TRAFFIC IMPACT STUDY

For

Wawa Food Market
and Fueling Station
Proposed Site Improvements

Property Located at:

602 Black Horse Pike (NJ Route 168)
Block 124 – Lots 1.01 & 1.02 &
Block 35 – Lots 1, 2.01, 13.01 & 13.02
Borough of Mount Ephraim, Camden County, NJ

Prepared by:

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October 10, 2019
Revised: June 3, 2021

0034-14-252T

CJY;ned

INTRODUCTION

It is proposed to construct site improvements to a parcel of land currently developed with a Wawa Food Market and Fueling Station, a commercial building, and a single family residential home, located in the northeast corner of the intersection of Black Horse Pike (NJ Route 168) and Valley Road/5th Avenue in the Borough of Mount Ephraim, Camden County, New Jersey, see Figure 1 in Appendix A. The site is designated as Block 124 – Lots 1.01 and 1.02 and Block 35 – Lots 1, 2.01, 13.01 and 13.02 on the Borough of Mount Ephraim Tax Maps. The existing use consists of a 5,770 SF Wawa Food Market and Fueling Station along Black Horse Pike, a 4,030 SF commercial building located in the northeast corner of the intersection of Black Horse Pike and Valley Road, and a single family residential home along Valley Road.

It is proposed to raze the single family residential home and construct a new full movement driveway along Valley Road for access to both the existing Wawa and commercial building (The Project). The site is located within the C – Commercial and R-1 – Residential Zones.

Access to the Wawa is currently provided via a full movement driveway along Black Horse Pike, while access to the existing commercial building is currently provided via depressed curb/open driveway along Valley Road, and access to the existing single family home is provided via a driveway along Valley Road. It is proposed to install full height curb in front of the commercial building on Valley Road and reconstruct the residential driveway as a new full movement driveway along Valley Road for shared access to the existing Wawa and commercial building. It is not proposed to make any changes to the Wawa driveway along Black Horse Pike.

Dynamic Traffic LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.

- Existing traffic data was collected via manual turning movement (MTM) counts during the weekday AM, weekday PM, and Saturday midday peak periods at the intersections of:

    - Black Horse Pike and Valley Road/5th Avenue
    - Black Horse Pike and Wawa Site Driveway

- Existing site traffic was redistributed based on the new driveway configuration.

- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.

- The proposed driveway was inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to adjacent driveways, and conformance with accepted design standards.

- The parking layout and supply was assessed based on accepted design standards, local requirements, and demand experienced at similar developments.

EXISTING CONDITIONS

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the new access scenario. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and intersection analyses.

Existing Roadway Conditions

The following are descriptions of the roadways in the study area:

Black Horse Pike (NJ Route 168) is an Urban Principal Arterial roadway under New Jersey Department of Transportation (NJDOT) jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 40 MPH and the roadway provides one lane of travel in each direction, a center left turn lane, and narrow shoulders. On-street parking is not permitted along either side of the roadway. Curb and sidewalk are provided along both sides of the roadway. Black Horse Pike provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Black Horse Pike in the vicinity of The Project are primarily commercial.

Valley Road (CR 660) is an Urban Major Collector roadway under Camden County jurisdiction with a general east/west orientation. In the vicinity of the site the speed limit is 25 MPH and the roadway provides one travel lane in each direction. On-street parking is permitted along portions of the roadway. Curb and sidewalk are provided along both sides of the roadway. Valley Road in the vicinity of Black Horse Pike provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Valley Road are primarily residential.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted on Tuesday, September 17, 2019 from 7:00 to 9:00 AM and from 4:30 to 6:30 PM and on Saturday, September 21, 2019 from 11:00 AM to 2:00 PM at the following intersections:

- Black Horse Pike and Valley Road/5th Avenue
- Black Horse Pike and Wawa Driveway

Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 7:15 – 8:15 AM, the weekday evening PSH occurs between 4:30 – 5:30 PM and the Saturday PSH occurs between 11:30 – 12:30 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a "qualitative" evaluation of capacity based upon certain "quantitative" calculations related to empirical values, such as traffic volume and intersection control.

At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal "green time", turning percentages, truck volumes, etc. However, delays cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the Level of Service "F" range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle lengths; a particular traffic movement experiences a long red time; or progressive movement for a particular lane group is poor. Table I describes the level of service ranges for signalized intersections.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table II describes the level of service ranges for unsignalized (stop controlled) intersections.

Table I
Level of Service Criteria
for Signalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	greater than 80.0

Table II
Level of Service Criteria
for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
a	0.0 to 10.0
b	10.1 to 15.0
c	15.1 to 25.0
d	25.1 to 35.0
e	35.1 to 50.0
f	greater than 50.0

It should be noted that the analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles, such as the signalized intersection of Black Horse Pike and Valley Road/5th Avenue.

All capacity analyses were performed utilizing Synchro 10 Software. Table III summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

Table III
Existing Levels of Service

Intersection	Direction/ Movement		AM PSH	PM PSH	SAT PSH
Black Horse Pike & Valley Road/5th Avenue	EB	LTR	E (69)	E (57)	D (48)
	WB	LTR	E (68)	E (69)	E (63)
	NB	L	A (3)	A (4)	A (3)
		TR	A (5)	A (5)	A (5)
	SB	L	A (3)	A (4)	A (3)
		TR	A (3)	A (10)	A (4)
	Total		**B (11)**	**B (12)**	**A (8)**
Black Horse Pike & Wawa Driveway	WB	L	d (27)	d (34)	e (37)
		R	c (25)	c (17)	c (24)
	SB	L	b (11)	a (10)	b (11)

a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)
A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)

The following are discussions pertaining to each of the existing intersections analyzed. It should be noted that the existing percentage of trucks and peak hour factors were used in the existing analysis.

Black Horse Pike and Valley Road/5th Avenue

Valley Road/5th Avenue intersect Black Horse Pike to form a four-leg (slightly offset) intersection controlled by a traffic signal. This signal operates on a two-phase 140-second background cycle.

Black Horse Pike provides a dedicated left turn lane and a shared through/right turn lane in each direction. Valley Road and 5th Avenue both provide a single lane approach (shared left/through/right lane).

A review of the existing analysis reveals that the overall intersection operates at a level of service "B" or better and all individual movements operate at levels of service "E" or better during the analyzed peak periods. See Table III for the individual movement levels of service and delays.

Black Horse Pike and Wawa Driveway

The Wawa site driveway intersects Black Horse Pike to form a T-intersection with the site driveway operating under stop control. The northbound approach of Black Horse Pike provides a shared through/right turn lane, while the southbound approach provides a through lane and a shared two-way left turn lane. The westbound approach of the site driveway provides a dedicated left turn lane and a dedicated right turn lane.

A review of the existing analysis reveals that all movements operate at levels of service "E" or better during the analyzed peak periods. See Table III for the individual movement levels of service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the 2022 No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of the proposed site improvements and redistribution of traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was obtained from the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 2.0% per year.

Through consultation with the Mount Ephraim Borough Planning Board staff, there are no other developments in the vicinity of the site that have been approved but not yet constructed that are identified as significant traffic generators. It was assumed that the background growth rate was adequate to account for the future traffic condition.

Future 2022 No Build traffic volumes were developed by applying the background growth rate of 2.0% for three (3) years to the study area roadways existing traffic volumes. Figure 3, in Appendix A, shows the 2022 No Build traffic volumes.

Trip Redistribution

The traffic volume entering and exiting the site is not anticipated to change; however, a portion of the volume will be redistributed to the new driveway. This redistribution was carried out utilizing the No Build traffic volumes, determining which trips the proposed driveway affects, and rerouting those trips to the proposed driveway. Trips which were previously entering the existing site driveway were rerouted from 5th Avenue Eastbound, Valley Road Westbound, and Blackhorse Pike Northbound and redistributed to the proposed site driveway. Trips which were previously exiting the existing site driveway were rerouted from the exiting left turn movement at the existing site driveway and redistributed to the southbound left and right movements at the proposed site driveway. The detailed trip redistribution is contained in Appendix A.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table VI below.

Table VI
Future Levels of Service

Intersection	Direction/ Movement		AM PSH			PM PSH			SAT PSH		
			No Build	Build	Build w/ Mit.	No Build	Build	Build w/ Mit.	No Build	Build	Build w/ Mit.
Black Horse Pike & Valley Road/ 5th Avenue	EB	LTR	E (78)	E (67)	E (66)	E (60)	E (58)	E (57)	D (53)	D (50)	D (50)
	WB	LTR	E (77)	F (80)	E (79)	E (71)	E (72)	E (72)	E (73)	E (77)	E (76)
	NB	L	A (3)	A (3)	A (3)	A (4)	A (4)	A (4)	A (3)	A (3)	A (3)
		TR	A (6)	A (6)	A (6)	A (6)	A (6)	A (6)	A (5)	A (6)	A (6)
	SB	L	A (3)	A (3)	A (3)	A (4)	A (4)	A (4)	A (3)	A (3)	A (3)
		TR	A (4)	A (4)	A (4)	B (11)	B (10)	B (11)	A (4)	A (5)	A (5)
	Total		**B (13)**	**B (13)**	**B (13)**	**B (13)**	**B (13)**	**B (13)**	**A (9)**	**A (10)**	**A (10)**
Black Horse Pike & Wawa Driveway	WB	L	d (28)	c (24)	-	e (35)	d (32)	-	e (98)	d (31)	-
		R	d (27)	c (25)	-	c (18)	c (17)	-	d (26)	c (24)	-
	SB	LT	b (11)	b (11)	-	a (10)	a (10)	-	b (11)	b (10)	-
Valley Ave & Proposed Wawa Driveway	EB	LT	-	a (8)	-	-	a (7)	-	-	a (7)	-
	SB	LR	-	a (10)	-	-	a (9)	-	-	a (9)	-

a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)
A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)

Black Horse Pike and Valley Road/5th Avenue

With the redistribution of site traffic, the intersection is anticipated to operate at overall No Build levels of service "B" or better during the studied peak hours. Additionally, each movement is anticipated to operate with levels of service "E" or better during the studied peak hours, with the exception of the eastbound approach, which is expected to operate with level of service "F" during the weekday morning peak hour.

Note that with a minor signal timing adjustment of one second, all movements would operate with No Build levels of service "E" or better with no increase in overall delay. Specifically, the reallocation of one second from the Black Horse Pike ROW phase to the Valley Road/5th Avenue ROW phase would be necessary. See Table VI for the individual movement levels of service and delays.

Black Horse Pike and Existing Wawa Driveway

With the redistribution of site traffic, the intersection is anticipated to operate at levels of service "D" or better during the studied peak hours. The operation of the driveway (specifically the left turn exiting movement) is anticipated to be improved upon redistribution to Valley Road. See Table VI for the individual movement levels of service and delays.

Valley Road and Proposed Wawa Driveway

The site driveway is proposed to intersect Valley Road to form an unsignalized T-intersection with the site driveway operating under stop control. The eastbound approach of Valley Road is proposed to provide a shared left turn/through lane. The westbound approach of Valley Road is proposed to provide a shared through/right turn lane. The site driveway is proposed to provide a shared left turn/right turn lane. Site traffic destined to the east along Valley Road will no longer have to access Black Horse Pike and site traffic destined to the south and west will be provided a safety improvement by providing access to the traffic signal at Valley Road.

As designed, the driveway is anticipated to operate at levels of service "A" or better during the studied peak hours. See Table VI for the individual movement levels of service and delays.

SITE PLAN

Site Access and Circulation

The site plan was reviewed with respect to the site access and on-site circulation design. As noted previously, access to The Project will be provided via the existing full movement driveway along Black Horse Pike and a new full movement driveway along Valley Road.

The new driveway will provide a 25' width to accommodate both entering and exiting traffic. The new driveway will also provide access to the commercial building thus eliminating the open depressed curb/access along the Valley Road frontage. It is currently envisioned that the delivery vehicles (fuel and food) will remain at the Black Horse Pike driveway.

Parking

The parking for the Wawa is not proposed to be modified. A total of 9 parking spaces (8 + 1 handicapped) are proposed for the commercial building. These spaces are north of the commercial building and are accessed from the new driveway.

The Borough of Mount Ephraim Ordinance sets forth a parking requirement of 6 parking spaces per 1,000 SF for retail uses and 6 spaces plus 1 space per service bay for fueling stations within the C - Commercial District. This equates to a parking requirement of 59 spaces for the existing 5,770 SF Wawa and existing 4,030 SF commercial building, plus 6 spaces for the existing Wawa fueling stations, for a total of 65 spaces. The site as proposed provides 83 parking spaces and; therefore, the ordinance requirement is met.

It is proposed to provide parking stalls with dimensions of 9'x18', which satisfy the Ordinance minimum requirement of 9'x18'. It should be noted that industry standards recommend stall widths of between 8'9" and 9' and a length of 18' for high-turnover land uses such as convenience stores and commercial uses, which is met as designed.

FINDINGS & CONCLUSIONS

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

- Access to the site is proposed to be provided via a new full movement driveway along Valley Road, as well as the existing full movement driveway along Black Horse Pike.

- The proposed driveway along Valley Road will allow a redistribution of traffic from the existing driveway along Black Horse Pike. It is estimated that the redistribution will include 64 entering trips and 25 exiting trips during the weekday morning peak hour, 28 entering trips and 13 exiting trips during the evening peak hour, and 53 entering trips and 29 exiting trips during the Saturday peak hour.

    - The new driveway will provide direct access to those patrons destined to/from the east along Valley Road.

    - The new driveway will provide an option for the southbound and westbound traffic to utilize the traffic signal at Valley Road.

- With the redistribution of site traffic, the intersection of Black Horse Pike and Valley Road/5th Avenue is anticipated to operate at overall No Build levels of service "B" or better during the studied peak hours. Additionally, each movement is anticipated to operate with levels of service "E" or better during the studied peak hours, with the exception of the eastbound approach, which is expected to operate with level of service "F" during the weekday morning peak hour. Note that with a minor signal timing adjustment of one second from the Black Horse Pike ROW phase to the Valley Road/5th Avenue ROW phase, all movements would operate with No Build levels of service "E" or better with no increase in overall delay.

- As designed, the intersection of Valley Road and the proposed site driveway is anticipated to operate at excellent levels of service "A" during all peak hours studied.

- The new driveway provides shared access to the commercial building which enables the elimination of the open depressed curb along the building's Valley Road frontage.

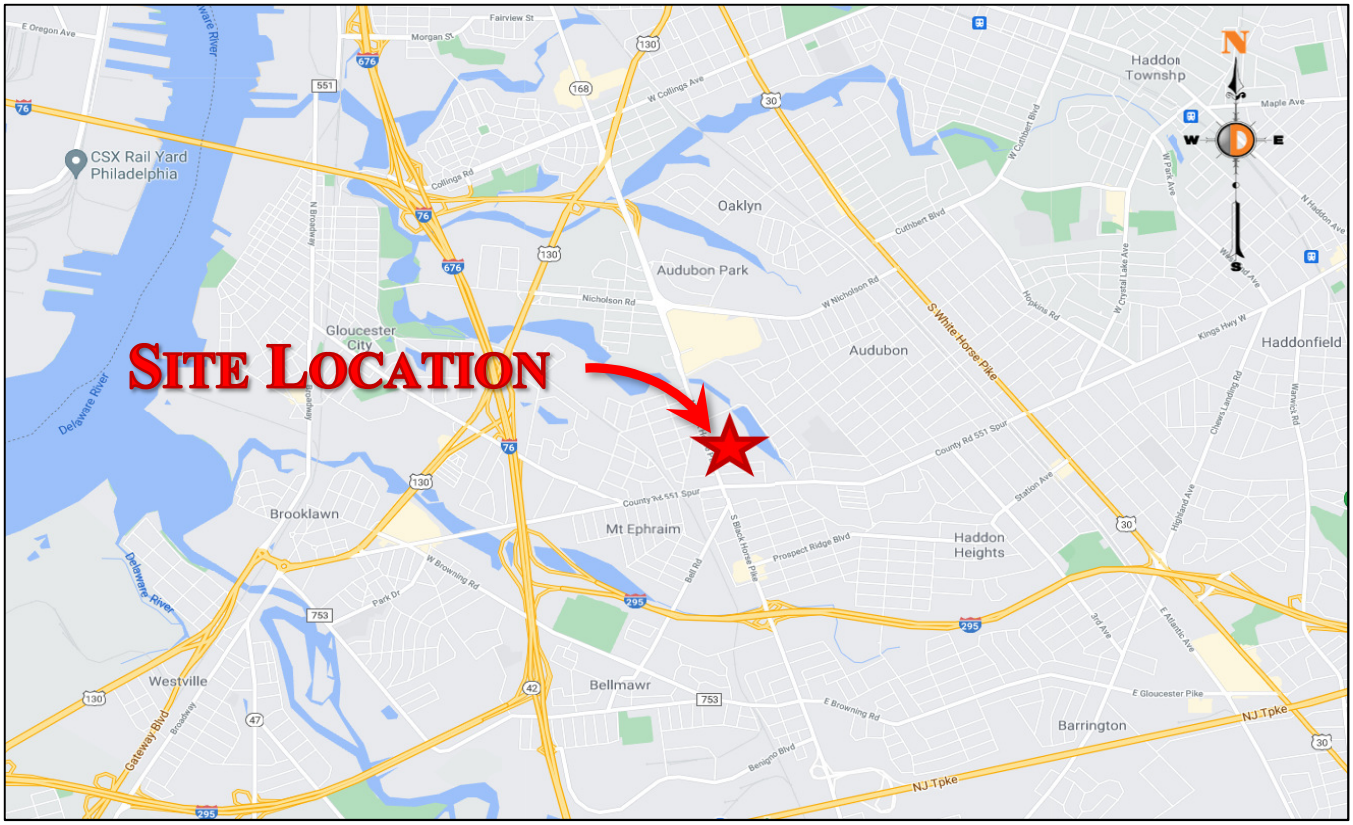
- The new driveway has been designed to provide for safe and efficient movement of automobiles entering the site. It is envisioned that delivery vehicles (food and fuel) will continue to utilize the Black Horse Pike driveway.

- The proposed parking supply and design satisfies the demand and exceeds the Ordinance requirements.

Conclusions

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic LLC that the adjacent street system will not experience any significant degradation in operating conditions with the construction of the new driveway. The new site driveway will provide the opportunity for the patrons destined to/from Valley Road to not have to access Black Horse Pike. Additionally, the new driveway will provide patrons destined to the south and west a safety improvement by providing access to the traffic signal at Valley Road. The site plan as proposed provides for good circulation throughout the site and provides adequate parking to accommodate The Project's needs.

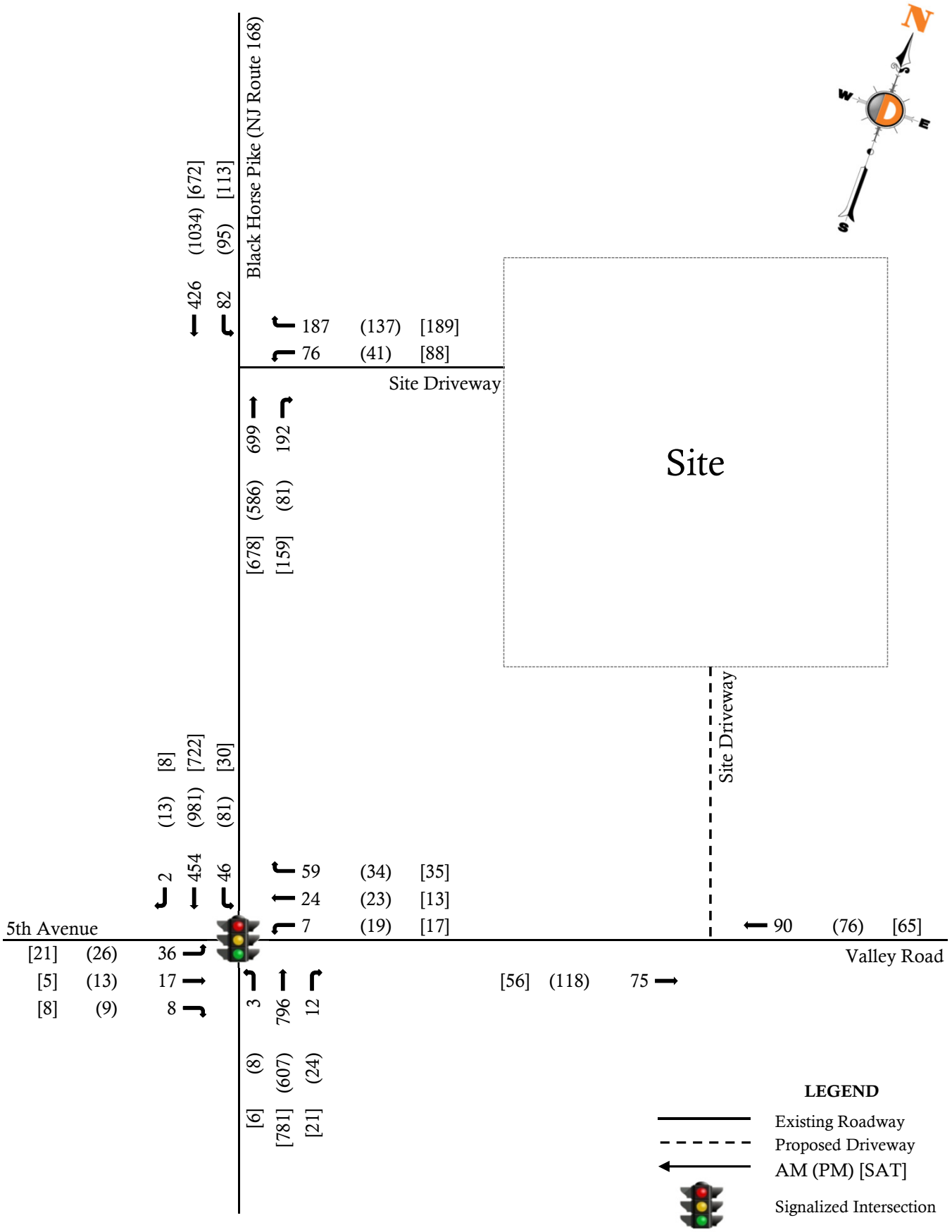
Appendix A
Traffic Volume Figures



Proposed Wawa Site Improvements
Traffic Impact Study
0034-14-252T
6/3/2021

Figure 1

Site Location Map



Proposed Wawa Site Improvements
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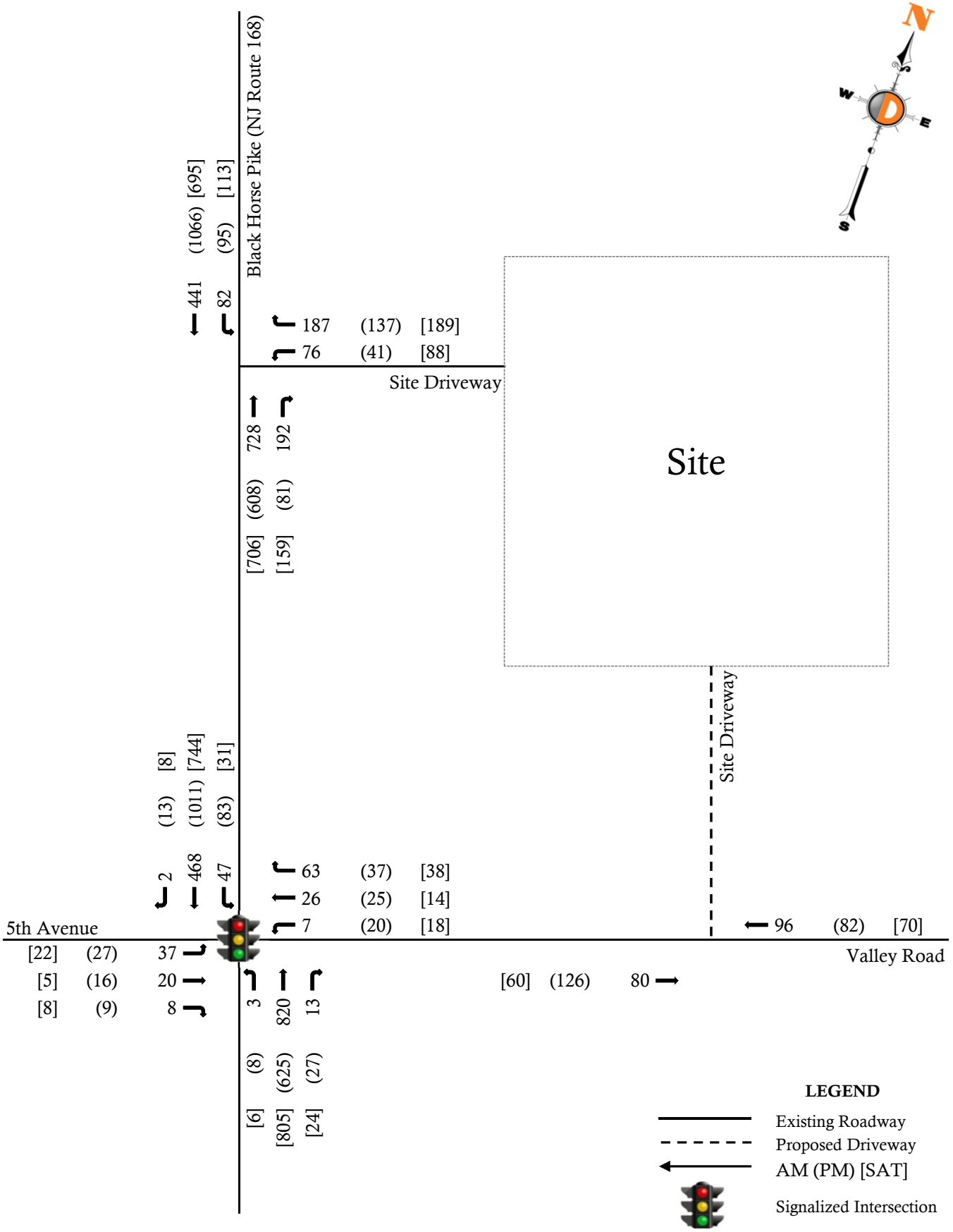
Figure 2

Existing Traffic Volumes



Proposed Wawa Site Improvements
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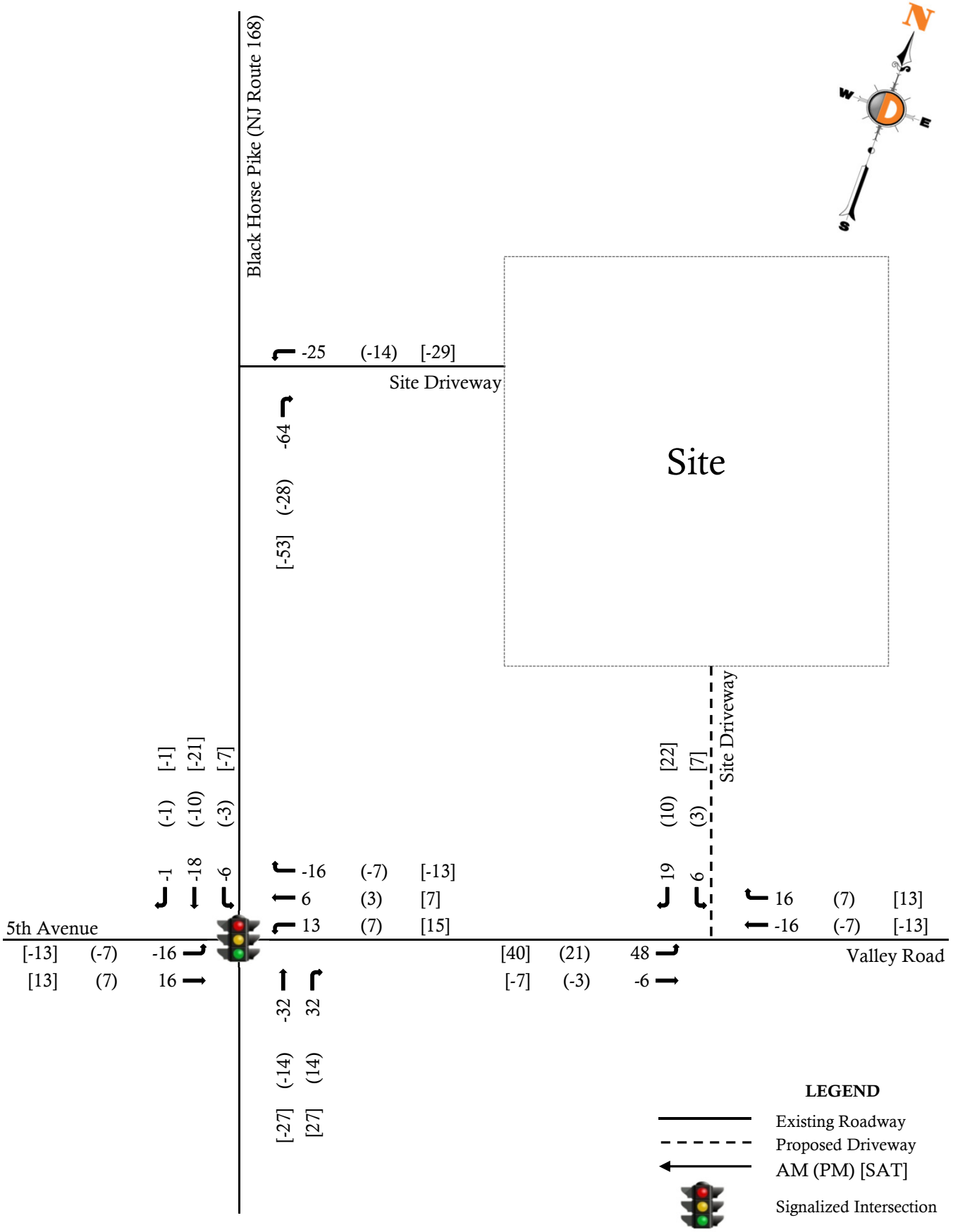
Figure 3

No Build Traffic Volumes



Proposed Wawa Site Improvements
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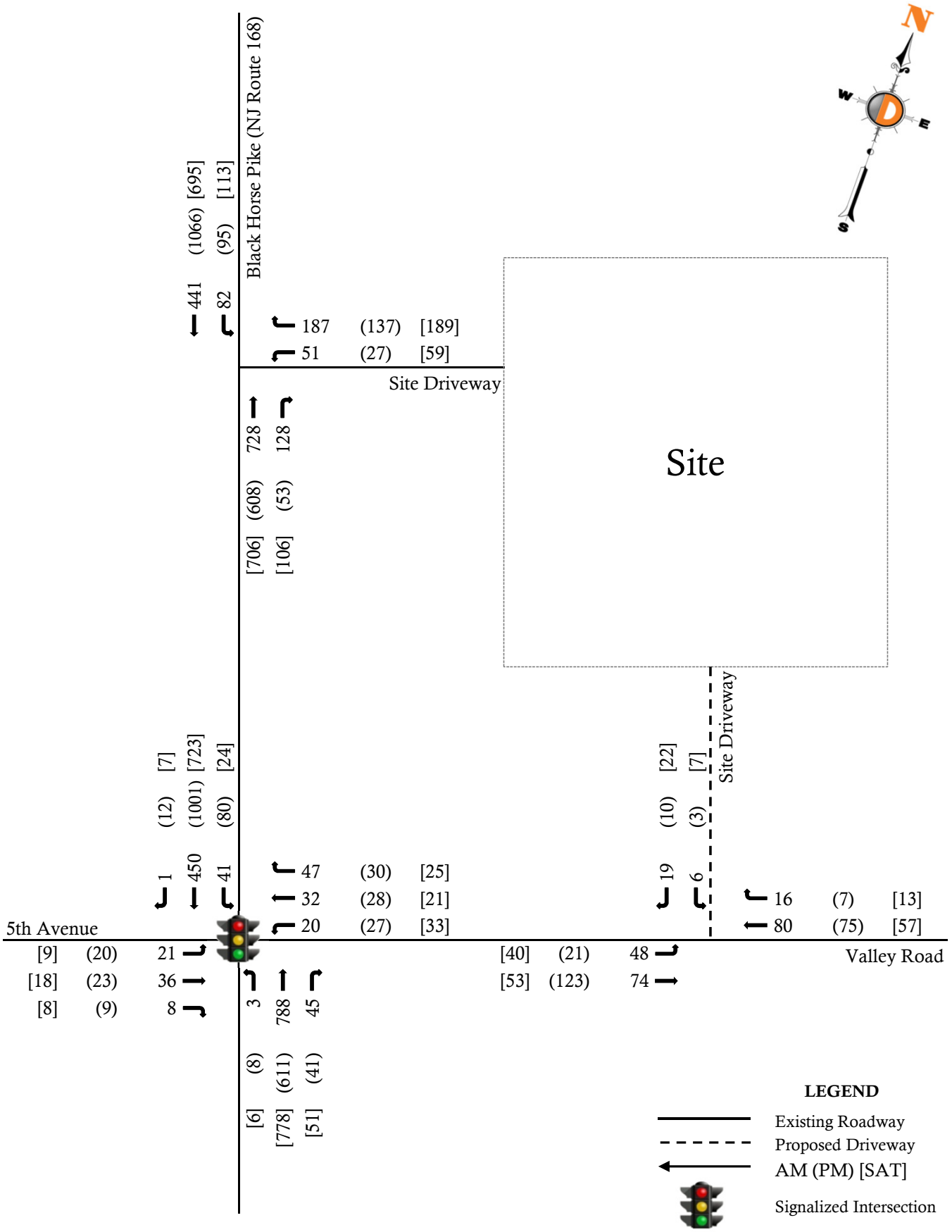
Figure 4

Redistribution of Site Generated Trips



Proposed Wawa Site Improvements
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6/3/2021

Figure 5

Build Traffic Volumes

Appendix B
Project Information

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite #110, Chester, NJ 07930
732-681-0760

E/W: Valley Rd
N/S: Black Horse Pike
Town/County: Mt Ephraim/Camden
Job #: 0034-14-252T

File Name : Black Horse Pike and Valley Rd - AMPM
Site Code : 00000000
Start Date : 9/17/2019
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Valley Road Eastbound					Valley Road Westbound					Black Horse Pike (Rt 168) Northbound					Black Horse Pike (Rt 168) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	5	4	3	0	12	3	2	7	1	13	0	177	3	0	180	8	78	0	0	86	291
07:15 AM	4	3	0	2	9	2	4	10	6	22	0	205	3	1	209	5	91	0	0	96	336
07:30 AM	10	4	2	1	17	3	1	13	3	20	0	191	2	2	195	10	134	0	0	144	376
07:45 AM	8	5	3	1	17	0	4	15	2	21	3	210	1	2	216	18	128	0	0	146	400
Total	27	16	8	4	55	8	11	45	12	76	3	783	9	5	800	41	431	0	0	472	1403
08:00 AM	14	5	3	0	22	2	15	21	1	39	0	190	6	0	196	13	101	2	0	116	373
08:15 AM	4	2	0	1	7	1	0	9	1	11	2	165	4	1	172	5	118	1	0	124	314
08:30 AM	3	3	2	0	8	1	0	7	0	8	1	131	2	1	135	3	66	0	0	69	220
08:45 AM	1	0	2	1	4	1	0	8	1	10	0	53	3	0	56	6	70	1	0	77	147
Total	22	10	7	2	41	5	15	45	3	68	3	539	15	2	559	27	355	4	0	386	1054
*** BREAK ***																					
04:30 PM	5	1	3	10	19	4	2	11	34	51	1	137	3	5	146	20	206	1	0	227	443
04:45 PM	8	3	3	5	19	1	5	4	19	29	2	143	4	10	159	17	230	5	0	252	459
Total	13	4	6	15	38	5	7	15	53	80	3	280	7	15	305	37	436	6	0	479	902
05:00 PM	4	3	1	5	13	11	7	11	12	41	2	168	10	10	190	18	246	3	0	267	511
05:15 PM	7	6	2	2	17	3	9	5	7	24	3	112	7	2	124	16	178	2	0	196	361
05:30 PM	11	4	1	2	18	1	0	0	5	6	1	57	3	2	63	10	100	1	0	111	198
05:45 PM	12	3	2	5	22	3	5	5	5	18	0	82	3	7	92	8	167	4	0	179	311
Total	34	16	6	14	70	18	21	21	29	89	6	419	23	21	469	52	691	10	0	753	1381
06:00 PM	11	4	1	2	18	2	8	10	7	27	3	146	6	5	160	23	186	4	0	213	418
06:15 PM	3	4	1	5	13	4	15	16	2	37	2	132	1	2	137	7	180	2	0	189	376
Grand Total	110	54	29	42	235	42	77	152	106	377	20	2299	61	50	2430	187	2279	26	0	2492	5534
Apprch %	46.8	23	12.3	17.9		11.1	20.4	40.3	28.1		0.8	94.6	2.5	2.1		7.5	91.5	1	0		
Total %	2	1	0.5	0.8	4.2	0.8	1.4	2.7	1.9	6.8	0.4	41.5	1.1	0.9	43.9	3.4	41.2	0.5	0	45	
Cars	109	54	28	42	233	42	77	152	106	377	20	2222					2198				
% Cars	99.1	100	96.6	100	99.1	100	100	100	100	100	100	96.7	100	100	96.8	99.5	96.4	96.2	0	96.7	97.1
Trucks (SU)																					
% Trucks (SU)	0	0	3.4	0	0.4	0	0	0	0	0	0	2.3	0	0	2.2	0	2.5	0	0	2.3	2
Trucks (TT)	1	0	0	0	1	0	0	0	0	0	0	24	0	0	24	1	24	1	0	26	51
% Trucks (TT)	0.9	0	0	0	0.4	0	0	0	0	0	0	1	0	0	1	0.5	1.1	3.8	0	1	0.9

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite #110, Chester, NJ 07930
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11:00 AM	3	2	1	1	7	4	3	12	2	21	0	168	10	6	184	12	170	1	0	183	395
11:15 AM	5	1	2	1	9	5	3	8	3	19	1	175	6	3	185	10	172	2	0	184	397
11:30 AM	7	4	1	4	16	7	4	12	14	37	3	221	3	2	229	8	171	3	0	182	464
11:45 AM	6	0	4	2	12	3	5	8	8	24	1	195	6	4	206	6	196	0	0	202	444
Total	21	7	8	8	44	19	15	40	27	101	5	759	25	15	804	36	709	6	0	751	1700
12:00 PM	5	0	1	2	8	5	3	9	5	22	0	171	6	4	181	7	151	1	0	159	370
12:15 PM	3	1	2	1	7	2	1	6	3	12	2	194	6	1	203	9	193	3	0	205	427
12:30 PM	12	2	1	0	15	4	6	9	3	22	2	190	2	0	194	7	175	1	0	183	414
12:45 PM	7	0	1	2	10	1	2	3	0	6	0	176	7	1	184	6	173	2	0	181	381
Total	27	3	5	5	40	12	12	27	11	62	4	731	21	6	762	29	692	7	0	728	1592
01:00 PM	7	0	3	0	10	5	4	4	2	15	0	170	4	0	174	5	194	4	0	203	402
01:15 PM	5	4	2	0	11	4	4	16	1	25	1	196	7	1	205	4	168	4	0	176	417
01:30 PM	5	1	3	0	9	4	9	4	3	20	2	179	4	1	186	5	169	2	0	176	391
01:45 PM	5	2	4	1	12	4	3	12	3	22	1	182	4	2	189	8	158	3	0	169	392
Total	22	7	12	1	42	17	20	36	9	82	4	727	19	4	754	22	689	13	0	724	1602
Grand Total	70	17	25	14	126	48	47	103	47	245	13	2217	65	25	2320	87	2090	26	0	2203	4894
Apprch %	55.6	13.5	19.8	11.1		19.6	19.2	42	19.2		0.6	95.6	2.8	1.1		3.9	94.9	1.2	0		
Total %	1.4	0.3	0.5	0.3	2.6	1	1	2.1	1	5	0.3	45.3	1.3	0.5	47.4	1.8	42.7	0.5	0	45	
Cars	70	17	25	14	126	48	47	102	47	244	13	2172					2054				
% Cars	100	100	100	100	100	100	100	99	100	99.6	100	98	100	100	98.1	100	98.3	100	0	98.4	98.3
Buses	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	17	0	0	17	34
% Buses	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0.7	0	0.8	0	0	0.8	0.7
Trucks (SU)																					
% Trucks (SU)	0	0	0	0	0	0	0	1	0	0.4	0	1.2	0	0	1.1	0	0.9	0	0	0.9	0.9
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite #110, Chester, NJ 07930
732-681-0760

E/W: Wawa Driveway
N/S: Black Horse Pike (Rt 168)
Town/County: Mt Ephraim/Camden
Job #: 0034-14-252T

File Name : Black Horse Pike & Wawa Driveway - AM
Site Code : 00000000
Start Date : 9/17/2019
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Wawa Driveway Westbound					Black Horse Pike (Rt 168) Northbound					Black Horse Pike (Rt 168) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	17	0	35	0	52	0	147	45	0	192	21	67	0	0	88	332
07:15 AM	14	0	50	2	66	0	165	54	0	219	18	79	0	0	97	382
07:30 AM	20	0	48	0	68	0	173	49	0	222	20	100	0	0	120	410
07:45 AM	21	0	41	0	62	0	183	40	0	223	20	100	0	0	120	405
Total	72	0	174	2	248	0	668	188	0	856	79	346	0	0	425	1529
08:00 AM	13	0	48	0	61	0	166	46	0	212	24	102	0	0	126	399
08:15 AM	18	0	48	0	66	0	150	36	0	186	26	99	0	0	125	377
08:30 AM	17	0	45	0	62	0	159	39	0	198	31	87	0	0	118	378
08:45 AM	19	0	36	1	56	0	146	33	0	179	22	91	0	0	113	348
Total	67	0	177	1	245	0	621	154	0	775	103	379	0	0	482	1502
Grand Total	139	0	351	3	493	0	1289	342	0	1631	182	725	0	0	907	3031
Apprch %	28.2	0	71.2	0.6		0	79	21	0		20.1	79.9	0	0		
Total %	4.6	0	11.6	0.1	16.3	0	42.5	11.3	0	53.8	6	23.9	0	0	29.9	
Cars	116	0	335	3	454	0	1222	323	0	1545	164	658	0	0	822	2821
% Cars	83.5	0	95.4	100	92.1	0	94.8	94.4	0	94.7	90.1	90.8	0	0	90.6	93.1
Trucks (SU)	23	0	15	0	38	0	52	18	0	70	16	54	0	0	70	178
% Trucks (SU)	16.5	0	4.3	0	7.7	0	4	5.3	0	4.3	8.8	7.4	0	0	7.7	5.9
Trucks (TT)	0	0	1	0	1	0	15	1	0	16	2	13	0	0	15	32
% Trucks (TT)	0	0	0.3	0	0.2	0	1.2	0.3	0	1	1.1	1.8	0	0	1.7	1.1

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite #110, Chester, NJ 07930
732-681-0760

E/W: Wawa Driveway
N/S: Black Horse Pike (Rt 168)
Town/County: Mt Ephraim/Camden
Job #: 0034-14-252T

File Name : Black Horse Pike & Wawa Driveway - PM
Site Code : 00000000
Start Date : 9/17/2019
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Wawa Driveway Westbound					Black Horse Pike (Rt 168) Northbound					Black Horse Pike (Rt 168) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	10	0	33	5	48	0	135	24	0	159	30	242	0	0	272	479
04:45 PM	12	0	45	3	60	0	135	21	0	156	27	272	0	0	299	515
Total	22	0	78	8	108	0	270	45	0	315	57	514	0	0	571	994
05:00 PM	14	0	24	1	39	0	169	16	0	185	19	263	0	0	282	506
05:15 PM	5	0	35	3	43	0	147	20	0	167	19	257	0	0	276	486
05:30 PM	9	0	34	5	48	0	131	29	0	160	14	248	0	0	262	470
05:45 PM	15	0	33	3	51	0	148	22	0	170	23	237	0	0	260	481
Total	43	0	126	12	181	0	595	87	0	682	75	1005	0	0	1080	1943
06:00 PM	13	0	33	3	49	1	166	20	0	187	30	234	0	0	264	500
06:15 PM	14	0	29	1	44	0	145	22	0	167	24	215	0	0	239	450
Grand Total	92	0	266	24	382	1	1176	174	0	1351	186	1968	0	0	2154	3887
Apprch %	24.1	0	69.6	6.3		0.1	87	12.9	0		8.6	91.4	0	0		
Total %	2.4	0	6.8	0.6	9.8	0	30.3	4.5	0	34.8	4.8	50.6	0	0	55.4	
Cars	91	0	262	24	377	1	1159	171	0	1331	185	1943	0	0	2128	3836
% Cars	98.9	0	98.5	100	98.7	100	98.6	98.3	0	98.5	99.5	98.7	0	0	98.8	98.7
Trucks (SU)	0	0	2	0	2	0	14	1	0	15	1	15	0	0	16	33
% Trucks (SU)	0	0	0.8	0	0.5	0	1.2	0.6	0	1.1	0.5	0.8	0	0	0.7	0.8
Trucks (TT)	1	0	2	0	3	0	3	2	0	5	0	10	0	0	10	18
% Trucks (TT)	1.1	0	0.8	0	0.8	0	0.3	1.1	0	0.4	0	0.5	0	0	0.5	0.5

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite #110, Chester, NJ 07930
732-681-0760

E/W: Wawa Driveway
N/S: Black Horse Pike (Rt 168)
Town/County: Mt Ephraim/Camden
Job #: 0034-14-252T

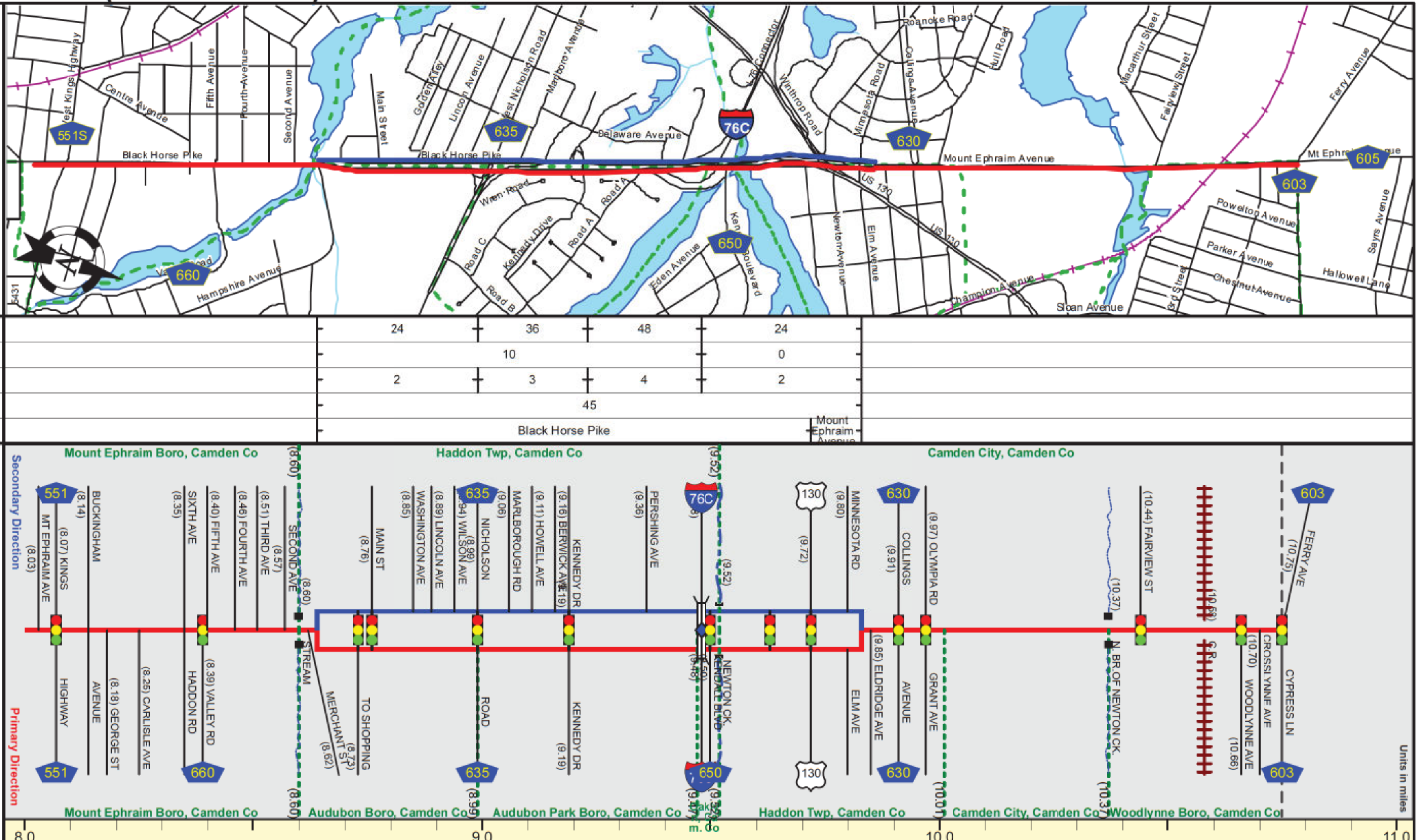
File Name : Black Horse Pike & Wawa Driveway - SAT
Site Code : 00000000
Start Date : 9/21/2019

Groups Printed- Cars - Buses - Trucks (SU) - Trucks (TT)

	Wawa Driveway Westbound					Black Horse Pike (Rt 168) Northbound					Black Horse Pike (Rt 168) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	24	0	33	0	57	0	142	35	0	177	20	159	0	0	179	413
11:15 AM	20	0	41	1	62	0	143	43	0	186	24	165	0	0	189	437
11:30 AM	22	0	39	0	61	0	195	34	0	229	26	169	0	0	195	485
11:45 AM	18	0	53	2	73	0	169	37	0	206	32	186	0	0	218	497
Total	84	0	166	3	253	0	649	149	0	798	102	679	0	0	781	1832
12:00 PM	23	0	50	2	75	0	149	42	0	191	33	143	0	0	176	442
12:15 PM	25	0	47	1	73	0	147	42	0	189	22	174	0	0	196	458
12:30 PM	19	0	41	2	62	0	187	32	0	219	30	177	0	0	207	488
12:45 PM	18	0	40	0	58	0	155	30	0	185	24	158	0	0	182	425
Total	85	0	178	5	268	0	638	146	0	784	109	652	0	0	761	1813
01:00 PM	17	0	36	1	54	0	157	27	0	184	35	184	0	0	219	457
01:15 PM	21	0	39	1	61	0	158	31	0	189	22	167	0	0	189	439
01:30 PM	22	0	33	0	55	0	168	26	0	194	29	162	0	0	191	440
01:45 PM	19	0	39	0	58	0	165	29	0	194	40	153	0	0	193	445
Total	79	0	147	2	228	0	648	113	0	761	126	666	0	0	792	1781
Grand Total	248	0	491	10	749	0	1935	408	0	2343	337	1997	0	0	2334	5426
Apprch %	33.1	0	65.6	1.3		0	82.6	17.4	0		14.4	85.6	0	0		
Total %	4.6	0	9	0.2	13.8	0	35.7	7.5	0	43.2	6.2	36.8	0	0	43	
Cars	245	0	487	10	742	0	1896	403	0	2299	334	1963	0	0	2297	5338
% Cars	98.8	0	99.2	100	99.1	0	98	98.8	0	98.1	99.1	98.3	0	0	98.4	98.4
Buses	1	0	0	0	1	0	15	1	0	16	0	15	0	0	15	32
% Buses	0.4	0	0	0	0.1	0	0.8	0.2	0	0.7	0	0.8	0	0	0.6	0.6
Trucks (SU)	2	0	4	0	6	0	22	4	0	26	3	19	0	0	22	54
% Trucks (SU)	0.8	0	0.8	0	0.8	0	1.1	1	0	1.1	0.9	1	0	0	0.9	1
Trucks (TT)	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Trucks (TT)	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0

NJ 168 (South to North)

Mile Posts: 8.000 - 10.750



Pavement	24	36	48	24		
Shoulder	10			0		
Number of Lanes	2	3	4	2		
Speed Limit	45					
Street Name	Black Horse Pike			Mount Ephraim Avenue		

Legend: Interstate Route (287); US Route (22); NJ Route (33); County Road (689); Interchange Number (2); Grade Separated Interchange; Traffic Signal; Traffic Monitoring Sites (WIM, AVC, VOL); Road Underpass; Road Overpass

Attribute	Values (south to north)
Street Name	Black Horse Pike | Mount Ephraim Avenue
Jurisdiction	N.J.D.O.T.
Functional Class	Urban Principal Arterial
Federal Aid - NHS Sy	NHS
Control Section	0426
Speed Limit	40 | 45 | 35
Number of Lanes	3 | 2 | 3 | 2 | 3 | 4
Med. Type	None | Curbed | None
Med. Width	0 | VAR | 0
Pavement	54 | 36 | 24 | 44 | 40 | 48
Shoulder	6 | 10 | 0 | 10 | 0
Traffic Volume	24,972 (2011) | 26,700 (2014) | 15,244 (2013)
Traffic Sta. ID	7d6c303 | 100407 | 7d6c304
Structure No.	0426156 | 0426153 N/A | 0426154
Enlarged Views	See Enlarged d...

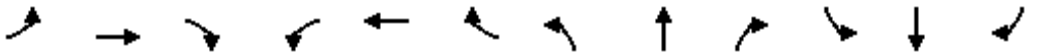
End NJ 168 MP=10.75

SRI = 00000168__

Date last inventoried: May 2015

Page Created: June, 2015

Appendix C
Capacity Analysis

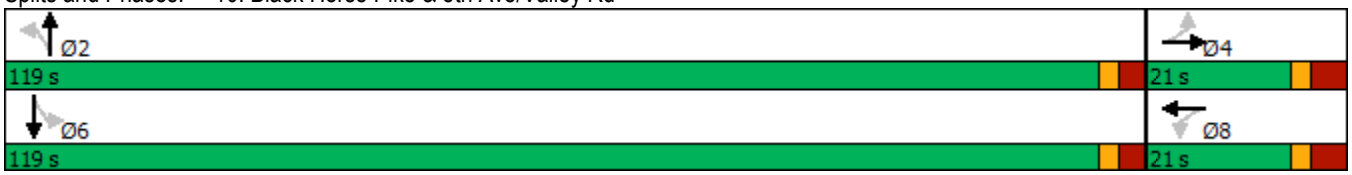


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	17	8	7	24	59	3	796	12	46	454	2
Future Volume (vph)	36	17	8	7	24	59	3	796	12	46	454	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	12	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			507			410	
Travel Time (s)		4.9			3.1			8.6			7.0	
Confl. Peds. (#/hr)			5	5			4		12	12		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	9%	50%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	97	0	3	869	0	49	490	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.0			-2.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.4			14.4		115.1	115.1		115.1	115.1	
Actuated g/C Ratio		0.10			0.10		0.84	0.84		0.84	0.84	
v/c Ratio		0.53			0.52		0.00	0.55		0.10	0.32	
Control Delay		68.8			68.0		2.7	5.4		3.1	3.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		68.8			68.0		2.7	5.4		3.1	3.4	
LOS		E			E		A	A		A	A	
Approach Delay		68.8			68.0			5.4			3.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		52			83		0	181		6	75	
Queue Length 95th (ft)		104			143		2	343		19	144	
Internal Link Dist (ft)		100			34			427			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		154			231		756	1566		472	1543	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.43			0.42		0.00	0.55		0.10	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 137.5			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 108.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

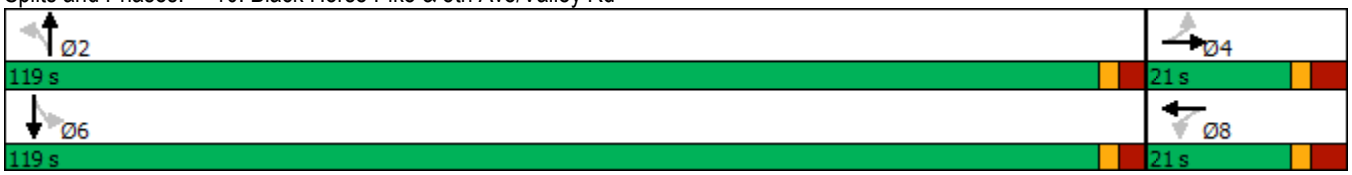


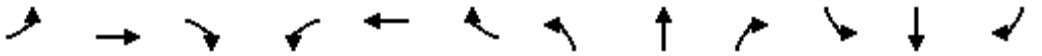
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	13	9	19	23	34	8	607	24	81	981	13
Future Volume (vph)	26	13	9	19	23	34	8	607	24	81	981	13
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			390			410	
Travel Time (s)		4.9			3.1			6.6			7.0	
Confl. Peds. (#/hr)			27	27			22		72	72		22
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	89	0	9	742	0	95	1169	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.6			14.6		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.10			0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.37			0.50		0.03	0.48		0.19	0.73	
Control Delay		57.3			68.7		3.6	5.4		4.3	9.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		57.3			68.7		3.6	5.4		4.3	9.8	
LOS		E			E		A	A		A	A	
Approach Delay		57.3			68.7			5.4			9.4	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		43			78		2	201		19	479	
Queue Length 95th (ft)		83			128		5	239		33	550	
Internal Link Dist (ft)		100			34			310			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		183			211		264	1556		508	1610	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.31			0.42		0.03	0.48		0.19	0.73	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 139.7			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 111.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



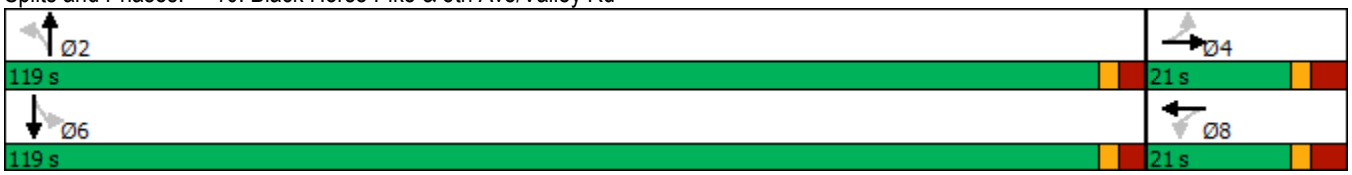


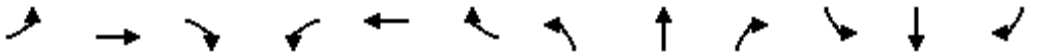
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	5	8	17	13	35	6	781	21	30	722	8
Future Volume (vph)	21	5	8	17	13	35	6	781	21	30	722	8
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			11	11			9		30	30		9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	0	70	0	7	872	0	33	794	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.0			-2.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.5			14.5		116.6	116.6		116.6	116.6	
Actuated g/C Ratio		0.11			0.11		0.86	0.86		0.86	0.86	
v/c Ratio		0.22			0.39		0.01	0.53		0.07	0.46	
Control Delay		47.7			62.9		2.8	5.1		3.0	4.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		47.7			62.9		2.8	5.1		3.0	4.3	
LOS		D			E		A	A		A	A	
Approach Delay		47.7			62.9			5.0			4.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		23			59		1	158		4	130	
Queue Length 95th (ft)		59			110		4	338		13	275	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		210			233		562	1638		487	1715	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.18			0.30		0.01	0.53		0.07	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 135.3			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 106.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



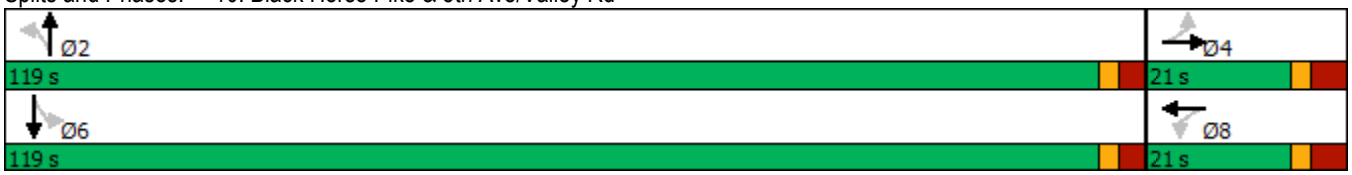


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	20	8	7	26	63	3	820	13	47	468	2
Future Volume (vph)	37	20	8	7	26	63	3	820	13	47	468	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	12	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			5	5			4		12	12		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	9%	50%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	104	0	3	896	0	51	505	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		12.8			12.8		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.09			0.09		0.83	0.83		0.83	0.83	
v/c Ratio		0.61			0.63		0.00	0.58		0.11	0.33	
Control Delay		77.9			76.8		2.7	6.1		3.4	3.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		77.9			76.8		2.7	6.1		3.4	3.8	
LOS		E			E		A	A		A	A	
Approach Delay		77.9			76.8			6.1			3.7	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		59			91		0	210		7	85	
Queue Length 95th (ft)		112			154		3	380		20	156	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		144			205		738	1548		445	1525	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.49			0.51		0.00	0.58		0.11	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 137.9			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 111.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

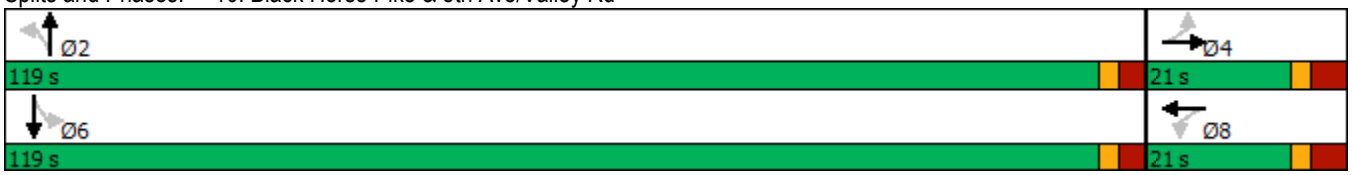


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	16	9	20	25	37	8	625	27	83	1011	13
Future Volume (vph)	27	16	9	20	25	37	8	625	27	83	1011	13
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			27	27			22		72	72		22
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	97	0	9	767	0	98	1204	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.7			14.7		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.11			0.11		0.82	0.82		0.82	0.82	
v/c Ratio		0.41			0.54		0.04	0.49		0.20	0.75	
Control Delay		60.1			70.6		3.6	5.6		4.4	10.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		60.1			70.6		3.6	5.6		4.4	10.6	
LOS		E			E		A	A		A	B	
Approach Delay		60.1			70.6			5.6			10.1	
Approach LOS		E			E			A			B	
Queue Length 50th (ft)		48			85		2	213		20	516	
Queue Length 95th (ft)		91			137		5	252		34	589	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		179			209		239	1553		491	1607	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.35			0.46		0.04	0.49		0.20	0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 139.9			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 111.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

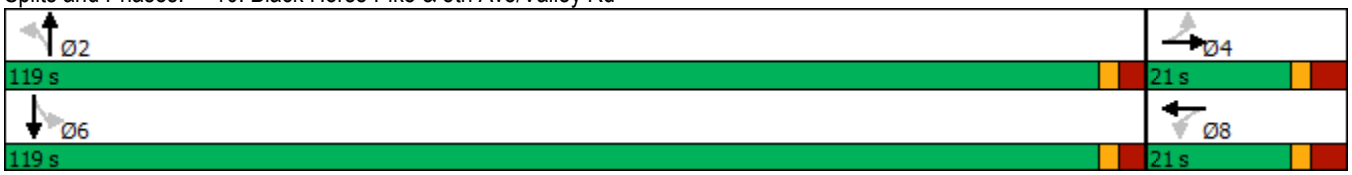


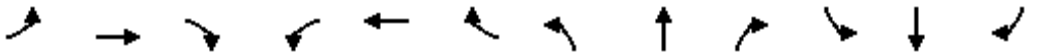
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	5	8	18	14	38	6	805	24	31	744	8
Future Volume (vph)	22	5	8	18	14	38	6	805	24	31	744	8
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			11	11			9		30	30		9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	76	0	7	901	0	34	818	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		11.5			11.5		115.8	115.8		115.8	115.8	
Actuated g/C Ratio		0.09			0.09		0.86	0.86		0.86	0.86	
v/c Ratio		0.29			0.54		0.01	0.55		0.07	0.48	
Control Delay		52.6			73.2		2.7	5.2		2.9	4.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		52.6			73.2		2.7	5.2		2.9	4.3	
LOS		D			E		A	A		A	A	
Approach Delay		52.6			73.2			5.2			4.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		25			66		1	187		4	152	
Queue Length 95th (ft)		62			120		5	376		14	301	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		176			195		549	1638		470	1715	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.22			0.39		0.01	0.55		0.07	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 134.3			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 108.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



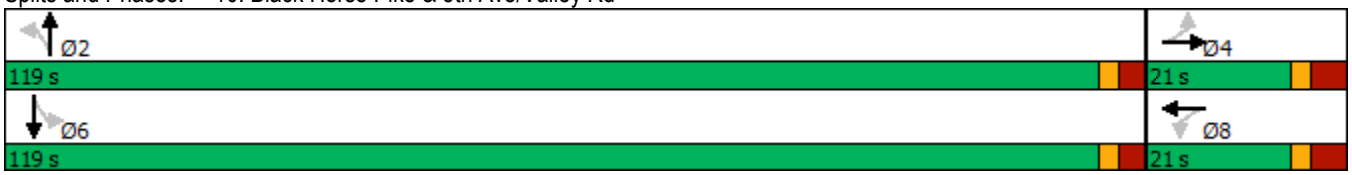


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	36	8	20	32	47	3	788	45	41	450	1
Future Volume (vph)	21	36	8	20	32	47	3	788	45	41	450	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	12	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			359			410	
Travel Time (s)		4.9			3.1			6.1			7.0	
Confl. Peds. (#/hr)			5	5			4		12	12		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	9%	50%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	107	0	3	895	0	44	485	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		13.0			13.0		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.09			0.09		0.83	0.83		0.83	0.83	
v/c Ratio		0.49			0.67		0.00	0.58		0.10	0.32	
Control Delay		67.1			80.2		2.7	6.2		3.4	3.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		67.1			80.2		2.7	6.2		3.4	3.7	
LOS		E			F		A	A		A	A	
Approach Delay		67.1			80.2			6.2			3.7	
Approach LOS		E			F			A			A	
Queue Length 50th (ft)		58			94		0	215		6	83	
Queue Length 95th (ft)		110			159		3	380		18	148	
Internal Link Dist (ft)		100			34			279			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		175			194		753	1536		444	1525	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.41			0.55		0.00	0.58		0.10	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 138.1			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 107.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

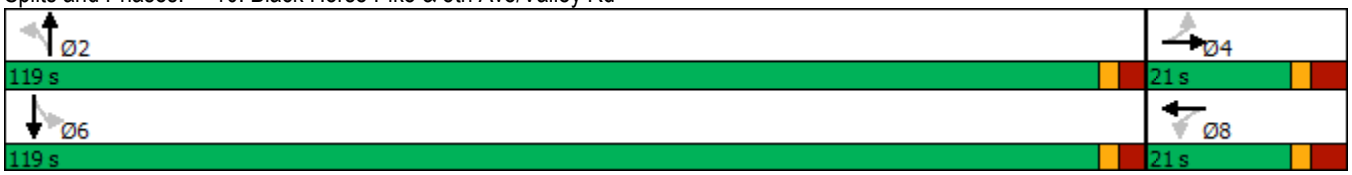


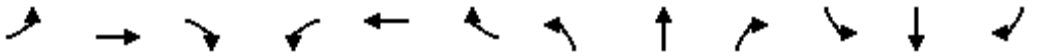
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	23	9	27	28	30	8	611	41	80	1001	12
Future Volume (vph)	20	23	9	27	28	30	8	611	41	80	1001	12
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			27	27			22		72	72		22
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	100	0	9	767	0	94	1192	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.9			14.9		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.11			0.11		0.82	0.82		0.82	0.82	
v/c Ratio		0.36			0.57		0.04	0.50		0.19	0.74	
Control Delay		57.8			72.3		3.6	5.7		4.4	10.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		57.8			72.3		3.6	5.7		4.4	10.4	
LOS		E			E		A	A		A	B	
Approach Delay		57.8			72.3			5.7			10.0	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		48			88		2	213		19	503	
Queue Length 95th (ft)		90			141		5	252		33	575	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		198			204		246	1540		490	1606	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.31			0.49		0.04	0.50		0.19	0.74	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 111.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



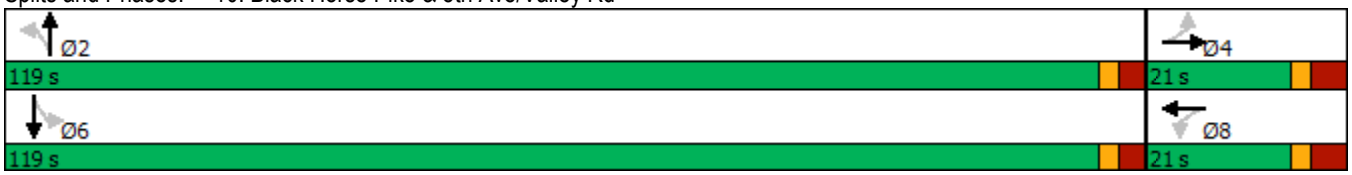


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	18	8	33	21	25	6	778	51	24	723	7
Future Volume (vph)	9	18	8	33	21	25	6	778	51	24	723	7
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			11	11			9		30	30		9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	86	0	7	901	0	26	794	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		119.0	119.0		119.0	119.0	
Total Split (s)	21.0	21.0		21.0	21.0		119.0	119.0		119.0	119.0	
Total Split (%)	15.0%	15.0%		15.0%	15.0%		85.0%	85.0%		85.0%	85.0%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		12.3			12.3		114.1	114.1		114.1	114.1	
Actuated g/C Ratio		0.09			0.09		0.83	0.83		0.83	0.83	
v/c Ratio		0.23			0.60		0.01	0.57		0.06	0.48	
Control Delay		49.9			77.1		2.8	5.9		3.0	4.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		49.9			77.1		2.8	5.9		3.0	4.8	
LOS		D			E		A	A		A	A	
Approach Delay		49.9			77.1			5.9			4.7	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		25			75		1	200		3	155	
Queue Length 95th (ft)		62			133		5	377		11	287	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		214			185		537	1567		442	1652	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.18			0.46		0.01	0.57		0.06	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 137.4			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 108.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

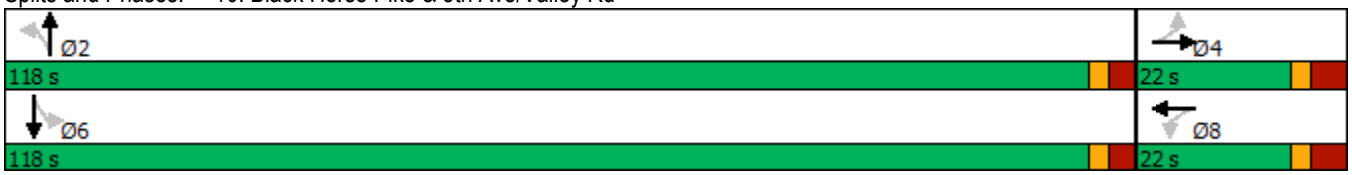


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	36	8	20	32	47	3	788	45	41	450	1
Future Volume (vph)	21	36	8	20	32	47	3	788	45	41	450	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	12	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			359			410	
Travel Time (s)		4.9			3.1			6.1			7.0	
Confl. Peds. (#/hr)			5	5			4		12	12		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	9%	50%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	107	0	3	895	0	44	485	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		118.0	118.0		118.0	118.0	
Total Split (s)	22.0	22.0		22.0	22.0		118.0	118.0		118.0	118.0	
Total Split (%)	15.7%	15.7%		15.7%	15.7%		84.3%	84.3%		84.3%	84.3%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		13.1			13.1		113.1	113.1		113.1	113.1	
Actuated g/C Ratio		0.10			0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.48			0.66		0.00	0.58		0.10	0.32	
Control Delay		66.1			79.0		3.0	6.3		3.4	3.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		66.1			79.0		3.0	6.3		3.4	3.8	
LOS		E			E		A	A		A	A	
Approach Delay		66.1			79.0			6.3			3.7	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		57			94		0	213		6	82	
Queue Length 95th (ft)		110			158		3	381		18	148	
Internal Link Dist (ft)		100			34			279			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		186			206		752	1534		442	1522	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.38			0.52		0.00	0.58		0.10	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 137.2			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 107.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd

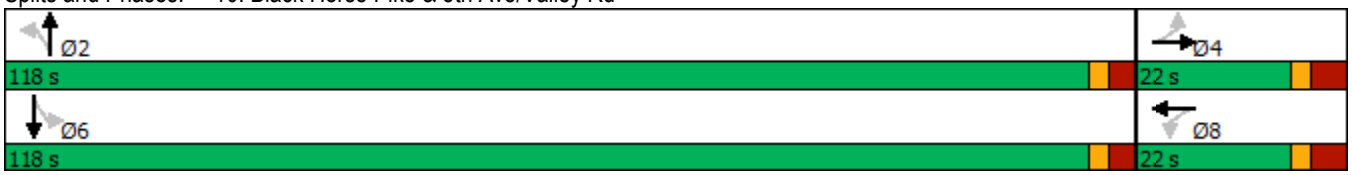


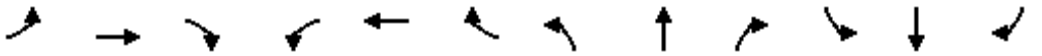
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	23	9	27	28	30	8	611	41	80	1001	12
Future Volume (vph)	20	23	9	27	28	30	8	611	41	80	1001	12
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			27	27			22		72	72		22
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	100	0	9	767	0	94	1192	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		118.0	118.0		118.0	118.0	
Total Split (s)	22.0	22.0		22.0	22.0		118.0	118.0		118.0	118.0	
Total Split (%)	15.7%	15.7%		15.7%	15.7%		84.3%	84.3%		84.3%	84.3%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		14.9			14.9		113.1	113.1		113.1	113.1	
Actuated g/C Ratio		0.11			0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.36			0.57		0.04	0.50		0.19	0.74	
Control Delay		57.3			71.6		3.6	5.7		4.4	10.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		57.3			71.6		3.6	5.7		4.4	10.5	
LOS		E			E		A	A		A	B	
Approach Delay		57.3			71.6			5.7			10.0	
Approach LOS		E			E			A			B	
Queue Length 50th (ft)		48			87		2	213		19	503	
Queue Length 95th (ft)		90			141		5	253		33	575	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		205			210		244	1538		490	1604	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.30			0.48		0.04	0.50		0.19	0.74	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 139			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 111.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



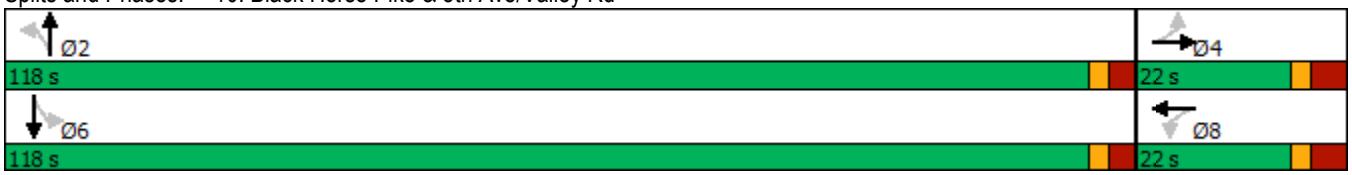


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	18	8	33	21	25	6	778	51	24	723	7
Future Volume (vph)	9	18	8	33	21	25	6	778	51	24	723	7
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	14	12	12	13	12	13	12	12	12	13	12
Storage Length (ft)	0		0	0		0	120		0	85		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			60			60		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		180			114			207			410	
Travel Time (s)		4.9			3.1			3.5			7.0	
Confl. Peds. (#/hr)			11	11			9		30	30		9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	86	0	7	901	0	26	794	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		109.0	109.0		109.0	109.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		118.0	118.0		118.0	118.0	
Total Split (s)	22.0	22.0		22.0	22.0		118.0	118.0		118.0	118.0	
Total Split (%)	15.7%	15.7%		15.7%	15.7%		84.3%	84.3%		84.3%	84.3%	
Yellow Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		12.2			12.2		113.1	113.1		113.1	113.1	
Actuated g/C Ratio		0.09			0.09		0.83	0.83		0.83	0.83	
v/c Ratio		0.23			0.60		0.01	0.58		0.06	0.48	
Control Delay		49.5			76.4		2.8	5.9		3.0	4.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		49.5			76.4		2.8	5.9		3.0	4.8	
LOS		D			E		A	A		A	A	
Approach Delay		49.5			76.4			5.9			4.7	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		25			74		1	200		3	155	
Queue Length 95th (ft)		62			133		5	378		11	288	
Internal Link Dist (ft)		100			34			127			330	
Turn Bay Length (ft)							120			85		
Base Capacity (vph)		226			195		535	1565		442	1650	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.17			0.44		0.01	0.58		0.06	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 136.3			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 108.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 10: Black Horse Pike & 5th Ave/Valley Rd



Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	187	699	192	82	426
Future Vol, veh/h	76	187	699	192	82	426
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	22	4	5	6	15	9
Mvmt Flow	78	193	721	198	85	439

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1431	822	0	0	920	0
Stage 1	821	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.62	6.24	-	-	4.25	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.698	3.336	-	-	2.335	-
Pot Cap-1 Maneuver	134	371	-	-	691	-
Stage 1	400	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	370	-	-	690	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	400	-	-	-	-	-
Stage 2	443	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.3	0	1.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	245	370	690	-
HCM Lane V/C Ratio	-	-	0.32	0.521	0.123	-
HCM Control Delay (s)	-	-	26.5	24.8	10.9	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	1.3	2.9	0.4	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	137	586	81	95	1034
Future Vol, veh/h	41	137	586	81	95	1034
Conflicting Peds, #/hr	12	12	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	1	4	0	1
Mvmt Flow	43	143	610	84	99	1077

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1951	676	0	0	706	0
Stage 1	664	-	-	-	-	-
Stage 2	1287	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	72	453	-	-	902	-
Stage 1	516	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	63	443	-	-	892	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	230	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	168	443	892	-
HCM Lane V/C Ratio	-	-	0.254	0.322	0.111	-
HCM Control Delay (s)	-	-	33.6	16.9	9.5	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	1	1.4	0.4	-

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	189	678	159	113	672
Future Vol, veh/h	88	189	678	159	113	672
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	3	0	0	1
Mvmt Flow	93	199	714	167	119	707

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1753	808	0	0	886	0
Stage 1	803	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.41	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	94	384	-	-	773	-
Stage 1	443	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 79	380	-	-	769	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	317	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.3	0	1.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	203	380	769	-
HCM Lane V/C Ratio	-	-	0.456	0.524	0.155	-
HCM Control Delay (s)	-	-	36.8	24.4	10.5	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	2.2	2.9	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	187	728	192	82	441
Future Vol, veh/h	76	187	728	192	82	441
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	22	4	5	6	15	9
Mvmt Flow	78	193	751	198	85	455

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1477	852	0	0	950	0
Stage 1	851	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Critical Hdwy	6.62	6.24	-	-	4.25	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.698	3.336	-	-	2.335	-
Pot Cap-1 Maneuver	125	356	-	-	673	-
Stage 1	387	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	109	355	-	-	672	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.9	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	236	355	672	-
HCM Lane V/C Ratio	-	-	0.332	0.543	0.126	-
HCM Control Delay (s)	-	-	27.7	26.6	11.1	-
HCM Lane LOS	-	-	D	D	B	-
HCM 95th %tile Q(veh)	-	-	1.4	3.1	0.4	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	137	608	81	95	1066
Future Vol, veh/h	41	137	608	81	95	1066
Conflicting Peds, #/hr	12	12	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	1	4	0	1
Mvmt Flow	43	143	633	84	99	1110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2007	699	0	0	729	0
Stage 1	687	-	-	-	-	-
Stage 2	1320	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	66	440	-	-	884	-
Stage 1	503	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	57	430	-	-	874	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	221	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	161	430	874	-
HCM Lane V/C Ratio	-	-	0.265	0.332	0.113	-
HCM Control Delay (s)	-	-	35.2	17.5	9.6	-
HCM Lane LOS	-	-	E	C	A	-
HCM 95th %tile Q(veh)	-	-	1	1.4	0.4	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	189	706	159	113	695
Future Vol, veh/h	88	189	706	159	113	695
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	3	0	0	1
Mvmt Flow	93	199	743	167	119	732

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1807	837	0	0	915	0
Stage 1	832	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Critical Hdwy	6.41	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 87	370	-	-	754	-
Stage 1	429	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 72	366	-	-	750	-
Mov Cap-2 Maneuver	195	-	-	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.1	0	1.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	195	366	750	-
HCM Lane V/C Ratio	-	-	0.475	0.544	0.159	-
HCM Control Delay (s)	-	-	39.1	25.9	10.7	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	2.3	3.1	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	187	728	128	82	441
Future Vol, veh/h	51	187	728	128	82	441
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	22	4	5	6	15	9
Mvmt Flow	53	193	751	132	85	455

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1444	819	0	0	884	0
Stage 1	818	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Critical Hdwy	6.62	6.24	-	-	4.25	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3.698	3.336	-	-	2.335	-
Pot Cap-1 Maneuver	131	372	-	-	713	-
Stage 1	401	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	371	-	-	712	-
Mov Cap-2 Maneuver	243	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.5	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	243	371	712	-
HCM Lane V/C Ratio	-	-	0.216	0.52	0.119	-
HCM Control Delay (s)	-	-	23.9	24.7	10.7	-
HCM Lane LOS	-	-	C	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	2.9	0.4	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	137	608	53	95	1066
Future Vol, veh/h	27	137	608	53	95	1066
Conflicting Peds, #/hr	12	12	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	1	4	0	1
Mvmt Flow	28	143	633	55	99	1110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1993	685	0	0	700	0
Stage 1	673	-	-	-	-	-
Stage 2	1320	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	67	448	-	-	906	-
Stage 1	511	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	58	438	-	-	896	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	222	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	438	896	-
HCM Lane V/C Ratio	-	-	0.174	0.326	0.11	-
HCM Control Delay (s)	-	-	31.8	17.1	9.5	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	1.4	0.4	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	189	706	106	113	695
Future Vol, veh/h	59	189	706	106	113	695
Conflicting Peds, #/hr	5	5	0	5	5	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	60	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	3	0	0	1
Mvmt Flow	62	199	743	112	119	732

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1779	809	0	0	860	0
Stage 1	804	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Critical Hdwy	6.41	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	91	384	-	-	790	-
Stage 1	442	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	380	-	-	786	-
Mov Cap-2 Maneuver	200	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	310	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	1.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	200	380	786	-
HCM Lane V/C Ratio	-	-	0.311	0.524	0.151	-
HCM Control Delay (s)	-	-	30.9	24.4	10.4	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	1.3	2.9	0.5	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	74	80	16	6	19
Future Vol, veh/h	48	74	80	16	6	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	2	0	0	2	2	2
Mvmt Flow	76	117	127	25	10	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	409	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	269	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1429	-	-	-	599	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	565	908
Mov Cap-2 Maneuver	-	-	-	-	565	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	776	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	793
HCM Lane V/C Ratio	0.053	-	-	-	0.05
HCM Control Delay (s)	7.7	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	123	75	7	3	10
Future Vol, veh/h	21	123	75	7	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	1	0	2	2	2
Mvmt Flow	24	143	87	8	3	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	95	0	-	0	282	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	191	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1499	-	-	-	708	967
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	696	967
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	887
HCM Lane V/C Ratio	0.016	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	53	57	13	7	22
Future Vol, veh/h	40	53	57	13	7	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	2	2	2
Mvmt Flow	44	58	63	14	8	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	216	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1522	-	-	-	772	993
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	749	993
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	921
HCM Lane V/C Ratio	0.029	-	-	-	0.035
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1