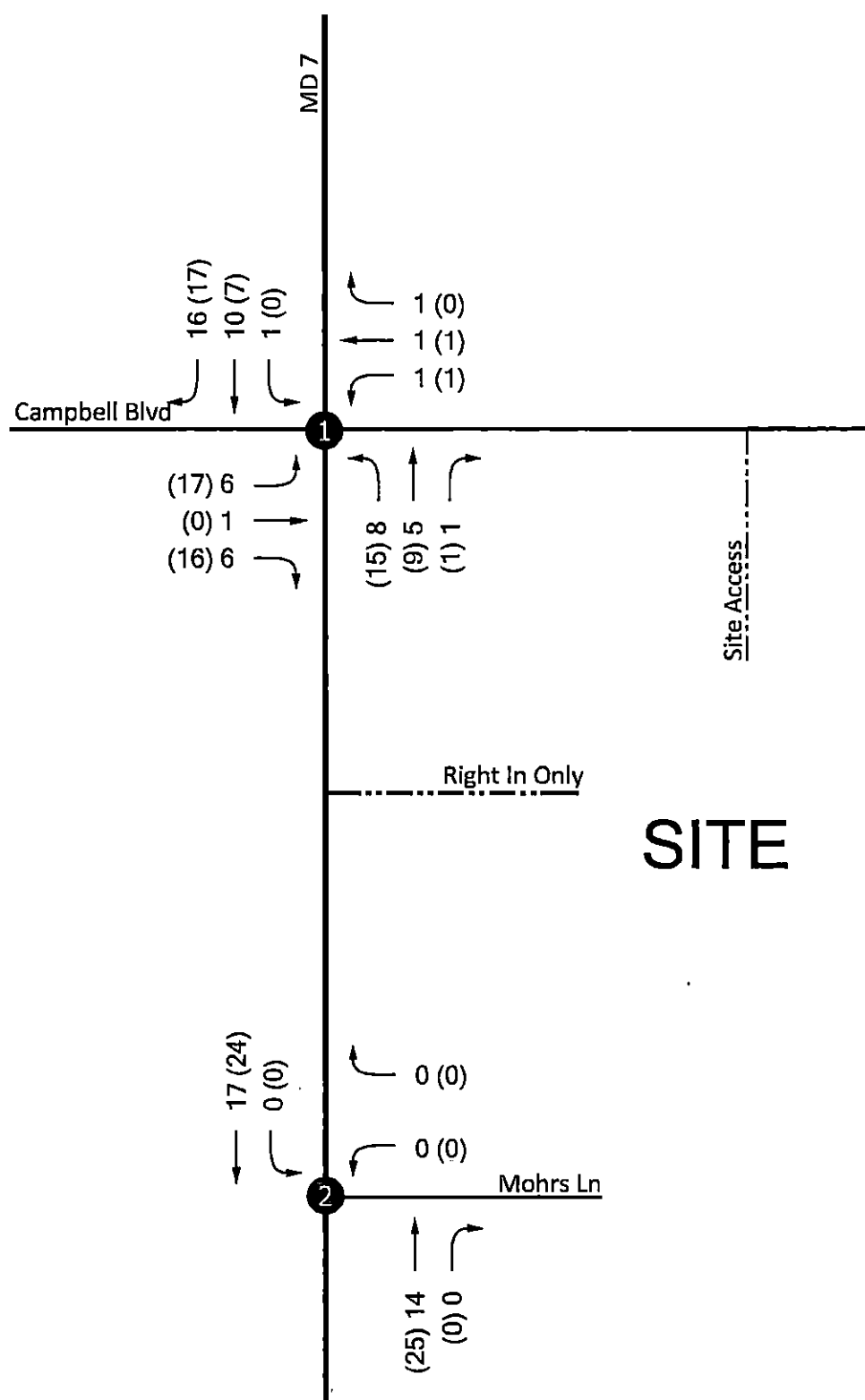
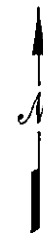


EXHIBIT 4  
TRAFFIC GROWTH PROJECTION  
MD 7 (CAMPBELL BLVD TO MD 43)



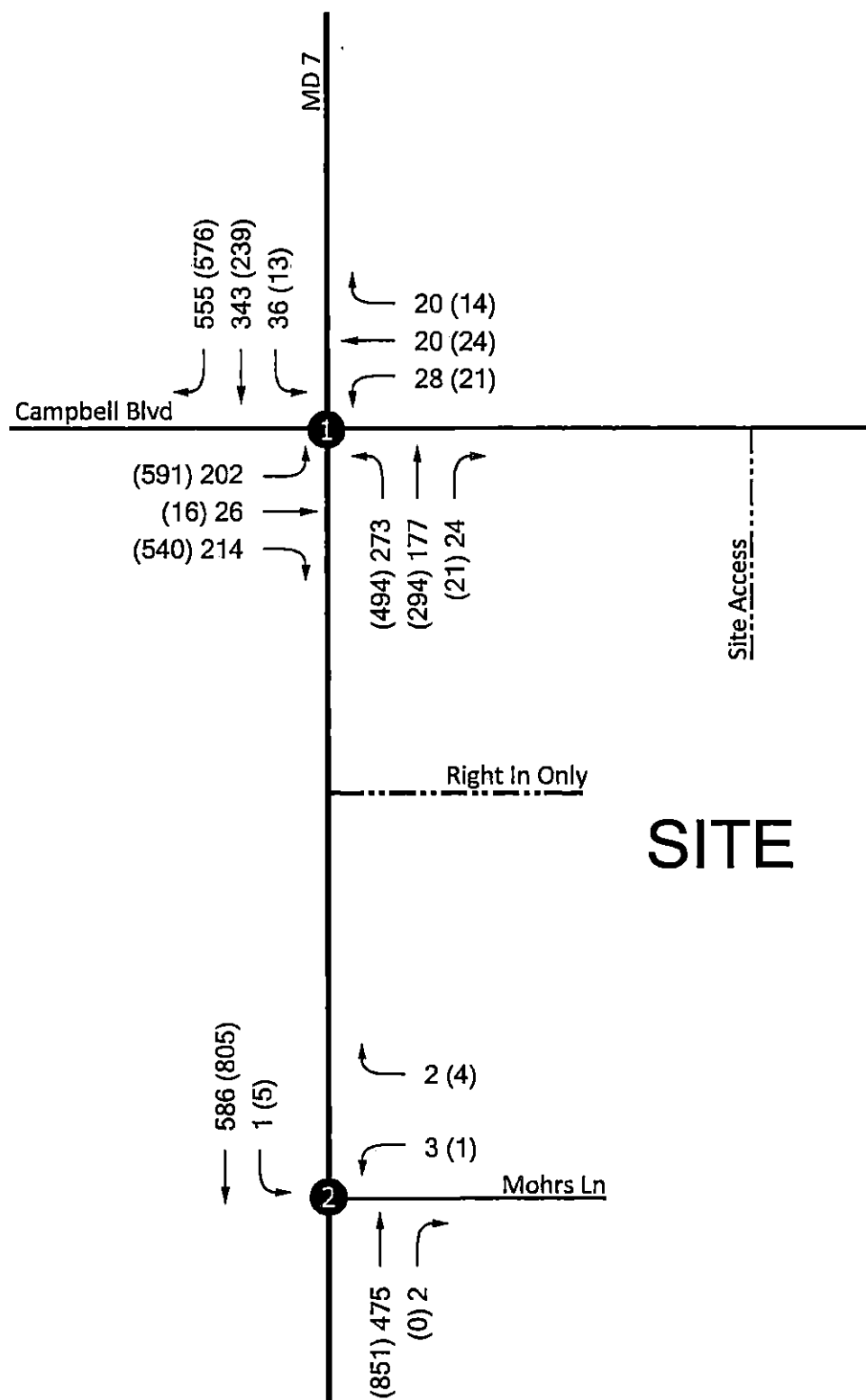
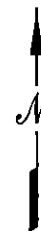
\* Annual growth rate of 1% was applied to all volumes for 3 years.



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

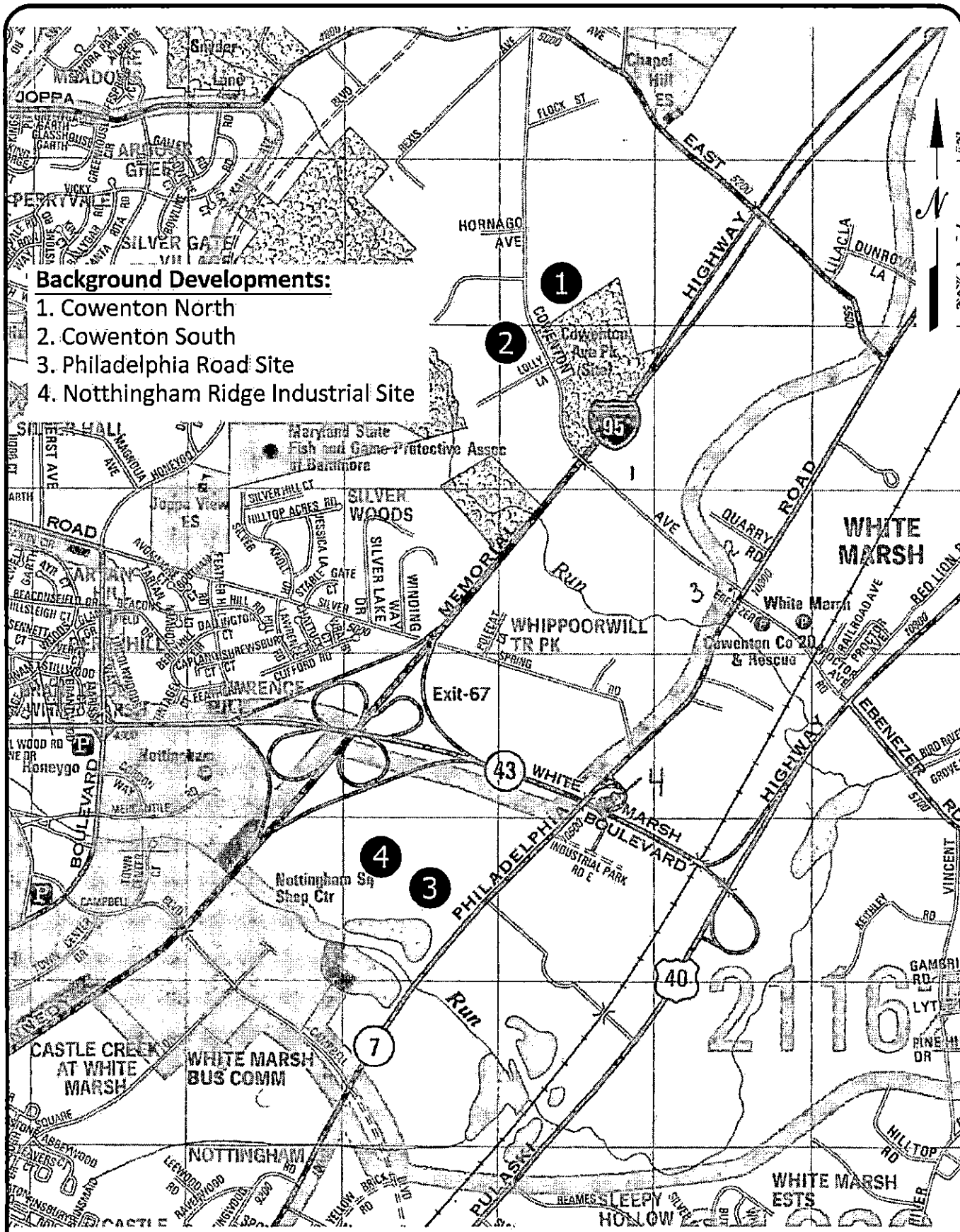
EXHIBIT 5  
REGIONAL TRAFFIC GROWTH  
1% FOR 3 YEARS



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 6  
2021 BASE PEAK HOUR  
TRAFFIC VOLUMES



### Background Developments:

1. Cowenton North
2. Cowenton South
3. Philadelphia Road Site
4. Nottingham Ridge Industrial Site



Grid Spacing = 2000'

# Background development

EXHIBIT 7  
LOCATION MAP FOR  
BACKGROUND DEVELOPMENTS



### ***Trip Generation for Background Developments***

| No.       | Land Use.                                      | Size           | AM Peak Hour |            |             | PM Peak Hour |            |             |
|-----------|------------------------------------------------|----------------|--------------|------------|-------------|--------------|------------|-------------|
|           |                                                |                | In           | Out        | Total       | In           | Out        | Total       |
| <b>1.</b> | <b><i>Cowenton North</i></b>                   |                |              |            |             |              |            |             |
|           | Single Family Detached                         | 48 Units       | 11           | 32         | 43          | 34           | 20         | 54          |
| <b>2.</b> | <b><i>Cowenton South</i></b>                   |                |              |            |             |              |            |             |
|           | Residential Condominium                        | 311 Units      | 22           | 106        | 128         | 102          | 50         | 152         |
|           | Retail                                         | 20,000 sq.ft.  | 36           | 22         | 58          | 98           | 106        | 204         |
|           | Pass-by Trips (PM -34%)                        |                |              |            |             | <u>-33</u>   | <u>-36</u> | <u>-69</u>  |
|           | Net New Retail Trips                           |                | 36           | 22         | 58          | 65           | 70         | 135         |
| <b>3.</b> | <b><i>Philadelphia Road Commercial</i></b>     |                |              |            |             |              |            |             |
|           | Convenience Market w/Gas                       | 5,200 sq.ft.   | 106          | 107        | 213         | 132          | 133        | 265         |
|           | Pass-by Trips(AM -63%, PM-66%)                 |                | <u>-67</u>   | <u>-67</u> | <u>-134</u> | <u>-87</u>   | <u>-88</u> | <u>-175</u> |
|           | Net Trips                                      |                | 39           | 40         | 79          | 45           | 45         | 90          |
|           | Automobile Sales                               | 35,000 sq.ft.  | 50           | 17         | 67          | 37           | 55         | 92          |
|           | Hotel                                          | 125 Rooms      | 39           | 27         | 66          | 38           | 37         | 75          |
|           | High Turn-over Restaurant                      | 18,648 sq.ft.  | 111          | 91         | 202         | 110          | 74         | 184         |
|           | Pass-by Trips (PM-43%)                         |                |              |            |             | <u>-47</u>   | <u>-32</u> | <u>-79</u>  |
|           | Net Trips                                      |                | 111          | 91         | 202         | 63           | 42         | 105         |
|           | Coffee Shop                                    | 2,100 sq.ft.   | 108          | 103        | 211         | 45           | 45         | 90          |
|           | Pass-by Trips (AM-89%, PM-89%)                 |                | <u>-96</u>   | <u>-92</u> | <u>-188</u> | <u>-40</u>   | <u>-40</u> | <u>-80</u>  |
|           | Net Trips                                      |                | 12           | 11         | 23          | 5            | 5          | 10          |
|           | Shopping Center                                | 2,700 sq.ft.   | 11           | 6          | 17          | 25           | 28         | 53          |
|           | Pass-by Trips (PM-34%)                         |                |              |            |             | <u>-9</u>    | <u>-10</u> | <u>-19</u>  |
|           | Net Retail Trips                               |                | 11           | 6          | 17          | 16           | 18         | 34          |
| <b>4.</b> | <b><i>Nottingham Ridge Industrial Site</i></b> |                |              |            |             |              |            |             |
|           | High-Cube Warehouse/Distribution Center        | 586,500 sq.ft. | 45           | 20         | 65          | 22           | 48         | 70          |

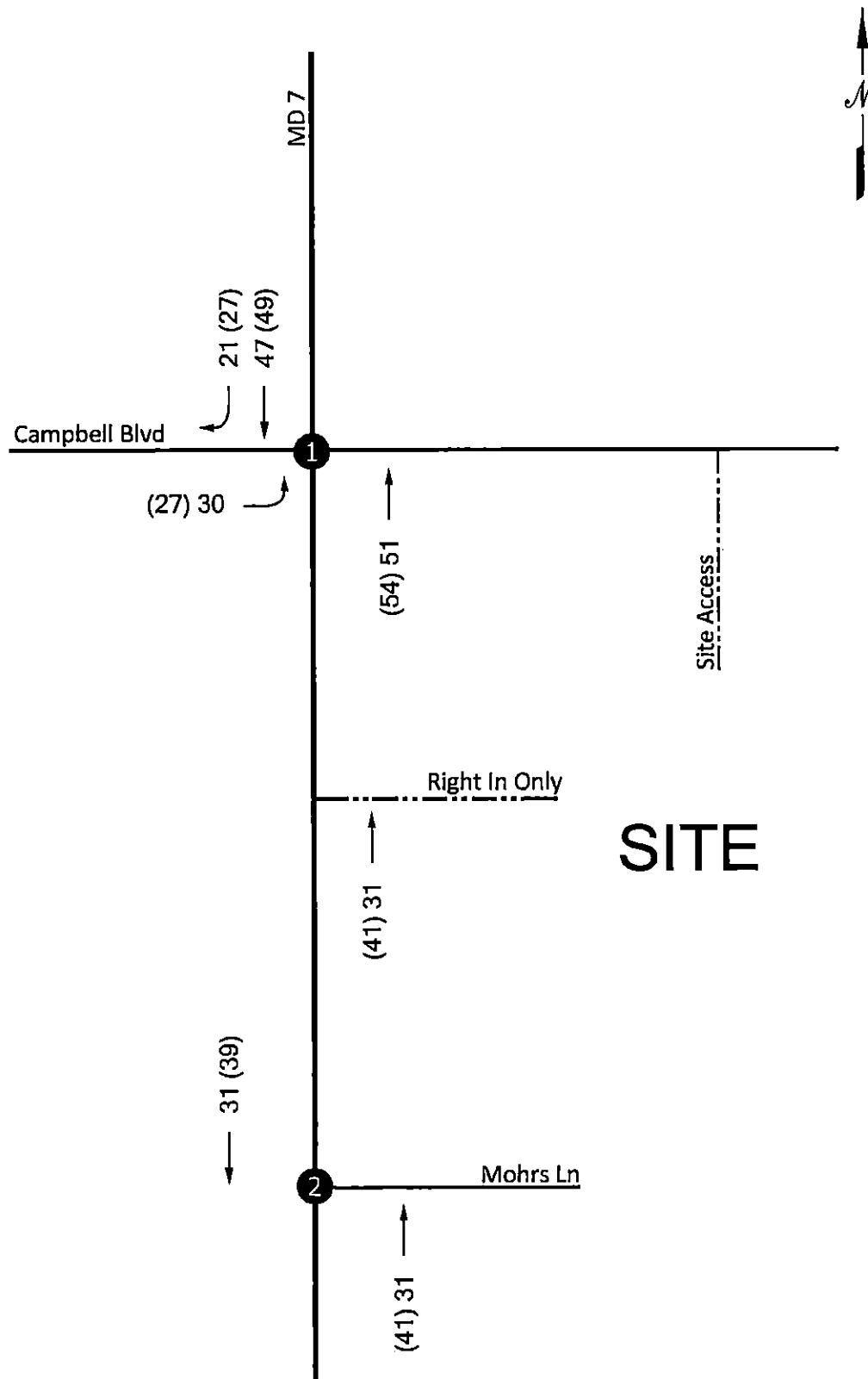
Note: 1. Background #1 ~#3 trip information obtained from Approved TIS for Philadelphia Road Site, Dated August 3, 2017.

2. Background #4 trip information obtained from preliminary traffic study for Nottingham Ridge Industrial Site.



F:\2013\2013-0901\Eng\2018June\Trip

## **EXHIBIT 8 TRIP GENERATION FOR BACKGROUND DEVELOPMENTS**



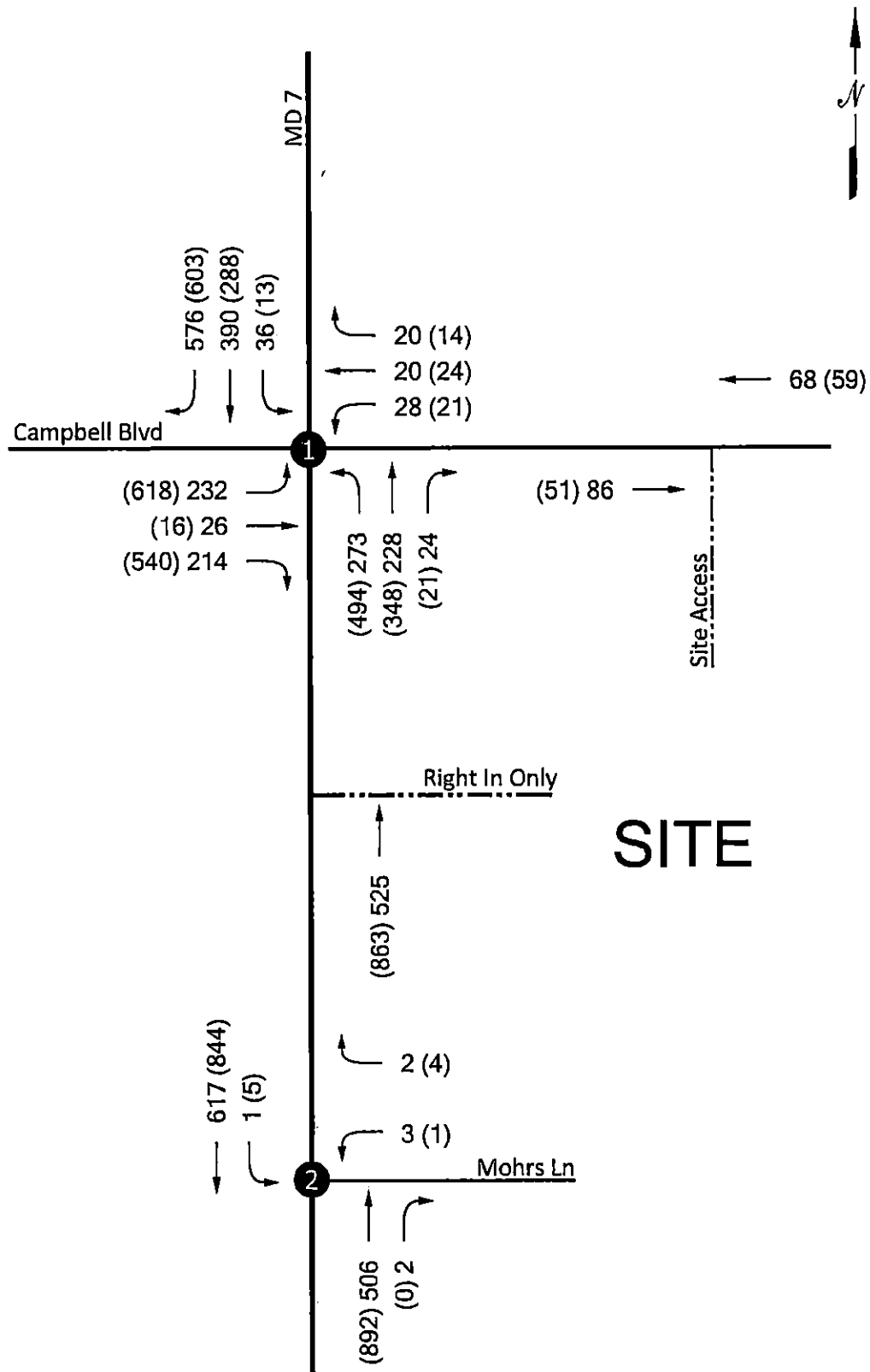
Note: Detailed trip assignments for individual background developments are contained in Appendix C.



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 9  
COMBINED TRIPS GENERATED BY  
BACKGROUND DEVELOPMENTS



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 10  
2021 BACKGROUND PEAK  
HOUR TRAFFIC VOLUMES

# **TOTAL TRAFFIC CONDITIONS**

## **Site Information**

The proposed Wawa Site is located in the southeast quadrant of MD 7 at Campbell Boulevard in the White Marsh section of Baltimore County. A 4,737 sq. ft. convenience store is proposed to be developed on site. In addition, 12 fuel pumps will be available.

Access to the property is proposed to be one right-in along MD 7 and one full access point along Campbell Boulevard.

## **Trip Generation/Distribution**

ITE's Trip Generation Manual (10<sup>th</sup> Edition) was again utilized to quantify the trips projected to be generated by the subject site. Because of the size of the convenience store, Land Use Code #960 was selected for this project which represents a super convenience store. As shown in Exhibit 11, a total of 394 morning peak hour trips and 328 evening peak hour trips are projected to be generated by the use.

The proposed use on site will generate a significant number of pass-by trips because of the nature of convenience retailing. As a result, pass-by trips were deducted based on data contained in ITE's Trip Generation Handbook (3<sup>rd</sup> Edition). The resulting new trips are summarized in Exhibit 11.

All site trips were distributed and assigned to the road network based on existing traffic patterns and anticipated future demand. The trip assignment for the site is summarized in Exhibit 12. The pass-by trips are shown in Exhibit 13.

Adding the site trips to the background peak hour traffic volumes results in the 2021 total peak hour traffic volumes as shown in Exhibit 14.

## **Analysis of Total Traffic Conditions**

Intersection Capacity Analysis was again undertaken for the subject site, this time with consideration given to full development of the property. As shown in Exhibit 15, all intersections are projected to maintain Level of Service "C" or better conditions when considering full buildout when reviewing either CLV or Synchro results. Complete capacity worksheets can be found in Appendix B.

The SimTraffic queuing results are summarized in Exhibit 16. A review shows the Wawa site will add minimal vehicles to all queue lengths. With the exception of the northbound MD 7 left turn

to Campbell Boulevard, all queues can be accommodated within existing bays. The site will not add any traffic to this movement, and improvements to lengthen the existing bay are constrained by a culvert located to the south. As a result, no improvements are required.

To accommodate existing pedestrian demand, crosswalks and pedestrian phasing is proposed on the south and east legs of the intersection.

The right-in from MD 7 is proposed to be designed with channelization and flex posts to reinforce the right-in, only movement. This conceptual design has been approved by MDOT SHA.

A concept showing the proposed access improvements is included in Appendix D.



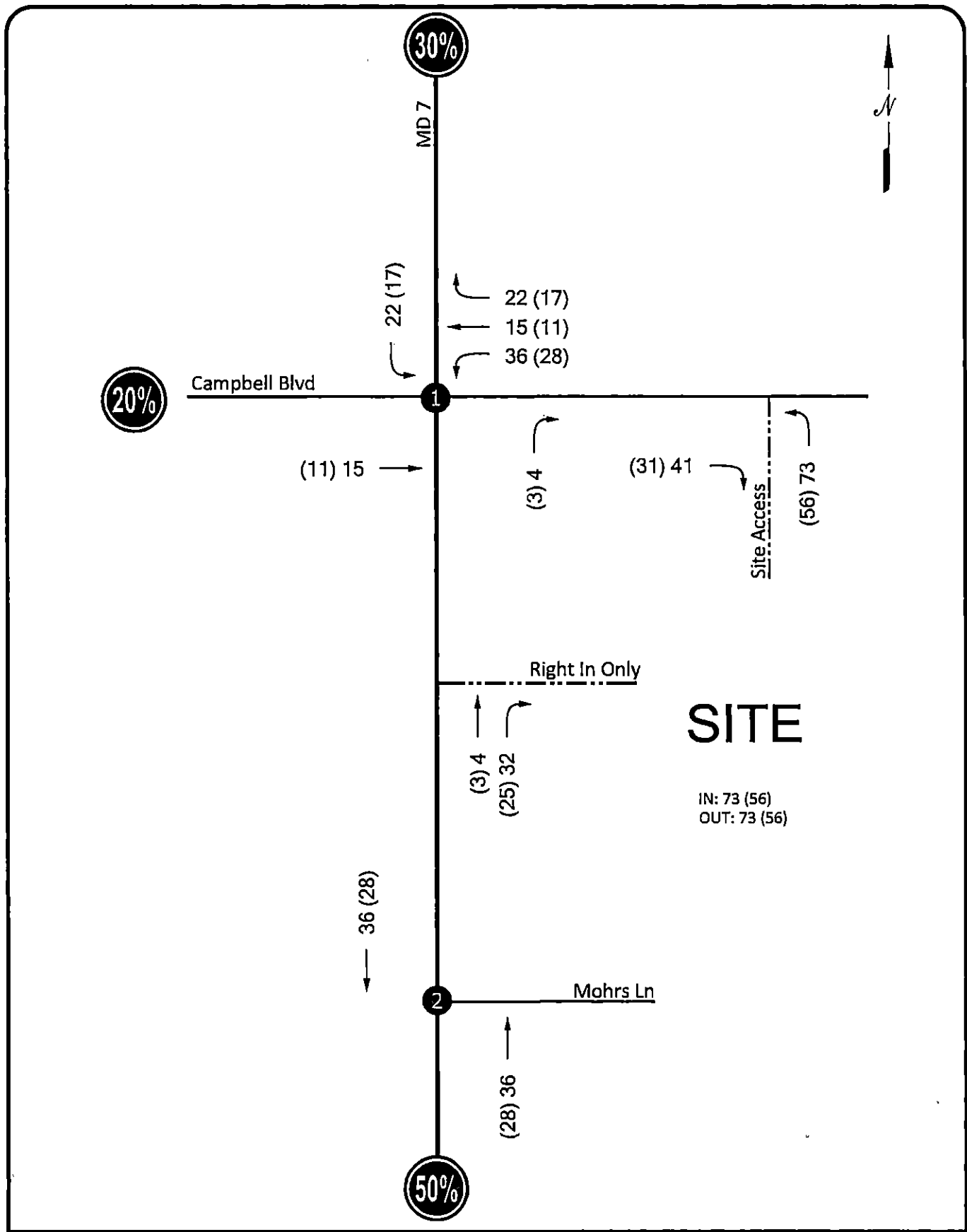
### ***Trip Generation Rates***

| Formula/Rate                                                | *Directional Distribution |     |              |     |
|-------------------------------------------------------------|---------------------------|-----|--------------|-----|
|                                                             | AM Peak Hour              |     | PM Peak Hour |     |
|                                                             | IN                        | OUT | IN           | OUT |
| <b><i>Super Convenience Market w/Gas (ksf, ITE-960)</i></b> |                           |     |              |     |
| Morning Trips = 83.14 x ksf                                 | 50%                       | 50% | 50%          | 50% |
| Evening Trips = 69.28 x ksf                                 |                           |     |              |     |

### ***Trip Generation for Subject Site***

| No. | Land Use                       | Size        | AM Peak Hour |             |             | PM Peak Hour |             |             |
|-----|--------------------------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|
|     |                                |             | In           | Out         | Total       | In           | Out         | Total       |
|     | Super Conv. Store w/Gas Pump   | 4,737 sq.ft | 197          | 197         | 394         | 164          | 164         | 328         |
|     | Pass-by Trips (AM-63%, PM 66%) |             | <u>-124</u>  | <u>-124</u> | <u>-248</u> | <u>-108</u>  | <u>-108</u> | <u>-216</u> |
|     | <b><i>Net New Trips</i></b>    |             | <b>73</b>    | <b>73</b>   | <b>146</b>  | <b>56</b>    | <b>56</b>   | <b>112</b>  |

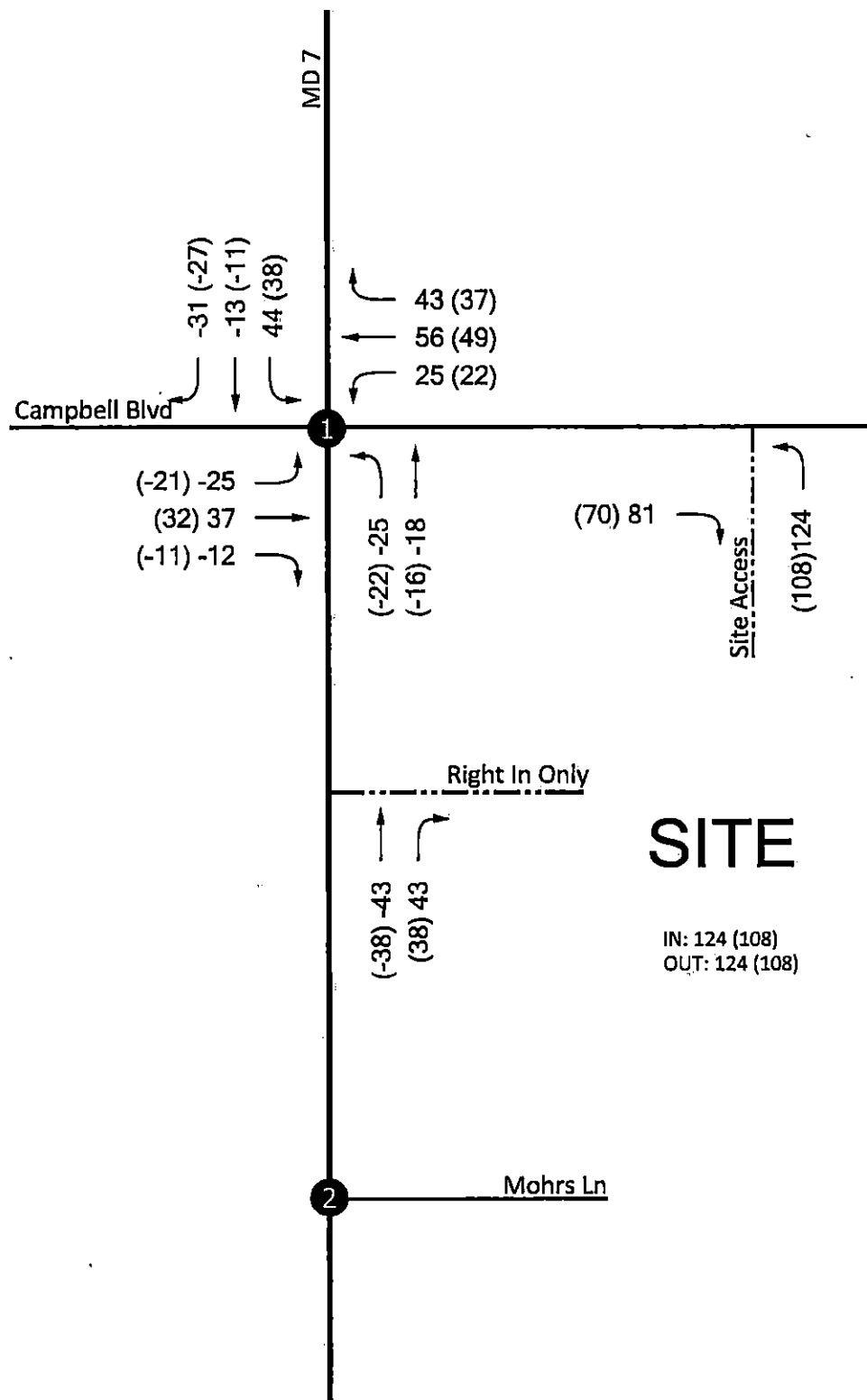




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00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 12  
NEW TRIP ASSIGNMENT FOR  
SUBJECT SITE



**SITE**

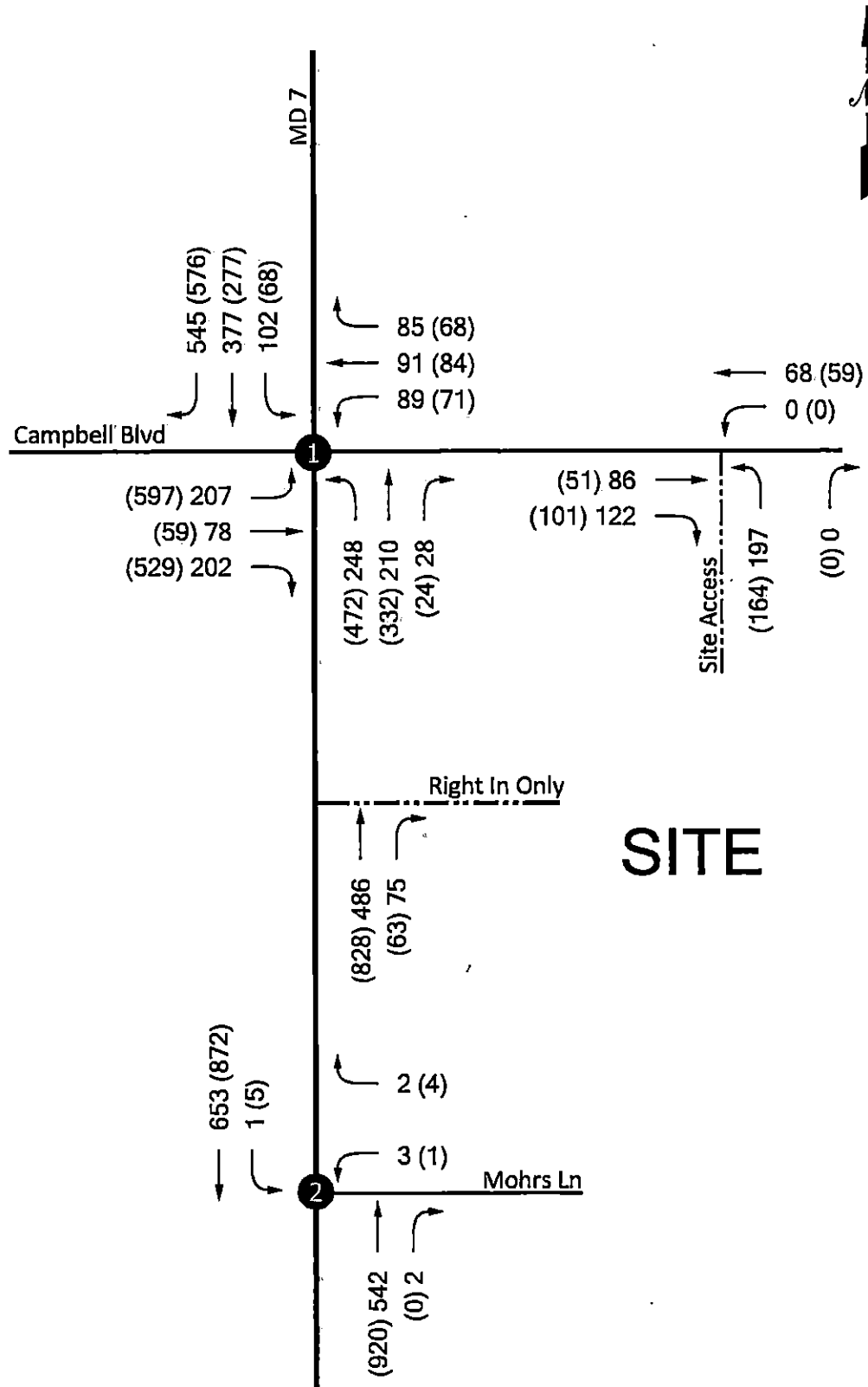
IN: 124 (108)  
OUT: 124 (108)



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00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

**EXHIBIT 13**  
**PASS-BY TRIP ASSIGNMENT**  
**FOR SUBJECT SITE**



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT 14  
2021 TOTAL PEAK HOUR  
TRAFFIC VOLUMES

**CLV**

|                                               | 2018<br>Existing Traffic | 2021<br>Background Traffic | 2021<br>Total Traffic |
|-----------------------------------------------|--------------------------|----------------------------|-----------------------|
| <b>Morning Peak Hour Traffic</b>              | <b>LOS/CLV</b>           | <b>LOS/CLV</b>             | <b>LOS/CLV</b>        |
| 1. MD 7 & Campbell Blvd                       | A/737                    | A/819                      | A/931                 |
| w/Proposed Community Enhancement Improvements | ---                      | ---                        | A/877                 |
| 2. MD 7 & Mohrs Ln                            | A/576                    | A/624                      | A/660                 |
| <b>Evening Peak Hour Traffic</b>              |                          |                            |                       |
| 1. MD 7 & Campbell Blvd                       | B/1,078                  | C/1,170                    | C/1,262               |
| w/Proposed Community Enhancement Improvements | ---                      | ---                        | B/1,109               |
| 2. MD 7 & Mohrs Ln                            | A/836                    | A/902                      | A/930                 |

**HCM**

|                                      |                     | 2018<br>Existing Traffic | 2021<br>Background Traffic | 2021<br>Total Traffic |
|--------------------------------------|---------------------|--------------------------|----------------------------|-----------------------|
| <b>Morning Peak Hour Traffic</b>     | <b>Control Type</b> | <b>LOS/Delay</b>         | <b>LOS/Delay</b>           | <b>LOS/Delay</b>      |
| 1. MD 7 & Campbell Blvd              | Signal              | C/21.8                   | C/22.4                     | C/30.9                |
| EB                                   |                     | C/31.0                   | C/31.3                     | D/38.7                |
| WB                                   |                     | D/48.3                   | D/48.2                     | D/50.7                |
| NB                                   |                     | B/12.0                   | B/12.7                     | B/17.7                |
| SB                                   |                     | B/18.7                   | C/20.4                     | C/24.8                |
| w/Community Enhancement Improvements | Signal              | ---                      | ---                        | C/32.7                |
| EB                                   |                     | ---                      | ---                        | C/31.9                |
| WB                                   |                     | ---                      | ---                        | D/40.8                |
| NB                                   |                     | ---                      | ---                        | C/28.9                |
| SB                                   |                     | ---                      | ---                        | C/33.1                |
| 2. MD 7 & Mohrs Ln                   | Stop                |                          |                            |                       |
| WB/LR - Mohrs Ln                     |                     | C/16.8                   | C/18.3                     | C/19.7                |
| SB/LT - MD 7                         |                     | A/<1.0                   | A/<1.0                     | A<1.0                 |
| <b>Evening Peak Hour Traffic</b>     |                     |                          |                            |                       |
| 1. MD 7 & Campbell Blvd              | Signal              | C/25.3                   | C/28.8                     | D/36.3                |
| EB                                   |                     | C/21.5                   | C/24.5                     | C/30.7                |
| WB                                   |                     | D/49.4                   | D/52.7                     | D/52.9                |
| NB                                   |                     | C/24.5                   | C/28.1                     | C/34.9                |
| SB                                   |                     | D/39.4                   | D/42.9                     | D/47.8                |
| w/Community Enhancement Improvements |                     |                          |                            | D/35.4                |
| EB                                   |                     | ---                      | ---                        | C/30.5                |
| WB                                   |                     | ---                      | ---                        | D/47.8                |
| NB                                   |                     | ---                      | ---                        | C/34.1                |
| SB                                   |                     | ---                      | ---                        | D/46.9                |
| 2. MD 7 & Mohrs Ln                   | Stop                |                          |                            |                       |
| WB/LR - Mohrs Ln                     |                     | C/20.0                   | C/22.2                     | C/23.3                |
| SB/LT - MD 7                         |                     | A/<1.0                   | A/<1.0                     | A<1.0                 |





**SimTraffic 95th Queue Output**

|                         |                   | 95th Queue    |     |                 |     |            |     |              |     |
|-------------------------|-------------------|---------------|-----|-----------------|-----|------------|-----|--------------|-----|
|                         |                   | 2018 Existing |     | 2021 Background |     | 2021 Total |     | Total w/PCEI |     |
|                         |                   | AM            | PM  | AM              | PM  | AM         | PM  | AM           | PM  |
| Intersection            | Storage Length    |               |     |                 |     |            |     |              |     |
| 1. MD 7 & Campbell Blvd |                   |               |     |                 |     |            |     |              |     |
| EB/L                    | 800               | 136           | 260 | 146             | 296 | 162        | 360 | 140          | 270 |
| EB/LT                   | 800               | 102           | 233 | 108             | 253 | 144        | 334 | 131          | 243 |
| EB/R                    | 200' + 100' Taper | 60            | 100 | 64              | 115 | 64         | 164 | 89           | 177 |
| WB/LT                   | 200'              | 69            | 67  | 78              | 74  | 190        | 181 | 168          | 153 |
| WB/R                    | 200'              | 30            | 27  | 30              | 26  | 52         | 52  | 51           | 49  |
| NB/L                    | 220' + 75' Taper  | 142           | 273 | 154             | 306 | 169        | 316 | 119          | 199 |
| NB/L                    | 220' + 75' Taper  | ---           | --- | ---             | --- | ---        | --- | 135          | 207 |
| NB/T                    | >1000'            | 56            | 192 | 76              | 307 | 92         | 349 | 86           | 120 |
| NB/TR                   | 350'              | 56            | 131 | 71              | 193 | 89         | 204 | 83           | 114 |
| SB/L                    | 250' + TWLTL      | 44            | 33  | 47              | 67  | 118        | 147 | 153          | 116 |
| SB/T                    | >1000'            | 191           | 203 | 231             | 312 | 285        | 305 | 300          | 242 |
| SB/T                    | >1000'            | 47            | 56  | 90              | 228 | 141        | 181 | ---          | --- |
| 2. MD 7 & Mohrs Ln      |                   |               |     |                 |     |            |     |              |     |
| WB/LR                   | >500'             | <25           | <25 | <25             | <25 | <25        | 26  | <25          | 26  |
| SB/LT                   | >1000'            | <25           | 34  | <25             | 45  | 31         | 63  | <25          | 71  |

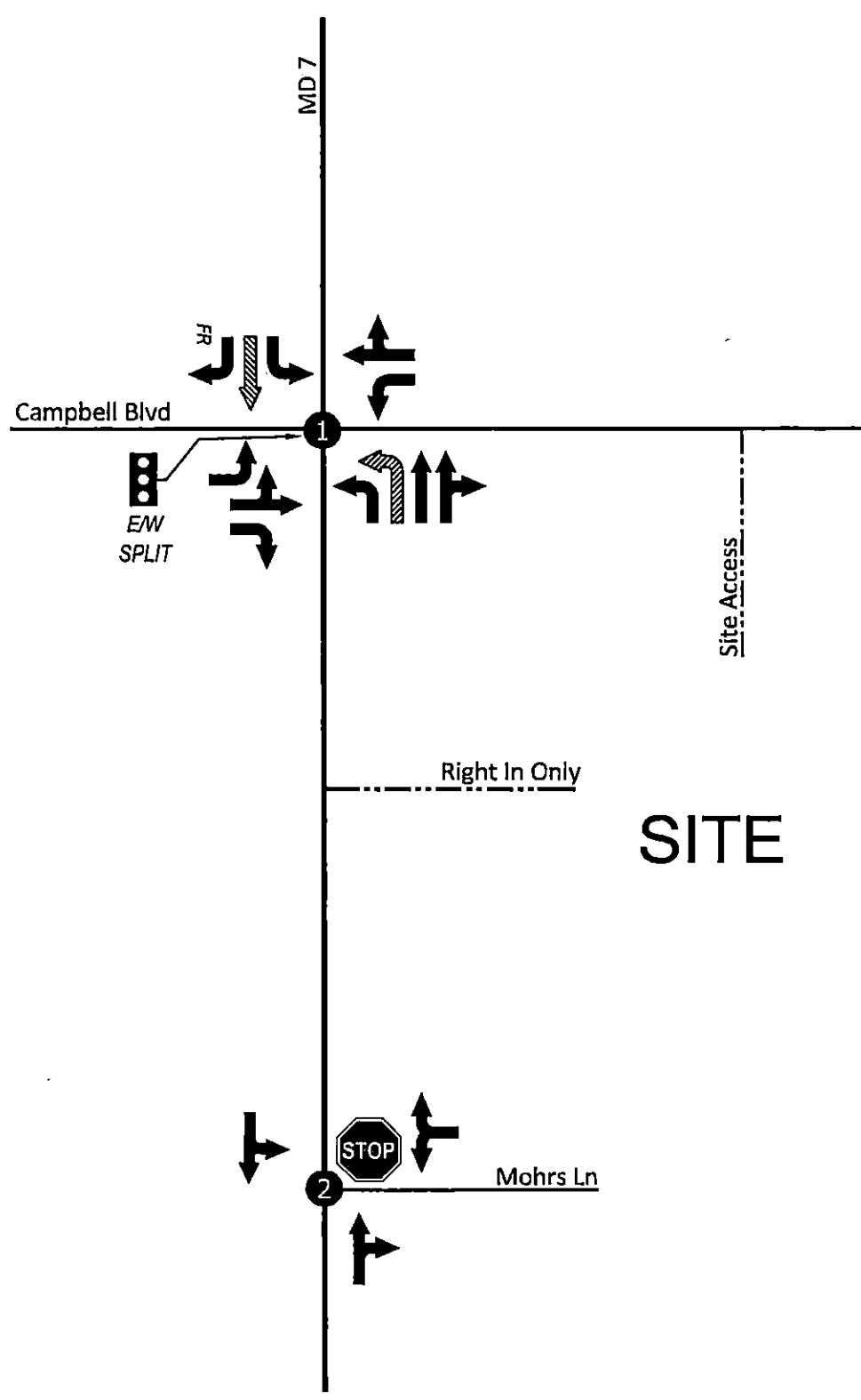
Note: 1. Results shown was average number of 10 simulation runs.

2. PCEI represents Proposed Community Enhancement Improvements.



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EXHIBIT 16  
RESULTS OF INTERSECTION  
QUEUE ANALYSIS  
(SIMTRAFFIC)



NOT TO SCALE



EXISTING LANE USE  
PROPOSED COMMUNITY ENHANCEMENT IMPROVEMENTS

EXHIBIT 17  
FUTURE LANE USE

## **RESULTS, RECOMMENDATIONS, AND CONCLUSIONS**

### **Study Purpose**

The Traffic Group, Inc. has prepared this Traffic Impact Study to quantify the impact the proposed development of the Wawa Convenience Store and fuel pumps in the southeast quadrant of the intersection of MD 7 (Philadelphia Road) at Campbell Boulevard will have on surrounding traffic operations. Specifically, the convenience store will feature a footprint of 4,737 sq. ft. In addition, a total of 12 fuel dispensers will be constructed on site.

Access to the property is proposed via one full movement point along Campbell Boulevard just west of MD 7. In addition, a right-in is proposed along MD 7. Full buildout of the project is expected within three years.

### **Study Criteria/Methodology**

This document has been prepared in accordance with requirements set forth by MDOT SHA and Baltimore County. All Intersection Capacity Analyses are conducted using CLV Methodology. In addition, a Synchro analysis has been developed for the study intersections to model traffic operations and quantify HCM levels of service. ITE's Trip Generation Manual (10<sup>th</sup> Edition) was utilized for all future trip projections.

*Baltimore County's Basic Services Map for Transportation* was consulted to confirm that the study intersection is not situated within a deficient traffic shed.

### **Summary of Findings and Recommendations**

This analysis demonstrates that the study intersections currently exhibit acceptable levels of service. With the full buildout of the proposed Wawa, the intersections will maintain acceptable operations without the need for capacity related improvements when considering both CLV and HCM criteria.

Queuing was reviewed based on SimTraffic output for all study intersections. The analysis reveals that the development of Wawa will have a minimal impact on queuing. With the exception of the northbound MD 7 left turn movement at Campbell Boulevard, all turning demand can be accommodated within available storage bays. The site will not contribute any vehicles to this movement as only right turns in along MD 7 are proposed. As a result of traffic added to the intersection, the projected queue length increases by less than one vehicle, and improvements are not required.

To accommodate existing pedestrian demand, crosswalks and pedestrian phasing is proposed on the south and east legs of the intersection.

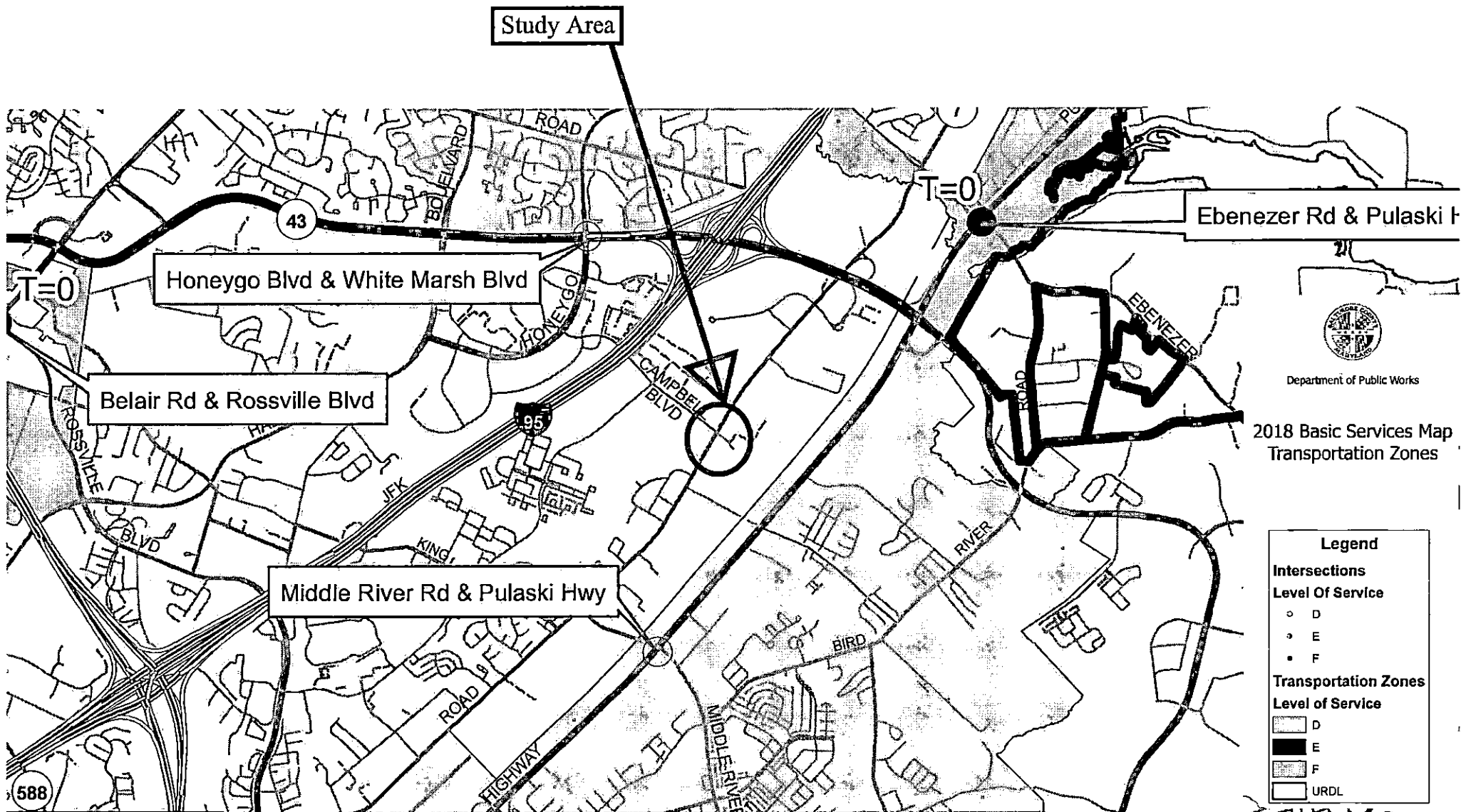
It is our opinion that the subject site could be developed without need for additional improvements.

## **APPENDIX A**

### **Intersection Turning Movement Counts and Aerial Photographs**







# TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 7  
and: Campbell Boulevard  
Location: Baltimore County, Maryland

Counted by: VCU  
Date: May 10, 2018  
Weather: Sunny/Warm  
Entered by: SN

Thursday  
Star Rating: 4



| TIME        | TRAFFIC FROM NORTH   |      |      |               | TRAFFIC FROM SOUTH   |      |      |               | TRAFFIC FROM EAST<br>on: Campbell Boulevard |      |      |               | TRAFFIC FROM WEST<br>on: Campbell Boulevard |      |      |               | TOTAL<br>N + S<br>+ E + W |      |   |      |      |
|-------------|----------------------|------|------|---------------|----------------------|------|------|---------------|---------------------------------------------|------|------|---------------|---------------------------------------------|------|------|---------------|---------------------------|------|---|------|------|
|             | on:<br>MD 7<br>RIGHT | THRU | LEFT | U-TN<br>TOTAL | on:<br>MD 7<br>RIGHT | THRU | LEFT | U-TN<br>TOTAL | on:<br>Campbell<br>Boulevard<br>RIGHT       | THRU | LEFT | U-TN<br>TOTAL | on:<br>Campbell<br>Boulevard<br>RIGHT       | THRU | LEFT | U-TN<br>TOTAL |                           |      |   |      |      |
| AM          |                      |      |      |               |                      |      |      |               |                                             |      |      |               |                                             |      |      |               |                           |      |   |      |      |
| 7:00 - 7:15 | 77                   | 84   | 4    | 0             | 165                  | 6    | 28   | 39            | 0                                           | 73   | 1    | 3             | 3                                           | 0    | 7    | 48            | 5                         | 40   | 0 | 93   | 338  |
| 7:15 - 7:30 | 105                  | 91   | 2    | 0             | 199                  | 1    | 36   | 56            | 0                                           | 93   | 1    | 1             | 3                                           | 0    | 5    | 44            | 4                         | 48   | 0 | 96   | 393  |
| 7:30 - 7:45 | 119                  | 88   | 4    | 0             | 211                  | 6    | 54   | 65            | 0                                           | 125  | 0    | 0             | 4                                           | 0    | 4    | 49            | 5                         | 55   | 0 | 109  | 449  |
| 7:45 - 8:00 | 157                  | 92   | 14   | 0             | 263                  | 8    | 42   | 79            | 0                                           | 129  | 2    | 4             | 3                                           | 0    | 9    | 44            | 5                         | 40   | 0 | 89   | 490  |
| 8:00 - 8:15 | 146                  | 81   | 11   | 0             | 238                  | 5    | 38   | 67            | 0                                           | 110  | 10   | 6             | 9                                           | 0    | 25   | 54            | 3                         | 38   | 1 | 95   | 469  |
| 8:15 - 8:30 | 117                  | 72   | 6    | 0             | 195                  | 4    | 38   | 54            | 0                                           | 96   | 7    | 9             | 11                                          | 0    | 27   | 61            | 12                        | 61   | 1 | 135  | 453  |
| 8:30 - 8:45 | 122                  | 70   | 6    | 0             | 198                  | 5    | 42   | 71            | 0                                           | 118  | 3    | 7             | 7                                           | 0    | 17   | 57            | 10                        | 28   | 2 | 97   | 430  |
| 8:45 - 9:00 | 151                  | 85   | 7    | 0             | 243                  | 5    | 31   | 83            | 0                                           | 119  | 5    | 6             | 2                                           | 0    | 13   | 58            | 10                        | 45   | 1 | 114  | 489  |
| 2 Hr Totals | 995                  | 663  | 54   | 0             | 1712                 | 40   | 309  | 514           | 0                                           | 863  | 29   | 36            | 42                                          | 0    | 107  | 415           | 54                        | 355  | 5 | 829  | 3511 |
| 1 Hr Totals |                      |      |      |               |                      |      |      |               |                                             |      |      |               |                                             |      |      |               |                           |      |   |      |      |
| 7:00 - 8:00 | 459                  | 355  | 24   | 0             | 838                  | 21   | 150  | 239           | 0                                           | 420  | 4    | 8             | 13                                          | 0    | 25   | 185           | 19                        | 183  | 0 | 387  | 1670 |
| 7:15 - 8:15 | 528                  | 352  | 31   | 0             | 911                  | 20   | 170  | 267           | 0                                           | 457  | 13   | 11            | 19                                          | 0    | 43   | 191           | 17                        | 181  | 1 | 390  | 1801 |
| 7:30 - 8:30 | 539                  | 333  | 35   | 0             | 907                  | 23   | 172  | 265           | 0                                           | 460  | 19   | 19            | 27                                          | 0    | 65   | 208           | 25                        | 194  | 2 | 429  | 1861 |
| 7:45 - 8:45 | 542                  | 315  | 37   | 0             | 894                  | 22   | 160  | 271           | 0                                           | 453  | 22   | 26            | 30                                          | 0    | 78   | 216           | 30                        | 167  | 4 | 417  | 1842 |
| 8:00 - 9:00 | 536                  | 308  | 30   | 0             | 874                  | 19   | 149  | 275           | 0                                           | 443  | 25   | 28            | 29                                          | 0    | 82   | 220           | 35                        | 172  | 5 | 442  | 1841 |
| PEAK HOUR   | 539                  | 333  | 35   | 0             | 907                  | 23   | 172  | 265           | 0                                           | 460  | 19   | 19            | 27                                          | 0    | 65   | 208           | 25                        | 194  | 2 | 429  | 1861 |
| 7:30 - 8:30 | 539                  | 333  | 35   | 0             | 907                  | 23   | 172  | 265           | 0                                           | 460  | 19   | 19            | 27                                          | 0    | 65   | 208           | 25                        | 194  | 2 | 429  | 1861 |
| PM          |                      |      |      |               |                      |      |      |               |                                             |      |      |               |                                             |      |      |               |                           |      |   |      |      |
| 4:00 - 4:15 | 116                  | 49   | 10   | 0             | 175                  | 6    | 69   | 101           | 0                                           | 176  | 7    | 7             | 8                                           | 0    | 22   | 141           | 2                         | 158  | 0 | 301  | 674  |
| 4:15 - 4:30 | 111                  | 49   | 5    | 0             | 165                  | 3    | 77   | 107           | 0                                           | 187  | 5    | 4             | 7                                           | 0    | 16   | 118           | 4                         | 124  | 0 | 246  | 614  |
| 4:30 - 4:45 | 123                  | 63   | 2    | 0             | 188                  | 6    | 86   | 117           | 0                                           | 209  | 10   | 8             | 2                                           | 0    | 20   | 141           | 2                         | 124  | 0 | 267  | 684  |
| 4:45 - 5:00 | 141                  | 53   | 2    | 0             | 196                  | 4    | 74   | 127           | 0                                           | 205  | 3    | 8             | 4                                           | 0    | 15   | 135           | 7                         | 155  | 0 | 297  | 713  |
| 5:00 - 5:15 | 146                  | 55   | 4    | 0             | 205                  | 7    | 83   | 116           | 0                                           | 206  | 3    | 3             | 4                                           | 0    | 10   | 143           | 3                         | 143  | 0 | 289  | 710  |
| 5:15 - 5:30 | 124                  | 58   | 4    | 0             | 186                  | 4    | 56   | 119           | 0                                           | 179  | 5    | 8             | 7                                           | 0    | 20   | 123           | 2                         | 138  | 2 | 265  | 650  |
| 5:30 - 5:45 | 148                  | 66   | 3    | 0             | 217                  | 5    | 72   | 117           | 0                                           | 194  | 3    | 4             | 5                                           | 0    | 12   | 123           | 4                         | 135  | 1 | 263  | 686  |
| 5:45 - 6:00 | 141                  | 56   | 2    | 0             | 199                  | 4    | 52   | 112           | 0                                           | 168  | 1    | 4             | 1                                           | 0    | 6    | 136           | 6                         | 102  | 0 | 244  | 617  |
| 2 Hr Totals | 1050                 | 449  | 32   | 0             | 1531                 | 39   | 569  | 916           | 0                                           | 1524 | 37   | 46            | 38                                          | 0    | 121  | 1060          | 30                        | 1079 | 3 | 2172 | 5348 |
| 1 Hr Totals |                      |      |      |               |                      |      |      |               |                                             |      |      |               |                                             |      |      |               |                           |      |   |      |      |
| 4:00 - 5:00 | 491                  | 214  | 19   | 0             | 724                  | 19   | 306  | 452           | 0                                           | 777  | 25   | 27            | 21                                          | 0    | 73   | 535           | 15                        | 561  | 0 | 1111 | 2685 |
| 4:15 - 5:15 | 521                  | 220  | 13   | 0             | 754                  | 20   | 320  | 467           | 0                                           | 807  | 21   | 23            | 17                                          | 0    | 61   | 537           | 16                        | 546  | 0 | 1099 | 2721 |
| 4:30 - 5:30 | 534                  | 229  | 12   | 0             | 775                  | 21   | 299  | 479           | 0                                           | 799  | 21   | 27            | 17                                          | 0    | 65   | 542           | 14                        | 560  | 2 | 1118 | 2757 |
| 4:45 - 5:45 | 559                  | 232  | 13   | 0             | 804                  | 20   | 285  | 479           | 0                                           | 784  | 14   | 23            | 20                                          | 0    | 57   | 524           | 16                        | 571  | 3 | 1114 | 2759 |
| 5:00 - 6:00 | 559                  | 235  | 13   | 0             | 807                  | 20   | 283  | 464           | 0                                           | 747  | 12   | 19            | 17                                          | 0    | 48   | 525           | 15                        | 518  | 3 | 1061 | 2683 |
| PEAK HOUR   | 559                  | 232  | 13   | 0             | 804                  | 20   | 285  | 479           | 0                                           | 784  | 14   | 23            | 20                                          | 0    | 57   | 524           | 16                        | 571  | 3 | 1114 | 2759 |

# PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

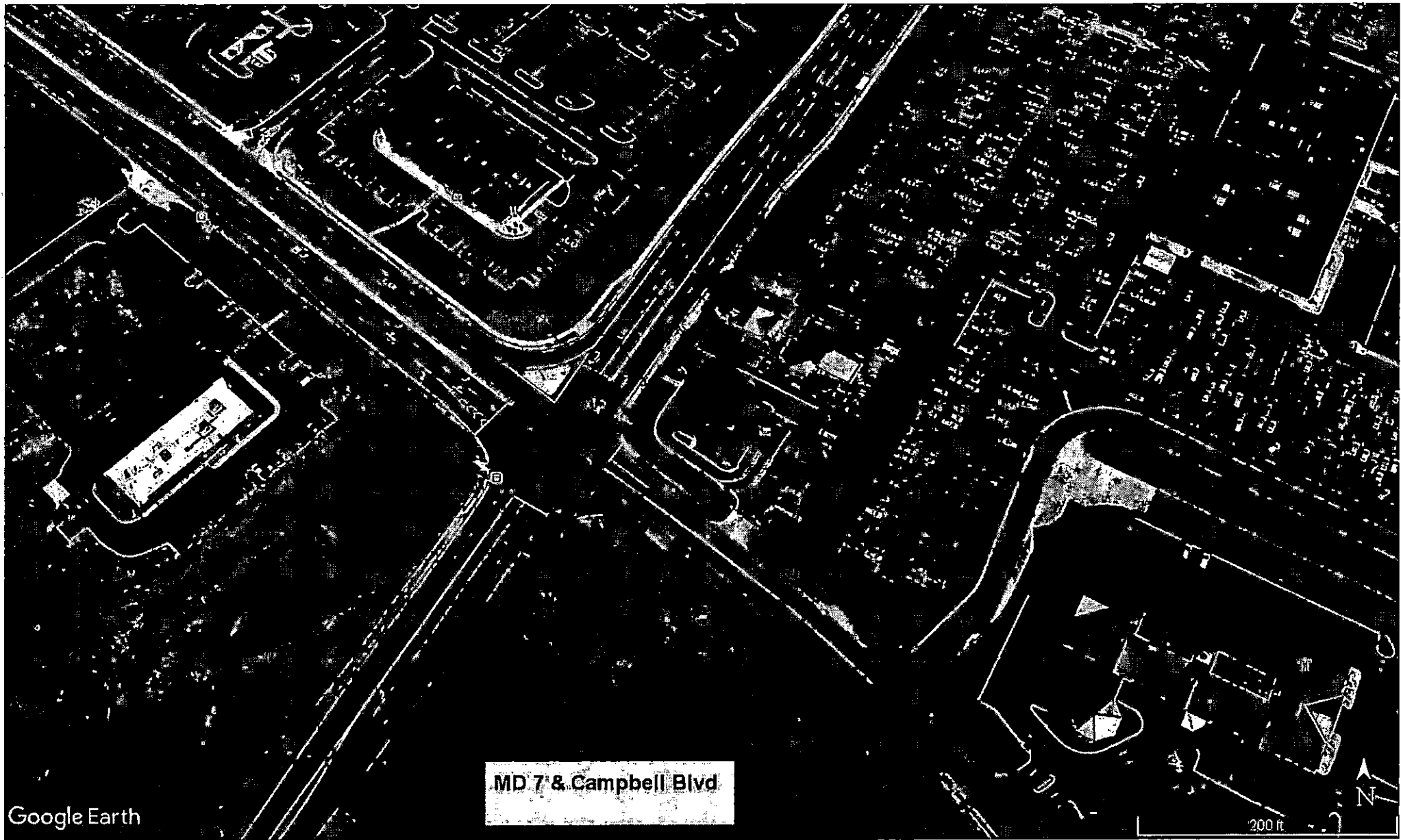
Intersection of: MD 7  
 and: Campbell Boulevard  
 Location: Baltimore County, Maryland

Counted by: VCU  
 Date: May 10, 2018  
 Weather: Sunny/Warm  
 Entered by: SN

Thursday  
 Star Rating: 4



| TIME          | NORTH LEG<br>MD 7              |          | SOUTH LEG<br>MD 7              |          |
|---------------|--------------------------------|----------|--------------------------------|----------|
|               | Pedestrians                    | Bicycles | Pedestrians                    | Bicycles |
| <b>AM</b>     |                                |          |                                |          |
| 7:00 - 7:15   | 0                              | 0        | 0                              | 0        |
| 7:15 - 7:30   | 2                              | 0        | 0                              | 0        |
| 7:30 - 7:45   | 0                              | 0        | 0                              | 0        |
| 7:45 - 8:00   | 0                              | 0        | 1                              | 0        |
| 8:00 - 8:15   | 0                              | 0        | 4                              | 0        |
| 8:15 - 8:30   | 0                              | 0        | 2                              | 0        |
| 8:30 - 8:45   | 0                              | 0        | 0                              | 0        |
| 8:45 - 9:00   | 0                              | 0        | 0                              | 0        |
| <b>TOTALS</b> | <b>2</b>                       | <b>0</b> | <b>7</b>                       | <b>0</b> |
| <b>PM</b>     |                                |          |                                |          |
| 4:00 - 4:15   | 0                              | 0        | 0                              | 0        |
| 4:15 - 4:30   | 0                              | 0        | 0                              | 0        |
| 4:30 - 4:45   | 0                              | 0        | 0                              | 0        |
| 4:45 - 5:00   | 0                              | 0        | 0                              | 0        |
| 5:00 - 5:15   | 1                              | 0        | 0                              | 0        |
| 5:15 - 5:30   | 1                              | 0        | 0                              | 0        |
| 5:30 - 5:45   | 0                              | 0        | 0                              | 0        |
| 5:45 - 6:00   | 0                              | 0        | 0                              | 0        |
| <b>TOTALS</b> | <b>2</b>                       | <b>0</b> | <b>0</b>                       | <b>0</b> |
|               | EAST LEG<br>Campbell Boulevard |          | WEST LEG<br>Campbell Boulevard |          |
|               | Pedestrians                    | Bicycles | Pedestrians                    | Bicycles |
| <b>AM</b>     |                                |          |                                |          |
| 7:00 - 7:15   | 0                              | 0        | 0                              | 0        |
| 7:15 - 7:30   | 0                              | 0        | 0                              | 0        |
| 7:30 - 7:45   | 0                              | 0        | 0                              | 0        |
| 7:45 - 8:00   | 0                              | 0        | 0                              | 0        |
| 8:00 - 8:15   | 0                              | 0        | 0                              | 0        |
| 8:15 - 8:30   | 0                              | 0        | 0                              | 0        |
| 8:30 - 8:45   | 0                              | 0        | 0                              | 0        |
| 8:45 - 9:00   | 0                              | 0        | 0                              | 0        |
| <b>TOTALS</b> | <b>0</b>                       | <b>0</b> | <b>0</b>                       | <b>0</b> |
| <b>PM</b>     |                                |          |                                |          |
| 4:00 - 4:15   | 0                              | 0        | 0                              | 0        |
| 4:15 - 4:30   | 0                              | 0        | 0                              | 0        |
| 4:30 - 4:45   | 0                              | 0        | 0                              | 0        |
| 4:45 - 5:00   | 0                              | 0        | 0                              | 0        |
| 5:00 - 5:15   | 0                              | 0        | 0                              | 0        |
| 5:15 - 5:30   | 0                              | 0        | 0                              | 0        |
| 5:30 - 5:45   | 0                              | 0        | 0                              | 0        |
| 5:45 - 6:00   | 0                              | 0        | 0                              | 0        |
| <b>TOTALS</b> | <b>0</b>                       | <b>0</b> | <b>0</b>                       | <b>0</b> |



# TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 7  
and: Mohrs Lane  
Location: Baltimore County, Maryland

Counted by: VCU  
Date: May 10, 2018  
Weather:  
Entered by:

Thursday  
Slur Rating:



| TIME        | TRAFFIC FROM NORTH |       |      |      |      |       | TRAFFIC FROM SOUTH |       |      |      |      |       | TRAFFIC FROM EAST  |       |      |      |      |       | TRAFFIC FROM WEST |       |      |      |      |       | TOTAL<br>N + S<br>+ E + W |
|-------------|--------------------|-------|------|------|------|-------|--------------------|-------|------|------|------|-------|--------------------|-------|------|------|------|-------|-------------------|-------|------|------|------|-------|---------------------------|
|             | on:<br>MD 7        | RIGHT | THRU | LEFT | U-TN | TOTAL | on:<br>MD 7        | RIGHT | THRU | LEFT | U-TN | TOTAL | on:<br>Molins Lane | RIGHT | THRU | LEFT | U-TN | TOTAL | on:               | RIGHT | THRU | LEFT | U-TN | TOTAL |                           |
| AM          |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 7:00 - 7:15 | 0                  | 130   | 1    | 0    | 0    | 131   | 0                  | 77    | 0    | 0    | 0    | 77    | 0                  | 0     | 0    | 0    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 208                       |
| 7:15 - 7:30 | 0                  | 139   | 0    | 0    | 0    | 139   | 1                  | 100   | 0    | 0    | 0    | 101   | 0                  | 0     | 0    | 1    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 241                       |
| 7:30 - 7:45 | 0                  | 143   | 0    | 0    | 0    | 143   | 0                  | 122   | 0    | 0    | 0    | 122   | 2                  | 0     | 0    | 0    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 267                       |
| 7:45 - 8:00 | 0                  | 145   | 1    | 0    | 0    | 146   | 0                  | 127   | 0    | 0    | 0    | 127   | 0                  | 0     | 0    | 1    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 274                       |
| 8:00 - 8:15 | 0                  | 142   | 0    | 0    | 0    | 142   | 1                  | 112   | 0    | 0    | 0    | 113   | 0                  | 0     | 0    | 1    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 256                       |
| 8:15 - 8:30 | 0                  | 138   | 1    | 0    | 0    | 139   | 0                  | 99    | 0    | 0    | 0    | 99    | 1                  | 0     | 0    | 1    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 240                       |
| 8:30 - 8:45 | 0                  | 128   | 1    | 0    | 0    | 129   | 0                  | 102   | 0    | 0    | 0    | 102   | 1                  | 0     | 0    | 0    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 232                       |
| 8:45 - 9:00 | 0                  | 141   | 1    | 0    | 0    | 142   | 0                  | 133   | 0    | 0    | 0    | 133   | 0                  | 0     | 0    | 1    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 276                       |
| 2 Hr Totals | 0                  | 1108  | 5    | 0    | 0    | 1111  | 2                  | 872   | 0    | 0    | 0    | 874   | 4                  | 0     | 5    | 0    | 0    | 0     | 9                 | 0     | 0    | 0    | 0    | 0     | 1994                      |
| 1 Hr Totals |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 7:00 - 8:00 | 0                  | 557   | 2    | 0    | 0    | 559   | 1                  | 426   | 0    | 0    | 0    | 427   | 2                  | 0     | 2    | 0    | 0    | 0     | 4                 | 0     | 0    | 0    | 0    | 0     | 930                       |
| 7:15 - 8:15 | 0                  | 569   | 1    | 0    | 0    | 570   | 2                  | 461   | 0    | 0    | 0    | 463   | 2                  | 0     | 3    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1038                      |
| 7:30 - 8:30 | 0                  | 568   | 2    | 0    | 0    | 570   | 1                  | 460   | 0    | 0    | 0    | 461   | 3                  | 0     | 3    | 0    | 0    | 0     | 6                 | 0     | 0    | 0    | 0    | 0     | 1037                      |
| 7:45 - 8:45 | 0                  | 553   | 3    | 0    | 0    | 556   | 1                  | 440   | 0    | 0    | 0    | 441   | 2                  | 0     | 3    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1002                      |
| 8:00 - 9:00 | 0                  | 549   | 3    | 0    | 0    | 552   | 1                  | 446   | 0    | 0    | 0    | 447   | 2                  | 0     | 3    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1004                      |
| PEAK HOUR   |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 7:15 - 8:15 | 0                  | 569   | 1    | 0    | 0    | 570   | 2                  | 461   | 0    | 0    | 0    | 463   | 2                  | 0     | 3    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1038                      |
| PM          |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 4:00 - 4:15 | 0                  | 191   | 0    | 0    | 1    | 192   | 0                  | 178   | 0    | 0    | 0    | 178   | 0                  | 0     | 0    | 0    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 370                       |
| 4:15 - 4:30 | 0                  | 187   | 1    | 0    | 0    | 188   | 0                  | 210   | 0    | 0    | 0    | 210   | 0                  | 0     | 0    | 0    | 0    | 0     | 0                 | 0     | 0    | 0    | 0    | 0     | 358                       |
| 4:30 - 4:45 | 0                  | 199   | 1    | 0    | 0    | 200   | 0                  | 211   | 0    | 0    | 0    | 211   | 1                  | 0     | 1    | 0    | 0    | 0     | 2                 | 0     | 0    | 0    | 0    | 0     | 413                       |
| 4:45 - 5:00 | 0                  | 192   | 3    | 0    | 0    | 195   | 0                  | 201   | 0    | 0    | 0    | 201   | 3                  | 0     | 0    | 0    | 0    | 0     | 3                 | 0     | 0    | 0    | 0    | 0     | 399                       |
| 5:00 - 5:15 | 0                  | 203   | 0    | 0    | 0    | 203   | 0                  | 204   | 0    | 0    | 0    | 204   | 0                  | 0     | 0    | 0    | 0    | 0     | 2                 | 0     | 0    | 0    | 0    | 0     | 407                       |
| 5:15 - 5:30 | 0                  | 177   | 1    | 0    | 0    | 178   | 0                  | 172   | 0    | 0    | 0    | 172   | 2                  | 0     | 0    | 0    | 0    | 0     | 2                 | 0     | 0    | 0    | 0    | 0     | 352                       |
| 5:30 - 5:45 | 0                  | 196   | 0    | 0    | 0    | 196   | 0                  | 186   | 0    | 0    | 0    | 186   | 1                  | 0     | 1    | 0    | 0    | 0     | 2                 | 0     | 0    | 0    | 0    | 0     | 384                       |
| 5:45 - 6:00 | 0                  | 190   | 1    | 0    | 0    | 191   | 0                  | 172   | 0    | 0    | 0    | 172   | 0                  | 0     | 3    | 0    | 0    | 0     | 3                 | 0     | 0    | 0    | 0    | 0     | 366                       |
| 2 Hr Totals | 0                  | 1535  | 7    | 1    | 1    | 1543  | 0                  | 1534  | 0    | 0    | 0    | 1534  | 7                  | 0     | 5    | 0    | 0    | 0     | 12                | 0     | 0    | 0    | 0    | 0     | 3089                      |
| 1 Hr Totals |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 4:00 - 5:00 | 0                  | 769   | 5    | 1    | 1    | 775   | 0                  | 800   | 0    | 0    | 0    | 800   | 4                  | 0     | 1    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1580                      |
| 4:15 - 5:15 | 0                  | 781   | 5    | 0    | 0    | 786   | 0                  | 826   | 0    | 0    | 0    | 826   | 4                  | 0     | 1    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1617                      |
| 4:30 - 5:30 | 0                  | 771   | 5    | 0    | 0    | 776   | 0                  | 788   | 0    | 0    | 0    | 788   | 6                  | 0     | 1    | 0    | 0    | 0     | 7                 | 0     | 0    | 0    | 0    | 0     | 1571                      |
| 4:45 - 5:45 | 0                  | 768   | 4    | 0    | 0    | 772   | 0                  | 763   | 0    | 0    | 0    | 763   | 6                  | 0     | 1    | 0    | 0    | 0     | 7                 | 0     | 0    | 0    | 0    | 0     | 1542                      |
| 5:00 - 6:00 | 0                  | 766   | 2    | 0    | 0    | 768   | 0                  | 734   | 0    | 0    | 0    | 734   | 3                  | 0     | 4    | 0    | 0    | 0     | 7                 | 0     | 0    | 0    | 0    | 0     | 1509                      |
| PEAK HOUR   |                    |       |      |      |      |       |                    |       |      |      |      |       |                    |       |      |      |      |       |                   |       |      |      |      |       |                           |
| 4:15 - 5:15 | 0                  | 781   | 5    | 0    | 0    | 786   | 0                  | 826   | 0    | 0    | 0    | 826   | 4                  | 0     | 1    | 0    | 0    | 0     | 5                 | 0     | 0    | 0    | 0    | 0     | 1617                      |



# PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

Intersection of: MD 7  
and: Mohrs Lane  
Location: Baltimore County, Maryland

Counted by: VCU  
Date: May 10, 2018  
Weather:  
Entered by:

Thursday  
Star Rating:



| TIME          | NORTH LEG<br>MD 7      |          | SOUTH LEG<br>MD 7 |          |
|---------------|------------------------|----------|-------------------|----------|
|               | Pedestrians            | Bicycles | Pedestrians       | Bicycles |
| <b>AM</b>     |                        |          |                   |          |
| 7:00 - 7:15   | 0                      | 0        | 0                 | 0        |
| 7:15 - 7:30   | 0                      | 0        | 0                 | 0        |
| 7:30 - 7:45   | 0                      | 0        | 0                 | 0        |
| 7:45 - 8:00   | 0                      | 0        | 0                 | 0        |
| 8:00 - 8:15   | 0                      | 0        | 0                 | 0        |
| 8:15 - 8:30   | 0                      | 0        | 0                 | 0        |
| 8:30 - 8:45   | 0                      | 0        | 0                 | 0        |
| 8:45 - 9:00   | 0                      | 0        | 0                 | 0        |
| <b>TOTALS</b> | 0                      | 0        | 0                 | 0        |
| <b>PM</b>     |                        |          |                   |          |
| 4:00 - 4:15   | 0                      | 0        | 0                 | 0        |
| 4:15 - 4:30   | 0                      | 0        | 0                 | 0        |
| 4:30 - 4:45   | 0                      | 0        | 0                 | 0        |
| 4:45 - 5:00   | 0                      | 0        | 0                 | 0        |
| 5:00 - 5:15   | 0                      | 0        | 0                 | 0        |
| 5:15 - 5:30   | 0                      | 0        | 0                 | 0        |
| 5:30 - 5:45   | 0                      | 0        | 0                 | 0        |
| 5:45 - 6:00   | 0                      | 0        | 0                 | 0        |
| <b>TOTALS</b> | 0                      | 0        | 0                 | 0        |
|               | EAST LEG<br>Mohrs Lane |          | WEST LEG          |          |
|               | Pedestrians            | Bicycles | Pedestrians       | Bicycles |
| <b>AM</b>     |                        |          |                   |          |
| 7:00 - 7:15   | 0                      | 0        |                   |          |
| 7:15 - 7:30   | 0                      | 0        |                   |          |
| 7:30 - 7:45   | 0                      | 0        |                   |          |
| 7:45 - 8:00   | 0                      | 0        |                   |          |
| 8:00 - 8:15   | 0                      | 0        |                   |          |
| 8:15 - 8:30   | 0                      | 0        |                   |          |
| 8:30 - 8:45   | 0                      | 0        |                   |          |
| 8:45 - 9:00   | 0                      | 0        |                   |          |
| <b>TOTALS</b> | 0                      | 0        | 0                 | 0        |
| <b>PM</b>     |                        |          |                   |          |
| 4:00 - 4:15   | 0                      | 0        |                   |          |
| 4:15 - 4:30   | 0                      | 0        |                   |          |
| 4:30 - 4:45   | 0                      | 0        |                   |          |
| 4:45 - 5:00   | 0                      | 0        |                   |          |
| 5:00 - 5:15   | 0                      | 0        |                   |          |
| 5:15 - 5:30   | 0                      | 0        |                   |          |
| 5:30 - 5:45   | 0                      | 0        |                   |          |
| 5:45 - 6:00   | 0                      | 0        |                   |          |
| <b>TOTALS</b> | 0                      | 0        | 0                 | 0        |



## APPENDIX B

### Intersection Capacity Analysis Worksheets



# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: Campbell Blvd

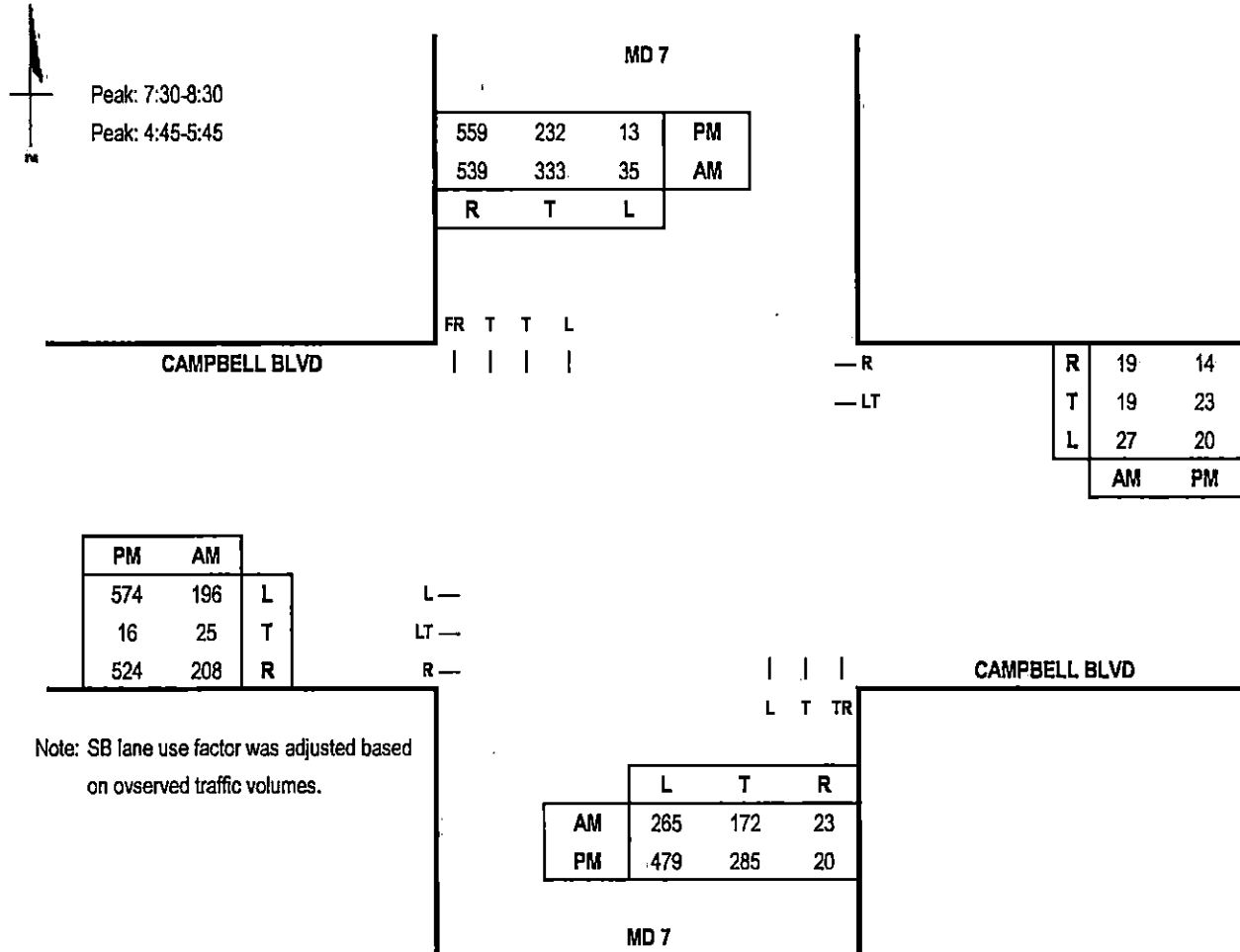
Date of Count: 5/10/2018

N/S Road: MD 7

Day of Week: Thursday

Conditions: 2018 Existing Traffic

Analyst: Richard Huang



## Capacity Analysis - East/West Split

| Morning Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 221          | 0.60  | 133     |                  |       |         |
| WB                      | 46           | 1.00  | 46      |                  |       |         |
| NB                      | 195          | 0.55  | 107     | 35               | 1.00  | 35      |
| SB                      | 333          | 0.88  | 293     | 265              | 1.00  | 265     |
| CLV TOTAL=              |              |       |         |                  |       | 737     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

AM V/C = 0.46

| Evening Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 590          | 0.60  | 354     |                  |       |         |
| WB                      | 43           | 1.00  | 43      |                  |       |         |
| NB                      | 305          | 0.55  | 168     | 13               | 1.00  | 13      |
| SB                      | 232          | 0.87  | 202     | 479              | 1.00  | 479     |
| CLV TOTAL=              |              |       |         |                  |       | 1,078   |
| Level of Service (LOS)= |              |       |         |                  |       | B       |

PM V/C = 0.67

# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: Campbell Blvd

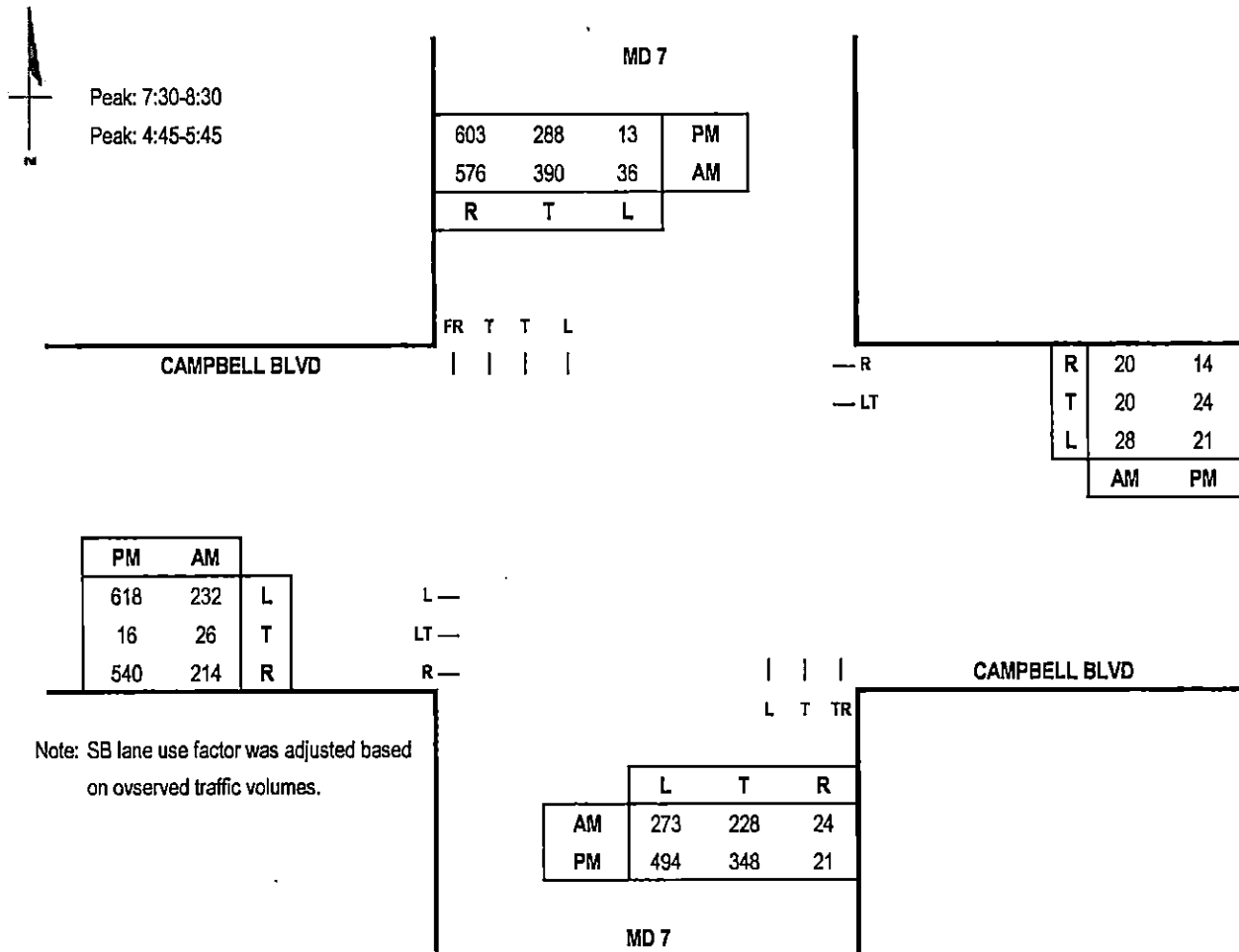
N/S Road: MD 7

Conditions: 2021 Background Traffic

Date of Count: 5/10/2018

Day of Week: Thursday

Analyst: Richard Huang



## Capacity Analysis - East/West Split

| Morning Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 258          | 0.60  | 155     |                  |       |         |
| WB                      | 48           | 1.00  | 48      |                  |       |         |
| NB                      | 252          | 0.55  | 139     | 36               | 1.00  | 36      |
| SB                      | 390          | 0.88  | 343     | 273              | 1.00  | 273     |
| CLV TOTAL=              |              |       |         |                  |       | 819     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

AM V/C = 0.51

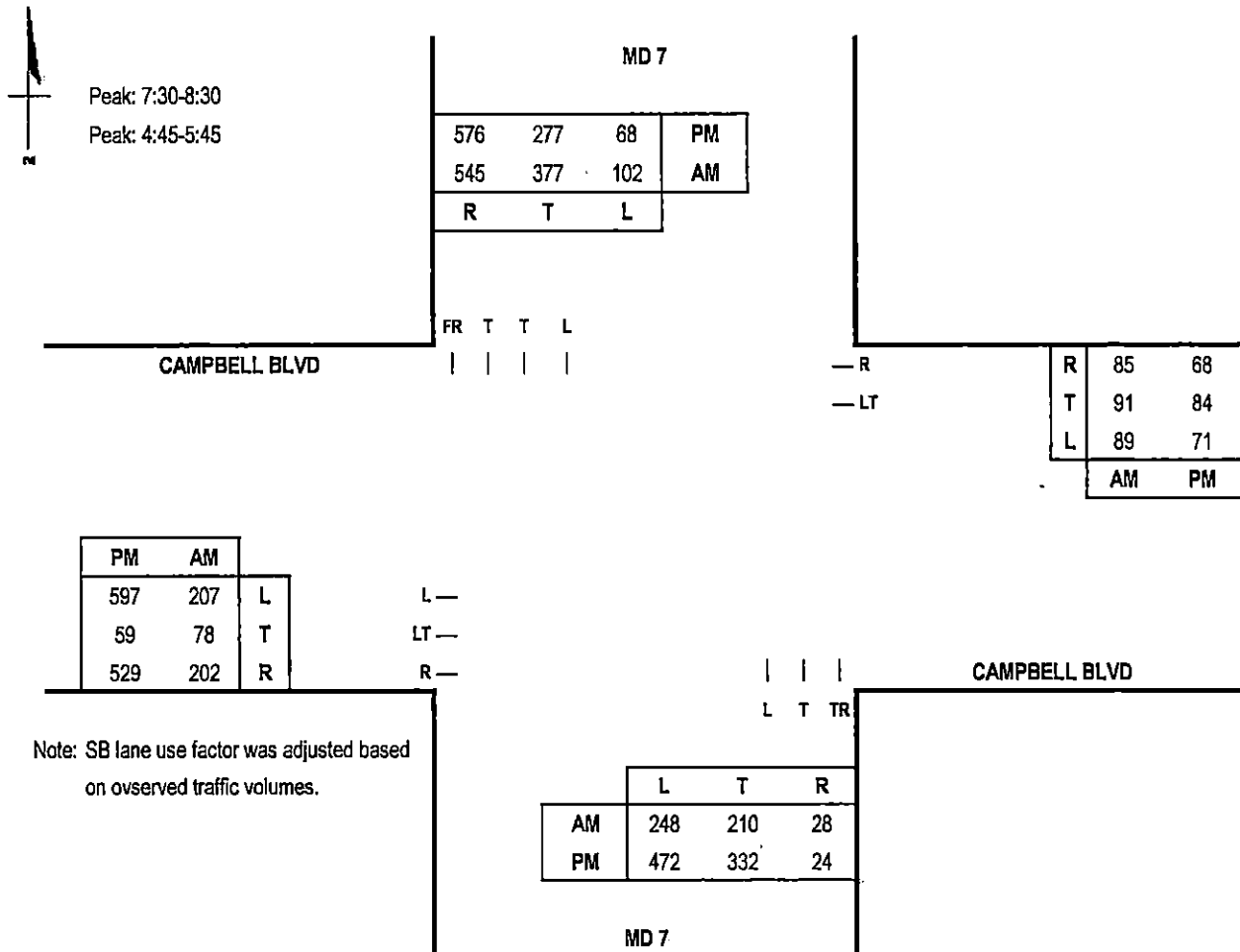
| Evening Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 634          | 0.60  | 380     |                  |       |         |
| WB                      | 45           | 1.00  | 45      |                  |       |         |
| NB                      | 369          | 0.55  | 203     | 13               | 1.00  | 13      |
| SB                      | 288          | 0.87  | 251     | 494              | 1.00  | 494     |
| CLV TOTAL=              |              |       |         |                  |       | 1,170   |
| Level of Service (LOS)= |              |       |         |                  |       | C       |

PM V/C = 0.73

# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: Campbell Blvd  
N/S Road: MD 7  
Conditions: 2021 Total Traffic

Date of Count: 5/10/2018  
Day of Week: Thursday  
Analyst: Richard Huang



## Capacity Analysis - East/West Split

| Morning Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 285          | 0.60  | 171     |                  |       |         |
| WB                      | 180          | 1.00  | 180     |                  |       |         |
| NB                      | 238          | 0.55  | 131     | 102              | 1.00  | 102     |
| SB                      | 377          | 0.88  | 332     | 248              | 1.00  | 248     |
| CLV TOTAL=              |              |       |         |                  |       | 931     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

AM V/C = 0.58

| Evening Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| EB                      | 656          | 0.60  | 394     |                  |       |         |
| WB                      | 155          | 1.00  | 155     |                  |       |         |
| NB                      | 356          | 0.55  | 196     | 68               | 1.00  | 68      |
| SB                      | 277          | 0.87  | 241     | 472              | 1.00  | 472     |
| CLV TOTAL=              |              |       |         |                  |       | 1,262   |
| Level of Service (LOS)= |              |       |         |                  |       | C       |

PM V/C = 0.79



# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

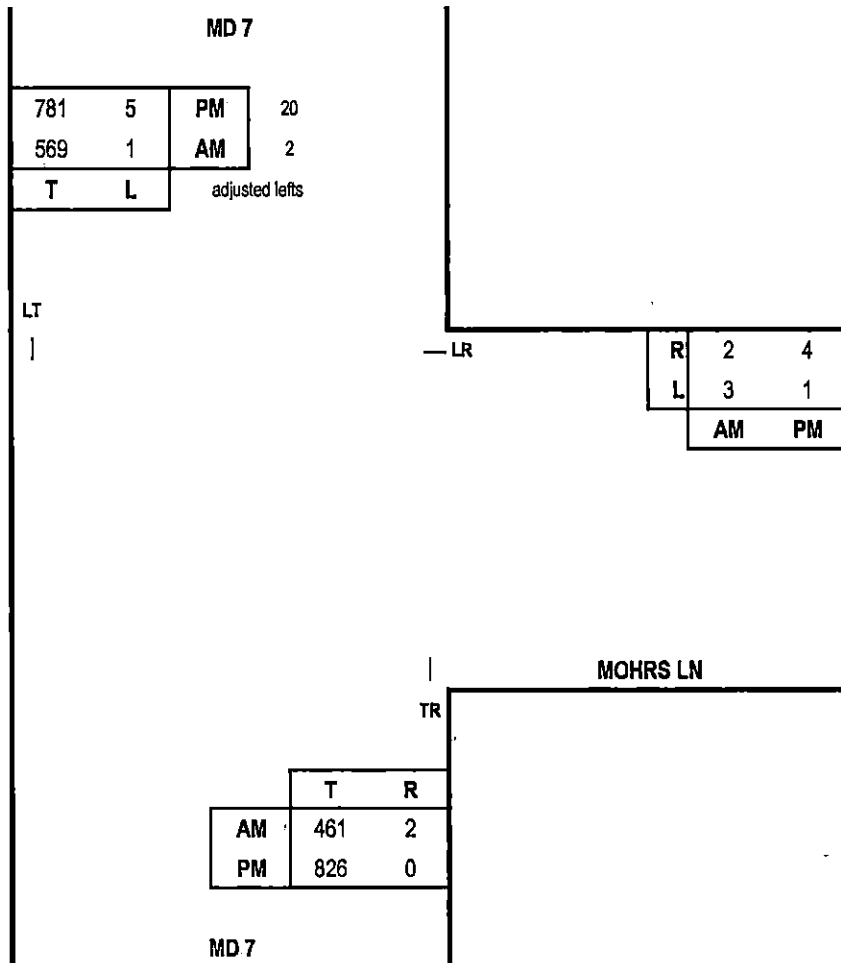
**E/W Road:** Mohrs Ln  
**N/S Road:** MD 7  
**Conditions:** 2018 Existing Traffic

**Date of Count:** 5/10/2018  
**Day of Count:** Thursday  
**Analyst:** Richard Huang



Peak: 7:15-8:15

Peak: 4:15-5:15



## Capacity Analysis

| Morning Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| WB                      | 5            | 1.00  | 5       |                  |       |         |
| NB                      | 463          | 1.00  | 463     | 1                | 1.00  | 1       |
| SB                      | 571          | 1.00  | 571     |                  |       |         |
| CLV TOTAL=              |              |       |         |                  |       | 576     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

CLV V/C =0.36

| Evening Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| WB                      | 5            | 1.00  | 5       |                  |       |         |
| NB                      | 826          | 1.00  | 826     | 5                | 1.00  | 5       |
| SB                      | 801          | 1.00  | 801     |                  |       |         |
| CLV TOTAL=              |              |       |         |                  |       | 836     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

CLV V/C =0.52

Scenario ID - EXIST2

# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: Mohrs Ln

Date of Count: 5/10/2018

N/S Road: MD 7

Day of Count: Thursday

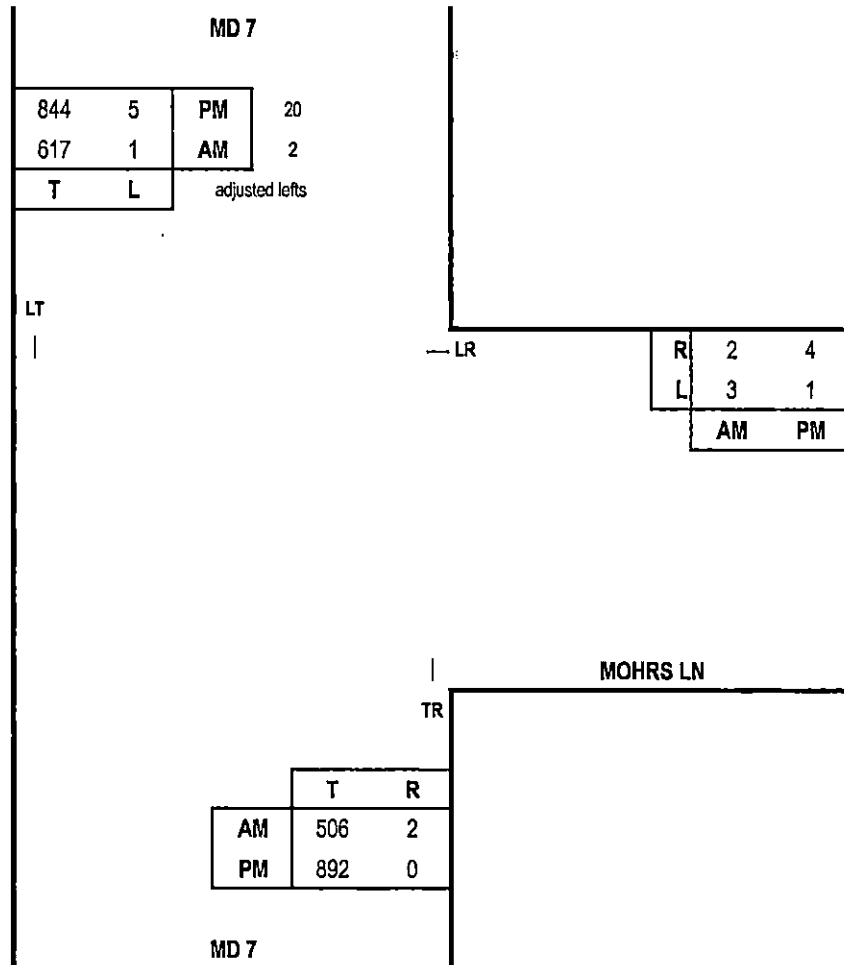
Conditions: 2021 Background Traffic

Analyst: Richard Huang



Peak: 7:15-8:15

Peak: 4:15-5:15



## Capacity Analysis

| Morning Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| WB                      | 5            | 1.00  | 5       |                  |       |         |
| NB                      | 508          | 1.00  | 508     | 1                | 1.00  | 1       |
| SB                      | 619          | 1.00  | 619     |                  |       |         |
| CLV TOTAL=              |              |       |         |                  |       | 624     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

| Evening Peak Hour       |              |       |         |                  |       |         |
|-------------------------|--------------|-------|---------|------------------|-------|---------|
| Dir                     | Thru Volumes |       |         | + Opposing Lefts |       |         |
|                         | VOL          | x LUF | = Total | VOL              | x LUF | = Total |
| WB                      | 5            | 1.00  | 5       |                  |       |         |
| NB                      | 892          | 1.00  | 892     | 5                | 1.00  | 5       |
| SB                      | 864          | 1.00  | 864     |                  |       |         |
| CLV TOTAL=              |              |       |         |                  |       | 902     |
| Level of Service (LOS)= |              |       |         |                  |       | A       |

Scenario ID - BACK2

CLV V/C = 0.39

CLV V/C = 0.56

# CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: Mohrs Ln

Date of Count: 5/10/2018

N/S Road: MD-7

Day of Count: Thursday

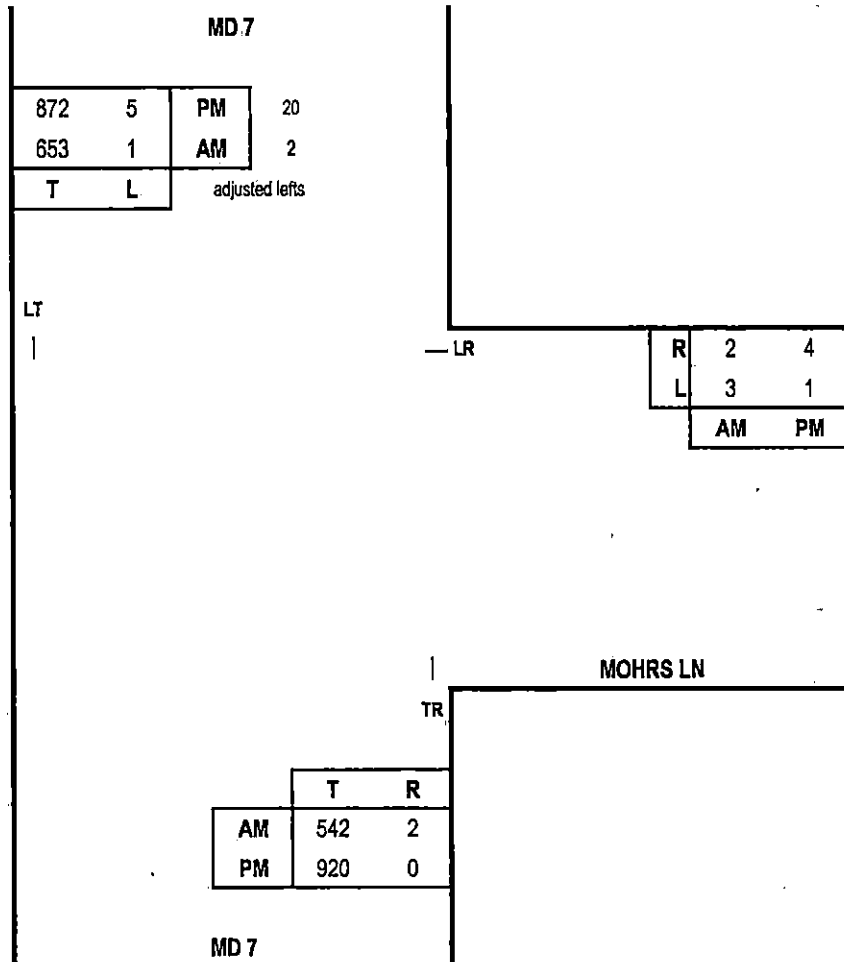
Conditions: 2021 Total Traffic

Analyst: Richard Huang



Peak: 7:15-8:15

Peak: 4:15-5:15



## Capacity Analysis

| Morning Peak Hour        |              |       |         |                  |       |         |     |
|--------------------------|--------------|-------|---------|------------------|-------|---------|-----|
| Dir                      | Thru Volumes |       |         | + Opposing Lefts |       |         | AM  |
|                          | VOL          | x LUF | = Total | VOL              | x LUF | = Total | CLV |
| WB                       | 5            | 1.00  | 5       |                  |       |         | 5   |
| NB                       | 544          | 1.00  | 544     | 1                | 1.00  | 1       | 655 |
| SB                       | 655          | 1.00  | 655     |                  |       |         |     |
| CLV TOTAL=               |              |       |         |                  |       |         | 660 |
| Level of Service (LOS )= |              |       |         |                  |       |         | A   |

CLV V/C =0.41

| Evening Peak Hour        |              |       |         |                  |       |         |     |
|--------------------------|--------------|-------|---------|------------------|-------|---------|-----|
| Dir                      | Thru Volumes |       |         | + Opposing Lefts |       |         | PM  |
|                          | VOL          | x LUF | = Total | VOL              | x LUF | = Total | CLV |
| WB                       | 5            | 1.00  | 5       |                  |       |         | 5   |
| NB                       | 920          | 1.00  | 920     | 5                | 1.00  | 5       | 925 |
| SB                       | 892          | 1.00  | 892     |                  |       |         |     |
| CLV TOTAL=               |              |       |         |                  |       |         | 930 |
| Level of Service (LOS )= |              |       |         |                  |       |         | A   |

CLV V/C =0.58

Scenario ID - TOT2

HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
Existing AM

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |                                                                                   |  |  |    |  |  |  |  |  |
| Traffic Volume (veh/h)       | 196                                                                               | 25                                                                                | 208                                                                               | 27                                                                                | 19                                                                                | 19                                                                                | 265                                                                                 | 172                                                                                 | 23                                                                                  | 35                                                                                  | 333                                                                                 | 539                                                                                 |
| Future Volume (veh/h)        | 196                                                                               | 25                                                                                | 208                                                                               | 27                                                                                | 19                                                                                | 19                                                                                | 265                                                                                 | 172                                                                                 | 23                                                                                  | 35                                                                                  | 333                                                                                 | 539                                                                                 |
| Number                       | 7                                                                                 | 4                                                                                 | 14                                                                                | 3                                                                                 | 8                                                                                 | 18                                                                                | 5                                                                                   | 2                                                                                   | 12                                                                                  | 1                                                                                   | 6                                                                                   | 16                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj Sat Flow, veh/h/ln       | 1863                                                                              | 1863                                                                              | 1863                                                                              | 1900                                                                              | 1863                                                                              | 1863                                                                              | 1863                                                                                | 1863                                                                                | 1900                                                                                | 1863                                                                                | 1863                                                                                | 1863                                                                                |
| Adj Flow Rate, veh/h         | 225                                                                               | 0                                                                                 | 219                                                                               | 28                                                                                | 20                                                                                | 20                                                                                | 279                                                                                 | 181                                                                                 | 24                                                                                  | 37                                                                                  | 351                                                                                 | 0                                                                                   |
| Adj No. of Lanes             | 2                                                                                 | 0                                                                                 | 1                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 2                                                                                   | 0                                                                                   | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor             | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 549                                                                               | 0                                                                                 | 426                                                                               | 43                                                                                | 31                                                                                | 65                                                                                | 593                                                                                 | 1583                                                                                | 207                                                                                 | 618                                                                                 | 883                                                                                 | 658                                                                                 |
| Arrive On Green              | 0.15                                                                              | 0.00                                                                              | 0.15                                                                              | 0.04                                                                              | 0.04                                                                              | 0.04                                                                              | 0.11                                                                                | 0.50                                                                                | 0.50                                                                                | 0.03                                                                                | 0.42                                                                                | 0.00                                                                                |
| Sat Flow, veh/h              | 3548                                                                              | 0                                                                                 | 1583                                                                              | 1056                                                                              | 754                                                                               | 1583                                                                              | 1774                                                                                | 3148                                                                                | 412                                                                                 | 1774                                                                                | 2124                                                                                | 1583                                                                                |
| Grp Volume(v), veh/h         | 225                                                                               | 0                                                                                 | 219                                                                               | 48                                                                                | 0                                                                                 | 20                                                                                | 279                                                                                 | 101                                                                                 | 104                                                                                 | 37                                                                                  | 351                                                                                 | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1774                                                                              | 0                                                                                 | 1583                                                                              | 1810                                                                              | 0                                                                                 | 1583                                                                              | 1774                                                                                | 1770                                                                                | 1790                                                                                | 1774                                                                                | 1062                                                                                | 1583                                                                                |
| Q Serve(g_s), s              | 5.0                                                                               | 0.0                                                                               | 10.3                                                                              | 2.3                                                                               | 0.0                                                                               | 1.1                                                                               | 7.3                                                                                 | 2.6                                                                                 | 2.7                                                                                 | 1.0                                                                                 | 10.1                                                                                | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 5.0                                                                               | 0.0                                                                               | 10.3                                                                              | 2.3                                                                               | 0.0                                                                               | 1.1                                                                               | 7.3                                                                                 | 2.6                                                                                 | 2.7                                                                                 | 1.0                                                                                 | 10.1                                                                                | 0.0                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 0.58                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 0.23                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 549                                                                               | 0                                                                                 | 426                                                                               | 74                                                                                | 0                                                                                 | 65                                                                                | 593                                                                                 | 890                                                                                 | 900                                                                                 | 618                                                                                 | 883                                                                                 | 658                                                                                 |
| V/C Ratio(X)                 | 0.41                                                                              | 0.00                                                                              | 0.51                                                                              | 0.64                                                                              | 0.00                                                                              | 0.31                                                                              | 0.47                                                                                | 0.11                                                                                | 0.12                                                                                | 0.06                                                                                | 0.40                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 1014                                                                              | 0                                                                                 | 633                                                                               | 372                                                                               | 0                                                                                 | 326                                                                               | 917                                                                                 | 890                                                                                 | 900                                                                                 | 752                                                                                 | 883                                                                                 | 658                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 33.4                                                                              | 0.0                                                                               | 27.1                                                                              | 41.3                                                                              | 0.0                                                                               | 40.7                                                                              | 11.5                                                                                | 11.5                                                                                | 11.5                                                                                | 13.9                                                                                | 17.9                                                                                | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 0.5                                                                               | 0.0                                                                               | 1.0                                                                               | 9.0                                                                               | 0.0                                                                               | 2.6                                                                               | 0.6                                                                                 | 0.3                                                                                 | 0.3                                                                                 | 0.0                                                                                 | 1.3                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 2.5                                                                               | 0.0                                                                               | 4.6                                                                               | 1.3                                                                               | 0.0                                                                               | 0.5                                                                               | 3.6                                                                                 | 1.3                                                                                 | 1.4                                                                                 | 0.5                                                                                 | 3.1                                                                                 | 0.0                                                                                 |
| LnGrp Delay(d),s/veh         | 33.9                                                                              | 0.0                                                                               | 28.1                                                                              | 50.3                                                                              | 0.0                                                                               | 43.4                                                                              | 12.1                                                                                | 11.7                                                                                | 11.7                                                                                | 13.9                                                                                | 19.2                                                                                | 0.0                                                                                 |
| LnGrp LOS                    | C                                                                                 |                                                                                   | C                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | B                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   |                                                                                     |
| Approach Vol, veh/h          | 444                                                                               |                                                                                   |                                                                                   | 68                                                                                |                                                                                   |                                                                                   | 484                                                                                 |                                                                                     |                                                                                     | 388                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 31.0                                                                              |                                                                                   |                                                                                   | 48.3                                                                              |                                                                                   |                                                                                   | 12.0                                                                                |                                                                                     |                                                                                     | 18.7                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Timer                        | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Assigned Phs                 | 1                                                                                 | 2                                                                                 |                                                                                   | 4                                                                                 | 5                                                                                 | 6                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 8.4                                                                               | 50.0                                                                              |                                                                                   | 19.5                                                                              | 16.0                                                                              | 42.4                                                                              |                                                                                     | 9.6                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 9.0                                                                               | 44.0                                                                              |                                                                                   | 25.0                                                                              | 26.0                                                                              | 27.0                                                                              |                                                                                     | 18.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 3.0                                                                               | 4.7                                                                               |                                                                                   | 12.3                                                                              | 9.3                                                                               | 12.1                                                                              |                                                                                     | 4.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 1.1                                                                               |                                                                                   | 1.3                                                                               | 0.7                                                                               | 1.8                                                                               |                                                                                     | 0.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 Ctrl Delay          | 21.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 LOS                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
Existing PM

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |                                                                                   |  |  |   |   |  |  |  |  |
| Traffic Volume (veh/h)       | 574                                                                               | 16                                                                                | 524                                                                               | 20                                                                                | 23                                                                                | 14                                                                                | 479                                                                                | 285                                                                                 | 20                                                                                  | 13                                                                                  | 232                                                                                 | 559                                                                                 |
| Future Volume (veh/h)        | 574                                                                               | 16                                                                                | 524                                                                               | 20                                                                                | 23                                                                                | 14                                                                                | 479                                                                                | 285                                                                                 | 20                                                                                  | 13                                                                                  | 232                                                                                 | 559                                                                                 |
| Number                       | 7                                                                                 | 4                                                                                 | 14                                                                                | 3                                                                                 | 8                                                                                 | 18                                                                                | 5                                                                                  | 2                                                                                   | 12                                                                                  | 1                                                                                   | 6                                                                                   | 16                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj Sat Flow, veh/h/ln       | 1863                                                                              | 1863                                                                              | 1863                                                                              | 1900                                                                              | 1863                                                                              | 1863                                                                              | 1863                                                                               | 1863                                                                                | 1900                                                                                | 1863                                                                                | 1863                                                                                | 1863                                                                                |
| Adj Flow Rate, veh/h         | 603                                                                               | 0                                                                                 | 540                                                                               | 21                                                                                | 24                                                                                | 14                                                                                | 494                                                                                | 294                                                                                 | 21                                                                                  | 13                                                                                  | 239                                                                                 | 0                                                                                   |
| Adj No. of Lanes             | 2                                                                                 | 0                                                                                 | 1                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 2                                                                                   | 0                                                                                   | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor             | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                               | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 1007                                                                              | 0                                                                                 | 858                                                                               | 32                                                                                | 36                                                                                | 59                                                                                | 582                                                                                | 1299                                                                                | 92                                                                                  | 256                                                                                 | 307                                                                                 | 225                                                                                 |
| Arrive On Green              | 0.28                                                                              | 0.00                                                                              | 0.28                                                                              | 0.04                                                                              | 0.04                                                                              | 0.04                                                                              | 0.26                                                                               | 0.39                                                                                | 0.39                                                                                | 0.01                                                                                | 0.14                                                                                | 0.00                                                                                |
| Sat Flow, veh/h              | 3548                                                                              | 0                                                                                 | 1583                                                                              | 849                                                                               | 971                                                                               | 1583                                                                              | 1774                                                                               | 3352                                                                                | 238                                                                                 | 1774                                                                                | 2161                                                                                | 1583                                                                                |
| Grp Volume(v), veh/h         | 603                                                                               | 0                                                                                 | 540                                                                               | 45                                                                                | 0                                                                                 | 14                                                                                | 494                                                                                | 154                                                                                 | 161                                                                                 | 13                                                                                  | 239                                                                                 | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1774                                                                              | 0                                                                                 | 1583                                                                              | 1820                                                                              | 0                                                                                 | 1583                                                                              | 1774                                                                               | 1770                                                                                | 1821                                                                                | 1774                                                                                | 1080                                                                                | 1583                                                                                |
| Q Serve(g_s), s              | 12.6                                                                              | 0.0                                                                               | 20.4                                                                              | 2.1                                                                               | 0.0                                                                               | 0.7                                                                               | 19.2                                                                               | 5.0                                                                                 | 5.1                                                                                 | 0.5                                                                                 | 9.2                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 12.6                                                                              | 0.0                                                                               | 20.4                                                                              | 2.1                                                                               | 0.0                                                                               | 0.7                                                                               | 19.2                                                                               | 5.0                                                                                 | 5.1                                                                                 | 0.5                                                                                 | 9.2                                                                                 | 0.0                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 0.47                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 0.13                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 1007                                                                              | 0                                                                                 | 858                                                                               | 68                                                                                | 0                                                                                 | 59                                                                                | 582                                                                                | 686                                                                                 | 706                                                                                 | 256                                                                                 | 307                                                                                 | 225                                                                                 |
| V/C Ratio(X)                 | 0.60                                                                              | 0.00                                                                              | 0.63                                                                              | 0.67                                                                              | 0.00                                                                              | 0.24                                                                              | 0.85                                                                               | 0.23                                                                                | 0.23                                                                                | 0.05                                                                                | 0.78                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 1113                                                                              | 0                                                                                 | 905                                                                               | 338                                                                               | 0                                                                                 | 294                                                                               | 722                                                                                | 905                                                                                 | 931                                                                                 | 420                                                                                 | 603                                                                                 | 442                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(l)           | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 26.6                                                                              | 0.0                                                                               | 13.7                                                                              | 40.9                                                                              | 0.0                                                                               | 40.2                                                                              | 20.9                                                                               | 17.7                                                                                | 17.7                                                                                | 31.0                                                                                | 35.6                                                                                | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 0.7                                                                               | 0.0                                                                               | 1.3                                                                               | 10.7                                                                              | 0.0                                                                               | 2.1                                                                               | 7.9                                                                                | 0.2                                                                                 | 0.2                                                                                 | 0.1                                                                                 | 4.3                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 6.3                                                                               | 0.0                                                                               | 9.1                                                                               | 1.3                                                                               | 0.0                                                                               | 0.4                                                                               | 10.5                                                                               | 2.5                                                                                 | 2.6                                                                                 | 0.3                                                                                 | 2.9                                                                                 | 0.0                                                                                 |
| LnGrp Delay(d),s/veh         | 27.3                                                                              | 0.0                                                                               | 15.0                                                                              | 51.6                                                                              | 0.0                                                                               | 42.3                                                                              | 28.8                                                                               | 17.8                                                                                | 17.9                                                                                | 31.1                                                                                | 39.9                                                                                | 0.0                                                                                 |
| LnGrp LOS                    | C                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | C                                                                                  | B                                                                                   | B                                                                                   | C                                                                                   | D                                                                                   |                                                                                     |
| Approach Vol, veh/h          | 1143                                                                              |                                                                                   |                                                                                   | 59                                                                                |                                                                                   |                                                                                   | 809                                                                                |                                                                                     |                                                                                     | 252                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 21.5                                                                              |                                                                                   |                                                                                   | 49.4                                                                              |                                                                                   |                                                                                   | 24.5                                                                               |                                                                                     |                                                                                     | 39.4                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                  |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Timer                        | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Assigned Phs                 | 1                                                                                 | 2                                                                                 |                                                                                   | 4                                                                                 | 5                                                                                 | 6                                                                                 |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 7.1                                                                               | 39.4                                                                              |                                                                                   | 30.4                                                                              | 28.2                                                                              | 18.2                                                                              |                                                                                    | 9.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 9.0                                                                               | 44.0                                                                              |                                                                                   | 27.0                                                                              | 29.0                                                                              | 24.0                                                                              |                                                                                    | 16.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 2.5                                                                               | 7.1                                                                               |                                                                                   | 22.4                                                                              | 21.2                                                                              | 11.2                                                                              |                                                                                    | 4.1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 1.8                                                                               |                                                                                   | 2.0                                                                               | 1.0                                                                               | 1.0                                                                               |                                                                                    | 0.1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 Ctrl Delay          | 25.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 LOS                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

RH

11/07/2018  
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HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
2021 Background AM

|                              | ↖    | →    | ↘    | ↙    | ←    | ↖    | ↗    | ↑    | ↘    | ↙    | ↓    | ↘    |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations          | ↖    | ↗    | ↘    |      | ↗    | ↘    | ↖    | ↗↘   |      | ↖    | ↗↘   | ↘    |
| Traffic Volume (veh/h)       | 232  | 26   | 214  | 28   | 20   | 20   | 273  | 228  | 24   | 36   | 390  | 576  |
| Future Volume (veh/h)        | 232  | 26   | 214  | 28   | 20   | 20   | 273  | 228  | 24   | 36   | 390  | 576  |
| Number                       | 7    | 4    | 14   | 3    | 8    | 18   | 5    | 2    | 12   | 1    | 6    | 16   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln       | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h         | 263  | 0    | 225  | 29   | 21   | 21   | 287  | 240  | 25   | 38   | 411  | 0    |
| Adj No. of Lanes             | 2    | 0    | 1    | 0    | 1    | 1    | 1    | 2    | 0    | 1    | 2    | 1    |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Cap, veh/h                   | 562  | 0    | 437  | 45   | 33   | 68   | 550  | 1617 | 167  | 584  | 868  | 647  |
| Arrive On Green              | 0.16 | 0.00 | 0.16 | 0.04 | 0.04 | 0.04 | 0.12 | 0.50 | 0.50 | 0.03 | 0.41 | 0.00 |
| Sat Flow, veh/h              | 3548 | 0    | 1583 | 1050 | 760  | 1583 | 1774 | 3239 | 334  | 1774 | 2124 | 1583 |
| Grp Volume(v), veh/h         | 263  | 0    | 225  | 50   | 0    | 21   | 287  | 130  | 135  | 38   | 411  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1774 | 0    | 1583 | 1810 | 0    | 1583 | 1774 | 1770 | 1804 | 1774 | 1062 | 1583 |
| Q Serve(g_s), s              | 5.9  | 0.0  | 10.6 | 2.4  | 0.0  | 1.1  | 7.7  | 3.5  | 3.6  | 1.1  | 12.5 | 0.0  |
| Cycle Q Clear(g_c), s        | 5.9  | 0.0  | 10.6 | 2.4  | 0.0  | 1.1  | 7.7  | 3.5  | 3.6  | 1.1  | 12.5 | 0.0  |
| Prop In Lane                 | 1.00 |      | 1.00 | 0.58 |      | 1.00 | 1.00 |      | 0.19 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 562  | 0    | 437  | 77   | 0    | 68   | 550  | 883  | 900  | 584  | 868  | 647  |
| V/C Ratio(X)                 | 0.47 | 0.00 | 0.51 | 0.65 | 0.00 | 0.31 | 0.52 | 0.15 | 0.15 | 0.07 | 0.47 | 0.00 |
| Avail Cap(c_a), veh/h        | 1006 | 0    | 636  | 370  | 0    | 323  | 864  | 883  | 900  | 716  | 868  | 647  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 33.7 | 0.0  | 26.9 | 41.5 | 0.0  | 40.9 | 12.4 | 11.9 | 12.0 | 14.3 | 19.1 | 0.0  |
| Incr Delay (d2), s/veh       | 0.6  | 0.0  | 0.9  | 8.7  | 0.0  | 2.6  | 0.8  | 0.4  | 0.4  | 0.0  | 1.9  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 3.0  | 0.0  | 4.7  | 1.4  | 0.0  | 0.5  | 3.8  | 1.8  | 1.8  | 0.5  | 3.9  | 0.0  |
| LnGrp Delay(d),s/veh         | 34.3 | 0.0  | 27.9 | 50.2 | 0.0  | 43.5 | 13.1 | 12.3 | 12.3 | 14.4 | 21.0 | 0.0  |
| LnGrp LOS                    | C    |      | C    | D    |      | D    | B    | B    | B    | B    | C    |      |
| Approach Vol, veh/h          | 488  |      |      |      | 71   |      | 552  |      |      |      | 449  |      |
| Approach Delay, s/veh        | 31.3 |      |      |      | 48.2 |      | 12.7 |      |      |      | 20.4 |      |
| Approach LOS                 | C    |      |      |      | D    |      | B    |      |      |      | C    |      |
| Timer                        | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Assigned Phs                 | 1    | 2    |      | 4    | 5    | 6    |      | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.4  | 50.0 |      | 20.0 | 16.4 | 42.0 |      | 9.8  |      |      |      |      |
| Change Period (Y+Rc), s      | 6.0  | 6.0  |      | 6.0  | 6.0  | 6.0  |      | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 9.0  | 44.0 |      | 25.0 | 26.0 | 27.0 |      | 18.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 3.1  | 5.6  |      | 12.6 | 9.7  | 14.5 |      | 4.4  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 1.5  |      | 1.4  | 0.7  | 2.0  |      | 0.2  |      |      |      |      |
| Intersection Summary         |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 2010 Ctrl Delay          | 22.4 |      |      |      |      |      |      |      |      |      |      |      |
| HCM 2010 LOS                 | C    |      |      |      |      |      |      |      |      |      |      |      |
| Notes                        |      |      |      |      |      |      |      |      |      |      |      |      |



HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
2021 Background PM

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |                                                                                   |  |  |   |   |  |  |  |  |
| Traffic Volume (veh/h)       | 618                                                                               | 16                                                                                | 540                                                                               | 21                                                                                | 24                                                                                | 14                                                                                | 494                                                                                | 348                                                                                 | 21                                                                                  | 13                                                                                  | 288                                                                                 | 603                                                                                 |
| Future Volume (veh/h)        | 618                                                                               | 16                                                                                | 540                                                                               | 21                                                                                | 24                                                                                | 14                                                                                | 494                                                                                | 348                                                                                 | 21                                                                                  | 13                                                                                  | 288                                                                                 | 603                                                                                 |
| Number                       | 7                                                                                 | 4                                                                                 | 14                                                                                | 3                                                                                 | 8                                                                                 | 18                                                                                | 5                                                                                  | 2                                                                                   | 12                                                                                  | 1                                                                                   | 6                                                                                   | 16                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj Sat Flow, veh/h/ln       | 1863                                                                              | 1863                                                                              | 1863                                                                              | 1900                                                                              | 1863                                                                              | 1863                                                                              | 1863                                                                               | 1863                                                                                | 1900                                                                                | 1863                                                                                | 1863                                                                                | 1863                                                                                |
| Adj Flow Rate, veh/h         | 648                                                                               | 0                                                                                 | 557                                                                               | 22                                                                                | 25                                                                                | 14                                                                                | 509                                                                                | 359                                                                                 | 22                                                                                  | 13                                                                                  | 297                                                                                 | 0                                                                                   |
| Adj No. of Lanes             | 2                                                                                 | 0                                                                                 | 1                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 2                                                                                   | 0                                                                                   | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor             | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                               | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 1000                                                                              | 0                                                                                 | 851                                                                               | 33                                                                                | 37                                                                                | 61                                                                                | 567                                                                                | 1389                                                                                | 85                                                                                  | 265                                                                                 | 360                                                                                 | 264                                                                                 |
| Arrive On Green              | 0.28                                                                              | 0.00                                                                              | 0.28                                                                              | 0.04                                                                              | 0.04                                                                              | 0.04                                                                              | 0.26                                                                               | 0.41                                                                                | 0.41                                                                                | 0.01                                                                                | 0.17                                                                                | 0.00                                                                                |
| Sat Flow, veh/h              | 3548                                                                              | 0                                                                                 | 1583                                                                              | 852                                                                               | 968                                                                               | 1583                                                                              | 1774                                                                               | 3389                                                                                | 207                                                                                 | 1774                                                                                | 2161                                                                                | 1583                                                                                |
| Grp Volume(v), veh/h         | 648                                                                               | 0                                                                                 | 557                                                                               | 47                                                                                | 0                                                                                 | 14                                                                                | 509                                                                                | 187                                                                                 | 194                                                                                 | 13                                                                                  | 297                                                                                 | 0                                                                                   |
| Grp Sat Flow(s), veh/h/ln    | 1774                                                                              | 0                                                                                 | 1583                                                                              | 1820                                                                              | 0                                                                                 | 1583                                                                              | 1774                                                                               | 1770                                                                                | 1826                                                                                | 1774                                                                                | 1080                                                                                | 1583                                                                                |
| Q Serve(g_s), s              | 14.9                                                                              | 0.0                                                                               | 23.4                                                                              | 2.4                                                                               | 0.0                                                                               | 0.8                                                                               | 20.9                                                                               | 6.5                                                                                 | 6.5                                                                                 | 0.6                                                                                 | 12.4                                                                                | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 14.9                                                                              | 0.0                                                                               | 23.4                                                                              | 2.4                                                                               | 0.0                                                                               | 0.8                                                                               | 20.9                                                                               | 6.5                                                                                 | 6.5                                                                                 | 0.6                                                                                 | 12.4                                                                                | 0.0                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 0.47                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 0.11                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 1000                                                                              | 0                                                                                 | 851                                                                               | 70                                                                                | 0                                                                                 | 61                                                                                | 567                                                                                | 725                                                                                 | 748                                                                                 | 265                                                                                 | 360                                                                                 | 264                                                                                 |
| V/C Ratio(X)                 | 0.65                                                                              | 0.00                                                                              | 0.65                                                                              | 0.67                                                                              | 0.00                                                                              | 0.23                                                                              | 0.90                                                                               | 0.26                                                                                | 0.26                                                                                | 0.05                                                                                | 0.82                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 1028                                                                              | 0                                                                                 | 863                                                                               | 313                                                                               | 0                                                                                 | 272                                                                               | 666                                                                                | 836                                                                                 | 862                                                                                 | 415                                                                                 | 557                                                                                 | 408                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 29.4                                                                              | 0.0                                                                               | 15.4                                                                              | 44.2                                                                              | 0.0                                                                               | 43.5                                                                              | 21.8                                                                               | 18.1                                                                                | 18.2                                                                                | 31.6                                                                                | 37.5                                                                                | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 1.4                                                                               | 0.0                                                                               | 1.8                                                                               | 10.7                                                                              | 0.0                                                                               | 1.9                                                                               | 13.6                                                                               | 0.2                                                                                 | 0.2                                                                                 | 0.1                                                                                 | 5.9                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 7.5                                                                               | 0.0                                                                               | 10.5                                                                              | 1.4                                                                               | 0.0                                                                               | 0.4                                                                               | 12.2                                                                               | 3.2                                                                                 | 3.3                                                                                 | 0.3                                                                                 | 4.0                                                                                 | 0.0                                                                                 |
| LnGrp Delay(d),s/veh         | 30.8                                                                              | 0.0                                                                               | 17.1                                                                              | 54.9                                                                              | 0.0                                                                               | 45.4                                                                              | 35.3                                                                               | 18.3                                                                                | 18.3                                                                                | 31.7                                                                                | 43.4                                                                                | 0.0                                                                                 |
| LnGrp LOS                    | C                                                                                 |                                                                                   | B                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | D                                                                                  | B                                                                                   | B                                                                                   | C                                                                                   | D                                                                                   |                                                                                     |
| Approach Vol, veh/h          | 1205                                                                              |                                                                                   |                                                                                   | 61                                                                                |                                                                                   |                                                                                   | 890                                                                                |                                                                                     |                                                                                     | 310                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 24.5                                                                              |                                                                                   |                                                                                   | 52.7                                                                              |                                                                                   |                                                                                   | 28.1                                                                               |                                                                                     |                                                                                     | 42.9                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                  |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Timer                        | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Assigned Phs                 | 1                                                                                 | 2                                                                                 | 4                                                                                 |                                                                                   | 5                                                                                 | 6                                                                                 | 8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 7.1                                                                               | 44.2                                                                              | 32.3                                                                              |                                                                                   | 29.8                                                                              | 21.5                                                                              | 9.6                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 9.0                                                                               | 44.0                                                                              | 27.0                                                                              |                                                                                   | 29.0                                                                              | 24.0                                                                              | 16.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 2.6                                                                               | 8.5                                                                               | 25.4                                                                              |                                                                                   | 22.9                                                                              | 14.4                                                                              | 4.4                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 2.2                                                                               | 0.9                                                                               |                                                                                   | 0.9                                                                               | 1.2                                                                               | 0.1                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 Ctrl Delay          | 28.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 LOS                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

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11/07/2018  
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HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
2021 Total AM

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |                                                                                   |  |  |   |   |  |  |  |  |
| Traffic Volume (veh/h)       | 207                                                                               | 78                                                                                | 202                                                                               | 89                                                                                | 91                                                                                | 85                                                                                | 248                                                                                | 210                                                                                 | 28                                                                                  | 102                                                                                 | 377                                                                                 | 545                                                                                 |
| Future Volume (veh/h)        | 207                                                                               | 78                                                                                | 202                                                                               | 89                                                                                | 91                                                                                | 85                                                                                | 248                                                                                | 210                                                                                 | 28                                                                                  | 102                                                                                 | 377                                                                                 | 545                                                                                 |
| Number                       | 7                                                                                 | 4                                                                                 | 14                                                                                | 3                                                                                 | 8                                                                                 | 18                                                                                | 5                                                                                  | 2                                                                                   | 12                                                                                  | 1                                                                                   | 6                                                                                   | 16                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj Sat Flow, veh/h/ln       | 1863                                                                              | 1863                                                                              | 1863                                                                              | 1900                                                                              | 1863                                                                              | 1863                                                                              | 1863                                                                               | 1863                                                                                | 1900                                                                                | 1863                                                                                | 1863                                                                                | 1863                                                                                |
| Adj Flow Rate, veh/h         | 150                                                                               | 177                                                                               | 213                                                                               | 94                                                                                | 96                                                                                | 89                                                                                | 261                                                                                | 221                                                                                 | 29                                                                                  | 107                                                                                 | 397                                                                                 | 0                                                                                   |
| Adj No. of Lanes             | 1                                                                                 | 1                                                                                 | 1                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 2                                                                                   | 0                                                                                   | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor             | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                               | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 268                                                                               | 281                                                                               | 415                                                                               | 115                                                                               | 117                                                                               | 202                                                                               | 495                                                                                | 1361                                                                                | 176                                                                                 | 588                                                                                 | 796                                                                                 | 593                                                                                 |
| Arrive On Green              | 0.15                                                                              | 0.15                                                                              | 0.15                                                                              | 0.13                                                                              | 0.13                                                                              | 0.13                                                                              | 0.11                                                                               | 0.43                                                                                | 0.43                                                                                | 0.05                                                                                | 0.37                                                                                | 0.00                                                                                |
| Sat Flow, veh/h              | 1774                                                                              | 1863                                                                              | 1583                                                                              | 899                                                                               | 918                                                                               | 1583                                                                              | 1774                                                                               | 3152                                                                                | 409                                                                                 | 1774                                                                                | 2124                                                                                | 1583                                                                                |
| Grp Volume(v), veh/h         | 150                                                                               | 177                                                                               | 213                                                                               | 190                                                                               | 0                                                                                 | 89                                                                                | 261                                                                                | 123                                                                                 | 127                                                                                 | 107                                                                                 | 397                                                                                 | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1774                                                                              | 1863                                                                              | 1583                                                                              | 1818                                                                              | 0                                                                                 | 1583                                                                              | 1774                                                                               | 1770                                                                                | 1791                                                                                | 1774                                                                                | 1062                                                                                | 1583                                                                                |
| Q Serve(g_s), s              | 8.0                                                                               | 9.1                                                                               | 11.7                                                                              | 10.4                                                                              | 0.0                                                                               | 5.3                                                                               | 8.7                                                                                | 4.3                                                                                 | 4.4                                                                                 | 3.7                                                                                 | 14.6                                                                                | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 8.0                                                                               | 9.1                                                                               | 11.7                                                                              | 10.4                                                                              | 0.0                                                                               | 5.3                                                                               | 8.7                                                                                | 4.3                                                                                 | 4.4                                                                                 | 3.7                                                                                 | 14.6                                                                                | 0.0                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 0.49                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 0.23                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 268                                                                               | 281                                                                               | 415                                                                               | 232                                                                               | 0                                                                                 | 202                                                                               | 495                                                                                | 764                                                                                 | 773                                                                                 | 588                                                                                 | 796                                                                                 | 593                                                                                 |
| V/C Ratio(X)                 | 0.56                                                                              | 0.63                                                                              | 0.51                                                                              | 0.82                                                                              | 0.00                                                                              | 0.44                                                                              | 0.53                                                                               | 0.16                                                                                | 0.16                                                                                | 0.18                                                                                | 0.50                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 435                                                                               | 457                                                                               | 565                                                                               | 321                                                                               | 0                                                                                 | 280                                                                               | 751                                                                                | 764                                                                                 | 773                                                                                 | 649                                                                                 | 796                                                                                 | 593                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 40.1                                                                              | 40.6                                                                              | 32.0                                                                              | 43.3                                                                              | 0.0                                                                               | 41.1                                                                              | 16.5                                                                               | 17.7                                                                                | 17.7                                                                                | 17.7                                                                                | 24.5                                                                                | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 1.8                                                                               | 2.3                                                                               | 1.0                                                                               | 11.2                                                                              | 0.0                                                                               | 1.5                                                                               | 0.9                                                                                | 0.5                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 2.2                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 4.1                                                                               | 4.9                                                                               | 5.2                                                                               | 5.9                                                                               | 0.0                                                                               | 2.4                                                                               | 4.3                                                                                | 2.2                                                                                 | 2.3                                                                                 | 1.8                                                                                 | 4.5                                                                                 | 0.0                                                                                 |
| LnGrp Delay(d),s/veh         | 42.0                                                                              | 42.9                                                                              | 33.0                                                                              | 54.5                                                                              | 0.0                                                                               | 42.6                                                                              | 17.4                                                                               | 18.1                                                                                | 18.1                                                                                | 17.8                                                                                | 26.7                                                                                | 0.0                                                                                 |
| LnGrp LOS                    | D                                                                                 | D                                                                                 | C                                                                                 | D                                                                                 |                                                                                   | D                                                                                 | B                                                                                  | B                                                                                   | B                                                                                   | B                                                                                   | C                                                                                   |                                                                                     |
| Approach Vol, veh/h          | 540                                                                               |                                                                                   |                                                                                   | 279                                                                               |                                                                                   |                                                                                   | 511                                                                                |                                                                                     |                                                                                     | 504                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 38.7                                                                              |                                                                                   |                                                                                   | 50.7                                                                              |                                                                                   |                                                                                   | 17.7                                                                               |                                                                                     |                                                                                     | 24.8                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B                                                                                  |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Timer                        | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Assigned Phs                 | 1                                                                                 | 2                                                                                 |                                                                                   | 4                                                                                 | 5                                                                                 | 6                                                                                 |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 11.5                                                                              | 50.0                                                                              |                                                                                   | 21.4                                                                              | 17.3                                                                              | 44.2                                                                              |                                                                                    | 19.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 9.0                                                                               | 44.0                                                                              |                                                                                   | 25.0                                                                              | 26.0                                                                              | 27.0                                                                              |                                                                                    | 18.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 5.7                                                                               | 6.4                                                                               |                                                                                   | 13.7                                                                              | 10.7                                                                              | 16.6                                                                              |                                                                                    | 12.4                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.1                                                                               | 1.4                                                                               |                                                                                   | 1.7                                                                               | 0.6                                                                               | 1.7                                                                               |                                                                                    | 0.6                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 Ctrl Delay          | 30.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 LOS                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

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11/07/2018  
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HCM 2010 Signalized Intersection Summary  
1: MD 7 & Campbell Blvd

Wawa Store - MD 7 @ Campbell Blvd  
2021 Total PM

|                             |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                    | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations         |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h)      | 597                                                                               | 59                                                                                | 529                                                                               | 71                                                                                | 84                                                                                | 68                                                                                | 472                                                                                | 332                                                                                 | 24                                                                                  | 68                                                                                  | 277                                                                                 | 576                                                                                 |
| Future Volume (veh/h)       | 597                                                                               | 59                                                                                | 529                                                                               | 71                                                                                | 84                                                                                | 68                                                                                | 472                                                                                | 332                                                                                 | 24                                                                                  | 68                                                                                  | 277                                                                                 | 576                                                                                 |
| Number                      | 7                                                                                 | 4                                                                                 | 14                                                                                | 3                                                                                 | 8                                                                                 | 18                                                                                | 5                                                                                  | 2                                                                                   | 12                                                                                  | 1                                                                                   | 6                                                                                   | 16                                                                                  |
| Initial Q (Qb), veh         | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)         | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj Sat Flow, veh/h/ln      | 1863                                                                              | 1863                                                                              | 1863                                                                              | 1900                                                                              | 1863                                                                              | 1863                                                                              | 1863                                                                               | 1863                                                                                | 1900                                                                                | 1863                                                                                | 1863                                                                                | 1863                                                                                |
| Adj Flow Rate, veh/h        | 659                                                                               | 0                                                                                 | 545                                                                               | 73                                                                                | 87                                                                                | 70                                                                                | 487                                                                                | 342                                                                                 | 25                                                                                  | 70                                                                                  | 286                                                                                 | 0                                                                                   |
| Adj No. of Lanes            | 2                                                                                 | 0                                                                                 | 1                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 2                                                                                   | 0                                                                                   | 1                                                                                   | 2                                                                                   | 1                                                                                   |
| Peak Hour Factor            | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                               | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                |
| Percent Heavy Veh. %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   |
| Cap, veh/h                  | 918                                                                               | 0                                                                                 | 797                                                                               | 91                                                                                | 108                                                                               | 173                                                                               | 535                                                                                | 1194                                                                                | 87                                                                                  | 309                                                                                 | 340                                                                                 | 249                                                                                 |
| Arrive On Green             | 0.26                                                                              | 0.00                                                                              | 0.26                                                                              | 0.11                                                                              | 0.11                                                                              | 0.11                                                                              | 0.24                                                                               | 0.36                                                                                | 0.36                                                                                | 0.05                                                                                | 0.16                                                                                | 0.00                                                                                |
| Sat Flow, veh/h             | 3548                                                                              | 0                                                                                 | 1583                                                                              | 831                                                                               | 990                                                                               | 1583                                                                              | 1774                                                                               | 3346                                                                                | 243                                                                                 | 1774                                                                                | 2161                                                                                | 1583                                                                                |
| Grp Volume(v), veh/h        | 659                                                                               | 0                                                                                 | 545                                                                               | 160                                                                               | 0                                                                                 | 70                                                                                | 487                                                                                | 180                                                                                 | 187                                                                                 | 70                                                                                  | 286                                                                                 | 0                                                                                   |
| Grp Sat Flow(s), veh/h/ln   | 1774                                                                              | 0                                                                                 | 1583                                                                              | 1821                                                                              | 0                                                                                 | 1583                                                                              | 1774                                                                               | 1770                                                                                | 1820                                                                                | 1774                                                                                | 1080                                                                                | 1583                                                                                |
| Q Serve(g_s), s             | 17.6                                                                              | 0.0                                                                               | 27.0                                                                              | 9.0                                                                               | 0.0                                                                               | 4.3                                                                               | 22.8                                                                               | 7.6                                                                                 | 7.7                                                                                 | 3.4                                                                                 | 13.4                                                                                | 0.0                                                                                 |
| Cycle Q Clear(g_c), s       | 17.6                                                                              | 0.0                                                                               | 27.0                                                                              | 9.0                                                                               | 0.0                                                                               | 4.3                                                                               | 22.8                                                                               | 7.6                                                                                 | 7.7                                                                                 | 3.4                                                                                 | 13.4                                                                                | 0.0                                                                                 |
| Prop In Lane                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 0.46                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 0.13                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h      | 918                                                                               | 0                                                                                 | 797                                                                               | 199                                                                               | 0                                                                                 | 173                                                                               | 535                                                                                | 631                                                                                 | 649                                                                                 | 309                                                                                 | 340                                                                                 | 249                                                                                 |
| V/C Ratio(X)                | 0.72                                                                              | 0.00                                                                              | 0.68                                                                              | 0.81                                                                              | 0.00                                                                              | 0.41                                                                              | 0.91                                                                               | 0.29                                                                                | 0.29                                                                                | 0.23                                                                                | 0.84                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h       | 918                                                                               | 0                                                                                 | 797                                                                               | 279                                                                               | 0                                                                                 | 243                                                                               | 594                                                                                | 746                                                                                 | 767                                                                                 | 381                                                                                 | 497                                                                                 | 364                                                                                 |
| HCM Platoon Ratio           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)          | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                |
| Uniform Delay(d), s/veh     | 35.2                                                                              | 0.0                                                                               | 19.6                                                                              | 45.4                                                                              | 0.0                                                                               | 43.3                                                                              | 25.6                                                                               | 24.0                                                                                | 24.1                                                                                | 34.5                                                                                | 42.7                                                                                | 0.0                                                                                 |
| Incr Delay (d2), s/veh      | 2.7                                                                               | 0.0                                                                               | 2.4                                                                               | 11.0                                                                              | 0.0                                                                               | 1.5                                                                               | 17.3                                                                               | 0.2                                                                                 | 0.2                                                                                 | 0.4                                                                                 | 8.3                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3), s/veh  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%), veh/ln   | 9.0                                                                               | 0.0                                                                               | 12.3                                                                              | 5.1                                                                               | 0.0                                                                               | 2.0                                                                               | 13.7                                                                               | 3.7                                                                                 | 3.9                                                                                 | 1.7                                                                                 | 4.4                                                                                 | 0.0                                                                                 |
| LnGrp Delay(d), s/veh       | 37.9                                                                              | 0.0                                                                               | 22.0                                                                              | 56.4                                                                              | 0.0                                                                               | 44.9                                                                              | 42.9                                                                               | 24.3                                                                                | 24.3                                                                                | 34.9                                                                                | 51.0                                                                                | 0.0                                                                                 |
| LnGrp LOS                   | D                                                                                 |                                                                                   | C                                                                                 | E                                                                                 |                                                                                   | D                                                                                 | D                                                                                  | C                                                                                   | C                                                                                   | C                                                                                   | D                                                                                   |                                                                                     |
| Approach Vol, veh/h         | 1204                                                                              |                                                                                   |                                                                                   | 230                                                                               |                                                                                   |                                                                                   | 854                                                                                |                                                                                     |                                                                                     | 356                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh       | 30.7                                                                              |                                                                                   |                                                                                   | 52.9                                                                              |                                                                                   |                                                                                   | 34.9                                                                               |                                                                                     |                                                                                     | 47.8                                                                                |                                                                                     |                                                                                     |
| Approach LOS                | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                  |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Timer                       | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Assigned Phs                | 1                                                                                 | 2                                                                                 |                                                                                   | 4                                                                                 | 5                                                                                 | 6                                                                                 |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s    | 10.7                                                                              | 43.2                                                                              |                                                                                   | 33.0                                                                              | 31.5                                                                              | 22.4                                                                              |                                                                                    | 17.4                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s     | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s | 9.0                                                                               | 44.0                                                                              |                                                                                   | 27.0                                                                              | 29.0                                                                              | 24.0                                                                              |                                                                                    | 16.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I), s | 5.4                                                                               | 9.7                                                                               |                                                                                   | 29.0                                                                              | 24.8                                                                              | 15.4                                                                              |                                                                                    | 11.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s     | 0.0                                                                               | 2.1                                                                               |                                                                                   | 0.0                                                                               | 0.7                                                                               | 1.0                                                                               |                                                                                    | 0.4                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 Ctrl Delay         | 36.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2010 LOS                | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

RH

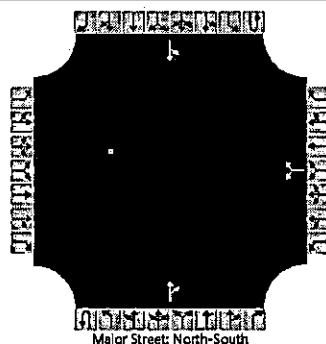
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# HCS7 Two-Way Stop-Control Report

## General Information

|                          |                         |                            |                      |
|--------------------------|-------------------------|----------------------------|----------------------|
| Analyst                  | RH                      | Intersection               | MD 7 & Mohrs Ln      |
| Agency/Co.               | The Traffic Group, Inc. | Jurisdiction               | Baltimore County, MD |
| Date Performed           | 7/3/2018                | East/West Street           | Mohrs Ln             |
| Analysis Year            | 2018                    | North/South Street         | MD 7                 |
| Time Analyzed            | Existing AM Peak Hour   | Peak Hour Factor           | 0.95                 |
| Intersection Orientation | North-South             | Analysis Time Period (hrs) | 0.25                 |
| Project Description      | 2013-0901 WAWA          |                            |                      |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |    |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|---|----|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |   | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 3 |    | 2 |            |   | 461 | 2  |            | 1  | 569 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    |           | 0 |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      | Undivided |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |  |      |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|--|------|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  |  | 4.1  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  |  | 4.13 |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  |  | 2.2  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  |  | 2.23 |  |

## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |      |      |  |  |  |  |  |  |     |  |      |  |
|-----------------------------------------|--|--|--|--|------|------|--|--|--|--|--|--|-----|--|------|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |      | 5    |  |  |  |  |  |  |     |  | 1    |  |
| Capacity, c (veh/h)                     |  |  |  |  |      | 311  |  |  |  |  |  |  |     |  | 1070 |  |
| v/c Ratio                               |  |  |  |  |      | 0.02 |  |  |  |  |  |  |     |  | 0.00 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |      | 0.1  |  |  |  |  |  |  |     |  | 0.0  |  |
| Control Delay (s/veh)                   |  |  |  |  |      | 16.8 |  |  |  |  |  |  |     |  | 8.4  |  |
| Level of Service (LOS)                  |  |  |  |  |      | C    |  |  |  |  |  |  |     |  | A    |  |
| Approach Delay (s/veh)                  |  |  |  |  | 16.8 |      |  |  |  |  |  |  | 0.0 |  |      |  |
| Approach LOS                            |  |  |  |  | C    |      |  |  |  |  |  |  |     |  |      |  |

# HCS7 Two-Way Stop Control Report

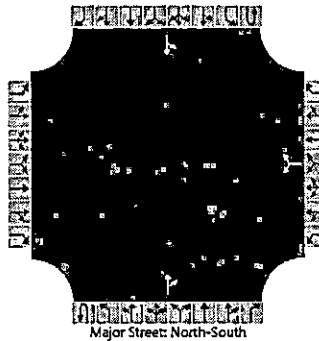
## General Information

|                          |                        |
|--------------------------|------------------------|
| Analyst                  | RH                     |
| Agency/Co.               | The Traffic Group, Inc |
| Date Performed           | 7/3/2018               |
| Analysis Year            | 2018                   |
| Time Analyzed            | Existing PM Peak Hour  |
| Intersection Orientation | North-South            |
| Project Description      | 2013-0901 WAWA         |

## Site Information

|                            |                      |
|----------------------------|----------------------|
| Intersection               | MD 7 & Mohrs Ln      |
| Jurisdiction               | Baltimore County, MD |
| East/West Street           | Mohrs Ln             |
| North/South Street         | MD 7                 |
| Peak Hour Factor           | 0.98                 |
| Analysis Time Period (hrs) | 0.25                 |

## Lanes



Major Street: North-South

## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |           |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|---|-----------|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L | T         | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8         | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1         | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |   | LR        |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 1 |           | 4 |            |   | 826 | 0  |            | 5  | 781 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |           | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |   |           |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    |           | 0 |           |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |   |           |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      |           |    |    |    |           |   | Undivided |   |            |   |     |    |            |    |     |   |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |  |      |  |  |  |  |  |  |  |      |  |  |
|-----------------------------------------|--|--|--|--|--|------|--|--|--|--|--|--|--|------|--|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |  | 5    |  |  |  |  |  |  |  | 5    |  |  |
| Capacity, c (veh/h)                     |  |  |  |  |  | 246  |  |  |  |  |  |  |  | 789  |  |  |
| v/c Ratio                               |  |  |  |  |  | 0.02 |  |  |  |  |  |  |  | 0.01 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |  | 0.1  |  |  |  |  |  |  |  | 0.0  |  |  |
| Control Delay (s/veh)                   |  |  |  |  |  | 20.0 |  |  |  |  |  |  |  | 9.6  |  |  |
| Level of Service (LOS)                  |  |  |  |  |  | C    |  |  |  |  |  |  |  | A    |  |  |
| Approach Delay (s/veh)                  |  |  |  |  |  | 20.0 |  |  |  |  |  |  |  | 0.2  |  |  |
| Approach LOS                            |  |  |  |  |  | C    |  |  |  |  |  |  |  | A    |  |  |

# HCS7 Two-Way Stop-Control Report

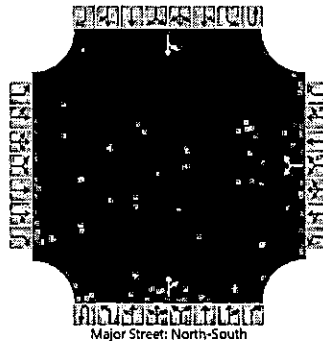
## General Information

|                          |                         |
|--------------------------|-------------------------|
| Analyst                  | RH                      |
| Agency/Co.               | The Traffic Group, Inc. |
| Date Performed           | 7/3/2018                |
| Analysis Year            | 2021                    |
| Time Analyzed            | Background AM Peak Hour |
| Intersection Orientation | North-South             |
| Project Description      | 2013-0901 WAWA          |

## Site Information

|                            |                      |
|----------------------------|----------------------|
| Intersection               | MD 7 & Mohrs Ln      |
| Jurisdiction               | Baltimore County, MD |
| East/West Street           | Mohrs Ln             |
| North/South Street         | MD 7                 |
| Peak Hour Factor           | 0.95                 |
| Analysis Time Period (hrs) | 0.25                 |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |           |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|---|-----------|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L | T         | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8         | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1         | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |   | LR        |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 3 |           | 2 |            |   | 506 | 2  |            | 1  | 617 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |           | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |   |           |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    |           |   | 0         |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |   |           |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      |           |    |    |    |           |   | Undivided |   |            |   |     |    |            |    |     |   |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |  |      |  |  |  |  |  |  |  |      |  |  |
|-----------------------------------------|--|--|--|--|--|------|--|--|--|--|--|--|--|------|--|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |  | 5    |  |  |  |  |  |  |  | 1    |  |  |
| Capacity, c (veh/h)                     |  |  |  |  |  | 276  |  |  |  |  |  |  |  | 1028 |  |  |
| v/c Ratio                               |  |  |  |  |  | 0.02 |  |  |  |  |  |  |  | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |  | 0.1  |  |  |  |  |  |  |  | 0.0  |  |  |
| Control Delay (s/veh)                   |  |  |  |  |  | 18.3 |  |  |  |  |  |  |  | 8.5  |  |  |
| Level of Service (LOS)                  |  |  |  |  |  | C    |  |  |  |  |  |  |  | A    |  |  |
| Approach Delay (s/veh)                  |  |  |  |  |  | 18.3 |  |  |  |  |  |  |  | 0.0  |  |  |
| Approach LOS                            |  |  |  |  |  | C    |  |  |  |  |  |  |  |      |  |  |



# HCS7 Two-Way Stop-Control Report

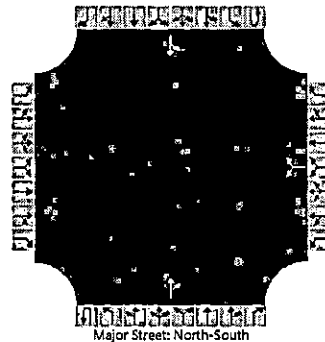
## General Information

|                          |                         |
|--------------------------|-------------------------|
| Analyst                  | RH                      |
| Agency/Co.               | The Traffic Group, Inc  |
| Date Performed           | 7/3/2018                |
| Analysis Year            | 2021                    |
| Time Analyzed            | Background PM Peak Hour |
| Intersection Orientation | North-South             |
| Project Description      | 2013-0901 WAWA          |

## Site Information

|                            |                      |
|----------------------------|----------------------|
| Intersection               | MD 7 & Mohrs Ln      |
| Jurisdiction               | Baltimore County, MD |
| East/West Street           | Mohrs Ln             |
| North/South Street         | MD 7                 |
| Peak Hour Factor           | 0.98                 |
| Analysis Time Period (hrs) | 0.25                 |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |           |   | Northbound |   |     |    | Southbound |   |    |     |
|----------------------------|-----------|----|----|----|-----------|---|-----------|---|------------|---|-----|----|------------|---|----|-----|
| Movement                   | U         | L  | T  | R  | U         | L | T         | R | U          | L | T   | R  | U          | L | T  | R   |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8         | 9 | 1U         | 1 | 2   | 3  | 4U         | 4 | 5  | 6   |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1         | 0 | 0          | 0 | 1   | 0  | 0          | 0 | 1  | 0   |
| Configuration              |           |    |    |    |           |   | LR        |   |            |   |     | TR |            |   | LT |     |
| Volume (veh/h)             |           |    |    |    |           | 1 |           | 4 |            |   | 892 | 0  |            |   | 5  | 844 |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |           | 3 |            |   |     |    |            |   | 3  |     |
| Proportion Time Blocked    |           |    |    |    |           |   |           |   |            |   |     |    |            |   |    |     |
| Percent Grade (%)          |           |    |    |    |           |   | 0         |   |            |   |     |    |            |   |    |     |
| Right Turn Channelized     |           |    |    |    |           |   |           |   |            |   |     |    |            |   |    |     |
| Median Type   Storage      |           |    |    |    |           |   | Undivided |   |            |   |     |    |            |   |    |     |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |  |      |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|--|------|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  |  | 4.1  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  |  | 4.13 |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  |  | 2.2  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  |  | 2.23 |  |

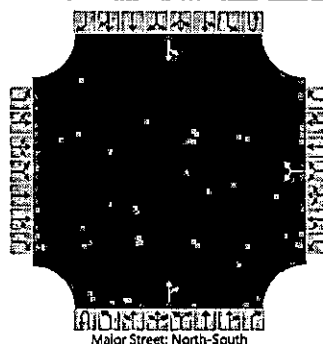
## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |  |      |  |  |  |  |  |  |  |  |      |  |
|-----------------------------------------|--|--|--|--|--|------|--|--|--|--|--|--|--|--|------|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |  | 5    |  |  |  |  |  |  |  |  | 5    |  |
| Capacity, c (veh/h)                     |  |  |  |  |  | 214  |  |  |  |  |  |  |  |  | 744  |  |
| v/c Ratio                               |  |  |  |  |  | 0.02 |  |  |  |  |  |  |  |  | 0.01 |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |  | 0.1  |  |  |  |  |  |  |  |  | 0.0  |  |
| Control Delay (s/veh)                   |  |  |  |  |  | 22.2 |  |  |  |  |  |  |  |  | 9.9  |  |
| Level of Service (LOS)                  |  |  |  |  |  | C    |  |  |  |  |  |  |  |  | A    |  |
| Approach Delay (s/veh)                  |  |  |  |  |  | 22.2 |  |  |  |  |  |  |  |  | 0.2  |  |
| Approach LOS                            |  |  |  |  |  | C    |  |  |  |  |  |  |  |  |      |  |

# HCS/Two-Way Stop Control Report

| General Information      |                        | Site Information           |                      |
|--------------------------|------------------------|----------------------------|----------------------|
| Analyst                  | RH                     | Intersection               | MD 7 & Mohrs Ln      |
| Agency/Co.               | The Traffic Group, Inc | Jurisdiction               | Baltimore County, MD |
| Date Performed           | 7/3/2018               | East/West Street           | Mohrs Ln             |
| Analysis Year            | 2021                   | North/South Street         | MD 7                 |
| Time Analyzed            | Total AM Peak Hour     | Peak Hour Factor           | 0.95                 |
| Intersection Orientation | North-South            | Analysis Time Period (hrs) | 0.25                 |
| Project Description      | 2013-0901 WAWA         |                            |                      |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |    |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|---|----|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |   | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 3 |    | 2 |            |   | 542 | 2  |            | 1  | 653 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    |           | 0 |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      | Undivided |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |      |      |  |  |  |  |  |  |     |      |  |  |
|-----------------------------------------|--|--|--|--|------|------|--|--|--|--|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |      | 5    |  |  |  |  |  |  |     | 1    |  |  |
| Capacity, c (veh/h)                     |  |  |  |  |      | 251  |  |  |  |  |  |  |     | 995  |  |  |
| v/c Ratio                               |  |  |  |  |      | 0.02 |  |  |  |  |  |  |     | 0.00 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |      | 0.1  |  |  |  |  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |  |  |  |  |      | 19.7 |  |  |  |  |  |  |     | 8.6  |  |  |
| Level of Service (LOS)                  |  |  |  |  |      | C    |  |  |  |  |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  |  |  |  |  | 19.7 |      |  |  |  |  |  |  | 0.0 |      |  |  |
| Approach LOS                            |  |  |  |  | C    |      |  |  |  |  |  |  |     |      |  |  |

# HCS7 Two-Way Stop-Control Report

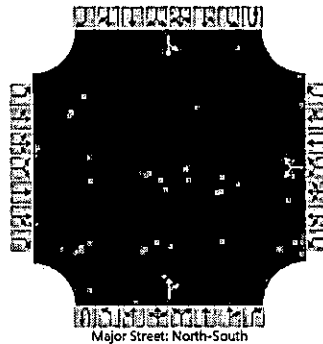
## General Information

|                          |                        |
|--------------------------|------------------------|
| Analyst                  | RH                     |
| Agency/Co.               | The Traffic Group, Inc |
| Date Performed           | 7/3/2018               |
| Analysis Year            | 2021                   |
| Time Analyzed            | Total PM Peak Hour     |
| Intersection Orientation | North-South            |
| Project Description      | 2013-0901 WAWA         |

## Site Information

|                            |                      |
|----------------------------|----------------------|
| Intersection               | MD 7 & Mohrs Ln      |
| Jurisdiction               | Baltimore County, MD |
| East/West Street           | Mohrs Ln             |
| North/South Street         | MD 7                 |
| Peak Hour Factor           | 0.98                 |
| Analysis Time Period (hrs) | 0.25                 |

## Lanes



## Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |    |   | Northbound |   |     |    | Southbound |    |     |   |
|----------------------------|-----------|----|----|----|-----------|---|----|---|------------|---|-----|----|------------|----|-----|---|
| Movement                   | U         | L  | T  | R  | U         | L | T  | R | U          | L | T   | R  | U          | L  | T   | R |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8  | 9 | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6 |
| Number of Lanes            |           | 0  | 0  | 0  |           | 0 | 1  | 0 | 0          | 0 | 1   | 0  | 0          | 0  | 1   | 0 |
| Configuration              |           |    |    |    |           |   | LR |   |            |   |     | TR |            | LT |     |   |
| Volume (veh/h)             |           |    |    |    |           | 1 |    | 4 |            |   | 920 | 0  |            | 5  | 872 |   |
| Percent Heavy Vehicles (%) |           |    |    |    |           | 3 |    | 3 |            |   |     |    |            | 3  |     |   |
| Proportion Time Blocked    |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Percent Grade (%)          |           |    |    |    | 0         |   |    |   |            |   |     |    |            |    |     |   |
| Right Turn Channelized     |           |    |    |    |           |   |    |   |            |   |     |    |            |    |     |   |
| Median Type   Storage      |           |    |    |    | Undivided |   |    |   |            |   |     |    |            |    |     |   |

## Critical and Follow-up Headways

|                              |  |  |  |  |  |      |  |      |  |  |  |  |  |      |  |  |
|------------------------------|--|--|--|--|--|------|--|------|--|--|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  |  |  |  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  |  |  |  |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |
| Base Follow-Up Headway (sec) |  |  |  |  |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  |  |  |  |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |

## Delay, Queue Length, and Level of Service

|                                         |  |  |  |  |      |      |  |  |  |  |  |  |     |      |  |  |
|-----------------------------------------|--|--|--|--|------|------|--|--|--|--|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |  |  |  |  |      | 5    |  |  |  |  |  |  |     | 5    |  |  |
| Capacity, c (veh/h)                     |  |  |  |  |      | 202  |  |  |  |  |  |  |     | 726  |  |  |
| v/c Ratio                               |  |  |  |  |      | 0.03 |  |  |  |  |  |  |     | 0.01 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |  |  |  |  |      | 0.1  |  |  |  |  |  |  |     | 0.0  |  |  |
| Control Delay (s/veh)                   |  |  |  |  |      | 23.3 |  |  |  |  |  |  |     | 10.0 |  |  |
| Level of Service (LOS)                  |  |  |  |  |      | C    |  |  |  |  |  |  |     | A    |  |  |
| Approach Delay (s/veh)                  |  |  |  |  | 23.3 |      |  |  |  |  |  |  | 0.2 |      |  |  |
| Approach LOS                            |  |  |  |  | C    |      |  |  |  |  |  |  |     |      |  |  |

SimTraffic Simulation Summary  
Existing AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Summary of All Intervals

| Run Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 1845 | 1866 | 1885 | 1845 | 1820 | 1778 | 1930 |
| Vehs Exited             | 1852 | 1856 | 1899 | 1857 | 1828 | 1792 | 1943 |
| Starting Vehs           | 36   | 25   | 35   | 41   | 31   | 38   | 38   |
| Ending Vehs             | 29   | 35   | 21   | 29   | 23   | 24   | 25   |
| Travel Distance (mi)    | 767  | 774  | 786  | 770  | 758  | 739  | 798  |
| Travel Time (hr)        | 32.9 | 33.1 | 33.8 | 32.5 | 32.5 | 30.8 | 34.3 |
| Total Delay (hr)        | 9.2  | 9.2  | 9.6  | 8.8  | 9.1  | 8.0  | 9.6  |
| Total Stops             | 835  | 843  | 851  | 819  | 812  | 757  | 855  |
| Fuel Used (gal)         | 30.7 | 30.7 | 31.4 | 30.3 | 30.4 | 29.1 | 31.8 |

Summary of All Intervals

| Run Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 1904 | 1890 | 1804 | 1854 |
| Vehs Exited             | 1908 | 1892 | 1806 | 1863 |
| Starting Vehs           | 37   | 37   | 32   | 35   |
| Ending Vehs             | 33   | 35   | 30   | 29   |
| Travel Distance (mi)    | 795  | 784  | 756  | 773  |
| Travel Time (hr)        | 34.5 | 33.3 | 31.5 | 32.9 |
| Total Delay (hr)        | 10.0 | 9.2  | 8.2  | 9.1  |
| Total Stops             | 881  | 838  | 796  | 828  |
| Fuel Used (gal)         | 31.8 | 31.2 | 29.8 | 30.7 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 7:50 |
| End Time                            | 8:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

SimTraffic Simulation Summary  
Existing AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 1845 | 1866 | 1885 | 1845 | 1820 | 1778 | 1930 |
| Vehs Exited          | 1852 | 1856 | 1899 | 1857 | 1828 | 1792 | 1943 |
| Starting Vehs        | 36   | 25   | 35   | 41   | 31   | 38   | 38   |
| Ending Vehs          | 29   | 35   | 21   | 29   | 23   | 24   | 25   |
| Travel Distance (mi) | 767  | 774  | 786  | 770  | 758  | 739  | 798  |
| Travel Time (hr)     | 32.9 | 33.1 | 33.8 | 32.5 | 32.5 | 30.8 | 34.3 |
| Total Delay (hr)     | 9.2  | 9.2  | 9.6  | 8.8  | 9.1  | 8.0  | 9.6  |
| Total Stops          | 835  | 843  | 851  | 819  | 812  | 757  | 855  |
| Fuel Used (gal)      | 30.7 | 30.7 | 31.4 | 30.3 | 30.4 | 29.1 | 31.8 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 1904 | 1890 | 1804 | 1854 |
| Vehs Exited          | 1908 | 1892 | 1806 | 1863 |
| Starting Vehs        | 37   | 37   | 32   | 35   |
| Ending Vehs          | 33   | 35   | 30   | 29   |
| Travel Distance (mi) | 795  | 784  | 756  | 773  |
| Travel Time (hr)     | 34.5 | 33.3 | 31.5 | 32.9 |
| Total Delay (hr)     | 10.0 | 9.2  | 8.2  | 9.1  |
| Total Stops          | 881  | 838  | 796  | 828  |
| Fuel Used (gal)      | 31.8 | 31.2 | 29.8 | 30.7 |

Queuing and Blocking Report  
Existing AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd.

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | L   | T   | T   |
| Maximum Queue (ft)    | 157 | 141 | 70  | 80  | 31  | 171 | 65  | 71  | 54  | 221 | 96  |
| Average Queue (ft)    | 83  | 46  | 36  | 32  | 11  | 82  | 24  | 23  | 17  | 115 | 7   |
| 95th Queue (ft)       | 136 | 102 | 60  | 69  | 30  | 142 | 56  | 56  | 44  | 191 | 47  |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 |     | 886 | 886 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     | 200 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0   |     |     |     | 1   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0   |     |     |     | 0   |     |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | LT  |
| Maximum Queue (ft)    | 31  | 13  |
| Average Queue (ft)    | 5   | 0   |
| 95th Queue (ft)       | 23  | 9   |
| Link Distance (ft)    | 261 | 621 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Network Summary

|                                 |
|---------------------------------|
| Network-wide Queuing Penalty: 0 |
|---------------------------------|



SimTraffic Simulation Summary  
Existing PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Summary of All Intervals

| Run Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2799 | 2757 | 2800 | 2725 | 2746 | 2791 | 2821 |
| Vehs Exited             | 2800 | 2752 | 2796 | 2759 | 2734 | 2809 | 2827 |
| Starting Vehs           | 61   | 41   | 47   | 86   | 47   | 61   | 72   |
| Ending Vehs             | 60   | 46   | 51   | 52   | 59   | 43   | 66   |
| Travel Distance (mi)    | 1199 | 1181 | 1199 | 1171 | 1171 | 1198 | 1210 |
| Travel Time (hr)        | 55.5 | 53.3 | 55.8 | 54.0 | 54.2 | 56.6 | 57.5 |
| Total Delay (hr)        | 17.9 | 16.2 | 18.3 | 17.4 | 17.4 | 19.0 | 19.6 |
| Total Stops             | 1459 | 1377 | 1437 | 1413 | 1449 | 1467 | 1536 |
| Fuel Used (gal)         | 48.6 | 47.3 | 48.8 | 47.6 | 47.3 | 48.8 | 49.5 |

Summary of All Intervals

| Run Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2874 | 2775 | 2752 | 2784 |
| Vehs Exited             | 2872 | 2789 | 2753 | 2789 |
| Starting Vehs           | 58   | 67   | 42   | 57   |
| Ending Vehs             | 60   | 53   | 41   | 53   |
| Travel Distance (mi)    | 1232 | 1192 | 1175 | 1193 |
| Travel Time (hr)        | 58.2 | 55.9 | 54.9 | 55.6 |
| Total Delay (hr)        | 19.6 | 18.6 | 18.0 | 18.2 |
| Total Stops             | 1580 | 1478 | 1433 | 1464 |
| Fuel Used (gal)         | 50.3 | 48.7 | 47.9 | 48.5 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 4:50 |
| End Time                            | 5:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

SimTraffic Simulation Summary  
Existing PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 2799 | 2757 | 2800 | 2725 | 2746 | 2791 | 2821 |
| Vehs Exited          | 2800 | 2752 | 2796 | 2759 | 2734 | 2809 | 2827 |
| Starting Vehs        | 61   | 41   | 47   | 86   | 47   | 61   | 72   |
| Ending Vehs          | 60   | 46   | 51   | 52   | 59   | 43   | 66   |
| Travel Distance (mi) | 1199 | 1181 | 1199 | 1171 | 1171 | 1198 | 1210 |
| Travel Time (hr)     | 55.5 | 53.3 | 55.8 | 54.0 | 54.2 | 56.6 | 57.5 |
| Total Delay (hr)     | 17.9 | 16.2 | 18.3 | 17.4 | 17.4 | 19.0 | 19.6 |
| Total Stops          | 1459 | 1377 | 1437 | 1413 | 1449 | 1467 | 1536 |
| Fuel Used (gal)      | 48.6 | 47.3 | 48.8 | 47.6 | 47.3 | 48.8 | 49.5 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 2874 | 2775 | 2752 | 2784 |
| Vehs Exited          | 2872 | 2789 | 2753 | 2789 |
| Starting Vehs        | 58   | 67   | 42   | 57   |
| Ending Vehs          | 60   | 53   | 41   | 53   |
| Travel Distance (mi) | 1232 | 1192 | 1175 | 1193 |
| Travel Time (hr)     | 58.2 | 55.9 | 54.9 | 55.6 |
| Total Delay (hr)     | 19.6 | 18.6 | 18.0 | 18.2 |
| Total Stops          | 1580 | 1478 | 1433 | 1464 |
| Fuel Used (gal)      | 50.3 | 48.7 | 47.9 | 48.5 |

Queuing and Blocking Report  
Existing PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | B3  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | T   | L   | T   | T   |
| Maximum Queue (ft)    | 307 | 263 | 120 | 83  | 31  | 281 | 303 | 196 | 51  | 39  | 218 | 103 |
| Average Queue (ft)    | 183 | 144 | 59  | 30  | 8   | 183 | 65  | 54  | 3   | 10  | 128 | 8   |
| 95th Queue (ft)       | 260 | 233 | 100 | 67  | 27  | 273 | 192 | 131 | 35  | 33  | 203 | 56  |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 | 365 |     | 886 | 886 |
| Upstream Blk Time (%) |     |     |     |     |     | 0   | 0   | 0   |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0   | 2   | 0   |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     |     | 200 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 5   | 0   |     |     |     | 1   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 8   | 1   |     |     |     | 0   |     |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | SB  | B3  |
|-----------------------|-----|-----|-----|
| Directions Served     | LR  | LT  | T   |
| Maximum Queue (ft)    | 31  | 68  | 35  |
| Average Queue (ft)    | 5   | 4   | 1   |
| 95th Queue (ft)       | 22  | 34  | 35  |
| Link Distance (ft)    | 265 | 620 | 298 |
| Upstream Blk Time (%) |     |     | 0   |
| Queuing Penalty (veh) |     |     | 0   |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Network Summary

|                                  |
|----------------------------------|
| Network wide Queuing Penalty: 10 |
|----------------------------------|

SimTraffic Simulation Summary  
2021 Background AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Summary of All Intervals

| Run Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2015 | 2027 | 2068 | 2091 | 2041 | 1985 | 2091 |
| Vehs Exited             | 2033 | 2019 | 2075 | 2094 | 2051 | 2011 | 2093 |
| Starting Vehs           | 41   | 22   | 42   | 39   | 38   | 55   | 42   |
| Ending Vehs             | 23   | 30   | 35   | 36   | 28   | 29   | 40   |
| Travel Distance (mi)    | 833  | 841  | 865  | 876  | 843  | 827  | 868  |
| Travel Time (hr)        | 36.1 | 36.5 | 38.5 | 37.6 | 36.2 | 35.5 | 37.5 |
| Total Delay (hr)        | 10.5 | 10.8 | 11.9 | 10.7 | 10.3 | 10.1 | 10.8 |
| Total Stops             | 906  | 948  | 1017 | 944  | 891  | 903  | 964  |
| Fuel Used (gal)         | 33.2 | 33.5 | 35.0 | 34.7 | 33.7 | 32.9 | 34.5 |

Summary of All Intervals

| Run Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2072 | 2067 | 2033 | 2049 |
| Vehs Exited             | 2064 | 2066 | 2027 | 2054 |
| Starting Vehs           | 37   | 44   | 35   | 37   |
| Ending Vehs             | 45   | 45   | 41   | 33   |
| Travel Distance (mi)    | 861  | 852  | 846  | 851  |
| Travel Time (hr)        | 38.0 | 37.2 | 36.9 | 37.0 |
| Total Delay (hr)        | 11.7 | 11.1 | 11.0 | 10.9 |
| Total Stops             | 1012 | 944  | 973  | 952  |
| Fuel Used (gal)         | 34.6 | 34.3 | 34.1 | 34.1 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 7:50 |
| End Time                            | 8:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

SimTraffic Simulation Summary  
2021 Background AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 2015 | 2027 | 2068 | 2091 | 2041 | 1985 | 2091 |
| Vehs Exited          | 2033 | 2019 | 2075 | 2094 | 2051 | 2011 | 2093 |
| Starting Vehs        | 41   | 22   | 42   | 39   | 38   | 55   | 42   |
| Ending Vehs          | 23   | 30   | 35   | 36   | 28   | 29   | 40   |
| Travel Distance (mi) | 833  | 841  | 865  | 876  | 843  | 827  | 868  |
| Travel Time (hr)     | 36.1 | 36.5 | 38.5 | 37.6 | 36.2 | 35.5 | 37.5 |
| Total Delay (hr)     | 10.5 | 10.8 | 11.9 | 10.7 | 10.3 | 10.1 | 10.8 |
| Total Stops          | 906  | 948  | 1017 | 944  | 891  | 903  | 964  |
| Fuel Used (gal)      | 33.2 | 33.5 | 35.0 | 34.7 | 33.7 | 32.9 | 34.5 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 2072 | 2067 | 2033 | 2049 |
| Vehs Exited          | 2064 | 2066 | 2027 | 2054 |
| Starting Vehs        | 37   | 44   | 35   | 37   |
| Ending Vehs          | 45   | 45   | 41   | 33   |
| Travel Distance (mi) | 861  | 852  | 846  | 851  |
| Travel Time (hr)     | 38.0 | 37.2 | 36.9 | 37.0 |
| Total Delay (hr)     | 11.7 | 11.1 | 11.0 | 10.9 |
| Total Stops          | 1012 | 944  | 973  | 952  |
| Fuel Used (gal)      | 34.6 | 34.3 | 34.1 | 34.1 |

Queuing and Blocking Report  
2021 Background AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | L   | T   | T   |
| Maximum Queue (ft)    | 160 | 141 | 77  | 100 | 31  | 183 | 98  | 90  | 58  | 262 | 206 |
| Average Queue (ft)    | 93  | 52  | 38  | 34  | 10  | 90  | 35  | 31  | 18  | 139 | 14  |
| 95th Queue (ft)       | 146 | 108 | 64  | 78  | 30  | 154 | 76  | 71  | 47  | 231 | 90  |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 |     | 886 | 886 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     | 200 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0   |     |     | 2   |     | 0   |
| Queuing Penalty (veh) |     |     |     |     |     | 0   |     |     | 1   |     | 0   |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | LT  |
| Maximum Queue (ft)    | 31  | 5   |
| Average Queue (ft)    | 5   | 0   |
| 95th Queue (ft)       | 24  | 5   |
| Link Distance (ft)    | 261 | 621 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Network Summary

|                                 |
|---------------------------------|
| Network-wide Queuing Penalty: 1 |
|---------------------------------|



### Summary of All Intervals

| Run Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 3118 | 3015 | 3114 | 3056 | 2956 | 2981 | 2932 |
| Vehs Exited             | 3104 | 3025 | 3100 | 3051 | 2948 | 2978 | 2939 |
| Starting Vehs           | 64   | 69   | 57   | 54   | 67   | 54   | 73   |
| Ending Vehs             | 78   | 59   | 71   | 59   | 75   | 57   | 66   |
| Travel Distance (mi)    | 1387 | 1339 | 1385 | 1354 | 1310 | 1321 | 1298 |
| Travel Time (hr)        | 69.8 | 65.1 | 75.0 | 64.9 | 64.1 | 62.5 | 63.1 |
| Total Delay (hr)        | 26.5 | 23.2 | 31.6 | 22.6 | 23.2 | 21.1 | 22.6 |
| Total Stops             | 1878 | 1718 | 2084 | 1689 | 1711 | 1620 | 1649 |
| Fuel Used (gal)         | 57.2 | 54.2 | 58.4 | 54.7 | 53.5 | 53.0 | 53.1 |

### Summary of All Intervals

| Run Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 3088 | 3050 | 3102 | 3041 |
| Vehs Exited             | 3083 | 3062 | 3096 | 3038 |
| Starting Vehs           | 62   | 63   | 69   | 61   |
| Ending Vehs             | 67   | 51   | 75   | 64   |
| Travel Distance (mi)    | 1373 | 1354 | 1379 | 1350 |
| Travel Time (hr)        | 65.7 | 66.4 | 69.5 | 66.6 |
| Total Delay (hr)        | 22.8 | 24.0 | 26.3 | 24.4 |
| Total Stops             | 1694 | 1805 | 1871 | 1771 |
| Fuel Used (gal)         | 55.8 | 55.4 | 56.7 | 55.2 |

### Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 4:50 |
| End Time                            | 5:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 3118 | 3015 | 3114 | 3056 | 2956 | 2981 | 2932 |
| Vehs Exited          | 3104 | 3025 | 3100 | 3051 | 2948 | 2978 | 2939 |
| Starting Vehs        | 64   | 69   | 57   | 54   | 67   | 54   | 73   |
| Ending Vehs          | 78   | 59   | 71   | 59   | 75   | 57   | 66   |
| Travel Distance (mi) | 1387 | 1339 | 1386 | 1354 | 1310 | 1321 | 1298 |
| Travel Time (hr)     | 69.8 | 65.1 | 75.0 | 64.9 | 64.1 | 62.5 | 63.1 |
| Total Delay (hr)     | 26.5 | 23.2 | 31.6 | 22.6 | 23.2 | 21.1 | 22.6 |
| Total Stops          | 1878 | 1718 | 2084 | 1689 | 1711 | 1620 | 1649 |
| Fuel Used (gal)      | 57.2 | 54.2 | 58.4 | 54.7 | 53.5 | 53.0 | 53.1 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 3088 | 3050 | 3102 | 3041 |
| Vehs Exited          | 3083 | 3062 | 3096 | 3038 |
| Starting Vehs        | 62   | 63   | 69   | 61   |
| Ending Vehs          | 67   | 51   | 75   | 64   |
| Travel Distance (mi) | 1373 | 1354 | 1379 | 1350 |
| Travel Time (hr)     | 65.7 | 66.4 | 69.5 | 66.6 |
| Total Delay (hr)     | 22.8 | 24.0 | 26.3 | 24.4 |
| Total Stops          | 1694 | 1805 | 1871 | 1771 |
| Fuel Used (gal)      | 55.8 | 55.4 | 56.7 | 55.2 |

Queuing and Blocking Report  
2021 Background PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | B3  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | T   | L   | T   | T   |
| Maximum Queue (ft)    | 320 | 275 | 146 | 84  | 29  | 293 | 361 | 285 | 124 | 112 | 344 | 310 |
| Average Queue (ft)    | 211 | 171 | 67  | 35  | 8   | 212 | 118 | 77  | 10  | 12  | 183 | 50  |
| 95th Queue (ft)       | 296 | 253 | 115 | 74  | 26  | 306 | 307 | 193 | 81  | 67  | 312 | 228 |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 | 365 |     | 886 | 886 |
| Upstream Blk Time (%) |     |     |     |     |     | 2   | 2   | 0   |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0   | 8   | 0   |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     | 200 |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 12  | 1   |     |     |     | 13  | 0   |
| Queuing Penalty (veh) |     |     |     |     |     | 20  | 4   |     |     |     | 2   | 2   |

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 97  |
| Average Queue (ft)    | 5   |
| 95th Queue (ft)       | 73  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 250 |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | SB  | B3  | B3  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LR  | LT  | T   |     |
| Maximum Queue (ft)    | 31  | 91  | 164 | 70  |
| Average Queue (ft)    | 4   | 6   | 7   | 3   |
| 95th Queue (ft)       | 20  | 45  | 85  | 59  |
| Link Distance (ft)    | 255 | 621 | 298 | 298 |
| Upstream Blk Time (%) |     |     | 0   | 0   |
| Queuing Penalty (veh) |     |     | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Network Summary

|                                  |
|----------------------------------|
| Network wide Queuing Penalty: 37 |
|----------------------------------|

SimTraffic Simulation Summary  
2021 Total AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Summary of All Intervals

| Run Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2297 | 2362 | 2295 | 2274 | 2318 | 2286 | 2355 |
| Vehs Exited             | 2285 | 2380 | 2312 | 2263 | 2306 | 2277 | 2337 |
| Starting Vehs           | 37   | 44   | 52   | 39   | 37   | 52   | 40   |
| Ending Vehs             | 49   | 26   | 35   | 50   | 49   | 61   | 58   |
| Travel Distance (mi)    | 919  | 945  | 917  | 914  | 930  | 911  | 935  |
| Travel Time (hr)        | 44.2 | 44.8 | 44.5 | 43.7 | 45.3 | 43.0 | 44.8 |
| Total Delay (hr)        | 16.0 | 15.7 | 16.4 | 15.8 | 16.8 | 15.0 | 16.0 |
| Total Stops             | 1245 | 1232 | 1233 | 1250 | 1320 | 1207 | 1282 |
| Fuel Used (gal)         | 38.2 | 38.9 | 38.3 | 38.0 | 38.7 | 37.6 | 38.7 |

Summary of All Intervals

| Run Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 7:50 | 7:50 | 7:50 | 7:50 |
| End Time                | 9:00 | 9:00 | 9:00 | 9:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2294 | 2309 | 2387 | 2317 |
| Vehs Exited             | 2297 | 2300 | 2392 | 2316 |
| Starting Vehs           | 38   | 35   | 47   | 42   |
| Ending Vehs             | 35   | 44   | 42   | 44   |
| Travel Distance (mi)    | 919  | 913  | 960  | 926  |
| Travel Time (hr)        | 43.8 | 43.3 | 47.1 | 44.5 |
| Total Delay (hr)        | 15.5 | 15.3 | 17.6 | 16.0 |
| Total Stops             | 1211 | 1237 | 1320 | 1253 |
| Fuel Used (gal)         | 38.1 | 37.9 | 40.0 | 38.4 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 7:50 |
| End Time                            | 8:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 2297 | 2362 | 2295 | 2274 | 2318 | 2286 | 2355 |
| Vehs Exited          | 2285 | 2380 | 2312 | 2263 | 2306 | 2277 | 2337 |
| Starting Vehs        | 37   | 44   | 52   | 39   | 37   | 52   | 40   |
| Ending Vehs          | 49   | 26   | 35   | 50   | 49   | 61   | 58   |
| Travel Distance (mi) | 919  | 945  | 917  | 914  | 930  | 911  | 935  |
| Travel Time (hr)     | 44.2 | 44.8 | 44.5 | 43.7 | 45.3 | 43.0 | 44.8 |
| Total Delay (hr)     | 16.0 | 15.7 | 16.4 | 15.8 | 16.8 | 15.0 | 16.0 |
| Total Stops          | 1245 | 1232 | 1233 | 1250 | 1320 | 1207 | 1282 |
| Fuel Used (gal)      | 38.2 | 38.9 | 38.3 | 38.0 | 38.7 | 37.6 | 38.7 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 8:00 |
| End Time         | 9:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 2294 | 2309 | 2387 | 2317 |
| Vehs Exited          | 2297 | 2300 | 2392 | 2316 |
| Starting Vehs        | 38   | 35   | 47   | 42   |
| Ending Vehs          | 35   | 44   | 42   | 44   |
| Travel Distance (mi) | 919  | 913  | 960  | 926  |
| Travel Time (hr)     | 43.8 | 43.3 | 47.1 | 44.5 |
| Total Delay (hr)     | 15.5 | 15.3 | 17.6 | 16.0 |
| Total Stops          | 1211 | 1237 | 1320 | 1253 |
| Fuel Used (gal)      | 38.1 | 37.9 | 40.0 | 38.4 |

Queuing and Blocking Report  
2021 Total AM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | L   | T   | T   |
| Maximum Queue (ft)    | 189 | 166 | 81  | 225 | 68  | 193 | 112 | 110 | 165 | 324 | 247 |
| Average Queue (ft)    | 104 | 78  | 37  | 110 | 27  | 100 | 48  | 44  | 48  | 174 | 26  |
| 95th Queue (ft)       | 162 | 144 | 64  | 190 | 52  | 169 | 92  | 89  | 118 | 285 | 141 |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 |     | 886 | 886 |
| Upstream Blk Time (%) |     |     |     | 0   |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     | 0   |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     | 200 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0   |     |     | 7   |     | 0   |
| Queuing Penalty (veh) |     |     |     |     |     | 0   |     |     | 7   |     | 0   |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | B3  |
|-----------------------|-----|-----|
| Directions Served     | LR  | T   |
| Maximum Queue (ft)    | 31  | 31  |
| Average Queue (ft)    | 4   | 1   |
| 95th Queue (ft)       | 20  | 31  |
| Link Distance (ft)    | 261 | 298 |
| Upstream Blk Time (%) |     | 0   |
| Queuing Penalty (veh) |     | 0   |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Network Summary

|                                 |
|---------------------------------|
| Network-wide Queuing Penalty: 8 |
|---------------------------------|



SimTraffic Simulation Summary  
2021 Total PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Summary of All Intervals

| Run/Number              | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 3216 | 3292 | 3316 | 3303 | 3204 | 3170 | 3227 |
| Vehs Exited             | 3215 | 3284 | 3324 | 3324 | 3199 | 3170 | 3196 |
| Starting Vehs           | 75   | 55   | 92   | 79   | 64   | 68   | 63   |
| Ending Vehs             | 76   | 63   | 84   | 58   | 69   | 68   | 94   |
| Travel Distance (mi)    | 1311 | 1335 | 1362 | 1359 | 1305 | 1304 | 1319 |
| Travel Time (hr)        | 71.1 | 75.1 | 76.7 | 76.0 | 69.3 | 67.5 | 69.3 |
| Total Delay (hr)        | 30.2 | 33.5 | 34.3 | 33.7 | 28.5 | 26.8 | 28.2 |
| Total Stops             | 2099 | 2167 | 2271 | 2265 | 2024 | 1918 | 2043 |
| Fuel Used (gal)         | 56.3 | 58.3 | 59.2 | 58.6 | 55.8 | 55.1 | 55.6 |

Summary of All Intervals

| Run/Number              | 7    | 8    | 9    | Avg  |
|-------------------------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    |
| Vehs Entered            | 3239 | 3188 | 3219 | 3237 |
| Vehs Exited             | 3242 | 3206 | 3225 | 3238 |
| Starting Vehs           | 78   | 69   | 62   | 71   |
| Ending Vehs             | 75   | 51   | 56   | 69   |
| Travel Distance (mi)    | 1332 | 1308 | 1319 | 1325 |
| Travel Time (hr)        | 71.4 | 71.5 | 70.5 | 71.8 |
| Total Delay (hr)        | 29.9 | 30.8 | 29.4 | 30.5 |
| Total Stops             | 2025 | 2075 | 2059 | 2093 |
| Fuel Used (gal)         | 56.8 | 56.2 | 56.4 | 56.8 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 4:50 |
| End Time                            | 5:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

SimTraffic Simulation Summary  
2021 Total PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 1    | 10   | 2    | 3    | 4    | 5    | 6    |
|----------------------|------|------|------|------|------|------|------|
| Vehs Entered         | 3216 | 3292 | 3316 | 3303 | 3204 | 3170 | 3227 |
| Vehs Exited          | 3215 | 3284 | 3324 | 3324 | 3199 | 3170 | 3196 |
| Starting Vehs        | 75   | 55   | 92   | 79   | 64   | 68   | 63   |
| Ending Vehs          | 76   | 63   | 84   | 58   | 69   | 68   | 94   |
| Travel Distance (mi) | 1311 | 1335 | 1362 | 1359 | 1305 | 1304 | 1319 |
| Travel Time (hr)     | 71.1 | 75.1 | 76.7 | 76.0 | 69.3 | 67.5 | 69.3 |
| Total Delay (hr)     | 30.2 | 33.5 | 34.3 | 33.7 | 28.5 | 26.8 | 28.2 |
| Total Stops          | 2099 | 2167 | 2271 | 2265 | 2024 | 1918 | 2043 |
| Fuel Used (gal)      | 56.3 | 58.3 | 59.2 | 58.6 | 55.8 | 55.1 | 55.6 |

Interval #1 Information Recording

|                  |      |
|------------------|------|
| Start Time       | 5:00 |
| End Time         | 6:00 |
| Total Time (min) | 60   |

Volumes adjusted by Growth Factors.

| Run/Number           | 7    | 8    | 9    | Avg  |
|----------------------|------|------|------|------|
| Vehs Entered         | 3239 | 3188 | 3219 | 3237 |
| Vehs Exited          | 3242 | 3206 | 3225 | 3238 |
| Starting Vehs        | 78   | 69   | 62   | 71   |
| Ending Vehs          | 75   | 51   | 56   | 69   |
| Travel Distance (mi) | 1332 | 1308 | 1319 | 1325 |
| Travel Time (hr)     | 71.4 | 71.5 | 70.5 | 71.8 |
| Total Delay (hr)     | 29.9 | 30.8 | 29.4 | 30.5 |
| Total Stops          | 2025 | 2075 | 2059 | 2093 |
| Fuel Used (gal)      | 56.8 | 56.2 | 56.4 | 56.8 |

Queuing and Blocking Report  
2021 Total PM

SimTraffic Report  
Wawa Store - MD 7 @ Campbell Blvd

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | B3  | B8  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | R   | LT  | R   | L   | T   | TR  | T   | T   | L   | T   |
| Maximum Queue (ft)    | 397 | 373 | 209 | 223 | 64  | 294 | 369 | 284 | 231 | 9   | 237 | 358 |
| Average Queue (ft)    | 247 | 215 | 74  | 104 | 25  | 221 | 151 | 93  | 21  | 0   | 52  | 187 |
| 95th Queue (ft)       | 360 | 334 | 164 | 181 | 52  | 316 | 349 | 204 | 140 | 7   | 147 | 305 |
| Link Distance (ft)    | 835 | 835 |     | 237 | 237 |     | 298 | 298 | 365 | 621 |     | 886 |
| Upstream Blk Time (%) |     |     |     | 0   |     | 2   | 3   | 0   | 0   |     |     |     |
| Queuing Penalty (veh) |     |     |     | 0   |     | 0   | 14  | 0   | 2   |     |     |     |
| Storage Bay Dist (ft) |     |     | 350 |     |     | 220 |     |     |     |     | 200 |     |
| Storage Blk Time (%)  |     | 1   |     |     |     | 15  | 2   |     |     |     |     | 13  |
| Queuing Penalty (veh) |     | 3   |     |     |     | 25  | 8   |     |     |     |     | 9   |

Intersection: 1: MD 7 & Campbell Blvd

| Movement              | SB  | SB |
|-----------------------|-----|----|
| Directions Served     | T   | R  |
| Maximum Queue (ft)    | 268 | 63 |
| Average Queue (ft)    | 41  | 2  |
| 95th Queue (ft)       | 181 | 44 |
| Link Distance (ft)    | 886 |    |
| Upstream Blk Time (%) |     |    |
| Queuing Penalty (veh) |     |    |
| Storage Bay Dist (ft) | 250 |    |
| Storage Blk Time (%)  | 0   |    |
| Queuing Penalty (veh) | 1   |    |

Intersection: 9: MD 7 & Mohrs Ln

| Movement              | WB  | SB  | B3  | B3  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LR  | LT  | T   |     |
| Maximum Queue (ft)    | 35  | 117 | 32  | 35  |
| Average Queue (ft)    | 6   | 10  | 2   | 1   |
| 95th Queue (ft)       | 26  | 63  | 43  | 34  |
| Link Distance (ft)    | 261 | 621 | 298 | 298 |
| Upstream Blk Time (%) |     |     | 0   | 0   |
| Queuing Penalty (veh) |     |     | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Network Summary

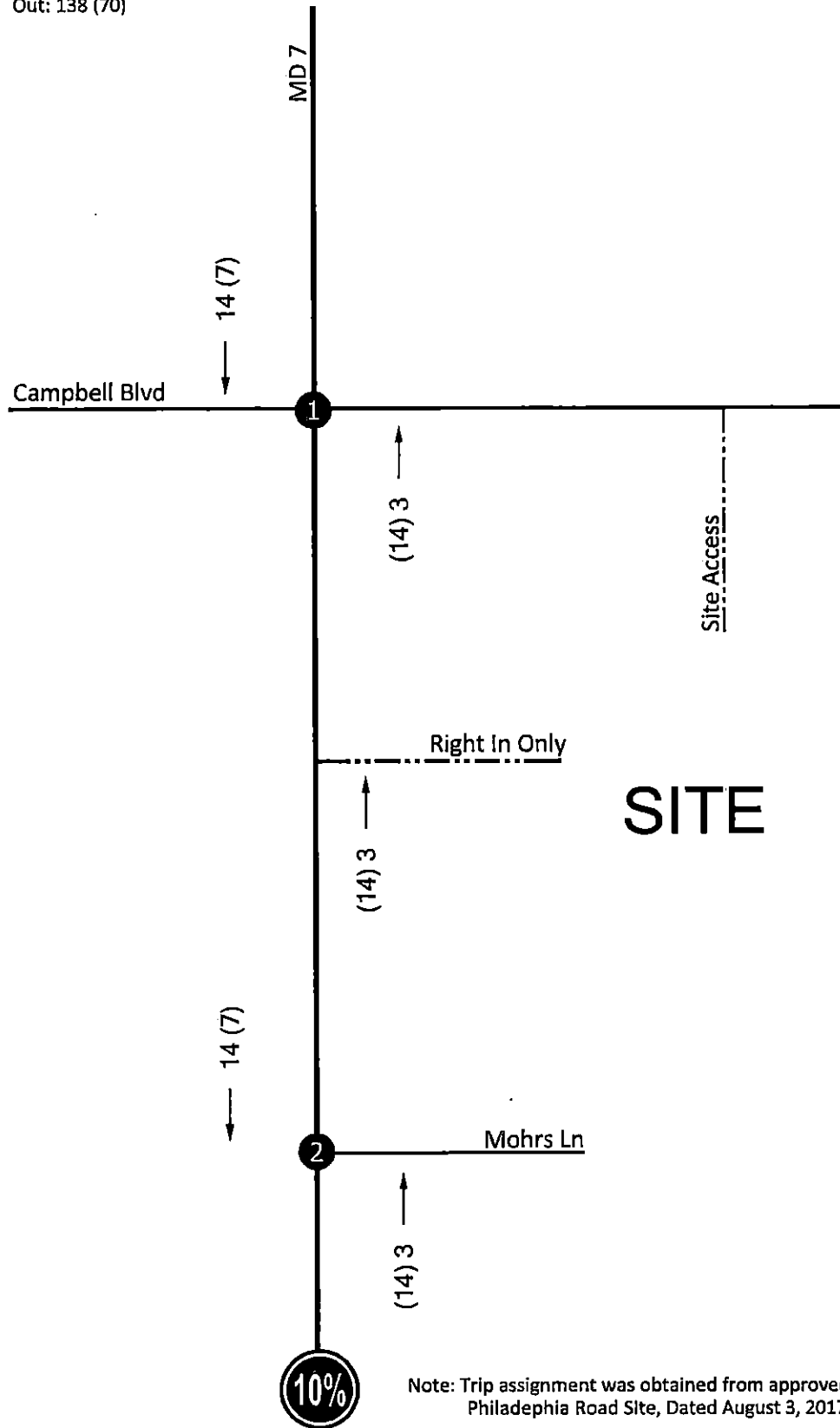
|                                  |
|----------------------------------|
| Network-wide Queuing Penalty: 63 |
|----------------------------------|

## APPENDIX C

### Trip Assignment for Background Developments



#1 & #2  
In: 33 (136)  
Out: 138 (70)

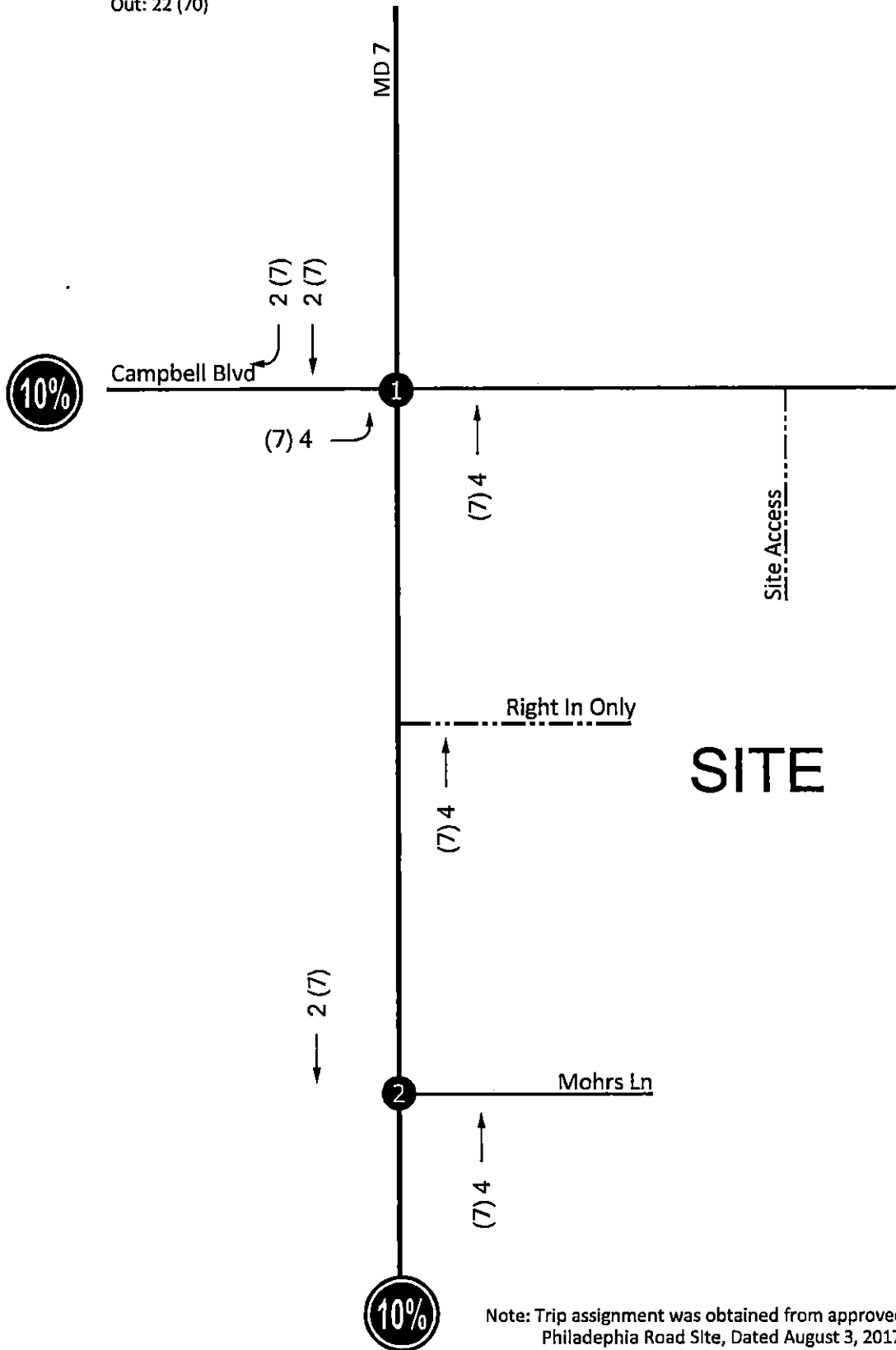


NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT C-1  
TRIP ASSIGNMENT FOR  
DEVELOPMENTS #1 & #2  
RESIDENTIAL TRIPS

#2  
In: 36 (65)  
Out: 22 (70)



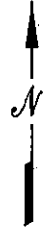
NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT C-2  
TRIP ASSIGNMENT FOR  
DEVELOPMENT #2  
RETAIL TRIPS



#3  
IN: 262 (204)  
OUT: 192 (202)



Campbell Blvd

MD 7

19 (20)  
29 (30)  
(20) 26

1

(31) 39

Site Access

Right In Only

SITE

(18) 19

13 (20)

2

Mohrs Ln

(18) 19



Note: Trip assignment was obtained from approved TIS for Philadelphia Road Site, Dated August 3, 2017.



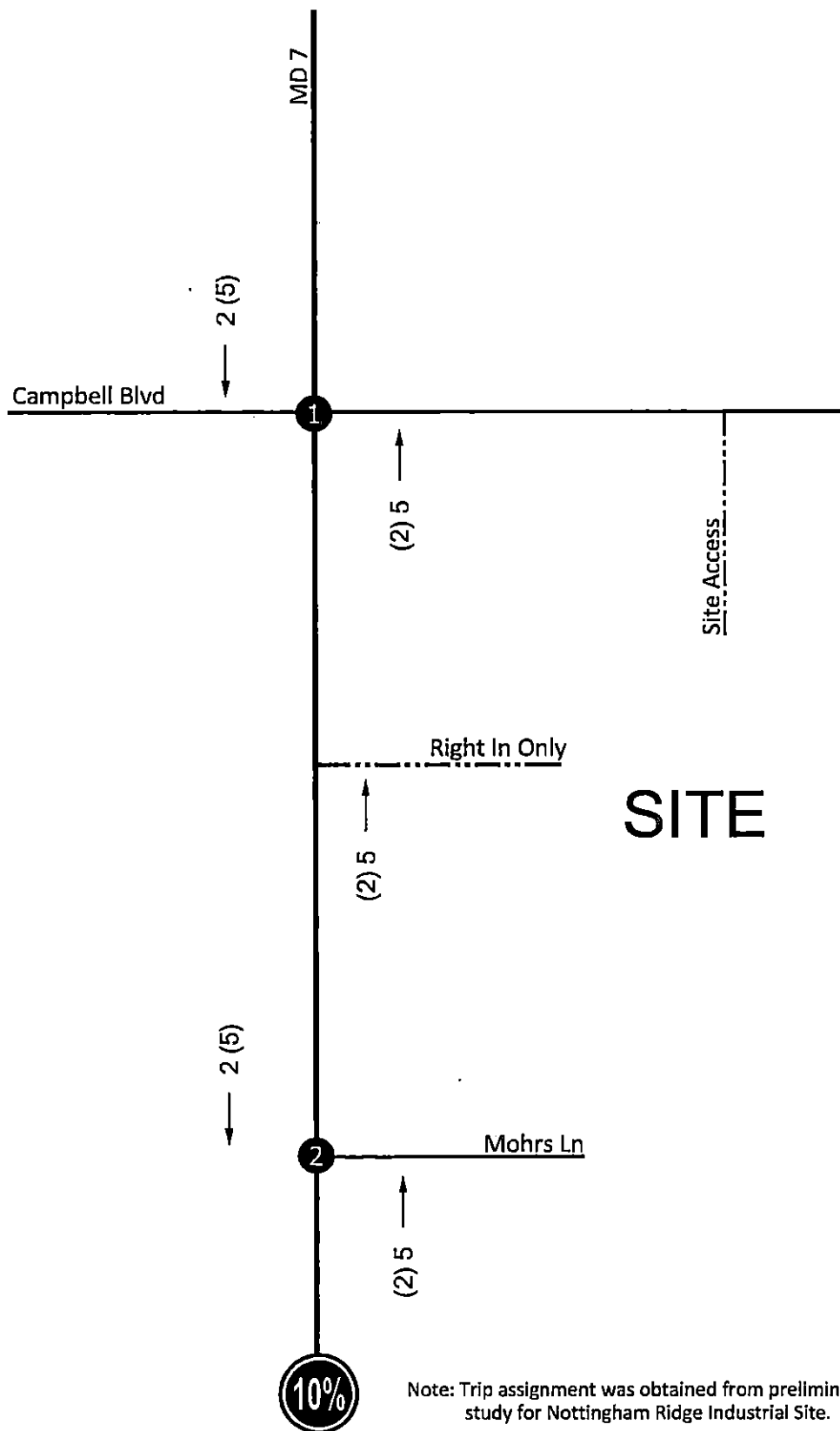
NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT C-3  
TRIP ASSIGNMENT FOR  
DEVELOPMENT #3



IN: 45 (22)  
OUT: 20 (48)



Note: Trip assignment was obtained from preliminary traffic study for Nottingham Ridge Industrial Site.



NOT TO SCALE

00 - MORNING PEAK HOUR  
(00) - EVENING PEAK HOUR

EXHIBIT C-4  
TRIP ASSIGNMENT FOR  
DEVELOPMENT #4

## APPENDIX D

### Access Concept Plan





**MDOT**  
MARYLAND DEPARTMENT  
OF TRANSPORTATION  
STATE HIGHWAY  
ADMINISTRATION

Larry Hogan  
Governor  
Boyd K. Rutherford  
Lt. Governor  
Pete K. Rahn  
Secretary  
Gregory Slater  
Administrator

December 21, 2018

Carl R. Wilson, Jr., P.E. PTOE  
The Traffic Group  
9900 Franklin Square Drive, Suite H  
Baltimore MD 21236

Dear Mr. Wilson:

Thank you for the opportunity to review the Traffic Impact Study (TIS) for WaWa. The Maryland Department of Transportation State Highway Administration (MDOT SHA) has completed our review of the submittal listed below and comments are attached.

WaWa Store - MD 7 (Philadelphia Road) at Campbell Boulevard  
MDOT SHA Tracking No. 13APBA038XX  
Traffic Impact Study Dated November 9, 2018  
Mile Point 5.71; Baltimore County

Based on the information provided in the traffic study analysis, MDOT SHA will accept the analysis and will not require the submission of any additional reports. MDOT SHA concurs with the proposed signal modification to include crosswalks, count downs, and APS across the east leg of MD 7 and the south leg of Campbell Boulevard. Also, we will be permitting a right-in only entrance on MD 7. MDOT SHA does not support the recommendation to provide an eastbound MD 7 double left turn lane by reconfiguring and shifting the existing westbound through lane. These improvements are not in line with long range plans for MD 7 in connection with the Mohr's Lane County project between MD 7 and US 40. However, for a future dedicated westbound MD 7 double left turn lane, the developer will grant and dedicate right-of-way along the south side of MD 7 beginning 15 feet behind the new curb and gutter at Campbell Boulevard to beginning and end of the property frontage adjacent to MD 7. An access permit will be required for all construction within MDOT SHA right-of-way.

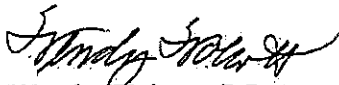
To initiate the plan review cycle toward the issuance of the access permit the design engineer must submit nine sets of plans reflecting the required improvements as noted above. The plan submittal should include one set of hydraulic computations and a CD containing plans. Please submit all supporting documentation to Mr. Rich Zeller at 320 West Warren Road, Hunt Valley MD 21030. Please utilize the MDOT SHA tracking number when making this submission.

Mr. Carl R. Wilson, Jr.  
Page Two

Please note, if this project has not obtained an MDOT SHA access permit and begun construction of the required improvements within five years of this approval, extension of the permit shall be subject to the submission of an updated traffic impact analysis in order for MDOT SHA to determine whether the proposed improvements remain valid or if additional improvements will be required of the development.

If you have any questions, or require additional information, please contact Mr. Zeller at 410-229-2332 or via email at [rzeller@sha.state.md.us](mailto:rzeller@sha.state.md.us).

Sincerely,



Wendy Wolcott, P.L.A.  
Metropolitan District Engineer  
MDOT State Highway Administration  
District 4 - Baltimore and Harford Counties

Attachment

Mr. Carl R. Wilson  
Page Three

cc: Mr. Jan M. Cook, Development Plans Review, Baltimore County  
Mr. Vishnu Desai, Development Plans Review, Baltimore County  
Ms. Rola Daher, Consultant for MDOT, TFAD, MDOT SHA  
Mr. Donald C. Distance, Team Leader for Traffic, District Four, MDOT SHA  
Ms. Sarah Gary, Consultant for MDOT, TFAD, MDOT SHA  
Ms. Erin Kuhn, Assistant District Engineer for Traffic, District Four, MDOT SHA  
Ms. Tina Saxon, Administrative Assistant, OPPE RIPD, MDOT SHA  
Ms. Lisa Shemer, Division Chief, OPPE, TFAD, MDOT SHA  
Ms. Lisa Sirota, Regional Planner, RIPD, MDOT SHA  
Mr. Oscar Yen, Transportation Engineer, OOTS, MDOT SHA  
Mr. Rich Zeller, Transportation Engineer, District Four Access Management, MDOT  
SHA  
file/DCD/BG23259



WaWa Store - MD 7 (Philadelphia Road) at Campbell Boulevard  
MDOT SHA Tracking No. 13APBA038XX  
Traffic Impact Study Dated November 9, 2018  
Mile Point 5.71; Baltimore County

The Traffic Impact Study for the WaWa Store report findings and MDOT SHA comments and conclusions:

- The proposed construction site for the WaWa Store includes 4,737 gross square foot (gsf) convenience store with 12 fuel dispensers.
- The study analyzed the following intersections under existing, background, and future conditions:
  - MD 7 (Philadelphia Road) and Cowenton North
  - MD 7 (Philadelphia Road) and Cowenton South
  - MD 7 (Philadelphia Road) and Commercial Site
  - MD 7 (Philadelphia Road) and Nottingham Ridge Industrial Site

The result of the traffic impact study shows that all intersections are projected to operate at levels of services "C" or better under existing, background, and total traffic conditions.

MDOT SHA comments and conclusions:

- MDOT SHA will accept the analysis and will not require the submission of any additional reports. MDOT SHA concurs with the proposed signal modification to include crosswalks, count downs and APS across the east leg of MD 7 and the south leg of Campbell Boulevard. Also, we will be permitting a right-in only entrance on MD 7. The developer's consultant needs to submit a preliminary design request to initiate the OOTS review and approval process.
- MDOT SHA does not support the recommendation to provide an eastbound MD 7 double left turn lane by reconfiguring and shifting the existing westbound through lane. These improvements are not in line with long range plans for MD 7 in connection with the Mohr's Lane County project between MD 7 and US 40. However, for a future dedicated westbound MD 7 double left turn lane, the developer will grant and dedicate right-of-way along the south side of MD 7 beginning 15 feet behind the new curb and gutter at Campbell Boulevard to beginning and end of the property frontage adjacent to MD 7.
- MDOT SHA has a concern that the westbound MD 7 left turn lane will not be able to accommodate future traffic and the existing left turn lane should be increased an additional 100 feet.

All MDOT SHA Policies, Standards, and Specifications must be followed when preparing the access permit plans for review, including, but not limited to the following documents:

- MDOT SHA Access Manual
- MDOT SHA Business Standards and Specifications
- MDOT SHA Accessibility Policy and Guidelines for Pedestrian Facilities
- MDOT SHA Bicycle Policy and Design Guidelines

The Access Management Plan Review Checklist must also be utilized in drafting the MDOT SHA improvement plans. Please include a copy of the completed checklist with each submittal. All of these documents along with additional guidance can be found on our web site at [www.roads.maryland.gov](http://www.roads.maryland.gov) under Business Center.

## **EDWARD M. STEERE, AICP**

11100 Dovedale Court • Marriottsville, Maryland 21104  
443-333-5521 • ESteere@Valbridge.com

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Land Use Planning • Real Estate Development • Project Management • Market Analysis  
Client Relations • Business Development • Relationship Development • Operational Enhancements  
Financial Management • Due Diligence • Appraisal • Budgeting • Social Media Marketing

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### **PROFESSIONAL EXPERIENCE**

#### **VALBRIDGE PROPERTY ADVISORS | BALTIMORE WASHINGTON METRO, Marriottsville, Maryland • 2017-Present**

A national real estate advisory consulting firm, with a strong emphasis on commercial and special property valuation, as well as real estate advisory and strategy services.

##### **Managing Director**

I am the regional lead on all non-appraisal products and services, including site feasibility, market analysis, impact on value assessments, zoning, real estate economics, tax increment financing, special exception expert testimony, and housing studies.

- Consult directly to financial institutions in support of proposed development projects and production of HUD studies.
- Consult and collaborate with affordable housing developers with market analysis and product positioning.
- Consult directly to property owners and developers to manage land use and zoning matters.
- Consult to the legal community for expert witness testimony.
- Collaborate with other consultants to create a comprehensive development team, in addition to analysis and reporting for real estate development projects.
- Coordinate national clients and study parameters.

#### **LIPMAN, FRIZZELL & MITCHELL, LLC, Columbia, Maryland • 2016-2017**

A 40-year old real estate valuation and advisory firm serving the Baltimore-Washington regional market.

##### **Senior Associate**

I was responsible for all of the planning and analysis projects in the mid-Atlantic area, as the principal and producer of a variety of products. Those products include market analysis, site and market feasibility, impact on value studies, expert testimony in zoning and real estate economics, community strategy, tax increment financing studies, and workforce studies.

- Analyze and produce market studies for tax credit financing in Maryland, Pennsylvania and Washington, DC.
- Consult directly to financial institutions in support of proposed development projects (both affordable and market rate) and production of HUD studies.
- Consult directly to property owners and developers to manage land use and zoning matters.
- Consult to the legal community for expert witness testimony.
- Collaborate with other consultants to create a comprehensive development team, in addition to analysis and reporting for real estate development projects.

**PETITIONER' S**

**EXHIBIT NO.**

9

**EMSPLANNING, LLC, Aberdeen, Maryland • 2011-2015**

A local independent planning consulting practice, focused on providing affordable planning, development and expert solutions to property owners and investors, as well as subcontracting and partnerships with other consulting interests.

**Principal**

A sole proprietor format business, wherein I was the principal, project manager, and sometimes producer, of services for clients seeking real estate development solutions. Creating collaborations and partnerships of peer professionals to accomplish tasks and projects.

- Consult directly to property owners and developers to manage land use and zoning matters.
- Consult to the legal community for expert witness testimony.
- Collaborate with other consultants to create a comprehensive development team, in addition to analysis and reporting for real estate development projects.

**HUMMINGBIRD MANOR, LLC, Aberdeen, Maryland • 2008-Present**

Purchased and restored a historic National Register Victorian house into a 15-bed affordable assisted living facility in partnership with my spouse.

**Member, Chief Financial Officer**

Act as business manager and facilities manager, maintaining the grounds and performing incidental repairs. Employ 8 certified medical staff providing care 24/7, and manage outside contractors. Coordinate payroll and accounting as CFO. Conduct extensive community networking and outreach, and design and administer website and blog.

- Created comprehensive business plan winning financing for project converting a historic house into an assisted living facility, and achieved profitability in a down market.
- Designed effective marketing efforts using social media, sustaining venture during lengthy state licensing process.

**REAL PROPERTY RESEARCH GROUP, INC, Columbia, Maryland • 2013-2014**

A national real estate market research firm, providing developers, lenders, investors, non-profits and state and local governments with detailed market research, feasibility and analysis.

**Analyst**

Focused on multifamily residential projects, work tasks involve the analysis of market area, demographics, economics and communities to derive supply and demand, affordability, penetration and absorption.

- Manage associates research tasks, compile and analyze data, coordinate with local stakeholders.
- Draft and publish comprehensive reports for submission to lenders, HUD and state governments for support of developer financial applications.

**FREDERICK WARD ASSOCIATES, Bel Air, Maryland • 2005-2011**

Integrated, multidisciplinary firm providing comprehensive planning, engineering, architecture and surveying services throughout the Mid-Atlantic Region for over 50 years.

**Director of Business Development • 2008-2011**

Spearheaded business development and marketing strategy as right hand of the president, including sponsorships, social media marketing and special events. Developed proposals and assembled project teams. Worked closely with clients in order to enhance reputation of firm as a responsive, reliable partner.

- Sustained firm during prolonged market downturn by expanding business development efforts and teaching networking, prospecting and salesmanship skills to senior staff.
- Developed productive, long-term business relationships with organizations such as the US Army, defense contractors and a Fortune 500 company.

**Senior Planner • 2005-2008**

Spearheaded collaborative planning efforts with clients, introducing "teaming" concept and Client Services Director role. Prepared development plans, planning studies, feasibility studies, and due diligence reports. Coordinated teams of engineers, surveyors, drafters and other professionals on all projects. Enhanced corporate communication by embracing cutting-edge technology.

Key Highlights as Senior Planner:

- Ensured departmental profitability by clarifying project roles, and enhancing teamwork and communication leading to greater efficiency and improved client relations.
- Authored BRAC transportation study widely used to promote regional transportation improvements.
- Retained as expert witness in front of Boards of Appeals and Planning Commissions.

**LIPMAN, FRIZZELL AND MITCHELL, Columbia, Maryland • 2002-2005**

Commercial real estate appraisal firm with 20 employees working mostly on commission.

**Associate Market Analyst**

Compiled detailed market reports including analysis and illustration of statistics and demographic data to help clients obtain project financing. Analyzed market feasibility of Baltimore community planning efforts. Performed property appraisal fieldwork and reporting as necessary.

- Streamlined data collection and tabulation by developing standard production format and selecting appropriate data vendors.
- Instituted GIS for map analysis and report production.

**HARFORD COUNTY DEPARTMENT OF PLANNING AND ZONING, Bel Air, Maryland • 1990-2001**

Fast growing county in Baltimore/Washington metro area, on the I-95 corridor fronting Chesapeake Bay.

**Senior Planner**

Spearheaded development review for urban and waterfront planning. Operated a public access desk helping individuals, developers, surveyors and engineers with zoning matters. Represented county in public hearings and meetings as a government expert.

- Designed public database tracking development projects every step of the way, ultimately uncovering inefficiencies and shortening development review process by 30%.
- Developed reputation as an apolitical expert on zoning matters, concerned with serving the community rather than protecting my position.

**CHESTER COUNTY PLANNING COMMISSION, West Chester, Pennsylvania • 1988-1990**

**Planner**

- Responsible for state-mandated development review, zoning code, subdivision regulation, and comprehensive plan review for 73 municipalities.
- Taught local elected officials planning principles.
- Produced technical planning practice design documents.

**FAIRFAX COUNTY DPW, UTILITIES PLANNING & DESIGN, Fairfax, Virginia • 1987-1988**

**Engineering Technician (temporary grant funded position)**

- Responsible for the Storm Sewer Inventory.
- Provided research and drafting for capital improvement projects for roads, parking garages, sewers, bridges, etc.

**EDUCATION**

**Master of Science in Real Estate**

Johns Hopkins University, Carey Business School • Baltimore, Maryland

**Master of Legal and Ethical Studies and Master of Public Administration (Coursework)**

University of Baltimore • Baltimore, Maryland

**Bachelor of Fine Arts in Geography**

Syracuse University, Maxwell School of Citizenship and Public Affairs • Syracuse, New York

**CERTIFICATIONS AND MEMBERSHIPS**

American Planning Association – American Institute of Certified Planners #011075

Lambda Alpha International – Honorary Land Economics Society

Harford County Economic Development Advisory Board

Friends School of Harford Board of Trustees

Habitat for Humanity Susquehanna Chapter, Resource Development Committee

Maryland Economic Development Association • Society of American Military Engineers

Harford Leadership Academy Board of Directors • Maryland Forest Professional

Boy Scouts of America, Baltimore Area Council District Committee

**COMPUTER SKILLS**

MS Office Suite • Word • Excel • MS Project • Visio • Access • Photo Editing Suites

Lotus • dBase • ArcView • Quantum • Adobe Acrobat • Nuance PDF Converter • QuickBooks



**Valbridge**  
PROPERTY ADVISORS

## **Economic Analysis**

**Proposed Fuel Service Station**  
5401 Campbell Boulevard  
White Marsh, Maryland

FOR  
**Whitemarsh Associates, LLC**  
1604 Creston Drive  
Forest Hill, MD 21050

**Valbridge Property Advisors |**  
**Baltimore Washington Metro**

11100 Dovedale Court  
Marriottsville, Maryland 21104  
443-333-5522  
443-333-5445 fax  
[valbridge.com](http://valbridge.com)

**BW01-20-0043**

**PETITIONER' S**

**EXHIBIT NO.**

10A



11100 Dovedale Court  
Marriottsville, MD 21104  
443-333-5522 phone  
443-333-5445 fax  
valbridge.com

June 24, 2020

Mr. Jack Gease  
Whitemarsh Associates, LLC  
1604 Creston Drive  
Forest Hill, Maryland 21050

**Subject: Proposed Fuel Service Station and Convenience Store  
White Marsh, Baltimore County, MD - Need Analysis**

Dear Mr. Gease:

Enclosed please find Valbridge Property Advisor's (Valbridge) economic analysis for the proposed fuel service station and convenience store to be located in the 5401 Campbell Boulevard in the White Marsh area of Baltimore County, Maryland. The analysis has been conducted in connection with your petition for a special exception to permit a new fuel service station and convenience store on that property.

We find that the proposed Wawa fuel service and convenience store will primarily serve the non-residential uses and related activities in its surrounding industrial zoned area. The enclosed report summarizes our reasoning process.

It has been a pleasure working with you on this project. Please call me at (443) 333-5521 should you have any questions or comments.

Respectfully submitted,  
Valbridge Property Advisors |  
Baltimore Washington Metro

A handwritten signature in black ink, appearing to read 'Ed Steere', with a long horizontal line extending from the end of the signature.

Edward M. Steere, AICP  
Managing Director



## **WAWA FUEL SERVICE STATION AND CONVENIENCE STORE PRIMARILY SERVE ANALYSIS**

### **EXECUTIVE SUMMARY**

Valbridge Property Advisors (Valbridge) has been engaged by Whitemarsh Associates, LLC in connection with its petition to the Baltimore County Board of Appeals for a special exception permitting the development of a fuel service station and convenience store at the southeast corner of Campbell Boulevard and Philadelphia Road (MD-7) in the unincorporated area of White Marsh, Baltimore County, Maryland.

#### **Scope of Work**

Valbridge has been engaged to examine whether the proposed fuel service station and convenience store at this location will serve primarily the industrial uses and related activities in the surrounding industrial area. Presentation of sufficient evidence is required before a special exception for that use can be granted.

#### **Wawa Fuel Service Station and Convenience Store**

The proposed Wawa station in White Marsh will be located on a single 4.05 acre parcel which is zoned ML-IM. The site is bounded by Campbell Boulevard to the north and Philadelphia Boulevard to the west. The proposed improvements to the site include a fuel service station with six multi-product dispensers (MPD's) under a single canopy, in addition to a convenience store of approximately 4,700 sq. ft. The station is expected to operate twenty-four hours per day, seven days per week.

The subject site is well situated at the intersection of Campbell Boulevard and MD-7 at the southern gateway of a major regional shopping destination. Campbell Boulevard at this site also provides direct access to CarMax, FedEx and other smaller business uses. The station will primarily attract traffic attributable to the industrial users and related activity from the surrounding area. Traffic volumes at this intersection and nearby points is strong with data showing upwards of 20,000 AADT. This gateway site location provides an opportunity for traffic coming out of the White Marsh Mall and Nottingham Square retail centers as well as traffic related to the surrounding industrial users to have convenient access to fresh foods and competitive fuel prices before continuing their journeys to and from home. Expansion of nearby neighborhoods in Perry Hall as well as the 324-unit Avenue Grand project currently under construction inside the retail area will only further contribute to the demand for fueling in this area.

The services offered by the Wawa vehicle fueling station and convenience store are, therefore, supportive of existing development nearby and aligns with the role which the highway location plays for the community as a major commercial route.

### **Supply/Demand Issues**

**Trade Area** – We have defined the subject fuel service station's trade area as the area centered on the White Marsh commercial area along both sides of Interstate 95 as well as industrial lands south of Philadelphia Road. Specifically the trade area is shaped and limited at its extremes by Perry Hall Boulevard to the West, the CSX rail line to the East, White Marsh Boulevard (MD-43) to the North and Middle River Road to the South where the land use begins to become more mixed with residential. We have defined the trade area based on two principal factors:

- **Commercial Services** - The defined commercial trade area has the highest concentration of commercial services within White Marsh. The White Marsh Mall and additional commercial opportunities at Nottingham Square make the area a major regional shopping destination for households throughout this part of Baltimore County as well as for the large volume of passersby traveling on I-95 between Baltimore City and Harford County. By extension the trade area is also a major employment center. This interchange is also a major hospitality node with six major hotel flags present.
- **Highway Network** – The trade area is shaped by the regional highway network in particular, with the White Marsh Mall being a major crossroads location due to the interchange of I-95 and White Marsh Boulevard (MD-43). The trade area also extends along Philadelphia Road (MD-7) serving various industrial and manufacturing uses. While Pulaski Highway (US-40) is on the periphery of the defined trade area, this highway exists as an alternative parallel route to I-95 with its own set of accessible options. The CSX Railroad physically divides this commercial area from the US-40 corridor.
- As such, the trade area demographics represent only a portion of the market share occupied by this store. The defined trade area reasonably contains the majority of commuters and consumers who are likely to travel through or do their shopping in White Marsh, as well as travelers visiting the Baltimore region. Realistically, residential households of surrounding areas may also avail themselves of the broad variety of offerings in this area.
- **Trade Area Demand** – The primary customer base for this fuel service station and convenience store will be industrial and related tenants, vendors and customers in the trade area:
  - **Workforce** – Assuming a commuter vehicle uses one fill up of 15 gallons per week, Valbridge estimates personal vehicle demand from workers within the trade area to be 162,990 gallons per week and over **8.48 million gallons** per year. It is important to note that this figure does not account for the significant volume of shoppers visiting the retail area, and travelers using the hospitality venues.

- Traffic Generation – Using a conservative estimate of a 5.0% capture rate of all traffic by fuel stations in the trade area results in 903,375 vehicles per year or the equivalent of **13.55 million gallons** of annual fuel demand.
- Residential Demand – This site is located in a regional commercial/industrial setting on a major mixed-use thoroughfare, where the customer demand will be predominantly daytime worker population and consumers from more distant suburban neighborhoods, seeking regional commercial services and businesses. Therefore, we did not quantify a residential demand for this station and have excluded residential land uses from the defined trade area.
- Competitive Supply – We find that there are four other existing fuel stations located within the proposed subject's trade area for the available consumer demand for gasoline and diesel:

**WAWA WHITE MARSH EXISTING TRADE AREA COMPETITION**

| Name        | Address              | MPD's | Diesel Positions | C-Store  | Car Wash | 24 hr | Acres | Bldg SF | Yr Built |
|-------------|----------------------|-------|------------------|----------|----------|-------|-------|---------|----------|
| BP          | 5250 Campbell Blvd   | 8     | 2                | Hyper    | Y        |       | 1.37  | 4,224   | 2003     |
| Exxon       | 8485 Honeygo Blvd    | 6     | 3                | Ltd      |          | Y     | 1.69  | 1,845   | 1983     |
| 7-Eleven    | 8235 Perry Hall Blvd | 6     |                  | Expanded |          | Y     | 1.16  | 2,940   | 2002     |
| Royal Farms | 5361 Nottingham Rd   | 8     | 16               | Hyper    |          | Y     | 2.44  | 4,659   | 2018     |

Source: Valbridge Property Advisors, March 2020

- Evaluation – Despite the stations being in close proximity to one another, each station had some clear advantages over the other. All of the stations had modern formats and did not feature service bays or tiny curbside kiosks selling only cigarettes and soda. We believe that the most recently constructed Royal Farms as well as the BP are also likely benefitting from their fresh food offerings on top of what is already made available at a traditional convenience store. Where the 7-11 and Exxon excel is their location on the White Marsh Mall side of the retail area where traffic is much higher, however the 7-11 is placed at a slight disadvantage given its position on the inner ring road on the opposite side of the mall.
- Need – We concur that efficient dealers sold approximately 2.1 million gallons per year and that each of these stations is well located to command efficient flow of customers. Therefore, we compute the competitive supply on these four stations as **8.4 million gallons** per year. This subject site is located on one of the primary entrance roads into the surrounding industrial area and offers this pool of customers an option for fuel that limits their exposure to the congestion and traffic of nearby highways.

- o Unmet Demand - We quantify unmet trade area demand (need) in the range of approximately 5.15 million gallons per year, based on a comparison of trade area demand by overall traffic volumes modeled in the retail area with the estimated gallonage pumped for the area by the existing four fueling stations. We believe this is a conservative estimation, based on our exclusion of residential demand for fuel from nearby households.

### **Conclusions**

Valbridge finds that the proposed Wawa fuel service station and convenience store serves a White Marsh Trade Area with strong employment and customer demand. We have calculated above that nearly two-thirds (62.5%) of total demand typically available within the area is likely to be drawn from the workforce alone within the defined industrial and related activity area.

In order for the proposed Wawa fuel service station and convenience store to “serve primarily the industrial uses and related activities in the surrounding industrial area,” it must capture at least 51% of its fuel sales from within its surrounding industrial area. We judge that the subject will draw its sales from the industrial area and from other portions of its trade area in proportion to the demand generated by each.

Valbridge, therefore, concludes that the proposed Wawa station will be an attractive option for the industrial uses and related activities in the surrounding industrial area.

## I. INTRODUCTION

Valbridge Property Advisors has been engaged by Whitemarsh Associates LLC in connection with its petition to the Baltimore County Board of Appeals for a special exception permitting the development of an fuel service station and convenience store at the property located at the southeast corner of Campbell Boulevard and Philadelphia Road (MD-7), in the unincorporated White Marsh area of Baltimore County, Maryland.

### **Purpose of Assignment**

This site is presently unimproved. The proposal is to develop the site of approximately 4.05 acres as a fuel service station and convenience store. A Wawa store is planned with six multi-product dispensers (MPD's) under a single canopy, in addition to a convenience store of approximately 4,700 sq. ft. The station is expected to operate twenty-four hours per day, seven days per week. It is assumed that Wawa may prefer a modified site plan, but development will generally be in context with the current concepts.

Valbridge Property Advisors has been engaged to examine evidence of whether the proposed Wawa will serve primarily the industrial uses and related activities in the surrounding industrial area. The site is in the ML IM zoning district, which requires a petition for special exception for a fuel service station. Section 253.2 of the Baltimore County Zoning Regulations requires a finding that the use will "primarily serve the industrial uses and related activities in the surrounding industrial area." Presentation of sufficient evidence to meet this requirement is required before a special exception for that use can be granted.

For purposes of this analysis, we have considered the subject to be serving primarily the surrounding industrial area if it can capture at least 51% of its fuel sales from within the industrial uses and related activities in the surrounding industrial area. In this analysis, therefore, Valbridge focuses on the key issue of total demand for gasoline generated from within the defined non-residential zone.

### **Scope of Work**

In conducting this analysis Valbridge has accomplished the following tasks:

- Inspected the subject site and neighborhood;
- Reviewed the subject's site plan;
- Defined the subject's surrounding trade area;
- Consulted demographic and economic data for the trade area produced by ESRI (Environmental Systems Research Institute, Inc.) based on U.S. Census information, Baltimore Metropolitan Council and others;
- Inspected gas station properties in the trade area;

- Estimated the scale of gasoline demand within the defined trade area and arrived at certain conclusions.

**Organization of Report**

Following this Section I, Valbridge's report is organized in three sections as follows: Section II, site analysis; Section III, need analysis; Section IV, survey of nearby competitive supply; Section V, conclusions.

**Qualifications of Consultant**

Valbridge is the largest independent real estate valuation firm in the continental United States, with more than 70 offices and 675 employees, of which more than 200 are MAI appraisers. We have experience and data on all types of real estate, including special purpose and portfolio assignments.

The principal-in-charge of this assignment has been Edward Steere, AICP, Managing Director. He has over 30 years of real estate development, finance and consulting experience. Most relevant to this assignment, Steere has successfully completed feasibility assessments for commercial opportunities throughout Maryland. Additional information on the firm and Steere are found in Appendix A at the end of this study.

## II. SITE LOCATION ANALYSIS

In this section, Valbridge describes the subject Wawa fuel service station and convenience store location, its access and surroundings in order to establish its positioning within its trade area and competitive environment generally.

### A. SITE DESCRIPTION

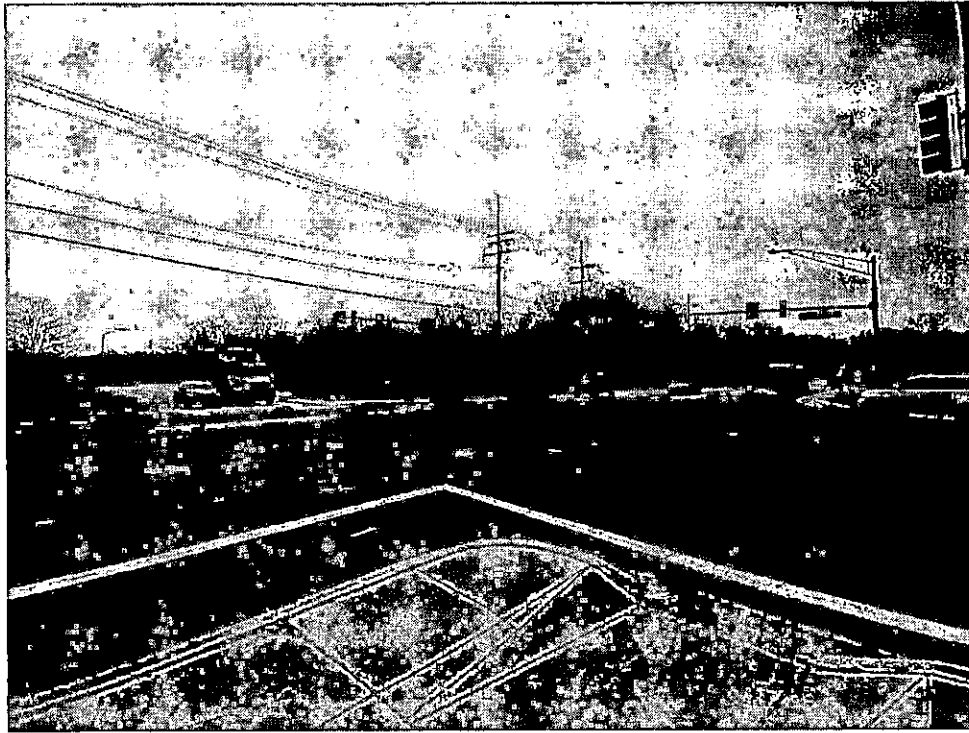
The proposed Wawa fuel service station property is located on the southeast corner of the intersection of Philadelphia Road and Campbell Boulevard approximately 385 feet south of the centerline of Campbell Boulevard. The property parcel is 4.05 acres in size and is entirely zoned ML-IM (Manufacturing Light). The subject site is currently unimproved except for signage related to the White Marsh Professional Center facing the intersection.



The proposed improvements to the site include a vehicle fueling station with six multi-product dispensers (MPD's) under a single canopy in addition to a convenience store of approximately 4,700 sq. ft. Diesel fuel will also be offered. Operating hours are expected to be 24 hours per day, seven days per week. The topography of the site is generally flat with no evident environmental sensitivities. The land will be regraded with development to acquire reasonable access and final elevation grades. It is assumed that Wawa may prefer a modified site plan, but generally in context with the current concepts shown on the following page:







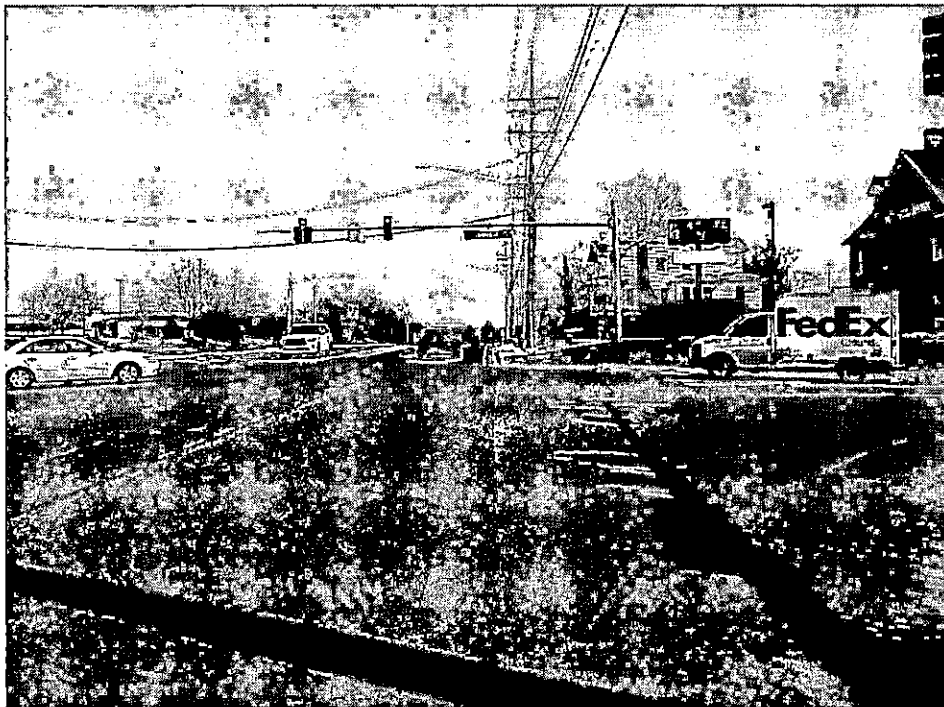
Subject Site from Diagonally Across Intersection



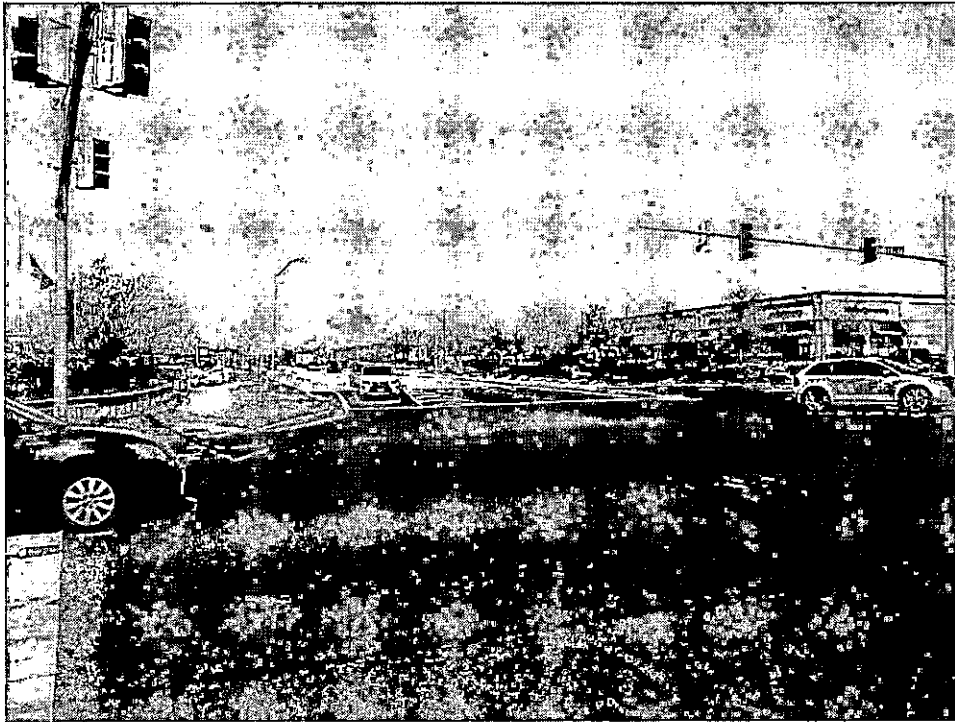
Subject Site from Northwest Side of MD-7



Southwest from Subject Frontage on MD-7



Northeast from Subject Frontage on MD-7



Northwest from Subject Frontage on Campbell Blvd



Southeast along Campbell Blvd

## **B. SITE ACCESS**

The subject property has excellent frontage on the east side of Philadelphia Road (MD-7), which is a historic state highway paralleling I-95 and Pulaski Highway (US-40), through Baltimore, Harford and Cecil Counties. The highway has two through lanes plus a turning lane in each direction at the signalized intersection of Philadelphia Road and Campbell Boulevard. Campbell Boulevard is the southern gateway access roads into the Nottingham Square retail area and continues west to the White Marsh Mall. Philadelphia Road connects to White Marsh Boulevard (MD-43) which subsequently provides access to I-95 approximately one mile northwest of the site. Travelling one mile in the opposite direction on Philadelphia Road to Middle River Road allows for easy access to Pulaski Highway (US-40).

Philadelphia Road is proposed to be widened by twelve feet to accommodate site ingress. The fueling station will have a one-way entrance for vehicles traveling northbound on Philadelphia Road as well as an access point along Campbell Boulevard, which offers full signalized access to MD-7.

The Maryland Department of Transportation State Highway Administration published an estimated annual average daily traffic (AADT) count in 2018 on Philadelphia Road at this location as 20,860 AADT between Rossville Boulevard and Campbell Boulevard and 17,270 AADT between Campbell Boulevard to Joppa Road. AADT on Campbell Boulevard to Honeygo Boulevard was 23,310 in 2018.

## **C. SURROUNDING LAND USES**

The subject is located on the corner of Philadelphia Road and Campbell Boulevard just east of I-95. The entirety of the subject property lies within the ML-IM zone. Northwest of the subject across Campbell Boulevard is a Howard Bank branch and a residential home that has been converted into a psychic reading establishment and the offices of a cab company. Both of these properties also lie within the ML-IM zone. The subject also shares this zone with CarMax and FedEx and the White Marsh Professional Center which holds various medical office tenants. Continuing northbound on Philadelphia Road are a CarMax and Chevrolet car dealership which are both zoned BM. The land use transitions once again to MH-IM zone upon reaching the former GM Allison Transmission factory.

The Pulaski Highway corridor east of the site is generally zoned business all the way to the Harford County line at the Little Gunpowder River. The historic presence of the former B&O railroad (now operated by CSX), parallel to Pulaski Highway framed the historic industrial land uses through this corridor.

The remainder of the wooded area south of the subject along Philadelphia Road is zoned BM (Business Major) before reaching Mohrs Lane. Past Mohrs Lane the land use transitions back to

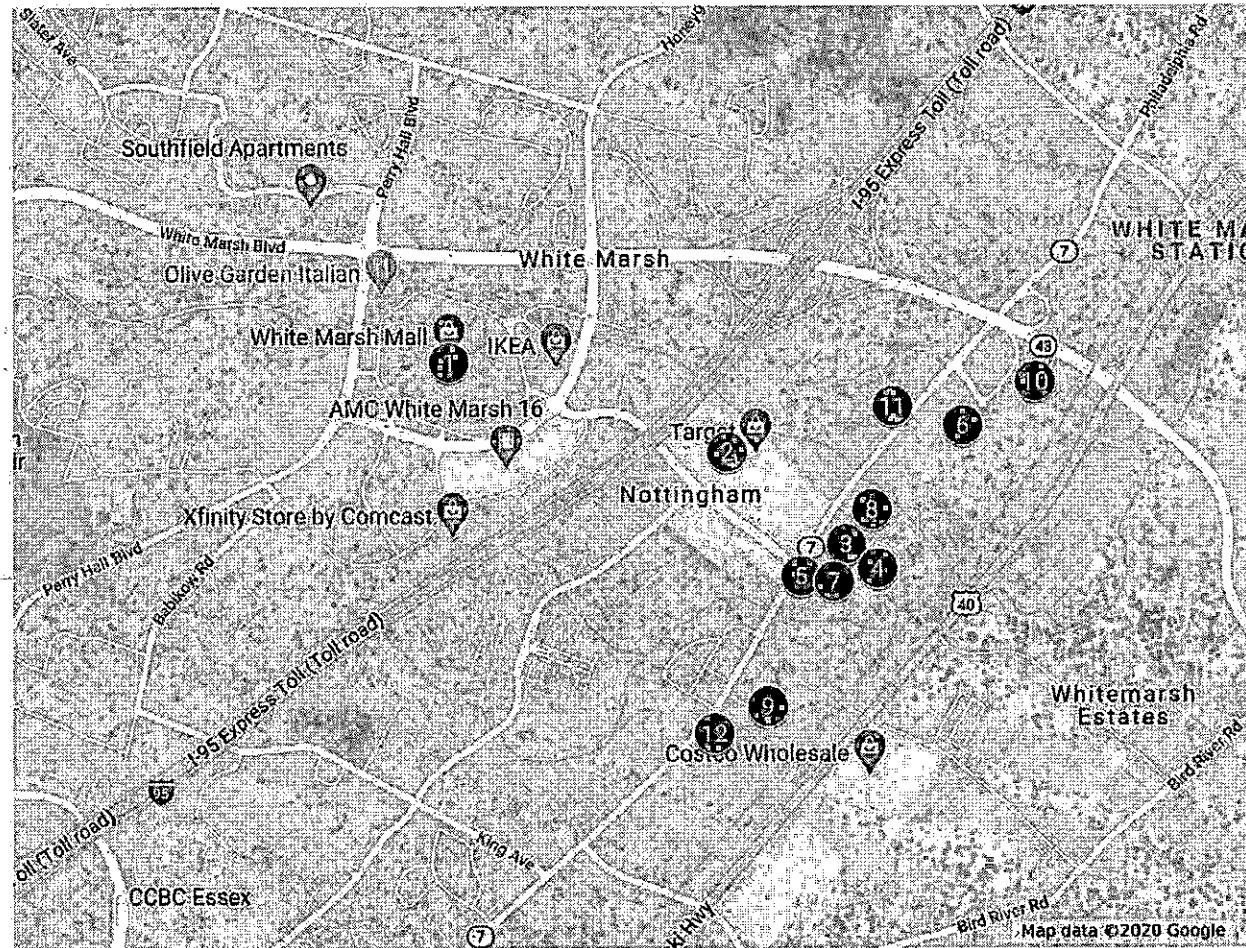


ML IM with medium density residential development on the western side of Philadelphia Road. West of the subject site is the Nottingham Square shopping center which features anchor tenants such as Lowe's Home Improvement, Target, Bed Bath & Beyond and Best Buy. A map illustrating major surrounding uses is provided below:

# Land Use Map

## Untitled layer

- ① White Marsh Mall
- ② Nottingham Square
- ③ CarMax
- ④ FedEx
- ⑤ Subject
- ⑥ GM Plant
- ⑦ Professional Center
- ⑧ Koons Chevrolet
- ⑨ Self StorageOne
- ⑩ COMEQ Inc
- ⑪ Sheehy Nissan
- ⑫ Camz Corp





#### **D. SUMMARY**

In summary, the subject property is well situated at the gateway intersection of Campbell Boulevard and MD-7. It will be used primarily by traffic related to the industrial area and activity stemming from the surrounding area. Traffic volumes at this intersection and at points in close proximity are strong with data showing upwards of 20,000 AADT.

The proposed vehicle fueling station is planned as having six MPD's that will include diesel fueling positions. The station will also include an approximately 4,700 sq. ft. hyper convenience store. The fueling station will have one entrance for vehicles travelling northbound on Philadelphia Road as well as an access point along Campbell Boulevard, which has full signalized access to MD-7. The site location provides an opportunity for traffic coming out of the White Marsh Mall and Nottingham Square retail centers as well as traffic related to the surrounding industrial users to have convenient access to fresh foods and competitive fuel prices before continuing their journeys to and from home. Expansion of nearby neighborhoods in Perry Hall as well as the 324-unit Avenue Grand project currently under construction inside the retail area will only further contribute to the demand for fueling in this area.

The auto-oriented convenience services offered by the Wawa automobile filling station and convenience store are, therefore, supportive of existing development nearby and with the role which the highway location plays for the community as a major route.

### III. NEED ANALYSIS

In this section, Valbridge reviews certain factors which are determinative of the subject fueling station's ability to primarily serve the surrounding industrial community. We estimate total demand for gasoline within the subject's trade area, estimate the subject fueling station's usage, then draw conclusions regarding accommodation of public need.

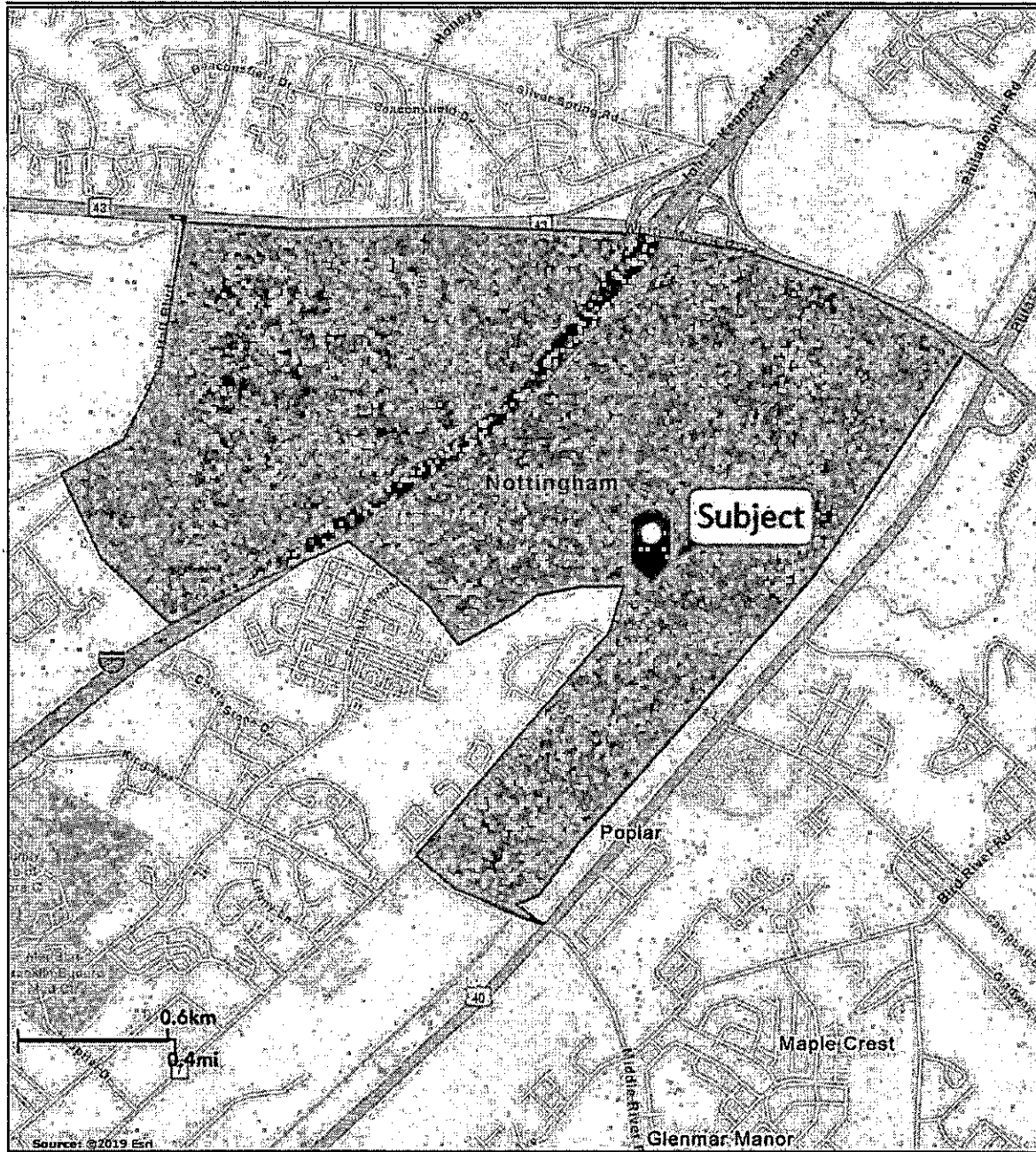
#### A. WHITE MARSH COMMERCIAL TRADE AREA

We have defined the subject fuel service station's trade area as the area centered on the White Marsh commercial area along both sides of Interstate 95 as well as industrial lands south of Philadelphia Road. For purposes of this analysis, we consider the trade area to include a significant portion of the total daytime population as well as commuter traffic and is entirely commercial and industrial in use types. Specifically the trade area is shaped and limited at its extremes by Perry Hall Boulevard to the West, the CSX rail line to the East, White Marsh Boulevard (MD-43) to the North and Middle River Road to the South where the land use begins to become more mixed with residential. The trade area is depicted on the map on the following page. We have defined the trade area based on two principal factors:

- Commercial Services - The defined commercial trade area has the highest concentration of commercial services within White Marsh. The White Marsh Mall and additional commercial opportunities at Nottingham Square make the area a major regional shopping destination for households throughout this part of Baltimore County as well as for the large volume of passersby traveling on I-95 between Baltimore City and Harford County. By extension the trade area is also a major employment center. This interchange is also a major hospitality node with six major hotel flags present.
- Highway Network - The trade area is shaped by the regional highway network in particular, with the White Marsh Mall being a major crossroads location due to the interchange of I-95 and White Marsh Boulevard (MD-43). The trade area also extends along Philadelphia Road (MD-7) serving various industrial and manufacturing uses. While Pulaski Highway (US-40) is on the periphery of the defined trade area, this highway exists as an alternative parallel route to I-95 with its own set of accessible options. The CSX Railroad physically divides this commercial area from the US-40 corridor.

The defined trade area reasonably contains the majority of commuters and consumers who are likely to travel through or do their shopping in White Marsh, as well as travelers visiting the Baltimore region. Realistically, residential households of surrounding areas may also avail themselves of the broad variety of offerings in this area. The data presented below is therefore conservative.

**Trade Area Map**



## B. FUEL DEMAND

The primary customer base for this fuel service station and convenience store will be the industrial and related tenants, vendors and customers in the trade area:

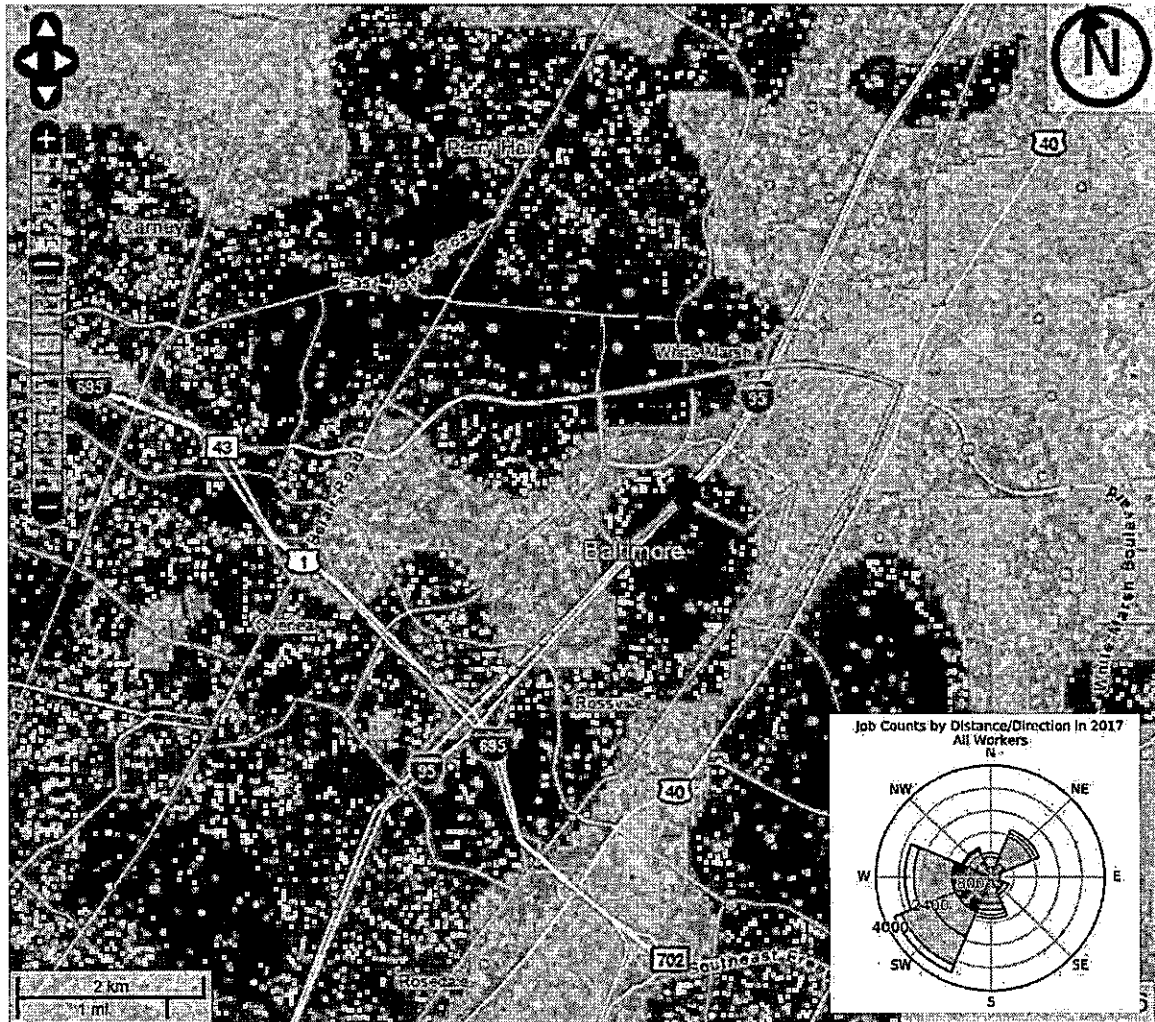
### White Marsh Trade Area Workforce Demand

The daytime worker population in the White Marsh trade area is approximately 12,784 according to estimates by the US Census in 2017. It is important to recap that the trade area includes the regional shopping destinations of White Marsh Mall and Nottingham Square which are significant employers in this part of Baltimore County.

Within the trade area, using ACS data on transportation to work as shown below, Valbridge estimates the proportion of personal vehicles used by the total daytime worker population to commute to/from their place of employment at 85.0% or 10,866 vehicles, which is consistent with the traffic volume studies of the area. The Census data available does not distinguish if a car-pooling employee drives all the time, rides with another driver or alternates their commuting method. Regardless, the vehicle is counted as participating in travel within the Trade Area. Each of those vehicles can benefit from fuel service convenient to the place of employment.

| County of Residence | # of Workers | % of Daytime Pop. | % Drivers    | Avg Commute Time |
|---------------------|--------------|-------------------|--------------|------------------|
| Baltimore County    | 5,031        | 39.4%             | 87.9%        | 29.5             |
| Baltimore City      | 2,038        | 15.9%             | 69.1%        | 30.7             |
| Harford County      | 1,809        | 14.2%             | 92.0%        | 32.1             |
| Anne Arundel County | 637          | 5.0%              | 87.6%        | 30.2             |
| <b>TOTAL/AVG</b>    | <b>9,515</b> | <b>74.4%</b>      | <b>84.6%</b> | <b>30.3</b>      |

The map on the following page illustrates the concentration of workforce in the White Marsh area and distance commuters travel to work here, mostly from points to the Southwest. Valbridge estimates conservatively that each commuter vehicle will average at least one fill-up per week near the workplace. Assuming a commuter vehicle uses one fill up of 15 gallons per week, Valbridge estimates personal vehicle demand from workers within the trade area to be 162,990 gallons per week and over **8.48 million gallons** per year. It is important to note that this figure does not account for the significant volume of shoppers visiting the retail area, and travelers using the hospitality venues.



Source: US Census OnTheMap; compiled by Valbridge

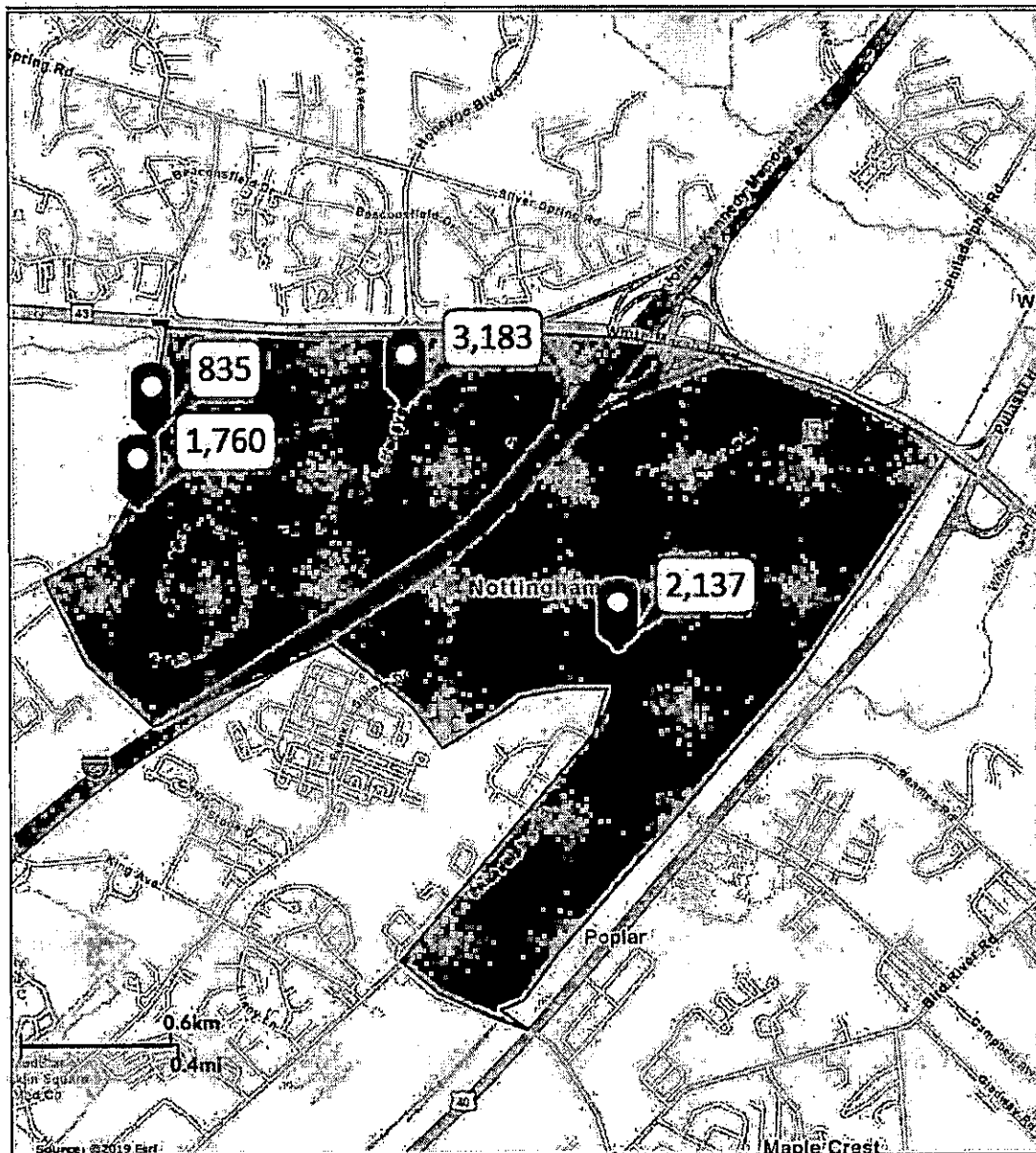
### Traffic Generation Model Demand

Traffic generation models show that a modern gas station with convenience stores could attract as much as 64% of morning peak hour pass-by traffic and 66% of evening peak hour pass-by traffic.<sup>1</sup> Based on traffic analysis of the site, we estimate the total daily trips entering and exiting the White Marsh retail area to be approximately 99,000 vehicles per day or 49,500 unique vehicle trips (18,067,500 vehicle trips per year). Using a conservative estimate of a 5.0% capture rate of all

<sup>1</sup> Traffic Generation Manual, 10<sup>th</sup> Edition; Institute of Traffic Engineers, September 2017.

traffic by fuel stations in the trade area results in 903,375 vehicles per year or the equivalent of **13.55 million gallons** of annual fuel demand. We believe it is therefore reasonable to assume that there is a sufficient level of traffic volume to accommodate the existing gas stations and convenience stores and the proposed subject site.

### Traffic Volume Map



### **C. RESIDENTIAL DEMAND**

Normally we would quantify residential demand for fuel sales as a key indicator of need for additional fuel sales. However, this site is located in a regional commercial/industrial setting on a major mixed-use thoroughfare, where the customer demand will be predominantly daytime worker population and consumers from more distant suburban neighborhoods, seeking regional commercial services and businesses in the surrounding industrial area.

Additionally, the Baltimore County special exception requirements specify that the proposed fuel service primarily serve the industrial uses and related activities in the surrounding industrial area. Therefore, we did not quantify a residential demand for this station and have excluded residential land uses from the defined trade area.

### **D. SUMMARY**

The size and shape of the White Marsh trade area has been determined based principally on demand for commercial services and the shape of the highway network serving this area of Baltimore County. Although we cannot use traffic count data to compute the individual impacts of workforce versus retail-related and residential household trips because the overall traffic data includes overlap among them, the volume shown in the trade area indicates that there is a sufficient level of demand to accommodate the existing gas stations and convenience stores as well as the proposed subject site. Although employee commuter trips will account for a majority of overall demand (62.5%), we believe the actual volume of gasoline purchased at stations in the trade area surpasses our conservative estimate since all of the identified gas stations can also serve as a pitstop for regional residents as well as interstate highway travelers and likely achieve a higher capture rate percentage among this traffic subgroup.



## IV. COMPETITIVE SUPPLY

Valbridge has surveyed automobile filling stations located within the defined trade area. The primary trade area is defined as the area centered on the White Marsh commercial area along both sides of Interstate 95 as well as industrial lands south of Philadelphia Road and as illustrated in the previous chapter. In addition to our observations, we have consulted various sources including the Maryland Department of Assessments & Taxation (SDAT), CoStar Realty Group's commercial multiple list system and others to better describe the competitive supply in the White Marsh trade area. We examine the likely demand of Wawa patrons for the subject gasoline fueling facility in the context of competition within its retail trade area.

### A. STATION TYPES

Valbridge consulted the National Association of Convenience Stores (NACS) for facts associated with the different types of motor fuel sales operations. NACS classifies these establishments as follows:<sup>2</sup>

- **Kiosk** – less than 800 square feet with fast moving retail items like tobacco, beverages and snacks. Typical customers are transients and locals stopping in to buy gasoline.
- **Mini Convenience Store** – typically 800-1,200 sq.ft.. Limited to prepared foods and serving people buying gasoline.
- **Limited Selection Convenience Store** – approximately 1,500 to 2,200 sq.ft. which is the typical conversion of a former 2-bay service station.
- **Traditional Convenience Store** – Typically 2,400 to 2,500 sq.ft. with an expanded product mix, often including more grocery items.
- **Expanded Convenience Store** – About 2,800-3,600 sq.ft. This is a popular alternative to the large grocery store and often attract more families, women and senior citizens.
- **Hyper Convenience Store** – Very large stores at 4,000-5,000 sq.ft., such as the subject. These stores employ more staff, offer fresh food and sit-down eating spaces. These stores attract more families, senior citizens and in some locations act as a mini-truck stop with expanded services.

We find it important to study the classification of the supply in the trade area and balance that against the volume of traffic entering and exiting the retail area.

NACS reports that convenience store operations sell approximately 80% of all consumer motor fuels in the country. The remaining 20% is sold at traditional service stations and supermarkets. They also report that consumers will drive up to 10 minutes out of their way to save pennies on

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<sup>2</sup> NACS State of the Industry of 2016 Data Fact Book.

gas purchases, which is why the convenience store venues are often able to sell fuel with lower margins, based on sales of other goods with higher margins.

## B. EXISTING FUEL OPPORTUNITIES

We find that there are four other existing fuel stations located within the proposed subject's trade area:

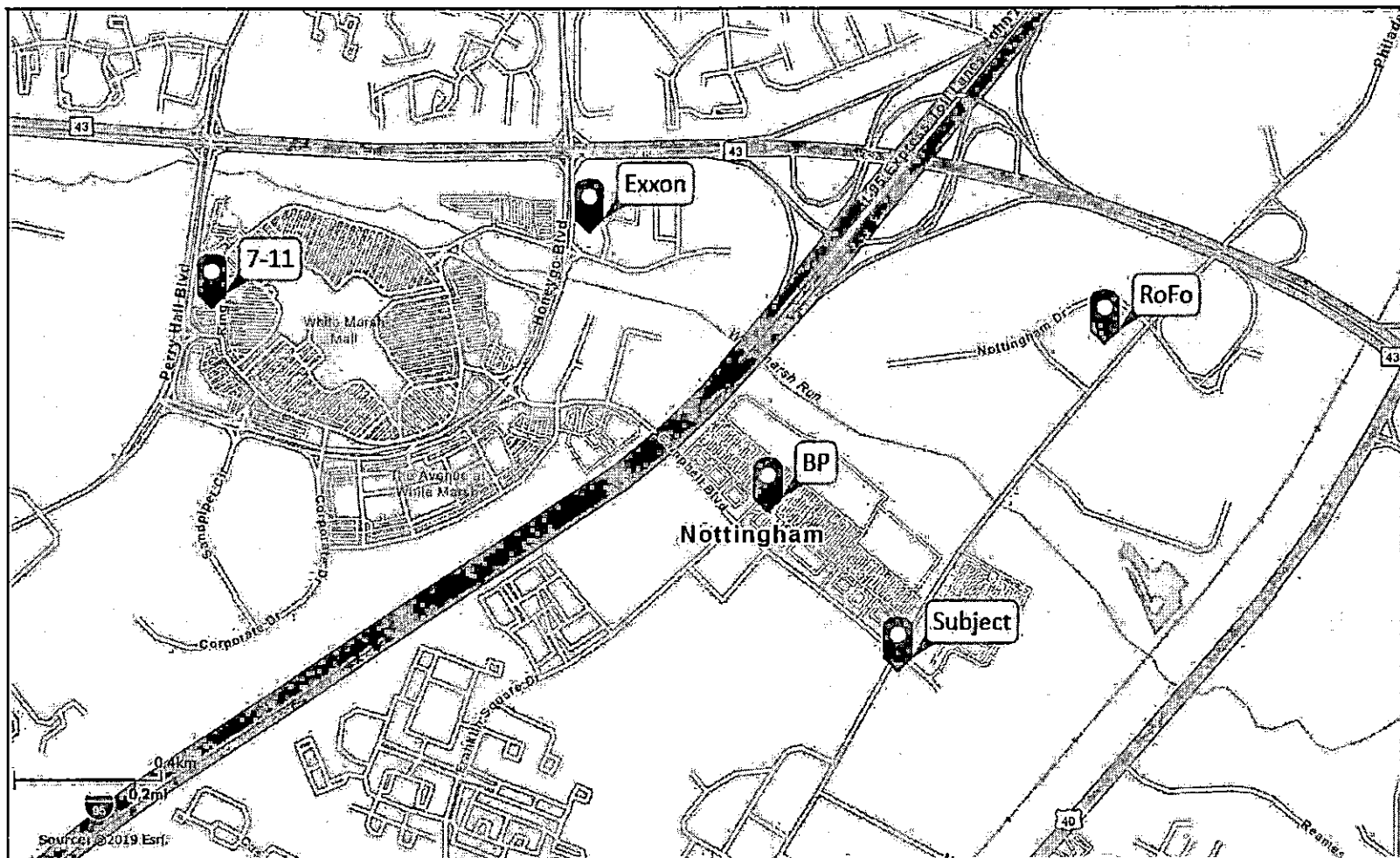
- BP – 5250 Campbell Boulevard – This hyper convenience store is the one station that is located within the Nottingham Square shopping center across from the White Marsh Mall and the Avenue. The station has 8 MPD's with one MPD having two diesel fueling positions. The convenience store is approximately 4,224 sq. ft. in size and features a Subway. The station also has a car wash.
- Exxon – 8485 Honeygo Boulevard – This limited selection convenience store is one of two 24/7 gas stations at the White Marsh Mall, right off of the I-95 interchange. There are 6 MPD's with a Diesel dispenser among the MPD's and one other at a side curb (3 fueling positions total). No car wash and a small convenience store. This site is 1.69 acres with 1,845 sq.ft. of improvements.
- 7-Eleven – 8235 Perry Hall Boulevard – This expanded convenience store is the other White Marsh Mall station, on the inner ring road of the mall, sharing access with a Burger King. This station is open 24/7 and has 6 MPD's and no diesel or car wash, but does offer a 3,000 sq. ft. convenience store on 1.16 acres.
- Royal Farms – This hyper convenience store station was built in 2018 and is the most modern offering in the trade area. Situated on 2.44 acres off of Philadelphia Road, this station has 8 MPD's with diesel offered at each pump and a nearly 5,000 sq. ft. hyper convenience store. This Royal Farms is also open 24/7.

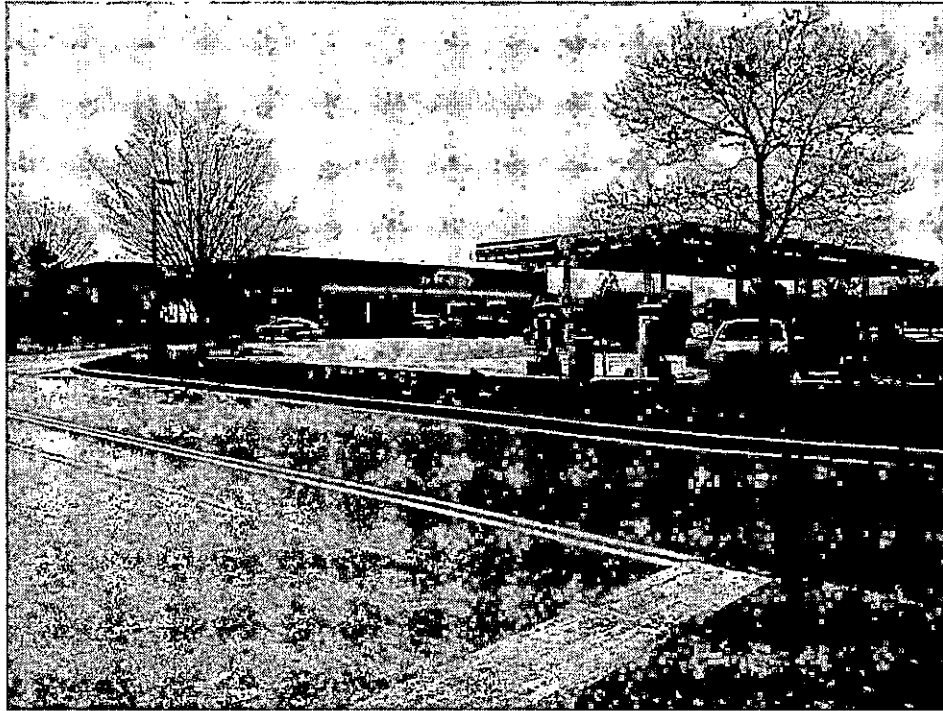
**WAWA WHITE MARSH EXISTING TRADE AREA COMPETITION**

| Name        | Address              | MPD's | Diesel Positions | C-Store  | Car Wash | 24 hr | Acres | Bldg SF | Yr Built |
|-------------|----------------------|-------|------------------|----------|----------|-------|-------|---------|----------|
| BP          | 5250 Campbell Blvd   | 8     | 2                | Hyper    | Y        |       | 1.37  | 4,224   | 2003     |
| Exxon       | 8485 Honeygo Blvd    | 6     | 3                | Ltd      |          | Y     | 1.69  | 1,845   | 1983     |
| 7-Eleven    | 8235 Perry Hall Blvd | 6     |                  | Expanded |          | Y     | 1.16  | 2,940   | 2002     |
| Royal Farms | 5361 Nottingham Rd   | 8     | 16               | Hyper    |          | Y     | 2.44  | 4,659   | 2018     |

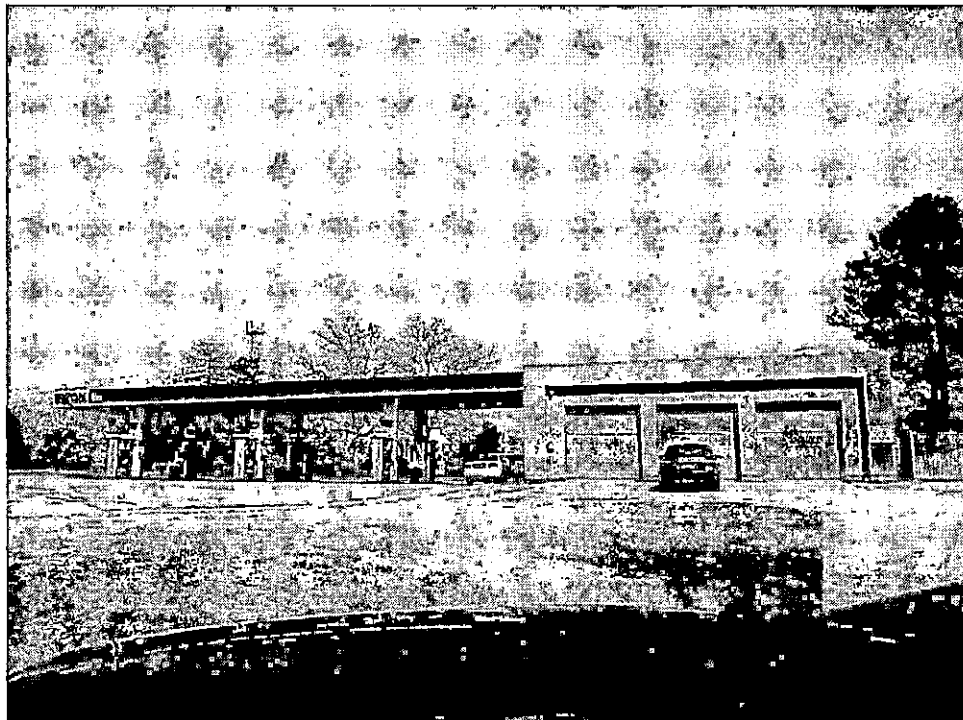
Source: Valbridge Property Advisors, March 2020

**Existing Trade Area Supply**





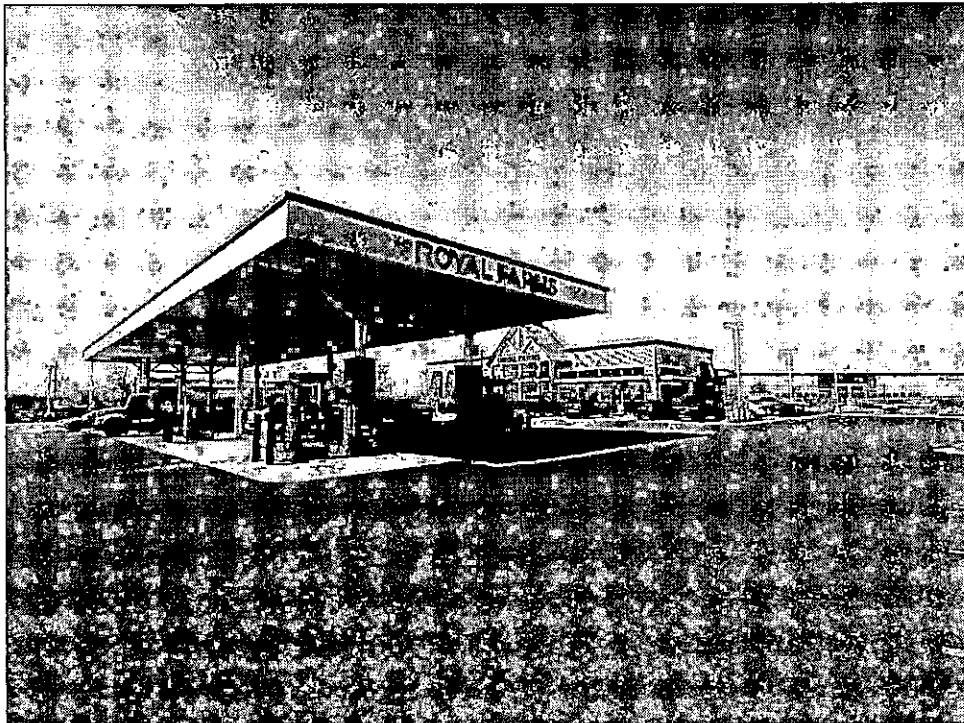
BP at 5250 Campbell Blvd



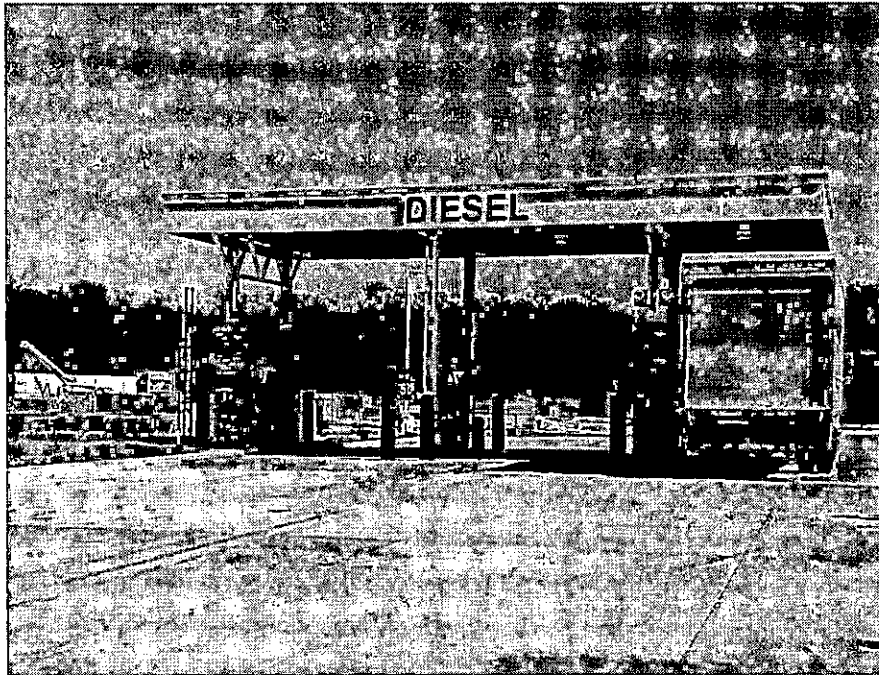
Exxon at 8485 Honeygo Blvd



7-Eleven at 8235 Perry Hall Blvd



Royal Farms at 5361 Nottingham Rd



Royal Farms at 5361 Nottingham Rd – Truck Diesel in rear

### **Evaluation**

Despite the stations being in close proximity to one another, each station had some clear advantages over the other. All of the stations had modern formats and did not feature service bays or tiny curbside kiosks selling only cigarettes and soda. We believe that the most recently constructed Royal Farms as well as the BP are also likely benefitting from their fresh food offerings on top of what is already made available at a traditional convenience store. Where the 7-11 and Exxon excel is their location on the White Marsh Mall side of the retail area where traffic is much higher, however the 7-11 is placed at a slight disadvantage given its position on the inner ring road on the opposite side of the mall.

As illustrated below from GasBuddy.com and observed at the time of our survey, the Exxon station had gas prices which were at a minimum fifty cents higher per gallon than other competitors in the trade area. Although the station benefits from its positioning at the most traveled intersection into the mall and can thus command higher prices, it is unusual for a station of this size to have such high margins on gasoline, typically leading to a reduction in food and beverage as well as gasoline sales volume. It should be noted that the GasBuddy data is provided on an "as is" and "as available" basis and GasBuddy does not warrant that the gas data will be error-free.



Find Gas ▼

Pay with GasBuddy ▼

Gas Tools ▼

|                                                                                             |                                                                             |             |                         |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------|-------------------------|
| 2.13                                                                                        | <b>Royal Farms</b> ★★★★★ (22 reviews)<br>5361 Nottingham Dr & Nottingham Rd | White Marsh | 7h ago<br>dfgreven      |
| \$5 FREE Gas! Save up to 25¢/gallon with the free GasBuddy card! <a href="#">LEARN MORE</a> |                                                                             |             |                         |
| 2.19                                                                                        | <b>Royal Farms</b> ★★★★★ (40 reviews)<br>10740 Pulaski Hwy & Ebenezer Rd    | White Marsh | 9h ago<br>naeemakhtar 🚗 |
| 2.19                                                                                        | <b>BP</b> 🇺🇸 ★★★★★ (40 reviews)<br>5250 Campbell Blvd & Franklin Square Dr  | White Marsh | 10h ago<br>micmar64 🚗   |
| 2.23                                                                                        | <b>7-Eleven</b> ★★★★★ (29 reviews)<br>8235 Perry Hall Blvd & Honeygo Blvd   | White Marsh | 20h ago<br>lizborden 🚗  |
| 2.77                                                                                        | <b>Exxon</b> ★★★★★ (73 reviews)<br>8485 Honeygo Blvd & Mercantile Rd        | White Marsh | 10h ago<br>micmar64 🚗   |

Note: The Royal Farms at 10740 Pulaski Hwy is not included within our defined trade area. Data as of 3/13/2020, 4:00 PM

## C. CURRENT PERFORMANCE

The variation between the highest and lowest suppliers is not explicitly available due to proprietary secrecy in reporting. Therefore, we observe conditions that are important to the marketing of goods and services, such as clean, well-lit facilities, quality and fresh food products, visibility and access from the highway and neighborhood, and a canopy. While the other nearby stores within the trade area of the subject site vary in regard to these factors, they are well positioned to capture traffic associated with the retail and industrial area regardless of the services they offer. Therefore, we believe each station to be currently performing at a level that would be expected for an efficient and modern fueling station.

Petroleum retail industry sources including the Maryland Motor Fuel Tax & Motor Carrier Tax (IFTA) Annual Report and "National Petroleum News" and our experience indicate that the average gasoline fuel service station pumps about 93,943 gallons of gasoline per month or 1.13 million gallons per year. However, data from NACS indicates that, on a national average, efficient dealers sold approximately 2.1 million gallons per year, which we find more realistic, based on our experience with modern convenience store data.<sup>3</sup>

<sup>3</sup> NACS State of the Industry Annual Report of 2017 Data: Convenience and Fuel Retailing Totals, Trends and Analysis of 2017 Industry Data; National Association of Convenience Stores; June 2018.



Thus, we compute the competitive supply on these four stations as:

$$\text{Four Stations} \times 2.1 \text{ mgal} = 8.4 \text{ million gallons}$$

## D. SUMMARY

We find that there is a notable lack of supply within the defined White Marsh trade area for the available consumer demand for gasoline and diesel.

- White Marsh Trade Area Supply – The four other gas stations identified within the trade area represent the most direct competition for the proposed subject. Each of the stations had advantageous elements, however we believe each to be achieving a relatively equal volume of fuel sales. Using our prior knowledge of the petroleum retail industry we compute the current competitive supply by these four stations at 8.4 million gallons of fuel per year.
- Unmet Demand - We quantify unmet trade area demand (need) in the range of approximately 5.15 million gallons per year, based on a comparison of trade area demand by overall traffic volumes modeled in the retail area with the estimated gallonage pumped for the area by the existing four fueling stations. We believe this is a conservative estimation, based on our exclusion of residential demand for fuel from nearby households.

## V. CONCLUSION

Valbridge finds that the proposed Wawa fuel service and convenience store serves the White Marsh Trade Area with strong employment and consumer demand. We have calculated above that close to two-thirds (62.5%) of total demand typically available within the trade area is likely to be drawn from the workforce population within the industrial and related activity area.

In order for the proposed Wawa convenience store to “serve primarily the industrial uses and related activities in the surrounding industrial area,” it must capture at least 51% of its fuel sales from within its surrounding industrial area. We judge that the subject will draw its sales from the industrial area and from other portions of its trade area in proportion to the demand generated by each.

It is evident that the concentration of vehicles that need fuel and convenience services in this trade area are located within the White Marsh retail area. The proposed site is located on one of the entrance roads into the area and offers this pool of customers an option for fuel that limits their exposure to the congestion and traffic of Honeygo Boulevard.

Additionally, the National Association of Convenience Stores (NACS) has surveyed that 41% of fuel customers prefer to go inside the store for additional purchases. “While survey results show that gas price is still the primary determinant in selecting a station, an increasing percentage of consumers say that the quality of items inside the store dictates where they buy fuel. In fact, one in seven drivers (16%) say that the in-store offer is driving their fueling decision, a 5-point increase since 2015.”<sup>4</sup> We therefore believe that the proposed Wawa station will be an attractive option for not only the surrounding industrial area but also the heavy volumes of traffic stemming from other activities in the associated area.

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<sup>4</sup> 2016 NACS Retail Fuels Report; National Association of Convenience Stores

## **APPENDIX A**

### **Consultant Qualifications**

#### **Valbridge Property Advisors**

Valbridge is the largest national commercial real estate valuation and advisory services firm in North America with more than 675 professionals in 70 offices. We are a multifaceted, independent real estate consulting and appraisal firm covering all property types, including special-purpose and services from site acquisition to market feasibility to valuation. Our Marriottsville, Maryland office employs 13 professionals, of which three hold the MAI designation and other advanced degrees. Professional licenses are held by various members of the firm in Maryland, District of Columbia, Pennsylvania, Delaware and Virginia. Academic degrees and professional designations are combined with hands-on real estate investment, development and ownership expertise--offering our clients many decades of accumulated counseling and valuation experience.

We provide clients with objective advice and practical assistance at every stage of decision-making on the development, use or reuse of all types of real estate. Our clients include corporations, institutions, real estate owners, builders, developers, and government entities. Our professional staff has an exceptional capability to use a vast array of information and resources to assist clients in making sound, timely decisions through the real estate planning, financing and development process.

The principal-in-charge of this assignment has been Edward Steere, AICP, MSRE, Managing Director. He has 30 years of planning, real estate development, and consulting experience. He has successfully completed market studies and economic and fiscal analyses for many development opportunities throughout the Mid-Atlantic in Maryland, Pennsylvania, Delaware and Virginia on behalf of public and private clients.

#### **Edward M. Steere, AICP**

Edward M. Steere, AICP is the senior consultant who completed this assignment. Mr. Steere has a broad professional background in planning and real estate acquired over 30 years in the industry including: site design, entitlement, research, sales and marketing, development, financing and appraisal. His advisory assignments have encompassed: market and financial feasibility analyses of major real estate projects; land acquisition and marketing for residential development; tax-motivated and conventional financing for single family and multifamily residential projects; and advising public, non-profit and private clients concerning real estate decision-making. Mr. Steere is qualified in analyzing the multitude of issues relating to residential and commercial real estate development, including: demographic and economic trends, financial analysis and property valuation, economic and fiscal impacts. Mr. Steere has conducted real estate and market feasibility analyses throughout the Washington-Baltimore region. He has testified before administrative bodies concerning the public need for various kinds of commercial facilities and other planning issues in many of the jurisdictions in the Washington-Baltimore region.

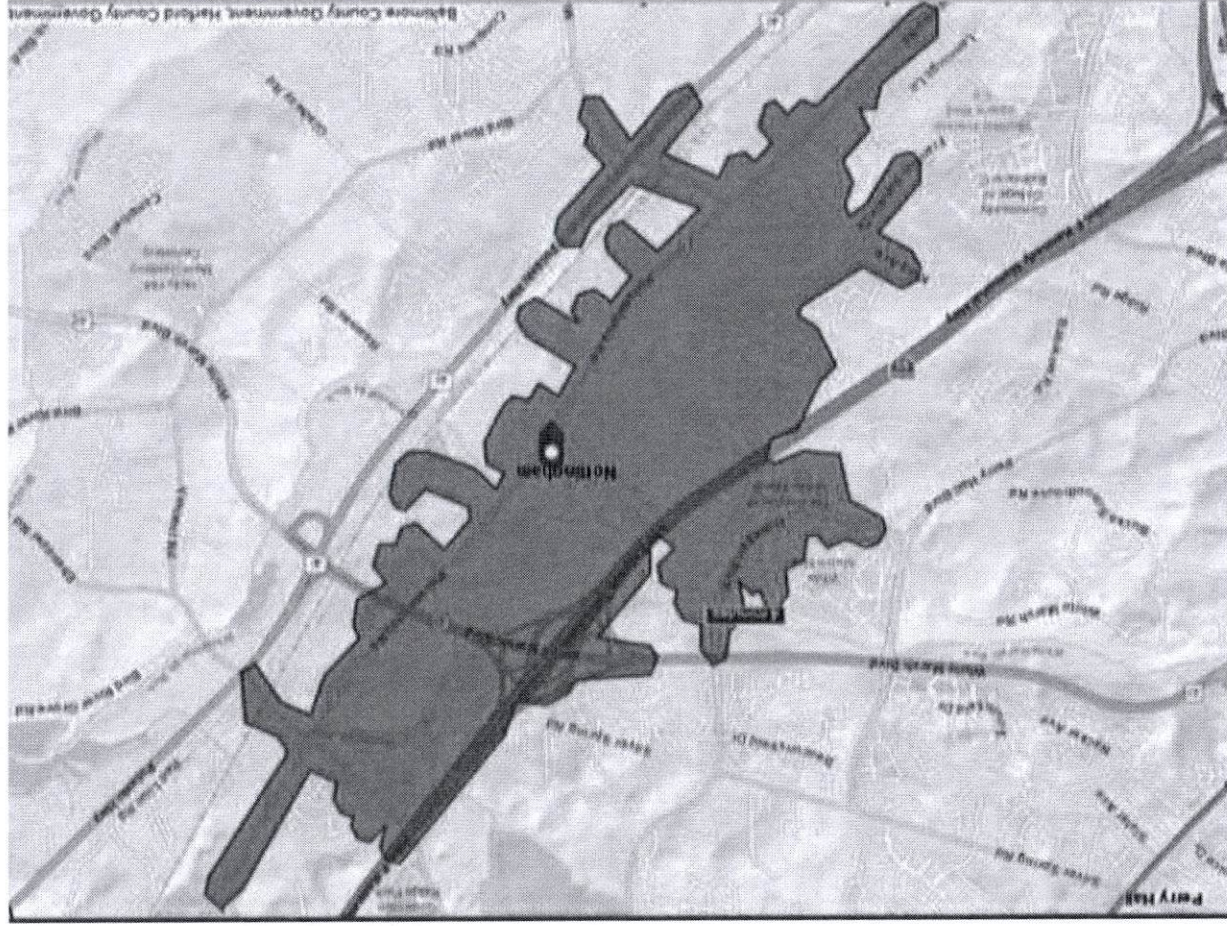


Exhibit 11





Order ✓ Ltr. ✓

(3-29-20 1:30 pm)

CASE NO. 2019-

0534-X

7/1 @  
10 Am

## CHECKLIST

Comment  
Received

Department

Support/Oppose/  
Conditions/  
Comments/  
No Comment

DEVELOPMENT PLANS REVIEW

(if not received, date e-mail sent \_\_\_\_\_)

12-13

DEPS

(if not received, date e-mail sent \_\_\_\_\_)

C

FIRE DEPARTMENT

PLANNING

(if not received, date e-mail sent \_\_\_\_\_)

12-11

STATE HIGHWAY ADMINISTRATION

Entrance Permit

TRAFFIC ENGINEERING

COMMUNITY ASSOCIATION

ADJACENT PROPERTY OWNERS

ZONING VIOLATION

(Case No. \_\_\_\_\_)

PRIOR ZONING

(Case No. \_\_\_\_\_)

NEWSPAPER ADVERTISEMENT

Date: \_\_\_\_\_

SIGN POSTING (1<sup>st</sup>)

Date: \_\_\_\_\_

6/11/2020 by Sgt. Black

SIGN POSTING (2<sup>nd</sup>)

Date: \_\_\_\_\_

6-29-20 by " "

PEOPLE'S COUNSEL APPEARANCE

Yes



No



PEOPLE'S COUNSEL COMMENT LETTER

Yes



No



Comments, if any: \_\_\_\_\_

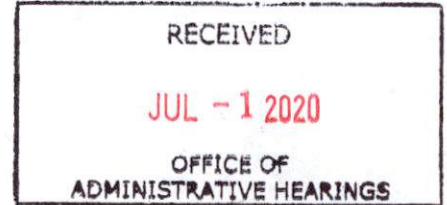


**Debra Wiley**

---

**From:** Jenifer G. Nugent  
**Sent:** Wednesday, July 1, 2020 8:13 AM  
**To:** Kathy Are; Debra Wiley; Paul Mayhew  
**Cc:** Adam Rosenblatt (Arosenblatt@venable.com)  
**Subject:** Amended ZAC comments for a typo  
**Attachments:** 19-534.docx

**Importance:** High



Kathy

Could you please resend this ZAC comment to all  
There was a typo for a reference to MP 2010 and should have been MP 2020  
I already corrected it and is in this amended version

**Jenifer German Nugent**

Division Chief, Development Review Division  
Baltimore County Department of Planning  
105 West Chesapeake Avenue, Suite 101  
Towson, MD 21204  
(410) 887-3480  
(410) 887-7499 direct



[illegible]

## Martin State Airport Restriction



## Donna Mignon

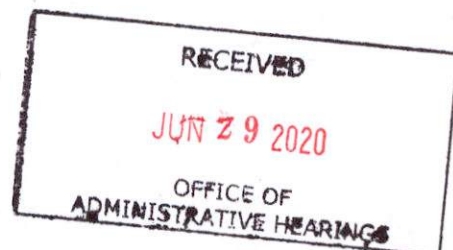
---

**From:** Kristen L Lewis  
**Sent:** Monday, June 29, 2020 2:08 PM  
**To:** Administrative Hearings  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Hi Donna,

Yes all have been sent an invite as panelists.

*Kristen Lewis*  
PAI – Zoning Review  
410-887-3391



---

**From:** Administrative Hearings  
**Sent:** Monday, June 29, 2020 1:52 PM  
**To:** Kristen L Lewis <klewis@baltimorecountymd.gov>  
**Subject:** FW: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Hi Kristen  
I just want to make sure you registered the below witnesses. Thank you so much.

Donna

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Monday, June 29, 2020 12:44 PM  
**To:** Administrative Hearings <administrativehearings@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from [AMRosenblatt@venable.com](mailto:AMRosenblatt@venable.com) originated from a non Baltimore County Government or non BCPL email system. Hover over any links before clicking and use caution opening attachments.

Yes, we have 4 potential witnesses registered (Rick Richardson, Christopher Hoffmann, Mickey Cornelius, and Ed Steere).

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

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**From:** Administrative Hearings <administrativehearings@baltimorecountymd.gov>  
**Sent:** Monday, June 29, 2020 12:43 PM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Thank you Adam.

Did you give Kristen any witnesses names and emails, that need to speak at your hearing?

Donna Mignon, Legal Assistant  
Baltimore County Office of Administrative Hearings  
105 West Chesapeake Avenue, Suite 103  
Towson, Maryland 21204  
410-887-3868

---

**From:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Sent:** Monday, June 29, 2020 12:38 PM  
**To:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Cc:** Administrative Hearings <[administrativehearings@baltimorecountymd.gov](mailto:administrativehearings@baltimorecountymd.gov)>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from [AMRosenblatt@venable.com](mailto:AMRosenblatt@venable.com) originated from a non-Baltimore County Government or non-BCPL email system. Hover over any links before clicking and use caution opening attachments.

Donna, here are the Exhibits for this hearing:

1. Site Plan
2. Attar case
3. Rick Richardson Resume
4. Aerial photograph
5. Site photos
6. Mickey Cornelius Resume
7. Traffic Impact Analysis
8. SHA Approval Letter
9. Ed Steere Resume
10. Ed Steere Report
  - a. Executive Summary
  - b. Full Report
11. Wawa Exhibit

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
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[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

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Hi Adam,

No problem. Thank you.

Donna

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Have a great weekend.

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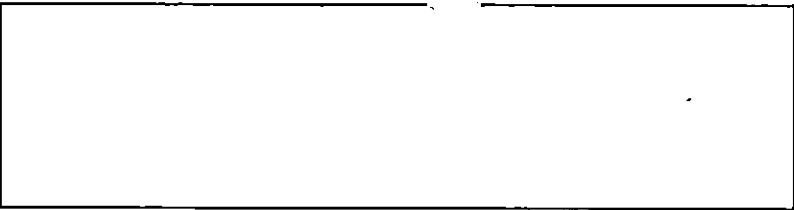
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Donna Mignon, Legal Assistant  
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410-887-3868



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## Donna Mignon

---

**From:** Administrative Hearings  
**Sent:** Monday, June 29, 2020 1:52 PM  
**To:** Kristen L Lewis  
**Subject:** FW: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Hi Kristen

I just want to make sure you registered the below witnesses. Thank you so much.

Donna

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Monday, June 29, 2020 12:44 PM  
**To:** Administrative Hearings <administrativehearings@baltimorecountymd.gov>  
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Yes, we have 4 potential witnesses registered (Rick Richardson, Christopher Hoffmann, Mickey Cornelius, and Ed Steere).

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**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Did you give Kristen any witnesses names and emails, that need to speak at your hearing?

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4. Aerial photograph
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7. Traffic Impact Analysis
8. SHA Approval Letter
9. Ed Steere Resume
10. Ed Steere Report
  - a. Executive Summary
  - b. Full Report
11. Wawa Exhibit

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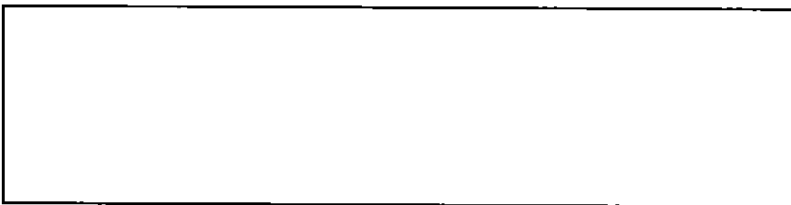
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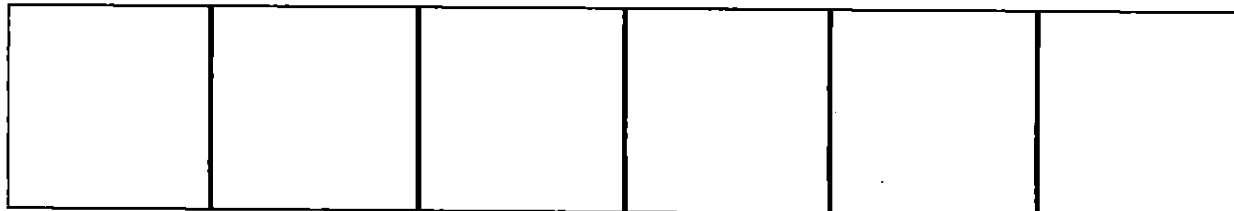
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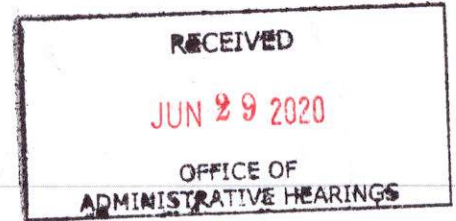
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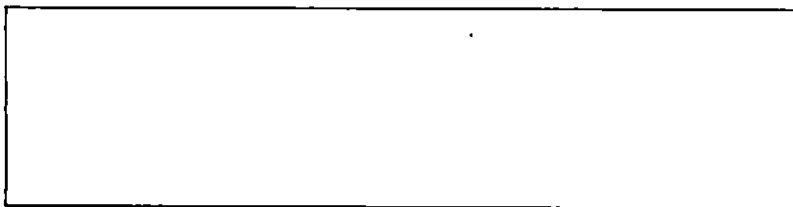
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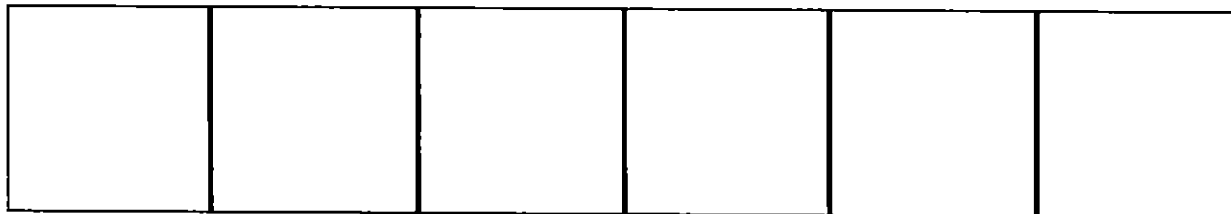
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## Real Property Data Search

## Search Result for BALTIMORE COUNTY

| View Map                                                         |                                             | View GroundRent Redemption                       |                               | View GroundRent Registration |                                                            |
|------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------|-------------------------------|------------------------------|------------------------------------------------------------|
| <b>Special Tax Recapture:</b> None                               |                                             |                                                  |                               |                              |                                                            |
| <b>Account Identifier:</b>                                       |                                             | <b>District - 15 Account Number - 1514651440</b> |                               |                              |                                                            |
| Owner Information                                                |                                             |                                                  |                               |                              |                                                            |
| <b>Owner Name:</b>                                               | WHITEMARSH ASSOCIATES LLC                   |                                                  | <b>Use:</b>                   | INDUSTRIAL                   |                                                            |
| <b>Mailing Address:</b>                                          | 1604 CRESTON DRIVE<br>FOREST HILL MD 21050- |                                                  | <b>Principal Residence:</b>   | NO                           |                                                            |
|                                                                  |                                             |                                                  | <b>Deed Reference:</b>        | /13490/ 00220                |                                                            |
| Location & Structure Information                                 |                                             |                                                  |                               |                              |                                                            |
| <b>Premises Address:</b>                                         |                                             | PHILADELPHIA RD<br>0-0000                        |                               | <b>Legal Description:</b>    | 4.046 AC<br>PHILADELPHIA RD SES<br>CORNER OF CAMPBELL BLVD |
| <b>Map:</b>                                                      | <b>Grid:</b>                                | <b>Parcel:</b>                                   | <b>Neighborhood:</b>          | <b>Subdivision:</b>          | <b>Section:</b>                                            |
| 0082                                                             | 0011                                        | 0026                                             | 30000.04                      | 0000                         |                                                            |
|                                                                  |                                             |                                                  |                               | <b>Block:</b>                | <b>Lot:</b>                                                |
|                                                                  |                                             |                                                  |                               |                              |                                                            |
|                                                                  |                                             |                                                  |                               | <b>Assessment Year:</b>      | <b>Plat No:</b>                                            |
|                                                                  |                                             |                                                  |                               | 2018                         |                                                            |
|                                                                  |                                             |                                                  |                               | <b>Plat Ref:</b>             |                                                            |
| <b>Town:</b> None                                                |                                             |                                                  |                               |                              |                                                            |
| <b>Primary Structure Built</b>                                   |                                             | <b>Above Grade Living Area</b>                   | <b>Finished Basement Area</b> | <b>Property Land Area</b>    | <b>County Use</b>                                          |
|                                                                  |                                             |                                                  |                               | 4.0500 AC                    | 18                                                         |
| <b>Stories</b>                                                   | <b>Basement</b>                             | <b>Type</b>                                      | <b>Exterior</b>               | <b>Quality</b>               | <b>Full/Half Bath</b>                                      |
|                                                                  |                                             |                                                  |                               |                              |                                                            |
| <b>Garage</b>                                                    |                                             |                                                  |                               |                              |                                                            |
| <b>Last Notice of Major Improvements</b>                         |                                             |                                                  |                               |                              |                                                            |
| Value Information                                                |                                             |                                                  |                               |                              |                                                            |
|                                                                  |                                             | <b>Base Value</b>                                | <b>Value</b>                  | <b>Phase-in Assessments</b>  |                                                            |
|                                                                  |                                             |                                                  | As of                         | As of                        | As of                                                      |
|                                                                  |                                             |                                                  | 01/01/2018                    | 07/01/2019                   | 07/01/2020                                                 |
| <b>Land:</b>                                                     |                                             | 4,000                                            | 4,000                         |                              |                                                            |
| <b>Improvements</b>                                              |                                             | 0                                                | 0                             |                              |                                                            |
| <b>Total:</b>                                                    |                                             | 4,000                                            | 4,000                         | 4,000                        | 4,000                                                      |
| <b>Preferential Land:</b>                                        |                                             | 0                                                |                               |                              | 0                                                          |
| Transfer Information                                             |                                             |                                                  |                               |                              |                                                            |
| <b>Seller:</b> REDLAND GENSTAR INC                               |                                             | <b>Date:</b> 02/01/1999                          |                               | <b>Price:</b> \$2,650,000    |                                                            |
| <b>Type:</b> ARMS LENGTH MULTIPLE                                |                                             | <b>Deed1:</b> /13490/ 00220                      |                               | <b>Deed2:</b>                |                                                            |
| <b>Seller:</b> FLINTKOTE COMPAN Y                                |                                             | <b>Date:</b> 10/28/1986                          |                               | <b>Price:</b> \$0            |                                                            |
| <b>Type:</b> NON-ARMS LENGTH OTHER                               |                                             | <b>Deed1:</b> /07309/ 00582                      |                               | <b>Deed2:</b>                |                                                            |
| <b>Seller:</b>                                                   |                                             | <b>Date:</b>                                     |                               | <b>Price:</b>                |                                                            |
| <b>Type:</b>                                                     |                                             | <b>Deed1:</b>                                    |                               | <b>Deed2:</b>                |                                                            |
| Exemption Information                                            |                                             |                                                  |                               |                              |                                                            |
| <b>Partial Exempt Assessments:</b>                               | <b>Class</b>                                | 07/01/2019                                       |                               | 07/01/2020                   |                                                            |
| <b>County:</b>                                                   | 000                                         | 0.00                                             |                               |                              |                                                            |
| <b>State:</b>                                                    | 000                                         | 0.00                                             |                               |                              |                                                            |
| <b>Municipal:</b>                                                | 000                                         | 0.00 0.00                                        |                               | 0.00 0.00                    |                                                            |
| <b>Special Tax Recapture:</b> None                               |                                             |                                                  |                               |                              |                                                            |
| Homestead Application Information                                |                                             |                                                  |                               |                              |                                                            |
| <b>Homestead Application Status:</b> No Application              |                                             |                                                  |                               |                              |                                                            |
| Homeowners' Tax Credit Application Information                   |                                             |                                                  |                               |                              |                                                            |
| <b>Homeowners' Tax Credit Application Status:</b> No Application |                                             |                                                  |                               | <b>Date:</b>                 |                                                            |

## Donna Mignon

---

**From:** Donna Mignon  
**Sent:** Friday, June 26, 2020 11:44 AM  
**To:** 'Rosenblatt, Adam M.'  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Hi Adam,

Thank you.

Have a great weekend.

Donna

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Friday, June 26, 2020 11:40 AM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**CAUTION:** This message from [AMRosenblatt@venable.com](mailto:AMRosenblatt@venable.com) originated from a non Baltimore County Government or non BCPL email system. Hover over any links before clicking and use caution opening attachments.

Hi Donna,

As we just discussed I will email the exhibits and the second sign certification to you on Monday for this Wednesday hearing.

Thank you and have a nice weekend.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

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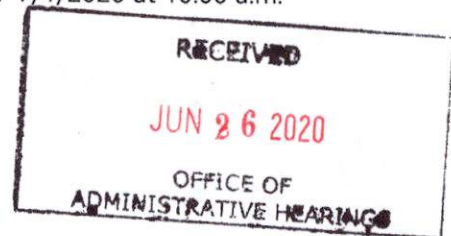
**From:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Sent:** Tuesday, June 23, 2020 11:49 AM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Thank you so much.

---

**From:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Sent:** Tuesday, June 23, 2020 11:47 AM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.



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Absolutely. My plan is to email everything on Friday.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

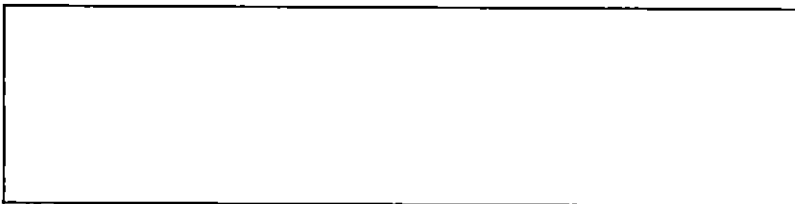
**From:** Donna Mignon <[dmignon@baltimorecountymd.gov](mailto:dmignon@baltimorecountymd.gov)>  
**Sent:** Tuesday, June 23, 2020 11:31 AM  
**To:** Rosenblatt, Adam M. <[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com)>  
**Subject:** 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

**Caution: External Email**

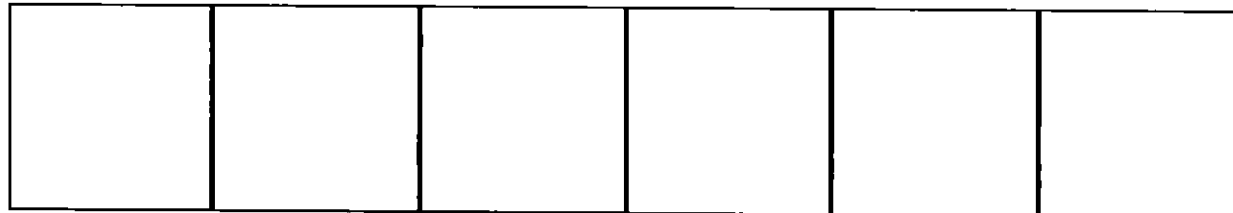
Good Morning Adam,  
Just a friendly reminder, that we need any exhibits you wish to present at the hearing emailed to us at  
: [administrativehearings@baltimorecountymd.gov](mailto:administrativehearings@baltimorecountymd.gov)

Thank you so much.  
Have a great day.

Donna Mignon, Legal Assistant  
Baltimore County Office of Administrative Hearings  
105 West Chesapeake Avenue, Suite 103  
Towson, Maryland 21204  
410-887-3868



**CONNECT WITH BALTIMORE COUNTY**



[www.baltimorecountymd.gov](http://www.baltimorecountymd.gov)

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## Donna Mignon

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**Sent:** Tuesday, June 23, 2020 11:49 AM  
**To:** 'Rosenblatt, Adam M.'  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Thank you so much.

---

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**Sent:** Tuesday, June 23, 2020 11:47 AM  
**To:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Subject:** RE: 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

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Absolutely. My plan is to email everything on Friday.

Adam M. Rosenblatt, Esq. | Venable LLP  
t 410.494.6271 | f 410.821.0147 | m 410.294.9430  
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

[AMRosenblatt@Venable.com](mailto:AMRosenblatt@Venable.com) | [www.Venable.com](http://www.Venable.com)

**From:** Donna Mignon <dmignon@baltimorecountymd.gov>  
**Sent:** Tuesday, June 23, 2020 11:31 AM  
**To:** Rosenblatt, Adam M. <AMRosenblatt@Venable.com>  
**Subject:** 5401 Campbell Boulevard Hearing Date: 7/1/2020 at 10:00 a.m.

Caution: External Email

Good Morning Adam,  
Just a friendly reminder, that we need any exhibits you wish to present at the hearing emailed to us at  
: [administrativehearings@baltimorecountymd.gov](mailto:administrativehearings@baltimorecountymd.gov)

Thank you so much.  
Have a great day.

Donna Mignon, Legal Assistant  
Baltimore County Office of Administrative Hearings  
105 West Chesapeake Avenue, Suite 103  
Towson, Maryland 21204  
410-887-3868



COMMISSIONER OF LANDS  
OFFICE OF  
J. M. A. T. 1850  
RECEIVED



JOHN A. OLSZEWSKI, JR.  
County Executive

PM 7-1-20  
10 AM

MICHAEL D. MALLINOFF, *Director*  
Department of Permits,  
Approvals & Inspections

June 22, 2020

Adam M. Rosenblatt,  
Venable 210 W. Pennsylvania Ave Suite 500  
Towson MD 21204

RE: Case Number: 2019-0534-X, 5401 Campbell Boulevard

To Whom It May Concern:

The above referenced petition was accepted for processing **ONLY** by the Bureau of Zoning Review, Department of Permits, Approvals, and Inspection (PAI) on December 05, 2019. This letter is not an approval, but only a **NOTIFICATION**.

The Zoning Advisory Committee (ZAC), which consists of representatives from several approval agencies, has reviewed the plans that were submitted with your petition. All comments submitted thus far from the members of the ZAC are attached. These comments are not intended to indicate the appropriateness of the zoning action requested, but to ensure that all parties (zoning commissioner, attorney, petitioner, etc.) are made aware of plans or problems with regard to the proposed improvements that may have a bearing on this case. All comments will be placed in the permanent case file.

If you need further information or have any questions, please do not hesitate to contact the commenting agency.

Very truly yours,  
A handwritten signature in black ink, appearing to read "W. Carl Richards, Jr.", is written over the phrase "Very truly yours,".

W. Carl Richards, Jr.  
Supervisor, Zoning Review

WCR/kl

Enclosures

c: People's Counsel

BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence



TO: Hon. Paul M. Mayhew; Managing Administrative Law Judge  
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and  
Sustainability (EPS) - Development Coordination

DATE: December 13, 2019

SUBJECT: DEPS Comment for Zoning Item # 2019-0534-X  
Address 5401 Campbell Blvd.  
(Whitemarsh Associates, LLC  
Property)

Zoning Advisory Committee Meeting of **December 16, 2019.**

- X The Department of Environmental Protection and Sustainability offers the following comments on the above-referenced zoning item:
- X Development of the property must comply with the Regulations for the Protection of Water Quality, Streams, Wetlands and Floodplains (Sections 33-3-101 through 33-3-120 of the Baltimore County Code).

Additional Comments:

1. Development of this site would require a variance to the Law for the Protection of Water Quality Streams, Wetlands and Floodplains. Any such buffer variance request must clearly meet the requirements of Section 33-3-106 and the legislative intent outlined in Section 33-3-103. Given the amount of impact to forested non-tidal wetlands and Forest Buffer Easement proposed on the plan accompanying the zoning petition, the development proposal does not appear to meet the variance criteria.
2. This project will require presentation to the Development Review Committee (DRC) for determination of plan process prior to issuance of any permits for grading or construction.

Reviewers: Glenn Shaffer & Steve Ford



3-27  
1:30

Debra Wiley

**From:** Debra Wiley  
**Sent:** Tuesday, March 17, 2020 9:44 AM  
**To:** 'arosenblatt@venable.com'  
**Subject:** Hearings Postponed Before the OAH

Good Morning Mr. Rosenblatt

Please be advised that a voice mail was left for you this morning regarding hearings before our office.

Due to the coronavirus, we will not be conducting public hearings during the month of March. Therefore, Case No. 2019-0534-X scheduled for Friday, March 27, 2020 @ 1:30 PM has been postponed; this information is reflected on the County's website. For your reference, please see the following link:  
<https://www.baltimorecountymd.gov/Agencies/adminhearings/index.html>

We kindly ask if you could notify all interested parties of this postponement, and this will be rescheduled as soon as possible. Please feel free to contact our office if you have any questions and/or concerns and thanks for your assistance during this time.

Debra Wiley, Legal Administrative Secretary  
Baltimore County Office of Administrative Hearings  
105 West Chesapeake Avenue, Suite 103  
Towson, Maryland 21204  
410-887-3868

3-17 9:39 AM V.M. left - Adam Rosenblatt



## PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 5401 Campbell Boulevard

which is presently zoned ML IM

Deed References: 13490/220

10 Digit Tax Account # 1 5 1 4 6 5 1 4 4 0

Property Owner(s) Printed Name(s) Whitemarsh Associates, LLC

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1.      a **Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. X a **Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for  
SEE ATTACHED

3.      a **Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons:  
(Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

**Legal Owner(s) Affirmation:** I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

### Contract Purchaser/Lessee:

N/A SEE ATTACHED

Name- Type or Print

Signature

Mailing Address

City

State

Zip Code

Telephone #

Email Address

### Attorney for Petitioner:

Adam M. Rosenblatt

Name- Type or Print

Signature

Venable, 210 W. Pennsylvania Ave, Suite 500, Towson, MD

Mailing Address

City

State

21204

/ 410-494-6271

/ amrosenblatt@venable.com

Zip Code

Telephone #

Email Address

### Legal Owners (Petitioners):

SEE ATTACHED

Name #1 - Type or Print

Name #2 - Type or Print

Signature #1

Signature #2

Mailing Address

City

State

Zip Code

Telephone #

Email Address

### Representative to be contacted:

Adam M. Rosenblatt

Name- Type or Print

Signature

Venable, 210 W. Pennsylvania Ave., Suite 500, Towson, MD

Mailing Address

City

State

21204

/ 410-494-6271

/ amrosenblatt@venable.com

Zip Code

Telephone #

Email Address

CASE NUMBER 2019-0534-X

Filing Date 12/5/2019

Do Not Schedule Dates: \_\_\_\_\_

Reviewer [Signature]

REV. 10/4/11

3-27 @ 1:30 pm

3-17 9:39 AM V. M. [Signature]  
Rosenblatt [Signature]  
D. Willey [Signature]





# PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 909 BELFAST ROAD which is presently zoned RC-2  
Deed References: 39915-00185 10 Digit Tax Account # 2400013348  
Property Owner(s) Printed Name(s) ALEC B. & SUZANNE L. HUBER

(SELECT THE HEARING(S) BY MARKING **X** AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1.      a **Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve
2.      a **Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for
3.   X   a **Variance** from Section(s) 400.1 & 400.3, BC22, TO PERMIT AN ACCESSORY STRUCTURE LOCATED IN THE SIDE AND FRONT YARDS IN LIEU OF THE REQUIRED REAR YARD, WITH A HEIGHT OF 30ft. IN LIEU OF THE PERMITTED 15ft.

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons:  
(Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)

Property is to be posted and advertised as prescribed by the zoning regulations.

I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

## Contract Purchaser/Lessee:

Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

## Attorney for Petitioner:

Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

## Legal Owners (Petitioners):

Suzanne Huber, ALEC B. HUBER

Name #1 - Type or Print

Name #2 - Type or Print

Signature #1

Signature #2

909 BELFAST RD, SPARKS, MD.

Mailing Address City State

21152, 410-227-1500, al@os-pros.com

Zip Code Telephone # Email Address

## Representative to be contacted:

PATRICK O'KEEFE

Name - Type or Print

Patrick O'Keefe

Signature

523 PENNY LANE, COCKEYSVILLE, MD.

Mailing Address City State

21030, 410-666-5366

Zip Code Telephone # Email Address

CASE NUMBER 2020-0029-A Filing Date 01/29/2020

Do Not Schedule Dates: \_\_\_\_\_

Reviewer JCM

REV. 10/4/11

3-27 @ 11am

S. to Mr. O'Keefe  
9:33 am 3-17  
D. Wiley



**14 ED BM**  
 Pt. Bk. 0000066, Folio 0149  
 2200020877

**15 ED**  
 2008-0586-SPH  
 2019-0453-SPH  
 1514651440

**NE 7-H**  
**082B2**

**ML IM**  
 R-1994-0337

**BR**

**082C2**

**6 CD**

**BM**  
 1508301250

**Martin State Airport Restriction**

**Streets:** CAMPBELL BLVD, PHILADELPHIA RD, ROAD ROAD

**Lot/Folio/Block Numbers:**  
 Lot # 47B, 2500012025  
 Pt. Bk./Folio # 079471  
 Pt. Bk. 0000079, Folio 0471  
 PAI # 140302  
 Pt. Bk./Folio # 066149  
 PAI # 140302  
 PAI # 140302  
 Pt. Bk. 0000070, Folio 0090  
 2300002821  
 2006-132-A  
 Pt. Bk./Folio # 070090  
 10105  
 1994-0481-XA  
 15430300  
 10105  
 1505430800  
 10101  
 2400001804  
 Pt. Bk./Folio # 071001  
 Lot # 4  
 2000-0098  
 PHA  
 2300004205  
 PAI # 150695  
 1997-0206-X  
 Pt. Bk. 0000071, Folio 0001  
 PAI # 150695  
 PAI # 150695  
 PAI # 150695  
 Pt. Bk./Folio # 068035  
 2200023286  
 2500003570  
 2500003571  
 2500003569  
 PAI # 150769  
 PAI # 150769  
 Pt. Bk./Folio # C031648

2006-132-A  
Pt. Bk./Folio # 070090

10105

10101

2400001804

Lot # 1

2000-0098 PHA

2300004205

1997 0306 Y

Pt. Bk. 0000071, Folio 0001

BR

082C2

PAI # 150695

PAI # 150695

PAI # 150695

Pt. Bk./Folio # C031648

2500003570

2500003571

2500003569

PAI # 150769

PAI # 150769

ML IM

R-1994-0337

NE 7-H

082B2

1514651440

15 ED

2008-0586-SPH  
2019-0453-SPH

1508301250

BM

## Martin State Airport Restriction



**Permits, Approvals & Inspections**111 W. Chesapeake Avenue  
Towson, MD 21204Report Generated On:  
12/5/2019**Permit Processing Commerical Permit & Development Report**

Page 1 of 2

**Property Information**

Tax Account Number: 1514651440

Election District: 15

Owner Name(s): WHITEMARSH ASSOCIATES LLC

PDM #:

Address: 1604 CRESTON DRIVE

Zoning District(s): ML IM

FOREST HILL, MD 21050

Premise Address: PHILADELPHIA RD

Elevation Range: 42ft - 56ft

| Affected Overlays                                                                                                                                                           | Instructions: Begin review process with Zoning Review, Room 111.                                                          | New Com Bldg. | Interior Alts. | Add / Ext. Alts. | Piers/Pilings | Grading/SW | Tanks | Ret. Walls/Bulk | Razing | Chg. of Occup. | Tower Antenna | Signs | Elect. & Plumb | Agency Acknowledgment |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------|----------------|------------------|---------------|------------|-------|-----------------|--------|----------------|---------------|-------|----------------|-----------------------|
| Contact Agency                                                                                                                                                              | Potential Overlay Issues                                                                                                  |               |                |                  |               |            |       |                 |        |                |               |       |                |                       |
|                                                                                                                                                                             | Growth Tier 1: Served by public sewer and inside URDL                                                                     |               |                |                  |               |            |       |                 |        |                |               |       |                | Initial & Date        |
| <b>EPS-Dev. Coord.</b><br>County Office Building<br>Room 319<br>Phone: 410-887-3733                                                                                         | 100 Year Flood Zone                                                                                                       | X             |                | X                |               | X          | X     | X               |        |                | X             |       |                |                       |
| <b>PAI-Sed. Control Insp.</b><br>County Office Building<br>Room G-21<br>Phone: 410-887-3226                                                                                 | Note: All Razing Permits must be sent to Sediment Control for review.<br>100 Year Flood Zone                              | X             |                | X                |               | X          |       | X               |        |                |               |       |                |                       |
| <b>PAI-Public Services</b><br>County Office Building<br>Room 119<br>Phone: 410-887-3751                                                                                     | Note: All permits for Grading, New Buildings & Building Additions must be sent to Public Services.<br>100 Year Flood Zone | X             | X              | X                |               | X          | X     |                 |        | X              | X             |       | X              | OK To File            |
| <b>MD Aviation Administration</b><br>Division of Airport Facilities Planning<br>P.O. Box 8766<br>BWI Marshall Airport, MD 21240-0766<br>Phone: 410-859-7692 or 410-859-7070 | Martin State Aiport Zoning Area                                                                                           | X             |                | X                | X             | X          | X     | X               | X      |                | X             |       |                | OK To File            |
| <b>Zoning Review</b><br>County Office Building<br>Room 111<br>Phone: 410-887-3391                                                                                           | Zoning Cases: R-1994-0337; 2008-0586-SPH; 2019-0453-SPH                                                                   | X             |                | X                | X             | X          | X     |                 |        | X              | X             | X     |                |                       |

**Permits, Approvals & Inspections**111 W. Chesapeake Avenue  
Towson, MD 21204Report Generated On:  
12/5/2019**Permit Processing Commerical Permit & Development Report**

Page 2 of 2

**Property Information**

Tax Account Number: 1514651440

Election District: 15

Owner Name(s): WHITEMARSH ASSOCIATES LLC

PDM #:

Address: 1604 CRESTON DRIVE  
FOREST HILL, MD 21050

Zoning District(s): ML IM

Premise Address: PHILADELPHIA RD

Elevation Range: 42ft - 56ft

| Affected Overlays                                                                  | Instructions: Begin review process with Zoning Review, Room 111. | New Com Bldg. | Interior Alts. | Add / Ext. Alts. | Piers/Pilings | Grading/SW | Tanks | Ret. Walls/Bulk | Razing | Chg. of Occup. | Tower Antenna | Signs | Elect. & Plumb | Agency Acknowledgment |
|------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------|----------------|------------------|---------------|------------|-------|-----------------|--------|----------------|---------------|-------|----------------|-----------------------|
|                                                                                    |                                                                  |               |                |                  |               |            |       |                 |        |                |               |       |                |                       |
| Contact Agency                                                                     | Potential Overlay Issues                                         |               |                |                  |               |            |       |                 |        |                |               |       |                | Initial & Date        |
|                                                                                    | Growth Tier 1: Served by public sewer and inside URDL            |               |                |                  |               |            |       |                 |        |                |               |       |                |                       |
| Building Plans Review<br>County Office Building<br>Room 120<br>Phone: 410-887-3987 | 100 Year Flood Zone                                              | X             | X              | X                | X             |            | X     | X               |        |                | X             |       |                |                       |
|                                                                                    |                                                                  |               |                |                  |               |            |       |                 |        |                |               |       |                |                       |



Real Property Data Search ( w4)

2019-0534-X

Search Result for BALTIMORE COUNTY

| View Map                                                  |                                             | View GroundRent Redemption                |                        | View GroundRent Registration                               |                                   |
|-----------------------------------------------------------|---------------------------------------------|-------------------------------------------|------------------------|------------------------------------------------------------|-----------------------------------|
| Tax Exempt: None                                          |                                             | Special Tax Recapture: None               |                        |                                                            |                                   |
| Exempt Class: None                                        |                                             |                                           |                        |                                                            |                                   |
| Account Identifier:                                       |                                             | District - 15 Account Number - 1514651440 |                        |                                                            |                                   |
| Owner Information                                         |                                             |                                           |                        |                                                            |                                   |
| Owner Name:                                               | WHITEMARSH ASSOCIATES LLC                   |                                           | Use:                   | INDUSTRIAL                                                 |                                   |
| Mailing Address:                                          | 1604 CRESTON DRIVE<br>FOREST HILL MD 21050- |                                           | Principal Residence:   | NO                                                         |                                   |
|                                                           |                                             |                                           | Deed Reference:        | /13490/ 00220                                              |                                   |
| Location & Structure Information                          |                                             |                                           |                        |                                                            |                                   |
| Premises Address:                                         | PHILADELPHIA RD<br>0-0000                   |                                           | Legal Description:     | 4.046 AC<br>PHILADELPHIA RD SES<br>CORNER OF CAMPBELL BLVD |                                   |
| Map:                                                      | Grid:                                       | Parcel:                                   | Neighborhood:          | Subdivision:                                               | Section:                          |
| 0082                                                      | 0011                                        | 0026                                      | 30000.04               | 0000                                                       |                                   |
|                                                           |                                             |                                           |                        |                                                            | Block:                            |
|                                                           |                                             |                                           |                        |                                                            | Lot:                              |
|                                                           |                                             |                                           |                        |                                                            | Assessment Year:                  |
|                                                           |                                             |                                           |                        |                                                            | 2018                              |
|                                                           |                                             |                                           |                        |                                                            | Plat No:                          |
|                                                           |                                             |                                           |                        |                                                            | Plat Ref:                         |
| Special Tax Areas: None                                   |                                             |                                           | Town:                  |                                                            | None                              |
|                                                           |                                             |                                           | Ad Valorem:            |                                                            | None                              |
|                                                           |                                             |                                           | Tax Class:             |                                                            | None                              |
| Primary Structure Built                                   | Above Grade Living Area                     |                                           | Finished Basement Area |                                                            | Property Land Area                |
|                                                           |                                             |                                           |                        |                                                            | 4.0500 AC                         |
|                                                           |                                             |                                           |                        |                                                            | County Use                        |
|                                                           |                                             |                                           |                        |                                                            | 18                                |
| Stories                                                   | Basement                                    | Type                                      | Exterior               | Quality                                                    | Full/Half Bath                    |
|                                                           |                                             |                                           | /                      |                                                            |                                   |
|                                                           |                                             |                                           |                        |                                                            | Garage                            |
|                                                           |                                             |                                           |                        |                                                            | Last Notice of Major Improvements |
| Value Information                                         |                                             |                                           |                        |                                                            |                                   |
|                                                           | Base Value                                  |                                           | Value                  |                                                            | Phase-in Assessments              |
|                                                           |                                             |                                           | As of                  |                                                            | As of                             |
|                                                           |                                             |                                           | 01/01/2018             |                                                            | 07/01/2019                        |
|                                                           |                                             |                                           |                        |                                                            | As of                             |
|                                                           |                                             |                                           |                        |                                                            | 07/01/2020                        |
| Land:                                                     | 4,000                                       |                                           | 4,000                  |                                                            |                                   |
| Improvements                                              | 0                                           |                                           | 0                      |                                                            |                                   |
| Total:                                                    | 4,000                                       |                                           | 4,000                  |                                                            | 4,000                             |
| Preferential Land:                                        | 0                                           |                                           |                        |                                                            | 4,000                             |
|                                                           |                                             |                                           |                        |                                                            | 0                                 |
| Transfer Information                                      |                                             |                                           |                        |                                                            |                                   |
| Seller: REDLAND GENSTAR INC                               |                                             | Date: 02/01/1999                          |                        | Price: \$2,650,000                                         |                                   |
| Type: ARMS LENGTH MULTIPLE                                |                                             | Deed1: /13490/ 00220                      |                        | Deed2:                                                     |                                   |
| Seller: FLINTKOTE COMPAN Y                                |                                             | Date: 10/28/1986                          |                        | Price: \$0                                                 |                                   |
| Type: NON-ARMS LENGTH OTHER                               |                                             | Deed1: /07309/ 00582                      |                        | Deed2:                                                     |                                   |
| Seller:                                                   |                                             | Date:                                     |                        | Price:                                                     |                                   |
| Type:                                                     |                                             | Deed1:                                    |                        | Deed2:                                                     |                                   |
| Exemption Information                                     |                                             |                                           |                        |                                                            |                                   |
| Partial Exempt Assessments:                               | Class                                       | 07/01/2019                                |                        | 07/01/2020                                                 |                                   |
| County:                                                   | 000                                         | 0.00                                      |                        |                                                            |                                   |
| State:                                                    | 000                                         | 0.00                                      |                        |                                                            |                                   |
| Municipal:                                                | 000                                         | 0.00 0.00                                 |                        | 0.00 0.00                                                  |                                   |
| Tax Exempt: None                                          |                                             | Special Tax Recapture: None               |                        |                                                            |                                   |
| Exempt Class: None                                        |                                             |                                           |                        |                                                            |                                   |
| Homestead Application Information                         |                                             |                                           |                        |                                                            |                                   |
| Homestead Application Status: No Application              |                                             |                                           |                        |                                                            |                                   |
| Homeowners' Tax Credit Application Information            |                                             |                                           |                        |                                                            |                                   |
| Homeowners' Tax Credit Application Status: No Application |                                             |                                           |                        | Date:                                                      |                                   |

1. This screen allows you to search the Real Property database and display property records.
2. Click [here](#) for a glossary of terms.
3. Deleted accounts can only be selected by Property Account Identifier.
4. The following pages are for information purpose only. The data is not to be used for legal reports or documents. While we have confidence in the accuracy of these records, the Department makes no warranties, expressed or implied, regarding the information.