October 10, 2022

Mr. Tom Rich
FD Rich Company
222 Sumer Street
Stamford, CT 06901

Re: Traffic Study
128-132 Broad Street Development
Stamford, Connecticut
SLR #141.13311.00012

Dear Mr. Rich,

At your request, SLR International Corporation (SLR) has undertaken this study to evaluate the traffic-related implications associated with the proposed development to be located at 128-132 Broad Street in Stamford, Connecticut. **Figure 1** displays the site location map. The two sites are currently vacant. The proposed project plans to construct 196 multifamily units and approximately 5,680 square feet (SF) of first-floor retail space on the two sites. Access to the two sites will be provided off Gay Street.

The work comprising the study consisted of several tasks, including data collection, review of roadway and traffic conditions, estimation of site-generated traffic volumes, and assessment of future traffic operations. For this study, the following intersections were evaluated:

1. Broad Street at Bedford Street/Atlantic Street
2. Broad Street at Gay Street/Landmark Square
3. Broad Street at Greyrock Place

Figure 2 displays the study area.

EXISTING CONDITIONS

The existing information involving the vehicle volumes, transit, and crash history was collected to determine the existing conditions of the area around the proposed development.

Site Environs

Broad Street is a minor arterial that runs east/west through downtown Stamford from Washington Boulevard (Route 137) to East Main Street/Tresser Boulevard (US Route 1). The arterial has two lanes in each direction with a raised median and turn lanes at key intersections. On-street parallel parking is

provided on some blocks. Sidewalks are present on both sides of the roadway, and sharrows are painted on the outer travel lanes.

Atlantic Street is a minor arterial that runs north/south through downtown Stamford from the Long Island Sound to Broad Street where it turns into Bedford Street and continues to Summer Street. South of Broad Street, the arterial has two lanes northbound and one lane southbound with a raised median. On-street parallel parking is provided on some blocks on the west side of the roadway. Sidewalks are present on both sides of the roadway, and sharrows are painted on the outer travel lanes. North of Broad Street, the arterial is one-way northbound with two lanes. On-street angled parking is provided on the west side of the roadway, and parallel parking is provided on the east side of the roadway. Sidewalks are present on both sides of the roadway, and sharrows are painted on the outer travel lane.

Greyrock Place is a collector that runs north/south from Grove Street to Tresser Boulevard (US Route 1) where it turns into Canal Street and continues to Interstate 95 (I-95). North of Broad Street, the collector has one lane in each direction. On-street parking is not permitted, but sidewalks and sharrows are present on both sides of the roadway. South of Broad Street, the collector has two lanes in each direction and turn lanes at key intersections. On-street parking is provided on both sides of the roadway, and sidewalks are present on both sides of the roadway.

Existing Transit Routes

CTtransit is Connecticut Department of Transportation's (CTDOT) bus service. CTtransit Stamford operates 15 local bus routes. Buses connect with other services in Norwalk, with the New Haven Line in several locations, the Harlem Line on Metro-North Railroad, and with Bee-Line buses in Westchester County, New York. CTtransit Stamford also operates the I-Bus, an express service between downtown Stamford and White Plains, New York. CTtransit Stamford bus routes 333, 334, 341, 342, 344, 345, and 351 all have stops at the study intersections.

Route 333 (Newfield Avenue) operates between the Stamford Transportation Center and Stamford's Belltown neighborhood. All buses operate via Strawberry Hill and Newfield Avenues to Newfield Green Shopping Center. The route operates from approximately 6:00 a.m. to midnight (12:00 a.m.) on weekdays, and 7:00 a.m. to 8:00 p.m. on weekends. Route 333 has stops at the intersection of Broad Street at Greyrock Place.

Route 334 (Hope Street) operates between the Stamford Transportation Center and Stamford's Springdale neighborhood. All buses travel via Broad Street, Glenbrook Road, and Hope Street to Springdale Railroad Station. The route operates from approximately 5:30 a.m. to midnight (12:00 a.m.) on weekdays, 6:30 a.m. to 8:00 p.m. on Saturday, and 8:00 a.m. to 7:00 p.m. on Sundays. Route 334 has stops at the intersection of Broad Street at Greyrock Place.

Route 341 (Norwalk) operates between the Stamford Transportation Center and the Norwalk WHEELS Hub. The route operates from approximately 5:00 a.m. to midnight (12:00 a.m.) on weekdays, and 5:30 a.m. to 11:00 p.m. on weekends. Route 341 has stops at the intersection of Broad Street at Greyrock Place.

Route 342 (East Main Street) provides additional service between the Stamford Transportation Center and East Main Street in Stamford. The route follows the same route as 341. The route operates from approximately 5:00 a.m. to midnight (12:00 a.m.) on weekdays and 5:30 a.m. to 11:00 p.m. on weekends. Route 342 has stops at the intersection of Broad Street at Greyrock Place.

Route 344 (Glenbrook Road) operates between the Stamford Transportation Center, Glenbrook Railroad Station, Noroton Heights Railroad Station, and Darien Railroad Station. All buses travel the full route via Broad Street, East Main Street, Lawn Avenue, Hamilton Avenue, Glenbrook Road, Crescent Street, Maple Tree Avenue, Heights Road, and West Avenue. The route operates from approximately 5:30 a.m. to 11:00 p.m. on weekdays and 7:00 a.m. to 8:00 p.m. on Saturdays. There is no Sunday service. Route 344 has stops at the intersection of Broad Street at Greyrock Place.

Route 345 (NCC Flyer) operates to Norwalk Community College. The route operates from approximately 7:00 a.m. to 4:30 p.m. There is no service Fridays, Saturdays, Sundays, holidays, or non-class days. Route 345 has stops at the intersection of Broad Street at Greyrock Place.

Route 351 (Stamford Connector Downtown Loop) provides service between Stamford Railroad Station and Stamford's central business district on weekdays during the morning and afternoon rush hours. Buses are timed to meet certain CTrail New Haven Line (Metro-North), CTrail Shore Line East, and Amtrak Northeast Regional and Acela Express trains at the station. All destinations served by Route 351 are also served by other Stamford local bus routes. Route 351 has stops at the intersection of Greyrock Place at Broad Street.

Connecticut Department of Transportation and City of Stamford Active Projects

The City of Stamford and CTDOT are currently looking at safety improvements on Broad Street between Atlantic Street and Greyrock Place. These safety improvements will likely include the removal of the raised median to provide parking-protected bike lanes on both sides of Broad Street and possibly curb extensions, high-visibility crosswalks, Americans with Disabilities Act (ADA) curb ramps, and other Federal Highway Administration (FHWA) approved countermeasures to calm traffic and improve safety for all users. The project is funded by CTDOT through the Local Roads Accident Reduction Program. The project is currently in the design phase. Based on discussions with the City of Stamford, at this time it is assumed that the lane geometry and signal timings at the study intersections will not change with this project.

Crash Data Summary

Information on traffic crash statistics for the study intersections was obtained from the Connecticut Crash Data Repository for the roughly 3-year period of January 1, 2019, to May 11, 2022. The crash data collected for this period is shown in **Table 1**, summarized by location.

A total of 103 crashes were reported at the study intersections for the roughly 3-year period. More than 75 percent of the total crashes resulted in property damage only. One fatality was reported at the intersection of Broad Street and Greyrock Place. The incidents regarding the fatality are somewhat unclear, but the crash was an angle collision and involved a tree and light support. It occurred at night, and there were no other contributing circumstances. The most common collision types were rear-end and sideswipe (same direction) collisions, comprising approximately 32 percent of reported crashes each. The most crashes occurred at the intersection of Broad Street at Bedford Street and Atlantic Street.

Table 1 Crash Data Summary

Location		Crash Severity						Type of Collision									
		Property Damage Only	Possible Injury	Suspected Minor Injury	Suspected Serious Injury	Fatality	Total	Sideswipe (Same Direction)	Rear End	Angle	Hit Pedestrian	Backing	Hit Guardrail	Hit Parked Car	Head On	Unknown	Total
Intersections																	
1	Broad St @ Bedford St/Atlantic St	52	5	5	-	-	**62**	25	16	15	2	-	-	1	1	2	**62**
2	Broad St @ Gay St/Landmark Sq	6	1	2	-	-	**9**	2	2	2	2	-	1	-	-	-	**9**
3	Broad St @ Greyrock Pl	20	6	4	1	1	**32**	6	15	10	1	-	-	-	-	-	**32**
Intersection Totals		***78***	***12***	***11***	***1***	***1***	***103***	***33***	***33***	***27***	***5***	***0***	***1***	***1***	***1***	***2***	***103***
Broad Street																	
Bedford St – Greyrock Pl		14	1	-	-	-	**15**	9	4	2	-	-	-	-	-	-	**15**
Greyrock Pl – Grove St		5	1	2	-	-	**8**	1	4	-	2	1	-	-	-	-	**8**
Roadway Totals		***19***	***2***	***2***	***0***	***0***	***23***	***10***	***8***	***2***	***2***	***1***	***0***	***0***	***0***	***0***	***23***
TOTAL		**97**	**14**	**13**	**1**	**1**	**126**	**43**	**41**	**29**	**7**	**1**	**1**	**1**	**1**	**2**	**126**

Source: Connecticut Crash Data Repository from January 1, 2019, to May 11, 2022.

A total of 23 non-intersection-related crashes were reported along Broad Street between Bedford Street and Greyrock Place for the roughly 3-year period. Approximately 83 percent of the total crashes resulted in property damage only. No fatalities were reported. The most common collision type was sideswipe

(same direction) collisions, comprising approximately 43 percent of reported crashes, followed by rear end collisions at 35 percent.

Seven pedestrian-related collisions were reported, including two at the intersection of Broad Street at Bedford Street and Atlantic Street, two at the intersection of Broad Street at Gay Street and Landmark Square, one at the intersection of Broad Street and Greyrock Place, and two along Broad Street between Landmark Square and Greyrock Place. According to the Connecticut Crash Data Repository, in most of the collisions, the drivers either failed to yield to the pedestrian or ran a red light. All pedestrians had suspected minor injuries or possible injuries.

The Atlantic Street and Broad Street area is ranked 2, respectively, in the region for crashes. The proposed Broad Street improvements that the city and CTDOT are currently working on will help calm vehicular traffic and improve safety for all roadway users at the study intersections.

Existing Traffic Volumes

Traffic monitoring data from August 2020 (collected during the COVID-19 epoch) and December 2017 for Broad Street west of Grove Street was obtained from CTDOT. The annualized average daily traffic (AADT) at this location in 2020 was recorded as 15,00 vehicles (6,700 eastbound and 8,300 westbound) and 19,300 vehicles in 2017.

To supplement the state traffic monitoring data, multimodal traffic counts were conducted, including vehicle turning movement, bicycle, and pedestrian crossing counts, at the study intersections. The counts were conducted on Wednesday, April 27, 2022, from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. to capture peak commuter activity. For analysis, the highest single peak-hour volume for each time period was extracted from the count data. The study area peak hours were found to be from 8:00 a.m. to 9:00 a.m. (a.m. peak hour) and from 5:00 p.m. to 6:00 p.m. (p.m. peak hour). The existing peak-hour traffic volumes are shown in **Figure 3**. The existing peak-hour pedestrian volumes are shown in **Figure 4** and the existing peak-hour bicycles on crosswalks volumes are shown in **Figure 5**. The counts are included in the Appendix.

PROPOSED DEVELOPMENT

As stated previously, the proposed project plans to construct 196 multi-family units and approximately 5,680 SF of first-floor retail space on the two sites. Access to the two sites will be provided off Gay Street.

Proposed Development Trip Generation

The proposed new site-generated peak-hour trips were estimated using statistical data published by the Institute of Transportation Engineers (ITE).[1] **Table 2** summarizes the site-generated traffic estimates for the proposed development during the study peak hours.

The proposed development is approximately .75 miles from the Stamford Transportation Center. The statistical data published by ITE is based on areas without the public transportation attributes and access to the train station of Stamford. Given the proposed development's location within downtown Stamford and its proximity to the Stamford Transportation Center, and based on correspondence with CTDOT, a 15 percent Transit Oriented Development (TOD) reduction was applied to the site-generated traffic estimates. Because TODs reduce the need for residents and visitors to drive, TOD housing typically produces considerably less traffic than what is generated by conventional housing developments. As shown in Table 2, the proposed development is estimated to generate 73 new vehicle trips (21 vehicles entering and 52 vehicles exiting) during the morning peak hour and 96 total new vehicle trips (56 vehicles entering and 40 vehicles exiting) during the afternoon peak hour.

Table 2 Proposed Development Traffic Estimates

Land Use	Units	A.M. Peak Hour				P.M. Peak Hour			
		Trip Rate	In	Out	Total	Trip Rate	In	Out	Total
Proposed Development									
221 – Multifamily Housing (Mid-Rise)	196 DU	0.37/DU	17	56	73	0.39/DU	47	29	76
822 – Strip Retail Plaza (<40k)	5.68 KSF	2.36/KSF	8	5	13	6.59/KSF	19	18	37
Proposed Subtotal			*25*	*61*	*86*		*66*	*47*	*113*
TOD Reduction (-15%)			-4	-9	-13		-10	-7	-17
Proposed Total			***21***	***52***	***73***		***56***	***40***	***96***

Notes:
1. *Trip Generation*, 11th Edition, Institute of Transportation Engineers
2. DU = Dwelling Units
3. KSF = Thousand Square Feet

Proposed Development Trip Distribution

The geographic distribution of the new site-generated traffic was estimated based on review of the roadway traffic patterns in the vicinity of the site as well as review of census commuting data. To be conservative, all trips were assumed to use the intersection of Broad Street at Gay Street/Landmark Square. **Figure 6** illustrates the distribution for the proposed site-generated traffic through the study area.

[1] *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021

Based on the proposed development trip generation and trip distribution, the proposed new site-generated trips were assigned to the study area intersections. **Figure 7** displays the resulting proposed development trip assignment.

FUTURE (2025) CONDITIONS

The proposed development is anticipated to be completed by 2025. Future (2025) Conditions were evaluated both with and without the proposed development to determine possible traffic impacts.

Background Traffic Volumes

The background traffic scenario is reflective of Future (2025) Conditions if the proposed development was not built. Background (2025) Conditions includes traffic associated with other nearby expected upcoming developments as well as general traffic growth.

Based on correspondence with the City of Stamford, CTDOT, and based on our knowledge of proposed and pending developments in the area, the following development projects were included in Background (2025) Conditions. They are as follows:

1. Stamford Station Parking Garage (State Street Garage)
2. 406 Washington Boulevard – Gateway Tower Expansion
3. 885 Washington Boulevard – The Smyth
4. 245 Atlantic Street – True North
5. 677 Washington Boulevard
6. 154 Broad Street
7. 80 Prospect Street – Walton Place

Figure 8 displays the locations of the nearby planned developments. The anticipated future site-generated peak-hour trips from each planned development were obtained from their respective traffic studies and/or Office of the State Traffic Administration (OSTA) applications. Information on the nearby planned developments is included in the Appendix. The resulting total trip assignment from the nearby planned developments is shown in **Figure 9.**

There were also a few other development projects in the area that were identified by the City of Stamford but not by CTDOT. These were deemed relatively insignificant in relation to our study area, and any of their new traffic can be considered accounted for within the ambient traffic growth rate for the area at the advice of CTDOT. Based on correspondence with CTDOT, the existing traffic volumes were projected to Future (2025) Conditions using a growth rate of 0.7 percent per year. Background (2025) Conditions peak-hour traffic volumes were estimated by applying the growth rate to the existing peak-hour traffic volumes (shown in Figure 3) and then adding the anticipated peak-hour total trip assignment from the nearby

planned developments (shown in Figure 9). The resultant Background (2025) Conditions peak-hour traffic volumes are shown in **Figure 10**.

Combined Traffic Volumes

The combined traffic scenario is reflective of Future (2025) Conditions once the proposed development is completed. Combined (2025) Conditions peak-hour traffic volumes were estimated by adding the proposed development trip assignment (shown in Figure 7) to the Background (2025) Conditions traffic volumes (shown in Figure 10). The resultant Combined (2025) Conditions peak-hour traffic volumes are shown in **Figure 11**.

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analysis was performed at the study intersections under Background and Combined (2025) Conditions to evaluate each intersection's ability to process traffic volumes. These evaluations were used to determine possible traffic impacts from the proposed development based on the comparison of background and combined traffic operations.

Intersection operation results are expressed as a level of service (LOS). LOS is used to provide a qualitative evaluation of the efficiency of operations of an intersection in terms of delay and inconvenience based on certain quantitative calculations. A description of the various LOS designations, A through F, is given in the Appendix. LOS A describes operations with very low average control delay per vehicle while LOS F describes operations with long average delays. The study intersections were evaluated using *Synchro 10* (*Trafficware*) traffic analysis software package. **Table 3** summarizes the capacity analysis findings under Background and Combined (2025) Conditions. The *Synchro* analysis worksheets are included in the Appendix.

It is important to note that LOS A to LOS D are generally considered acceptable conditions. However, in some areas, LOS E during peak hours is often deemed acceptable and can indicate an efficient tradeoff between traffic flow and the amount of land devoted to the movement of motor vehicles.

As shown in Table 3, the study intersections are expected to operate at acceptable overall LOS (LOS C or better) during both peak hours under Background and Combined (2025) Conditions. Additionally, all individual movements at the study intersections are expected to operate at acceptable LOS (LOS A to LOS E) under Background (2025) and Combined (2025) Conditions during both peak periods.

The signalized intersection of Broad Street at Bedford Street/Atlantic Street is expected to operate at LOS C overall under Background and Combined (2025) Conditions during both peak hours. Additionally, the intersection is not expected to experience any changes in individual movement or overall LOS with the proposed development except for the eastbound through/right and westbound through/right movements in the morning peak hour. The eastbound and westbound through/right movements are expected to

experience one minor change in LOS during the morning peak hour with the proposed development; however, the movements are still expected to operate at acceptable conditions (LOS C) under Combined (2025) Conditions.

Table 3 Capacity Analysis Summary Future (2025) Conditions

Intersection/Lane Group	Level of Service			
	A.M. Peak Hour		P.M. Peak Hour	
	Background	Combined	Background	Combined
Signalized				
1. Broad Street at Bedford Street/Atlantic Street				
Eastbound Left	B	B	B	B
Eastbound Through/Right	B	C	C	C
Westbound Left	B	B	C	C
Westbound Through/Right	B	C	B	B
Northbound Left	D	D	D	D
Northbound Through/Right	D	D	D	D
Overall	***C***	***C***	***C***	***C***
2. Broad Street at Gay Street/Landmark Square				
Eastbound Left	A	A	B	B
Eastbound Through/Right	B	B	B	B
Westbound Left	A	A	B	C
Westbound Through/Right	A	A	B	C
Northbound Left/Through/Right	D	D	A	A
Southbound Left/Through/Right	B	C	C	D
Overall	***A***	***B***	***B***	***C***
3. Broad Street at Greyrock Place				
Eastbound Left	C	C	A	A
Eastbound Through	C	C	B	B
Eastbound Right	B	B	A	A
Westbound Left	B	B	B	B
Westbound Through/Right	C	C	C	C
Northbound Left	E	E	E	E
Northbound Through	C	C	C	C
Northbound Right	C	C	C	C
Southbound Left/Through/Right	E	E	E	E
Overall	***C***	***C***	***C***	***C***

Notes: LOS calculations were performed using *Synchro 10*.

The signalized intersection of Broad Street at Gay Street/Landmark Square is expected to operate at LOS A overall under Background (2025) Conditions and expected to experience one minor change to LOS B under Combined (2025) Conditions during the morning peak hour. During the afternoon peak hour, the intersection is expected to operate at LOS B overall under Background (2025) Conditions and expected to experience one minor change to LOS C under Combined (2025) Conditions. Additionally, the intersection is not expected to experience any changes in individual movement LOS with the proposed development except for the westbound left, westbound through/right, and southbound left/through/right movements. All are expected to experience one minor change in LOS during one of the peak hours with the proposed development, however, the movements are still expected to operate at acceptable conditions (LOS D or better) under Combined (2025) Conditions.

The signalized intersection of Broad Street at Greyrock Place is expected to operate at LOS C overall under Background and Combined (2025) Conditions during both peak hours. Additionally, the intersection is not expected to experience any changes in individual movement or overall LOS with the proposed development during both peak hours.

QUEUE ANALYSIS

The study intersection queues were also evaluated using *Synchro 10* (*Trafficware*) traffic analysis software package. For analysis, the average and 95th percentile queues are recorded.

All approach lanes are expected to provide adequate storage length under Background and Combined (2025) Conditions during both peak periods except for the northbound left-turn lane at the intersection of Broad Street at Bedford Street/Atlantic Street and the northbound left-turn lane at the intersection of Broad Street at Greyrock Place.

The northbound left-turn lane at the intersection of Broad Street at Bedford Street/Atlantic Street is only 25 feet long, and the ability to lengthen this turn lane is constrained by the dense downtown environment, the existing median on Atlantic Street, and the two northbound through lanes. The average and 95th percentile queues are expected to exceed the available storage length under Background and Combined (2025) Conditions during both peak periods. While queuing in this short lane occurs today and is expected to occur in the future regardless of if the proposed development occurs, the proposed development is not expected to increase the average or 95th percentile queue lengths by more than three vehicles during either peak period.

The northbound left-turn 95th percentile queues at the intersection of Broad Street at Greyrock Place are expected to exceed the available storage length under Background and Combined (2025) Conditions during both peak periods. While the 95th percentile queues are expected to slightly exceed the available storage during both peak periods, the average queue lengths are expected to be less than the available storage length. Given this, the queue only has a 5 percent probability of exceeding the available storage length during each peak period.

Additionally, the proposed driveway on the east side of Gay Street is approximately 65 feet from Broad Street, and the proposed driveway on the west side of Gay Street is approximately 120 feet from Broad Street. The southbound average queues at the intersection of Broad Street at Gay Street/Landmark Square are not expected to extend past either driveway during both peak hours; however, the 95th percentile queues are expected to extend up to the west side driveway under Combined (2025) Conditions. Given this, there is only a 5 percent probability of the queue blocking both driveways during each peak period.

INTERSECTION SIGHT DISTANCE

Intersection sight distance was measured at the proposed driveways on either side of Gay Street. Intersection sight distance is determined through the creation of clear sight triangles. Each quadrant of the intersection should contain a triangular area free of obstructions. For the proposed driveways, and for vehicles on Gay Street approaching each driveway, the length of the legs of the triangles should be long enough such that the driver can see any potentially conflicting vehicles departing the driveways in sufficient time to slow or stop before colliding. For vehicles departing from the driveways, the length of the legs of the triangles should be sufficient for a stopped driver to depart each driveway and turn onto Gay Street safely.

Intersection sight distance was measured in accordance with criteria set forth in the 2003 CTDOT *Highway Design Manual*. For a speed of 25 miles per hour (mph), 280 feet of intersection sight distance is required. At the proposed driveway on the east side of Gay Street, looking right (north) towards the surface parking lot and the parking garage when exiting the driveway, a driver can see more than the 280 feet required for a speed of 25 mph. Looking left (south) towards Broad Street, the required sight line extends into the signalized intersection of Broad Street at Gay Street/Landmark Square. At a conventional intersection, left-turning vehicles typically travel at a speed of 15 mph and right-turning vehicles typically travel at a speed of 9 mph. For a speed of 15 mph, approximately 165 feet of intersection sight distance is required. For a speed of 9 mph, approximately 98 feet of intersection sight distance is required. Looking left (south) towards Broad Street when exiting the driveway, a driver can see more than the 165 feet required for a speed of 15 mph at the eastbound approach and approximately the 98 feet required for a speed of 9 mph at the westbound approach at the signalized intersection of Broad Street at Gay Street/Landmark Square.

At the proposed driveway on the west side of Gay Street, looking left (north) towards the surface parking lot and the parking garage when exiting the driveway, a driver can only see approximately 38 feet. Looking right (south) towards Broad Street, a driver can only see approximately 70 feet. However, the stopping sight distance from the signalized intersection of Broad Street at Gay Street/Landmark Square to both of the proposed driveways exceeds 90 feet, which is greater than the stopping sight distance required for a speed of 15 mph.

To reduce vehicular speeds on Gay Street and improve pedestrian safety, it is proposed to raise Gay Street to sidewalk level like the treatment recently installed at West Park Place. Doing this will create a raised crosswalk at the Gay Street approach and make Gay Street feel more like a private drive. It is also proposed

to install pavers on Gay Street to further establish it as a private drive and help slow vehicular speeds. Finally, to improve safety and the sight lines for vehicles looking left (north) from the proposed driveway on the west side, it is proposed to install a stop-controlled approach for vehicles traveling southbound on Gay Street at the proposed driveway on the west side.

SUMMARY

This study was conducted to assess the traffic impacts of the proposed development to be located at 128-132 Broad Street in Stamford. The proposed project plans to construct 196 multifamily units and approximately 5,680 SF of first-floor retail space on the two sites. Access to the two sites will be provided off Gay Street.

To determine a profile of existing conditions, data assembly efforts were undertaken. Estimates of traffic that will be generated by the proposed development were developed based on statistical data published by ITE, and intersection capacity analysis and queue analysis was performed at the study intersections under Background and Combined (2025) Conditions. Based on the results of the capacity and queue analysis, it is our opinion that the increase in traffic because of the proposed development can be accommodated by the surrounding roadway system. As such, no traffic mitigation is necessary.

Given the proximity of the proposed driveways to the intersection of Broad Street at Gay Street/Landmark Square and the proximity of the proposed buildings to Gay Street, it is proposed to install the following improvements to reduce vehicular speeds on Gay Street and improve safety:

- Raise Gay Street to sidewalk level like the treatment recently installed at West Park Place.
- Install pavers on Gay Street.
- Install a stop-controlled approach for vehicles traveling southbound on Gay Street at the proposed driveway on the west side.

We hope this report is useful to you and the City of Stamford. If you have any questions or need anything further, please do not hesitate to contact either of the undersigned.

Sincerely,

SLR International Corporation

David G. Sullivan, PE
US Manager of Traffic & Transportation Planning

Emily A. Foster, PE
Associate Transportation Engineer

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Figures

- Figure 1 – Site Location Map
- Figure 2 – Study Area
- Figure 3 – Existing (2022) Conditions Peak-Hour Traffic Volumes
- Figure 4 – Existing (2022) Conditions Peak-Hour Pedestrian Volumes
- Figure 5 – Existing (2022) Conditions Peak-Hour Bicycles on Crosswalks Volumes
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- Figure 7 – Proposed Development Peak-Hour Trip Assignment
- Figure 8 – Nearby Planned Developments Locations
- Figure 9 – Nearby Planned Developments Total Peak-Hour Trip Assignment
- Figure 10 – Background (2025) Conditions Peak-Hour Traffic Volumes
- Figure 11 – Combined (2025) Conditions Peak-Hour Traffic Volumes

Appendix

- Traffic and Pedestrian Counts
- Information on the Nearby Planned Developments Include in Background (2025) Conditions
- LOS Designation Descriptions
- *Synchro* Analysis Worksheets

Figure 1
Site Location Map

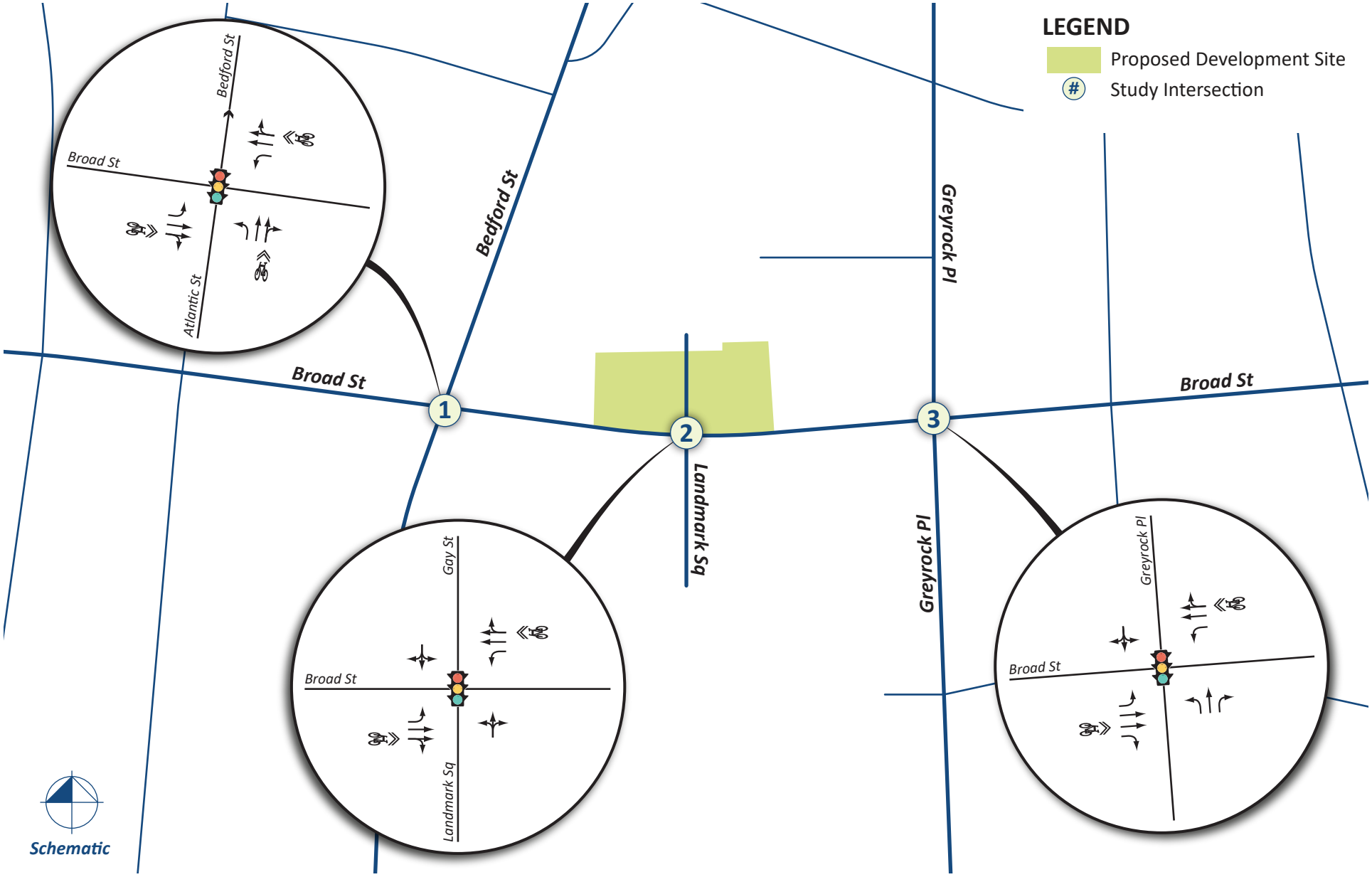


Figure 2
Study Area

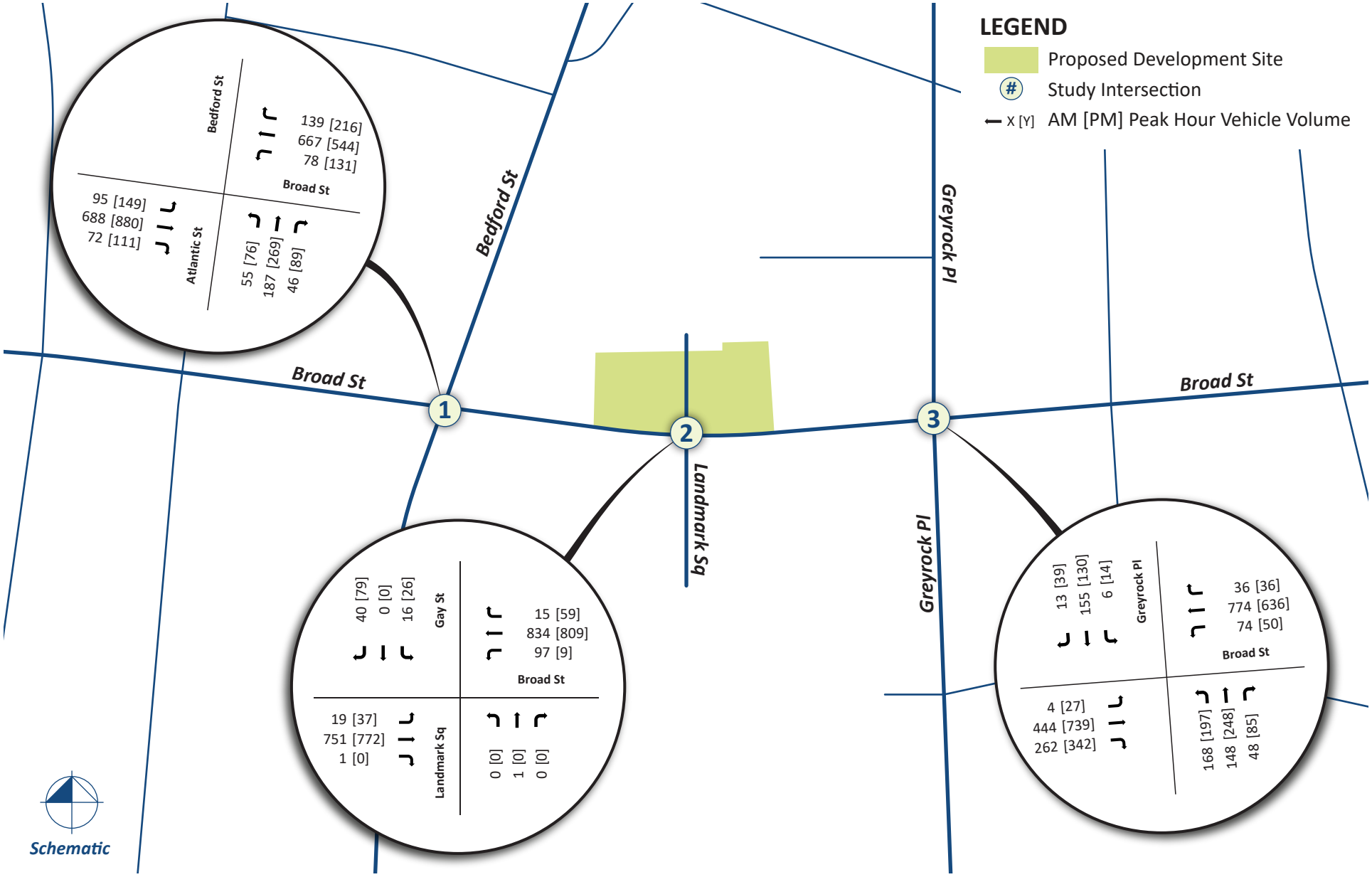


Figure 3
Existing (2022) Conditions Peak Hour Traffic Volumes

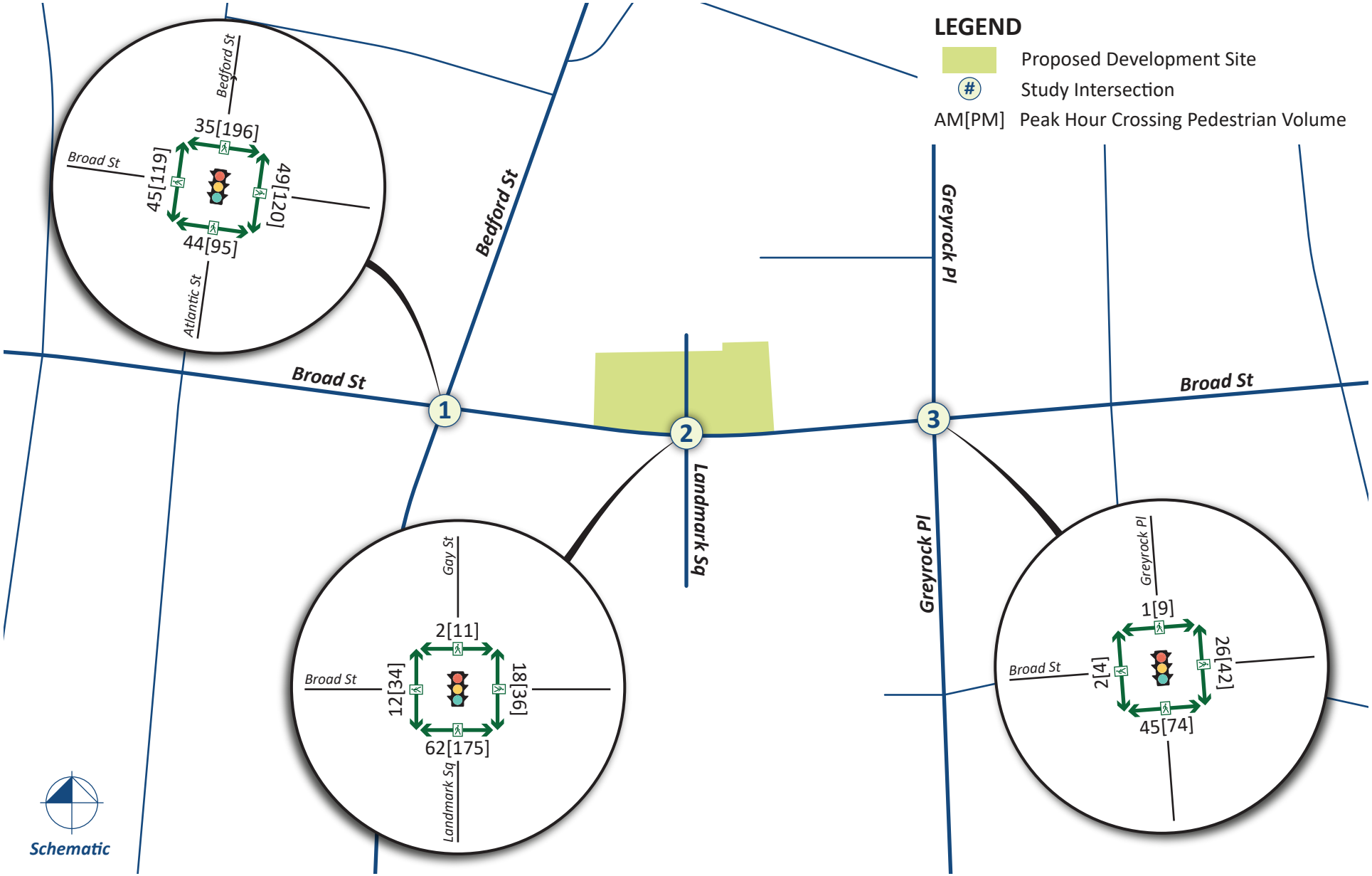


Figure 4
Existing (2022) Conditions Peak-Hour Pedestrian Volumes

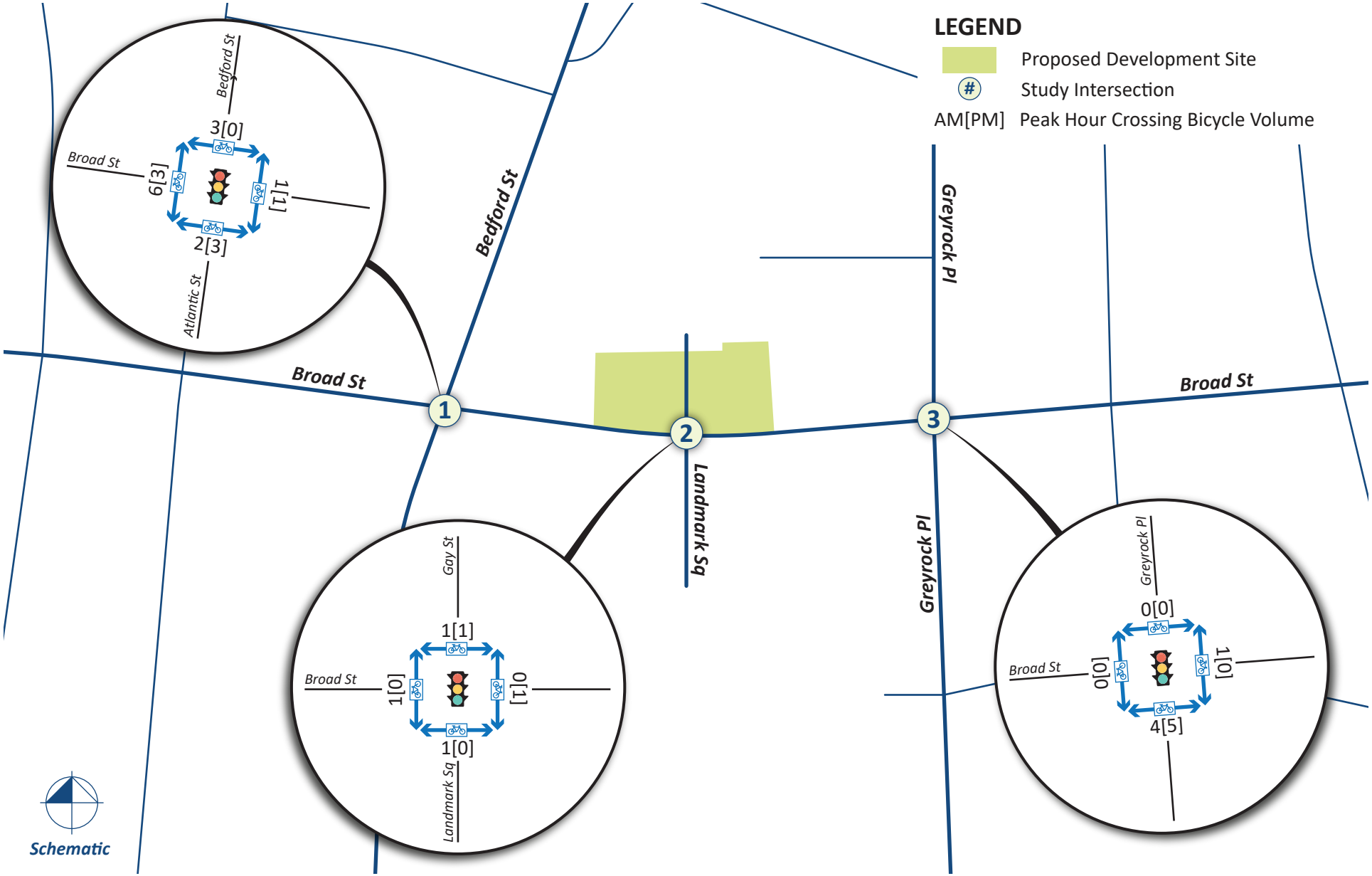


Figure 5
Existing (2022) Conditions Peak-Hour Bicycles on Crosswalks Volumes

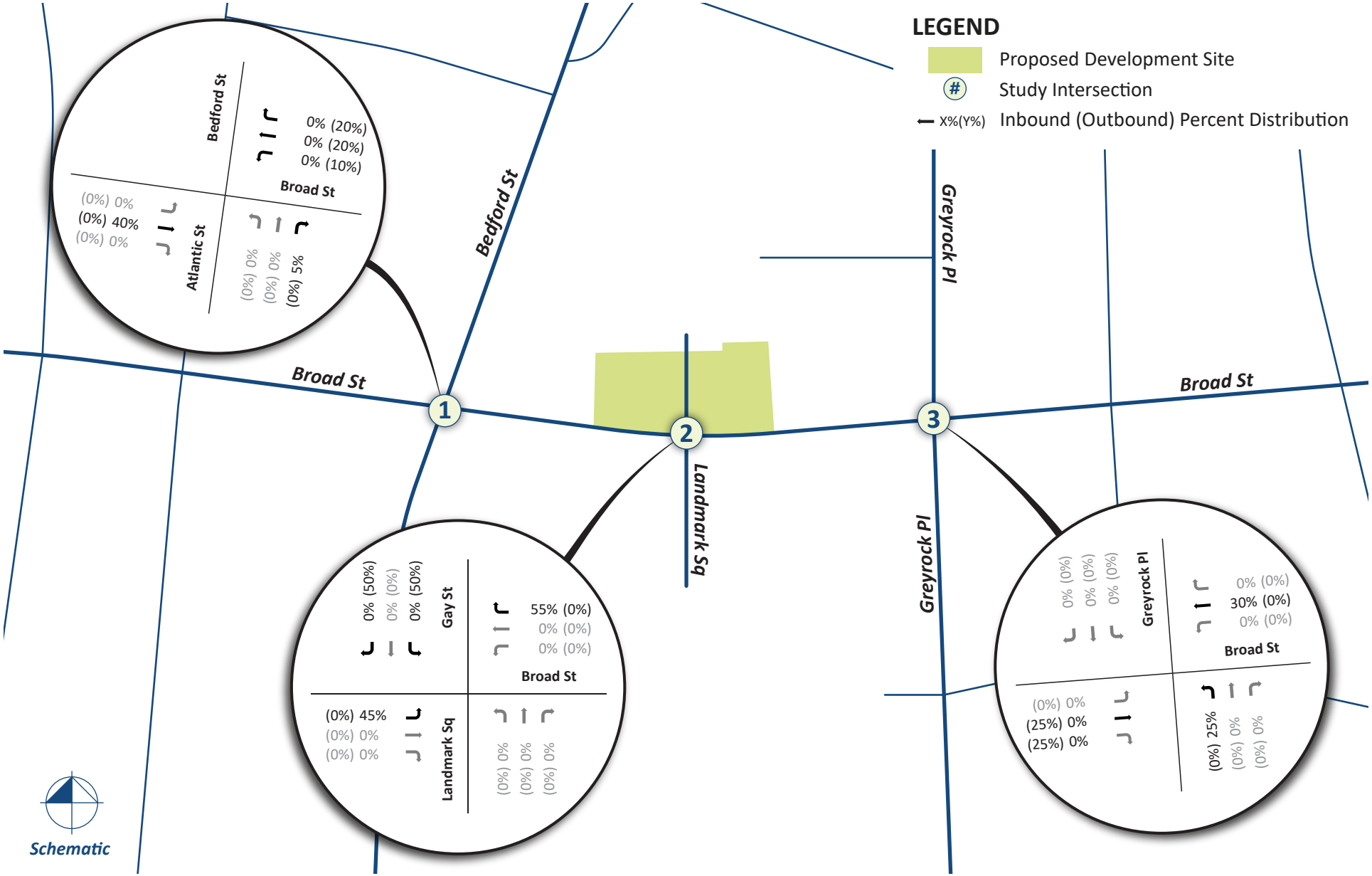


Figure 6
Proposed Development Distribution

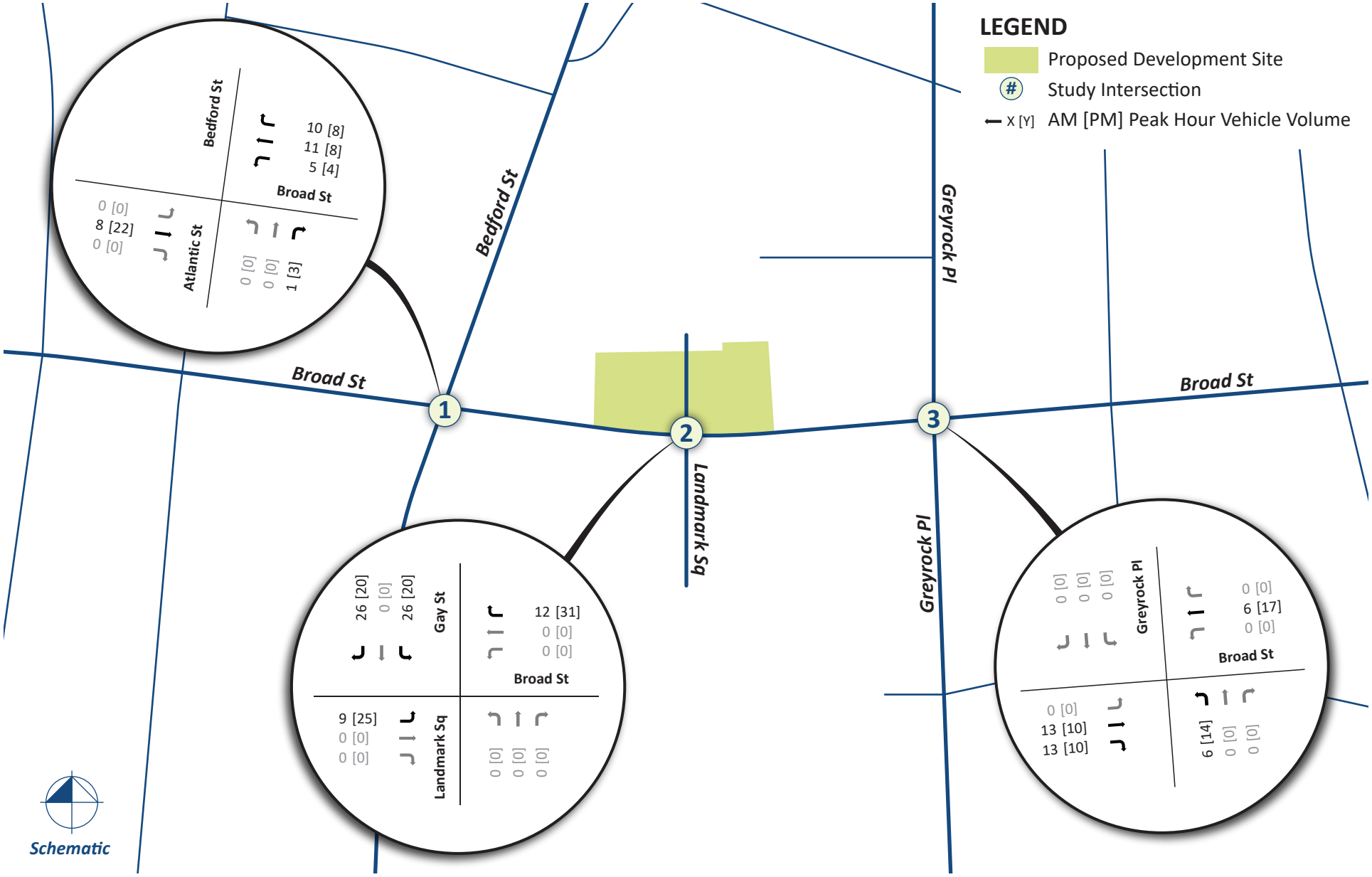


Figure 7
Proposed Development Peak Hour Trip Assignment

Nearby Planned Developments

1. Stamford Transportation Center
   Parking Garage Expansion
2. 406 Washington Boulevard
   Gateway Tower Expansion
   Office Development
3. 885 Washington Boulevard
   The Smyth
   Mixed-Use Development
4. 245 Atlantic Street
   True North
   Mixed-Use Development
5. 677 Washington Boulevard
   Mixed-Use Development
6. 154 Broad Street
   Residential Development
7. 80 Prospect Street
   Walton Place
   Residential Development

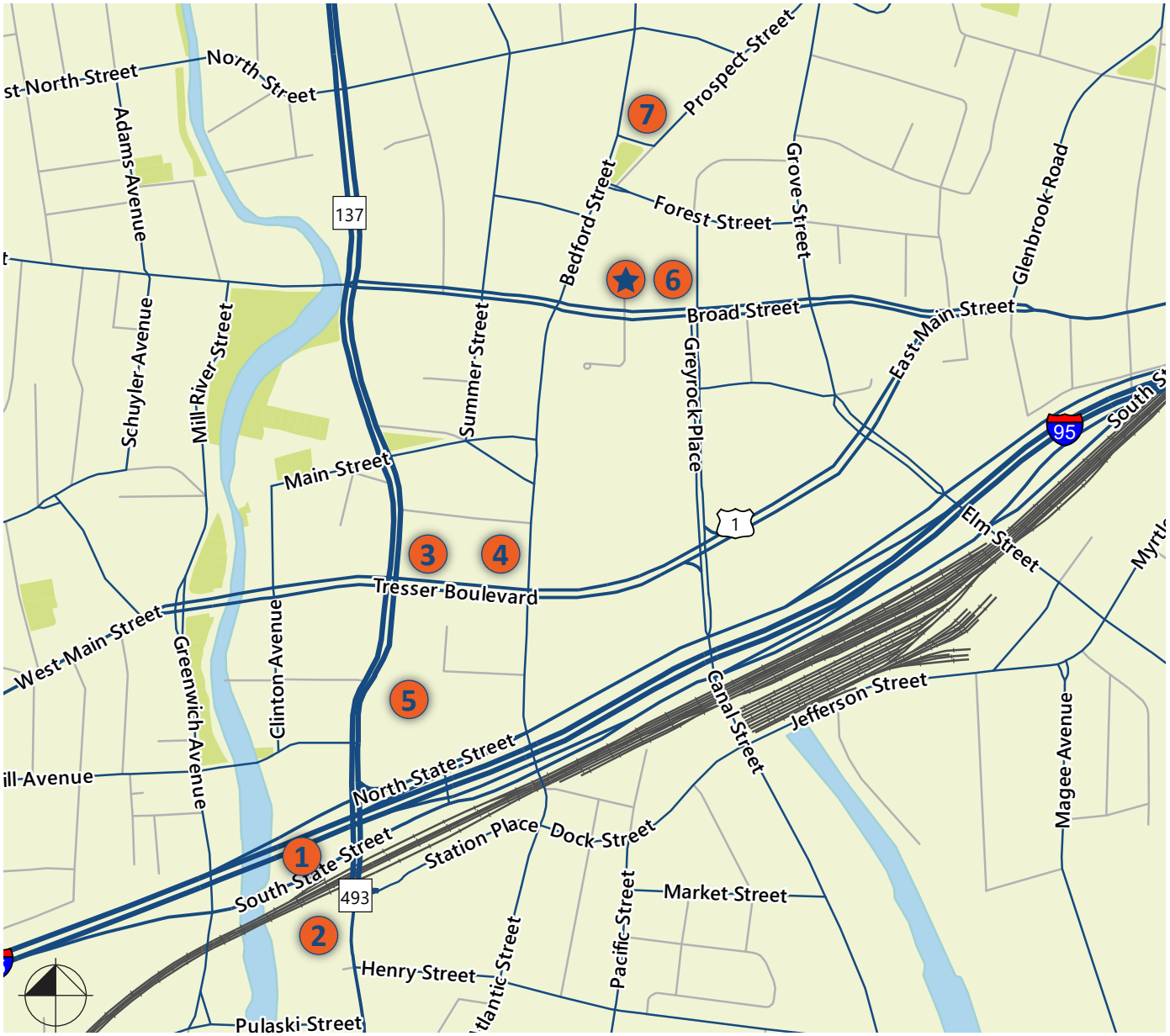


Figure 8
Nearby Planned Developments Locations

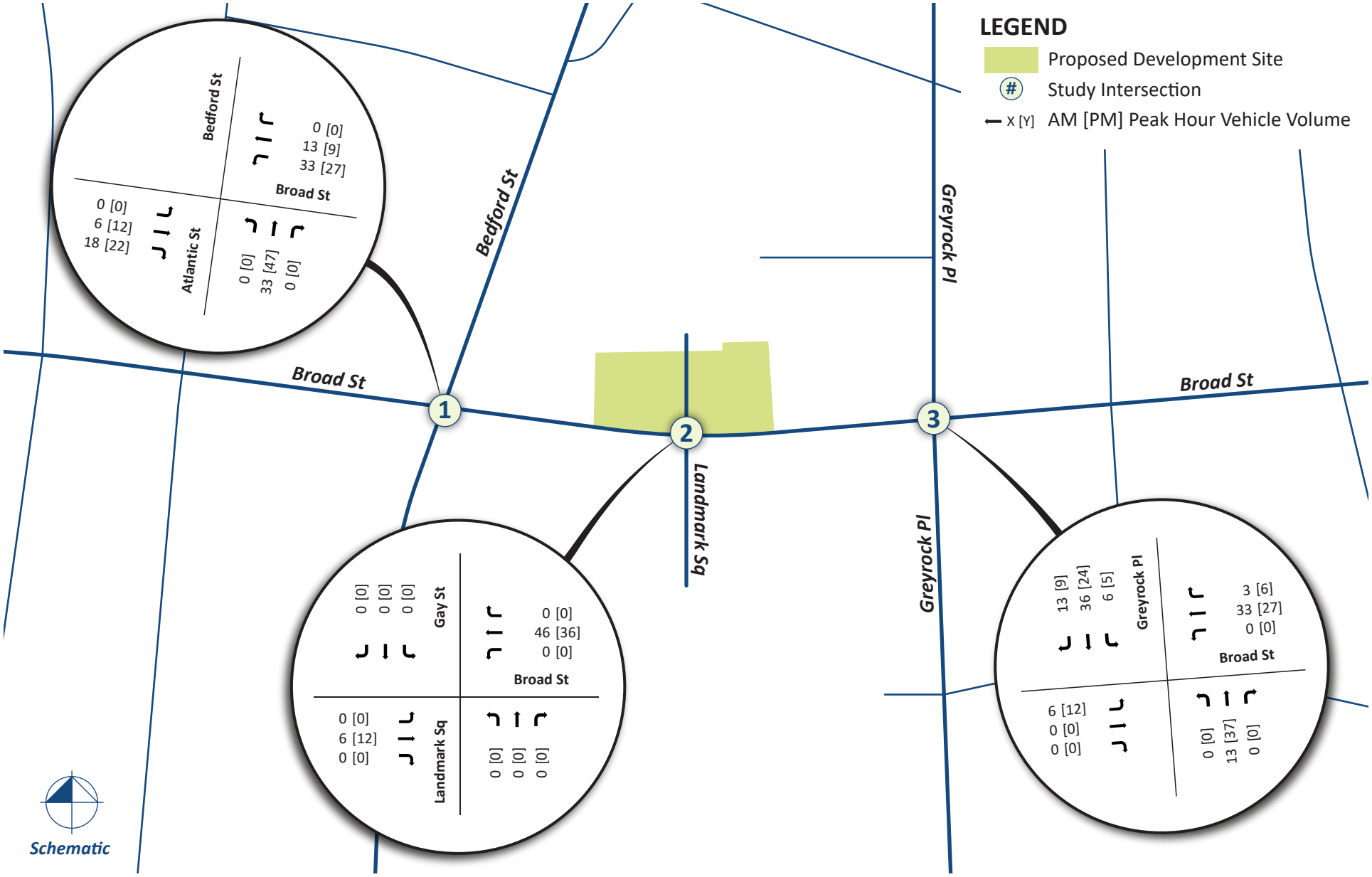


Figure 9
Nearby Planned Developments Total Peak-Hour Trip Assignment

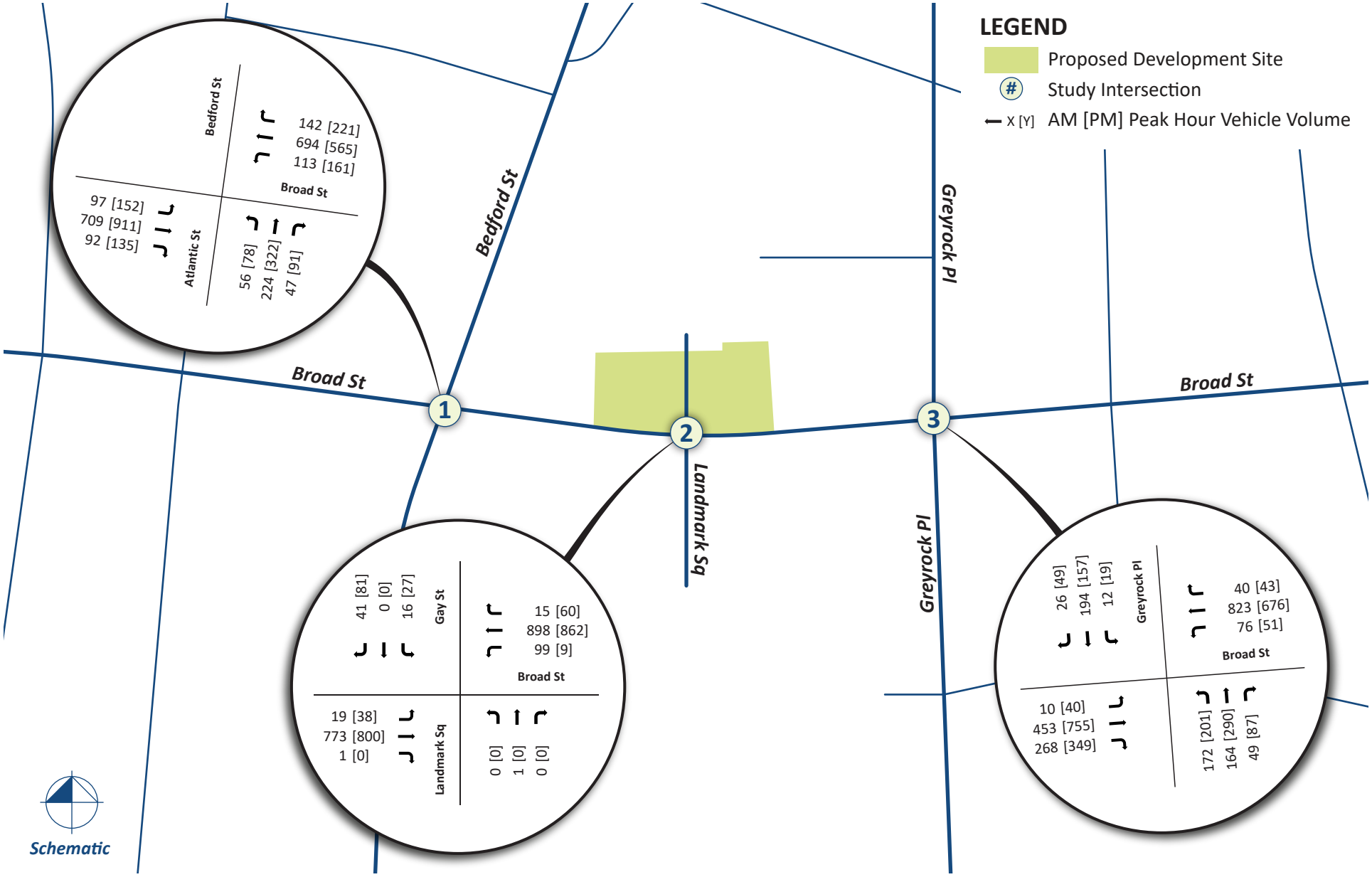


Figure 10
Background (2025) Conditions Peak Hour Traffic Volume

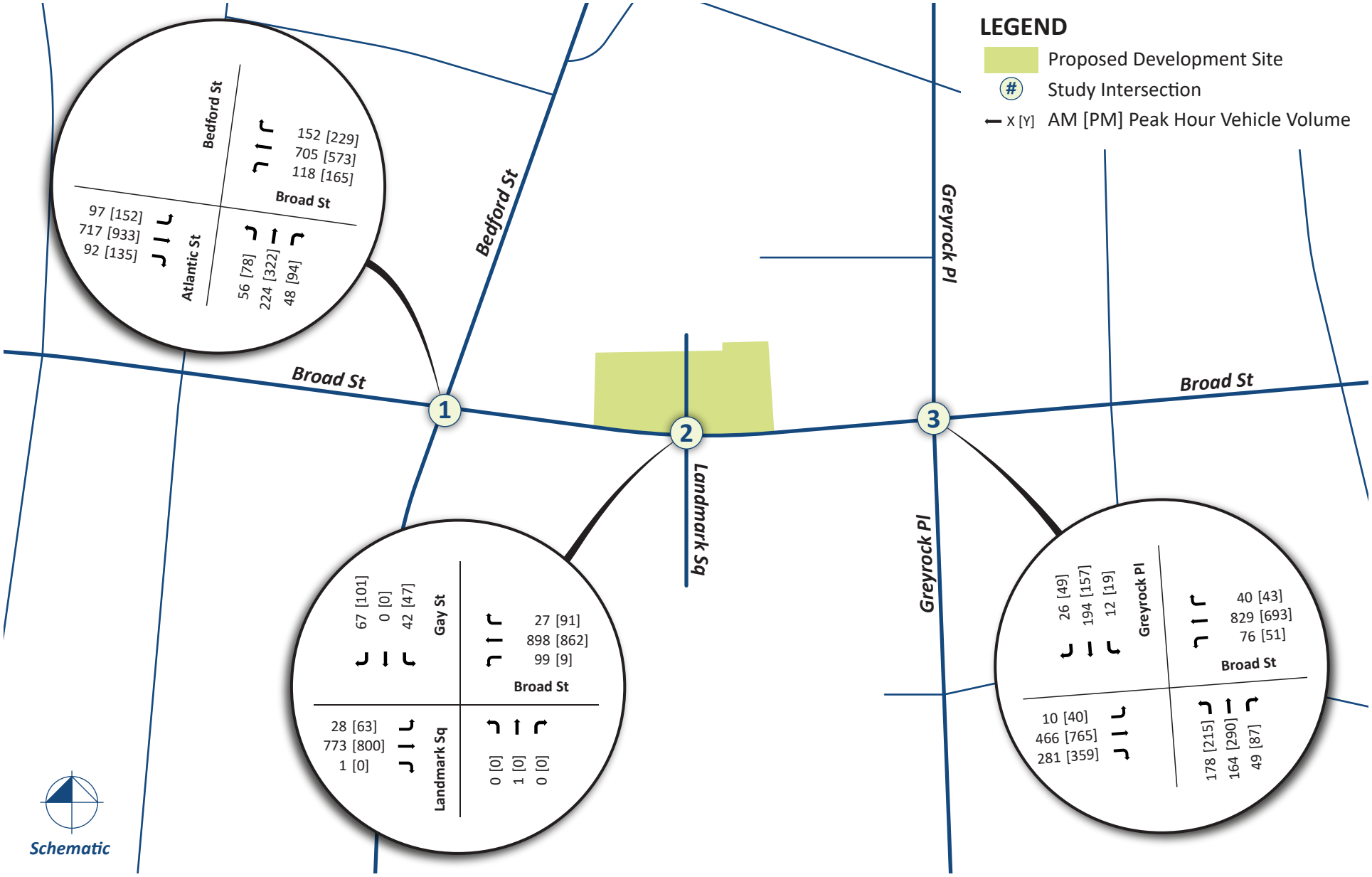


Figure 11
Combined (2025) Conditions Peak Hour Traffic Volumes

APPENDIX

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Broad Street at Bedford/Atlantic Street
Stamford, Connecticut

File Name : 22944
Site Code : 22944
Start Date : 4/27/2022
Page No : 1

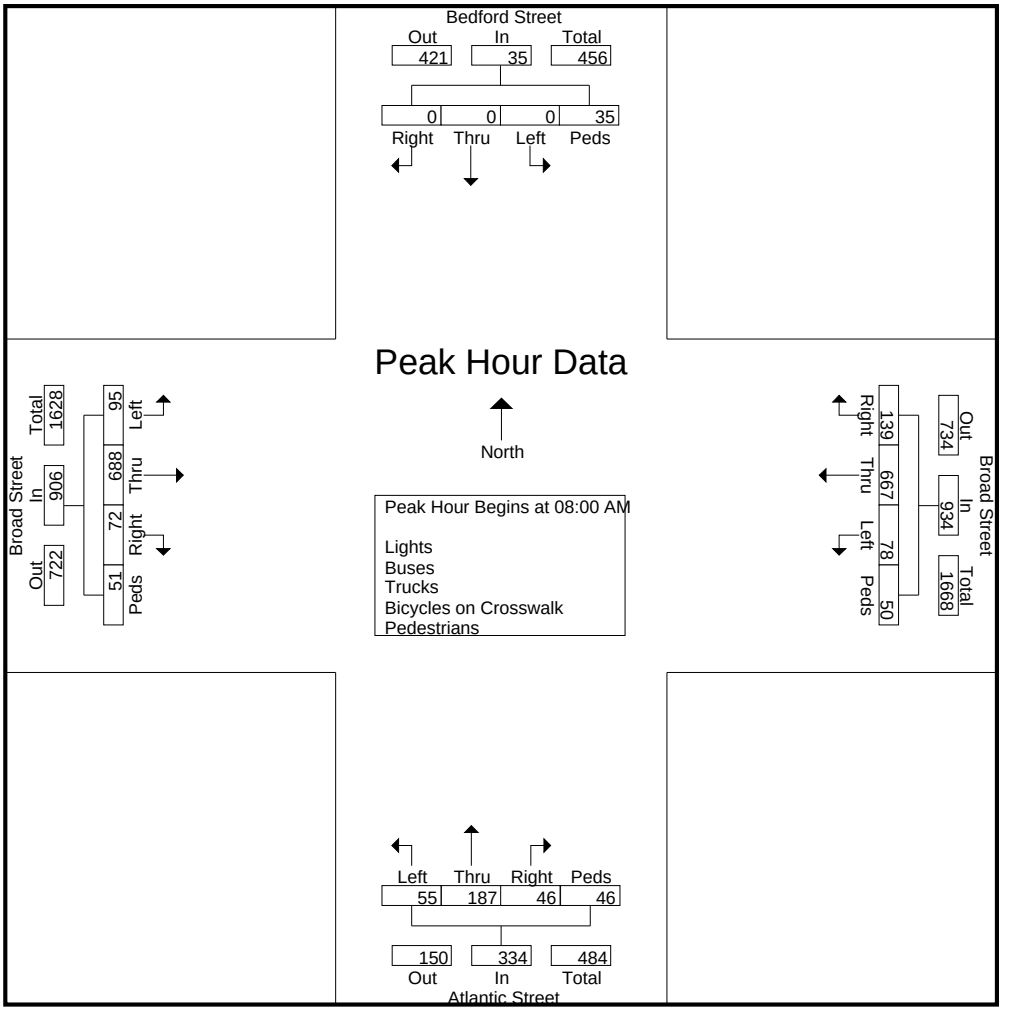
Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	2	2	27	117	17	15	176	5	38	15	1	59	12	136	22	6	176	413
07:15 AM	0	0	0	9	9	34	139	20	8	201	5	32	3	7	47	26	163	31	11	231	488
07:30 AM	0	0	0	3	3	30	124	23	10	187	11	52	15	7	85	25	179	23	10	237	512
07:45 AM	0	0	0	4	4	29	182	15	9	235	6	27	15	8	56	27	194	22	8	251	546
Total	0	0	0	18	18	120	562	75	42	799	27	149	48	23	247	90	672	98	35	895	1959
08:00 AM	0	0	0	6	6	29	173	19	11	232	11	50	11	6	78	15	162	15	8	200	516
08:15 AM	0	0	0	9	9	30	170	21	13	234	14	51	14	7	86	14	182	25	19	240	569
08:30 AM	0	0	0	10	10	43	154	15	12	224	12	40	17	17	86	21	144	28	15	208	528
08:45 AM	0	0	0	10	10	37	170	23	14	244	9	46	13	16	84	22	200	27	9	258	596
Total	0	0	0	35	35	139	667	78	50	934	46	187	55	46	334	72	688	95	51	906	2209
Grand Total	0	0	0	53	53	259	1229	153	92	1733	73	336	103	69	581	162	1360	193	86	1801	4168
Apprch %	0	0	0	100		14.9	70.9	8.8	5.3		12.6	57.8	17.7	11.9		9	75.5	10.7	4.8		
Total %	0	0	0	1.3	1.3	6.2	29.5	3.7	2.2	41.6	1.8	8.1	2.5	1.7	13.9	3.9	32.6	4.6	2.1	43.2	
Lights	0	0	0	0	0	245	1185										1277				
% Lights	0	0	0	0	0	94.6	96.4	85.6	0	90.1	71.2	93.5	87.4	0	78.5	92.6	93.9	95.3	0	89.5	87
Buses	0	0	0	0	0	8	9	19	0	36	17	16	10	0	43	7	47	3	0	57	136
% Buses	0	0	0	0	0	3.1	0.7	12.4	0	2.1	23.3	4.8	9.7	0	7.4	4.3	3.5	1.6	0	3.2	3.3
Trucks	0	0	0	0	0	6	35	3	0	44	4	6	3	0	13	5	36	6	0	47	104
% Trucks	0	0	0	0	0	2.3	2.8	2	0	2.5	5.5	1.8	2.9	0	2.2	3.1	2.6	3.1	0	2.6	2.5
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	1.1	0.1	0	0	0	2.9	0.3	0	0	0	7	0.3	0.2
Pedestrians	0	0	0	53	53	0	0	0	91	91	0	0	0	67	67	0	0	0	80	80	291
% Pedestrians	0	0	0	100	100	0	0	0	98.9	5.3	0	0	0	97.1	11.5	0	0	0	93	4.4	7

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22944
Site Code : 22944
Start Date : 4/27/2022
Page No : 2

	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	6	6	29	173	19	11	232	11	50	11	6	78	15	162	15	8	200	516
08:15 AM	0	0	0	9	9	30	170	21	13	234	14	51	14	7	86	14	182	25	19	240	569
08:30 AM	0	0	0	10	10	43	154	15	12	224	12	40	17	17	86	21	144	28	15	208	528
08:45 AM	0	0	0	10	10	37	170	23	14	244	9	46	13	16	84	22	200	27	9	258	596
Total Volume	0	0	0	35	35	139	667	78	50	934	46	187	55	46	334	72	688	95	51	906	2209
% App. Total	0	0	0	100		14.9	71.4	8.4	5.4		13.8	56	16.5	13.8		7.9	75.9	10.5	5.6		
PHF	.000	.000	.000	.875	.875	.808	.964	.848	.893	.957	.821	.917	.809	.676	.971	.818	.860	.848	.671	.878	.927



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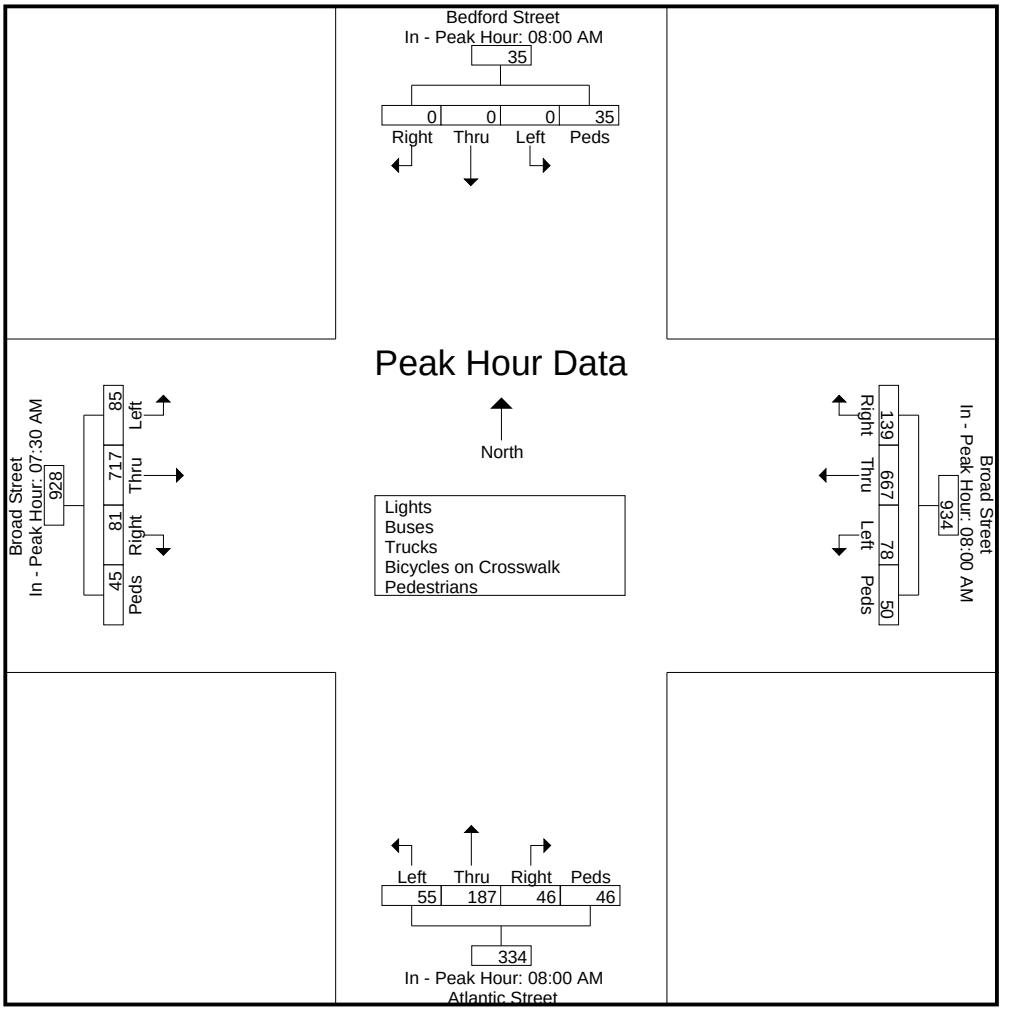
File Name : 22944
Site Code : 22944
Start Date : 4/27/2022
Page No : 3

Start Time	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					08:00 AM					08:00 AM					07:30 AM					
+0 mins.	0	0	0	6	6	29	173	19	11	232	11	50	11	6	78	25	179	23	10	237	
+15 mins.	0	0	0	9	9	30	170	21	13	234	14	51	14	7	86	27	194	22	8	251	
+30 mins.	0	0	0	10	10	43	154	15	12	224	12	40	17	17	86	15	162	15	8	200	
+45 mins.	0	0	0	10	10	37	170	23	14	244	9	46	13	16	84	14	182	25	19	240	
Total Volume	0	0	0	35	35	139	667	78	50	934	46	187	55	46	334	81	717	85	45	928	
% App. Total	0	0	0	100		14.9	71.4	8.4	5.4		13.8	56	16.5	13.8		8.7	77.3	9.2	4.8		
PHF	.000	.000	.000	.875	.875	.808	.964	.848	.893	.957	.821	.917	.809	.676	.971	.750	.924	.850	.592	.924	



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Broad Street at Bedford/Atlantic Street
Stamford, Connecticut

File Name : 22945
Site Code : 22945
Start Date : 4/27/2022
Page No : 1

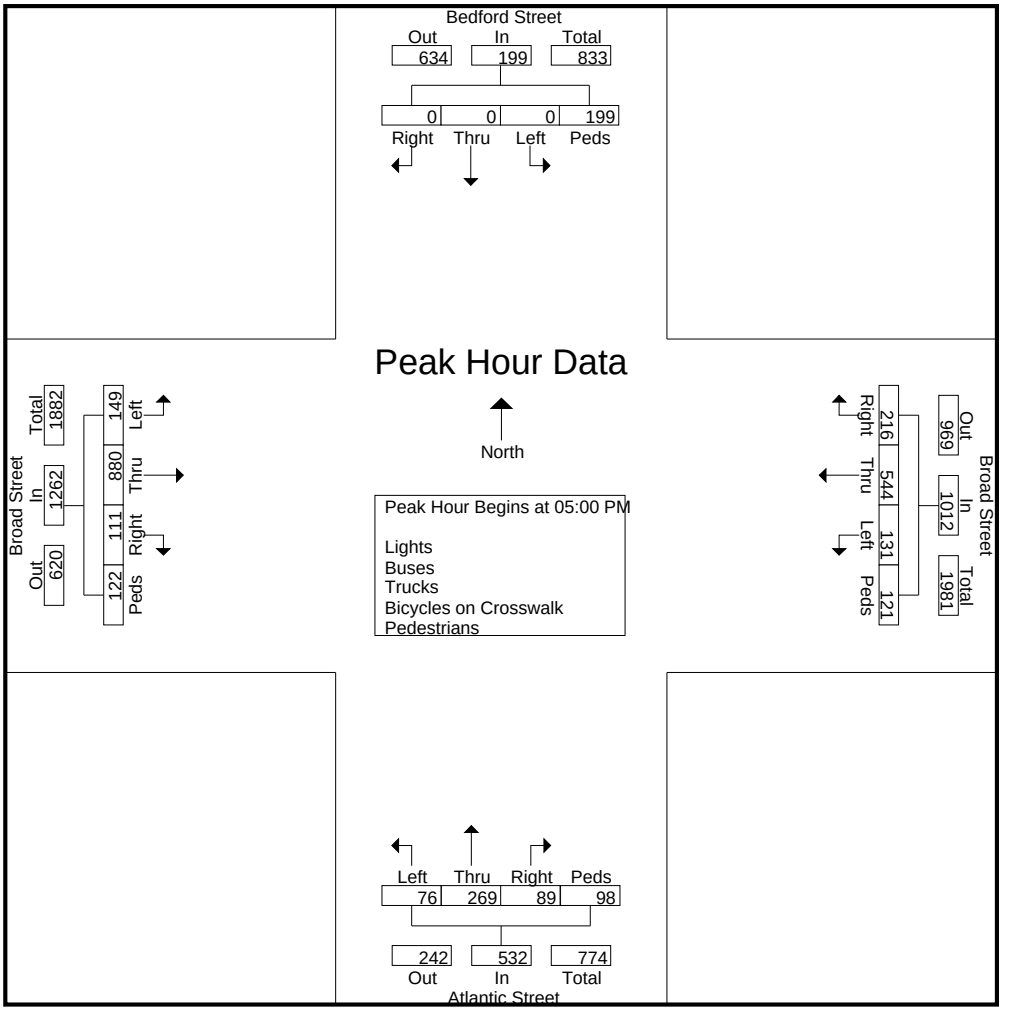
Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	31	31	40	109	25	25	199	16	50	15	9	90	22	186	31	12	251	571
04:15 PM	0	0	0	12	12	51	116	18	29	214	14	44	15	27	100	20	209	35	10	274	600
04:30 PM	0	0	0	25	25	42	124	39	17	222	15	60	21	16	112	27	189	27	26	269	628
04:45 PM	0	0	0	30	30	54	122	30	17	223	14	45	18	18	95	21	212	40	22	295	643
Total	0	0	0	98	98	187	471	112	88	858	59	199	69	70	397	90	796	133	70	1089	2442
05:00 PM	0	0	0	50	50	47	121	24	37	229	25	66	19	25	135	20	210	35	27	292	706
05:15 PM	0	0	0	53	53	58	137	36	30	261	20	62	19	16	117	34	241	38	27	340	771
05:30 PM	0	0	0	57	57	52	137	40	20	249	24	76	16	29	145	30	211	37	42	320	771
05:45 PM	0	0	0	39	39	59	149	31	34	273	20	65	22	28	135	27	218	39	26	310	757
Total	0	0	0	199	199	216	544	131	121	1012	89	269	76	98	532	111	880	149	122	1262	3005
Grand Total	0	0	0	297	297	403	1015	243	209	1870	148	468	145	168	929	201	1676	282	192	2351	5447
Apprch %	0	0	0	100		21.6	54.3	13	11.2		15.9	50.4	15.6	18.1		8.5	71.3	12	8.2		
Total %	0	0	0	5.5	5.5	7.4	18.6	4.5	3.8	34.3	2.7	8.6	2.7	3.1	17.1	3.7	30.8	5.2	3.5	43.2	
Lights	0	0	0	0	0	389	1009										1640				
% Lights	0	0	0	0	0	96.5	99.4	91.4	0	86.6	84.5	96.2	91.7	0	76.2	96.5	97.9	99.6	0	90	81.6
Buses	0	0	0	0	0	9	0	19	0	28	15	9	9	0	33	7	15	0	0	22	83
% Buses	0	0	0	0	0	2.2	0	7.8	0	1.5	10.1	1.9	6.2	0	3.6	3.5	0.9	0	0	0.9	1.5
Trucks	0	0	0	0	0	5	6	2	0	13	8	9	3	0	20	0	21	1	0	22	55
% Trucks	0	0	0	0	0	1.2	0.6	0.8	0	0.7	5.4	1.9	2.1	0	2.2	0	1.3	0.4	0	0.9	1
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	1	1	0	0	0	0.5	0.1	0	0	0	1.8	0.3	0	0	0	1.6	0.1	0.2
Pedestrians	0	0	0	294	294	0	0	0	208	208	0	0	0	165	165	0	0	0	189	189	856
% Pedestrians	0	0	0	99	99	0	0	0	99.5	11.1	0	0	0	98.2	17.8	0	0	0	98.4	8	15.7

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22945
Site Code : 22945
Start Date : 4/27/2022
Page No : 2

	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	50	50	47	121	24	37	229	25	66	19	25	135	20	210	35	27	292	706
05:15 PM	0	0	0	53	53	58	137	36	30	261	20	62	19	16	117	34	241	38	27	340	771
05:30 PM	0	0	0	57	57	52	137	40	20	249	24	76	16	29	145	30	211	37	42	320	771
05:45 PM	0	0	0	39	39	59	149	31	34	273	20	65	22	28	135	27	218	39	26	310	757
Total Volume	0	0	0	199	199	216	544	131	121	1012	89	269	76	98	532	111	880	149	122	1262	3005
% App. Total	0	0	0	100		21.3	53.8	12.9	12		16.7	50.6	14.3	18.4		8.8	69.7	11.8	9.7		
PHF	.000	.000	.000	.873	.873	.915	.913	.819	.818	.927	.890	.885	.864	.845	.917	.816	.913	.955	.726	.928	.974



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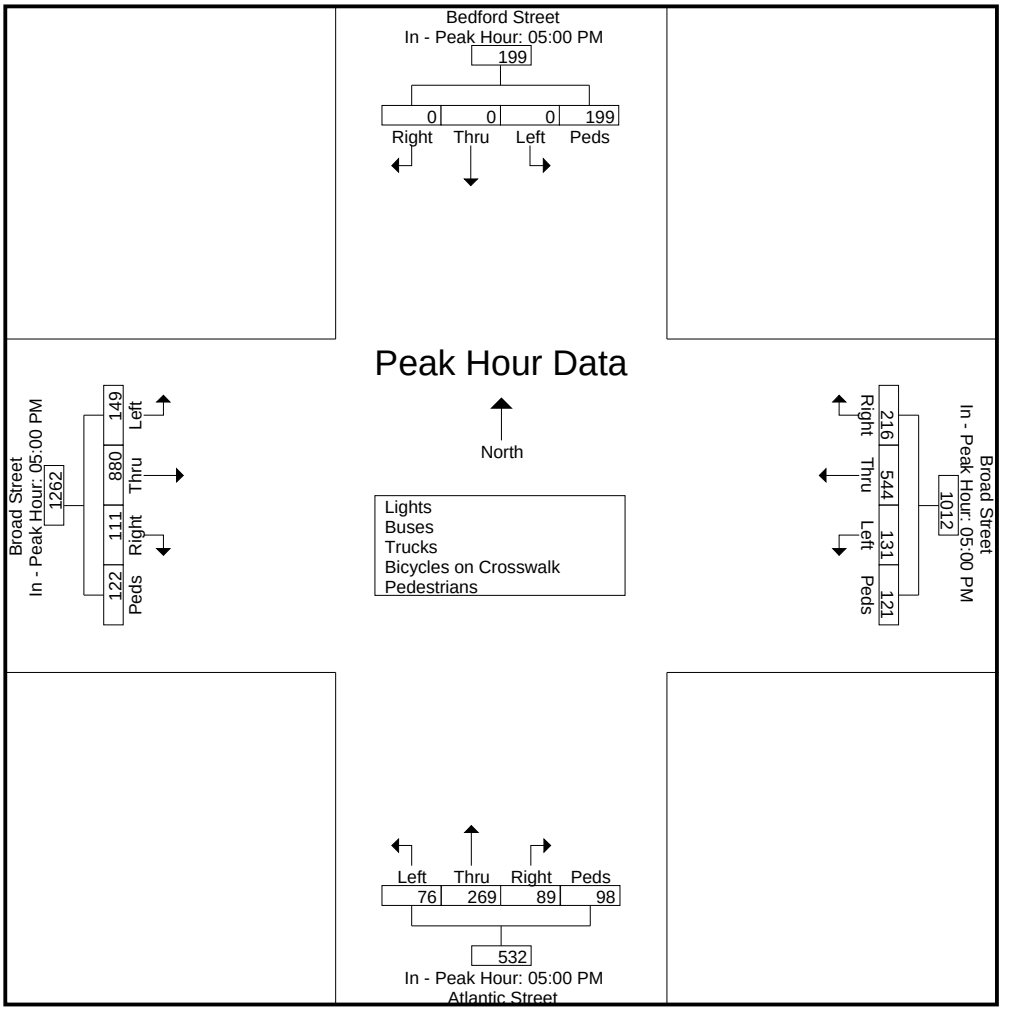
File Name : 22945
Site Code : 22945
Start Date : 4/27/2022
Page No : 3

	Bedford Street From North					Broad Street From East					Atlantic Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					05:00 PM					05:00 PM					05:00 PM					
+0 mins.	0	0	0	50	50	47	121	24	37	229	25	66	19	25	135	20	210	35	27	292	
+15 mins.	0	0	0	53	53	58	137	36	30	261	20	62	19	16	117	34	241	38	27	340	
+30 mins.	0	0	0	57	57	52	137	40	20	249	24	76	16	29	145	30	211	37	42	320	
+45 mins.	0	0	0	39	39	59	149	31	34	273	20	65	22	28	135	27	218	39	26	310	
Total Volume	0	0	0	199	199	216	544	131	121	1012	89	269	76	98	532	111	880	149	122	1262	
% App. Total	0	0	0	100		21.3	53.8	12.9	12		16.7	50.6	14.3	18.4		8.8	69.7	11.8	9.7		
PHF	.000	.000	.000	.873	.873	.915	.913	.819	.818	.927	.890	.885	.864	.845	.917	.816	.913	.955	.726	.928	



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Broad Street at Gay St/Landmark Square
Stamford, Connecticut

File Name : 22946
Site Code : 22946
Start Date : 4/27/2022
Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	7	0	4	5	16	2	165	17	1	185	1	0	0	9	10	0	140	0	3	143	354
07:15 AM	9	0	2	2	13	2	181	12	2	197	0	0	0	7	7	0	167	1	4	172	389
07:30 AM	12	0	4	2	18	4	198	13	4	219	0	0	0	13	13	0	204	1	3	208	458
07:45 AM	13	0	4	1	18	1	202	18	5	226	0	0	1	14	15	0	190	0	0	190	449
Total	41	0	14	10	65	9	746	60	12	827	1	0	1	43	45	0	701	2	10	713	1650
08:00 AM	10	0	6	0	16	4	210	19	8	241	0	0	0	11	11	0	193	3	3	199	467
08:15 AM	7	0	2	2	11	2	216	16	2	236	0	0	0	13	13	0	185	4	3	192	452
08:30 AM	13	0	5	0	18	4	208	28	1	241	0	1	0	15	16	0	188	3	3	194	469
08:45 AM	10	0	3	1	14	5	200	34	7	246	0	0	0	24	24	1	185	9	4	199	483
Total	40	0	16	3	59	15	834	97	18	964	0	1	0	63	64	1	751	19	13	784	1871
Grand Total	81	0	30	13	124	24	1580	157	30	1791	1	1	1	106	109	1	1452	21	23	1497	3521
Apprch %	65.3	0	24.2	10.5		1.3	88.2	8.8	1.7		0.9	0.9	0.9	97.2		0.1	97	1.4	1.5		
Total %	2.3	0	0.9	0.4	3.5	0.7	44.9	4.5	0.9	50.9	0	0	0	3	3.1	0	41.2	0.6	0.7	42.5	
Lights	78	0	28	0	106	23	1501										1348				
% Lights	96.3	0	93.3	0	85.5	95.8	95	100	0	93.9	100	100	100	0	2.8	100	92.8	100	0	91.5	89.7
Buses	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	65	0	0	65	97
% Buses	0	0	0	0	0	0	2	0	0	1.8	0	0	0	0	0	0	4.5	0	0	4.3	2.8
Trucks	3	0	2	0	5	1	47	0	0	48	0	0	0	0	0	0	39	0	0	39	92
% Trucks	3.7	0	6.7	0	4	4.2	3	0	0	2.7	0	0	0	0	0	0	2.7	0	0	2.6	2.6
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	15.4	1.6	0	0	0	0	0	0	0	0	0.9	0.9	0	0	0	4.3	0.1	0.1
Pedestrians																					
% Pedestrians	0	0	0	84.6	8.9	0	0	0	100	1.7	0	0	0	99.1	96.3	0	0	0	95.7	1.5	4.8

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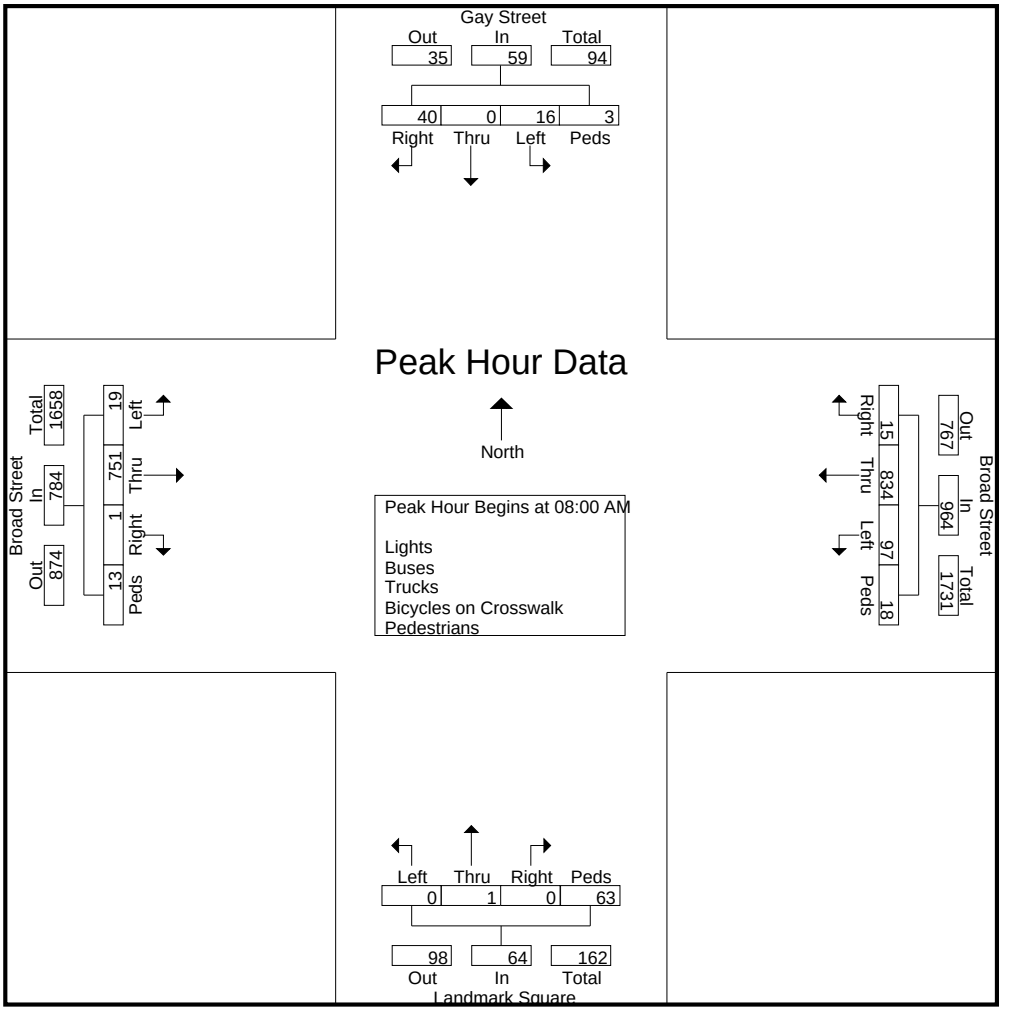
File Name : 22946
Site Code : 22946
Start Date : 4/27/2022
Page No : 2

	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	10	0	6	0	16	4	210	19	8	241	0	0	0	11	11	0	193	3	3	199	467
08:15 AM	7	0	2	2	11	2	216	16	2	236	0	0	0	13	13	0	185	4	3	192	452
08:30 AM	13	0	5	0	18	4	208	28	1	241	0	1	0	15	16	0	188	3	3	194	469
08:45 AM	10	0	3	1	14	5	200	34	7	246	0	0	0	24	24	1	185	9	4	199	483
Total Volume	40	0	16	3	59	15	834	97	18	964	0	1	0	63	64	1	751	19	13	784	1871
% App. Total	67.8	0	27.1	5.1		1.6	86.5	10.1	1.9		0	1.6	0	98.4		0.1	95.8	2.4	1.7		
PHF	.769	.000	.667	.375	.819	.750	.965	.713	.563	.980	.000	.250	.000	.656	.667	.250	.973	.528	.813	.985	.968



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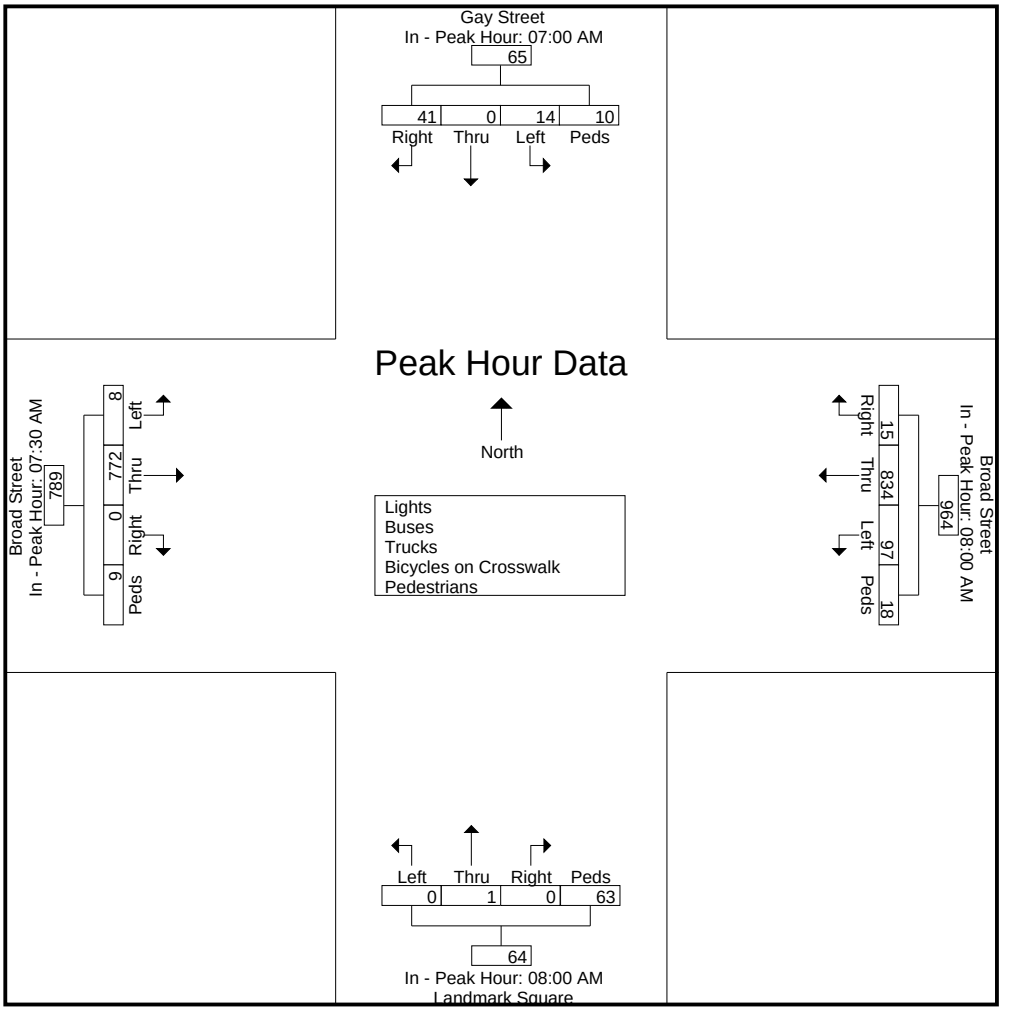
File Name : 22946
Site Code : 22946
Start Date : 4/27/2022
Page No : 3

	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					08:00 AM					08:00 AM					07:30 AM					
+0 mins.	7	0	4	5	16	4	210	19	8	241	0	0	0	11	11	0	204	1	3	208	
+15 mins.	9	0	2	2	13	2	216	16	2	236	0	0	0	13	13	0	190	0	0	190	
+30 mins.	12	0	4	2	18	4	208	28	1	241	0	1	0	15	16	0	193	3	3	199	
+45 mins.	13	0	4	1	18	5	200	34	7	246	0	0	0	24	24	0	185	4	3	192	
Total Volume	41	0	14	10	65	15	834	97	18	964	0	1	0	63	64	0	772	8	9	789	
% App. Total	63.1	0	21.5	15.4		1.6	86.5	10.1	1.9		0	1.6	0	98.4		0	97.8	1	1.1		
PHF	.788	.000	.875	.500	.903	.750	.965	.713	.563	.980	.000	.250	.000	.656	.667	.000	.946	.500	.750	.948	



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Broad Street at Gay St/Landmark Square
Stamford, Connecticut

File Name : 22947
Site Code : 22947
Start Date : 4/27/2022
Page No : 1

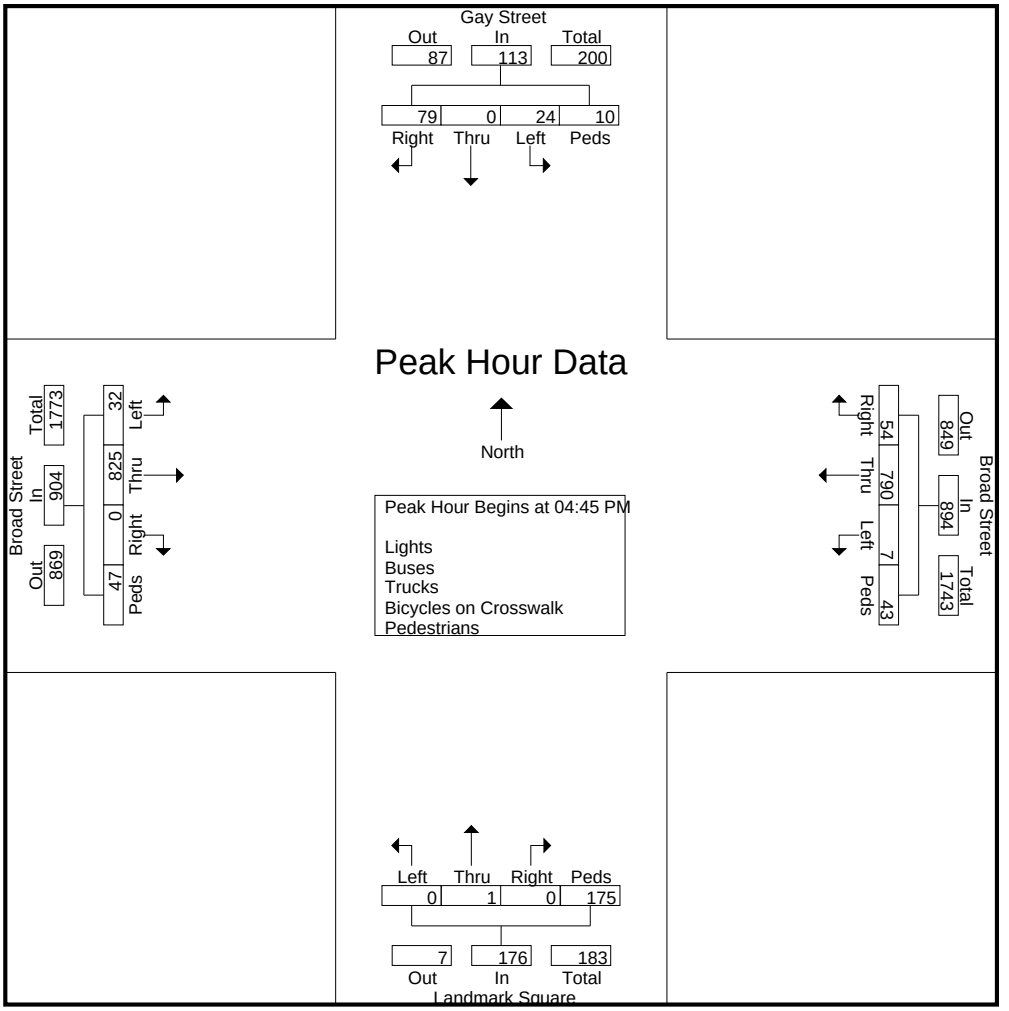
Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	18	0	4	5	27	7	171	4	7	189	1	0	0	31	32	1	215	6	8	230	478
04:15 PM	15	0	6	9	30	6	157	3	12	178	2	0	0	42	44	0	206	6	15	227	479
04:30 PM	21	0	2	8	31	15	192	3	18	228	3	0	0	28	31	0	217	8	6	231	521
04:45 PM	19	0	2	4	25	9	189	1	15	214	0	1	0	54	55	0	209	7	25	241	535
Total	73	0	14	26	113	37	709	11	52	809	6	1	0	155	162	1	847	27	54	929	2013
05:00 PM	16	0	7	3	26	13	172	2	6	193	0	0	0	43	43	0	213	10	10	233	495
05:15 PM	24	0	10	1	35	14	212	1	13	240	0	0	0	40	40	0	190	8	7	205	520
05:30 PM	20	0	5	2	27	18	217	3	9	247	0	0	0	38	38	0	213	7	5	225	537
05:45 PM	19	0	4	6	29	14	208	3	9	234	0	0	0	54	54	0	156	12	12	180	497
Total	79	0	26	12	117	59	809	9	37	914	0	0	0	175	175	0	772	37	34	843	2049
Grand Total	152	0	40	38	230	96	1518	20	89	1723	6	1	0	330	337	1	1619	64	88	1772	4062
Apprch %	66.1	0	17.4	16.5		5.6	88.1	1.2	5.2		1.8	0.3	0	97.9		0.1	91.4	3.6	5		
Total %	3.7	0	1	0.9	5.7	2.4	37.4	0.5	2.2	42.4	0.1	0	0	8.1	8.3	0	39.9	1.6	2.2	43.6	
Lights	151	0	40	0	191	95	1479										1569				
% Lights	99.3	0	100	0	83	99	97.4	100	0	92.5	100	100	0	0	2.1	100	96.9	98.4	0	92.2	84.3
Buses	0	0	0	0	0	0	28	0	0	28	0	0	0	0	0	0	28	0	0	28	56
% Buses	0	0	0	0	0	0	1.8	0	0	1.6	0	0	0	0	0	0	1.7	0	0	1.6	1.4
Trucks	1	0	0	0	1	1	11	0	0	12	0	0	0	0	0	0	21	1	0	22	35
% Trucks	0.7	0	0	0	0.4	1	0.7	0	0	0.7	0	0	0	0	0	0	1.3	1.6	0	1.2	0.9
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	10.5	1.7	0	0	0	1.1	0.1	0	0	0	0	0	0	0	0	0	0	0.1
Pedestrians																					
% Pedestrians	0	0	0	89.5	14.8	0	0	0	98.9	5.1	0	0	0	100	97.9	0	0.1	0	100	5	13.3

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22947
Site Code : 22947
Start Date : 4/27/2022
Page No : 2

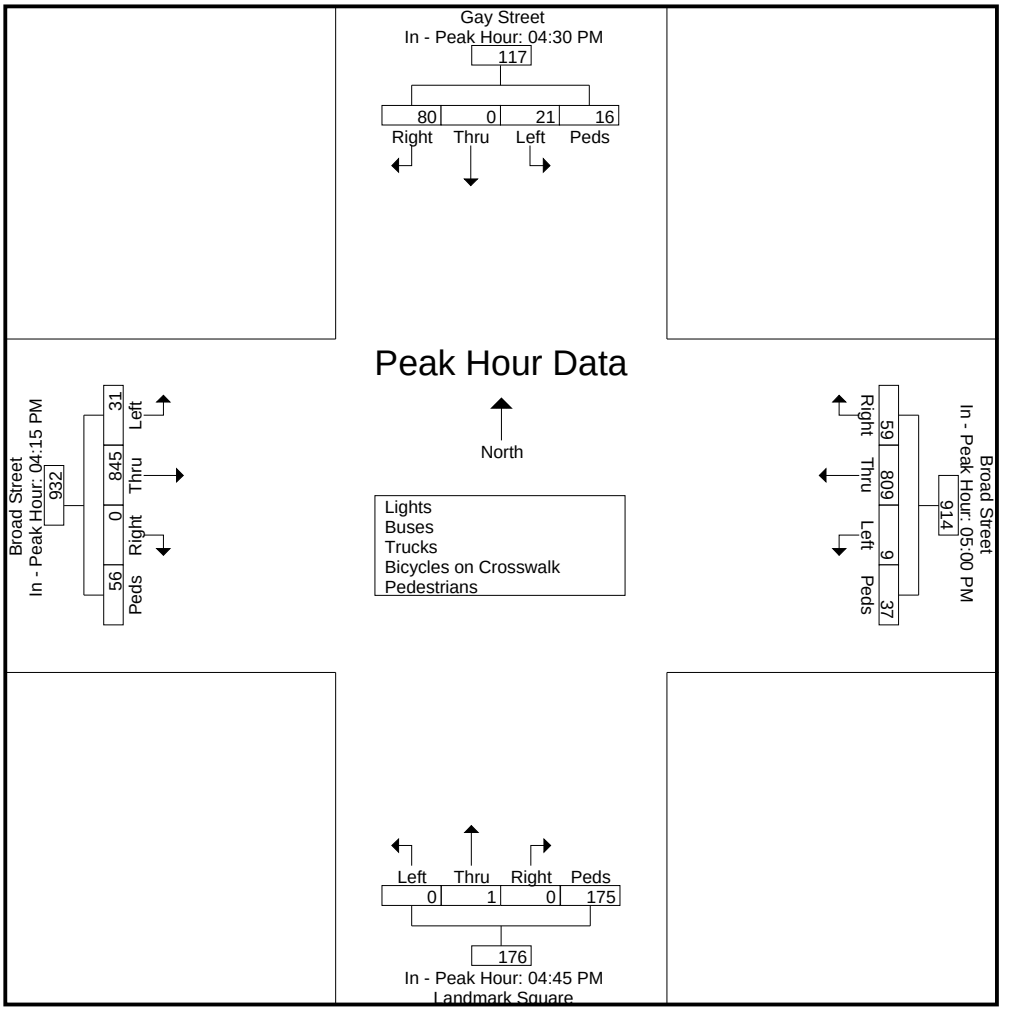
	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	19	0	2	4	25	9	189	1	15	214	0	1	0	54	55	0	209	7	25	241	535
05:00 PM	16	0	7	3	26	13	172	2	6	193	0	0	0	43	43	0	213	10	10	233	495
05:15 PM	24	0	10	1	35	14	212	1	13	240	0	0	0	40	40	0	190	8	7	205	520
05:30 PM	20	0	5	2	27	18	217	3	9	247	0	0	0	38	38	0	213	7	5	225	537
Total Volume	79	0	24	10	113	54	790	7	43	894	0	1	0	175	176	0	825	32	47	904	2087
% App. Total	69.9	0	21.2	8.8		6	88.4	0.8	4.8		0	0.6	0	99.4		0	91.3	3.5	5.2		
PHF	.823	.000	.600	.625	.807	.750	.910	.583	.717	.905	.000	.250	.000	.810	.800	.000	.968	.800	.470	.938	.972



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22947
Site Code : 22947
Start Date : 4/27/2022
Page No : 3

Start Time	Gay Street From North					Broad Street From East					Landmark Square From South					Broad Street From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					05:00 PM					04:45 PM					04:15 PM					
+0 mins.	21	0	2	8	31	13	172	2	6	193	0	1	0	54	55	0	206	6	15	227	
+15 mins.	19	0	2	4	25	14	212	1	13	240	0	0	0	43	43	0	217	8	6	231	
+30 mins.	16	0	7	3	26	18	217	3	9	247	0	0	0	40	40	0	209	7	25	241	
+45 mins.	24	0	10	1	35	14	208	3	9	234	0	0	0	38	38	0	213	10	10	233	
Total Volume	80	0	21	16	117	59	809	9	37	914	0	1	0	175	176	0	845	31	56	932	
% App. Total	68.4	0	17.9	13.7		6.5	88.5	1	4		0	0.6	0	99.4		0	90.7	3.3	6		
PHF	.833	.000	.525	.500	.836	.819	.932	.750	.712	.925	.000	.250	.000	.810	.800	.000	.974	.775	.560	.967	



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Broad Street at Greyrock Place
Glastonbury, Connecticut

File Name : 22948
Site Code : 22948
Start Date : 4/26/2022
Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	27	1	2	33	9	153	22	3	187	8	20	34	5	67	58	87	0	0	145	432
07:15 AM	4	24	1	0	29	8	144	25	2	179	9	37	34	5	85	61	92	1	0	154	447
07:30 AM	4	45	3	0	52	5	181	19	8	213	10	30	44	7	91	77	119	3	0	199	555
07:45 AM	11	32	4	0	47	6	179	20	9	214	17	42	36	8	103	72	109	2	0	183	547
Total	22	128	9	2	161	28	657	86	22	793	44	129	148	25	346	268	407	6	0	681	1981
08:00 AM	5	50	2	0	57	4	195	18	7	224	14	31	29	15	89	76	119	0	0	195	565
08:15 AM	1	32	1	0	34	10	203	15	9	237	5	25	47	11	88	59	106	1	1	167	526
08:30 AM	6	44	3	0	53	16	179	26	7	228	18	50	55	13	136	63	105	2	0	170	587
08:45 AM	1	29	0	1	31	6	197	15	4	222	11	42	37	10	100	64	114	1	1	180	533
Total	13	155	6	1	175	36	774	74	27	911	48	148	168	49	413	262	444	4	2	712	2211
Grand Total	35	283	15	3	336	64	1431	160	49	1704	92	277	316	74	759	530	851	10	2	1393	4192
Apprch %	10.4	84.2	4.5	0.9		3.8	84	9.4	2.9		12.1	36.5	41.6	9.7		38	61.1	0.7	0.1		
Total %	0.8	6.8	0.4	0.1	8	1.5	34.1	3.8	1.2	40.6	2.2	6.6	7.5	1.8	18.1	12.6	20.3	0.2	0	33.2	
Lights	33	274	14	0	321	62	1369														
% Lights	94.3	96.8	93.3	0	95.5	96.9	95.7	98.8	0	93.3	84.8	97.5	93.4	0	84.7	92.3	91.7	90	0	91.7	91.4
Buses	1	7	1	0	9	1	21	1	0	23	7	3	8	0	18	22	43	1	0	66	116
% Buses	2.9	2.5	6.7	0	2.7	1.6	1.5	0.6	0	1.3	7.6	1.1	2.5	0	2.4	4.2	5.1	10	0	4.7	2.8
Trucks	1	2	0	0	3	1	41	1	0	43	7	4	13	0	24	19	28	0	0	47	117
% Trucks	2.9	0.7	0	0	0.9	1.6	2.9	0.6	0	2.5	7.6	1.4	4.1	0	3.2	3.6	3.3	0	0	3.4	2.8
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	2	0.1	0	0	0	5.4	0.5	0	0	0	0	0	0.1
Pedestrians	0	0	0	3	3	0	0	0	48	48	0	0	0	70	70	0	0	0	2	2	123
% Pedestrians	0	0	0	100	0.9	0	0	0	98	2.8	0	0	0	94.6	9.2	0	0	0	100	0.1	2.9

Connecticut Counts LLC
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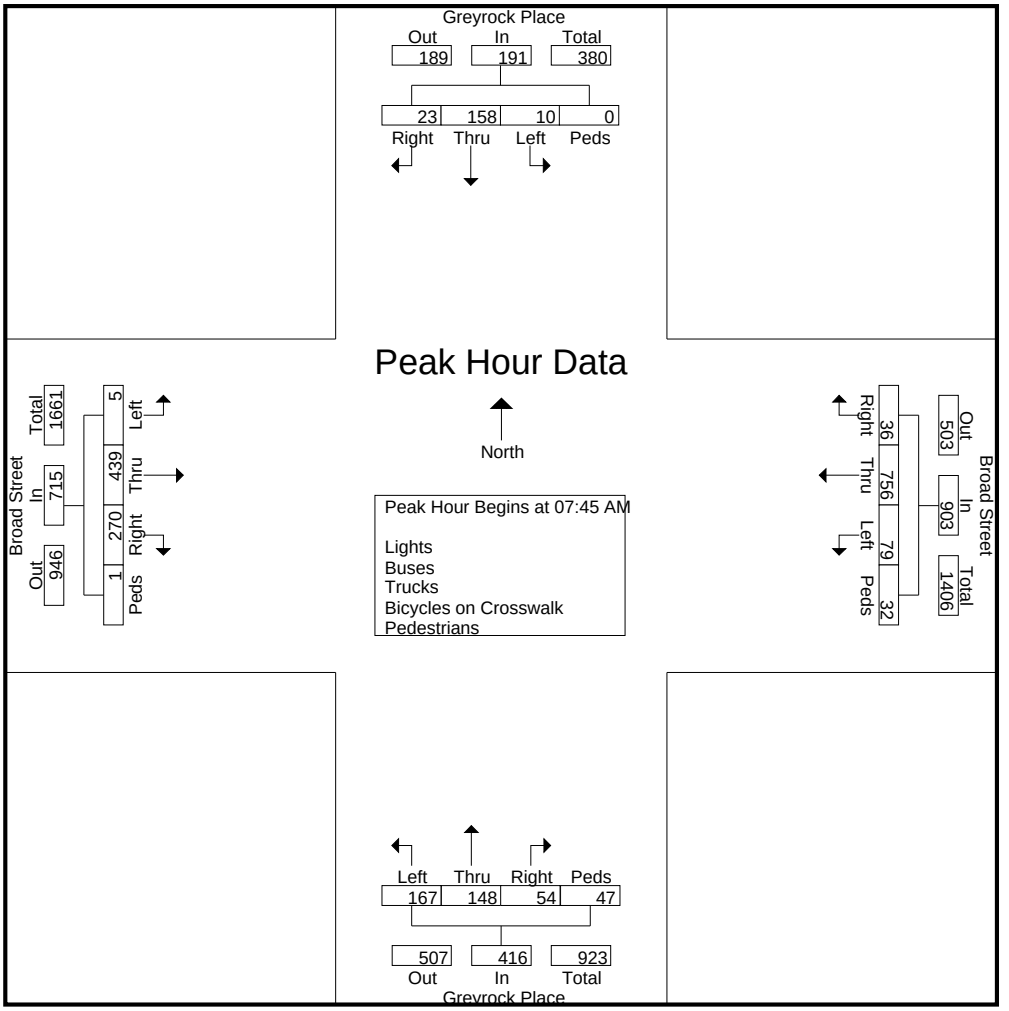
File Name : 22948
Site Code : 22948
Start Date : 4/26/2022
Page No : 2

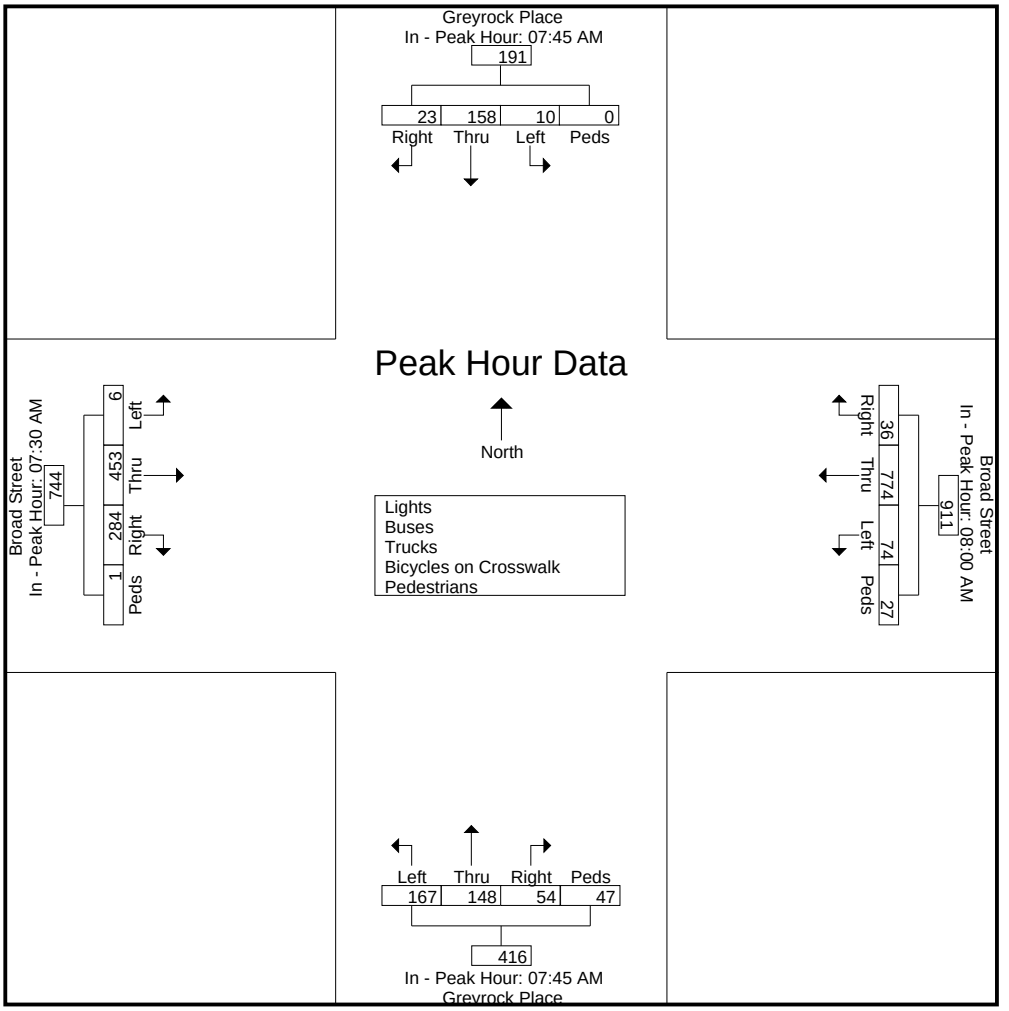
	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	11	32	4	0	47	6	179	20	9	214	17	42	36	8	103	72	109	2	0	183	547
08:00 AM	5	50	2	0	57	4	195	18	7	224	14	31	29	15	89	76	119	0	0	195	565
08:15 AM	1	32	1	0	34	10	203	15	9	237	5	25	47	11	88	59	106	1	1	167	526
08:30 AM	6	44	3	0	53	16	179	26	7	228	18	50	55	13	136	63	105	2	0	170	587
Total Volume	23	158	10	0	191	36	756	79	32	903	54	148	167	47	416	270	439	5	1	715	2225
% App. Total	12	82.7	5.2	0		4	83.7	8.7	3.5		13	35.6	40.1	11.3		37.8	61.4	0.7	0.1		
PHF	.523	.790	.625	.000	.838	.563	.931	.760	.889	.953	.750	.740	.759	.783	.765	.888	.922	.625	.250	.917	.948



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22948
Site Code : 22948
Start Date : 4/26/2022
Page No : 3

	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					08:00 AM					07:45 AM					07:30 AM					
+0 mins.	11	32	4	0	47	4	195	18	7	224	17	42	36	8	103	77	119	3	0	199	
+15 mins.	5	50	2	0	57	10	203	15	9	237	14	31	29	15	89	72	109	2	0	183	
+30 mins.	1	32	1	0	34	16	179	26	7	228	5	25	47	11	88	76	119	0	0	195	
+45 mins.	6	44	3	0	53	6	197	15	4	222	18	50	55	13	136	59	106	1	1	167	
Total Volume	23	158	10	0	191	36	774	74	27	911	54	148	167	47	416	284	453	6	1	744	
% App. Total	12	82.7	5.2	0		4	85	8.1	3		13	35.6	40.1	11.3		38.2	60.9	0.8	0.1		
PHF	.523	.790	.625	.000	.838	.563	.953	.712	.750	.961	.750	.740	.759	.783	.765	.922	.952	.500	.250	.935	



Connecticut Counts LLC
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(860) 828-1693

Broad Street at Greyrock Place
Stamford, Connecticut

File Name : 22949
Site Code : 22949
Start Date : 4/26/2022
Page No : 1

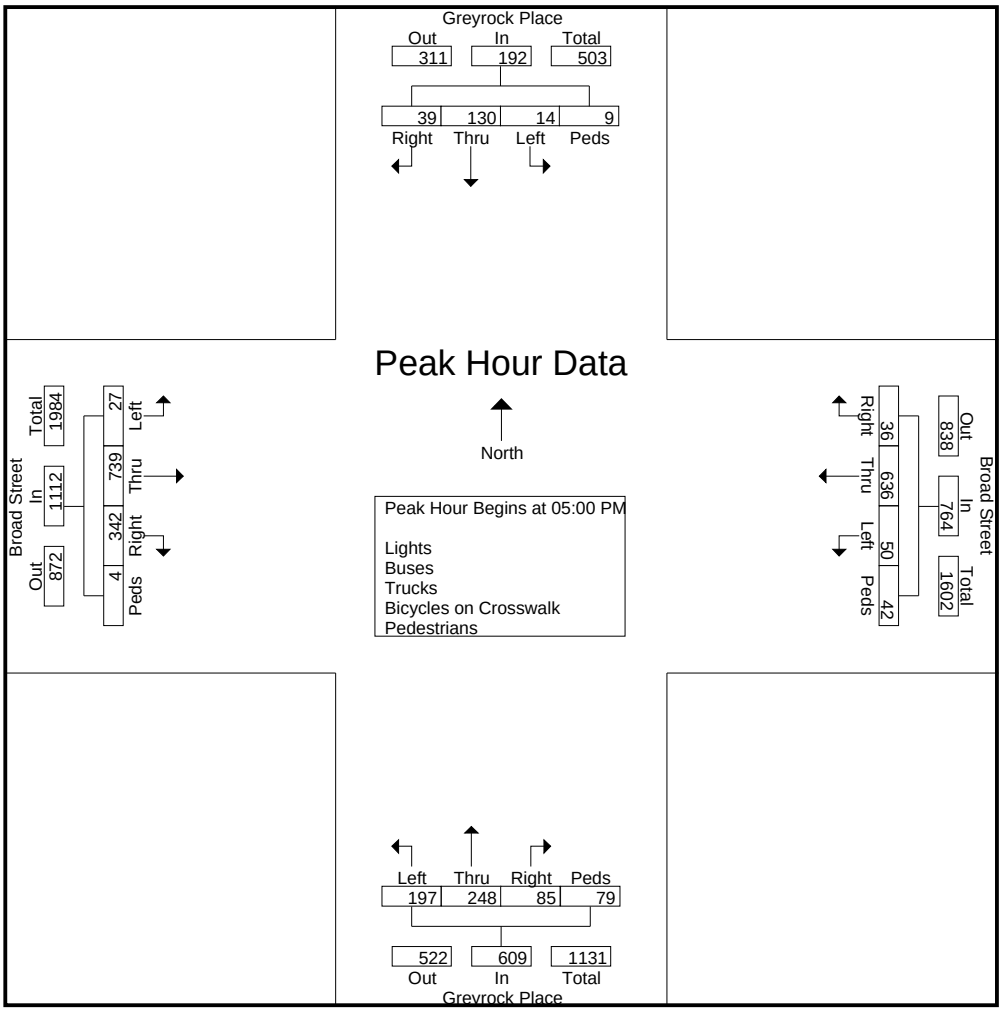
Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	9	22	5	4	40	5	129	11	5	150	16	53	47	20	136	79	162	7	1	249	575
04:15 PM	8	20	7	2	37	6	123	13	1	143	11	33	41	20	105	71	151	4	1	227	512
04:30 PM	5	37	2	3	47	14	159	9	5	187	16	44	41	28	129	64	175	6	1	246	609
04:45 PM	6	39	2	0	47	12	142	24	11	189	24	66	47	20	157	68	145	9	0	222	615
Total	28	118	16	9	171	37	553	57	22	669	67	196	176	88	527	282	633	26	3	944	2311
05:00 PM	7	37	4	2	50	8	136	9	10	163	21	73	39	34	167	103	187	7	1	298	678
05:15 PM	10	34	4	1	49	10	150	17	11	188	23	57	57	10	147	79	196	4	0	279	663
05:30 PM	17	37	3	4	61	9	176	12	4	201	21	67	50	18	156	87	198	8	2	295	713
05:45 PM	5	22	3	2	32	9	174	12	17	212	20	51	51	17	139	73	158	8	1	240	623
Total	39	130	14	9	192	36	636	50	42	764	85	248	197	79	609	342	739	27	4	1112	2677
Grand Total	67	248	30	18	363	73	1189	107	64	1433	152	444	373	167	1136	624	1372	53	7	2056	4988
Apprch %	18.5	68.3	8.3	5		5.1	83	7.5	4.5		13.4	39.1	32.8	14.7		30.4	66.7	2.6	0.3		
Total %	1.3	5	0.6	0.4	7.3	1.5	23.8	2.1	1.3	28.7	3	8.9	7.5	3.3	22.8	12.5	27.5	1.1	0.1	41.2	
Lights	67	245	29	0	341	72	1163										1332				
% Lights	100	98.8	96.7	0	93.9	98.6	97.8	98.1	0	93.5	94.7	99.1	96.8	0	83.2	97.6	97.1	100	0	97	92.6
Buses	0	0	0	0	0	1	18	0	0	19	7	1	8	0	16	11	21	0	0	32	67
% Buses	0	0	0	0	0	1.4	1.5	0	0	1.3	4.6	0.2	2.1	0	1.4	1.8	1.5	0	0	1.6	1.3
Trucks	0	3	1	0	4	0	8	2	0	10	1	3	4	0	8	4	19	0	0	23	45
% Trucks	0	1.2	3.3	0	1.1	0	0.7	1.9	0	0.7	0.7	0.7	1.1	0	0.7	0.6	1.4	0	0	1.1	0.9
Bicycles on Crosswalk																					
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.4	0	0	0	0	0	0.1
Pedestrians	0	0	0	18	18	0	0	0	64	64	0	0	0	162	162	0	0	0	7	7	251
% Pedestrians	0	0	0	100	5	0	0	0	100	4.5	0	0	0	97	14.3	0	0	0	100	0.3	5

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

File Name : 22949
Site Code : 22949
Start Date : 4/26/2022
Page No : 2

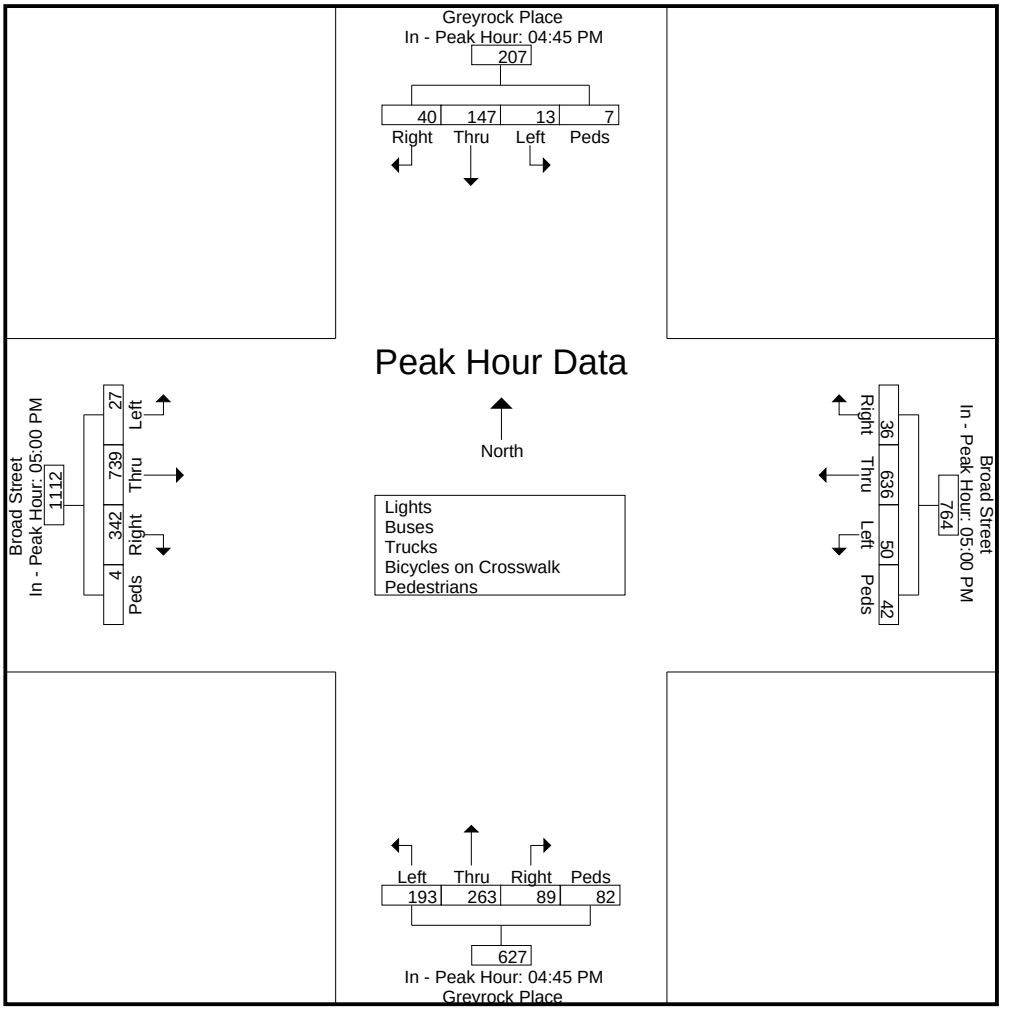
	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	7	37	4	2	50	8	136	9	10	163	21	73	39	34	167	103	187	7	1	298	678
05:15 PM	10	34	4	1	49	10	150	17	11	188	23	57	57	10	147	79	196	4	0	279	663
05:30 PM	17	37	3	4	61	9	176	12	4	201	21	67	50	18	156	87	198	8	2	295	713
05:45 PM	5	22	3	2	32	9	174	12	17	212	20	51	51	17	139	73	158	8	1	240	623
Total Volume	39	130	14	9	192	36	636	50	42	764	85	248	197	79	609	342	739	27	4	1112	2677
% App. Total	20.3	67.7	7.3	4.7		4.7	83.2	6.5	5.5		14	40.7	32.3	13		30.8	66.5	2.4	0.4		
PHF	.574	.878	.875	.563	.787	.900	.903	.735	.618	.901	.924	.849	.864	.581	.912	.830	.933	.844	.500	.933	.939



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

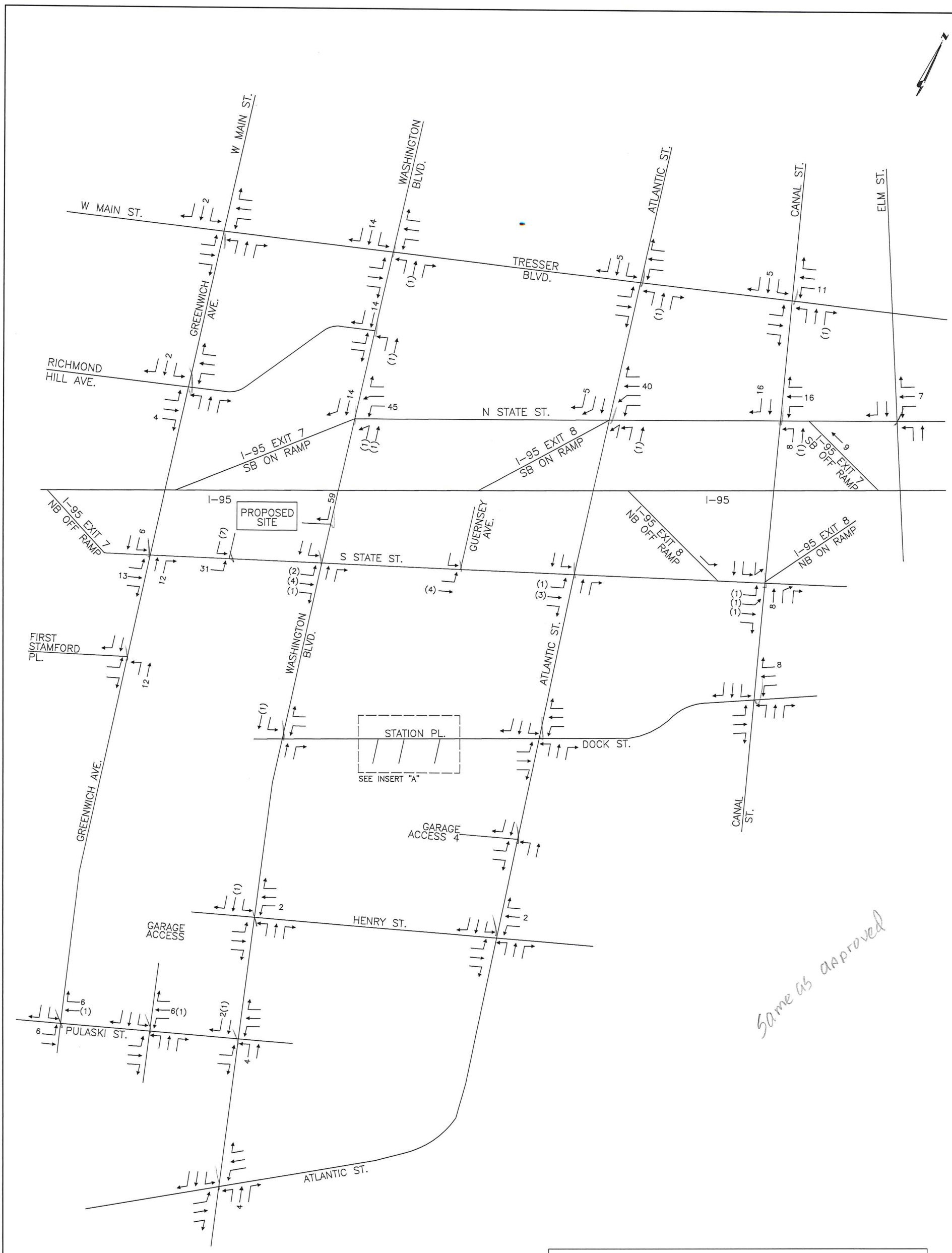
File Name : 22949
Site Code : 22949
Start Date : 4/26/2022
Page No : 3

	Greyrock Place From North					Broad Street From East					Greyrock Place From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					05:00 PM					04:45 PM					05:00 PM					
+0 mins.	6	39	2	0	47	8	136	9	10	163	24	66	47	20	157	103	187	7	1	298	
+15 mins.	7	37	4	2	50	10	150	17	11	188	21	73	39	34	167	79	196	4	0	279	
+30 mins.	10	34	4	1	49	9	176	12	4	201	23	57	57	10	147	87	198	8	2	295	
+45 mins.	17	37	3	4	61	9	174	12	17	212	21	67	50	18	156	73	158	8	1	240	
Total Volume	40	147	13	7	207	36	636	50	42	764	89	263	193	82	627	342	739	27	4	1112	
% App. Total	19.3	71	6.3	3.4		4.7	83.2	6.5	5.5		14.2	41.9	30.8	13.1		30.8	66.5	2.4	0.4		
PHF	.588	.942	.813	.438	.848	.900	.903	.735	.618	.901	.927	.901	.846	.603	.939	.830	.933	.844	.500	.933	



Background Project List

1. **Stamford Transportation Center/State Street Garage** – STEP 1 MTG Pre-Certification Application Traffic Volume Data Requirements (April 26, 2018)
2. **406 Washington Blvd - Gateway Tower Expansion –** Administrative Decision Review (February 11, 2021) / Traffic Impact Study (February 2019)
3. **885 Washington Blvd – The Smyth** – OSTA Response to Comments (June 26, 2018)
4. **245 Atlantic Street – True North –** Site Generated Traffic Volumes
5. **677 Washington Boulevard –** Traffic Access and Impact Study (October 2020)
6. **154 Broad Street** – Traffic Impact and Parking Study (April 9, 2021)
7. **80 Prospect Street** – Traffic Impact Study Proposed Walton Place Residential Development (September 6, 2022)



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STAMFORD
NEW TRIPS FOR PROPOSED STATE STREET GARAGE AM

STAMFORD
PARKING GARAGE

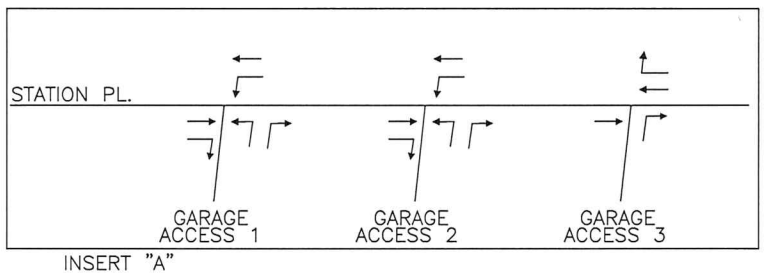
FIGURE
7

DATE: 4/18

W MAIN ST.
WASHINGTON BLVD.
ATLANTIC ST.
CANAL ST.
ELM ST.
TRESSER BLVD.
GREENWICH AVE.
RICHMOND HILL AVE.
N STATE ST.
I-95 EXIT 7 SB ON RAMP
I-95 EXIT 8 SB ON RAMP
I-95 EXIT 7 SB OFF RAMP
I-95
I-95 EXIT 7 NB OFF RAMP
PROPOSED SITE
I-95 EXIT 8 NB OFF RAMP
I-95 EXIT 8 NB ON RAMP
S STATE ST.
GUERNSEY AVE.
FIRST STAMFORD PL.
STATION PL.
DOCK ST.
SEE INSERT "A"
GARAGE ACCESS 4
HENRY ST.
GARAGE ACCESS
PULASKI ST.

Same as approved

LEGEND:
7 IN (90 OUT)



INSERT "A"

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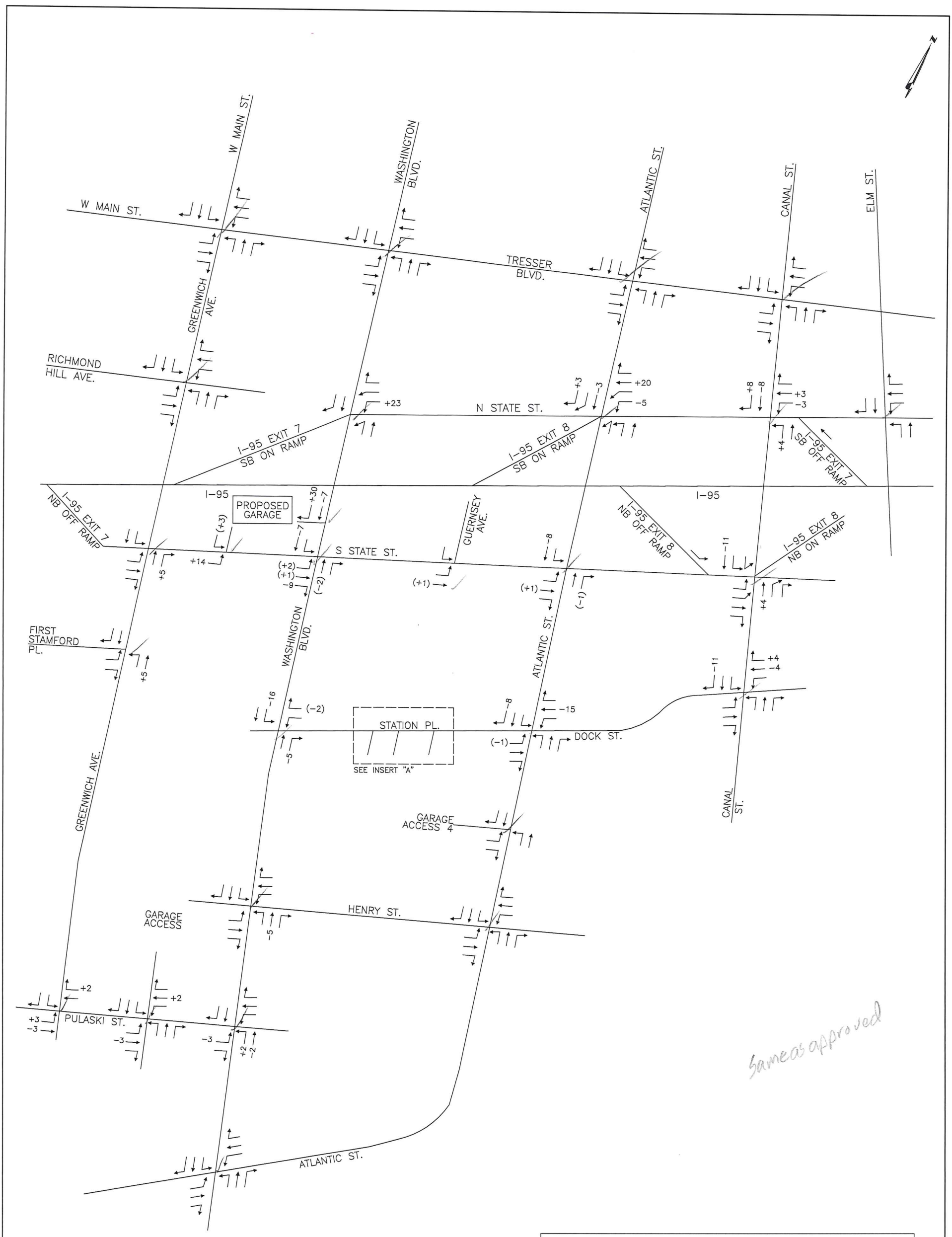
STAMFORD
NEW TRIPS FOR PROPOSED
STATE STREET GARAGE PM

STAMFORD
PARKING GARAGE

FIGURE
8

DATE: 4/18



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STAMFORD
STATION PLACE ORIGINAL GARAGE
RELOCATED TRIPS AM

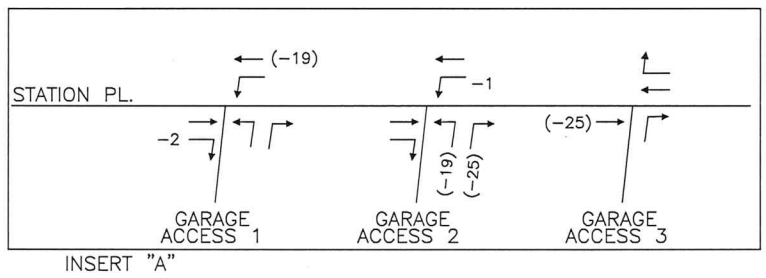
STAMFORD
PARKING GARAGE

FIGURE
9

DATE: 4/18

W MAIN ST.
WASHINGTON BLVD.
ATLANTIC ST.
CANAL ST.
ELM ST.
TRESSER BLVD.
GREENWICH AVE.
RICHMOND HILL AVE.
N STATE ST.
I-95 EXIT 7 SB ON RAMP
I-95 EXIT 8 SB ON RAMP
I-95 EXIT 7 SB OFF RAMP
I-95
I-95 EXIT 7 NB OFF RAMP
PROPOSED GARAGE
S STATE ST.
GUERNSEY AVE.
I-95 EXIT 8 NB OFF RAMP
I-95 EXIT 8 NB ON RAMP
FIRST STAMFORD PL.
STATION PL.
SEE INSERT "A"
DOCK ST.
GARAGE ACCESS 4
HENRY ST.
GARAGE ACCESS
PULASKI ST.
ATLANTIC ST.

LEGEND:
3 IN (44 OUT)



INSERT "A"

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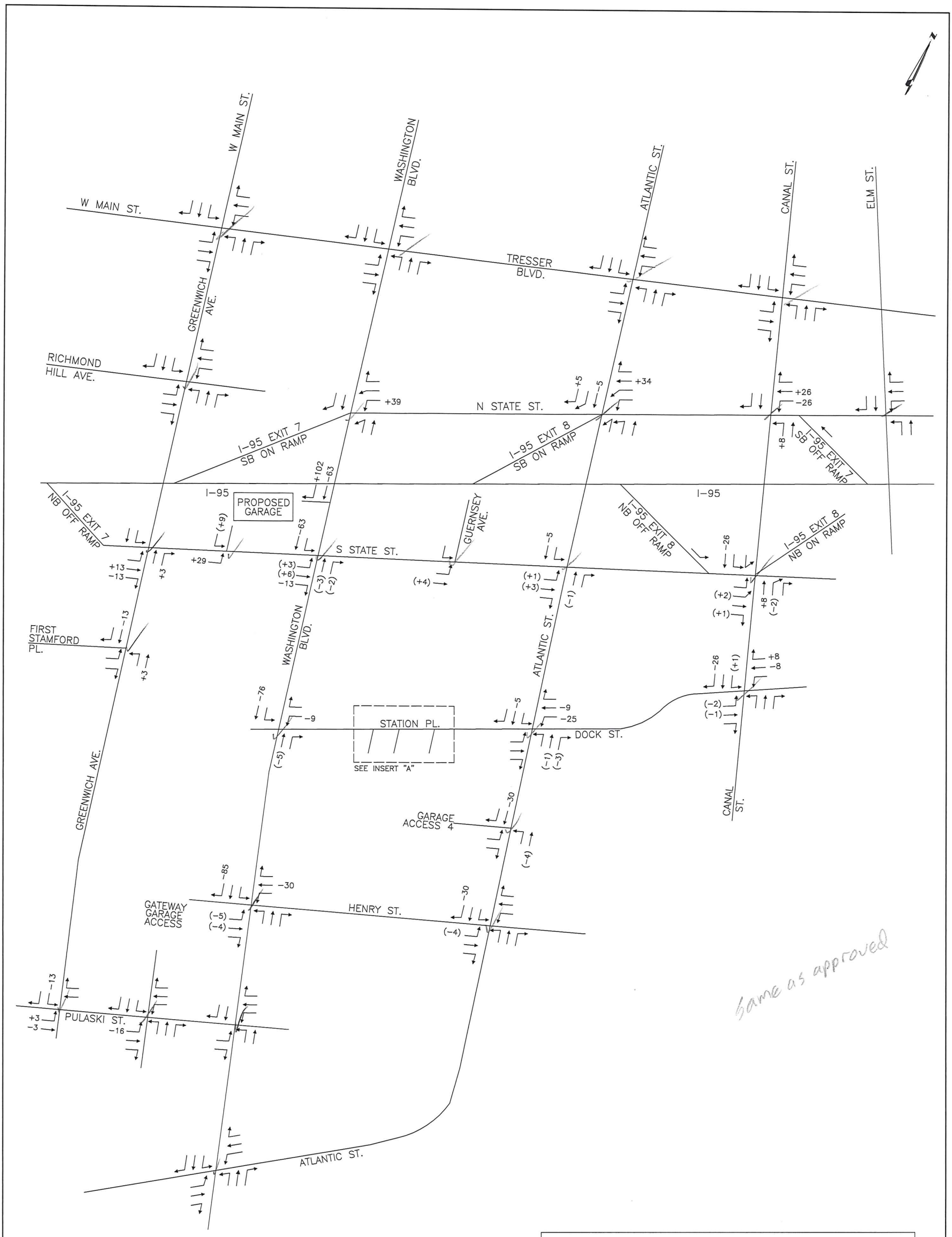
STAMFORD
STATION PLACE ORIGINAL GARAGE
RELOCATED TRIPS PM

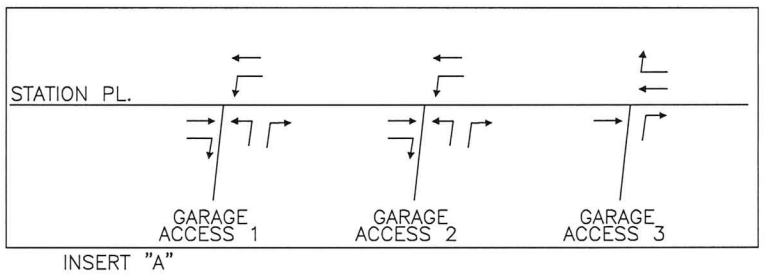
STAMFORD
PARKING GARAGE

FIGURE
10

DATE: 4/18



LEGEND:
131 IN (9 OUT)



INSERT "A"

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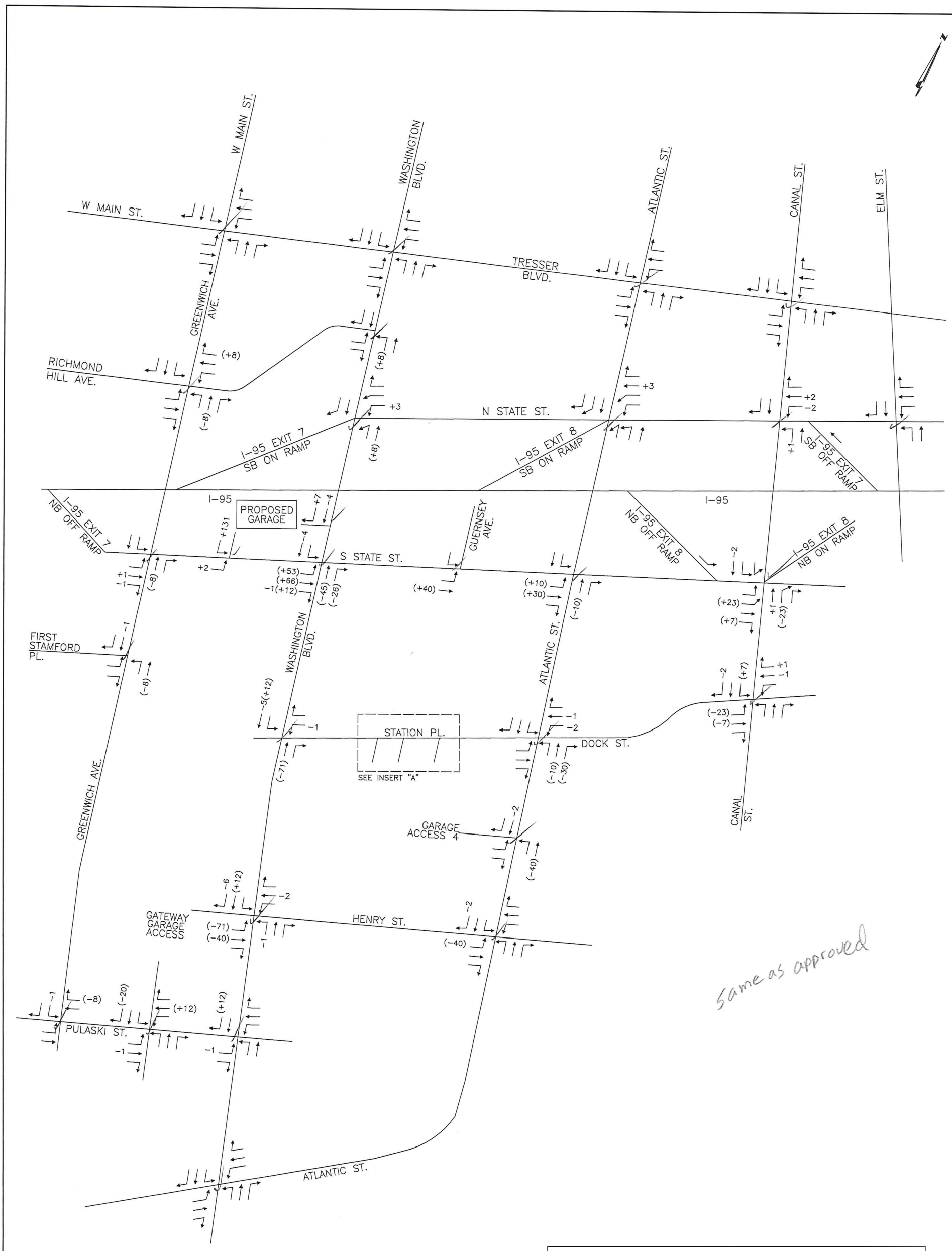
STAMFORD GATEWAY GARAGE RELOCATED TRIPS AM

STAMFORD
PARKING GARAGE

FIGURE
11

DATE: 4/18



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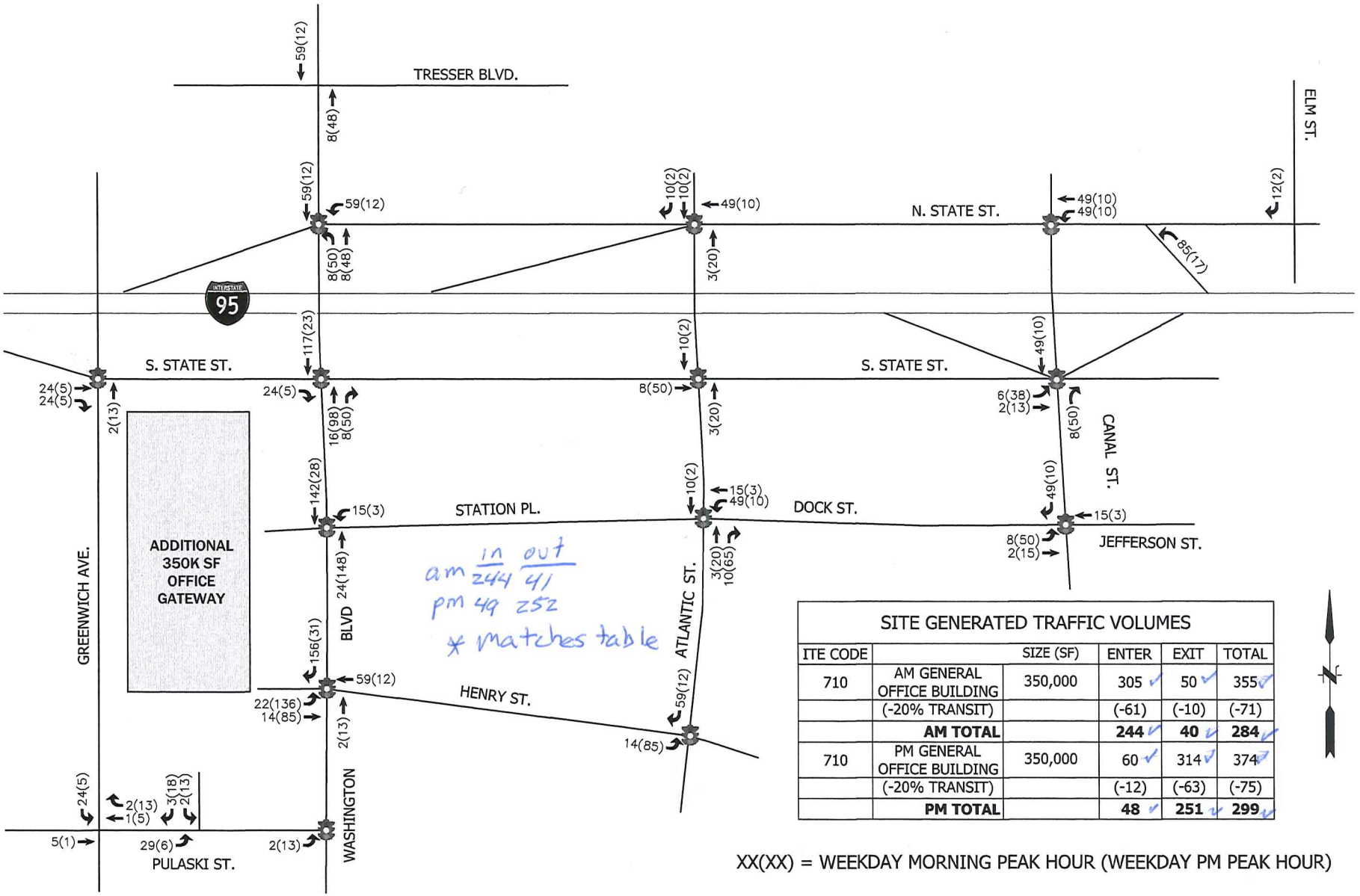
STAMFORD
GATEWAY GARAGE
RELOCATED TRIPS PM

STAMFORD
PARKING GARAGE

FIGURE
12

DATE: 4/18



am in 244 out 41
pm 49 252
* matches table

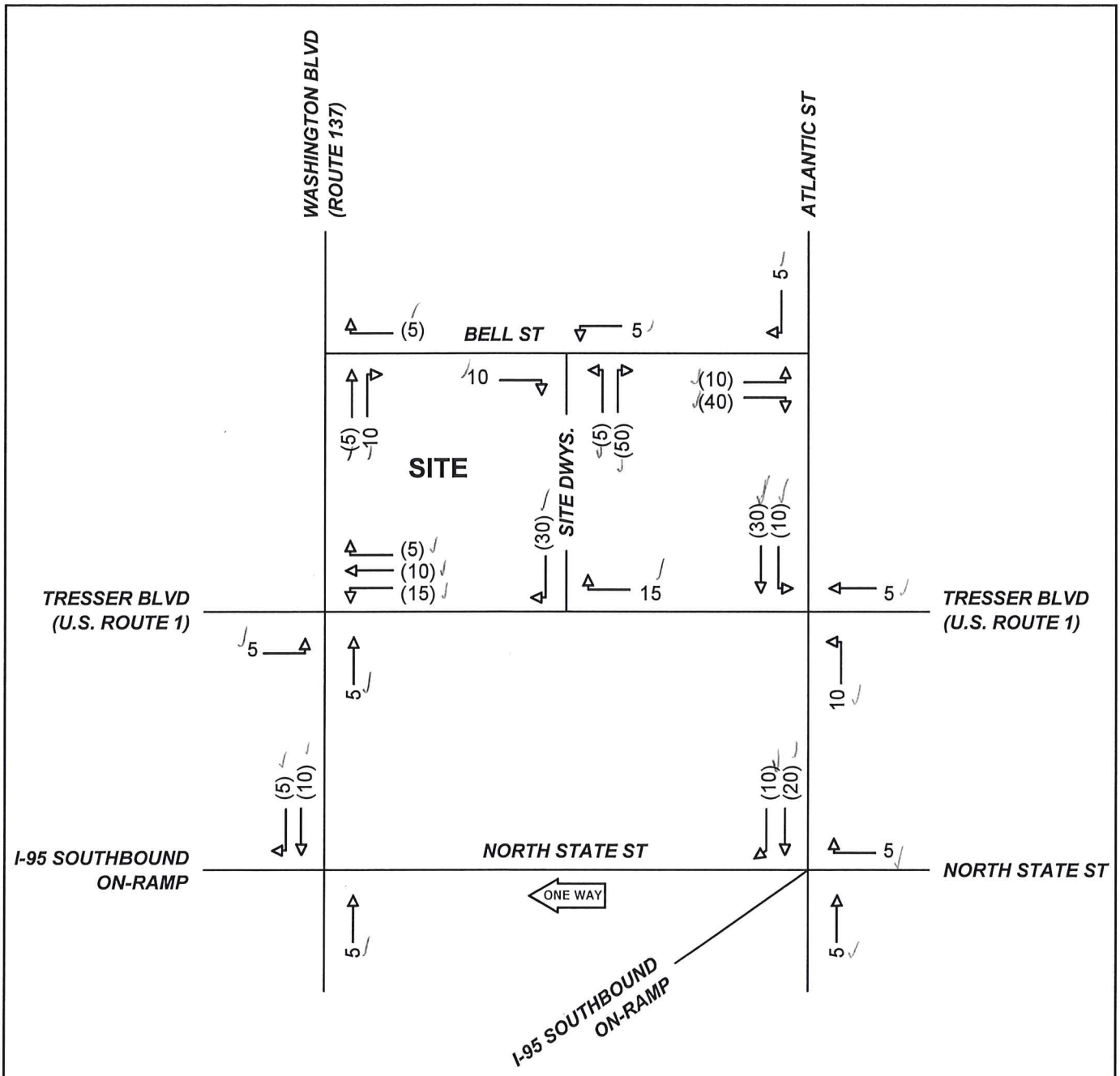
SITE GENERATED TRAFFIC VOLUMES					
ITE CODE		SIZE (SF)	ENTER	EXIT	TOTAL
710	AM GENERAL OFFICE BUILDING	350,000	305	50	355
	(-20% TRANSIT)		(-61)	(-10)	(-71)
	AM TOTAL		**244**	**40**	**284**
710	PM GENERAL OFFICE BUILDING	350,000	60	314	374
	(-20% TRANSIT)		(-12)	(-63)	(-75)
	PM TOTAL		**48**	**251**	**299**

XX(XX) = WEEKDAY MORNING PEAK HOUR (WEEKDAY PM PEAK HOUR)

FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

FIGURE 8: GATEWAY SITE GENERATED TRAFFIC VOLUMES

PROJ. NO: 20100591.T85 | GATEWAY TRAFFIC STUDY, STAMFORD, CT | February 2019



ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Proposed Development at 885 Washington Blvd
Stamford, Connecticut

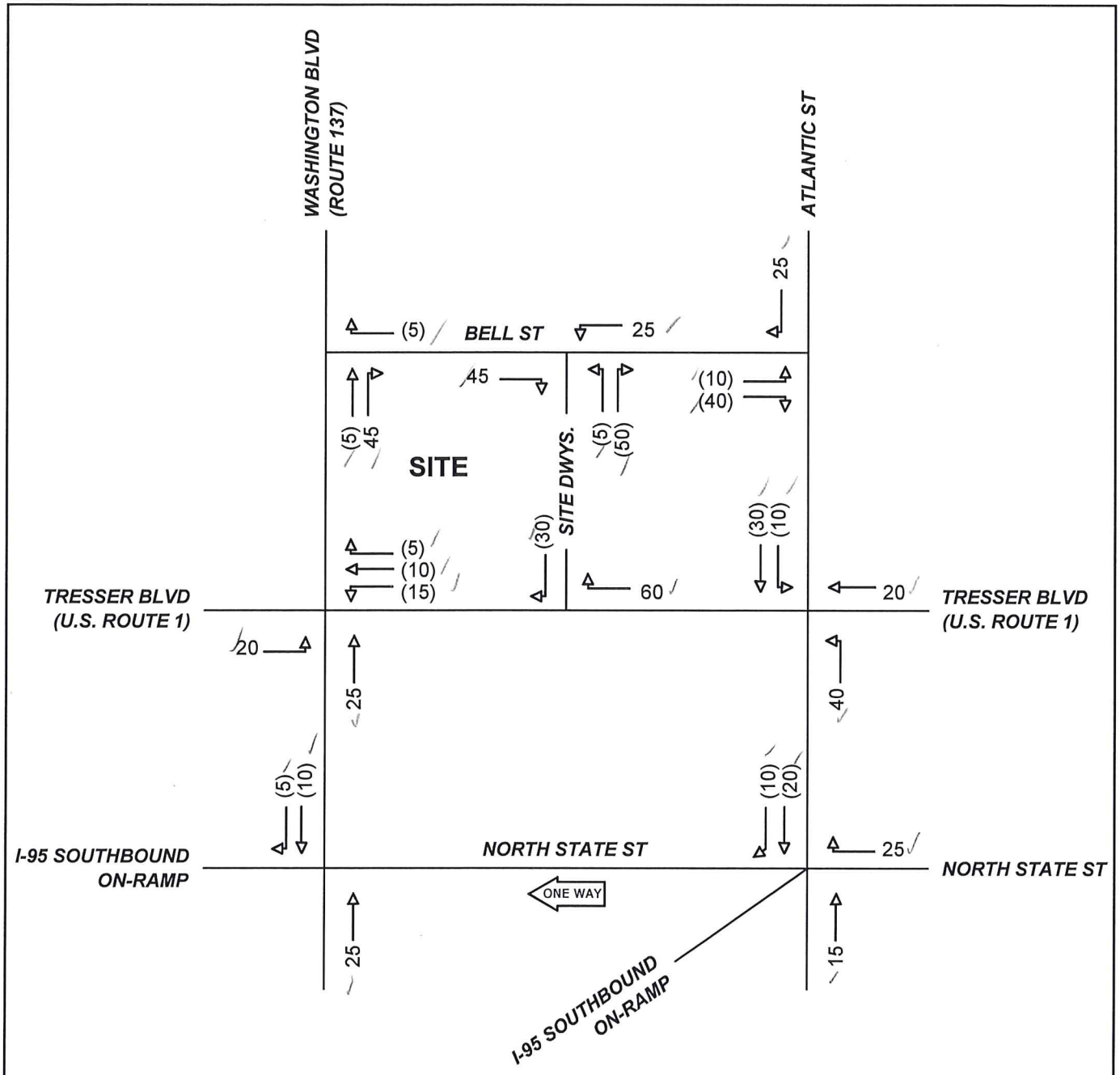
LEGEND
00 - ENTERING
(00) - EXITING

N

SCHEMATIC

MILONE & MACBROOM, Inc.

FIGURE 9



ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Proposed Development at 885 Washington Blvd
Stamford, Connecticut

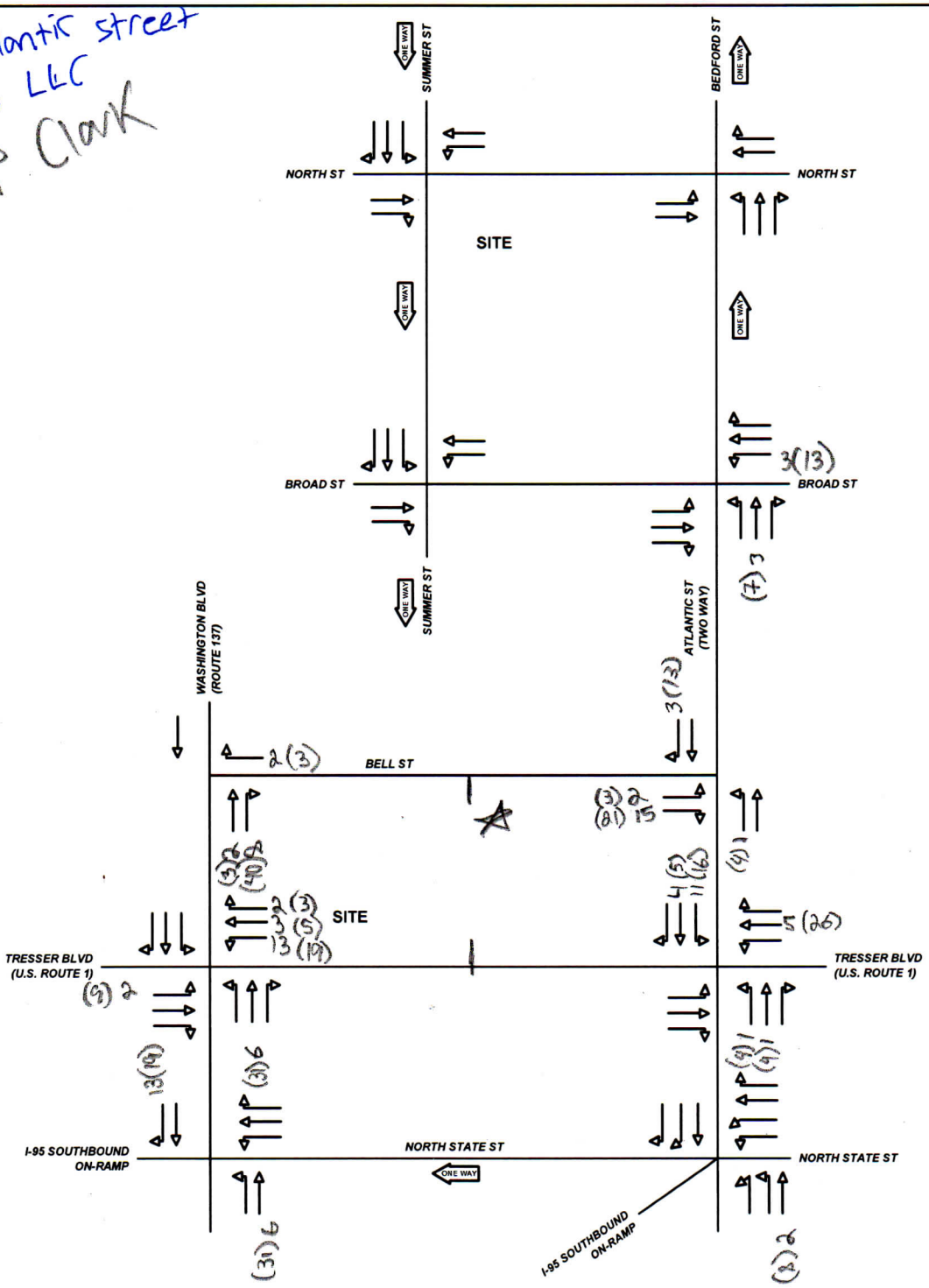
LEGEND
00 - ENTERING
(00) - EXITING

N
SCHEMATIC

MILONE & MACBROOM, Inc.

FIGURE 10

245 Atlantic street
RoeCo LLC
FP Clark



_____ TRAFFIC VOLUMES

_____ AFTERNOON PEAK HOUR

Stamford, Connecticut

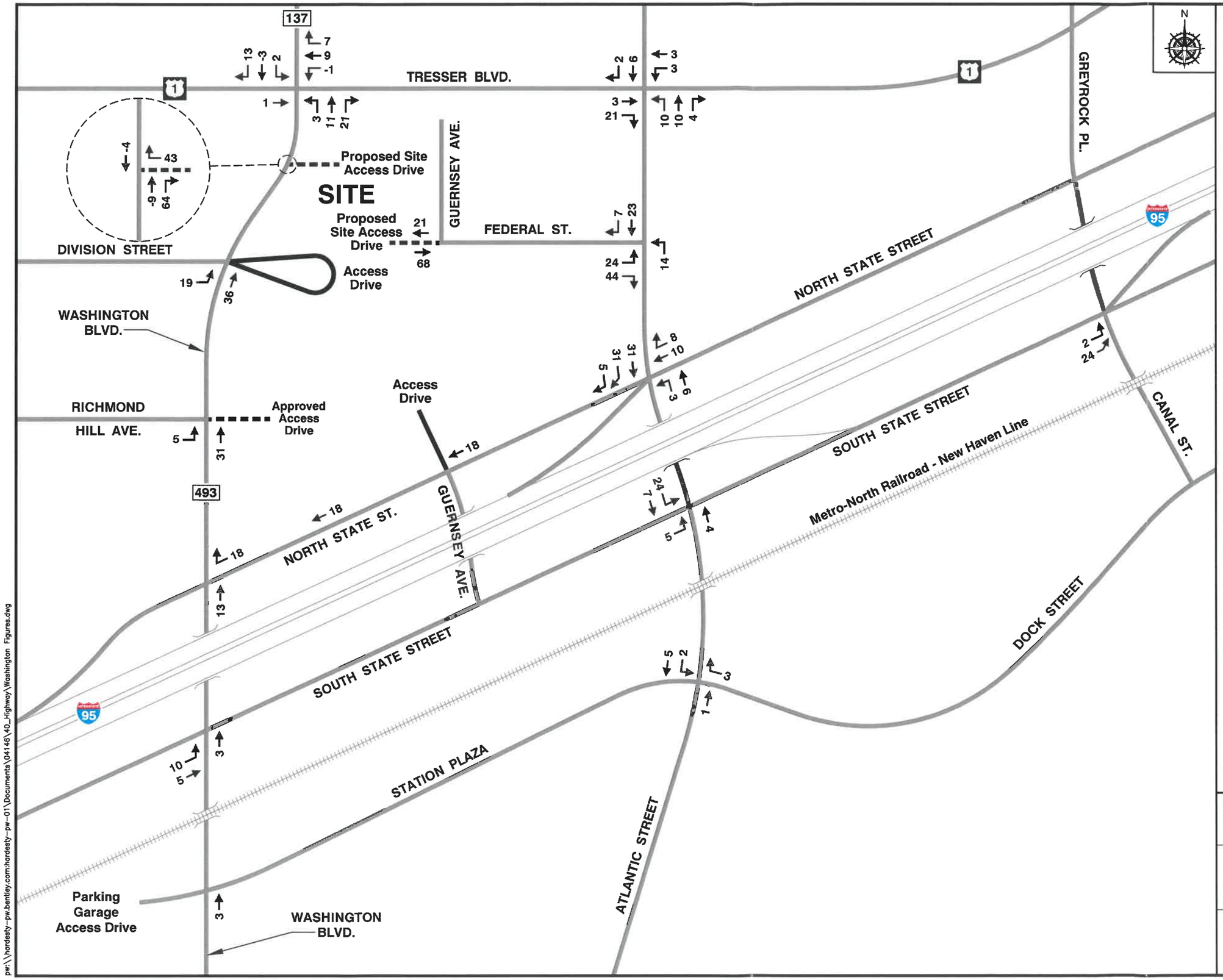
N

SCHEMATIC

MILONE & MACBROOM, Inc.

B-12

FIGURE 1



NOTE:
Total Site Traffic includes Residential Site Traffic and Retail Site Traffic.

TOTAL
SITE TRAFFIC GENERATION & ASSIGNMENT
WEEKDAY MORNING PEAK HOUR

MIXED-USE DEVELOPMENT
677 WASHINGTON BOULEVARD
Stamford, Connecticut

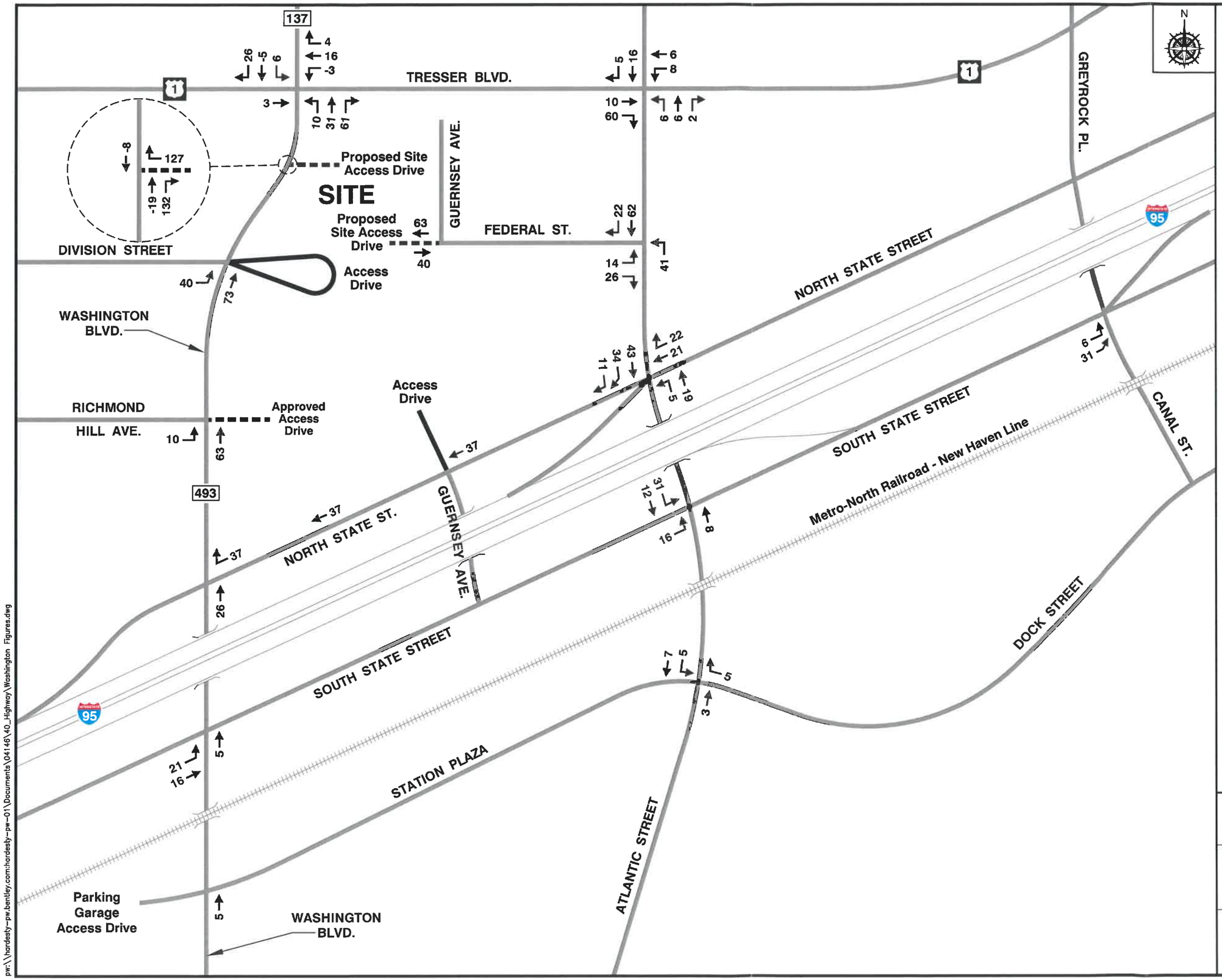
FREDERICK P. CLARK ASSOCIATES / Hardesty & Hanover

Not to Scale

27

8/31/20

pw:\\hardesty-pw.bentley.com:hardesty-pw-01\Documents\04146\40_Highway\Washington Figures.dwg



NOTE:
Total Site Traffic includes Residential Site Traffic and Retail Site Traffic.

TOTAL
SITE TRAFFIC GENERATION & ASSIGNMENT
WEEKDAY AFTERNOON PEAK HOUR

MIXED-USE DEVELOPMENT
677 WASHINGTON BOULEVARD
Stamford, Connecticut

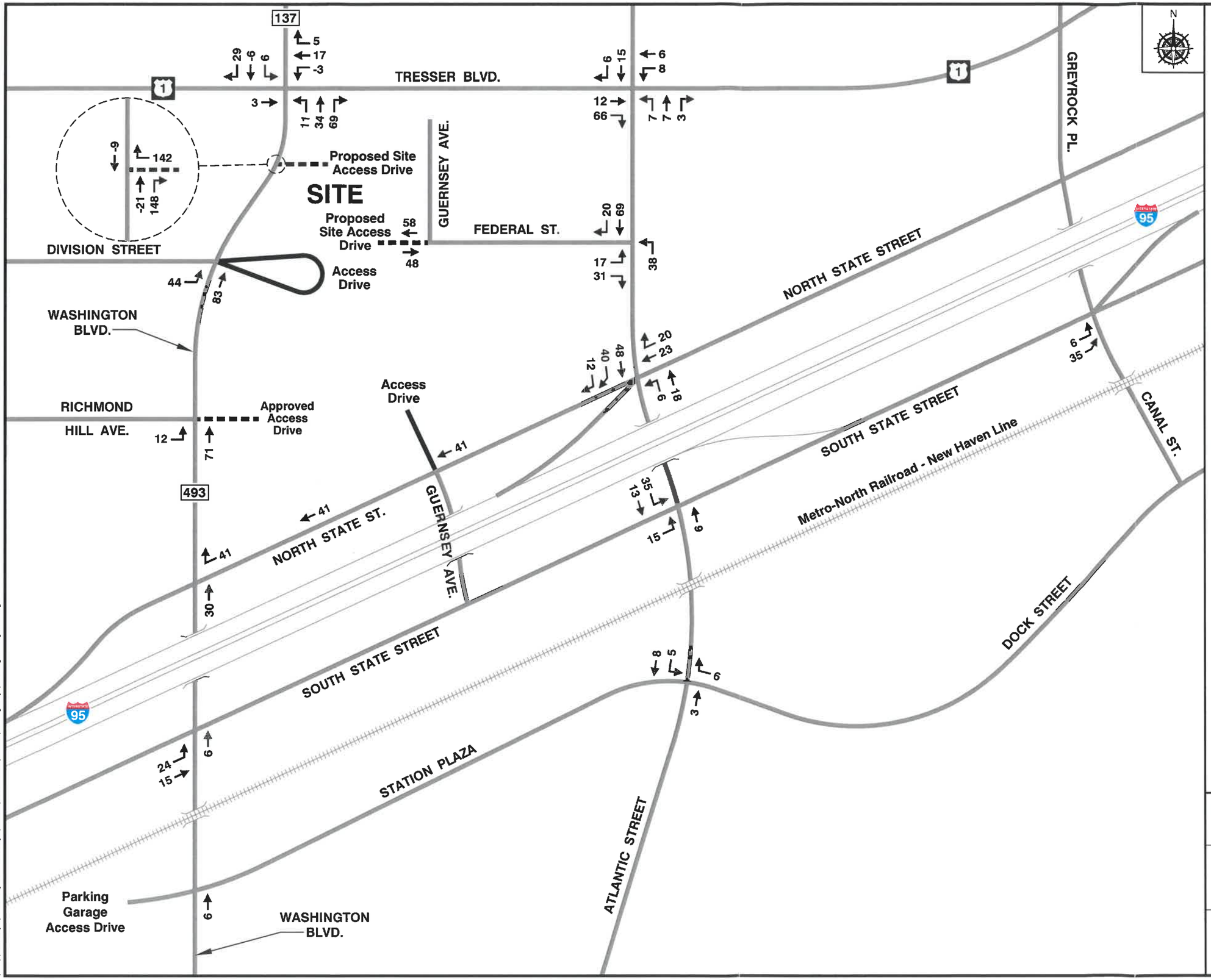
FREDERICK P. CLARK ASSOCIATES / Hardesty & Hanover

Not to Scale

28

8/31/20

pw:\\hardesty-pw.bentley.com:hardesty-pw-01\Documents\04146\40_Highway\Washington Figures.dwg



NOTE:
Total Site Traffic includes Residential Site Traffic and Retail Site Traffic.

TOTAL
SITE TRAFFIC GENERATION & ASSIGNMENT
SATURDAY MIDDAY PEAK HOUR

MIXED-USE DEVELOPMENT
677 WASHINGTON BOULEVARD
Stamford, Connecticut

FREDERICK P. CLARK ASSOCIATES / Hardesty & Hanover

Not to Scale

29

8/31/20

pw:\\hardesty-pw.bentley.com:hardesty-pw-01\Documents\04146\40_Highway\Washington Figures.dwg

SLR

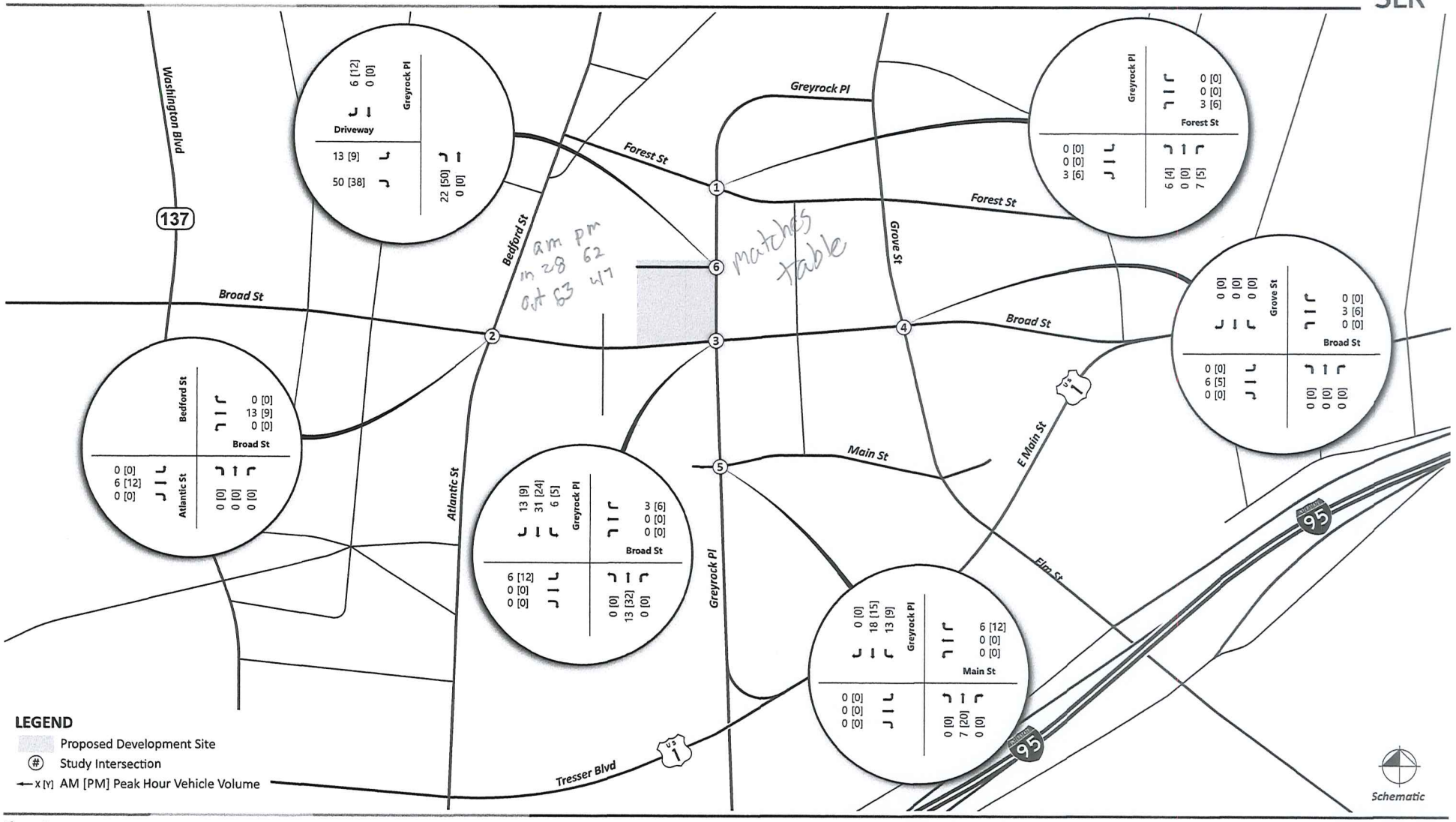
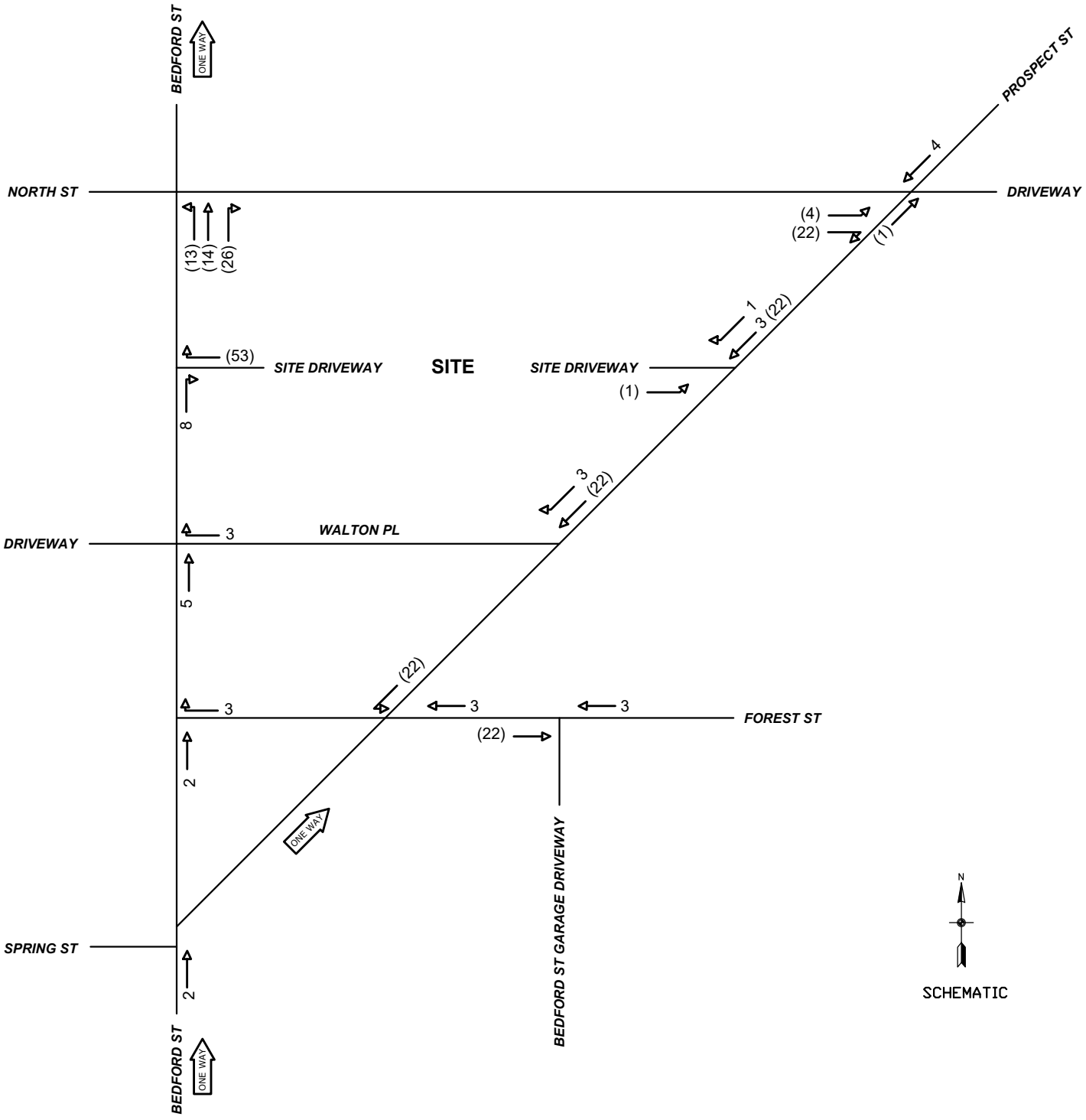


Figure 5
Proposed Development Peak Hour Trip Assignment



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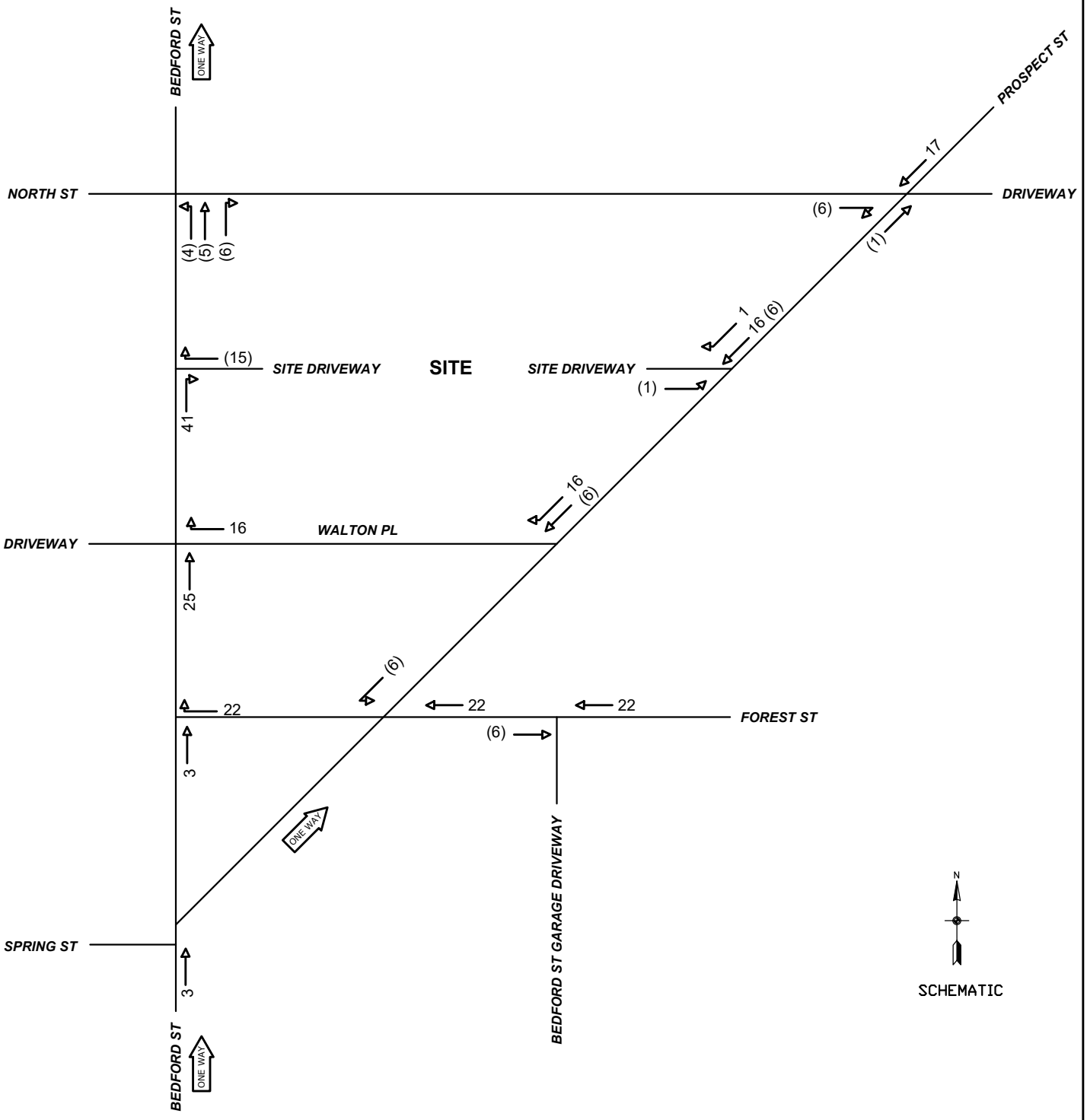
NEW HAVEN, CT 06510
203.344.7887
SLRCONSULTING.COM

ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

LEGEND
00: ENTERING
(00): EXITING

FIGURE 7



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NEW HAVEN, CT 06510
203.344.7887
SLRCONSULTING.COM

ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

LEGEND
00: ENTERING
(00): EXITING

FIGURE 8

LEVEL OF SERVICE
FOR
SIGNALIZED INTERSECTIONS
(MOTORIZED VEHICLE MODE)

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. The criteria are given below.

LEVEL-OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS
MOTORIZED VEHICLE MODE

LOS By Volume-to-Capacity Ratio[1]		CONTROL DELAY (s/veh)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤ 10
B	F	> 10 AND ≤ 20
C	F	> 20 AND ≤ 35
D	F	> 35 AND ≤ 55
E	F	> 55 AND ≤ 80
F	F	> 80

[1] For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Specific descriptions of each LOS for signalized intersections are provided below:

Level of Service A describes operations with a control delay of 10 s/veh and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

Level of Service B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

Level of Service C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

Level of Service D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

Level of Service E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

Level of Service F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Reference: Highway Capacity Manual 6, Transportation Research Board, 2016.

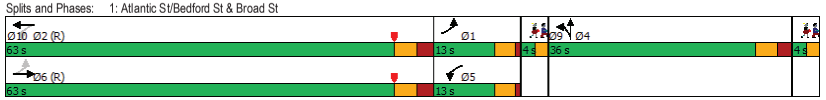
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Lane Configurations														
Traffic Volume (vph)	97	709	92	113	694	142	56	224	47	0	0	0		
Future Volume (vph)	97	709	92	113	694	142	56	224	47	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	150		0	0		0	25		0	0		0		
Storage Lanes	1		0	1		0	1		0	0		0		
Taper Length (ft)	65			65			85			25				
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	0.99	0.99		0.98	0.99		0.94	0.99						
Frt		0.983			0.974			0.974						
Flt Protected	0.950			0.950			0.950							
Satd. Flow (prot)	1711	3314	0	1711	3298	0	1540	3126	0	0	0	0		
Flt Permitted	0.253			0.267			0.950							
Satd. Flow (perm)	451	3314	0	470	3298	0	1443	3126	0	0	0	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		25			25			25			25			
Link Distance (ft)		441			408			391			310			
Travel Time (s)		12.0			11.1			10.7			8.5			
Confl. Peds. (#/hr)	36		47	47		36	52		51	51		52		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
Parking (#/hr)							0	0	0	0	0	0		
Adj. Flow (vph)	104	762	99	122	746	153	60	241	51	0	0	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	104	861	0	122	899	0	60	292	0	0	0	0		
Number of Detectors	1	1		1	0		0	0						
Detector Template														
Leading Detector (ft)	30	356		24	0		0	0						
Trailing Detector (ft)	0	350		-6	0		0	0						
Detector 1 Position(ft)	0	350		-6	0		0	0						
Detector 1 Size(ft)	30	6		30	6		20	6						
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex						
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA						
Protected Phases	1	6		5	2		4	4					9	10
Permitted Phases	6			2										
Detector Phase	1	6		5	2		4	4						
Switch Phase														
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0					1.0	1.0
Minimum Split (s)	9.0	31.7		9.0	31.7		35.5	35.5					4.0	4.0
Total Split (s)	13.0	63.0		13.0	63.0		36.0	36.0					4.0	4.0
Total Split (%)	10.8%	52.5%		10.8%	52.5%		30.0%	30.0%					3%	3%
Maximum Green (s)	9.0	57.3		9.0	57.3		30.5	30.5					2.0	2.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.3	3.3					2.0	2.0
All-Red Time (s)	1.0	2.4		1.0	2.4		2.2	2.2					0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Total Lost Time (s)	4.0	5.7		4.0	5.7		5.5	5.5						
Lead/Lag	Lag	Lead		Lag	Lead									
Lead-Lag Optimize?	Yes	Yes		Yes	Yes									
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0					2.0	2.0
Recall Mode	None	C-Min		None	C-Min		None	None					None	None
Walk Time (s)		7.0			7.0		7.0	7.0					2.0	2.0
Flash Dont Walk (s)		19.0			19.0		23.0	23.0					0.0	0.0
Pedestrian Calls (#/hr)		30			30		30	30					30	30
Act Effct Green (s)	74.2	67.2		77.3	68.7		22.9	22.9						
Actuated g/C Ratio	0.62	0.56		0.64	0.57		0.19	0.19						
v/c Ratio	0.31	0.46		0.33	0.48		0.20	0.49						
Control Delay	16.6	19.9		10.9	18.3		39.2	44.8						
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0						
Total Delay	16.6	20.0		10.9	18.4		39.2	44.8						
LOS	B	B		B	B		D	D						
Approach Delay		19.6			17.5			43.8						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Approach LOS		B			B			D						
Queue Length 50th (ft)	36	253		30	149		36	98						
Queue Length 95th (ft)	63	323		37	226		74	141						
Internal Link Dist (ft)		361			328			311			230			
Turn Bay Length (ft)	150						25							
Base Capacity (vph)	387	1908		404	1903		391	794						
Starvation Cap Reductn	0	0		0	236		0	0						
Spillback Cap Reductn	0	121		0	0		0	0						
Storage Cap Reductn	0	0		0	0		0	0						
Reduced v/c Ratio	0.27	0.48		0.30	0.54		0.15	0.37						

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 22.3 — Intersection LOS: C
Intersection Capacity Utilization 64.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Atlantic St/Bedford St & Broad St



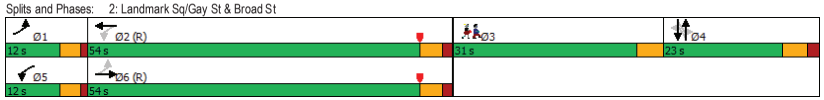
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	19	773	1	99	898	15	0	1	0	16	0	41	
Future Volume (vph)	19	773	1	99	898	15	0	1	0	16	0	41	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	200		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00	1.00		0.98	1.00						0.96		
Frt					0.998						0.903		
Flt Protected	0.950			0.950							0.986		
Satd. Flow (prot)	1711	3421	0	1711	3413	0	0	1801	0	0	1559	0	
Flt Permitted	0.287			0.298							0.904		
Satd. Flow (perm)	516	3421	0	526	3413	0	0	1801	0	0	1415	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					2						91		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		408			385			249			310		
Travel Time (s)		11.1			10.5			6.8			8.5		
Confl. Peds. (#/hr)	3		64	64		3	13		18	18		13	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	19	781	1	100	907	15	0	1	0	16	0	41	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	19	782	0	100	922	0	0	1	0	0	57	0	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (ft)	20	100		20	100		20	100		20	100		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		0	0		0	0		
Detector 1 Size(ft)	20	6		20	6		20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94			94			94			94		
Detector 2 Size(ft)		6			6			6			6		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA		
Protected Phases	1	6		5	2			4			4		3
Permitted Phases	6			2			4			4			
Detector Phase	1	6		5	2		4	4		4	4		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0		7.0
Minimum Split (s)	9.0	20.0		9.0	20.0		10.5	10.5		10.5	10.5		31.0
Total Split (s)	12.0	54.0		12.0	54.0		23.0	23.0		23.0	23.0		31.0
Total Split (%)	10.0%	45.0%		10.0%	45.0%		19.2%	19.2%		19.2%	19.2%		26%
Maximum Green (s)	8.0	49.0		8.0	49.0		17.5	17.5		17.5	17.5		27.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.6	3.6		3.6	3.6		4.0
All-Red Time (s)	1.0	1.7		1.0	1.7		1.9	1.9		1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0		
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.5			5.5		
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													20.0
Pedestrian Calls (#/hr)													30
Act Effct Green (s)	83.0	76.7		88.5	84.9			5.2			5.2		
Actuated g/C Ratio	0.69	0.64		0.74	0.71			0.04			0.04		
v/c Ratio	0.05	0.36		0.22	0.38			0.01			0.39		
Control Delay	3.5	13.1		2.3	4.8			55.0			11.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Queue Delay	0.0	0.4		0.0	0.2			0.0			0.0		
Total Delay	3.5	13.5		2.3	4.9			55.0			11.0		
LOS	A	B		A	A			D			B		
Approach Delay		13.2			4.7			55.0			11.0		
Approach LOS		B			A			D			B		
Queue Length 50th (ft)	3	291		10	164			1			0		
Queue Length 95th (ft)	m2	363		m6	96			7			17		
Internal Link Dist (ft)		328			305			169			230		
Turn Bay Length (ft)	200												
Base Capacity (vph)	448	2187		470	2416			262			284		
Starvation Cap Reductn	0	800		0	588			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.04	0.56		0.21	0.50			0.00			0.20		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 41 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Landmark Sq/Gay St & Broad St



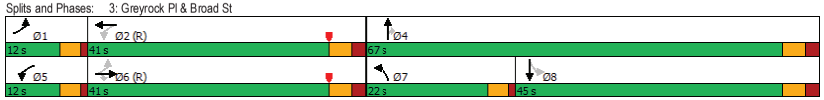
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	453	268	76	823	40	172	164	49	12	194	26
Future Volume (vph)	10	453	268	76	823	40	172	164	49	12	194	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		0	150		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.92	0.97	1.00		1.00		0.95		1.00	
Frt			0.850		0.993				0.850		0.985	
Flt Protected	0.950			0.950			0.950				0.997	
Satd. Flow (prot)	1540	3250	1378	1540	3224	0	1711	1801	1531	0	1765	0
Flt Permitted	0.249			0.402			0.950				0.979	
Satd. Flow (perm)	404	3250	1264	632	3224	0	1707	1801	1458	0	1731	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)			285		4							
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			656			429			314	
Travel Time (s)		10.5			17.9			11.7			8.6	
Confl. Peds. (#/hr)	1		50	50		1	2		28	28		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	11	482	285	81	876	43	183	174	52	13	206	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	482	285	81	919	0	183	174	52	0	247	0
Number of Detectors	4	0	0	4	0		4	4	4	1	4	
Detector Template										Left		
Leading Detector (ft)	36	0	0	36	0		36	36	36	20	32	
Trailing Detector (ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Position(ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Size(ft)	6	6	20	0	6		6	6	6	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	6			6			6	6	6		2	
Detector 2 Size(ft)	6			6			6	6	6		6	
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 3 Position(ft)	18			18			18	18	18		14	
Detector 3 Size(ft)	6			6			6	6	6		6	
Detector 3 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 4 Position(ft)	30			30			30	30	30		26	
Detector 4 Size(ft)	6			6			6	6	6		6	
Detector 4 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 4 Channel												
Detector 4 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases	6		6	2					4	8		
Detector Phase	1	6	6	5	2		7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	9.0	30.4	30.4	9.0	30.4		9.0	33.5	33.5	33.5	33.5	
Total Split (s)	12.0	41.0	41.0	12.0	41.0		22.0	67.0	67.0	45.0	45.0	
Total Split (%)	10.0%	34.2%	34.2%	10.0%	34.2%		18.3%	55.8%	55.8%	37.5%	37.5%	
Maximum Green (s)	8.0	35.6	35.6	8.0	35.6		18.0	61.5	61.5	39.5	39.5	
Yellow Time (s)	3.0	3.3	3.3	3.0	3.3		3.0	3.3	3.3	3.3	3.3	
All-Red Time (s)	1.0	2.1	2.1	1.0	2.1		1.0	2.2	2.2	2.2	2.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	5.5	5.5		5.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0			21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)		13	13		30			30	30	30	30	
Act Effct Green (s)	61.3	55.6	55.6	67.0	63.6		15.9	43.5	43.5		23.6	
Actuated g/C Ratio	0.51	0.46	0.46	0.56	0.53		0.13	0.36	0.36		0.20	
v/c Ratio	0.04	0.32	0.39	0.20	0.54		0.81	0.27	0.10		0.73	
Control Delay	20.5	22.5	10.0	15.9	22.2		76.1	26.4	22.7		57.2	
Queue Delay	0.0	0.0	0.2	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	20.5	22.5	10.1	15.9	22.2		76.1	26.4	22.7		57.2	
LOS	C	C	B	B	C		E	C	C		E	
Approach Delay		17.9			21.7			48.2			57.2	
Approach LOS		B			C			D			E	
Queue Length 50th (ft)	2	71	17	32	254		137	86	24		172	
Queue Length 95th (ft)	m12	134	132	61	385		#236	135	49		259	
Internal Link Dist (ft)		305			576			349			234	
Turn Bay Length (ft)	100			150			150					
Base Capacity (vph)	288	1505	738	419	1710		257	923	747		569	
Starvation Cap Reductn	0	0	85	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	6		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.04	0.32	0.44	0.19	0.54		0.71	0.19	0.07		0.43	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 28.5 — Intersection LOS: C
Intersection Capacity Utilization 76.3% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Greyrock Pl & Broad St

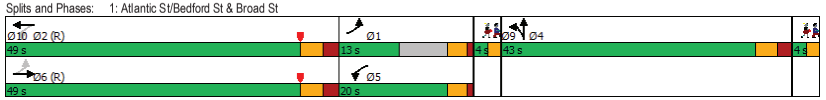


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Lane Configurations														
Traffic Volume (vph)	152	911	135	161	565	221	78	322	91	0	0	0		
Future Volume (vph)	152	911	135	161	565	221	78	322	91	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	150		0	0		0	25		0	0		0		
Storage Lanes	1		0	1		0	1		0	0		0		
Taper Length (ft)	65			65			85			25				
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	0.94	0.97			0.92		0.85	0.97						
Frt		0.981			0.958			0.967						
Flt Protected	0.950			0.950			0.950							
Satd. Flow (prot)	1711	3249	0	1711	3013	0	1540	3033	0	0	0	0		
Flt Permitted	0.256			0.152			0.950							
Satd. Flow (perm)	434	3249	0	274	3013	0	1309	3033	0	0	0	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		25			25			25			25			
Link Distance (ft)		441			408			391			310			
Travel Time (s)		12.0			11.1			10.7			8.5			
Confl. Peds. (#/hr)	203		100	100		203	125		124	124		125		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Parking (#/hr)							0	0	0	0	0	0		
Adj. Flow (vph)	158	949	141	168	589	230	81	335	95	0	0	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	158	1090	0	168	819	0	81	430	0	0	0	0		
Number of Detectors	1	1		1	0		0	0						
Detector Template														
Leading Detector (ft)	30	356		24	0		0	0						
Trailing Detector (ft)	0	350		-6	0		0	0						
Detector 1 Position(ft)	0	350		-6	0		0	0						
Detector 1 Size(ft)	30	6		30	6		20	6						
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex						
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA						
Protected Phases	1	6		5	2		4	4					9	10
Permitted Phases	6			2										
Detector Phase	1	6		5	2		4	4						
Switch Phase														
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0					2.0	2.0
Minimum Split (s)	9.0	31.7		9.0	31.7		35.5	35.5					4.0	4.0
Total Split (s)	13.0	49.0		20.0	49.0		43.0	43.0					4.0	4.0
Total Split (%)	10.8%	40.8%		16.7%	40.8%		35.8%	35.8%					3%	3%
Maximum Green (s)	9.0	43.3		16.0	43.3		37.5	37.5					2.0	2.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.3	3.3					2.0	2.0
All-Red Time (s)	1.0	2.4		1.0	2.4		2.2	2.2					0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Total Lost Time (s)	4.0	5.7		4.0	5.7		5.5	5.5						
Lead/Lag	Lag	Lead		Lag	Lead									
Lead-Lag Optimize?	Yes	Yes		Yes	Yes									
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0					2.0	2.0
Recall Mode	None	C-Min		None	C-Min		None	None					None	None
Walk Time (s)		7.0			7.0		7.0	7.0					2.0	2.0
Flash Dont Walk (s)		19.0			19.0		23.0	23.0					0.0	0.0
Pedestrian Calls (#/hr)		30			30		30	30					30	30
Act Effct Green (s)	77.2	60.1		71.0	56.6		25.0	25.0						
Actuated g/C Ratio	0.64	0.50		0.59	0.47		0.21	0.21						
v/c Ratio	0.35	0.67		0.54	0.58		0.25	0.68						
Control Delay	19.0	28.3		25.2	12.2		39.8	48.9						
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0						
Total Delay	19.0	28.3		25.2	12.3		39.8	48.9						
LOS	B	C		C	B		D	D						
Approach Delay		27.1			14.5			47.5						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Approach LOS		C			B			D						
Queue Length 50th (ft)	56	388		55	165		50	153						
Queue Length 95th (ft)	87	486		121	195		94	208						
Internal Link Dist (ft)		361			328			311			230			
Turn Bay Length (ft)	150						25							
Base Capacity (vph)	472	1627		361	1427		481	947						
Starvation Cap Reductn	0	0		0	42		0	0						
Spillback Cap Reductn	0	0		0	0		0	0						
Storage Cap Reductn	0	0		0	0		0	0						
Reduced v/c Ratio	0.33	0.67		0.47	0.59		0.17	0.45						

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 26.4		Intersection LOS: C	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Atlantic St/Bedford St & Broad St



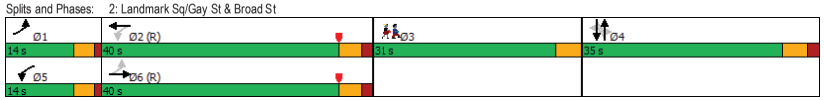
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	38	800	0	9	862	60	0	0	0	27	0	81	
Future Volume (vph)	38	800	0	9	862	60	0	0	0	27	0	81	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	200		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			0.95	1.00						0.95		
Frt					0.990						0.899		
Flt Protected	0.950			0.950							0.988		
Satd. Flow (prot)	1711	3421	0	1711	3378	0	0	1801	0	0	1535	0	
Flt Permitted	0.220			0.302							0.914		
Satd. Flow (perm)	395	3421	0	515	3378	0	0	1801	0	0	1403	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					6						91		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		408			385			249			310		
Travel Time (s)		11.1			10.5			6.8			8.5		
Confl. Peds. (#/hr)	12		179	179		12	35		38	38		35	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	41	860	0	10	927	65	0	0	0	29	0	87	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	41	860	0	10	992	0	0	0	0	0	116	0	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (ft)	20	100		20	100		20	100		20	100		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		0	0		0	0		
Detector 1 Size(ft)	20	6		20	6		20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94			94			94			94		
Detector 2 Size(ft)		6			6			6			6		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA					Perm	NA		
Protected Phases	1	6		5	2			4			4		3
Permitted Phases	6			2			4			4			
Detector Phase	1	6		5	2		4	4		4	4		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0		7.0
Minimum Split (s)	9.0	20.0		9.0	20.0		10.5	10.5		10.5	10.5		31.0
Total Split (s)	14.0	40.0		14.0	40.0		35.0	35.0		35.0	35.0		31.0
Total Split (%)	11.7%	33.3%		11.7%	33.3%		29.2%	29.2%		29.2%	29.2%		26%
Maximum Green (s)	10.0	35.0		10.0	35.0		29.5	29.5		29.5	29.5		27.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.6	3.6		3.6	3.6		4.0
All-Red Time (s)	1.0	1.7		1.0	1.7		1.9	1.9		1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0		
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.5			5.5		
Lead/Lag	Lead	Lag		Lead	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													20.0
Pedestrian Calls (#/hr)													30
Act Effct Green (s)	83.6	81.1		80.1	75.0						7.9		
Actuated g/C Ratio	0.70	0.68		0.67	0.62						0.07		
v/c Ratio	0.12	0.37		0.03	0.47						0.66		
Control Delay	14.1	13.4		16.9	18.8						33.9		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Queue Delay	0.0	0.2		0.0	0.1						0.0		
Total Delay	14.1	13.6		16.9	19.0						33.9		
LOS	B	B		B	B						C		
Approach Delay		13.6			18.9						33.9		
Approach LOS		B			B						C		
Queue Length 50th (ft)	8	100		2	157						19		
Queue Length 95th (ft)	m21	223		m9	358						77		
Internal Link Dist (ft)		328			305			169			230		
Turn Bay Length (ft)	200												
Base Capacity (vph)	386	2312		458	2112						413		
Starvation Cap Reductn	0	556		0	317						0		
Spillback Cap Reductn	0	55		0	0						1		
Storage Cap Reductn	0	0		0	0						0		
Reduced v/c Ratio	0.11	0.49		0.02	0.55						0.28		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 13 (11%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Landmark Sq/Gay St & Broad St

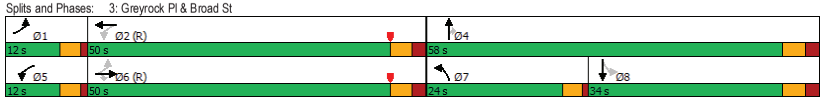


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	755	349	51	676	43	201	290	87	19	157	49
Future Volume (vph)	40	755	349	51	676	43	201	290	87	19	157	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		0	150		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.87	0.98	1.00		1.00		0.93		0.99	
Frt			0.850		0.991				0.850		0.970	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1540	3250	1378	1540	3213	0	1711	1801	1531	0	1733	0
Flt Permitted	0.265			0.242			0.950				0.950	
Satd. Flow (perm)	427	3250	1204	383	3213	0	1704	1801	1429	0	1648	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)			375		6							
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			656			429			314	
Travel Time (s)		10.5			17.9			11.7			8.6	
Confl. Peds. (#/hr)	9		81	81		9	4		43	43		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	43	812	375	55	727	46	216	312	94	20	169	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	812	375	55	773	0	216	312	94	0	242	0
Number of Detectors	4	0	0	4	0		4	4	4	1	4	
Detector Template										Left		
Leading Detector (ft)	36	0	0	36	0		36	36	36	20	32	
Trailing Detector (ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Position(ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Size(ft)	6	6	20	0	6		6	6	6	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	6			6			6	6	6		2	
Detector 2 Size(ft)	6			6			6	6	6		6	
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 3 Position(ft)	18			18			18	18	18		14	
Detector 3 Size(ft)	6			6			6	6	6		6	
Detector 3 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 4 Position(ft)	30			30			30	30	30		26	
Detector 4 Size(ft)	6			6			6	6	6		6	
Detector 4 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 4 Channel												
Detector 4 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases	6		6	2					4	8		
Detector Phase	1	6	6	5	2		7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	9.0	30.4	30.4	9.0	30.4		9.0	33.5	33.5	33.5	33.5	
Total Split (s)	12.0	50.0	50.0	12.0	50.0		24.0	58.0	58.0	34.0	34.0	
Total Split (%)	10.0%	41.7%	41.7%	10.0%	41.7%		20.0%	48.3%	48.3%	28.3%	28.3%	
Maximum Green (s)	8.0	44.6	44.6	8.0	44.6		20.0	52.5	52.5	28.5	28.5	
Yellow Time (s)	3.0	3.3	3.3	3.0	3.3		3.0	3.3	3.3	3.3	3.3	
All-Red Time (s)	1.0	2.1	2.1	1.0	2.1		1.0	2.2	2.2	2.2	2.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	5.5	5.5		5.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0			21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)		13	13		30			30	30	30	30	
Act Effct Green (s)	60.4	53.7	53.7	61.1	54.0		19.0	46.6	46.6		23.5	
Actuated g/C Ratio	0.50	0.45	0.45	0.51	0.45		0.16	0.39	0.39		0.20	
v/c Ratio	0.16	0.56	0.50	0.21	0.53		0.80	0.45	0.17		0.75	
Control Delay	9.1	18.1	6.0	18.7	28.2		69.4	28.1	22.5		59.5	
Queue Delay	0.0	0.3	0.6	0.0	0.0		1.7	0.0	0.0		4.2	
Total Delay	9.1	18.4	6.7	18.7	28.2		71.1	28.1	22.5		63.6	
LOS	A	B	A	B	C		E	C	C		E	
Approach Delay		14.5			27.6			42.2			63.6	
Approach LOS		B			C			D			E	
Queue Length 50th (ft)	11	193	50	22	247		161	163	43		169	
Queue Length 95th (ft)	18	324	124	48	336		244	229	76		258	
Internal Link Dist (ft)		305			576			349			234	
Turn Bay Length (ft)	100			150			150					
Base Capacity (vph)	292	1476	751	274	1468		299	801	636		391	
Starvation Cap Reductn	0	197	131	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		20	0	0		86	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.15	0.63	0.60	0.20	0.53		0.77	0.39	0.15		0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 33 (28%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 77.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Greyrock Pl & Broad St

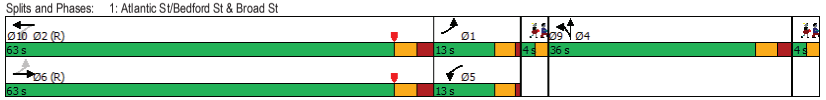


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Lane Configurations														
Traffic Volume (vph)	97	717	92	118	705	152	56	224	48	0	0	0		
Future Volume (vph)	97	717	92	118	705	152	56	224	48	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	150		0	0		0	25		0	0		0		
Storage Lanes	1		0	1		0	1		0	0		0		
Taper Length (ft)	65			65			85			25				
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	0.99	0.99		0.98	0.99		0.94	0.99						
Frt		0.983			0.973			0.973						
Flt Protected	0.950			0.950			0.950							
Satd. Flow (prot)	1711	3315	0	1711	3293	0	1540	3122	0	0	0	0		
Flt Permitted	0.244			0.263			0.950							
Satd. Flow (perm)	435	3315	0	463	3293	0	1443	3122	0	0	0	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		25			25			25			25			
Link Distance (ft)		441			408			391			310			
Travel Time (s)		12.0			11.1			10.7			8.5			
Confl. Peds. (#/hr)	36		47	47		36	52		51	51		52		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
Parking (#/hr)							0	0	0	0	0	0		
Adj. Flow (vph)	104	771	99	127	758	163	60	241	52	0	0	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	104	870	0	127	921	0	60	293	0	0	0	0		
Number of Detectors	1	1		1	0		0	0						
Detector Template														
Leading Detector (ft)	30	356		24	0		0	0						
Trailing Detector (ft)	0	350		-6	0		0	0						
Detector 1 Position(ft)	0	350		-6	0		0	0						
Detector 1 Size(ft)	30	6		30	6		20	6						
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex						
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA						
Protected Phases	1	6		5	2		4	4					9	10
Permitted Phases	6			2										
Detector Phase	1	6		5	2		4	4						
Switch Phase														
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0					1.0	1.0
Minimum Split (s)	9.0	31.7		9.0	31.7		35.5	35.5					4.0	4.0
Total Split (s)	13.0	63.0		13.0	63.0		36.0	36.0					4.0	4.0
Total Split (%)	10.8%	52.5%		10.8%	52.5%		30.0%	30.0%					3%	3%
Maximum Green (s)	9.0	57.3		9.0	57.3		30.5	30.5					2.0	2.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.3	3.3					2.0	2.0
All-Red Time (s)	1.0	2.4		1.0	2.4		2.2	2.2					0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Total Lost Time (s)	4.0	5.7		4.0	5.7		5.5	5.5						
Lead/Lag	Lag	Lead		Lag	Lead									
Lead-Lag Optimize?	Yes	Yes		Yes	Yes									
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0					2.0	2.0
Recall Mode	None	C-Min		None	C-Min		None	None					None	None
Walk Time (s)		7.0			7.0		7.0	7.0					2.0	2.0
Flash Dont Walk (s)		19.0			19.0		23.0	23.0					0.0	0.0
Pedestrian Calls (#/hr)		30			30		30	30					30	30
Act Effct Green (s)	73.9	66.9		77.6	68.7		23.0	23.0						
Actuated g/C Ratio	0.62	0.56		0.65	0.57		0.19	0.19						
v/c Ratio	0.32	0.47		0.34	0.49		0.20	0.49						
Control Delay	17.1	20.2		13.9	24.8		39.2	44.8						
Queue Delay	0.0	0.1		0.0	0.3		0.0	0.0						
Total Delay	17.1	20.3		13.9	25.1		39.2	44.8						
LOS	B	C		B	C		D	D						
Approach Delay		20.0			23.8			43.8						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Approach LOS		B			C			D						
Queue Length 50th (ft)	36	258		31	235		36	99						
Queue Length 95th (ft)	63	327		58	305		74	141						
Internal Link Dist (ft)		361			328			311			230			
Turn Bay Length (ft)	150						25							
Base Capacity (vph)	377	1905		400	1900		391	793						
Starvation Cap Reductn	0	0		0	403		0	0						
Spillback Cap Reductn	0	177		0	0		0	0						
Storage Cap Reductn	0	0		0	0		0	0						
Reduced v/c Ratio	0.28	0.50		0.32	0.62		0.15	0.37						

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 30 (25%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 25.2		Intersection LOS: C	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Atlantic St/Bedford St & Broad St



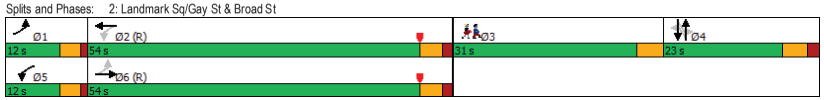
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	28	773	1	99	898	27	0	1	0	42	0	67	
Future Volume (vph)	28	773	1	99	898	27	0	1	0	42	0	67	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	200		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00	1.00		0.98	1.00						0.96		
Frt					0.996						0.917		
Flt Protected	0.950			0.950							0.981		
Satd. Flow (prot)	1711	3421	0	1711	3405	0	0	1801	0	0	1582	0	
Flt Permitted	0.269			0.292							0.874		
Satd. Flow (perm)	484	3421	0	516	3405	0	0	1801	0	0	1389	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					3						91		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		408			385			249			310		
Travel Time (s)		11.1			10.5			6.8			8.5		
Confl. Peds. (#/hr)	3		64	64		3	13		18	18		13	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	28	781	1	100	907	27	0	1	0	42	0	68	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	28	782	0	100	934	0	0	1	0	0	110	0	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (ft)	20	100		20	100		20	100		20	100		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		0	0		0	0		
Detector 1 Size(ft)	20	6		20	6		20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94			94			94			94		
Detector 2 Size(ft)		6			6			6			6		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA		
Protected Phases	1	6		5	2			4			4		3
Permitted Phases	6			2			4			4			
Detector Phase	1	6		5	2		4	4		4	4		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0		7.0
Minimum Split (s)	9.0	20.0		9.0	20.0		10.5	10.5		10.5	10.5		31.0
Total Split (s)	12.0	54.0		12.0	54.0		23.0	23.0		23.0	23.0		31.0
Total Split (%)	10.0%	45.0%		10.0%	45.0%		19.2%	19.2%		19.2%	19.2%		26%
Maximum Green (s)	8.0	49.0		8.0	49.0		17.5	17.5		17.5	17.5		27.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.6	3.6		3.6	3.6		4.0
All-Red Time (s)	1.0	1.7		1.0	1.7		1.9	1.9		1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0		
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.5			5.5		
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													20.0
Pedestrian Calls (#/hr)													30
Act Effct Green (s)	78.6	72.1		83.6	77.4			7.6			7.6		
Actuated g/C Ratio	0.66	0.60		0.70	0.64			0.06			0.06		
v/c Ratio	0.08	0.38		0.23	0.43			0.01			0.64		
Control Delay	4.7	16.0		2.9	9.0			50.0			31.9		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Queue Delay	0.0	0.5		0.0	0.2			0.0			0.0		
Total Delay	4.7	16.5		2.9	9.2			50.0			31.9		
LOS	A	B		A	A			D			C		
Approach Delay		16.1			8.6			50.0			31.9		
Approach LOS		B			A			D			C		
Queue Length 50th (ft)	5	295		10	270			1			14		
Queue Length 95th (ft)	m7	391		m6	345			6			71		
Internal Link Dist (ft)		328			305			169			230		
Turn Bay Length (ft)	200												
Base Capacity (vph)	408	2054		445	2197			262			280		
Starvation Cap Reductn	0	770		0	517			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.07	0.61		0.22	0.56			0.00			0.39		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 41 (34%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 55.9%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Landmark Sq/Gay St & Broad St



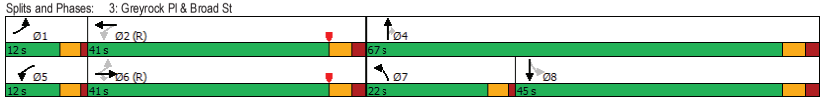
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	466	281	76	829	40	178	164	49	12	194	26
Future Volume (vph)	10	466	281	76	829	40	178	164	49	12	194	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		0	150		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.92	0.97	1.00		1.00		0.95		1.00	
Frt			0.850		0.993				0.850		0.985	
Flt Protected	0.950			0.950			0.950				0.997	
Satd. Flow (prot)	1540	3250	1378	1540	3224	0	1711	1801	1531	0	1765	0
Flt Permitted	0.245			0.392			0.950				0.979	
Satd. Flow (perm)	397	3250	1264	616	3224	0	1707	1801	1458	0	1731	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)			299		4							
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			656			429			314	
Travel Time (s)		10.5			17.9			11.7			8.6	
Confl. Peds. (#/hr)	1		50	50		1	2		28	28		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	11	496	299	81	882	43	189	174	52	13	206	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	496	299	81	925	0	189	174	52	0	247	0
Number of Detectors	4	0	0	4	0		4	4	4	1	4	
Detector Template										Left		
Leading Detector (ft)	36	0	0	36	0		36	36	36	20	32	
Trailing Detector (ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Position(ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Size(ft)	6	6	20	0	6		6	6	6	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	6			6			6	6	6		2	
Detector 2 Size(ft)	6			6			6	6	6		6	
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 3 Position(ft)	18			18			18	18	18		14	
Detector 3 Size(ft)	6			6			6	6	6		6	
Detector 3 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 4 Position(ft)	30			30			30	30	30		26	
Detector 4 Size(ft)	6			6			6	6	6		6	
Detector 4 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 4 Channel												
Detector 4 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases	6		6	2					4	8		
Detector Phase	1	6	6	5	2		7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	9.0	30.4	30.4	9.0	30.4		9.0	33.5	33.5	33.5	33.5	
Total Split (s)	12.0	41.0	41.0	12.0	41.0		22.0	67.0	67.0	45.0	45.0	
Total Split (%)	10.0%	34.2%	34.2%	10.0%	34.2%		18.3%	55.8%	55.8%	37.5%	37.5%	
Maximum Green (s)	8.0	35.6	35.6	8.0	35.6		18.0	61.5	61.5	39.5	39.5	
Yellow Time (s)	3.0	3.3	3.3	3.0	3.3		3.0	3.3	3.3	3.3	3.3	
All-Red Time (s)	1.0	2.1	2.1	1.0	2.1		1.0	2.2	2.2	2.2	2.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	5.5	5.5		5.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0			21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)		13	13		30			30	30	30	30	
Act Effct Green (s)	61.0	55.3	55.3	66.7	63.4		16.2	43.8	43.8		23.6	
Actuated g/C Ratio	0.51	0.46	0.46	0.56	0.53		0.14	0.36	0.36		0.20	
v/c Ratio	0.04	0.33	0.40	0.20	0.54		0.82	0.27	0.10		0.73	
Control Delay	26.7	28.4	14.4	16.0	22.4		77.4	26.3	22.6		57.2	
Queue Delay	0.0	0.0	0.2	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	26.7	28.4	14.6	16.0	22.4		77.4	26.3	22.6		57.2	
LOS	C	C	B	B	C		E	C	C		E	
Approach Delay		23.3			21.9			49.1			57.2	
Approach LOS		C			C			D			E	
Queue Length 50th (ft)	3	77	40	32	259		142	86	24		172	
Queue Length 95th (ft)	m15	198	191	61	388		#248	135	49		259	
Internal Link Dist (ft)		305			576			349			234	
Turn Bay Length (ft)	100			150			150					
Base Capacity (vph)	285	1498	744	410	1704		256	923	747		569	
Starvation Cap Reductn	0	0	85	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	51		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.04	0.33	0.45	0.20	0.56		0.74	0.19	0.07		0.43	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 30.4 — Intersection LOS: C
Intersection Capacity Utilization 76.6% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Greyrock Pl & Broad St



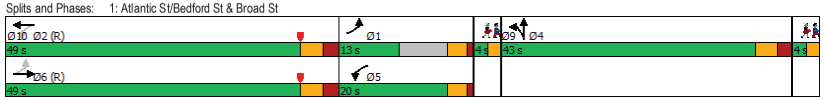
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Lane Configurations														
Traffic Volume (vph)	152	933	135	165	573	229	78	322	94	0	0	0		
Future Volume (vph)	152	933	135	165	573	229	78	322	94	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	150		0	0		0	25		0	0		0		
Storage Lanes	1		0	1		0	1		0	0		0		
Taper Length (ft)	65			65			85			25				
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00		
Ped Bike Factor	0.94	0.97			0.92		0.85	0.96						
Frt		0.981			0.957			0.966						
Flt Protected	0.950			0.950			0.950							
Satd. Flow (prot)	1711	3252	0	1711	3005	0	1540	3028	0	0	0	0		
Flt Permitted	0.248			0.143			0.950							
Satd. Flow (perm)	422	3252	0	257	3005	0	1309	3028	0	0	0	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		25			25			25			25			
Link Distance (ft)		441			408			391			310			
Travel Time (s)		12.0			11.1			10.7			8.5			
Confl. Peds. (#/hr)	203		100	100		203	125		124	124		125		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Parking (#/hr)							0	0	0	0	0	0		
Adj. Flow (vph)	158	972	141	172	597	239	81	335	98	0	0	0		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	158	1113	0	172	836	0	81	433	0	0	0	0		
Number of Detectors	1	1		1	0		0	0						
Detector Template														
Leading Detector (ft)	30	356		24	0		0	0						
Trailing Detector (ft)	0	350		-6	0		0	0						
Detector 1 Position(ft)	0	350		-6	0		0	0						
Detector 1 Size(ft)	30	6		30	6		20	6						
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex						
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA						
Protected Phases	1	6		5	2		4	4					9	10
Permitted Phases	6			2										
Detector Phase	1	6		5	2		4	4						
Switch Phase														
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0					2.0	2.0
Minimum Split (s)	9.0	31.7		9.0	31.7		35.5	35.5					4.0	4.0
Total Split (s)	13.0	49.0		20.0	49.0		43.0	43.0					4.0	4.0
Total Split (%)	10.8%	40.8%		16.7%	40.8%		35.8%	35.8%					3%	3%
Maximum Green (s)	9.0	43.3		16.0	43.3		37.5	37.5					2.0	2.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.3	3.3					2.0	2.0
All-Red Time (s)	1.0	2.4		1.0	2.4		2.2	2.2					0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0						
Total Lost Time (s)	4.0	5.7		4.0	5.7		5.5	5.5						
Lead/Lag	Lag	Lead		Lag	Lead									
Lead-Lag Optimize?	Yes	Yes		Yes	Yes									
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0					2.0	2.0
Recall Mode	None	C-Min		None	C-Min		None	None					None	None
Walk Time (s)		7.0			7.0		7.0	7.0					2.0	2.0
Flash Dont Walk (s)		19.0			19.0		23.0	23.0					0.0	0.0
Pedestrian Calls (#/hr)		30			30		30	30					30	30
Act Effct Green (s)	77.3	60.0		70.8	56.3		25.1	25.1						
Actuated g/C Ratio	0.64	0.50		0.59	0.47		0.21	0.21						
v/c Ratio	0.35	0.69		0.56	0.59		0.25	0.69						
Control Delay	19.4	28.8		25.7	11.4		39.8	49.0						
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0						
Total Delay	19.4	28.8		25.7	11.4		39.8	49.0						
LOS	B	C		C	B		D	D						
Approach Delay		27.6			13.9			47.6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9	Ø10
Approach LOS		C			B			D						
Queue Length 50th (ft)	56	402		66	194		50	155						
Queue Length 95th (ft)	87	502		130	41		94	210						
Internal Link Dist (ft)		361			328			311			230			
Turn Bay Length (ft)	150						25							
Base Capacity (vph)	465	1624		352	1421		481	946						
Starvation Cap Reductn	0	0		0	50		0	0						
Spillback Cap Reductn	0	0		0	0		0	0						
Storage Cap Reductn	0	0		0	0		0	0						
Reduced v/c Ratio	0.34	0.69		0.49	0.61		0.17	0.46						

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 26.3 — Intersection LOS: C
Intersection Capacity Utilization 77.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Atlantic St/Bedford St & Broad St



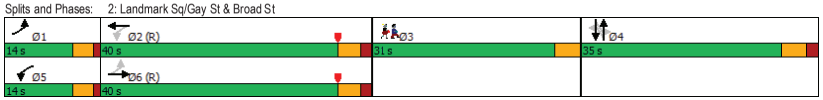
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Lane Configurations													
Traffic Volume (vph)	63	800	0	9	862	91	0	0	0	47	0	101	
Future Volume (vph)	63	800	0	9	862	91	0	0	0	47	0	101	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	200		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	1.00			0.95	1.00						0.95		
Frt					0.986						0.908		
Flt Protected	0.950			0.950							0.984		
Satd. Flow (prot)	1711	3421	0	1711	3360	0	0	1801	0	0	1550	0	
Flt Permitted	0.198			0.299							0.893		
Satd. Flow (perm)	356	3421	0	510	3360	0	0	1801	0	0	1386	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)					9						91		
Link Speed (mph)		25			25			25			25		
Link Distance (ft)		408			385			249			310		
Travel Time (s)		11.1			10.5			6.8			8.5		
Confl. Peds. (#/hr)	12		179	179		12	35		38	38		35	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	68	860	0	10	927	98	0	0	0	51	0	109	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	68	860	0	10	1025	0	0	0	0	0	160	0	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (ft)	20	100		20	100		20	100		20	100		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		0	0		0	0		
Detector 1 Size(ft)	20	6		20	6		20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94			94			94			94		
Detector 2 Size(ft)		6			6			6			6		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA					Perm	NA		
Protected Phases	1	6		5	2			4			4		3
Permitted Phases	6			2			4			4			
Detector Phase	1	6		5	2		4	4		4	4		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0		7.0
Minimum Split (s)	9.0	20.0		9.0	20.0		10.5	10.5		10.5	10.5		31.0
Total Split (s)	14.0	40.0		14.0	40.0		35.0	35.0		35.0	35.0		31.0
Total Split (%)	11.7%	33.3%		11.7%	33.3%		29.2%	29.2%		29.2%	29.2%		26%
Maximum Green (s)	10.0	35.0		10.0	35.0		29.5	29.5		29.5	29.5		27.0
Yellow Time (s)	3.0	3.3		3.0	3.3		3.6	3.6		3.6	3.6		4.0
All-Red Time (s)	1.0	1.7		1.0	1.7		1.9	1.9		1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0		
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.5			5.5		
Lead/Lag	Lead	Lag		Lead	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0		3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None		None
Walk Time (s)													7.0
Flash Dont Walk (s)													20.0
Pedestrian Calls (#/hr)													30
Act Effct Green (s)	80.6	77.8		76.0	70.8						11.2		
Actuated g/C Ratio	0.67	0.65		0.63	0.59						0.09		
v/c Ratio	0.22	0.39		0.03	0.52						0.76		
Control Delay	15.9	15.5		20.8	22.8						45.2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø3
Queue Delay	0.0	0.2		0.0	0.1						0.0		
Total Delay	15.9	15.7		20.8	22.9						45.2		
LOS	B	B		C	C						D		
Approach Delay		15.7			22.9						45.2		
Approach LOS		B			C						D		
Queue Length 50th (ft)	17	130		3	168						52		
Queue Length 95th (ft)	m36	225		m9	373						121		
Internal Link Dist (ft)		328			305			169			230		
Turn Bay Length (ft)	200												
Base Capacity (vph)	352	2217		438	1987						409		
Starvation Cap Reductn	0	490		0	187						0		
Spillback Cap Reductn	0	61		0	0						1		
Storage Cap Reductn	0	0		0	0						0		
Reduced v/c Ratio	0.19	0.50		0.02	0.57						0.39		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 13 (11%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 21.4		Intersection LOS: C	
Intersection Capacity Utilization 54.9%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Landmark Sq/Gay St & Broad St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	765	359	51	693	43	215	290	87	19	157	49
Future Volume (vph)	40	765	359	51	693	43	215	290	87	19	157	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	150		0	150		0	0		0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.87	0.98	1.00		1.00		0.93		0.99	
Frt			0.850		0.991				0.850		0.970	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1540	3250	1378	1540	3213	0	1711	1801	1531	0	1733	0
Flt Permitted	0.253			0.234			0.950				0.950	
Satd. Flow (perm)	408	3250	1204	370	3213	0	1704	1801	1429	0	1648	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)			386		6							
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			656			429			314	
Travel Time (s)		10.5			17.9			11.7			8.6	
Confl. Peds. (#/hr)	9		81	81		9	4		43	43		4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	43	823	386	55	745	46	231	312	94	20	169	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	823	386	55	791	0	231	312	94	0	242	0
Number of Detectors	4	0	0	4	0		4	4	4	1	4	
Detector Template										Left		
Leading Detector (ft)	36	0	0	36	0		36	36	36	20	32	
Trailing Detector (ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Position(ft)	-6	0	0	-6	0		-6	-6	-6	0	-10	
Detector 1 Size(ft)	6	6	20	0	6		6	6	6	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	6			6			6	6	6		2	
Detector 2 Size(ft)	6			6			6	6	6		6	
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 3 Position(ft)	18			18			18	18	18		14	
Detector 3 Size(ft)	6			6			6	6	6		6	
Detector 3 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Detector 4 Position(ft)	30			30			30	30	30		26	
Detector 4 Size(ft)	6			6			6	6	6		6	
Detector 4 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 4 Channel												
Detector 4 Extend (s)	0.0			0.0			0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases	6		6	2					4	8		
Detector Phase	1	6	6	5	2		7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	9.0	30.4	30.4	9.0	30.4		9.0	33.5	33.5	33.5	33.5	
Total Split (s)	12.0	50.0	50.0	12.0	50.0		24.0	58.0	58.0	34.0	34.0	
Total Split (%)	10.0%	41.7%	41.7%	10.0%	41.7%		20.0%	48.3%	48.3%	28.3%	28.3%	
Maximum Green (s)	8.0	44.6	44.6	8.0	44.6		20.0	52.5	52.5	28.5	28.5	
Yellow Time (s)	3.0	3.3	3.3	3.0	3.3		3.0	3.3	3.3	3.3	3.3	
All-Red Time (s)	1.0	2.1	2.1	1.0	2.1		1.0	2.2	2.2	2.2	2.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	5.5	5.5		5.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min	C-Min	None	C-Min		None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		18.0	18.0		18.0			21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)		13	13		30			30	30	30	30	
Act Effct Green (s)	59.5	52.6	52.6	60.1	52.9		20.0	47.5	47.5		23.5	
Actuated g/C Ratio	0.50	0.44	0.44	0.50	0.44		0.17	0.40	0.40		0.20	
v/c Ratio	0.16	0.58	0.52	0.22	0.56		0.81	0.44	0.17		0.75	
Control Delay	8.9	18.5	5.9	19.3	29.3		69.6	27.3	22.0		59.5	
Queue Delay	0.0	0.3	0.7	0.0	0.0		3.2	0.0	0.0		4.0	
Total Delay	8.9	18.7	6.6	19.3	29.3		72.8	27.3	22.0		63.5	
LOS	A	B	A	B	C		E	C	C		E	
Approach Delay		14.7			28.6			43.0			63.5	
Approach LOS		B			C			D			E	
Queue Length 50th (ft)	10	208	66	23	261		172	159	42		169	
Queue Length 95th (ft)	13	335	155	48	343		#283	230	76		258	
Internal Link Dist (ft)		305			576			349			234	
Turn Bay Length (ft)	100			150			150					
Base Capacity (vph)	280	1455	752	265	1446		306	807	640		391	
Starvation Cap Reductn	0	181	134	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		27	0	0		85	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.15	0.65	0.62	0.21	0.55		0.83	0.39	0.15		0.79	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 28.7 — Intersection LOS: C
Intersection Capacity Utilization 77.5% — ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Greyrock Pl & Broad St