

TRAFFIC IMPACT STUDY

For

**Bloomfield Broad Associates Urban Renewal, LLC
Proposed Mixed-Use Development**

Property Located at:

11-13 Broad Street
Block 241 – Lots 5-7, 21, 23, 37, 39, & 41-46
Township of Bloomfield, Essex County, NJ

Prepared by:



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2340-22-02032

INTRODUCTION

It is proposed to construct a mixed-use development on a parcel of land currently developed with a variety of commercial uses, along Broad Street, Franklin Street, and Washington Street in the Township of Bloomfield, Essex County, New Jersey (see Figure 1 in Appendix A). The site is designated as Block 241 – Lots 5-7, 21, 23, 37, 39, and 41-46 on the Bloomfield Township Tax Maps. The existing site is currently developed with approximately 30,000 SF of commercial/retail space. Access to the site is currently provided via one (1) full-movement driveway, one (1) ingress-only driveway, and one (1) egress-only driveway along Franklin Street and one (1) ingress-only driveway and one (1) egress-only driveway along Washington Street. It is proposed to raze the existing commercial uses and construct a mixed-use development consisting of 125 residential units and 6,500 SF of retail space (“The Project”). The site is located within Zone BCRD-II (Bloomfield Center Redevelopment Plan – Phase II). It is proposed to consolidate the Franklin Street access to one (1) full-movement driveway aligned with Fremont Street and maintain the existing access points along Washington Street.

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 morning and weekday afternoon peak periods at the intersections of:
 - Liberty Street & Broad Street/Franklin Street
 - Broad Street & Franklin Street
 - Franklin Street & Fremont Street/Existing Site Driveways
 - Washington Street & Existing Site Driveways
- Projections of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers (ITE). Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.
- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.
- The proposed points of ingress and egress were inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The site plan as designed was reviewed for sufficiency in accommodating large wheel base vehicles such as delivery trucks, refuse trucks, and emergency vehicles.
- The parking layout and supply was assessed based on accepted design standards, local requirements, and demand experienced at similar developments.
- The proposed site circulation and parking as shown on the site plan were reviewed for conformance with the Township Redevelopment Plan and generally accepted standards.

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 development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

Existing Roadway Conditions

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

Broad Street (CR 663) is an Urban Minor Arterial roadway under County jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one (1) travel lane in each direction. On-street parking is permitted, and curb and sidewalk are provided along both sides of the roadway. Broad Street provides a straight horizontal alignment and a flat vertical alignment along the site frontage. The land uses along Broad Street in the vicinity of The Project are primarily residential and commercial.

Franklin Street (CR 509) is an Urban Minor Arterial roadway under County jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction. On-street parking is permitted, and curb and sidewalk are provided along both sides of the roadway. Franklin Street provides a straight horizontal alignment and a flat vertical alignment along the site frontage. The land uses along Franklin Street in the vicinity of The Project are primarily residential and commercial.

Liberty Street is an Urban Major Collector roadway under municipal jurisdiction with a general east/west orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one (1) travel lane in each direction. On-street parking is permitted, and curb and sidewalk are provided along both sides of the roadway. Liberty Street provides a straight horizontal alignment and a flat vertical alignment in the vicinity of the site. The land uses along Liberty Street in the vicinity of The Project are primarily residential and commercial.

Fremont Street is a local roadway under municipal jurisdiction with a general east/west orientation. In the vicinity of the site there is no posted speed limit and the roadway provides one (1) travel lane in each direction. On-street parking is permitted, and curb and sidewalk are provided along both sides of the roadway. Fremont Street provides a straight horizontal alignment and a flat vertical alignment. The land uses along Fremont Street in the vicinity of The Project are primarily residential.

Washington Street is an Urban Major Collector roadway under municipal jurisdiction with a general east/west orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one (1) travel lane in each direction. On-street parking is permitted, and curb and sidewalk are provided along both sides of the roadway. Washington Street provides a straight horizontal alignment and a flat vertical alignment along the site frontage. The land uses along Washington Street in the vicinity of The Project are primarily commercial.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted on Thursday, November 2, 2023 from 7:00 to 9:00 AM and from 4:30 to 6:30 PM at the following intersections:

- Liberty Street & Broad Street/Franklin Street
- Broad Street & Franklin Street
- Franklin Street & Fremont Street/Existing Site Driveways
- Washington Street & Existing Site Driveways

Review of the collected traffic data reveals that the weekday morning network peak street hour (PSH) occurs between 7:30 - 8:30 AM and the weekday evening network PSH occurs between 4:45 - 5:45 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections. All traffic counts are contained in Appendix B.

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 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 1 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 2 describes the level of service ranges for unsignalized (stop controlled) intersections.

**Table 1
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 2
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 Bloomfield Avenue and Glenwood Avenue/Broad Street.

All capacity analyses were performed utilizing Synchro 12 software. It should be noted that the existing percentage of trucks and peak hour factors were used in the existing analysis. Table 3 summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

**Table 3
Existing Levels of Service**

Intersection	Direction/ Movement		AM PSH	PM PSH
Liberty Street & Broad Street/Franklin Street	EB	LTR	C (32)	C (32)
	WB	LTR	C (33)	C (27)
	NB	TR	A (7)	A (6)
	SB	TR	B (11)	B (12)
	Overall		B (15)	B (14)
Broad Street & Franklin Street	SEB	T	C (30)	C (33)
	NB	T	A (10)	A (10)
		R	A (8)	A (22)
	NWB	T	A (1)	A (1)
	Overall		B (13)	B (15)
Franklin Street & Egress Site Driveway/Fremont Street	EB	LTR	b (14)	c (16)
	WB	LR	b (13)	c (16)
	SB	L	a (8)	a (8)
Washington Street & Egress Site Driveway	SB	LR	a (9)	a (10)

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.

Liberty Street & Broad Street/Franklin Street

Liberty Street intersects Broad Street and Franklin Street to form a five-leg intersection controlled by a traffic signal. The signal timing directive was obtained from Essex County which indicates that a three-phase 100-second background cycle is utilized (the traffic signal timing directive is included in Appendix B).

The eastbound and westbound approaches of Liberty Street each provide one (1) full-movement lane. The southbound approach of Broad Street provides one (1) shared through/right-turn lane. Left turns are prohibited onto Liberty Street. The northbound approach of Franklin Street provides one (1) dedicated through lane and one (1) shared through/right-turn lane.

A review of the existing analysis reveals that the intersection operates at levels of service “B” and all movements operate at levels of service “C” or better during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

Broad Street & Franklin Street

Broad Street intersects Franklin Street to form a four-leg intersection controlled by a traffic signal coordinated with the signal at the intersection of Liberty Street and Franklin Street/Broad Street.

The northbound approach of Broad Street provides a dedicated through lane and one (1) dedicated right-turn lane, while the southeastbound approach provides two (2) dedicated through lanes. The northwestbound approach of Franklin Street provides one (1) dedicated through lane.

A review of the existing analysis reveals that the intersection operates at levels of service “B” and all movements operate at levels of service “C” or better during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

Franklin Street & Egress Site Driveway/Fremont Street

The egress site driveway and Fremont Street intersect Franklin Street to form an unsignalized four-leg intersection with the eastbound approach of the site driveway and the westbound approach of Fremont Street operating under stop control. The northbound and southbound approaches of Franklin Street each provide one (1) full-movement lane. The eastbound approach of the site driveway provides one (1) full-movement lane, while the westbound approach of Fremont Street provides one (1) shared left-turn/right-turn lane.

A review of the existing analysis reveals that the approaches of the intersection operate at levels of service “C” or better during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

Washington Street & Egress Site Driveway

The egress site driveway intersects Washington Street to form an unsignalized T-intersection with the southbound approach of the site driveway operating under stop control. The eastbound approach of Washington Street provides one (1) shared left-turn/through lane, while the westbound approach provides one (1) shared through/right-turn lane. The southbound approach of Washington Street provides one (1) shared left-turn/right-turn lane.

A review of the existing analysis reveals that the approaches of the intersection operate at level of service “A” during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

FUTURE CONDITIONS

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

Regardless of whether the subject site is developed or not, 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 Bloomfield Township 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 traffic associated with all developments not listed.

Future 2025 No Build traffic volumes were developed by applying the background growth rate of 2.0% for two (2) years to the study area roadways existing traffic volumes. Figure 3, in Appendix A, shows the 2025 No Build traffic volumes.

Traffic Generation

Trip generation projections for The Project were prepared utilizing trip generation research data as published under Land Use Code (LUC) 231 – Mid-Rise Residential with Ground-Floor Commercial in the ITE publication, *Trip Generation Manual, 11th Edition*. This publication sets forth trip generation rates based on empirical traffic count data conducted at numerous research sites.

**Table 4
Trip Generation**

Land Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
Proposed 125 Unit & 6,500 SF Mixed-Use Development <i>ITE LUC 231</i>	10	15	25	15	20	35

As previously noted, the site is currently occupied by approximately 30,000 SF of various commercial/retail uses which currently generate trips to the adjacent roadway network. With the construction of The Project, these uses would be razed and these trips would no longer impact the adjacent roadway network. In order to provide for a conservative analysis, no trip reduction credit was applied to the trip generation calculations.

The location of The Project is specifically suited to encourage the use of means of transportation other than passenger vehicle travel. Along the Franklin Street site frontage, a bus stop is provided offering access to NJ Transit Bus Routes 27, 72, and 92 with service to/from Newark and surrounding municipalities. In addition, The Project is located within 0.2 miles (5-minute walk) of the Bloomfield train station which provides access to the Montclair-Boonton Line with service to/from New York

Penn Station and Hoboken with stops at surrounding municipalities. Due to the close proximity of the mixed-use development to the train station and bus stop, it is anticipated that a portion of the trips accessing the retail and residential uses would be accomplished via public transit. However, no trip reduction credit was taken to account for public transit in order to maintain a conservative analysis.

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Figures 4 and 5, located in Appendix A, illustrate the Trip Distribution and Site Generated Volumes, respectively. The Site Generated Volumes assigned to the study area network were added to the No Build traffic volumes to generate the Build traffic volumes, which are shown in Figure 6.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table 5 below.

**Table 5
Future Levels of Service**

Intersection	Direction/ Movement		AM PSH		PM PSH	
			No Build	Build	No Build	Build
Liberty Street & Broad Street/ Franklin Street	EB	LTR	C (32)	C (32)	C (33)	C (33)
	WB	LTR	C (34)	C (34)	C (28)	C (28)
	NB	TR	A (7)	A (7)	A (6)	A (6)
	SB	TR	B (12)	B (12)	B (12)	B (12)
	Overall		B (16)	B (16)	B (14)	B (14)
Broad Street & Franklin Street	SEB	T	C (30)	C (30)	C (34)	C (34)
	NB	T	B (10)	B (10)	B (10)	B (10)
		R	A (8)	A (8)	A (2)	A (2)
	NWB	T	A (1)	A (1)	A (1)	A (1)
Overall		B (14)	B (14)	B (16)	B (16)	
Franklin Street & Egress Site Driveway/Fremont Street	EB	LTR	b (14)	b (13)	c (16)	c (17)
	WB	LR	b (13)	b (13)	c (17)	c (18)
	NB	L	-	a (8)	-	a (8)
	SB	L	a (8)	a (8)	a (8)	a (8)
Washington Street & Egress Site Driveway	SB	LR	a (9)	a (9)	a (9)	a (10)

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

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

Liberty Street & Broad Street/Franklin Street

With the addition of site generated traffic, the intersection is anticipated to operate at overall intersection level of service “B” during the analyzed peak hours. Additionally, each movement is anticipated to operate at No Build levels of service “C” or better. See Table 5 for the individual movement levels of service and delays.

Broad Street & Franklin Street

With the addition of site generated traffic, the intersection is anticipated to operate at overall intersection level of service “B” during the analyzed peak hours. Additionally, each movement is anticipated to operate at No Build levels of service “C” or better. See Table 5 for the individual movement levels of service and delays.

Franklin Street & Egress Site Driveway/Fremont Street

With the addition of site generated traffic, the approaches of the intersection are anticipated to operate at No Build levels of service “C” or better. See Table 5 for the individual movement levels of service and delays.

Washington Street & Egress Site Driveway

With the addition of site generated traffic, the approaches of the intersection are anticipated to operate at No Build levels of service “A”. See Table 5 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 regarding access to The Project, it is proposed to consolidate the Franklin Street access to one (1) full-movement driveway aligned with Fremont Street and maintain the existing ingress-only and egress-only driveways along Washington Street. Pedestrian access to The Project is provided along Broad Street and Franklin Street. An on-site loading area for the anticipated delivery operation via SU-30 trucks is proposed with access provided via a curb cut along Franklin Street.

The parking garage will be serviced by parking aisles with widths of a minimum of 24' in the vicinity of two-way circulation and 90-degree parking, which satisfies the Ordinance's minimum requirement of 24'. The existing parking fields located on Lots 5-7 and Lots 19 and 20 are proposed to remain.

Parking

The Bloomfield Center Redevelopment Plan – Phase II sets forth a parking requirement of 1.4 parking spaces per residential unit and 2.7 parking spaces per 1,000 SF of retail space. This equates to a parking requirement of 193 spaces for the proposed 125-unit residential and 6,500 SF retail development. The site as proposed provides 227 parking spaces, inclusive of 29 electric vehicle charging spaces, seven (7) ADA-accessible spaces, and 25 compact spaces, and the redevelopment plan requirement is satisfied.

As per the current Municipal Land Use Law (“M.L.U.L.”) (N.J.A.C. 40:55-D), at least 15% of the total required off-street parking spaces are required to be “make-ready” spaces and electric vehicle supply equipment is to be provided in at least one-third of the 15% “make-ready” spaces. This equates to 29 “make-ready” spaces and 10 electric vehicle charging stations, which is satisfied as designed. Additionally, electric vehicle charging stations count as two (2) spaces for the purposes of complying with parking supply requirements, up to a maximum of 10% of the requirement. As such, the effective parking requirement is 174 spaces. Consequently, the proposed parking supply of 227 spaces would satisfy the Ordinance requirement. Note that on-street parking is provided in the vicinity of The Project; however, these spaces were not taken into account regarding the proposed parking supply.

It is proposed to provide standard parking stalls with dimensions of 9'x18' and compact parking stalls with dimensions of 9'x15', which satisfy the Ordinance minimum requirement of 9'x18' and 8.5'x15', respectively.

FINDINGS & CONCLUSIONS

Findings

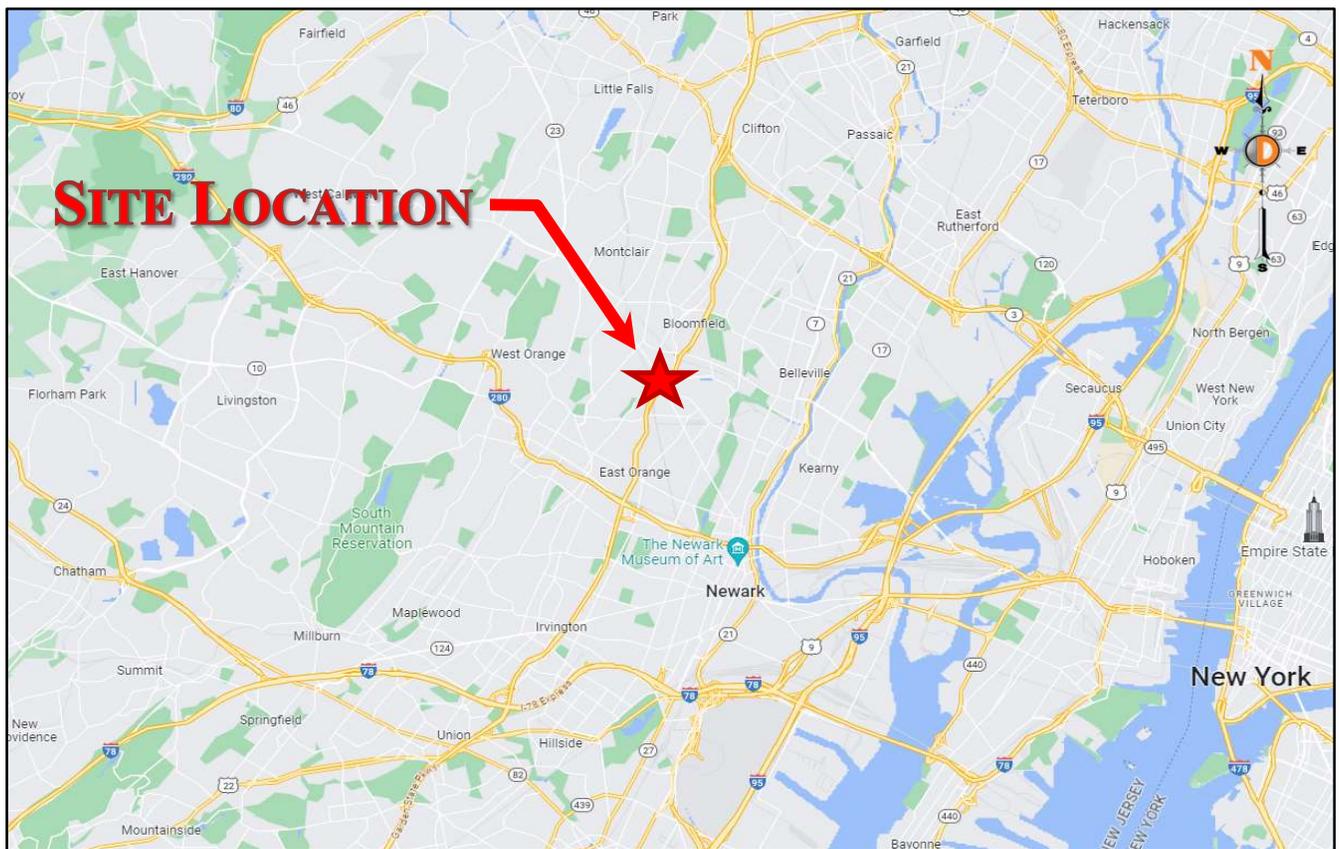
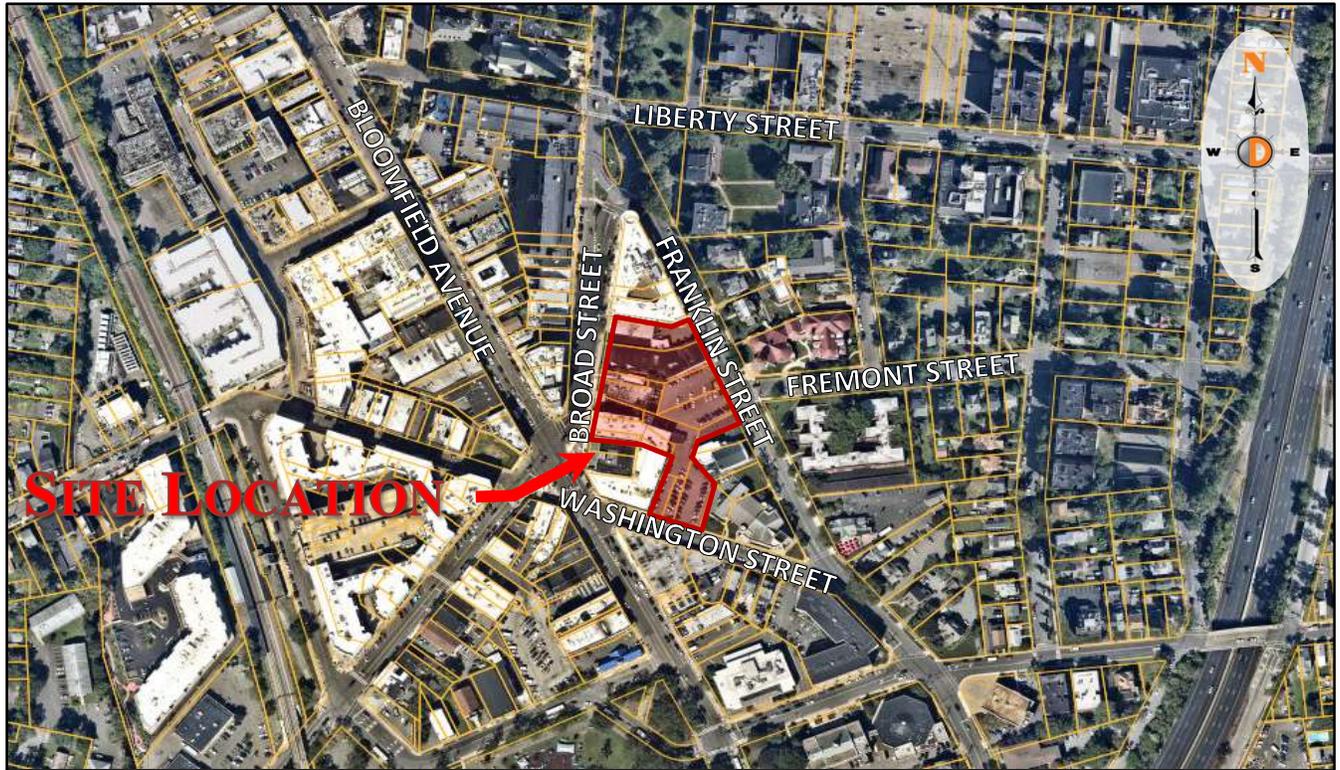
Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed 125-unit residential and 6,500 SF retail mixed-use development, is projected to generate 10 entering trips and 15 exiting trips during the weekday morning peak hour and 15 entering trips and 20 exiting trips during the evening peak hour that are “new” to the adjacent roadway network.
- Public transit options are available for tenants and patrons of the mixed-use development via an NJ Transit bus stop along Franklin Street and the Bloomfield train station located 0.2 mile (5-minute walk) from The Project.
- Access to the site is proposed to be consolidated along Franklin Street to provide one (1) full-movement driveway aligned with Fremont Street and maintain the existing ingress-only and egress-only driveways along Washington Street.
- With the addition of site generated traffic, the signalized intersections of Liberty Street and Broad Street/Franklin Street and Broad Street and Franklin Street are anticipated to operate at No Build level of service “B” during the peak hours studied.
- With the addition of site generated traffic, the unsignalized intersections of Franklin Street and the proposed site driveway/Fremont Street and Washington Street and the egress-only site driveway are anticipated to operate at No Build level of service “C” during the peak hours studied.
- As proposed, The Project’s site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles and large wheel base vehicles.
- The proposed parking supply and design is sufficient to support the projected demand and satisfies the Ordinance requirements.
- The Project’s site access points, internal circulation, and parking supply have been designed in accordance with the Bloomfield Center Redevelopment Plan – Phase II requirements and generally accepted design standards.

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 of the Township of Bloomfield and Essex County will not experience any significant degradation in operating conditions with the construction of The Project. The site driveways are located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for effective circulation throughout the site and provides adequate parking to accommodate The Project’s needs.

Appendix A
Traffic Volume Figures



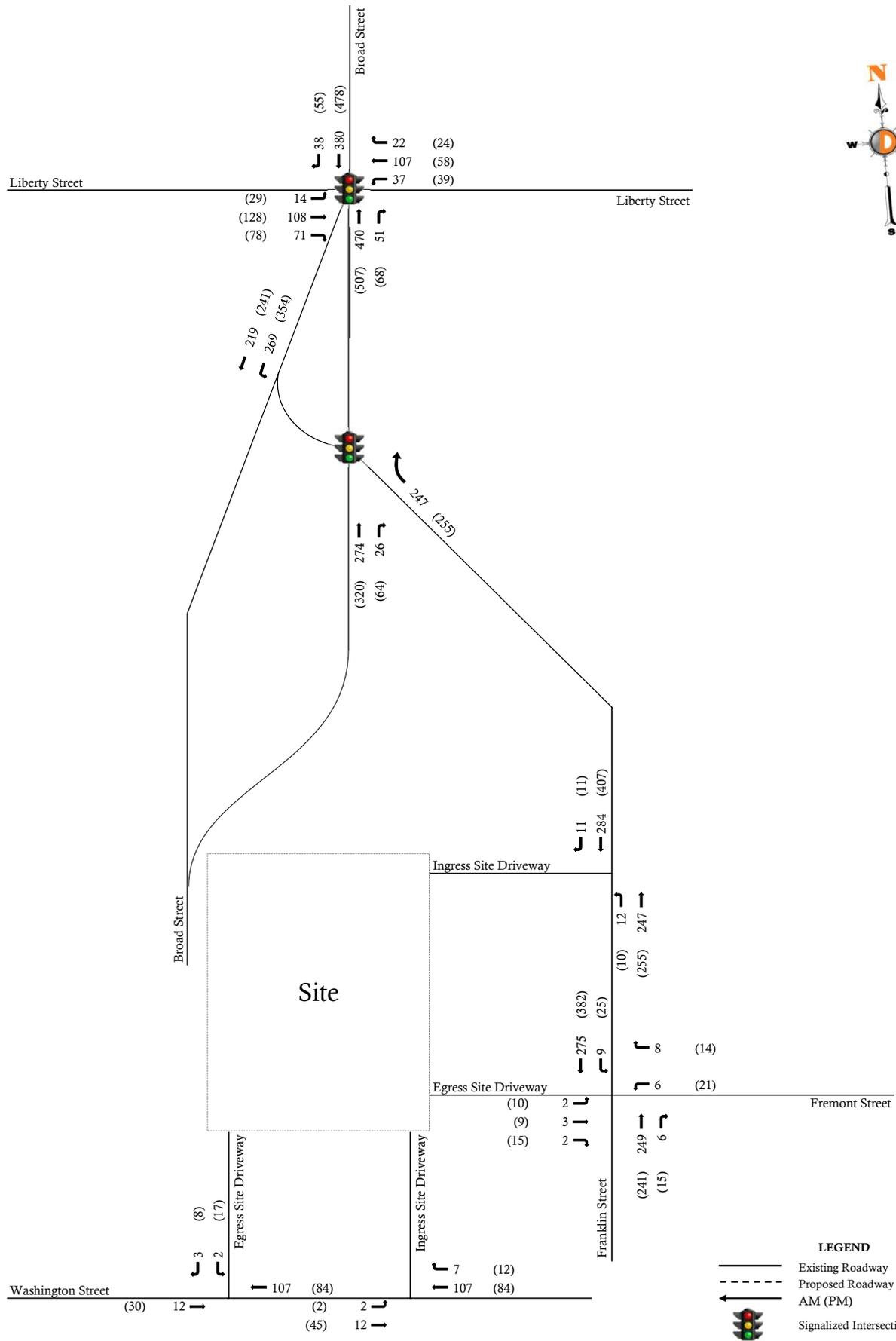
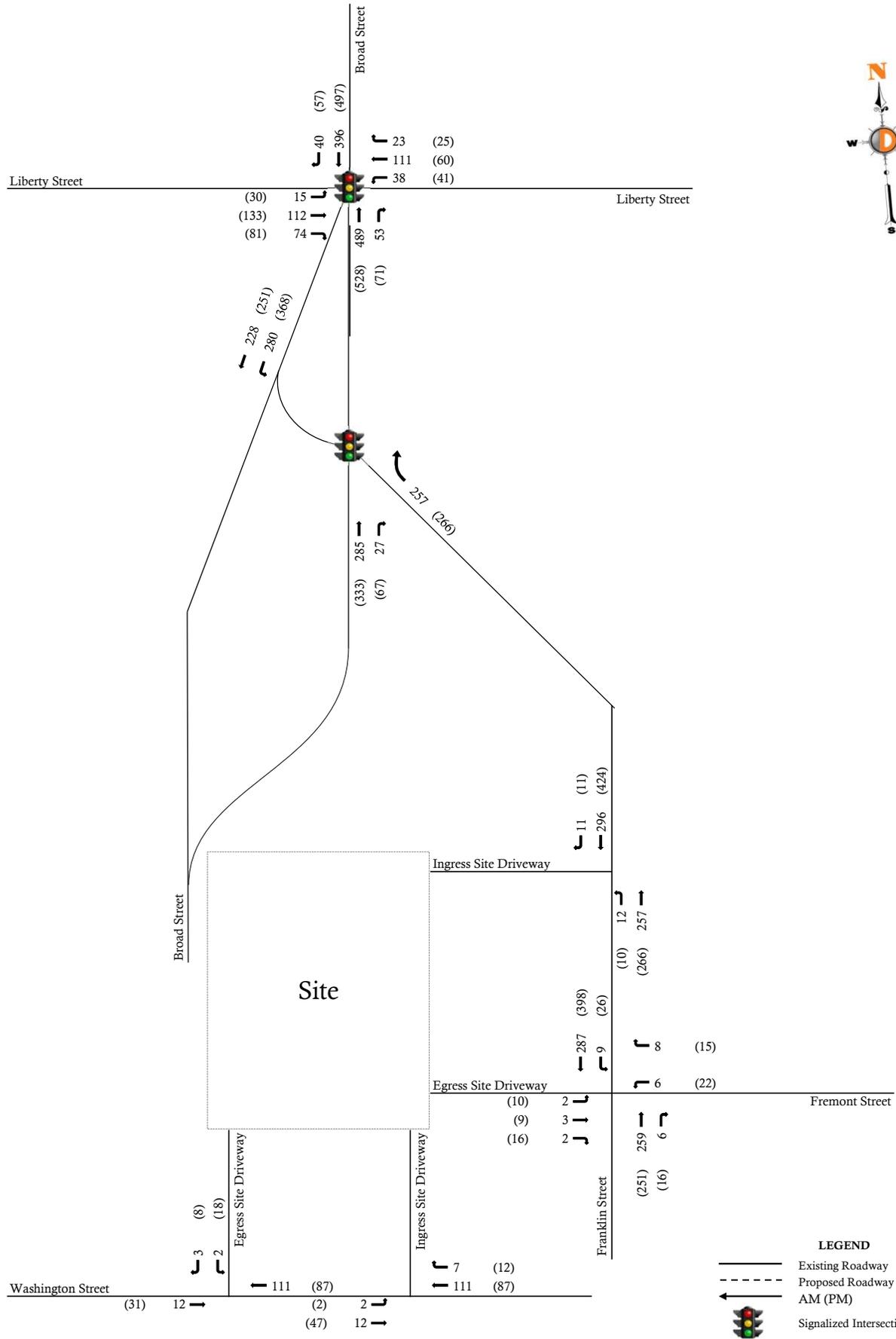
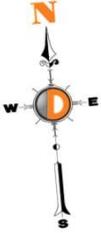


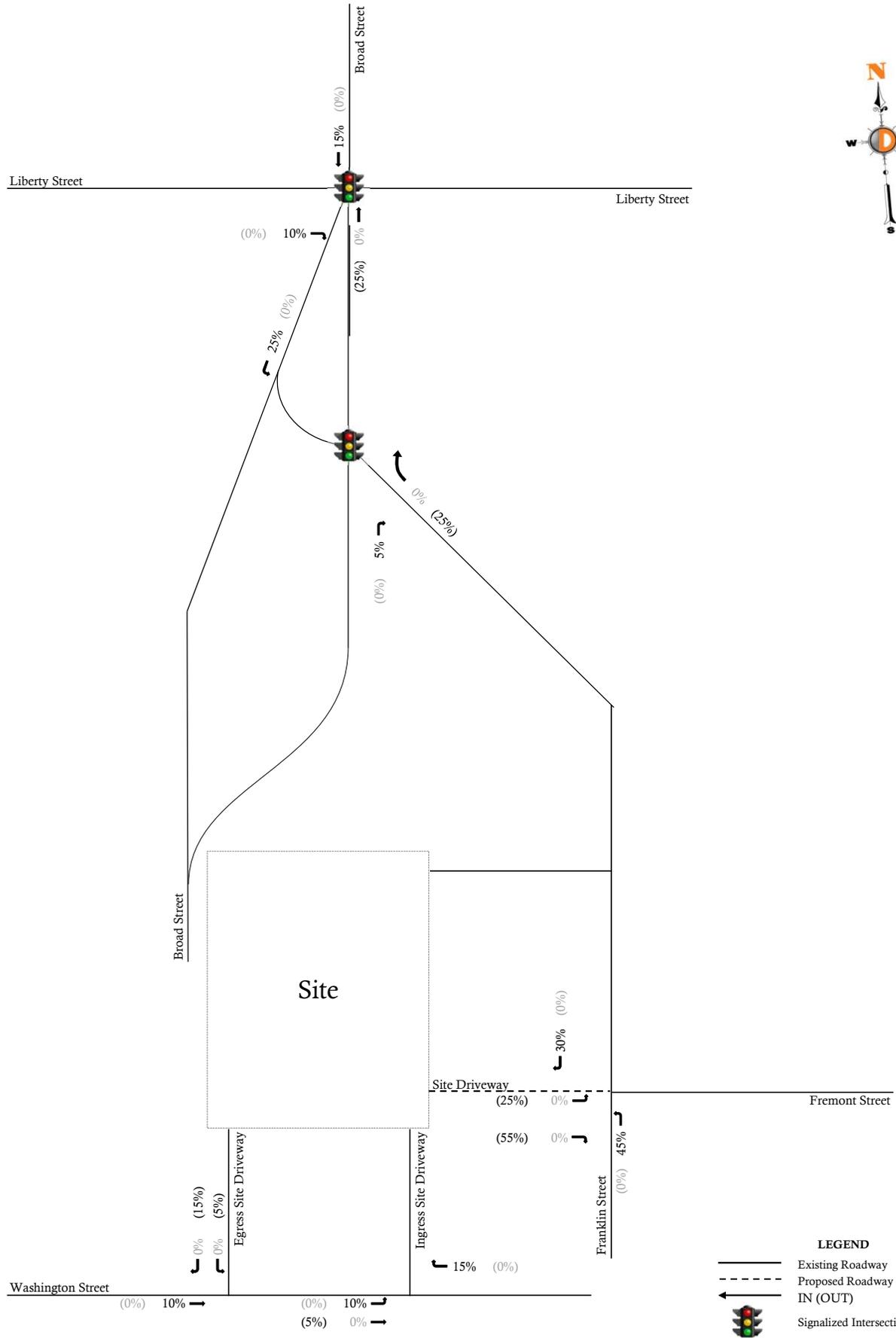
Figure 2

Existing Traffic Volumes



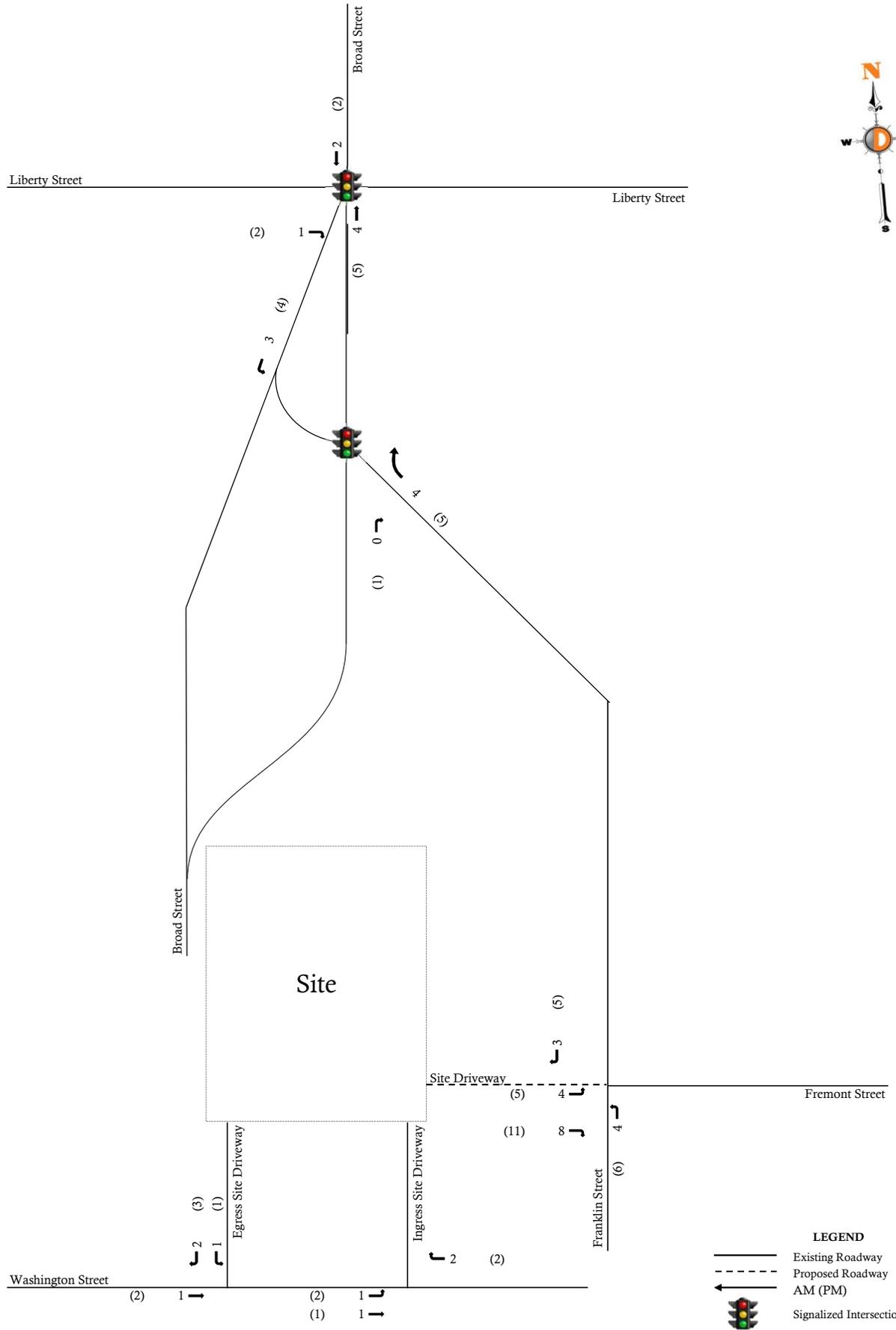
LEGEND

- Existing Roadway
- - - Proposed Roadway
- ← AM (PM)
- 🚦 Signalized Intersection



- LEGEND**
- Existing Roadway
 - Proposed Roadway
 - IN (OUT)
 - Signalized Intersection





- LEGEND**
- Existing Roadway
 - Proposed Roadway
 - AM (PM)
 - Signalized Intersection



Figure 5

Site Generated Trips

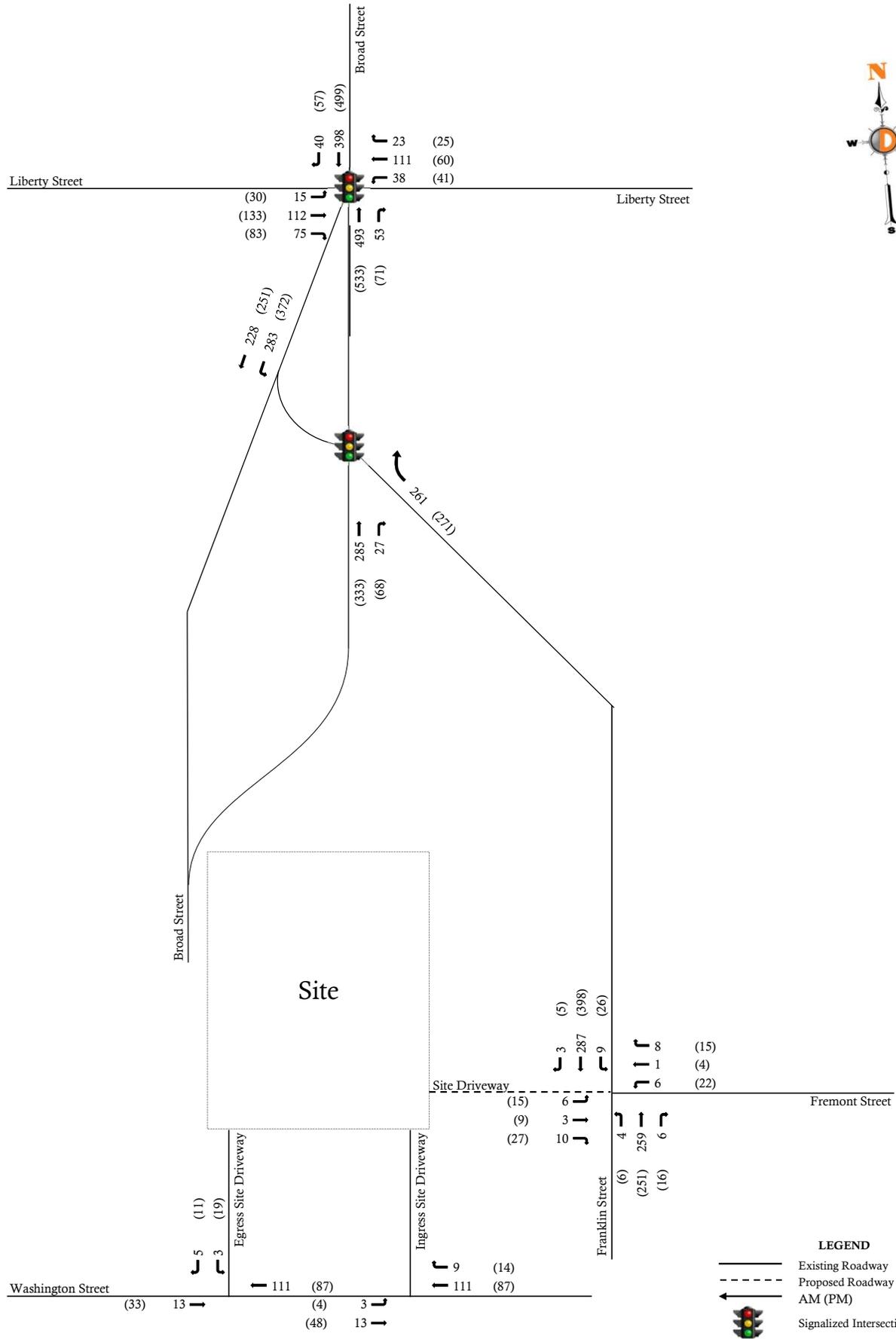


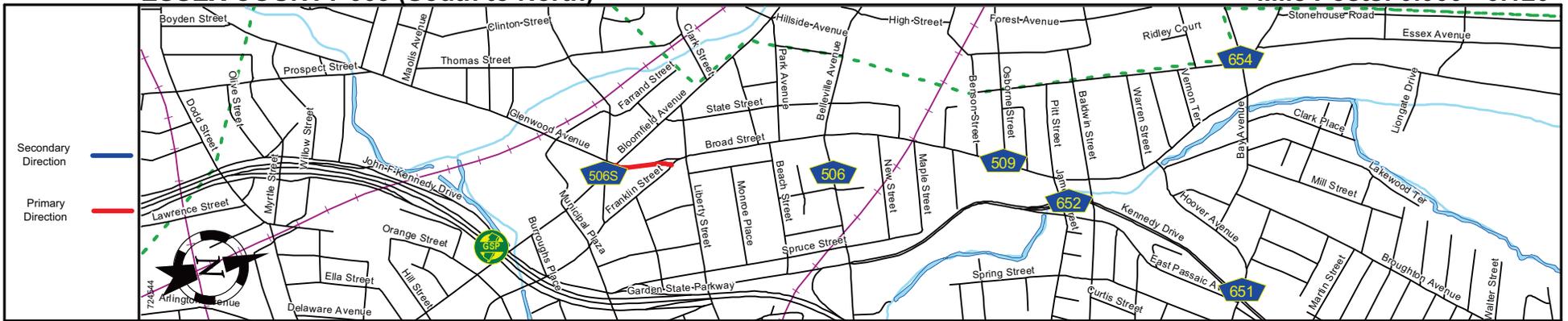
Figure 6

Build Traffic Volumes

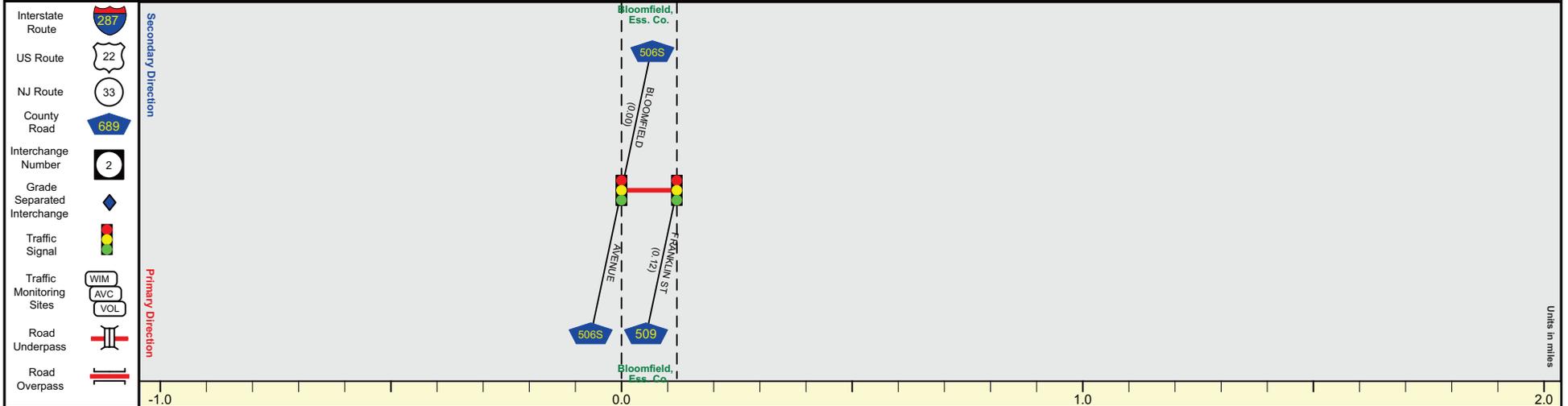
Appendix B
Project Information

ESSEX COUNTY 663 (South to North)

Mile Posts: 0.000 - 0.120



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



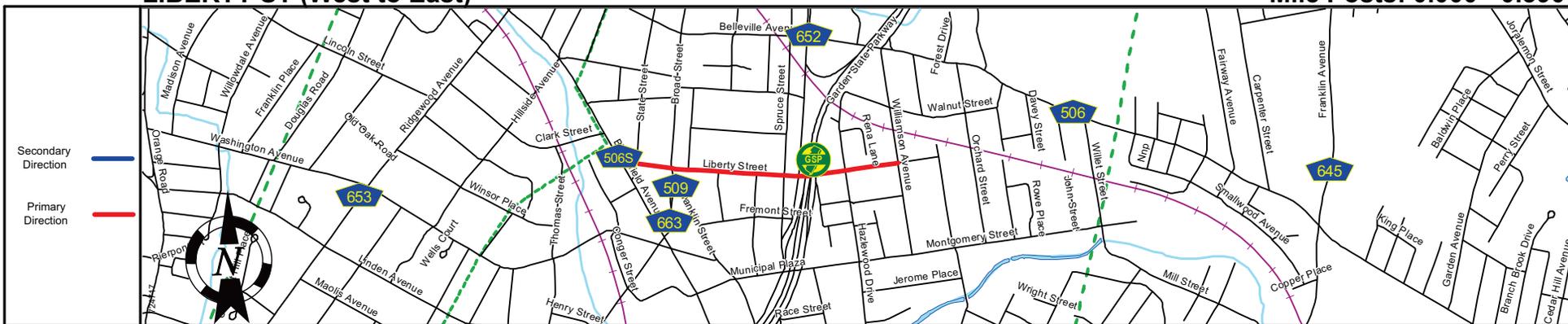
Street Name	Broad Street
Jurisdiction	County
Functional Class	Urban Minor Arterial
Federal Aid - NHS Sy	STP
Control Section	Begin Essex County 663 MP=0.00
Speed Limit	NOT POSTED
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	48
Shoulder	0
Traffic Volume	5,159 (2017)
Traffic Sta. ID	160708
Structure No.	
Enlarged Views	

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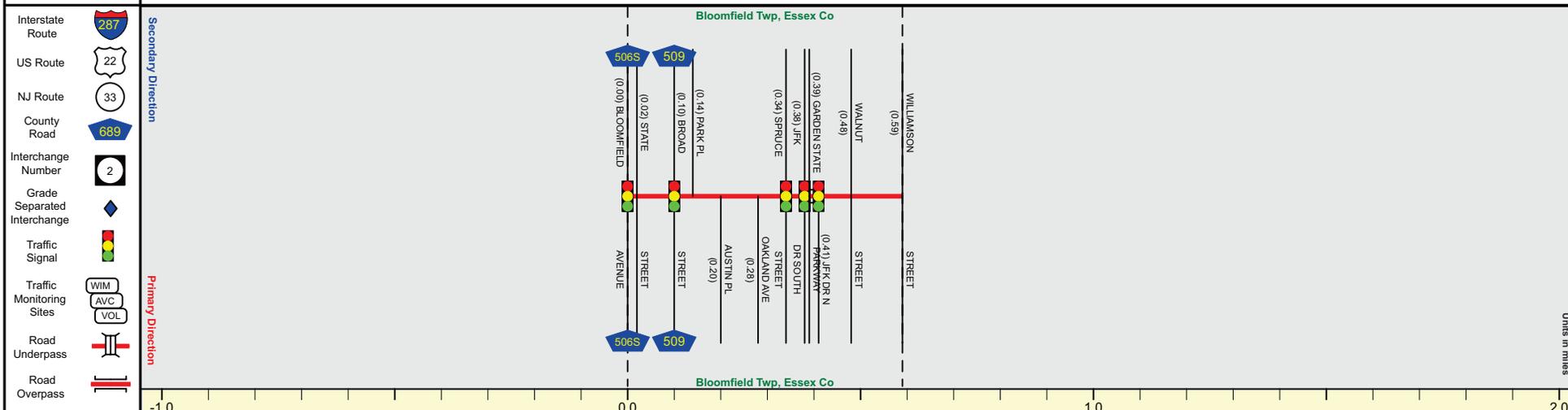
Date last inventoried: July 2011

LIBERTY ST (West to East)

Mile Posts: 0.000 - 0.590



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



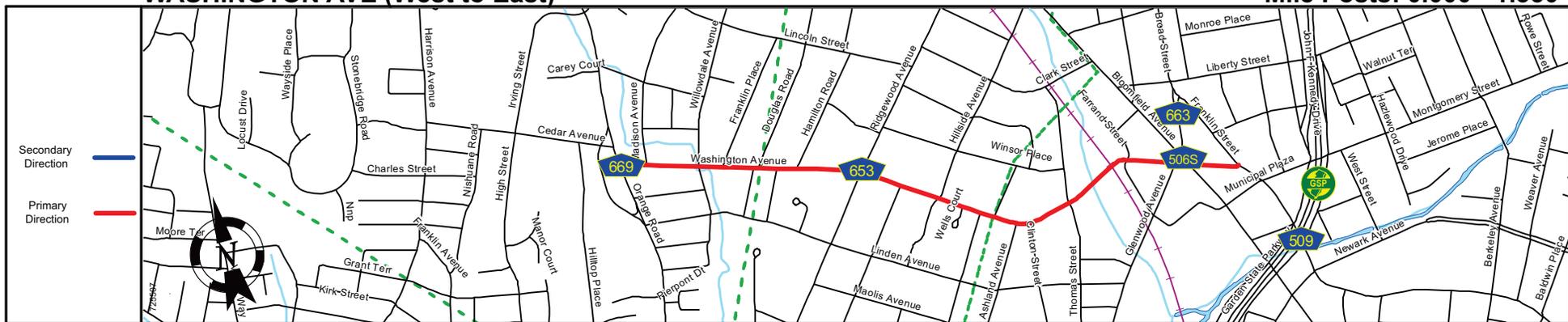
Street Name	Liberty Street
Jurisdiction	Municipal
Functional Class	Urban Major Collector
Federal Aid - NHS Sy	STP
Control Section	Begin Liberty St MP=0.00
Speed Limit	25
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	32
Shoulder	0
Traffic Volume	
Traffic Sta. ID	
Structure No.	361499T
Enlarged Views	

SRI = 07021683__

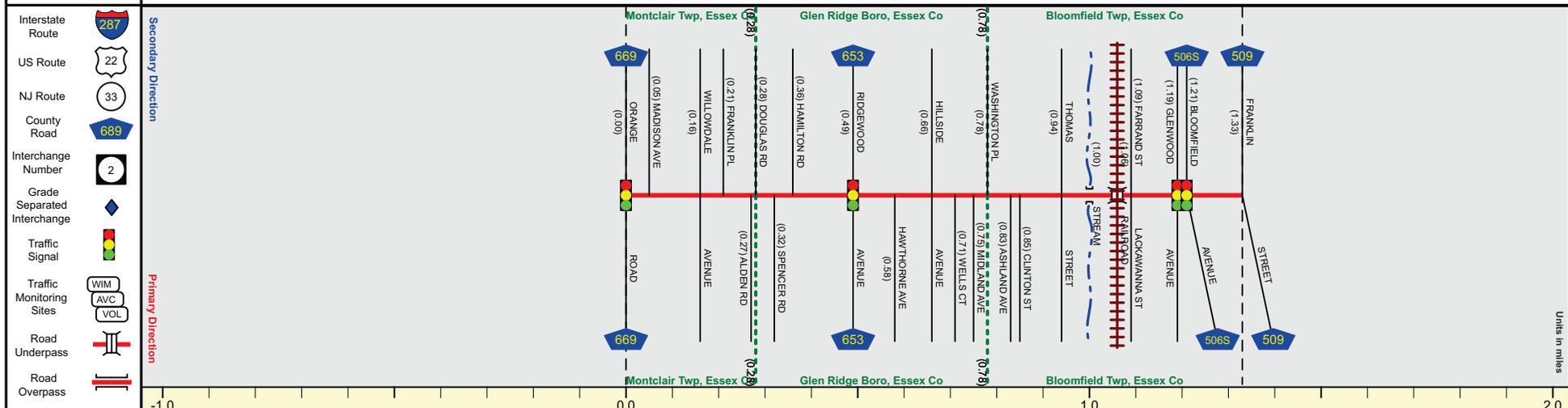
Date last inventoried: September 2015

WASHINGTON AVE (West to East)

Mile Posts: 0.000 - 1.330



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Washington Avenue
Jurisdiction	Municipal
Functional Class	Urban Major Collector
Federal Aid - NHS Sy	STP
Control Section	
Speed Limit	25
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	30
Shoulder	0
Traffic Volume	3,327 (2018)
Traffic Sta. ID	n18200
Structure No.	0705865
Enlarged Views	

SRI = 07131686__

Date last inventoried: January 2016

Dynamic Traffic, LLC

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

E/W: Liberty Street
 N/S: Franklin Street/Broad Street
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Liberty St-Franklin St-Broad St - AMPM
 Site Code :
 Start Date : 11/2/2023
 Page No : 1

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

Start Time	Liberty Street Eastbound					Liberty Street Westbound					Broad Street/Franklin Street Northbound					Broad Street Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	10	4	12	26	5	10	3	6	24	0	74	11	2	87	0	57	6	8	71	208
07:15 AM	3	5	11	25	44	12	18	3	9	42	1	98	6	3	108	0	75	3	11	89	283
07:30 AM	2	25	25	45	97	11	35	8	21	75	0	155	20	5	180	0	85	11	5	101	453
07:45 AM	1	32	25	20	78	5	26	6	7	44	0	106	15	11	132	0	88	9	7	104	358
Total	6	72	65	102	245	33	89	20	43	185	1	433	52	21	507	0	305	29	31	365	1302
08:00 AM	3	28	10	14	55	10	27	5	8	50	0	96	11	3	110	0	97	10	8	115	330
08:15 AM	8	23	11	17	59	11	19	3	7	40	0	113	5	5	123	0	110	8	10	128	350
08:30 AM	9	20	15	11	55	13	29	3	7	52	0	136	13	3	152	0	72	11	3	86	345
08:45 AM	3	18	11	12	44	10	20	3	5	38	0	133	16	0	149	0	91	19	7	117	348
Total	23	89	47	54	213	44	95	14	27	180	0	478	45	11	534	0	370	48	28	446	1373
BREAK																					
04:30 PM	5	25	17	22	69	4	11	4	7	26	1	119	20	10	150	0	114	6	17	137	382
04:45 PM	7	24	17	19	67	14	5	6	16	41	0	122	11	2	135	0	111	12	5	128	371
Total	12	49	34	41	136	18	16	10	23	67	1	241	31	12	285	0	225	18	22	265	753
05:00 PM	8	28	16	25	77	2	14	4	7	27	1	135	22	5	163	0	119	9	10	138	405
05:15 PM	5	32	24	18	79	11	16	11	6	44	1	120	11	4	136	0	130	18	8	156	415
05:30 PM	9	44	20	20	93	11	23	3	7	44	0	125	23	6	154	1	112	16	12	141	432
05:45 PM	5	31	19	22	77	13	18	4	7	42	0	116	17	3	136	0	117	11	12	140	395
Total	27	135	79	85	326	37	71	22	27	157	2	496	73	18	589	1	478	54	42	575	1647
06:00 PM	4	32	21	15	72	11	13	4	8	36	1	101	9	4	115	1	129	10	9	149	372
06:15 PM	9	28	30	15	82	10	19	3	10	42	0	101	11	7	119	1	120	9	10	140	383
Grand Total	81	405	276	312	1074	153	303	73	138	667	5	1850	221	73	2149	3	1627	168	142	1940	5830
Apprch %	7.5	37.7	25.7	29.1		22.9	45.4	10.9	20.7		0.2	86.1	10.3	3.4		0.2	83.9	8.7	7.3		
Total %	1.4	6.9	4.7	5.4	18.4	2.6	5.2	1.3	2.4	11.4	0.1	31.7	3.8	1.3	36.9	0.1	27.9	2.9	2.4	33.3	
Cars	79	395	269	312	1055	135	297	69	138	639	5	1772	217	73	2067	3	1561	165	142	1871	5632
% Cars	97.5	97.5	97.5	100	98.2	88.2	98	94.5	100	95.8	100	95.8	98.2	100	96.2	100	95.9	98.2	100	96.4	96.6
Buses	1	7	6	0	14	14	5	4	0	23	0	49	2	0	51	0	45	0	0	45	133
% Buses	1.2	1.7	2.2	0	1.3	9.2	1.7	5.5	0	3.4	0	2.6	0.9	0	2.4	0	2.8	0	0	2.3	2.3
Trucks (SU)	1	3	1	0	5	3	1	0	0	4	0	28	2	0	30	0	21	3	0	24	63
% Trucks (SU)	1.2	0.7	0.4	0	0.5	2	0.3	0	0	0.6	0	1.5	0.9	0	1.4	0	1.3	1.8	0	1.2	1.1
Trucks (TT)	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
% Trucks (TT)	0	0	0	0	0	0.7	0	0	0	0.1	0	0.1	0	0	0	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: Liberty Street
 N/S: Franklin Street/Broad Street
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Liberty St-Franklin St-Broad St - AMPM
 Site Code :
 Start Date : 11/2/2023
 Page No : 2

Start Time	Liberty Street Eastbound					Liberty Street Westbound					Broad Street/Franklin Street Northbound					Broad Street Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	25	25	45	97	11	35	8	21	75	0	155	20	5	180	0	85	11	5	101	453
07:45 AM	1	32	25	20	78	5	26	6	7	44	0	106	15	11	132	0	88	9	7	104	358
08:00 AM	3	28	10	14	55	10	27	5	8	50	0	96	11	3	110	0	97	10	8	115	330
08:15 AM	8	23	11	17	59	11	19	3	7	40	0	113	5	5	123	0	110	8	10	128	350
Total Volume	14	108	71	96	289	37	107	22	43	209	0	470	51	24	545	0	380	38	30	448	1491
% App. Total	4.8	37.4	24.6	33.2		17.7	51.2	10.5	20.6		0	86.2	9.4	4.4		0	84.8	8.5	6.7		
PHF	.438	.844	.710	.533	.745	.841	.764	.688	.512	.697	.000	.758	.638	.545	.757	.000	.864	.864	.750	.875	.823
Cars	14	105	68	96	283	34	105	19	43	201	0	444	49	24	517	0	359	37	30	426	1427
% Cars	100	97.2	95.8	100	97.9	91.9	98.1	86.4	100	96.2	0	94.5	96.1	100	94.9	0	94.5	97.4	100	95.1	95.7
Buses	0	3	2	0	5	3	2	3	0	8	0	16	1	0	17	0	14	0	0	14	44
% Buses	0	2.8	2.8	0	1.7	8.1	1.9	13.6	0	3.8	0	3.4	2.0	0	3.1	0	3.7	0	0	3.1	3.0
Trucks (SU)	0	0	1	0	1	0	0	0	0	0	0	10	1	0	11	0	7	1	0	8	20
% Trucks (SU)	0	0	1.4	0	0.3	0	0	0	0	0	0	2.1	2.0	0	2.0	0	1.8	2.6	0	1.8	1.3
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	7	24	17	19	67	14	5	6	16	41	0	122	11	2	135	0	111	12	5	128	371
05:00 PM	8	28	16	25	77	2	14	4	7	27	1	135	22	5	163	0	119	9	10	138	405
05:15 PM	5	32	24	18	79	11	16	11	6	44	1	120	11	4	136	0	130	18	8	156	415
05:30 PM	9	44	20	20	93	11	23	3	7	44	0	125	23	6	154	1	112	16	12	141	432
Total Volume	29	128	77	82	316	38	58	24	36	156	2	502	67	17	588	1	472	55	35	563	1623
% App. Total	9.2	40.5	24.4	25.9		24.4	37.2	15.4	23.1		0.3	85.4	11.4	2.9		0.2	83.8	9.8	6.2		
PHF	.806	.727	.802	.820	.849	.679	.630	.545	.563	.886	.500	.930	.728	.708	.902	.250	.908	.764	.729	.902	.939
Cars	29	127	74	82	312	35	58	24	36	153	2	491	66	17	576	1	458	55	35	549	1590
% Cars	100	99.2	96.1	100	98.7	92.1	100	100	100	98.1	100	97.8	98.5	100	98.0	100	97.0	100	100	97.5	98.0
Buses	0	1	3	0	4	3	0	0	0	3	0	8	0	0	8	0	8	0	0	8	23
% Buses	0	0.8	3.9	0	1.3	7.9	0	0	0	1.9	0	1.6	0	0	1.4	0	1.7	0	0	1.4	1.4
Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	6	0	0	6	10
% Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	0.6	1.5	0	0.7	0	1.3	0	0	1.1	0.6
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Dynamic Traffic, LLC

www.dynamictraffic.com

732-681-0760

E/W: Broad Street
 N/S: Broad Street/Franklin Street
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Franklin St & Broad St - AMPM
 Site Code : 00000000
 Start Date : 11/2/2023
 Page No : 1

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

Start Time	Broad Street Eastbound				Franklin Street Northbound			Broad Street Southbound				Int. Total
	Thru	Right	Peds	App. Total	Thru	Peds	App. Total	Left	Thru	Peds	App. Total	
07:00 AM	39	5	3	47	45	2	47	40	25	0	65	159
07:15 AM	52	5	5	62	49	14	63	52	34	0	86	211
07:30 AM	85	4	3	92	82	9	91	72	39	0	111	294
07:45 AM	55	11	2	68	57	7	64	70	49	0	119	251
Total	231	25	13	269	233	32	265	234	147	0	381	915
08:00 AM	62	2	4	68	49	6	55	60	60	0	120	243
08:15 AM	68	9	1	78	55	9	64	63	68	0	131	273
08:30 AM	80	6	1	87	74	9	83	55	43	2	100	270
08:45 AM	78	7	0	85	71	5	76	71	42	0	113	274
Total	288	24	6	318	249	29	278	249	213	2	464	1060
*** BREAK ***												
04:30 PM	66	16	0	82	67	21	88	70	65	0	135	305
04:45 PM	65	19	4	88	70	29	99	83	60	0	143	330
Total	131	35	4	170	137	50	187	153	125	0	278	635
05:00 PM	87	23	2	112	73	19	92	89	49	0	138	342
05:15 PM	79	12	4	95	54	25	79	92	77	0	169	343
05:30 PM	89	10	3	102	58	20	78	90	55	0	145	325
05:45 PM	76	10	7	93	59	14	73	88	70	0	158	324
Total	331	55	16	402	244	78	322	359	251	0	610	1334
06:00 PM	59	20	0	79	52	20	72	91	69	0	160	311
06:15 PM	58	11	2	71	51	15	66	88	76	0	164	301
Grand Total	1098	170	41	1309	966	224	1190	1174	881	2	2057	4556
Apprch %	83.9	13	3.1		81.2	18.8		57.1	42.8	0.1		
Total %	24.1	3.7	0.9	28.7	21.2	4.9	26.1	25.8	19.3	0	45.1	
Cars	1025	137	41	1203	945	224	1169	1134	835	2	1971	4343
% Cars	93.4	80.6	100	91.9	97.8	100	98.2	96.6	94.8	100	95.8	95.3
Buses	48	30	0	78	8	0	8	27	38	0	65	151
% Buses	4.4	17.6	0	6	0.8	0	0.7	2.3	4.3	0	3.2	3.3
Trucks (SU)	24	3	0	27	12	0	12	13	6	0	19	58
% Trucks (SU)	2.2	1.8	0	2.1	1.2	0	1	1.1	0.7	0	0.9	1.3
Trucks (TT)	1	0	0	1	1	0	1	0	2	0	2	4
% Trucks (TT)	0.1	0	0	0.1	0.1	0	0.1	0	0.2	0	0.1	0.1

Dynamic Traffic, LLC

www.dynamictraffic.com

732-681-0760

E/W: Broad Street
 N/S: Broad Street/Franklin Street
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Franklin St & Broad St - AMPM
 Site Code : 00000000
 Start Date : 11/2/2023
 Page No : 2

Start Time	Broad Street Eastbound				Franklin Street Northbound			Broad Street Southbound				Int. Total
	Thru	Right	Peds	App. Total	Thru	Peds	App. Total	Left	Thru	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 07:30 AM												
07:30 AM	85	4	3	92	82	9	91	72	39	0	111	294
07:45 AM	55	11	2	68	57	7	64	70	49	0	119	251
08:00 AM	62	2	4	68	49	6	55	60	60	0	120	243
08:15 AM	68	9	1	78	55	9	64	63	68	0	131	273
Total Volume	270	26	10	306	243	31	274	265	216	0	481	1061
% App. Total	88.2	8.5	3.3		88.7	11.3		55.1	44.9	0		
PHF	.794	.591	.625	.832	.741	.861	.753	.920	.794	.000	.918	.902
Cars	241	18	10	269	236	31	267	253	203	0	456	992
% Cars	89.3	69.2	100	87.9	97.1	100	97.4	95.5	94.0	0	94.8	93.5
Buses	18	8	0	26	6	0	6	10	10	0	20	52
% Buses	6.7	30.8	0	8.5	2.5	0	2.2	3.8	4.6	0	4.2	4.9
Trucks (SU)	11	0	0	11	1	0	1	2	3	0	5	17
% Trucks (SU)	4.1	0	0	3.6	0.4	0	0.4	0.8	1.4	0	1.0	1.6
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 04:45 PM												
04:45 PM	65	19	4	88	70	29	99	83	60	0	143	330
05:00 PM	87	23	2	112	73	19	92	89	49	0	138	342
05:15 PM	79	12	4	95	54	25	79	92	77	0	169	343
05:30 PM	89	10	3	102	58	20	78	90	55	0	145	325
Total Volume	320	64	13	397	255	93	348	354	241	0	595	1340
% App. Total	80.6	16.1	3.3		73.3	26.7		59.5	40.5	0		
PHF	.899	.696	.813	.886	.873	.802	.879	.962	.782	.000	.880	.977
Cars	308	56	13	377	254	93	347	344	231	0	575	1299
% Cars	96.3	87.5	100	95.0	99.6	100	99.7	97.2	95.9	0	96.6	96.9
Buses	9	8	0	17	0	0	0	6	9	0	15	32
% Buses	2.8	12.5	0	4.3	0	0	0	1.7	3.7	0	2.5	2.4
Trucks (SU)	3	0	0	3	1	0	1	4	0	0	4	8
% Trucks (SU)	0.9	0	0	0.8	0.4	0	0.3	1.1	0	0	0.7	0.6
Trucks (TT)	0	0	0	0	0	0	0	0	1	0	1	1
% Trucks (TT)	0	0	0	0	0	0	0	0	0.4	0	0.2	0.1

Dynamic Traffic, LLC

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

E/W: Fremont Street/Driveways
 N/S: Franklin Street (CR 509)
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Franklin St & Fremont St-Driveway - AMPM
 Site Code : 00000000
 Start Date : 11/2/2023
 Page No : 1

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

Start Time	Parking Lot Driveways Eastbound					Fremont Street Westbound					Franklin Street (CR 509) Northbound					Franklin Street (CR 509) Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	4	1	1	2	8	1	41	0	3	45	1	35	0	0	36	89
07:15 AM	0	0	1	0	1	4	0	1	5	10	0	48	2	0	50	4	46	1	0	51	112
07:30 AM	0	1	1	0	2	0	0	0	7	7	3	69	1	4	77	3	61	2	1	67	153
07:45 AM	0	1	0	0	1	3	1	4	4	12	4	46	4	0	54	3	62	2	4	71	138
Total	0	2	2	0	4	11	2	6	18	37	8	204	7	7	226	11	204	5	5	225	492
08:00 AM	0	1	1	0	2	1	0	2	1	4	0	31	1	1	33	1	39	5	0	45	84
08:15 AM	2	0	0	0	2	2	0	1	4	7	4	53	0	4	61	2	64	2	0	68	138
08:30 AM	0	1	1	0	2	4	1	2	2	9	3	75	1	1	80	4	52	5	1	62	153
08:45 AM	2	1	1	0	4	4	1	2	1	8	2	65	2	0	69	3	64	4	1	72	153
Total	4	3	3	0	10	11	2	7	8	28	9	224	4	6	243	10	219	16	2	247	528
*** BREAK ***																					
04:30 PM	3	2	5	0	10	3	1	1	10	15	4	58	3	0	65	1	78	4	4	87	177
04:45 PM	3	2	4	0	9	4	1	4	3	12	2	64	5	2	73	6	95	6	4	111	205
Total	6	4	9	0	19	7	2	5	13	27	6	122	8	2	138	7	173	10	8	198	382
05:00 PM	5	4	8	0	17	5	3	5	5	18	1	56	4	3	64	9	94	1	5	109	208
05:15 PM	1	1	0	0	2	8	0	1	2	11	1	46	3	1	51	4	84	0	1	89	153
05:30 PM	1	2	3	0	6	4	0	4	3	11	2	52	3	0	57	6	80	4	3	93	167
05:45 PM	0	0	3	0	3	5	1	4	2	12	4	53	1	1	59	5	86	3	2	96	170
Total	7	7	14	0	28	22	4	14	12	52	8	207	11	5	231	24	344	8	11	387	698
06:00 PM	1	2	2	0	5	8	1	3	3	15	1	41	5	1	48	8	89	1	1	99	167
06:15 PM	0	0	0	0	0	8	0	3	6	17	0	71	6	0	77	6	111	0	0	117	211
Grand Total	18	18	30	0	66	67	11	38	60	176	32	869	41	21	963	66	1140	40	27	1273	2478
Apprch %	27.3	27.3	45.5	0		38.1	6.2	21.6	34.1		3.3	90.2	4.3	2.2		5.2	89.6	3.1	2.1		
Total %	0.7	0.7	1.2	0	2.7	2.7	0.4	1.5	2.4	7.1	1.3	35.1	1.7	0.8	38.9	2.7	46	1.6	1.1	51.4	
Cars	18	18	30	0	66	67	11	38	60	176	32	860	41	21	954	64	1091	40	27	1222	2418
% Cars	100	100	100	0	100	100	100	100	100	100	100	99	100	100	99.1	97	95.7	100	100	96	97.6
Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	2	49	0	0	51	58
% Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0.7	3	4.3	0	0	4	2.3
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	0.2	0	0	0.2	0	0	0	0	0	0.1

Dynamic Traffic, LLC

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

E/W: Fremont Street/Driveways
 N/S: Franklin Street (CR 509)
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Franklin St & Fremont St-Driveway - AMPM
 Site Code : 00000000
 Start Date : 11/2/2023
 Page No : 2

Start Time	Parking Lot Driveways Eastbound					Fremont Street Westbound					Franklin Street (CR 509) Northbound					Franklin Street (CR 509) Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	1	1	0	2	0	0	0	7	7	3	69	1	4	77	3	61	2	1	67	153
07:45 AM	0	1	0	0	1	3	1	4	4	12	4	46	4	0	54	3	62	2	4	71	138
08:00 AM	0	1	1	0	2	1	0	2	1	4	0	31	1	1	33	1	39	5	0	45	84
08:15 AM	2	0	0	0	2	2	0	1	4	7	4	53	0	4	61	2	64	2	0	68	138
Total Volume	2	3	2	0	7	6	1	7	16	30	11	199	6	9	225	9	226	11	5	251	513
% App. Total	28.6	42.9	28.6	0		20	3.3	23.3	53.3		4.9	88.4	2.7	4		3.6	90	4.4	2		
PHF	.250	.750	.500	.000	.875	.500	.250	.438	.571	.625	.688	.721	.375	.563	.731	.750	.883	.550	.313	.884	.838
Cars	2	3	2	0	7	6	1	7	16	30	11	195	6	9	221	8	211	11	5	235	493
% Cars	100	100	100	0	100	100	100	100	100	100	100	98.0	100	100	98.2	88.9	93.4	100	100	93.6	96.1
Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	15	0	0	16	20
% Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	2.0	0	0	1.8	11.1	6.6	0	0	6.4	3.9
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	3	2	4	0	9	4	1	4	3	12	2	64	5	2	73	6	95	6	4	111	205
05:00 PM	5	4	8	0	17	5	3	5	5	18	1	56	4	3	64	9	94	1	5	109	208
05:15 PM	1	1	0	0	2	8	0	1	2	11	1	46	3	1	51	4	84	0	1	89	153
05:30 PM	1	2	3	0	6	4	0	4	3	11	2	52	3	0	57	6	80	4	3	93	167
Total Volume	10	9	15	0	34	21	4	14	13	52	6	218	15	6	245	25	353	11	13	402	733
% App. Total	29.4	26.5	44.1	0		40.4	7.7	26.9	25		2.4	89	6.1	2.4		6.2	87.8	2.7	3.2		
PHF	.500	.563	.469	.000	.500	.656	.333	.700	.650	.722	.750	.852	.750	.500	.839	.694	.929	.458	.650	.905	.881
Cars	10	9	15	0	34	21	4	14	13	52	6	217	15	6	244	25	338	11	13	387	717
% Cars	100	100	100	0	100	100	100	100	100	100	100	99.5	100	100	99.6	100	95.8	100	100	96.3	97.8
Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	15	0	0	15	16
% Trucks (SU)	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0.4	0	4.2	0	0	3.7	2.2
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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: Washington Street
 N/S: Commercial Driveways
 Town/County: Bloomfield/Essex
 Job #: 2340 22-02032

File Name : Washington St & Parking Lot Dwys - PM
 Site Code : 00000000
 Start Date : 11/2/2023
 Page No : 1

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

Start Time	Washington Street Eastbound				Washington Street Westbound				430 Franklin Street - Commercial Driveways Northbound		430 Franklin Street - Commercial Driveways Southbound				Int. Total
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Left	Right	Peds	App. Total	
04:30 PM	0	6	2	8	21	3	0	24	0	0	3	3	6	12	44
04:45 PM	1	7	1	9	24	3	2	29	3	3	4	3	2	9	50
Total	1	13	3	17	45	6	2	53	3	3	7	6	8	21	94
05:00 PM	1	8	1	10	30	5	3	38	3	3	8	1	11	20	71
05:15 PM	0	8	1	9	17	2	2	21	3	3	3	2	7	12	45
05:30 PM	0	7	0	7	13	2	0	15	2	2	2	2	6	10	34
05:45 PM	1	6	0	7	29	1	1	31	3	3	2	2	4	8	49
Total	2	29	2	33	89	10	6	105	11	11	15	7	28	50	199
06:00 PM	0	8	1	9	19	0	1	20	4	4	1	1	8	10	43
06:15 PM	1	8	1	10	12	2	0	14	1	1	0	0	1	1	26
Grand Total	4	58	7	69	165	18	9	192	19	19	23	14	45	82	362
Apprch %	5.8	84.1	10.1		85.9	9.4	4.7		100		28	17.1	54.9		
Total %	1.1	16	1.9	19.1	45.6	5	2.5	53	5.2	5.2	6.4	3.9	12.4	22.7	
Cars	4	56	7	67	162	18	9	189	19	19	23	14	45	82	357
% Cars	100	96.6	100	97.1	98.2	100	100	98.4	100	100	100	100	100	100	98.6
Trucks (SU)	0	2	0	2	2	0	0	2	0	0	0	0	0	0	4
% Trucks (SU)	0	3.4	0	2.9	1.2	0	0	1	0	0	0	0	0	0	1.1
Trucks (TT)	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
% Trucks (TT)	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0.3

BROAD STREET AND LIBERTY STREET/FRANKLIN STREET					
					rev. July. 8, 2020
TOWNSHIP OF BLOOMFIELD, ESSEX COUNTY					
					Directive #89
FIXED TIME- PEDESTRIAN RECALL COORDINATED					
					TIME (Seconds)
PHASE	Bloomfield Ave/Franklin St. R.O.W. Heads	Liberty St. R.O.W. Heads	Bloomfield Ave/Franklin St. Ped Heads	Liberty St. Ped Heads	I 100 sec
A. BLOOMFIELD AVE, FRANKLIN ST R.O.W. (Ø2)	G	R	W	DW	47
PEDESTRIAN CLEARANCE	G	R	FDW	DW	13
CHANGE	Y	R	DW	DW	3
CLEARANCE	R	R	DW	DW	3
B. LIBERTY ST. R.O.W. (Ø4)	R	G	DW	W	7
PEDESTRIAN CLEARANCE	R	G	DW	FDW	21
CHANGE	R	Y	DW	DW	3
CLEARANCE	R	R	DW	DW	3
EMERGENCY FLASH	Y	R	Dark	Dark	

Appendix C
Capacity Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	14	108	71	37	107	22	470	51	380	38
Future Volume (vph)	14	108	71	37	107	22	470	51	380	38
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.97			0.98		0.99		0.99	
Frt		0.950			0.982		0.985		0.988	
Flt Protected		0.996			0.989					
Satd. Flow (prot)	0	2155	0	0	1861	0	3536	0	2226	0
Flt Permitted		0.970			0.872					
Satd. Flow (perm)	0	2093	0	0	1631	0	3536	0	2226	0
Right Turn on Red							No		No	
Satd. Flow (RTOR)										
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	30		24	24		30		43		96
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	3%	4%	8%	2%	14%	6%	4%	6%	3%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	236	0	0	202	0	635	0	509	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.40			0.44		0.30		0.38	
Control Delay (s/veh)		31.7			33.3		6.1		11.4	
Queue Delay		0.0			0.0		0.6		0.0	
Total Delay (s/veh)		31.7			33.3		6.6		11.4	
LOS		C			C		A		B	
Approach Delay (s/veh)		31.7			33.3		6.6		11.4	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		122			106		52		156	
Queue Length 95th (ft)		172			155		60		194	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		586			456		2121		1335	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		1018		0	
Spillback Cap Reductn		0			0		0		0	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.40			0.44		0.58		0.38	

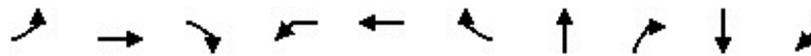
Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.44
Intersection Signal Delay (s/veh):	15.3
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street





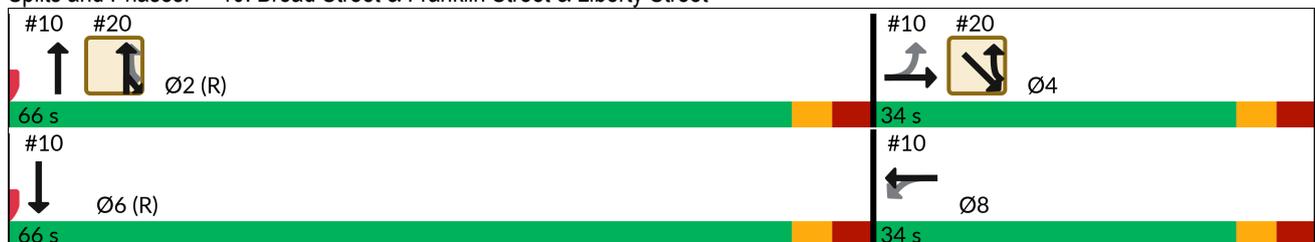
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	29	128	78	39	58	24	507	68	478	55
Future Volume (vph)	29	128	78	39	58	24	507	68	478	55
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.98			0.98		0.99		0.99	
Frt		0.955			0.973		0.982		0.986	
Flt Protected		0.994			0.984					
Satd. Flow (prot)	0	2203	0	0	1864	0	3655	0	2287	0
Flt Permitted		0.949			0.830					
Satd. Flow (perm)	0	2090	0	0	1564	0	3655	0	2287	0
Right Turn on Red						Yes		Yes		
Satd. Flow (RTOR)					13		26			
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	35		17	17		35		36		82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	4%	8%	0%	0%	2%	2%	3%	0%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	250	0	0	129	0	611	0	568	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.43			0.29		0.28		0.41	
Control Delay (s/veh)		32.2			27.4		5.1		11.8	
Queue Delay		0.0			0.1		0.5		0.0	
Total Delay (s/veh)		32.2			27.4		5.6		11.8	
LOS		C			C		A		B	
Approach Delay (s/veh)		32.2			27.4		5.6		11.8	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		130			57		41		179	
Queue Length 95th (ft)		203			108		54		250	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		585			447		2203		1372	

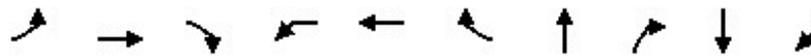


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		1077		0	
Spillback Cap Reductn		0			21		0		0	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.43			0.30		0.54		0.41	

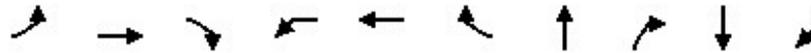
Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.43
Intersection Signal Delay (s/veh):	13.9
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	15	112	74	38	111	23	489	53	396	40
Future Volume (vph)	15	112	74	38	111	23	489	53	396	40
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.97			0.98		0.99		0.99	
Frt		0.950			0.982		0.985		0.988	
Flt Protected		0.996			0.989					
Satd. Flow (prot)	0	2155	0	0	1861	0	3536	0	2226	0
Flt Permitted		0.968			0.864					
Satd. Flow (perm)	0	2089	0	0	1616	0	3536	0	2226	0
Right Turn on Red							No		No	
Satd. Flow (RTOR)										
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	30		24	24		30		43		96
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	3%	4%	8%	2%	14%	6%	4%	6%	3%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	245	0	0	209	0	661	0	532	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.42			0.46		0.31		0.40	
Control Delay (s/veh)		32.0			33.8		6.1		11.6	
Queue Delay		0.0			0.0		0.5		0.0	
Total Delay (s/veh)		32.0			33.8		6.7		11.6	
LOS		C			C		A		B	
Approach Delay (s/veh)		32.0			33.8		6.7		11.6	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		127			110		54		165	
Queue Length 95th (ft)		178			161		62		204	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		584			452		2121		1335	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		984		0	
Spillback Cap Reductn		0			0		0		0	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.42			0.46		0.58		0.40	

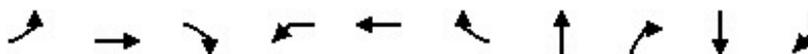
Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay (s/veh):	15.5
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	30	133	81	41	60	25	528	71	497	57
Future Volume (vph)	30	133	81	41	60	25	528	71	497	57
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.98			0.98		0.99		0.99	
Frt		0.955			0.973		0.982		0.986	
Flt Protected		0.994			0.984					
Satd. Flow (prot)	0	2203	0	0	1863	0	3655	0	2287	0
Flt Permitted		0.948			0.809					
Satd. Flow (perm)	0	2088	0	0	1523	0	3655	0	2287	0
Right Turn on Red						Yes		Yes		
Satd. Flow (RTOR)					12		26			
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	35		17	17		35		36		82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	4%	8%	0%	0%	2%	2%	3%	0%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	259	0	0	135	0	638	0	590	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.44			0.31		0.29		0.43	
Control Delay (s/veh)		32.5			28.2		5.2		12.0	
Queue Delay		0.0			0.1		0.5		0.0	
Total Delay (s/veh)		32.5			28.2		5.7		12.0	
LOS		C			C		A		B	
Approach Delay (s/veh)		32.5			28.2		5.7		12.0	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		136			61		43		188	
Queue Length 95th (ft)		210			114		56		262	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		584			435		2203		1372	

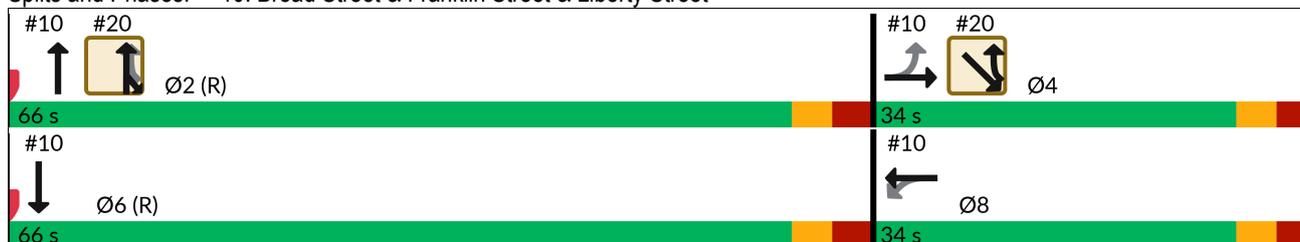


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		1042		0	
Spillback Cap Reductn		0			20		0		1	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.44			0.33		0.55		0.43	

Intersection Summary

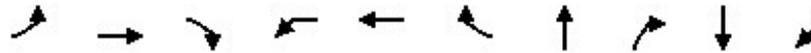
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.44
Intersection Signal Delay (s/veh):	14.1
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	15	112	75	38	111	23	493	53	398	40
Future Volume (vph)	15	112	75	38	111	23	493	53	398	40
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.97			0.98		0.99		0.99	
Frt		0.950			0.982		0.985		0.988	
Flt Protected		0.996			0.989					
Satd. Flow (prot)	0	2154	0	0	1861	0	3536	0	2226	0
Flt Permitted		0.968			0.863					
Satd. Flow (perm)	0	2089	0	0	1615	0	3536	0	2226	0
Right Turn on Red							No		No	
Satd. Flow (RTOR)										
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	30		24	24		30		43		96
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	3%	4%	8%	2%	14%	6%	4%	6%	3%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	246	0	0	209	0	666	0	534	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.42			0.46		0.31		0.40	
Control Delay (s/veh)		32.1			33.8		6.2		11.6	
Queue Delay		0.0			0.0		0.5		0.0	
Total Delay (s/veh)		32.1			33.8		6.7		11.6	
LOS		C			C		A		B	
Approach Delay (s/veh)		32.1			33.8		6.7		11.6	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		128			110		55		166	
Queue Length 95th (ft)		179			161		63		206	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		584			452		2121		1335	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		979		0	
Spillback Cap Reductn		0			0		0		0	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.42			0.46		0.58		0.40	

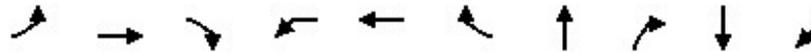
Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay (s/veh):	15.5
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations		↕			↕		↕		↕	
Traffic Volume (vph)	30	133	83	41	60	25	533	71	499	57
Future Volume (vph)	30	133	83	41	60	25	533	71	499	57
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	16	11	11	11	11	11	16	16
Grade (%)		-2%			0%		2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.98			0.98		0.99		0.99	
Frt		0.954			0.973		0.982		0.986	
Flt Protected		0.994			0.984					
Satd. Flow (prot)	0	2200	0	0	1863	0	3655	0	2287	0
Flt Permitted		0.949			0.807					
Satd. Flow (perm)	0	2088	0	0	1520	0	3655	0	2287	0
Right Turn on Red						Yes		Yes		
Satd. Flow (RTOR)					12		26			
Link Speed (mph)		25			25		25		25	
Link Distance (ft)		366			498		198		664	
Travel Time (s)		10.0			13.6		5.4		18.1	
Confl. Peds. (#/hr)	35		17	17		35		36		82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	4%	8%	0%	0%	2%	2%	3%	0%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	261	0	0	135	0	643	0	592	0
Turn Type	Perm	NA		Perm	NA		NA		NA	
Protected Phases		4			8		2		6	
Permitted Phases	4			8						
Minimum Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0		66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%		66.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		60.0		60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0	
Total Lost Time (s)		6.0			6.0		6.0		6.0	
Lead/Lag										
Lead-Lag Optimize?										
Walk Time (s)	7.0	7.0		7.0	7.0		47.0		47.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		13.0		13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0		0	
Act Effct Green (s)		28.0			28.0		60.0		60.0	
Actuated g/C Ratio		0.28			0.28		0.60		0.60	
v/c Ratio		0.45			0.31		0.29		0.43	
Control Delay (s/veh)		32.6			28.2		5.3		12.0	
Queue Delay		0.0			0.1		0.5		0.0	
Total Delay (s/veh)		32.6			28.2		5.7		12.0	
LOS		C			C		A		B	
Approach Delay (s/veh)		32.6			28.2		5.7		12.0	
Approach LOS		C			C		A		B	
Queue Length 50th (ft)		137			61		44		189	
Queue Length 95th (ft)		212			114		57		263	
Internal Link Dist (ft)		286			418		118		584	
Turn Bay Length (ft)										
Base Capacity (vph)		584			434		2203		1372	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Starvation Cap Reductn		0			0		1036		0	
Spillback Cap Reductn		0			20		0		8	
Storage Cap Reductn		0			0		0		0	
Reduced v/c Ratio		0.45			0.33		0.55		0.43	

Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.45
Intersection Signal Delay (s/veh):	14.2
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 10: Broad Street & Franklin Street & Liberty Street



												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗					↑↑				↗
Traffic Volume (vph)	0	274	26	0	0	0	0	269	0	0	0	247
Future Volume (vph)	0	274	26	0	0	0	0	269	0	0	0	247
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Right Turn on Red			No			No	No		No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				461
Travel Time (s)		4.9			5.4			2.7				12.6
Confl. Peds. (#/hr)			31									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	11%	31%	0%	0%	0%	0%	5%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	29	0	0	0	0	299	0	0	0	274
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.24	0.03					0.29				0.15
Control Delay (s/veh)		9.9	8.4					27.6				0.2
Queue Delay		0.0	0.0					1.9				0.0
Total Delay (s/veh)		9.9	8.4					29.5				0.2
LOS		A	A					C				A
Approach Delay (s/veh)		9.8						29.5			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		84	7					72				0
Queue Length 95th (ft)		127	18					104				0
Internal Link Dist (ft)		101			118			19			381	
Turn Bay Length (ft)												
Base Capacity (vph)		1273	863					1028				1798

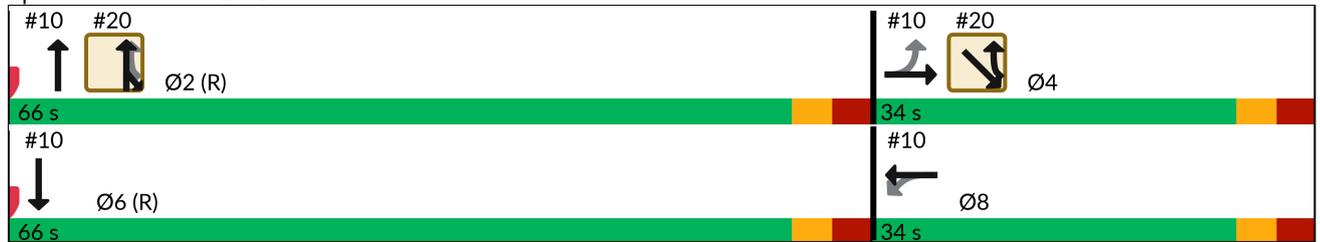
Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					567				0
Spillback Cap Reductn		0	0					0				0
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.24	0.03					0.65				0.15

Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.44
Intersection Signal Delay (s/veh):	13.4
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗					↑↑				↗
Traffic Volume (vph)	0	320	64	0	0	0	0	354	0	0	0	255
Future Volume (vph)	0	320	64	0	0	0	0	354	0	0	0	255
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Right Turn on Red			Yes			No	No		No			No
Satd. Flow (RTOR)			65									
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				461
Travel Time (s)		4.9			5.4			2.7				12.6
Confl. Peds. (#/hr)			93									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	4%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	65	0	0	0	0	361	0	0	0	260
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.24	0.06					0.34				0.14
Control Delay (s/veh)		9.9	2.3					29.6				0.2
Queue Delay		0.0	0.0					3.7				0.0
Total Delay (s/veh)		9.9	2.3					33.3				0.2
LOS		A	A					C				A
Approach Delay (s/veh)		8.7						33.3			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		90	0					93				0
Queue Length 95th (ft)		135	16					130				0
Internal Link Dist (ft)		101			118			19			381	
Turn Bay Length (ft)												
Base Capacity (vph)		1359	1026					1048				1798

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					585				0
Spillback Cap Reductn		0	0					0				0
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.24	0.06					0.78				0.14

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.43
Intersection Signal Delay (s/veh):	15.3
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗					↑↑				↗
Traffic Volume (vph)	0	285	27	0	0	0	0	280	0	0	0	257
Future Volume (vph)	0	285	27	0	0	0	0	280	0	0	0	257
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Right Turn on Red			No			No	No		No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				461
Travel Time (s)		4.9			5.4			2.7				12.6
Confl. Peds. (#/hr)			31									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	11%	31%	0%	0%	0%	0%	5%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	30	0	0	0	0	311	0	0	0	286
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.25	0.03					0.30				0.16
Control Delay (s/veh)		10.0	8.4					27.8				0.2
Queue Delay		0.0	0.0					2.1				0.0
Total Delay (s/veh)		10.0	8.4					29.9				0.2
LOS		B	A					C				A
Approach Delay (s/veh)		9.9						29.9			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		88	7					75				0
Queue Length 95th (ft)		132	19					108				0
Internal Link Dist (ft)		101			118			19			381	
Turn Bay Length (ft)												
Base Capacity (vph)		1273	863					1028				1798

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		

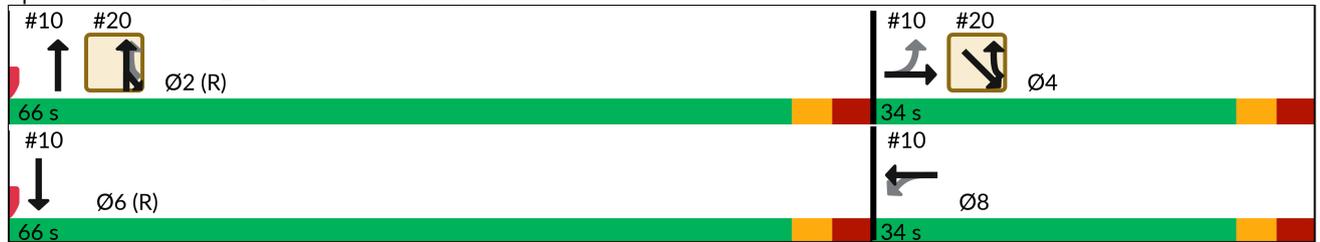


Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					564				0
Spillback Cap Reductn		0	0					0				0
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.25	0.03					0.67				0.16

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay (s/veh):	13.5
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

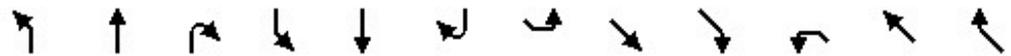
Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	333	67	0	0	0	0	368	0	0	0	266
Future Volume (vph)	0	333	67	0	0	0	0	368	0	0	0	266
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Right Turn on Red			Yes			No	No		No			No
Satd. Flow (RTOR)			68									
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				461
Travel Time (s)		4.9			5.4			2.7				12.6
Confl. Peds. (#/hr)			93									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	4%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	68	0	0	0	0	376	0	0	0	271
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.25	0.07					0.36				0.15
Control Delay (s/veh)		10.0	2.3					29.7				0.2
Queue Delay		0.0	0.0					4.1				0.0
Total Delay (s/veh)		10.0	2.3					33.8				0.2
LOS		B	A					C				A
Approach Delay (s/veh)		8.7						33.8			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		95	0					96				0
Queue Length 95th (ft)		140	16					134				0
Internal Link Dist (ft)		101			118			19			381	
Turn Bay Length (ft)												
Base Capacity (vph)		1359	1028					1048				1798

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					579				0
Spillback Cap Reductn		0	0					0				0
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.25	0.07					0.80				0.15

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.44
Intersection Signal Delay (s/veh):	15.5
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗					↑↑				↗
Traffic Volume (vph)	0	285	27	0	0	0	0	283	0	0	0	261
Future Volume (vph)	0	285	27	0	0	0	0	283	0	0	0	261
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2123	1439	0	0	0	0	3673	0	0	0	1798
Right Turn on Red			No			No	No		No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				521
Travel Time (s)		4.9			5.4			2.7				14.2
Confl. Peds. (#/hr)			31									
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	11%	31%	0%	0%	0%	0%	5%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	30	0	0	0	0	314	0	0	0	290
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.25	0.03					0.31				0.16
Control Delay (s/veh)		10.0	8.4					27.9				0.2
Queue Delay		0.0	0.0					2.2				0.0
Total Delay (s/veh)		10.0	8.4					30.0				0.2
LOS		B	A					C				A
Approach Delay (s/veh)		9.9						30.0			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		88	7					76				0
Queue Length 95th (ft)		132	19					109				0
Internal Link Dist (ft)		101			118			19			441	
Turn Bay Length (ft)												
Base Capacity (vph)		1273	863					1028				1798

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		

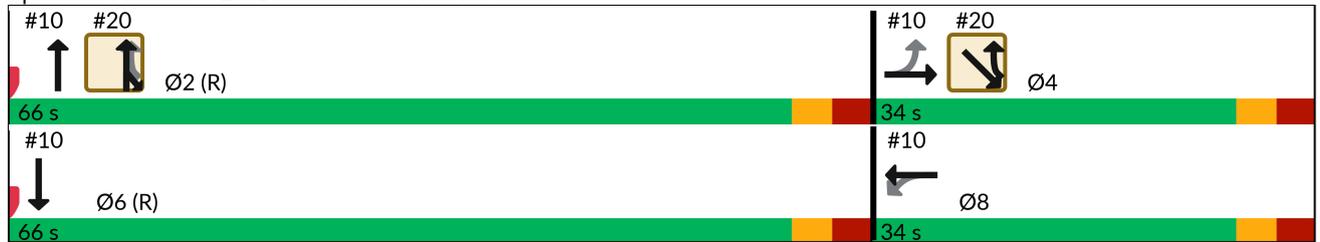


Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					564				0
Spillback Cap Reductn		1	0					0				1
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.25	0.03					0.68				0.16

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay (s/veh):	13.6
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑	↗					↑↑				↗
Traffic Volume (vph)	0	333	68	0	0	0	0	372	0	0	0	271
Future Volume (vph)	0	333	68	0	0	0	0	372	0	0	0	271
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	16	16	14	12	12	12	11	11	11	12	12	12
Grade (%)		2%			0%			0%				2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850									0.865
Flt Protected												
Satd. Flow (prot)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Flt Permitted												
Satd. Flow (perm)	0	2266	1668	0	0	0	0	3745	0	0	0	1798
Right Turn on Red			Yes			No	No		No			No
Satd. Flow (RTOR)			69									
Link Speed (mph)		25			25			25				25
Link Distance (ft)		181			198			99				521
Travel Time (s)		4.9			5.4			2.7				14.2
Confl. Peds. (#/hr)			93									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	4%	13%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	69	0	0	0	0	380	0	0	0	277
Turn Type		NA	Prot					NA				custom
Protected Phases		2	2					4				4
Permitted Phases												2
Minimum Split (s)		66.0	66.0					34.0				34.0
Total Split (s)		66.0	66.0					34.0				34.0
Total Split (%)		66.0%	66.0%					34.0%				34.0%
Maximum Green (s)		60.0	60.0					28.0				28.0
Yellow Time (s)		3.0	3.0					3.0				3.0
All-Red Time (s)		3.0	3.0					3.0				3.0
Lost Time Adjust (s)		0.0	0.0					0.0				0.0
Total Lost Time (s)		6.0	6.0					6.0				6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		47.0	47.0					7.0				7.0
Flash Dont Walk (s)		13.0	13.0					21.0				21.0
Pedestrian Calls (#/hr)		0	0					0				0
Act Effct Green (s)		60.0	60.0					28.0				100.0
Actuated g/C Ratio		0.60	0.60					0.28				1.00
v/c Ratio		0.25	0.07					0.36				0.15
Control Delay (s/veh)		10.0	2.3					29.7				0.2
Queue Delay		0.0	0.0					4.3				0.0
Total Delay (s/veh)		10.0	2.3					34.0				0.2
LOS		B	A					C				A
Approach Delay (s/veh)		8.7						34.0			0.2	
Approach LOS		A						C			A	
Queue Length 50th (ft)		95	0					97				0
Queue Length 95th (ft)		140	17					135				0
Internal Link Dist (ft)		101			118			19			441	
Turn Bay Length (ft)												
Base Capacity (vph)		1359	1028					1048				1798

Lane Group	Ø6	Ø8
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	6	8
Permitted Phases		
Minimum Split (s)	66.0	34.0
Total Split (s)	66.0	34.0
Total Split (%)	66%	34%
Maximum Green (s)	60.0	28.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	3.0	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Walk Time (s)	47.0	7.0
Flash Dont Walk (s)	13.0	21.0
Pedestrian Calls (#/hr)	0	0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay (s/veh)		
Queue Delay		
Total Delay (s/veh)		
LOS		
Approach Delay (s/veh)		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Starvation Cap Reductn		0	0					578				0
Spillback Cap Reductn		0	0					0				0
Storage Cap Reductn		0	0					0				0
Reduced v/c Ratio		0.25	0.07					0.81				0.15

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	47 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.45
Intersection Signal Delay (s/veh):	15.5
Intersection LOS:	B
Intersection Capacity Utilization	83.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 20: Broad Street & Franklin Street



Lane Group	Ø6	Ø8
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↑	
Traffic Vol, veh/h	2	3	2	6	1	8	0	249	6	9	275	0
Future Vol, veh/h	2	3	2	6	1	8	0	249	6	9	275	0
Conflicting Peds, #/hr	5	0	9	25	0	21	0	0	25	21	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	11	7	0
Mvmt Flow	2	4	2	7	1	10	0	296	7	11	327	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	667	677	352	701	674	346	-	0	0	329	0	0
Stage 1	349	349	-	325	325	-	-	-	-	-	-	-
Stage 2	318	329	-	376	349	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	-	-	-	4.21	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.299	-	-
Pot Cap-1 Maneuver	375	377	696	385	408	715	0	-	-	1182	-	0
Stage 1	672	637	-	717	677	-	0	-	-	-	-	0
Stage 2	698	650	-	677	662	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	357	361	679	355	391	679	-	-	-	1145	-	-
Mov Cap-2 Maneuver	357	361	-	355	391	-	-	-	-	-	-	-
Stage 1	664	630	-	694	655	-	-	-	-	-	-	-
Stage 2	673	630	-	648	655	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/veh	3.85		12.79		0		0.26	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	NBRE	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	415	480	57	-
HCM Lane V/C Ratio	-	-	0.02	0.037	0.009	-
HCM Control Delay (s/veh)	-	-	13.8	12.8	8.2	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0	-

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↑	
Traffic Vol, veh/h	10	9	15	21	4	14	0	241	15	25	382	0
Future Vol, veh/h	10	9	15	21	4	14	0	241	15	25	382	0
Conflicting Peds, #/hr	13	0	6	19	0	26	6	0	19	26	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	4	0
Mvmt Flow	11	10	17	24	5	16	0	274	17	28	434	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	793	808	453	823	799	334	-	0	0	317	0	0
Stage 1	491	491	-	308	308	-	-	-	-	-	-	-
Stage 2	302	317	-	515	491	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	309	317	611	323	351	725	0	-	-	1255	-	0
Stage 1	563	552	-	731	687	-	0	-	-	-	-	0
Stage 2	711	658	-	578	582	-	0	-	-	-	-	0
Platoon blocked, %								-	-	-		
Mov Cap-1 Maneuver	281	297	600	279	328	684	-	-	-	1213	-	-
Mov Cap-2 Maneuver	281	297	-	279	328	-	-	-	-	-	-	-
Stage 1	546	535	-	706	664	-	-	-	-	-	-	-
Stage 2	673	636	-	525	565	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/veh	5.72		16.35		0		0.49	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBT	NBREBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	374	361	111
HCM Lane V/C Ratio	-	-	0.103	0.123	0.023
HCM Control Delay (s/veh)	-	-	15.7	16.3	8
HCM Lane LOS	-	-	C	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0.4	0.1

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↑	
Traffic Vol, veh/h	2	3	2	6	1	8	0	259	6	9	287	0
Future Vol, veh/h	2	3	2	6	1	8	0	259	6	9	287	0
Conflicting Peds, #/hr	5	0	9	25	0	21	0	0	25	21	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	11	7	0
Mvmt Flow	2	4	2	7	1	10	0	308	7	11	342	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	693	704	367	727	700	358	-	0	0	340	0	0
Stage 1	363	363	-	337	337	-	-	-	-	-	-	-
Stage 2	330	340	-	390	363	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	-	-	-	4.21	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.299	-	-
Pot Cap-1 Maneuver	360	364	683	371	395	705	0	-	-	1170	-	0
Stage 1	660	628	-	708	669	-	0	-	-	-	-	0
Stage 2	687	643	-	667	654	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	343	348	667	342	378	669	-	-	-	1133	-	-
Mov Cap-2 Maneuver	343	348	-	342	378	-	-	-	-	-	-	-
Stage 1	652	621	-	685	648	-	-	-	-	-	-	-
Stage 2	663	622	-	637	646	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/veh	14.16		13.03		0		0.25	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	NBREBLn	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	401	466	55
HCM Lane V/C Ratio	-	-	0.021	0.038	0.009
HCM Control Delay (s/veh)	-	-	14.2	13	8.2
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↑	
Traffic Vol, veh/h	10	9	16	22	4	15	0	251	16	26	398	0
Future Vol, veh/h	10	9	16	22	4	15	0	251	16	26	398	0
Conflicting Peds, #/hr	13	0	6	19	0	26	6	0	19	26	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	4	0
Mvmt Flow	11	10	18	25	5	17	0	285	18	30	452	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	825	841	471	856	832	346	-	0	0	329	0	0
Stage 1	511	511	-	320	320	-	-	-	-	-	-	-
Stage 2	314	329	-	535	511	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	294	303	597	308	337	715	0	-	-	1241	-	0
Stage 1	549	540	-	721	679	-	0	-	-	-	-	0
Stage 2	702	650	-	565	572	-	0	-	-	-	-	0
Platoon blocked, %												
Mov Cap-1 Maneuver	266	284	586	265	315	674	-	-	-	1200	-	-
Mov Cap-2 Maneuver	266	284	-	265	315	-	-	-	-	-	-	-
Stage 1	531	522	-	697	657	-	-	-	-	-	-	-
Stage 2	662	628	-	510	553	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/√v	6.15	16.97	0	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBREBLn	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	347	110
HCM Lane V/C Ratio	-	-	0.11	0.134	0.025
HCM Control Delay (s/veh)	-	-	16.2	17	8.1
HCM Lane LOS	-	-	C	C	A
HCM 95th %tile Q(veh)	-	-	0.4	0.5	0.1

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	6	3	10	6	1	8	4	259	6	9	287	3
Future Vol, veh/h	6	3	10	6	1	8	4	259	6	9	287	3
Conflicting Peds, #/hr	5	0	9	25	0	21	0	0	25	21	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	11	7	0
Mvmt Flow	7	4	12	7	1	10	5	308	7	11	342	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	704	715	368	736	713	358	345	0	0	340	0	0
Stage 1	365	365	-	346	346	-	-	-	-	-	-	-
Stage 2	339	350	-	390	367	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	4.1	-	-	4.21	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.299	-	-
Pot Cap-1 Maneuver	354	359	682	366	389	705	1225	-	-	1170	-	-
Stage 1	658	627	-	700	664	-	-	-	-	-	-	-
Stage 2	679	636	-	667	652	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	335	342	665	331	371	669	1225	-	-	1133	-	-
Mov Cap-2 Maneuver	335	342	-	331	371	-	-	-	-	-	-	-
Stage 1	651	620	-	675	640	-	-	-	-	-	-	-
Stage 2	652	613	-	628	644	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/veh	3.31	13.19	0.12	0.25
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	27	-	-	456	457	54	-
HCM Lane V/C Ratio	0.004	-	-	0.05	0.039	0.009	-
HCM Control Delay (s/veh)	8	0	-	13.3	13.2	8.2	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	15	9	27	22	4	15	6	251	16	26	398	5
Future Vol, veh/h	15	9	27	22	4	15	6	251	16	26	398	5
Conflicting Peds, #/hr	13	0	6	19	0	26	6	0	19	26	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	0	-	-	-2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	4	0
Mvmt Flow	17	10	31	25	5	17	7	285	18	30	452	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	854	870	487	869	864	346	471	0	0	329	0	0
Stage 1	527	527	-	334	334	-	-	-	-	-	-	-
Stage 2	327	343	-	535	530	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	6.7	6.1	6	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	281	292	585	302	324	715	1101	-	-	1241	-	-
Stage 1	538	531	-	710	671	-	-	-	-	-	-	-
Stage 2	690	641	-	565	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	248	266	564	251	296	674	1083	-	-	1200	-	-
Mov Cap-2 Maneuver	248	266	-	251	296	-	-	-	-	-	-	-
Stage 1	512	505	-	681	644	-	-	-	-	-	-	-
Stage 2	646	615	-	497	534	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/√6.95		17.61	0.18	0.49
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	39	-	-	359	332	109	-
HCM Lane V/C Ratio	0.006	-	-	0.161	0.14	0.025	-
HCM Control Delay (s/veh)	8.3	0	-	16.9	17.6	8.1	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0.1	-

Intersection

Int Delay, s/veh 0.4

Movement EBL EBT WBT WBR SBL SBR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	12	107	0	2	3
Future Vol, veh/h	0	12	107	0	2	3
Conflicting Peds, #/hr	0	0	0	0	12	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	-	-4	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	33	5	0	0	0
Mvmt Flow	0	13	118	0	2	3

Major/Minor Major1 Major2 Minor2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	143
Stage 1	-	-	118
Stage 2	-	-	25
Critical Hdwy	-	-	5.6
Critical Hdwy Stg 1	-	-	4.6
Critical Hdwy Stg 2	-	-	4.6
Follow-up Hdwy	-	-	3.5
Pot Cap-1 Maneuver	0	-	882
Stage 1	0	-	937
Stage 2	0	-	1008
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	882
Mov Cap-2 Maneuver	-	-	882
Stage 1	-	-	937
Stage 2	-	-	1008

Approach EB WB SB

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	8.92
HCM LOS			A

Minor Lane/Major Mvmt EBT WBT SBLn1

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	923
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s/veh)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	30	84	0	17	8
Future Vol, veh/h	0	30	84	0	17	8
Conflicting Peds, #/hr	3	0	0	7	44	40
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	-	-4	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	43	120	0	24	11

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	207 160
Stage 1	-	-	-	-	120 -
Stage 2	-	-	-	-	87 -
Critical Hdwy	-	-	-	-	5.6 5.8
Critical Hdwy Stg 1	-	-	-	-	4.6 -
Critical Hdwy Stg 2	-	-	-	-	4.6 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	823 906
Stage 1	0	-	-	0	935 -
Stage 2	0	-	-	0	960 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	823 878
Mov Cap-2 Maneuver	-	-	-	-	823 -
Stage 1	-	-	-	-	935 -
Stage 2	-	-	-	-	960 -

Approach

	EB	WB	SB
HCM Control Delay, s/v	0	0	9.48
HCM LOS			A

Minor Lane/Major Mvmt

	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	840
HCM Lane V/C Ratio	-	-	0.043
HCM Control Delay (s/veh)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	12	111	0	2	3
Future Vol, veh/h	0	12	111	0	2	3
Conflicting Peds, #/hr	0	0	0	0	12	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	-	-4	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	33	5	0	0	0
Mvmt Flow	0	13	122	0	2	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 147 122
Stage 1	-	-	- 122 -
Stage 2	-	-	- 25 -
Critical Hdwy	-	-	- 5.6 5.8
Critical Hdwy Stg 1	-	-	- 4.6 -
Critical Hdwy Stg 2	-	-	- 4.6 -
Follow-up Hdwy	-	-	- 3.5 3.3
Pot Cap-1 Maneuver	0	-	0 878 947
Stage 1	0	-	0 933 -
Stage 2	0	-	0 1008 -
Platoon blocked, %	-	-	
Mov Cap-1 Maneuver	-	-	- 878 947
Mov Cap-2 Maneuver	-	-	- 878 -
Stage 1	-	-	- 933 -
Stage 2	-	-	- 1008 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	8.94
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	918
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s/veh)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	31	87	0	8	18
Future Vol, veh/h	0	31	87	0	8	18
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	-	-4	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	44	124	0	11	26

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	169 124
Stage 1	-	-	-	-	124 -
Stage 2	-	-	-	-	44 -
Critical Hdwy	-	-	-	-	5.6 5.8
Critical Hdwy Stg 1	-	-	-	-	4.6 -
Critical Hdwy Stg 2	-	-	-	-	4.6 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	858 945
Stage 1	0	-	-	0	932 -
Stage 2	0	-	-	0	993 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	858 945
Mov Cap-2 Maneuver	-	-	-	-	858 -
Stage 1	-	-	-	-	932 -
Stage 2	-	-	-	-	993 -

Approach

	EB	WB	SB
HCM Control Delay, s/v	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt

	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	916
HCM Lane V/C Ratio	-	-	0.041
HCM Control Delay (s/veh)	-	-	9.1
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	13	111	0	3	5
Future Vol, veh/h	0	13	111	0	3	5
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	-	-4	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	33	5	0	0	0
Mvmt Flow	0	14	122	0	3	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	136	122
Stage 1	-	-	-	-	122	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	-	-	-	-	5.6	5.8
Critical Hdwy Stg 1	-	-	-	-	4.6	-
Critical Hdwy Stg 2	-	-	-	-	4.6	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	888	947
Stage 1	0	-	-	0	933	-
Stage 2	0	-	-	0	1017	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	888	947
Mov Cap-2 Maneuver	-	-	-	-	888	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	1017	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	0	0	8.93			
HCM LOS			A			
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	924			
HCM Lane V/C Ratio	-	-	0.01			
HCM Control Delay (s/veh)	-	-	8.9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0			

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	33	87	0	19	11
Future Vol, veh/h	0	33	87	0	19	11
Conflicting Peds, #/hr	3	0	0	7	44	40
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	-	-4	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	47	124	0	27	16

Major/Minor Major1 Major2 Minor2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 215 164
Stage 1	-	-	- 124 -
Stage 2	-	-	- 91 -
Critical Hdwy	-	-	- 5.6 5.8
Critical Hdwy Stg 1	-	-	- 4.6 -
Critical Hdwy Stg 2	-	-	- 4.6 -
Follow-up Hdwy	-	-	- 3.5 3.3
Pot Cap-1 Maneuver	0	-	0 815 902
Stage 1	0	-	0 932 -
Stage 2	0	-	0 957 -
Platoon blocked, %	-	-	
Mov Cap-1 Maneuver	-	-	- 815 873
Mov Cap-2 Maneuver	-	-	- 815 -
Stage 1	-	-	- 932 -
Stage 2	-	-	- 957 -

Approach EB WB SB

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	9.54
HCM LOS			A

Minor Lane/Major Mvmt EBT WBT SBLn1

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	836
HCM Lane V/C Ratio	-	-	0.051
HCM Control Delay (s/veh)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2