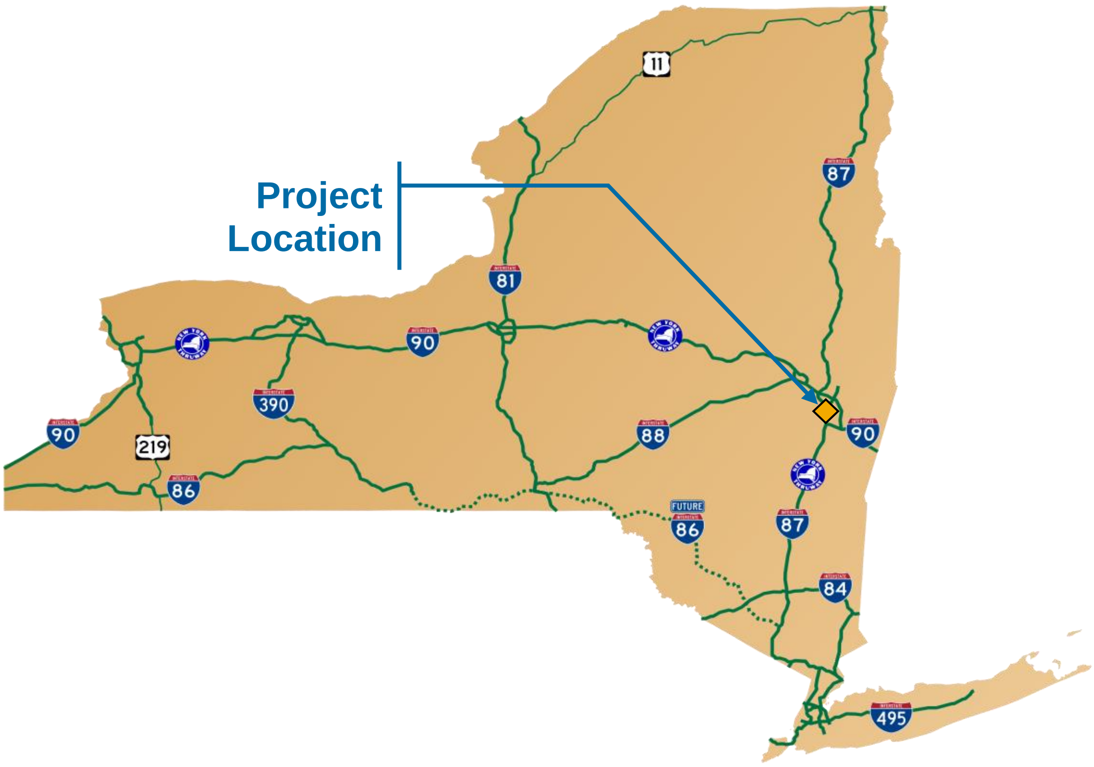
Transportation Project Report

Project Scoping Report / Final Design Report (PSR/FDR)

December 2024

Delaware Ave Complete Streets
Project Identification Number (PIN): 1761.68
Town of Bethlehem
Albany County



New York State of Opportunity. Department of Transportation

U.S. Department of Transportation Federal Highway Administration

Project Approval Sheet

Milestones	Signatures
A. Recommendation for, Scope and Design Approval:	The project cost and schedule are consistent with the Regional Capital Program. Mike Arthur, P.E., Regional Director
B. Recommendation for Scope and Design Approval:	All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations, and procedures, except as otherwise noted and explained. No nonstandard features have been identified, created, or retained. Joe Cimino, P.E., Local Project Designer
C. Public Hearing Certification (Pursuant to 23 USC 128 and 23 CFR 771.111):	A public hearing was not required. Joe Cimino, P.E., Local Project Designer
D. Categorical Exclusion Determination on Behalf of FHWA	This project qualifies as a Categorical Exclusion under the National Environmental Policy Act per the NYSDOT/FHWA Programmatic Agreement Regarding Categorical Exclusions. Mike Arthur, P.E., Regional Director
E. Local Project Scope and Design Approval	The required environmental determinations have been made, and the preferred alternative for this project is ready for final design. Rob Leslie, Responsible Local Official
F. Local Project Non-Standard Feature Approval	No nonstandard features are being retained or created on NHS/State roadway(s). Rob Leslie, Responsible Local Official

List of Preparers

<u>This Project Scoping Report/Final Design Report (PSR/FDR) was prepared by</u>:

Joseph F Cimino, PE, Associate Vice President, CHA Consulting, Inc.

Who directed the preparation of the PSR/FDR in accordance with established standards, policies, regulations, and procedures, except as otherwise explained in this document.

Note: *It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.*

Table of Contents

Table of Appendices

CHAPTER 1 - PROJECT DEVELOPMENT

1.1. Introduction

This report has been prepared in accordance with the NYSDOT *Project Development Manual*, 6 NYCRR (New York Codes, Rules, and Regulations) Part 617, and 23 CFR (Code of Federal Regulations) 771. Transportation goals/objectives have been identified (Section 1.2), and cost-effective alternatives have been developed (Section 1.3). The proposed pavement "Mill and Fill" roadway paving is 100% State funded. All other aspects of the project are 80% Federally under PIN 1761.68.

1.1.1. Project Location

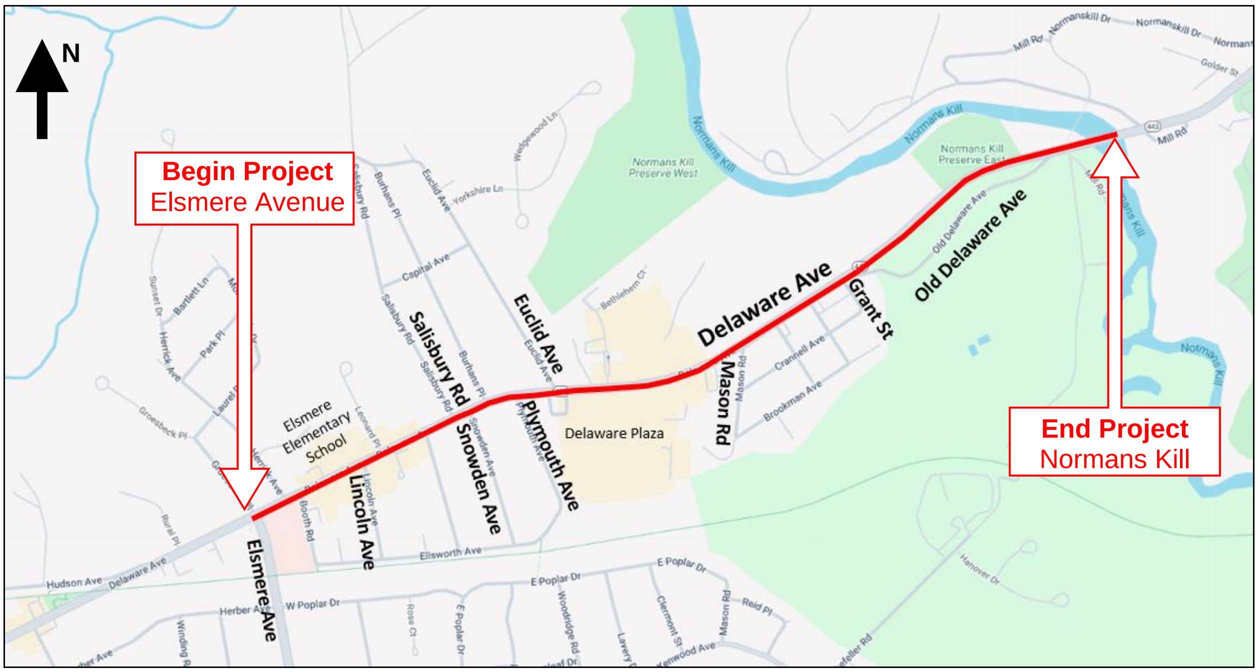


Figure 2-1: Project Location

A. Route number: NY 443
B. Route name: Delaware Avenue
C. SH (state highway) number(s): S.H. 41 & S.H. 9109
D. Township/County: Bethlehem/Albany
E. Length: 1.4 miles
F. From/To: Elsmere Ave to Bethlehem/Albany Town/City Line

1.2. Project Goals and Objectives

Delaware Avenue (NYS Route 443) is one of Bethlehem's primary streets, connecting the City of Albany at the east end of the project area to the Town's commercial and residential areas within the proposed project limits, and then ultimately to the more rural parts of Albany County to the west. It is owned and maintained by NYSDOT.

The project's primary goals, presented below, are centered around the implementation of the *NYS Complete Streets Act* (2011) and *Town of Bethlehem's Complete Streets Policy* (2009), which aim to create balanced transportation systems and increase safety for all modes of transportation, including vehicular traffic, pedestrians, and bicyclists.

The project goals are to:

- Implement the Town's goals of fostering a more balanced transportation corridor that is drivable, walkable, bikeable, and transit-friendly, serving the needs of all users of all ages and abilities.

- Strengthen Delaware Avenue's "Main Street" character, consistent with the principles of the Town's Comprehensive Plan and the Capital Region Transportation Council's *New Visions Plan for Transportation*.

- Make the area more attractive and accessible for the business community

Since Delaware Avenue was widened to a four-lane undivided highway in the early 1960's when it was in a much more rural setting, its roadway character has steadily changed from a vehicular "turnpike" to a community "Main Street" as its adjacent land uses have increasingly changed it to a mixed-use corridor with commercial establishments, including the Elsmere Elementary School, Albany County Rail-Trail, and growing adjacent neighborhoods connected to Delaware Ave via numerous un-signalized intersections. The Capital District Transportation Authority (CDTA) Route 18 runs 32 daily round trip routes through the Delaware Avenue corridor, with 16 bus stops (8 in each direction) serving approximately 100 users/day within the project limits.

Despite the existence of sidewalks on both sides of the roadway for much of the corridor, traffic speed is relatively high for the roadway setting, the buffer separating traffic and pedestrians is narrow (or non-existent), and safe pedestrian crossings between signalized intersections are non-existent.

As such, the objectives of the proposed project are to:

- Reduce safety and pedestrian facility deficiencies using cost effective traffic calming and pedestrian friendly infrastructure measures such that benefits equal or exceed project costs attributable to these improvements.

- Correct identified pavement deficiencies that will extend the useful life of the highway and maintain it in a structurally sound condition using cost effective pavement treatments which provide low life cycle costs.

1.3. Project Alternatives

1.3.1 General Description of Alternatives

Four (4) "Build Alternatives" have been developed for the Delaware Avenue corridor between Elsmere Avenue and the Town/City (Albany) Line: Alternatives 1 (Base), 2, 2A, and 3.

A brief description of each of these four (4) alternatives is provided below. Ultimately, Alternative 3 has been chosen as the preferred Alternative.

1.3.1.1. Alternative 1 – "Base Project"

This Alternative would consist of:

- Milling/resurfacing of the existing pavement surface
- Restriping of the roadway to provide consistent 11' wide travel lanes throughout the corridor (by remove the existing 2' flush median)
- Providing ADA compliant concrete curb ramps at all intersections
- Providing high visibility cross walks
- Upgrading both existing traffic signals within the corridor to include modern Accessible Pedestrian Signal (APS) push buttons (@ Elsmere Avenue & Delaware Plaza), as needed (to be coordinated with NYSDOT during final design)
- Reducing driveway opening widths and consolidating driveways to reduce

pedestrian/vehicle conflict points, where feasible

1.3.1.2(1). Alternative 2

This Alternative would consist of all six (6) improvements included in the "Base Project" (Alternative 1) detailed above, supplemented with the following four (4) additional improvements:

- Two (2) new Mid-Block Pedestrian Crossings (#1 & #2) (crossing Delaware Avenue) with supplementary pedestrian signals, to be located at:
  - Mid-block Pedestrian Crossing #1 – between Salisbury Rd and Snowden Ave
  - Mid-block Pedestrian Crossing #2 – between Lenox St and Grant St
- Gateway Features at each end of the project ("West-end" & "East-end" Gateways)
- Extension of the existing two-lane section (with two-way left turn lane median) from the eastern project limit (City of Albany) 1,200' west to Lenox Street in the Town Bethlehem
- Potential Reduction of the posted speed limit, - (pending post-construction data collection/coordination with NYSDOT)

1.3.1.2(2). Alternative 2A

This Alternative would be the same as Alternative 2, except for:

- A "Modified" Mid-block Pedestrian Crossing #1 (addition of a median refuge island)
- A "Modified" "East-end" Gateway (additional gateway features to be included in the new proposed roadway median)

1.3.1.3. Alternative 3 (***Preferred***)

This Alternative would consist of all six (6) improvements included in the "Base Project" (Alternative 1) detailed above, supplemented with the following four (4) additional improvements:

- Two (2) new Mid-Block Pedestrian Crossings (#1 & #2) (crossing Delaware Avenue) with supplementary pedestrian signal (RRFBs) at Crossing #1, to be located at:
  - Mid-block Pedestrian Crossing #1 – between Salisbury Rd and Snowden Ave
  - Mid-block Pedestrian Crossing #2 – between Lenox St and Grant St
- Gateway Feature at the east end of the project ("East-end" Gateway)
- Extension of the existing two-lane section (with two-way left turn lane median) from the eastern project limit (City of Albany) 1,200' west to Lenox Street in the Town Bethlehem
- Potential Reduction of the posted speed limit - (pending construction data collection/coordination with NYSDOT)

1.3.2. Discussion of Mid-Block Ped Crossings Considered for the Proposed Project

As noted above, Alternative 2, 2A, and 3 all propose new mid-block pedestrian crossings across Delaware Avenue at two (2) new locations.

A brief description of these mid-block pedestrian crossings is provided in both sub-sections below as well as in Section 2.3.5 below. Additional detail regarding Mid-Block Crossing #1 is provided in the *Mid-block Crossing Assessment* technical memo located in *Appendix B-3*.

1.3.2.1. Mid-Block Pedestrian Crossing #1 - Between Salisbury Road and Snowden Avenue

The intention of this mid-block crossing is to facilitate crossing for pedestrians walking to/from Elsmere Elementary School, Delaware Plaza, the Albany County Rail Trail, a pair of CDTA bus stops, the Normanskill Preserve, and residential communities on either side of Delaware Avenue.

- **Under Alternative 2** – the mid-block crossing would cross four (4) 11'-0" wide travel lanes, with pedestrian signals (Traffic Signal or HAWK Signal) on each side of Delaware Avenue (See *Figure 1-2(a)* below).

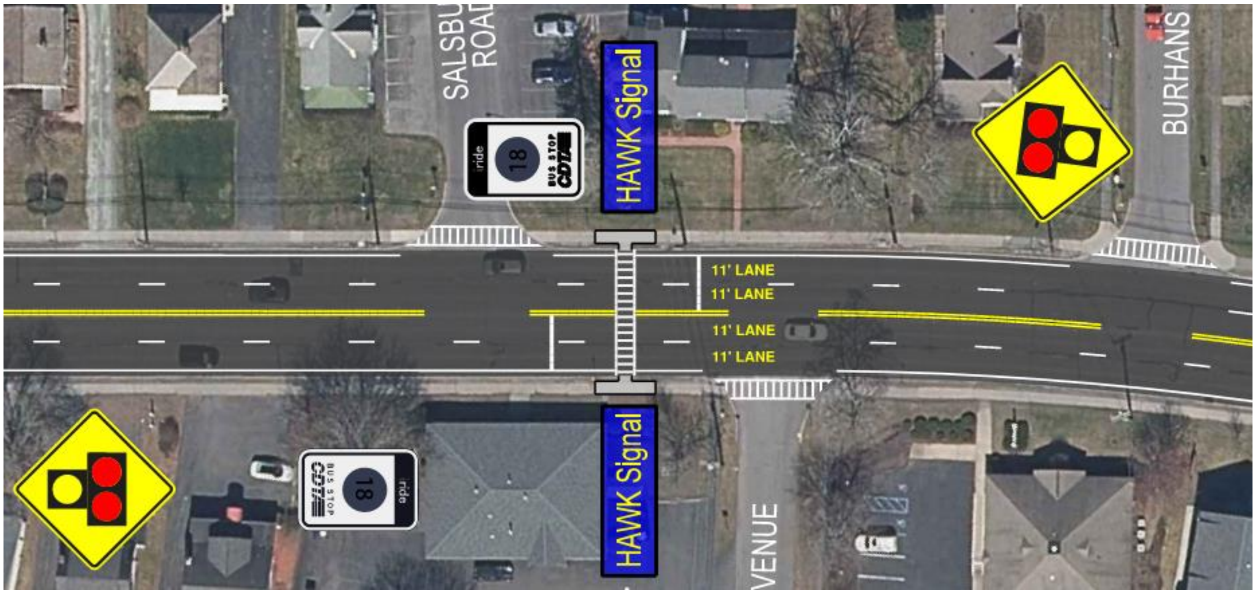


Figure 2-2(a): Proposed Mid-Block Crossing #1 under Alt 2

- **<u>Under Alternative 2A -</u>** the mid-block crossing would cross four (4) 11'-0" wide travel lanes and a raised 10' wide median refuge island, with pedestrian signals (Traffic Signal or HAWK Signal) on each side of Delaware Avenue (See *Figures 1-2(b) & 1-2(c)* below). The proposed median refuge island would be created by widening Delaware Avenue between Bedell Ave and Burhans Place. This widening would require box-widening of the roadway, new curbing/closed drainage, new sidewalks, relocation of 3 utility poles, and 9 strip right-of-way acquisitions within this 500' stretch of roadway.

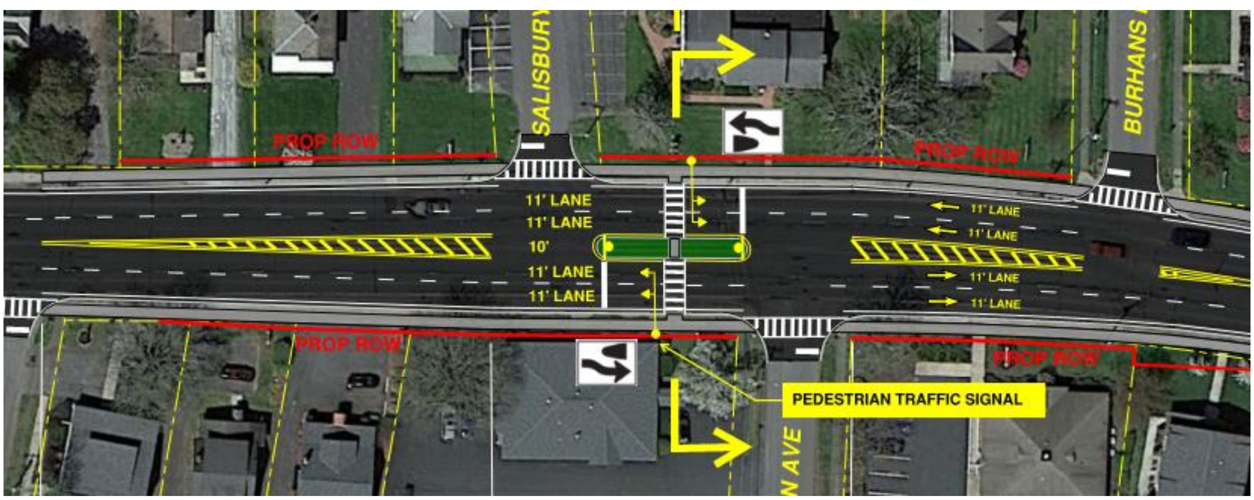


Figure 1-2(b): Proposed Mid-Block Crossing #1 under Alt 2A

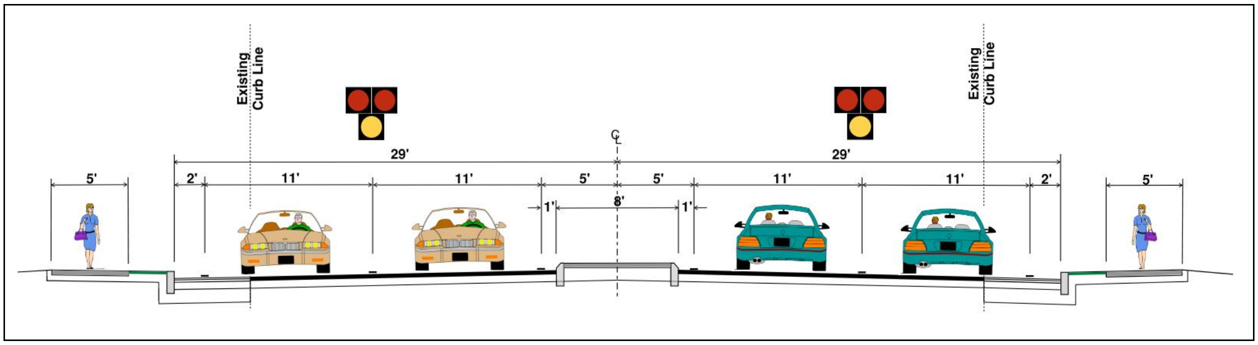


Figure 1-2(c): Proposed Roadway Cross-Section at Mid-Block Crossing #1 under Alt 2A

- **<u>Under Alternative 3 (Preferred)</u>** – the mid-block crossing would cross four (4) 11'-0" wide travel lanes and a raised 10' wide median refuge island with pedestrian signals (RRFBs) on each side of Delaware Avenue (See *Figures 1-2(d)* & *1-2(e)* below). The proposed median refuge island would be created by widening Delaware Avenue between Bedell Ave and Burhans Place. This widening would require box-widening of the roadway, new curbing/closed drainage, new sidewalks, relocation of 3 utility poles, and 9 strip right-of-way acquisitions within this 500' stretch of roadway.

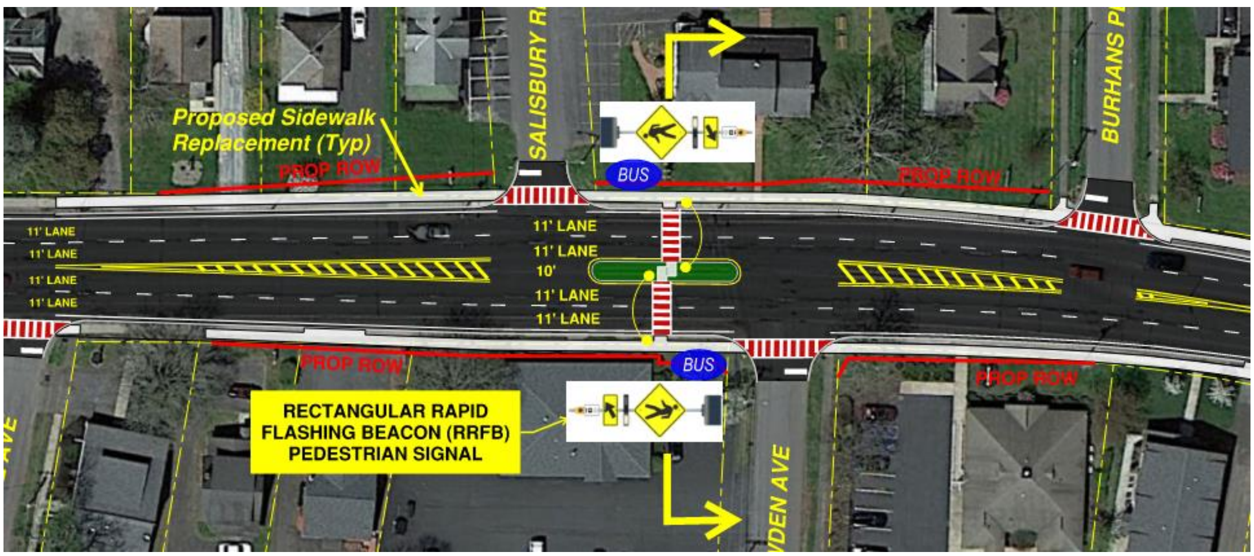


Figure 1-2(d): Proposed Mid-Block Crossing #1 under Alt 3

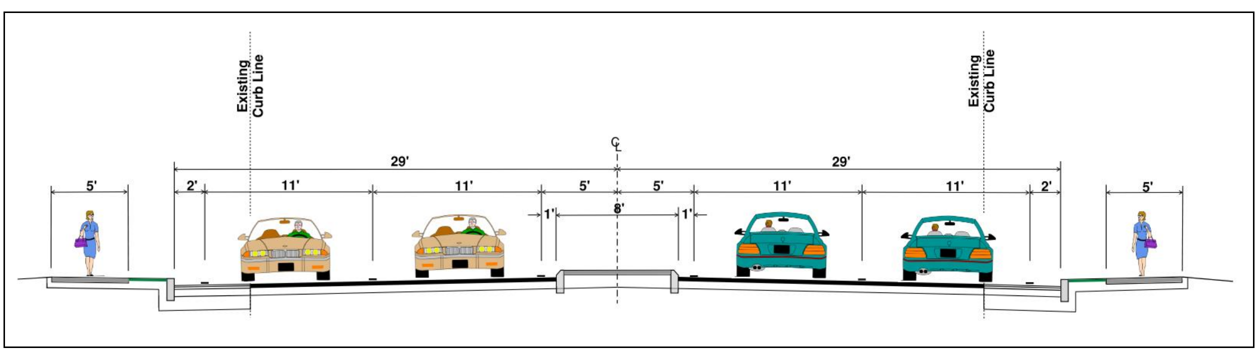


Figure 1-2(e): Proposed Roadway Cross-Section at Mid-Block Crossing #1 under Alt #3

1.3.2.2. Mid-Block Crossing #2 – At CDTA Bus Stop between Lenox Street and Grant Street

The intention of this mid-block crossing is primarily to serve pedestrians walking to/from the CDTA bus stop just west of the Hoffman's Car Wash to/from the residential neighborhoods on the south side of Delaware Avenue.

.

- **Under both Alternatives 2 and 2A** – the midblock crossing would cross two (2) 12'-0" wide travel lanes and a raised 10-0"' wide median refuge island (with 1-0"' offsets to travel lanes), with pedestrian signals (RRFBs) on each side of Delaware Avenue (See *Figure 1-3(a)* below). The additional roadway width that would be required for the new proposed median refuge island would be created by extending the existing two-lane section (with two-way left turn lane median) from the eastern project limit (City of Albany) 1,200' west to Lenox Street in the Town Bethlehem.

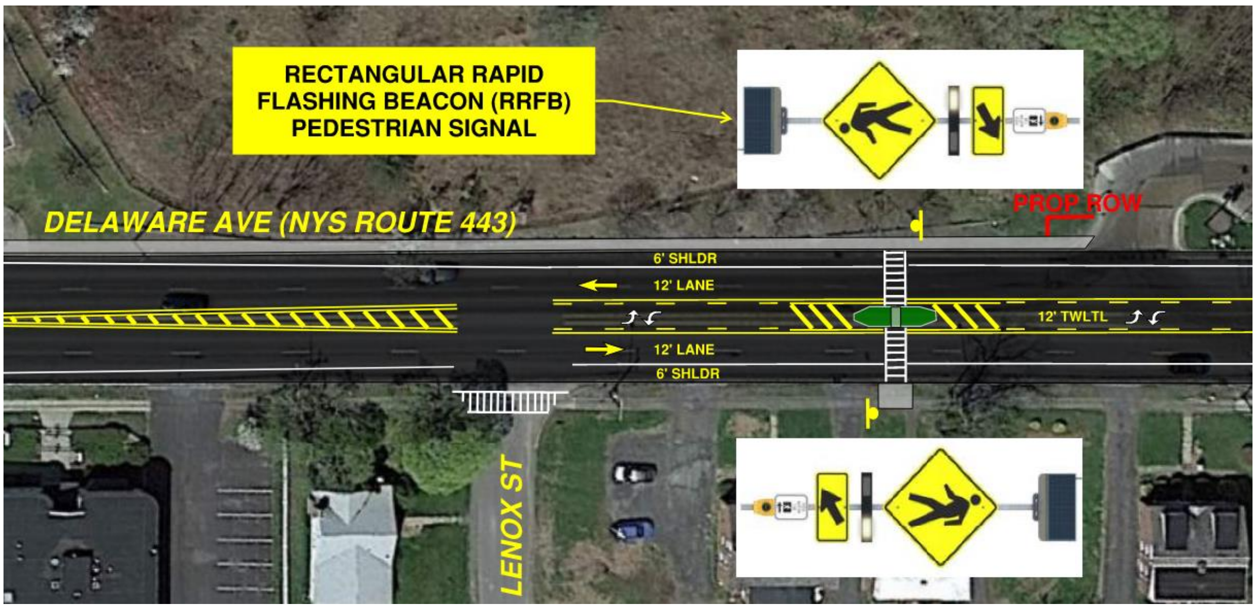


Figure 1-3(a): Proposed Mid-Block Crossing #2 under Alts 2 & 2A

- **Under Alternative 3 (Preferred)** – the midblock crossing would cross two (2) 12'-0" wide travel lanes and a raised 10'-0" wide median refuge island (with 1'-0" offsets to travel lanes) without any supplemental traffic signals (See *Figure 1-3(b)* below). Like Alternatives 2 and 2A, the additional roadway width that would be required for the new proposed median refuge island would be created by extending the existing two-lane section (with two-way left turn lane median) from the eastern project limit (City of Albany) 1,200' west to Lenox Street in the Town Bethlehem.

  Sa noted above, the proposed crossing would service the existing CDTA bus stop on the north side of the roadway (which currently has no pedestrian path) by connecting it with residential homes on the south side of the roadway. Pedestrian crossings to and from the bus stop can conveniently be provided for at this location as pedestrians will only need to cross one travel lane at a time in the proposed condition (as opposed to 4 in the existing condition) due to (1) the proposed reduction of one travel lane in each direction, as well as (2) the installation of the proposed raised median/gateway feature at this location.

  In addition, this crosswalk will be a key component in the proposed WZTC scheme during construction because there is a need for a crosswalk at the east end of the project to cross pedestrians from the south sidewalk to the north sidewalk so the south sidewalk west of this location can be closed for reconstruction while a Temporary Pedestrian Access Route (TPAR) is provided.

With regards to lighting, existing Niagara Mohawk (NM) light #19 with cobra streetlight is located directly over top of the proposed crossing location, while NM #47 with streetlight is located 100'+/- east and NM #20 with streetlight 115' +/- west of this location.

Finally, sight distance (SD) requirements would be met at this location; namely, 327' min is required. Horizontally, the crosswalk would be located on a long tangent segment of roadway; horizontal SD > 1000' EB and = 685' WB would be provided. Vertically, SD > 700' EB and 650' WB would be provided.

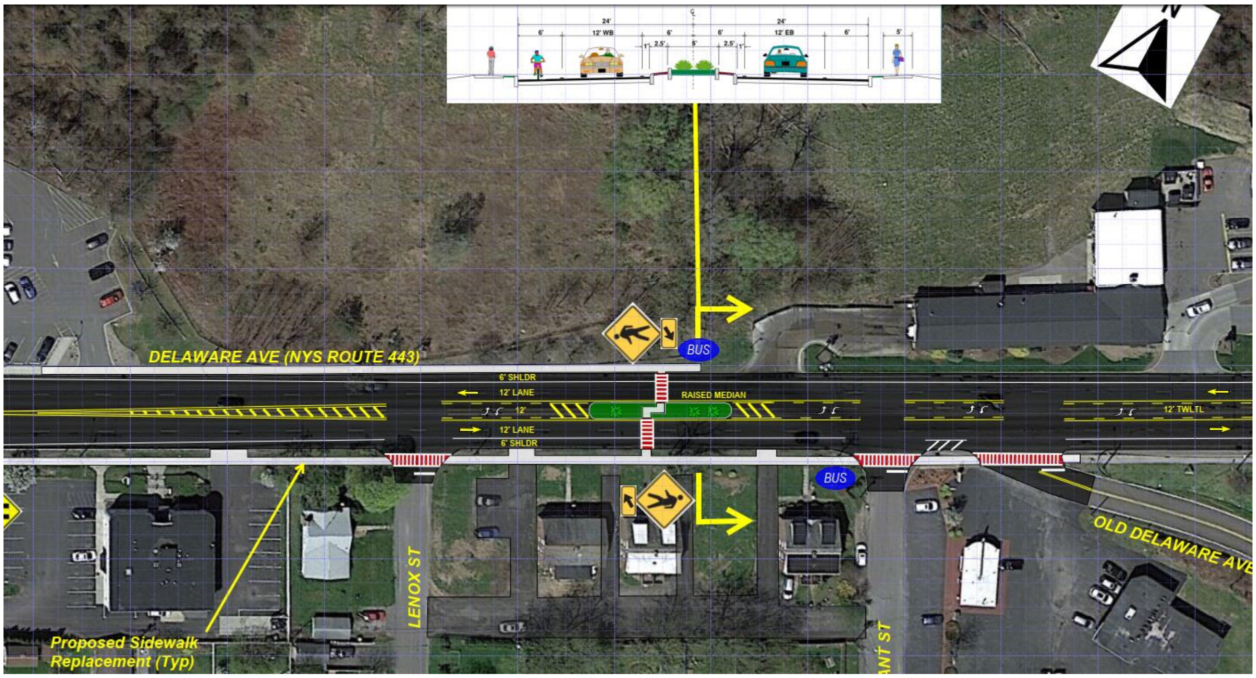


Figure 1-3(b): Proposed Mid-Block Crossing #2 under Alt 3

1.3.3. Discussion of Gateway Features Considered for the Proposed Project

Gateway Features typically create an expectation for motorists to drive more slowly (traffic calming) and watch for pedestrians when entering a commercial, business, or residential district, while at the same time helping to create a unique image for an area and effectively demark the beginning point of a community.

A detailed description of the Gateway Features considered for this project is provided below [***ultimately, only the "East-end" Gateway will be progressed (under preferred Alternative 3***)].

1.3.3.1. "West-end" Gateway *(considered but dismissed*)

- **Under both Alternatives 2 and 2A** – the proposed gateway at the Elsmere Ave intersection would consist of a new near-flush median island on Delaware Avenue at the west leg of its intersection with Elsmere Avenue created by the elimination of one of the two existing eastbound through lanes from the Hamlet of Delmar to the Elsmere Avenue intersection (reducing eastbound Delaware Avenue from two through lanes to one through lane on the western intersection approach). This proposed change to the western intersection approach would allow for a near-flush median island to be constructed between the eastbound through lane and eastbound left turn lane (see *Figure 1-4* below).

Future traffic operations which would result from this proposed lane reduction was analyzed, with the results summarized in the *Traffic Analysis at the Intersection of Delaware Avenue and Elsmere Avenue* technical memo included in *Appendix B-2.*

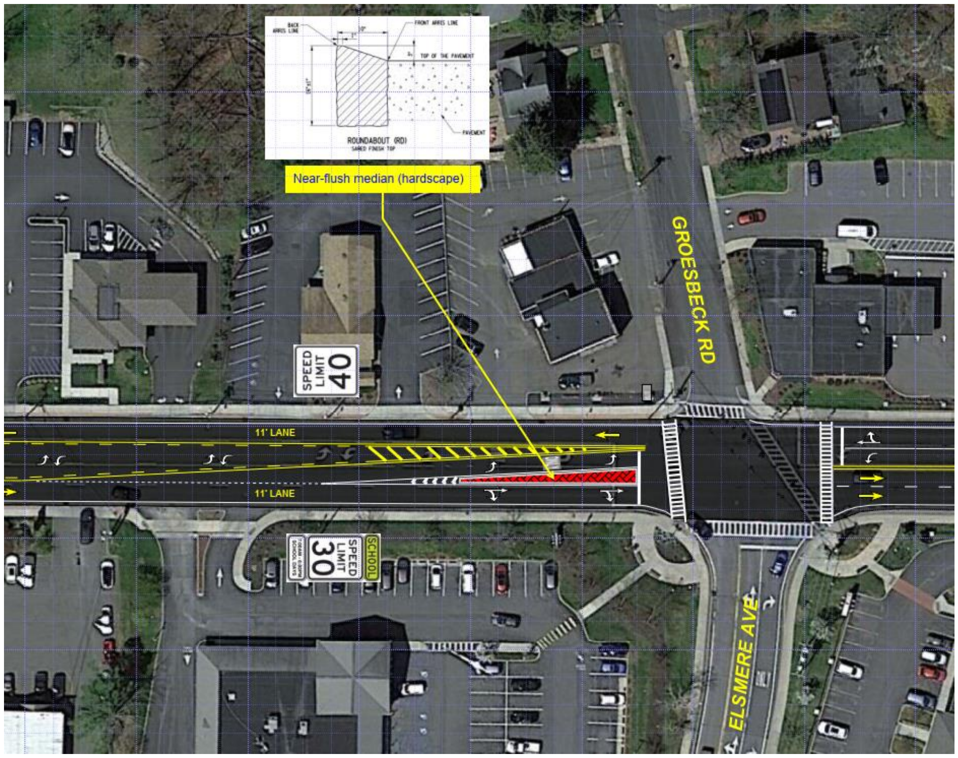


Figure 2-3: Proposed "West-end" Gateway under Alt 2 & 2A

- **Under Alternative 3 (*preferred*)**
  There would be no "West-end" Gateway as part of Preferred Alternative (i.e. the Elsmere Ave intersection would be unchanged under this alternative).

1.3.3.2. "East-end" Gateway (*being progressed under Preferred Alternative 3*)

- **Under Alternative 2** - the proposed gateway would consist of a decorative roadside "welcome" feature (i.e. decorative stone gateway wall with "Bethlehem" text) on one or both sides of Delaware Avenue approximately 500 feet west of the Normanskill Bridge (see *Figure 1-5 (a)* below).

Figure 2-4 (a): Proposed "East-end" Gateway under Alt 2

- **<u>Under Alternatives 2A & 3 (*Preferred*)</u>** – from east to west the proposed gateway would consist of decorative "welcome" features (i.e. decorative stone gateway walls with "Bethlehem" text) on both sides of Delaware Avenue approximately 500' west of the Normanskill Bridge for roadway users entering the Town from Albany, followed by two (2) stretches of new proposed 12' wide raised median island/planters between the "welcome" features and the Jiffy Lube / Hoffman Car Wash location. The gap between these two proposed raised median island/planters would allow for continued two-way ingress/egress to/from #52 Delaware Avenue located on the south side of the roadway (see *Figure 1-5 (b)* below). .

  The proposed gateway wall on the south side of the roadway would be offset from the proposed travel lane by 15'-0", meeting clear zone requirements; the proposed gateway wall on the north side of the roadway would be located behind new box beam guiderail.

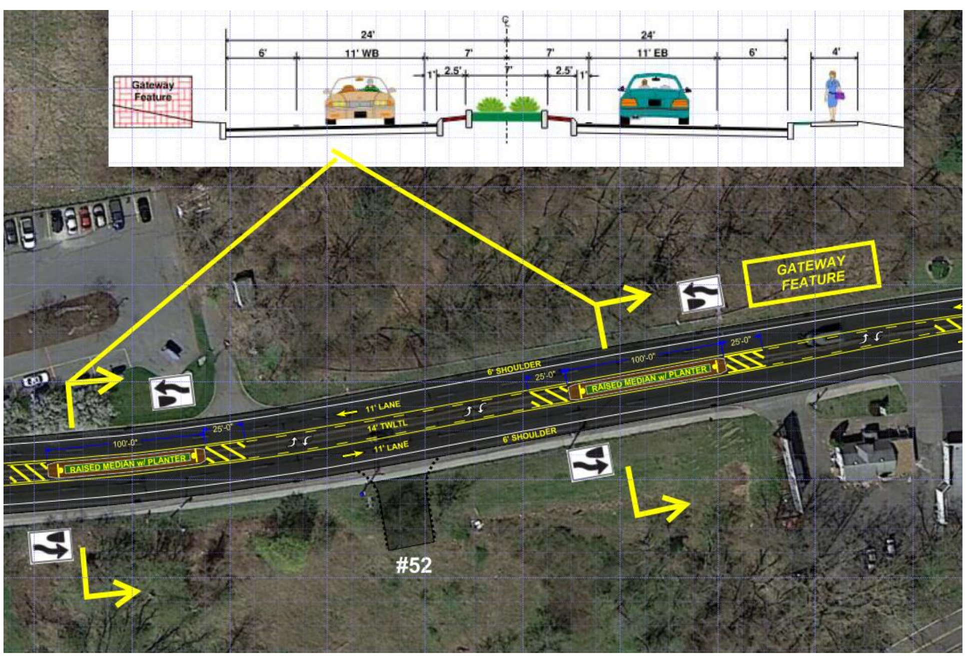


Figure 2-5 (b): "East-end" Gateway under Alts 2A & 3

1.4. Project Effects

1.4.1. Environmental Classification

Exhibit 1-1 Environmental Classification Summary			
NEPA Classification	Class II CE	BY	NYSDOT
SEQRA Type:	Type II	BY	Town of Bethlehem

1.4.2. Comparison of Considered Alternatives

Exhibit 1-2
Comparison of Considered Alternatives

Category	Alternatives Evaluated				
	Null	Alternative 1 ("Base")	Alternative 2	Alternative 2A	**Alternative 3 (Preferred)**
Environmental Impacts					
Wetlands	None	None	None	None	**None**
Cultural Resources (Section 106)	None	No Effect	No Effect	No Effect	**No Effect**
Section 4(f)	None	None	None	None	**None**
Endangered/ Threatened Species	None	No Effect	No Effect	No Effect	**No Effect**
Noise	None	During Construction	During Construction	During Construction	**During Construction**
Social Impacts					
Property Acquisitions	None	None	None	9 Strip Acquisitions	**9 Strip Acquisitions**
Mobility (Pedestrian, bicycle, transit, etc.)	No Effect	Incremental Improvement in pedestrian mobility	Moderate Improvement in pedestrian mobility	Significant Improvement in pedestrian mobility	**Significant Improvement in pedestrian mobility**
Environmental Justice	No Effect	No disproportionate high and adverse effects to minority or low-income populations	No disproportionate high and adverse effects to minority or low-income populations	No disproportionate high and adverse effects on minority or low-income populations	**No disproportionate high and adverse effects on minority or low-income populations**

Exhibit 1-2 Comparison of Considered Alternatives					
Category	**Alternatives Evaluated**				
	Null	Alternative 1 ("Base")	Alternative 2	Alternative 2A	**Alternative 3 (Preferred)**
General Social Groups	No Effect	Beneficial impacts for disabled pedestrians and school children (new accessible sidewalks and high visibility crossings)	Beneficial impacts for disabled pedestrians and school children (new accessible sidewalks and high visibility crossings)	Beneficial impacts for disabled pedestrians and school children (new accessible sidewalks and high visibility crossings)	**Beneficial impacts for disabled pedestrians and school children (new accessible sidewalks and high visibility crossings)**
Economic and/or Operational Impacts					
Economic Impacts	No Effect	No change to vehicular access to businesses	No change to vehicular access to businesses	No change to vehicular access to businesses	**No change to vehicular access to businesses**
Detours	No Effect	None	None	None	**None**
Reduction of Parking	No Effect	None	None	None	**None**
Utility Impacts	None	None	None	3 pole relocations	**3 pole relocations**
Construction Cost	None	$4.0M*	$4.4M*	$4.7M*	**$4.5M***

*Includes a $2.5M NYSDOT paving share

1.4.3. Anticipated Permits

Exhibit 1-3 Anticipated Permits
• NYSDOT Highway Work Permit

1.5. Preferred Alternative

Alternative 3 is the Preferred Alternative as it best meets the project's primary goals of restoring the roadway pavement, as well as creating a more balanced transportation system along Delaware Avenue to increase safety for users of all ages and abilities, otherwise known as Complete Streets. Alternative 3 is the resulting preferred alternative after combining features of Alternative 2A (which was the preferred alternative of the majority of community members who attended the project's June 2023 Public Informational Meeting and/or provided subsequent written comments to the Town) with feedback from other stakeholders, including NYSDOT. *Appendix A* provides Schematic Project Plans (with typical sections) for preferred Alternative 3.

The following proposed design features, to be implemented under Preferred Alternative 3, will help to (1) "calm" traffic and improve safety along the corridor for all users, including vehicular traffic, pedestrians (including transit users and school children), and cyclists, as well as (2) make the area more attractive and accessible for the business community, one that has become a community "Main Street" in the Town of Bethlehem:

- Raised Median Islands at the following two (2) new Mid-Block Crossings:
    - RRFB at Mid-Block Crossing #1 (Between Salisbury Road and Snowden Avenue)
    - No Traffic Signal at Mid-Block Crossing #2 (at CDTA bus stop between Lenox Street and Grant Street)
- Gateway Feature @ East end of project (with raised median islands)
- Restriping of the roadway for a consistent 11' wide travel lanes (remove 2' flush median) – this will have the added benefit of moving vehicles away from the existing sidewalks on both sides of the roadway, most of which primarily exist adjacent to the curb
- ADA compliant concrete curb ramps at all intersections
- High visibility cross walks across both Delaware Avenue as well as all the sideroads
- Upgrade of both existing traffic signals to include new APS push buttons (@ Elsmere Avenue & Delaware Plaza), as needed (to be coordinated with NYSDOT during final design)
- Reduction of driveway opening widths and consolidation of driveways to reduce pedestrians/vehicle conflict points, where feasible
- Potential Reduction of the posted speed limit - (pending post-construction data collection/coordination with NYSDOT)

1.6. Project Schedule and Cost

Exhibit 1-4 Project Schedule	
Activity	**Date Occurred/Tentative**
Scope/Design Approval	December 2024
ROW Acquisition Complete	March 2025
Construction Start	April 2025
Construction Substantially Complete	Nov 2025
Construction Winter Shut-Down	Dec 2025 thru March 2026
Construction Punch-List Items Completed (i.e. Landscaping)	April thru May 2026

This project is on the 2023 – 2026 State Transportation Improvement Program (STIP). As noted below, the pavement resurfacing ("mill & fill") portion of construction will be 100% funded by the State. The remainder of the project will TAP (80%) funded, with 20% local Town Match.

Exhibit 1-5 Project Costs					
		Alternative 1	**Alternative 2**	**Alternative 2A**	**Alternative 3**
Design		$0.5 M	$0.5 M	$0.5 M	$0.5 M
Construction	Pavement Resurfacing (100% State Funded)	$2.5 M	$2.5 M	$2.5 M	$2.5 M
	Complete Streets Elements (TAP Funds)	$1.5 M	$1.9 M	$2.2 M	$2.0 M
ROW Acquisition		$0.0 M	$0.0 M	$0.1 M	$0.1 M
Total		**$4.5 M**	**$4.9 M**	**$5.3 M**	**$5.1 M**

1.7. Public Involvement

Exhibit 1-6 Public Involvement Plan Schedule of Milestone Dates	
Activity	**Date Occurred/Tentative**
Website Posted	March 2023
Public Informational Meeting #1	June 15, 2023
Public Informational Meeting #2	September 24, 2024
Current Project Letting date	Spring 2025

Comments received from the public to date at are included in *Appendix C*.

For additional information, please contact:

Robert F. Leslie, AICP
Director of Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054
Tele. (518) 439-4955, Ext. 1157
rleslie@townofbethlehem.org

Please include the six-digit Project Identification Number (PIN) 1761.68 in any correspondence.

The remainder of this report is a detailed technical evaluation of existing conditions; anticipated impacts of the preferred alternative (Alternative 3); and copies of technical reports, plans, and other supporting information.

CHAPTER 2 – EXISTING AND PROPOSED CONDITIONS AND CONSIDERATIONS

2.1. Functional Classification/National Highway System/Truck Access

Exhibit 2-1 Classification Data	
Route	NYS Route 443
Functional Classification	Urban Minor Arterial
National Highway System (NHS)	No
Designated Truck Access Route	No
Qualifying Highway	No
Within 1 mile of a Qualifying Highway	No
Within the 16 ft vertical clearance network	No

2.2. Planning Considerations

2.2.1. Abutting Highway Segments and Future Plans

The Regional Planning Group has confirmed that there are no plans to reconstruct or widen this highway segment, or the adjoining segments, within the next 20 years.

2.2.2. Local Plans for the Project Area

This project is on the 2023 – 2026 State Transportation Improvement Program (STIP). TAP funding has been fully allocated on the STIP.

The project is centered around the implementation of the *NYS Complete Streets Act* (2011) and *Town of Bethlehem's Complete Streets Policy* (2009).

2.2.3. Access Control

Access is unrestricted along Route 443. There are 68 total business and residential driveways that exit onto the highway within the project limits. This project will not change the existing access control.

2.3. Traffic Considerations

2.3.1. Traffic Volumes

The Existing (2023) volumes were developed using a combination of the latest traffic volume data from NYSDOT's Traffic Data Viewer and collecting additional 2023 counts within the corridor. The latest Annual Average Daily Traffic Volume (AADT), Design Hour Volume (DHV), and Directional Design Hour Volume (DDHR) data available on NYSDOT's Traffic Data Viewer for Delaware Ave is dated 2019.

Vehicle volume counts were performed in May 2023 for seven continuous typical days along Delaware Avenue at a point 30' east of Snowden Avenue (ATR Location #1) and 10' east of Grant Street (ATR Location #2). Turning movement counts were also collected at the following intersections in May 2023 during the weekday morning and evening peak periods, and June 2023 during the weekend peak period:

- Delaware Avenue and Elsmere Avenue/Groesbeck Place
- Delaware Avenue and Herrick Avenue
- Delaware Avenue and Lincoln Avenue/Phillips Hardware Driveway
- Delaware Avenue and Salisbury Road
- Delaware Avenue and Delaware Plaza

Within the peak periods, the peak hours were identified to be 7:30 am to 8:30 am in the weekday morning, 4:30 pm to 5:30 pm in the weekday evening, and 12:15 pm to 1:15 pm during the weekend.

The Estimated Time of Completion (ETC) + 20 design year was selected per NYSDOT Project Development Manual Appendix 5 for Design Year Traffic Forecasts. The No-Build and Build volumes are the same. The exhibit below summarizes the future No-Build / Build AADT, DHV, and DDHV conditions for the project.

Exhibit 2-2
Existing and Forecast Bild and No-Build Traffic Volumes

Route (Location of ATR)	ATR Location #1 Delaware Avenue 30' East of Snowden Avenue			ATR Location #2 Delaware Avenue 10' East of Grant Street		
Year	AADT	DHV	DDHV	AADT	DHV	DDHV
Existing (2023)	16,500	1,585	994	14,900	1,430	897
ETC (2025)	16,700	1,601	1,004	15,000	1,444	906
ETC+20 (2045)	18,300	1,759	1,103	16,500	1,587	996

Note: ETC is the Estimated Time of Completion of project construction

The ETC (2025) and ETC+20 (2045) volumes were developed by projecting the existing volumes utilizing a conservative annual growth rate of 0.5%.

All detailed existing and future traffic count data are provided in *Appendix D*.

2.3.2. Speed Studies

2.3.2.1. Existing Speed Limits

Delaware Avenue is classified as an Urban Minor Arterial roadway which links the Town of Bethlehem Hamlets of Delmar and Elsmere to the City of Albany to the east. The posted speed limit within the 1.4-mile project corridor is 40 mph. When considering the upstream and downstream speed zones, it is observed that the 40-mph zone is “sandwiched” between a 30-mph posted speed limit in both the Hamlet of Delmar (0.15 miles west of the project corridor*) and the City of Albany (just east of the project corridor). During school days, between 7 AM to 6 PM, the speed limit within this corridor is further divided into smaller segments, as follows, from west to east:

- *0.15 mile of 40 mph speed zone (*just west of the project limit*)**
- 0.20 mile of 30 mph school speed zone
- 1.20 mile of 40 mph speed zone.

**NYSDOT *Traffic Safety & Mobility Instruction* (TSMI) 17-05 on *Speed Limits* recommends the speed zone lengths should not be less than 0.25 miles in length. This conflicts with the 0.15-mile 40 mph speed zone segment when the school zone speed reduction is enforceable.

2.3.2.2. Recorded Speeds

Speed data was collected using Automatic Traffic Recorders (ATRs) in May 2023 for seven continuous typical days along Delaware Avenue at a point 30’ east of Snowden Avenue (ATR Location #1) and 10’ east of Grant Street (ATR Location #2). Details of the data collection can be found in *Appendix D-3*. The existing operating speeds presented in the Exhibit 2-3 below are the recorded 85th percentile speeds.

Exhibit 2-3
Existing Speed Data

Route (Location of ATR)	**ATR Location #1 Delaware Avenue 30’ East of Snowden Avenue**	**ATR Location #2 Delaware Avenue 10’ East of Grant Street**
Operating Speed (85th percentile speed mph)	42 mph	43 mph

In addition, Travel Speed and Delay Runs for existing conditions using the “floating-car” method were conducted in May-June 2023 during the AM, PM, and weekend peak periods. Results are presented in Figures 2-1 through 2-3 below and details can be found in *Appendix D-4*.

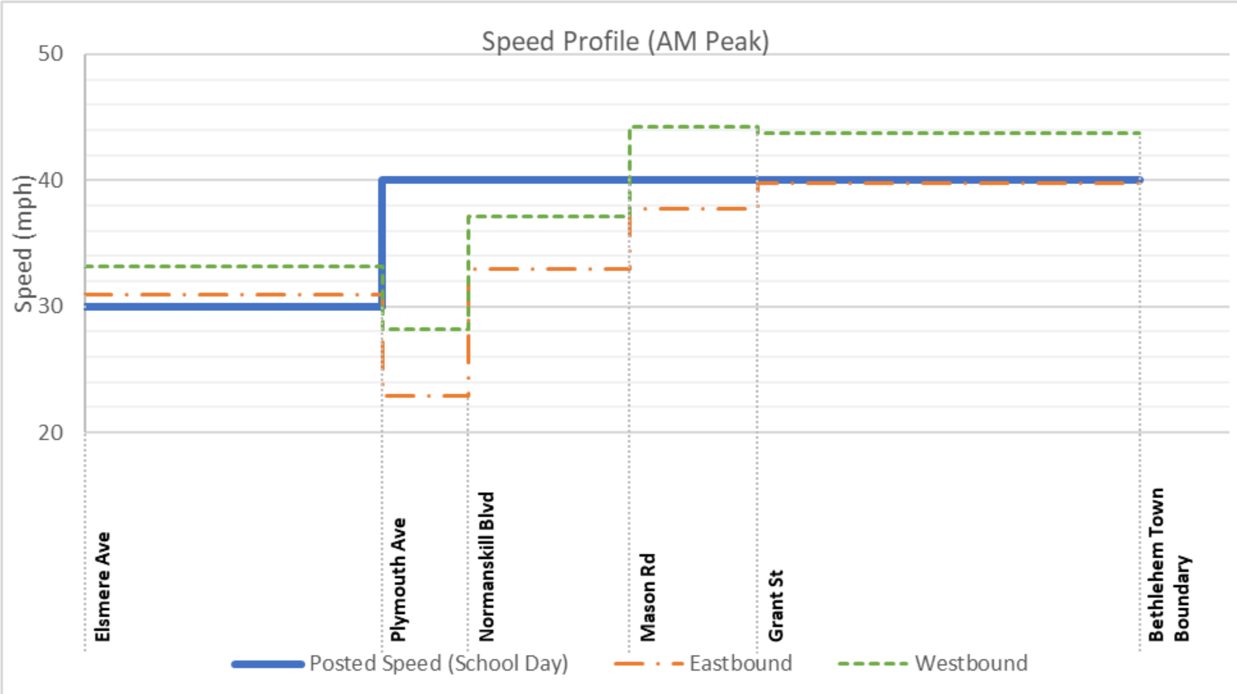


Figure 2-1: Average Speed Profile during AM Peak

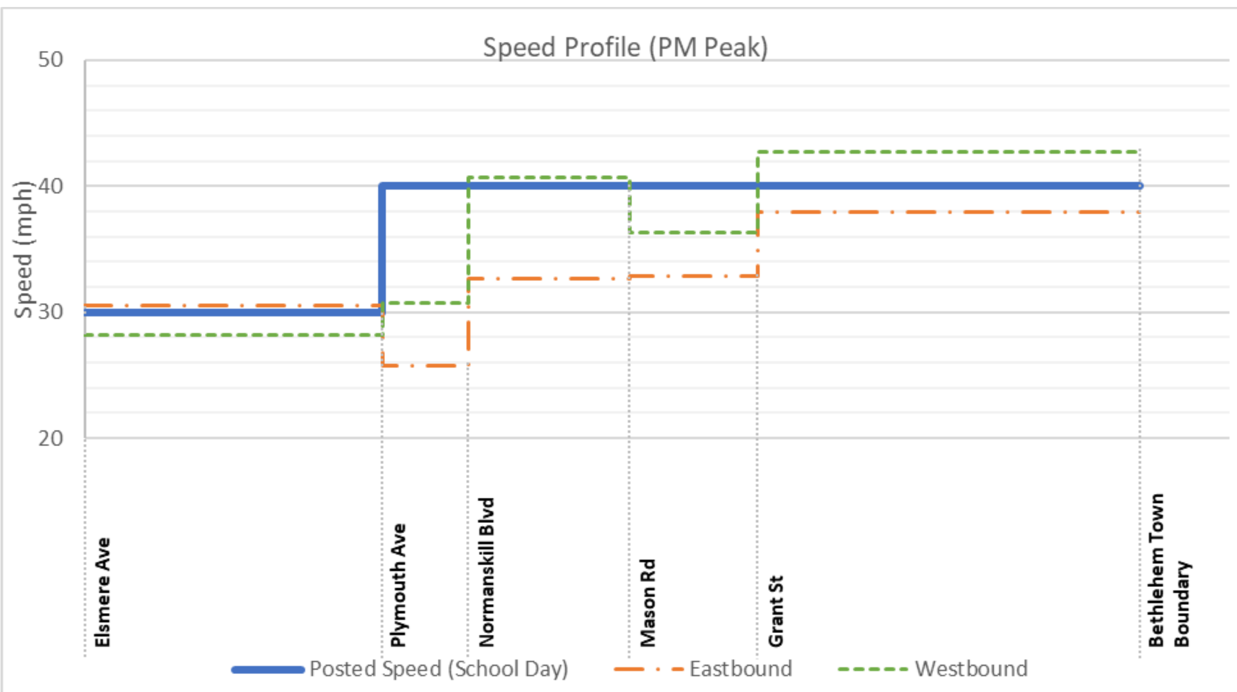


Figure 2-2: Average Speed Profile during PM Peak

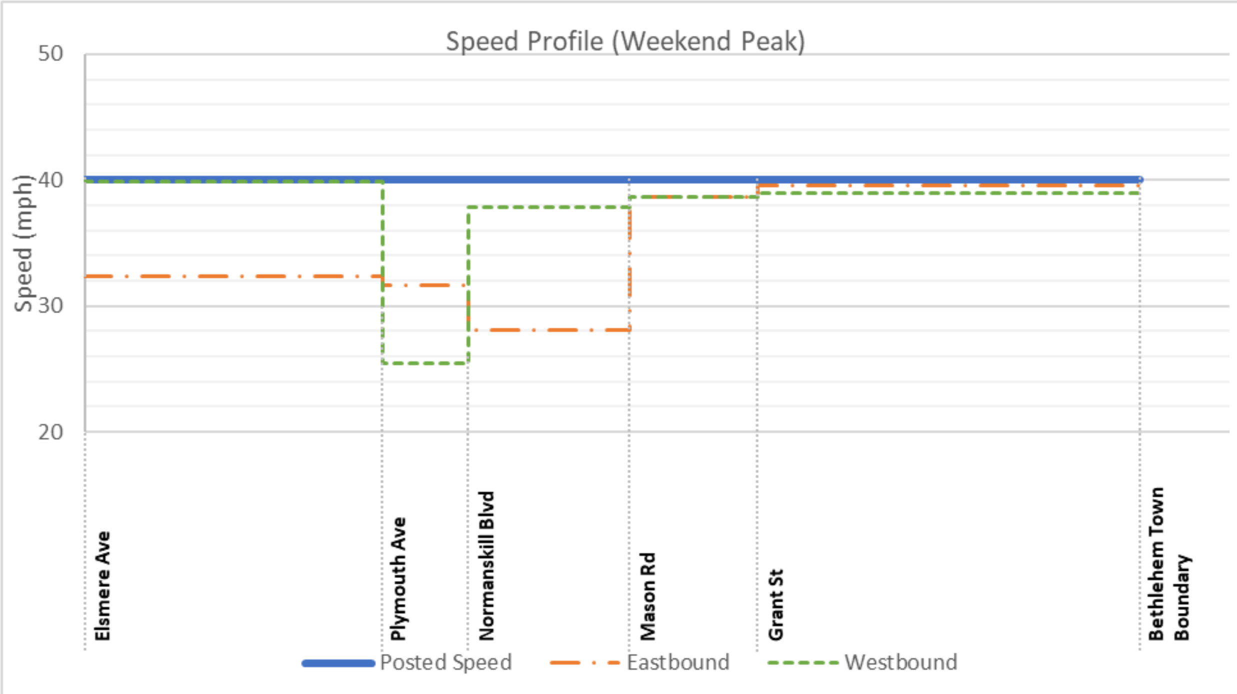


Figure 2-3: Speed Profile during Weekend Peak

The travel time speeds were lower between Elsmere Avenue and Grant Street when compared to Grant Street to the Bethlehem/Albany Boundary. This is likely a result of the denser commercial and residential developments/driveways that currently exist between Elsmere Avenue and Grant Street, resulting in slower average speeds as drivers navigate through more points of conflict.

2.3.2.3. Speed Limit Evaluation

Major pedestrian and bicyclist attractors exist in the corridor, including the Elsmere Elementary School, Delaware Plaza, 16 CDTA transit bus stops, the Albany County Rail Trail, the Normanskill Preserve, and numerous retail and restaurant establishments.

Concrete sidewalks exist on both sides of Delaware Avenue for most of its length, with a very narrow (0'-2') buffer between the sidewalk and vehicular traffic. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway with the vehicular traffic. It has been observed that some bicyclists ride on the sidewalk as well. There are no existing marked mid-block crossings in the project corridor, with the only opportunities for pedestrians and bicyclists to safely cross Delaware Avenue at the signalized intersections at Elsmere Avenue and Delaware Plaza, located 0.5 miles apart.

Public feedback on the existing pedestrian and bicycle conditions was collected as part of the June 2023 Public Informational Meeting, as well as an interactive project website. The public consensus was that the corridor exhibits high vehicle speeds and aggressive driving, and that the corridor “feels” unsafe, particularly for children who walk along the roadway. The public also expressed consensus that lowering the speed limit (with enforcement) would make it much safer for the community, as well as better support the pedestrian and cycling activities and patronization of the businesses in the corridor. Thirty-three (33) public responses related to speed reduction were collected, out of which 28 responses support reducing the speed to 30 mph for the entire corridor, 4 responses were neutral, and 1 response was against changing the speed limit.

The crash history, described in Section 2.3.4 below, indicates that most existing crashes along the corridor are rear end and sideswipe (same direction), which are related to lane changes and or turning onto side streets and driveways. Speed reduction along Delaware Avenue would provide longer reaction times for drivers, likely reducing the number of and severity of crashes.

The existing speed limit was also evaluated using USLIMITS2, an FHWA web-based tool for setting appropriate speed limits that are credible, consistent, and enforceable. This approach considers the surrounding development, access points, road characteristics, and crash history. As the roadway segment between Hudson Avenue and Grant Street is much more developed than the segment between Grant Street and the Bethlehem/Albany Boundary, the USLIMITS2 analysis was performed on the more developed segment. USLIMITS2 results suggest that the segment from Hudson Avenue to Grant Street should be posted at 35-mph or less.

Exhibit 2-4
USLIMITS2 Results on Existing Condition

Route	Delaware Ave (NYS 443)
Segment	From Hudson Avenue to Grant Street
Segment Length	1.1 mile
Posted Speed Limit	40 mph 30 mph weekday in school zone
USLIMITS2 Calculated Speed Limit	35 mph (or less)

Application of traffic calming measures, including mid-block raised medians/ped crossings and gateway features, support the Town's proposal/request to reduce the speed limit of the current 1.6 mile 40-mph roadway segment from 40-mph to 30-mph to be consistent with the Delaware Avenue segments that "bookend" the corridor. Additionally, within 1,000 feet of the existing speed limit change from 30-mph to 40-mph (at the western Project limit), a 30-mph school zone exists. This current change in posted speed limit increases the speed variance in the traffic stream and leads to higher travel speed of the motorists, increasing the potential for crashes.

Additional Travel Speed Data and analysis are provided in *Appendix B-4*.

Final determination of any speed limit changes will be made by NYSDOT after future additional speed studies are conducted after construction of the proposed traffic calming measures.

2.3.3. Level of Service (LOS) Analysis

2.3.3.1. Intersections LOS

Level of Service (LOS) is presented as a letter from A to F with LOS A representing free-flowing, unimpeded traffic with little or no delay and LOS F representing highly congested traffic flow with long delays. The standard design objective for urban street systems is to achieve a minimum LOS D on all approaches during peak hours per NYSDOT Highway Design Manual (HDM), Chapter 5.9.2. However, it is recognized that there are many competing objectives and considerations, especially in an urban area, that may affect the desirability and feasibility of achieving this goal for peak hours.

To determine Existing (2023), ETC (2025), and ETC+20 (2045) No-Build and Build traffic operating conditions along the Delaware Avenue, a capacity analysis was performed using Synchro v11 software. As the latest version of Highway Capacity Manual (HCM) in Synchro v11 software is unable to analyze intersections with exclusive pedestrian phase, the Synchro Methodology was utilized instead for all intersections.

Analysis was performed for the following intersections:

- Delaware Avenue and Elsmere Avenue/ Groesbeck Place
- Delaware Avenue and Herrick Avenue
- Delaware Avenue and Lincoln Avenue/ Phillips Hardware Driveway
- Delaware Avenue and Salisbury Road
- Delaware Avenue and Delaware Plaza

Under the proposed preferred alternative (Alternative 3), the future layout of all five (5) analyzed intersections will be the same as the No-build scenario.

Exhibit 2-5 below summarizes the analysis results for all five (5) intersection under Existing (2023), ETC (2025), and ETC+20 (2045) conditions for both the No-Build and Build scenarios. The results show acceptable LOS (LOS D or better for urban area) for all intersections.

Exhibit 2-5
Intersection Level of Service and Delays (sec)

YEAR	PERIOD	EB	WB	NB	SB	Overall
Intersection of Delaware Avenue and Elsmere Avenue/ Groesbeck Place						
Existing (2023)	AM	C (20.4)	B (15.0)	C (25.6)	C (31.0)	C (20.6)
	PM	C (21.9)	B (17.8)	C (20.7)	C (29.5)	B (19.7)
	Weekend	C (21.6)	B (12.7)	B (17.5)	C (28.3)	B (17.0)
ETC Conditions						
No-Build ETC (2025)	AM	C (20.7)	B (12.6)	C (25.8)	C (29.6)	C (20.1)
	PM	C (24.8)	B (18.9)	C (18.1)	C (26.6)	C (20.5)
	Weekend	C (21.2)	B (13.1)	B (17.4)	C (27.3)	B (17.0)
ETC+20 Conditions						
No-Build ETC+20 (2045)	AM	C (23.0)	B (12.6)	C (27.3)	C (31.1)	C (21.4)
	PM	C (25.7)	C (21.4)	B (19.1)	C (26.8)	C (22.2)
	Weekend	C (21.5)	B (14.1)	B (19.7)	C (28.2)	B (18.1)
	Weekend	C (27.7)	B (17.0)	C (23.6)	C (27.6)	C (22.2)
Intersection of Delaware Avenue and Herrick Avenue						
Existing (2022)	AM	A (0.5)	A (0.0)	---	B (13.7)	A (0.7)
	PM	A (0.1)	A (0.0)	---	C (20.1)	A (0.1)
	Weekend	A (0.0)	A (0.0)	---	B (14.4)	A (0.0)
ETC Conditions						
No-Build ETC (2025)	AM	A (0.5)	A (0.0)	---	B (13.8)	A (0.7)
	PM	A (0.1)	A (0.0)	---	C (20.4)	A (0.1)
	Weekend	A (0.0)	A (0.0)	---	B (14.4)	A (0.0)
ETC + 20 Conditions						
No-Build ETC+20 (2045)	AM	A (0.5)	A (0.0)	---	B (15.1)	A (0.7)
	PM	A (0.1)	A (0.0)	---	C (22.8)	A (0.1)
	Weekend	A (0.0)	A (0.0)	---	B (15.6)	A (0.0)
Intersection of Delaware Avenue and Lincoln Avenue/ Phillips Hardware Driveway						
Existing (2022)	AM	A (0.0)	A (0.3)	C (18.8)	D (25.3)	A (1.1)
	PM	A (0.3)	A (0.2)	C (20.0)	D (27.8)	A (0.6)
	Weekend	A (0.4)	A (0.2)	C (16.3)	C (15.4)	A (1.1)
ETC Conditions						
No-Build ETC (2025)	AM	A (0.0)	A (0.3)	C (18.9)	D (25.6)	A (1.1)
	PM	A (0.3)	A (0.2)	C (20.3)	D (28.3)	A (0.6)
	Weekend	A (0.4)	A (0.2)	C (16.5)	C (15.6)	A (1.1)
ETC + 20 Conditions						
No-Build ETC+20 (2045)	AM	A (0.0)	A (0.4)	C (21.6)	D (28.7)	A (1.3)
	PM	A (0.3)	A (0.2)	C (24.2)	D (33.5)	A (0.7)
	Weekend	A (0.5)	A (0.2)	C (17.7)	C (17.1)	A (1.2)
Intersection of Delaware Avenue and Salisbury Road						
Existing (2022)	AM	A (0.2)	A (0.0)	---	B (15.0)	A (0.3)
	PM	A (0.7)	A (0.0)	---	B (14.9)	A (0.5)
	Weekend	A (0.4)	A (0.0)	---	B (12.2)	A (0.6)
ETC Conditions						
No-Build	AM	A (0.2)	A (0.0)	---	B (15.1)	A (0.3)

Exhibit 2-5 Intersection Level of Service and Delays (sec)						
YEAR	**PERIOD**	**EB**	**WB**	**NB**	**SB**	**Overall**
ETC (2025)	PM	A (0.7)	A (0.0)	---	B (15.1)	A (0.5)
	Weekend	A (0.4)	A (0.0)	---	B (12.2)	A (0.6)
ETC + 20 Conditions						
No-Build ETC+20 (2045)	AM	A (0.2)	A (0.0)	---	B (16.4)	A (0.3)
	PM	A (0.8)	A (0.0)	---	B (18.7)	A (0.6)
	Weekend	A (0.4)	A (0.0)	---	B (12.5)	A (0.6)
Intersection of Delaware Avenue and Normanskill Boulevard/ Delaware Plaza Driveway						
Existing (2022)	AM	B (11.6)	B (18.0)	C (31.6)	C (31.1)	B (15.3)
	PM	C (30.1)	C (23.1)	D (37.9)	C (30.9)	C (27.4)
	Weekend	B (19.9)	B (15.3)	C (26.0)	C (22.2)	B (19.0)
ETC Conditions						
No-Build ETC (2025)	AM	B (11.6)	B (16.7)	C (29.2)	C (29.2)	B (14.6)
	PM	B (22.6)	C (22.9)	C (33.1)	C (24.6)	C (24.1)
	Weekend	B (19.5)	B (15.0)	C (27.8)	C (22.0)	B (19.1)
ETC + 20 Conditions						
No-Build ETC+20 (2045)	AM	B (11.8)	B (17.1)	C (29.9)	C (30.1)	B (15.0)
	PM	C (23.0)	C (25.5)	C (33.4)	C (24.5)	C (25.6)
	Weekend	C (20.7)	B (15.9)	C (27.7)	C (21.7)	C (19.9)

2.3.3.2 Roadway Link LOS (@ Eastern Project Limit)

As noted in Section 1.3, the preferred alternative (Alt 3) includes the extension of the existing two-lane section from the eastern project limit (in the City of Albany) 1,200' west to Lenox Street in the Town of Bethlehem (with the additional inclusion of a two-way left-turn lane median). Although the link capacity of this 1,200' segment would naturally be reduced when it is converted from a four-lane roadway to a three-lane roadway (two-lane section with two-way left-turn lane), this converted segment would have similar (or better) capacity as the existing two-lane section east of the project, as the three-lane segment would allow left-turn vehicles to enter/exit Delaware Avenue safer and more easily.

HCS 2023 results for this link are presented in Exhibit 2-6 below. For the Existing and No-Build scenarios, HCS methodology for Multilane Highway analysis were performed. The Build scenarios uses HCS methodology for Two-Lane Highway analysis.

Exhibit 2-6 Multilane Roadway Segment Level of Service a					
YEAR	**PERIOD**	**Density, pc/mi/ln**		**LOS**	
		EB	**WB**	**EB**	**WB**
Existing (2023)	AM	15.3	8.8	B	A
	PM	11.2	17.2	B	B
	Weekend	9.0	8.9	A	A
No-Build ETC (2025)	AM	15.5	8.9	B	A
	PM	11.3	17.4	B	B
	Weekend	9.1	9.0	A	A
Build Alt 3 ETC (2025)	AM	18.6	8.6	E	C
	PM	12.3	22.0	D	E
	Weekend	9.0	8.7	C	C
No-Build ETC+20 (2045)	AM	17.0	9.8	B	A
	PM	12.4	19.1	B	C
	Weekend	10.0	9.8	A	A
Build Alt 3 ETC+20 (2045)	AM	21.1	9.8	E	C
	PM	14.0	24.9	D	E
	Weekend	10.3	10.0	D	C

Although the lane reduction in the Build scenario would naturally increase platooning and vehicular density along this segment, the predicted speed would still be reasonable (i.e., 3 mph+/- less than posted speed), and demand would not exceed capacity. An important factor in the designation of LOS E in the Build condition is that passing, if allowed, would be very difficult, if not impossible. That said, in a busy urban/suburban roadway with many driveways, it is in fact the left turning vehicles that produce passing blockages and queue discharge rate interruptions. These will be alleviated with the presence of a 14ft wide two-way left turn lane . Furthermore, it is important to note that the Build model is based on the HCS methodology for Two-Lane Highway analysis, which does not account for the impact of the two-way left-turn lane median facilitating turning (as well as passing in emergency situations). As such, the roadway capacity analysis results produced by the model is more conservative compared to what would be reasonable expected in the field. Additionally, it would be safer for vehicles on the side-streets looking to enter the traffic stream on Delaware Ave because they would only need to look for gaps in one stream/direction, instead of both streams, and cross only one lane, instead of two lanes, to get in the center turn lane.

To ensure that there is sufficient gap along Delaware Avenue for vehicles along side streets or driveways to enter, the impact of the lane reduction on driveway conflicts was studied at the intersection of the Hoffman Car Wash driveway and Delaware Avenue (this intersection was selected because of availability of Hoffman Car Wash data). As noted above, the proposed 3-lane Delaware Avenue lane-configuration would allow left-turn vehicles to enter Delaware Avenue from driveways with more ease than the existing 4-lane configuration due to the reduction in the number of conflicting traffic lanes crossed (from 3 to 2) and the left turn maneuver being performed in 2 stages rather than in one single movement. The lane reduction is expected to reduce the overall delay for motorists entering Delaware Avenue. The results of the future traffic operations at the Hoffman Car Wash which would result from this proposed lane reduction is summarized in the *Hoffman Car Wash Egress Assessment* technical memo included in *Appendix B-1*.

2.3.4. Safety and Crash History Analysis

A crash analysis was performed for the project corridor in accordance with NYS Highway Design Manual Chapter 5 (See *Appendix D-12*). The analysis extends from RM 443 11021223 to RM 443 11022000 and was performed for the three-year period from January 1, 2020 thru Dec 31, 2022. From the Clear Safety Database, the potential for safety improvement (PSI) related to all crashes are presented in Exhibit 2-7 (a). It is noted that the segment along Delaware Avenue from 22.54 mile to 23.40 mile (from Elsmere Avenue to Lenox Street) has the highest PSI of 11.22, which implies that the number of observed crashes is higher than the expected number of crashes based on the respective facility type.

Exhibit 2-7 (a)
Safety Performance (Total) - Route 443, From Hudson Avenue to Rockefeller Road

Route	Facility Type Description	Potential for Safety Improvement (PSI)
NY443 EB from 22.35 to 22.45	Urban, Multi-Lane, Undivided, Free Access	-1.33
NY443 EB from 22.45 to 23.54	Urban, Multi-Lane, Divided, Free Access	-0.57
NY443 EB from 22.54 to 23.40	Urban, Multi-Lane, Divided, Free Access	11.22
NY443 EB from 23.40 to 23.64	Urban, Two-Lane, Divided, Free Access	1.04
NY443 EB from 23.64 to 23.96	Urban, Two-Lane, Undivided, Free Access	-0.12

There are no High Accident Locations (HALs) within the study area. Of the 68 total crashes reported, 56 were property damage only crashes, 10 were injury crashes, and 2 were serious injury crashes. The 2 serious injury crashes were a result of vehicles/peds and vehicle/cyclist collisions. The crash types are presented in Table 2-7(b) below.

Exhibit 2-7 (b) Collision Summary - Route 443, From Hudson Avenue to Rockefeller Road		
Type of Collision	**Number**	**Percentage**
Rear End	19	28%
Sideswipe (same direction)	13	19%
Animal	9	13%
Right Angle	4	6%
Left Turn	8	12%
Right Turn	4	6%
Sideswipe (opposite direction)	1	1%
Head On	1	1%
Pedestrian	1	1%
Bicycle	1	1%
Other	7	10%

Throughout the corridor, the most prevalent collision types were Rear End (28%) and Sideswipe (same direction) (19%) crashes. These two collision types are generally related to lane-changes and/or turning onto side streets and driveways. To help reduce the frequency and severity of this accident type both (1) traffic calming measures summarized at the end of Section 1.3 above and (2) a reduction of the posted speed limit are proposed (pending post-construction data collection/coordination with NYSDOT).

2.3.5. Pedestrians, Bicyclists and Transit (Complete Streets)

2.3.5.1. Pedestrians and Bicyclists

The Capital Projects *Complete Streets Checklist* is included in *Appendix E*. The land use along Delaware Avenue is primarily commercial, including retail stores, restaurants, religious center, clinics, and others. These commercial activities are surrounded by residential neighborhoods, both north and south of the Delaware Avenue corridor. *Figure 2-4(a) & Figure 2-4(b)* illustrates the key land uses, signalized intersections, crossing facilities, pedestrian facilities, and transit facilities along the corridor.

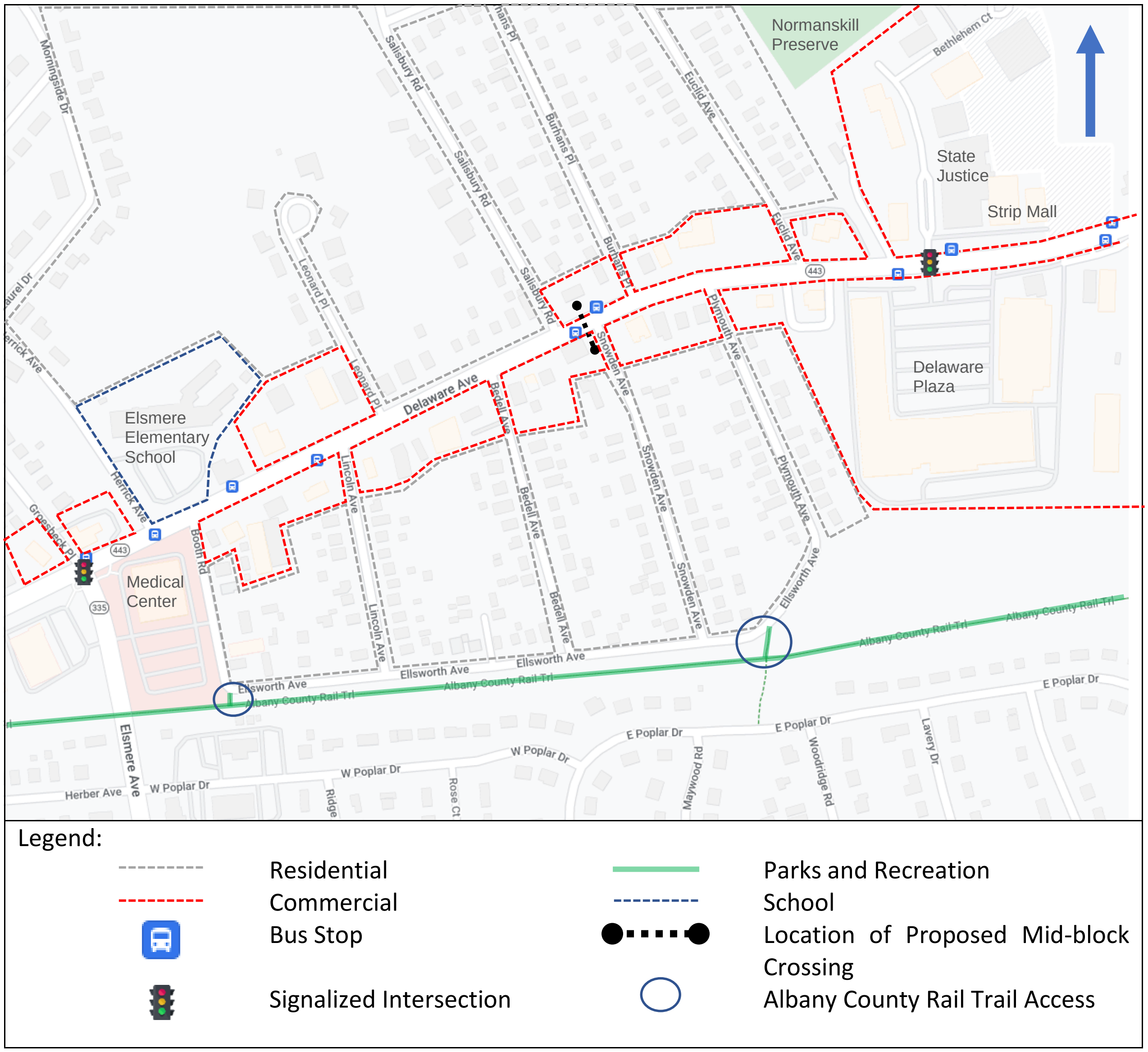


Figure 2-4(a): Key Pedestrian/ Bicycling Generators and Attractors from Elsmere Avenue to Delaware Plaza

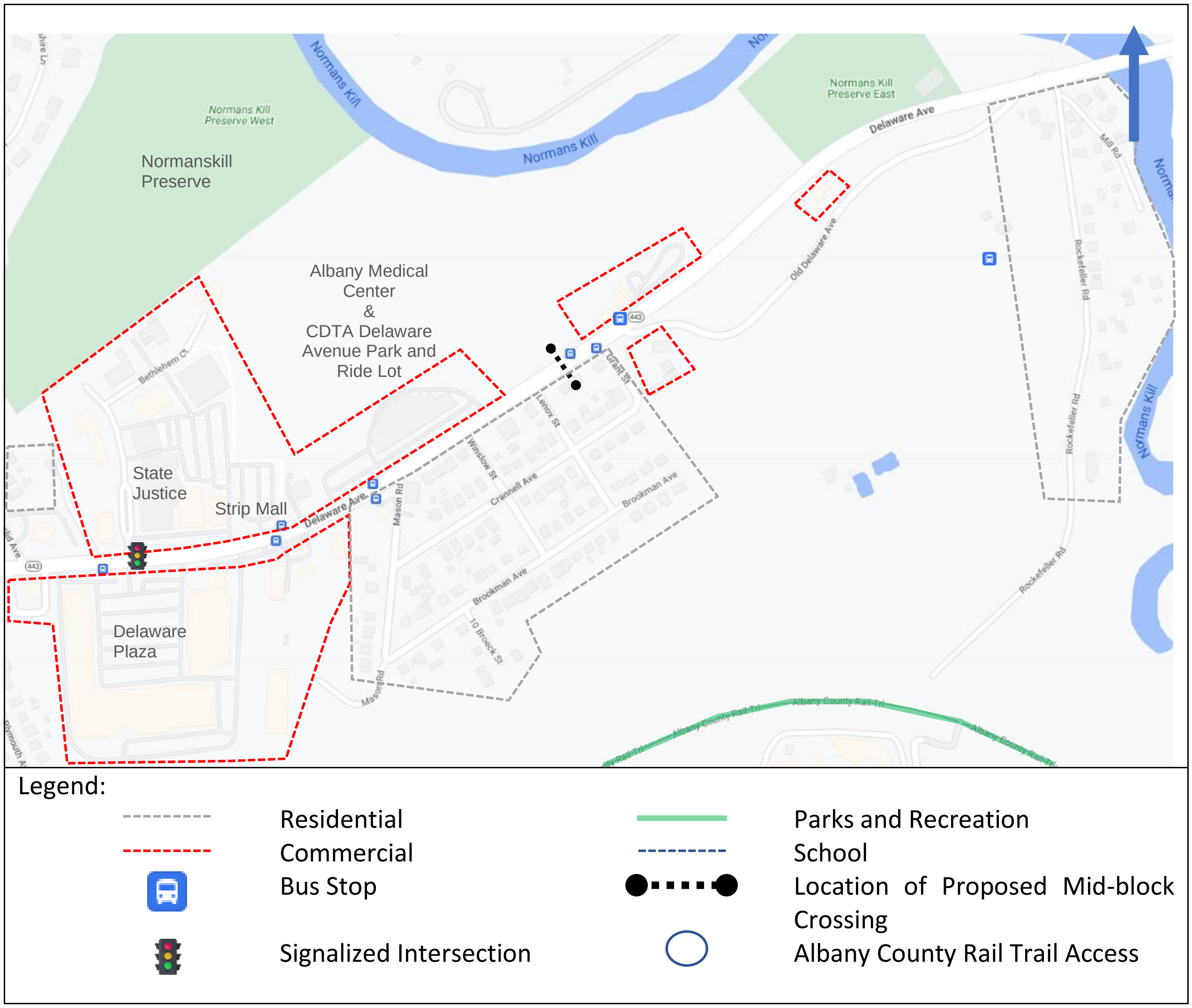


Figure 2-4(b): Key Pedestrian/ Bicycling Generators and Attractors from Delaware Plaza to Bethlehem/Albany Boundary

There are eight main pedestrian/ bicycling generators (or attractors) within the study area (See *Figure 2-4(a) & Figure 2-4(b)*):

(1) Elsmere Elementary School
(2) Delaware Plaza (retail strip mall)
(3) Albany County Rail Trail
(4) Normanskill Preserve
(5) Residential neighborhoods
(6) Multiple CDTA bus stops
(7) Albany Medical Center
(8) CDTA Delaware Avenue Park and Ride Lot

Sidewalks exist on both sides of the roadway for most of the length of the corridor, with a very narrow buffer to the roadway (0 to 2 feet). Several of the existing intersection sidewalk ramps are missing detectable warning surfaces and/or do not meet ADA standards for geometry/grade. In addition, only two protected pedestrian crossings exist within the proposed corridor, located at the two existing traffic signals (at Elsmere Avenue and Delaware Plaza). These protected crossings are located approximately 0.5 miles apart. NYSDOT HDM Section 18.7.1 states that pedestrians should have an opportunity to cross every 0.25 miles for urban or suburban residential/ retail areas, where possible.

The lack of protected pedestrian crossing between Elsmere Avenue and Delaware Plaza has resulted in many pedestrians/ bicyclists crossing unsafely; namely, dashing diagonally across the road or stopping in the middle of the road to wait for a sufficient gap to cross. The one pedestrian crash and one bicycle crash reported in the last three years resulted in serious injuries for a pedestrian and a bicyclist, respectively. The community has also voiced their desire for additional safe crossing opportunities.

As detailed in Section 1.3 above, the project proposes to close the gap between safe crossings by providing protected mid-block pedestrian crossings at the following two (2) locations (these will result in a decrease in the interval between protected pedestrian crossings from 1/2 mile +/- to 1/3 mile +/-, closer to the NYSDOT HDM guidelines noted above):

- Mid-Block Crossing #1 - Between Salisbury Road and Snowden Avenue
- Mid-Block Crossing #2 - Between Lenox Street and Grant Street

Additional details regarding proposed mid-block crossing #1 is provided in the *Mid-block Crossing Assessment* technical memo located in Appendix B-3.

2.3.5.2. Transit

The Capital District Transportation Authority (CDTA) Route 18 runs 32 daily round trip routes through the Delaware Avenue corridor, with 16 bus stops (8 in each direction) serving approximately 100 users/day within the project limits. The proposed traffic calming measures and pedestrian amenities that are planned for this project will help promote transit use as pedestrian users will experience a safer corridor walking to/from the bus stop locations, and bus traffic will experience a safer corridor in which to stop/start for pickups/drop-offs.

2.4. Design Standards

Exhibit 2-8
Critical Design Elements for Delaware Ave

PIN	1761.68	**BIN** (if applicable)		N/A	
Functional Class:	Urban Minor Arterial	**NHS**	☐	**Non-NHS**	☑
Design Class:	Arterial	**Context Class:**		Urban	
Project Type:	1R w/ Complete Streets	**Terrain:**		Flat	
Design Year AADT:	18,300	**Percentage of Trucks:**		2%	
Truck Access or Qualifying Highway (QH)?	Neither	**If not a QH, is project within 1 mi of a QH?**		No	
Existing or Proposed Bicycle Route?	No	**Anticipated level of bicycle activity**		Low to med	

Element		**Standard**	**Existing Condition**	**Proposed Condition[1]**
1	Design Speed	30 mph to 45 mph HDM Section 2.7.2.3.A	40 mph posted	45 mph (See Notes 2 and 3)
2	Lane Width	11' min (interior) 13' min (shared exterior) 11' min (TWLTL) 10' min (left turn lane) HDM Section 2.7.2.3.B / Exhibit 2-4	2 lane section (eastern portion of project) (36' curb-to-curb): 12' lanes 4 lane section (48' curb-to-curb): 11' interior left lane 11' exterior right lane 2' striped median 5 lane section (at Delaware Plaza) (60' curb-to-curb): 10' left turn lane / TWLTL 11' interior left lane 14' exterior shared right lane	2 lane section (eastern portion of project) (36' curb-to-curb, (See Note 4): 12' travel lanes 3 lane section (48' curb-to-curb) (See Note 4) 12' travel lanes 12' TWLTL 4 lane section (48' curb-to-curb) (See Note 4) 11' interior left lane 11' exterior right lane 5 lane section (at Delaware Plaza) (60' curb-to-curb) (See Note 4) 10' left turn lane / TWLTL (match existing) 11' interior left lane 11' exterior right lane
3	Shoulder Width	0 ft min, 4 ft desired (curbed) HDM Section 2.7.2.3.C / Exhibit 2-4	2-lane segment (eastern portion of project) (36' curb-to-curb): 6' Shoulders 4-lane segment (48' curb-to-curb):	2-lane segment (eastern portion of project) (36' curb-to-curb, (See Note 4): 6' Shoulders 3-lane segment (48'

Exhibit 2-8
Critical Design Elements for Delaware Ave

PIN	1761.68	**BIN** (if applicable)	N/A
Functional Class:	Urban Minor Arterial	**NHS** ☐	**Non-NHS** ☑
Design Class:	Arterial	**Context Class:**	Urban
Project Type:	1R w/ Complete Streets	**Terrain:**	Flat
Design Year AADT:	18,300	**Percentage of Trucks:**	2%
Truck Access or Qualifying Highway (QH)?	Neither	**If not a QH, is project within 1 mi of a QH?**	No
Existing or Proposed Bicycle Route?	No	**Anticipated level of bicycle activity**	Low to med

Element		**Standard**	**Existing Condition**	**Proposed Condition[1]**
			1' Shoulders 5-lane segment (at Delaware Plaza) (60' curb-to-curb): N/A (combined with shared 14' lane)	curb-to-curb) (See Note 4) 6' Shoulders 4-lane segment (48' curb-to-curb) (See Notes 4 and 5) 2' Shoulder 5-lane segment (at Delaware Plaza) (60' curb-to-curb) (See Notes 4 and 5) 3' Shoulder
4	Horizontal Curve Radius	466' min (at e_{max}= 4%) HDM Section 2.7.2.3.D / Exhibit 2-4	Exist Curve 1 = 1300' Exist Curve 2 = 1637' Exist Curve 3 = 1070'	Match Existing (See Note 6)
5	Superelevation	e_{max} = 4% HDM Section 2.7.2.3.E / Exhibit 2-1b and Exhibit 2-11	Exist Curve 1 = 3.0% Exist Curve 2 = 2.8% Exist Curve 3 = 3.3%	Match Existing (See Note 7)
6	Stopping Sight Distance (Horizontal and Vertical)	327' min. HDM Section 2.7.2.3.F / Exhibit 2-4	580'	580'
7	Maximum Grade	7% HDM Section 2.7.2.3.G / Exhibit 2-4	4.7%	Match Existing (See Note 6)
8	Cross Slope	1.5% Min., 3.0% Max. HDM Section 2.7.2.3.H	2.0%	Match Existing (See Note 7)
9	Americans with Disabilities Act Compliance	HDM Chapter 18	Some sidewalk curb ramps and driveway crossings are not ADA compliant	All pedestrian facilities will be made ADA compliant

1. There are no non-Standard features existing, retained, or proposed.
2. 85^{th} Percentile speeds (see Exhibit 2-3) is 42mph for the western 2/3 of the project, and 43mph for the eastern 1/3 of the project. 45mph is selected as the appropriate design speed.
3. The posted speed limit is 40mph. The preferred alternative (3) anticipates a posted speed limit reduction, pending post-construction data collection/coordination with NYSDOT (refer to Section 2.3.2).
4. Existing curb-to-curb width is to be maintained.
5. The right shoulder of the 4-lane segment has been increased 1' from the existing condition. A white edge stripe is being used between the travel lane and shoulder (non-typical for a "shared lane") as a traffic calming element and to provide additional buffer between vehicular traffic and the sidewalk.
6. No geometric improvements, match existing.
7. No geometric improvements, mill and inlay matching existing cross-slopes

2.5. Other Infrastructure Considerations

2.5.1. Pavement and Shoulder Conditions

NYSDOT's Pavement Data Report (2021) indicates a Delaware Avenue pavement Surface Rating of 5 (Poor), a Ride Quality Scale rating between 123 (fair) and 335 (very rough), and Pavement Condition Index (PCI) between 8 and 34 (on 100 scoring system). These conditions have only deteriorated further from these 2021 conditions over the past three years.

The roadway has excessive alligator cracking along its entire length. The pavement is severely distressed and requires remediation, currently planned as a mill and fill treatment (to be 100% funded by NYSDOT) under the proposed project.

A subsurface coring program consisting of eight (8) pavement cores was completed between November 13 and November 14, 2023, to termination depths of 1.0 to 1.4 feet below grade. Asphalt pavement was encountered at the ground surface in all pavement cores and extended to depths ranging from 0.75 to 1.1 feet below grade. The asphalt pavement consisted of a top course over a base course. A layer of subbase was encountered below the asphalt pavement in all pavement core locations and extended to termination depths ranging from 1.0 to 1.4 feet below grade. The subbase consisted of fine to coarse gravel or fine to coarse sand with varying amounts of silt. The subbase was described as brown or gray and visually classified as wet. See *Appendix F* for the project's *Pavement Core Memo* (copies of the pavement core logs are attached to this memo).

There are no special geotechnical concerns with the soils or rock slopes within the project area.

2.5.2. Right of Way

Exhibit 2-9 below summarizes the acquisitions required to advance preferred Alternative 3. NYSDOT's Region 1 Office of ROW is acquiring the Right-of-Way on this State Route. As such, an Abstract Request Map (ARM) reflecting these acquisitions has been submitted to NYSDOT (included in *Appendix G*).

Exhibit 2-9
Anticipated Right-of-Way Acquisitions

Owner	Tax Map No.	Type of Acquisition*	Estimated Acquisition Area	Parcel Size	Percentage of Acquisition
215 Delaware Ave LLC	86.05-3-18	Fee	0.0064 acres	0.23 acres	2.8%
Tyler Russell	86.09-3-7	Fee	0.0025 acres	0.17 acres	1.5%
Joseph C Bursey	86.05-3-17	Fee	0.0093 acres	0.12 acres	4.4%
210 Delaware Ave LLC	86.09-3-8	Fee	0.0091 acres	0.21 acres	4.3%
Elaine Loder Family Trust	86.05-3-16	Fee	0.0081 acres	0.21 acres	3.9%
Brady & Giombetti Realty LLC	86.09-3-9.1	Fee	0.0270 acres	0.41 acres	6.6%
CLJB Properties LLC	86.05-5-49	Fee	0.0225 acres	0.38 acres	5.9%
Masterson Enterprises LLC	86.10-1-1	Fee	0.0053 acres	0.75 acres	7.1%
ARG Partners LLC	86.05-5-48	Fee	0.0065 acres	0.35 acres	1.9%

*Acquisitions have been determined to be non-de minimis by the Regional Right of Way Group.

2.5.3. Access Management

Sixty-eight (68) business and residential driveways currently exist along Delaware Avenue within the project limits. Of these, the opening of approximately 31 will be reduced in width as part of the proposed project to provide closer to minimum (or at minimum) State recommended widths (NYSDOT Standard Sheet 608-03, Table 2) with the goal of reducing conflicts with pedestrians traveling along the roadway. See *Appendix H* for *Driveway Modification Plans*.

2.5.4. Traffic Control Devices

A summary of the existing and future Build traffic control features along the corridor are as follows:

2.5.4.1. Delaware Avenue and Elsmere Avenue/ Groesbeck Place

This four-way intersection is an actuated-uncoordinated traffic signal with no emergency pre-emption. Right turns on red are prohibited at the intersection. The signal features 3-section vertical signal faces, supplemented by 5-section doghouse signal faces with a protected/permissive left-turn arrow in the WB direction (Delaware Avenue), and protected right-turn arrow in the NB direction (Elsmere Avenue). In the EB direction (Delaware Avenue), the signal features 3-section vertical signal faces, supplemented by 4-section vertical shared signal face with a protected left-turn arrow. In the SB direction (Groesbeck Place), the signal features 3-section vertical signal faces. Crosswalks and pedestrian facilities exist (pedestrian signals, pushbuttons, and signs) on all four (4) legs of the intersection, operating on an exclusive pedestrian phase. Overall, the traffic signal equipment appears to be in fair condition.

No changes are proposed to the traffic signal at this intersection under the proposed project other than the installation of new modern Accessible Pedestrian Signal (APS) push buttons, as needed (to be coordinated with NYSDOT during final design).

2.5.4.2. Delaware Avenue and Normanskill Boulevard/ Delaware Plaza Driveway

This four-way intersection is an actuated-uncoordinated traffic control with no emergency pre-emption. Right turns on red are prohibited at the intersection. The signal features 3-section vertical signal faces, supplemented by 5-section doghouse signal face with a protected/permissive left-turn arrow in the EB/WB direction (Delaware Avenue) and NB direction (Delaware Plaza Driveway). In the SB direction (Normanskill Boulevard), the signal features 3-section vertical signal faces. Crosswalks and pedestrian facilities exist (pedestrian signals, pushbuttons, and signs) on all legs of the intersection, operating on an exclusive pedestrian phase. Overall, the traffic signal equipment appears to be in fair condition.

No changes are proposed to the traffic signal at this intersection under the proposed project other than the potential installation of new modern Accessible Pedestrian Signal (APS) push buttons, as needed (to be coordinated with NYSDOT during final design).

2.5.4.3. Delaware Avenue and Remaining Side Streets

There are 15 unsignalized side streets intersecting Delaware Avenue along the corridor. These intersections are stop-controlled along the side street, with free flow uncontrolled movement along Delaware Avenue. New high visibility marked crosswalks will be added on all side streets as part of the proposed project (parallel to Delaware Avenue) to enable safe pedestrian movement at these intersections.

2.6. Work Zone Safety and Mobility

2.6.1. Transportation Management Plan

The project has been determined not to be significant per 23 CFR 630.1010.

A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

2.6.2. Proposed Work Zone Traffic Control

Two-way traffic will be maintained at all times during construction via lane shifts onto other travel lanes. No off-site detours will be required. Routes for emergency vehicles will be maintained and open during construction. The details for the work zone traffic control will be prepared and evaluated during final design.

Due to the proximity to residences and the ability to maintain traffic with acceptable delays during the daylight hours, nighttime construction will not be utilized. The use of time related provisions will be evaluated during final design. The work zone traffic control will continue to be coordinated with local officials and residents as the project progresses.

2.7. Ownership and Maintenance Jurisdiction

Delaware Avenue is owned by NYSDOT.

NYSDOT maintains all roadway features except for sidewalks, which are maintained by the Town of Bethlehem.

The proposed project is being sponsored/progressed by the Town of Bethlehem (with NYSDOT oversight) to promote the Town’s Complete Streets vision for what has become a major “Main Street” commercial corridor in the Town.

2.8. NYS Smart Growth Public Infrastructure Policy Act (SGPIPA)

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act (SGPIPA).

To the extent practicable this project has met the relevant criteria as described in ECL § 6-0107. The *Smart Growth Screening Tool* was used to assess the project’s consistency and alignment with relevant Smart Growth criteria; the tool was completed by the Town of Bethlehem on March 4, 2024 and reflects the current project scope. The *Smart Growth Screening Tool* is included in *Appendix I*.

CHAPTER 3 – SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

Refer to the Social, Economic and Environmental Resources Checklist (SEERC) included in *Appendix J-1* for information on all environmental issues for which the project was screened. Highlights of these screenings are provided in this Chapter.

3.1. National Environmental Policy Act (NEPA)

Per the result of the *Federal Environmental Approvals Worksheet* (FEAW) provided in *Appendix J-2*, this project has been progressed as a NEPA Class II action (Categorical Exclusion or CE) because it does not individually or cumulatively have a significant environmental impact. As a CE, it is excluded from the requirement for the preparation of an Environmental Impact Statement (EIS) or Environmental Assessment (EA).

Per the Federal Highway Administration's regulations in 23 CFR 771.117, this project qualifies as a Categorical Exclusion (CE). The project is a (c)(26) list project – "Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes)" which meets the constraints in paragraph (e) of 23 CFR 771.117. In accordance with the NYSDOT/FHWA Programmatic Agreement Regarding Categorical Exclusions, the NYSDOT (on behalf of FHWA) will make the NEPA environmental determination. Refer to the Federal Environmental Approvals Worksheet (FEAW) in *Appendix J-2* for the details of this determination.

3.2. State Environmental Quality Review Act (SEQRA)

The proposed project meets the requirements of a SEQRA Type II Action under 6 NYCRR 617. No further SEQRA processing is required.

3.3. Additional Environment Information

3.3.1. Wetlands

There are no U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapped wetlands or State regulated mapped wetlands within the project corridor (See *Appendix J-3*).

A field investigation was conducted on August 17, 2023, to identify federal jurisdictional wetlands pursuant to the United States Army Corps of Engineers (USACE) 1987 Wetland Delineation manual and current regional supplement. No wetlands were identified within the project corridor.

3.3.2. Surface Waters

There are no streams located within the project corridor.

3.3.3. Flood Zone

The project corridor is not within a mapped Flood Zone.

3.3.4. Sole Source Aquifer

The project corridor is not located over a sole source aquifer or a primary aquifer. In addition, there are no mapped water wells within or near the project corridor. Finally, there are no reservoirs within the project corridor.

3.3.5. Threatened and Endangered Species and Designated Critical Habitat

The Northern Long-eared Bat (*Myotis septentrionalis*), a federally endangered species, and the Tricolored bat (*Perimyotis subflavus*), a proposed endangered species, have been identified by the USFWS Information for Planning and Consultation (IPaC) website. The IPaC also identified the monarch butterfly (*Danaus plexippus*), a candidate species. The IPaC did not identify any critical habitats within the project corridor (See *Appendix J-4* for *IPaC resource list*).

The *NYSDEC Environmental Resource Map (ERM)* was also reviewed for rare animals or plants in the vicinity of the proposed project. The *ERM* did not indicate the potential presence of rare animals or plants within or in the vicinity of the proposed project (See *Appendix J-5).*

A field assessment was conducted on August 17, 2023 to review the habitats of the project corridor for their suitability for the listed species with potential presence in the project corridor. The project corridor is developed and consists of existing roadway and sidewalks that are edged by mowed lawn with scattered trees, shrubs, and ornamental plantings.

<u>*Northern Long-eared Bat*</u>

According to the NHP[1] "northern myotis are typically associated with mature interior forest and tend to avoid woodlands with significant edge habitat. Northern myotis may most often be found in cluttered or densely forested areas including in uplands and at streams or vernal pools. Northern myotis may use small openings or canopy gaps as well. In one study in northwestern South Carolina, detection of northern myotis was best predicted in mature stands but also in areas with sparse vegetation. Some research suggests that northern myotis forage on forested ridges and hillsides rather than in riparian or floodplain forests. Captures from NY suggest that northern myotis may also be found using younger forest types. Northern myotis select day roosts in dead or live trees under loose bark, or in cavities and crevices, and may sometimes use caves as night roosts. They may also roost in buildings or behind shutters. A variety of tree species are used for roosting. The structural complexity of surrounding habitat and availability of roost trees may be important factors in roost selection. Roosts of female bats tend to be large diameter, tall trees, and in at least some areas, located within a less dense canopy. Northern myotis hibernates in caves and mines where the air temperature is constant, preferring cooler areas with high humidity."

The NYSDEC *ERM* did not identify the presence of a hibernacula or maternity roost trees in the vicinity of the project corridor and no caves or mines are within the project corridor.

The project evaluation through *IPaC* resulted in a "No Effect" determination via a USFWS consistency letter for the Northern Long-eared bat. Refer to *Appendix J-4* for the Section 7 ESA Transmittal Sheet and the USFWA *Consistency Letter* (including *Determination of Key Results* section). A *FHWA Endangered Species Act concurrence memo* dated December 4, 2024 is included in Appendix J-4**.**

[1] New York Natural Heritage Program. 2022. Online Conservation Guide for *Myotis septentrionalis*. Available from: https://guides.nynhp.org/northern-long-eared-bat/. Accessed November 11, 2022.

Tricolored Bat

According to the USFWS[2]: "During the spring, summer and fall - collectively referred to as the non-hibernating seasons - tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and *Usnea trichodea* lichen, respectively. In addition, tricolored bats have been observed roosting during summer among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly.

During the winter, tricolored bats hibernate - which means that they reduce their metabolic rates, body temperatures and heart rate - in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as sometimes in tree cavities and abandoned water wells. Tricolored bats exhibit high site fidelity with many individuals returning year after year to the same hibernaculum."

As noted above, the NYSDEC *ERM* did not identify the presence of a hibernacula or maternity roost trees in the project corridor and no caves or mines are within the project corridor.

The project does not entail tree removal or bridge work; therefore, the recommended project effect determination is No Jeopardy for tricolored bats.

Monarch Butterfly

According to USFWS[3], "During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias spp*.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larva then pupates into chrysalis before enclosing 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately two to five weeks; overwintering adults enter reproductive diapause (suspended reproduction) and live six to nine months."

As described above, the project corridor consists of existing roadway and sidewalks that are edged by mowed lawn with scattered trees, shrubs, and ornamental plantings. The habitats present are not preferred by monarchs and no milkweed plants were observed during the site investigation. Therefore, a significant impact to monarch butterflies is not anticipated. Since this species is currently listed as a candidate species, it currently does not have any protection under Endangered Species Act Section 7. Consultation with the USFWS is not required at this time.

3.3.6. Farmlands and Agricultural Districts

The project will not acquire active farmland from an agricultural district.

[2] U.S. Fish & Wildlife Service. Tricolored Bat. Available from: https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus. Accessed April 4, 2024.
[3] U.S. Fish and Wildlife Service. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

3.3.7. Historic and Cultural Resources

A Section 106 Recommendations was developed for the project and submitted to NYSDOT on October 24, 2003 with the goal of obtaining Section 106 review and concurrence. NYSDOT responded on December 5, 2023 that "The project has the potential to cause effects on historic properties. Additional steps are needed to identify historic properties and/or assess the project's effects on historic properties."

As such, NYSDOT submitted a "*No Historic Properties Affected"* finding to SHPO and the Tribes on Feb 22, 2024 (SHPO has a 30-day review period). FHWA responded via a March 18, 2024 letter that the SHPO and all required Native American Tribal Nations concurred with this determination. As such, FHWA has concluded that this undertaking has "*No Historic Properties Affected*" for properties on or eligible for inclusion on the National Register of Historic Places, and that the requirements of 36 CFR Part 800 have been met for this project.

See *Appendix J-6* for the FHWA No Effect response memo.

3.3.8. Comprehensive Plan and Zoning

The design of this this project is centered around the implementation of the *NYS Complete Streets Act* (2011) and *Town of Bethlehem's Complete Streets Policy* (2009), which aim to create balanced transportation systems and increase safety for users of all ages and abilities.

The existing corridor is a mix of commercial and residential buildings, so the project aims to create safer pedestrian and bicycle accommodations while having a positive impact on the character of the neighborhood. It is anticipated that by providing vehicular-traffic calming measures, there will be a positive trend in the number of pedestrians and bicyclists using the corridor to access schools, recreational areas, and commercial destinations within and beyond the project limits. This will have a positive impact on local businesses, creating a more pedestrian friendly corridor with the potential for increased foot traffic.

3.3.9. Business District Impacts

This project will have a positive impact to the *Bethlehem Chamber of Commerce Business District*.

The existing corridor is a mix of commercial and residential buildings, so the project aims to create safer pedestrian and bicycle accommodations by providing vehicular-traffic calming measures. This will have a positive impact on local businesses, creating a more pedestrian friendly corridor with the potential for increased foot traffic.

3.3.10. Local Private Development Plans

There are currently tentative plans for a new development on Old Delaware Ave adjacent to the project corridor. After consulting with the developer, it has been determined and agreed by all parties that the proposed project will have no impact on the proposed development plans.

3.3.11. Changes in Access Control

This project will alter approximately 31 of the 64 driveways within the corridor. In accordance with NYSDOT Standards, these driveways will be narrowed and/or consolidated in order to minimize potential conflicts between pedestrian and vehicles. See *Appendix H* for *Driveway Modification Plans* for more detailed information on affected driveways.

3.3.12. Low Income, Minority and Ethnic Groups (Environmental Justice)

No minority or low-income populations have been identified that would be adversely impacted by the proposed project. Therefore, no further analysis regarding Disproportionate High and Adverse Effects is required.

3.3.13. Energy and Greenhouse Gases

The Project is in Albany County which is classified nonattainment for the revoked 1997 ozone standard. The Project is non-exempt pursuant to 40 CFR Part 93 and is included in the currently conforming TIP and Plan adopted by the CDTC 2022-2027 on September 1, 2022, and approved by the FHWA/FTA on October 4, 2022. The design concept and scope of the Project is consistent with the design concept and scope assumed in the TIP and Plan. The Project conforms to the State Implementation Plan for air quality.

APPENDICES

Appendix A: Project Plans

Appendix B: Technical Memorandums:
- **B-1: "*Hoffman Car Wash Egress Assessment*"**
- **B-2: "*Traffic Analysis at the Intersection of Delaware Ave and Elsmere Ave*"**
- **B-3: "*Mid-block Crossing Assessment*"**
- ***B-4: "Speed Limit Re-evaluation"***

Appendix C: Public Involvement Comments

Appendix D: Traffic Data:
- **D-1: Data Collection Map with Study Area locations**
- **D-2: Background Growth Rate**
- **D-3: Raw Automatic Traffic Recorders (ATRs) Data (Volume, Class, Speed)**
- **D-4: Travel Time Average Speed Study**
- **D-5: AADT, DHV, DDHV**
- **D-6: Raw Turning Movement Counts**
- **D-7: Peak Hour Determination**
- **D-8: Traffic Volume Diagrams**
- **D-9: Synchro Results for Existing and No-Build Scenarios**
- **D-10: HCS 2023 Results for Existing and No-Build Scenarios**
- **D-11: HCS 2023 Results for Build Scenarios**
- **D-12: Crash Analysis Tables**
- **D-13: Pedestrian Counts from Mason Road to Grant Street**

Appendix E: Complete Streets Checklist

Appendix F: Pavement Core Memo

Appendix G: Abstract Request Map (ARM)

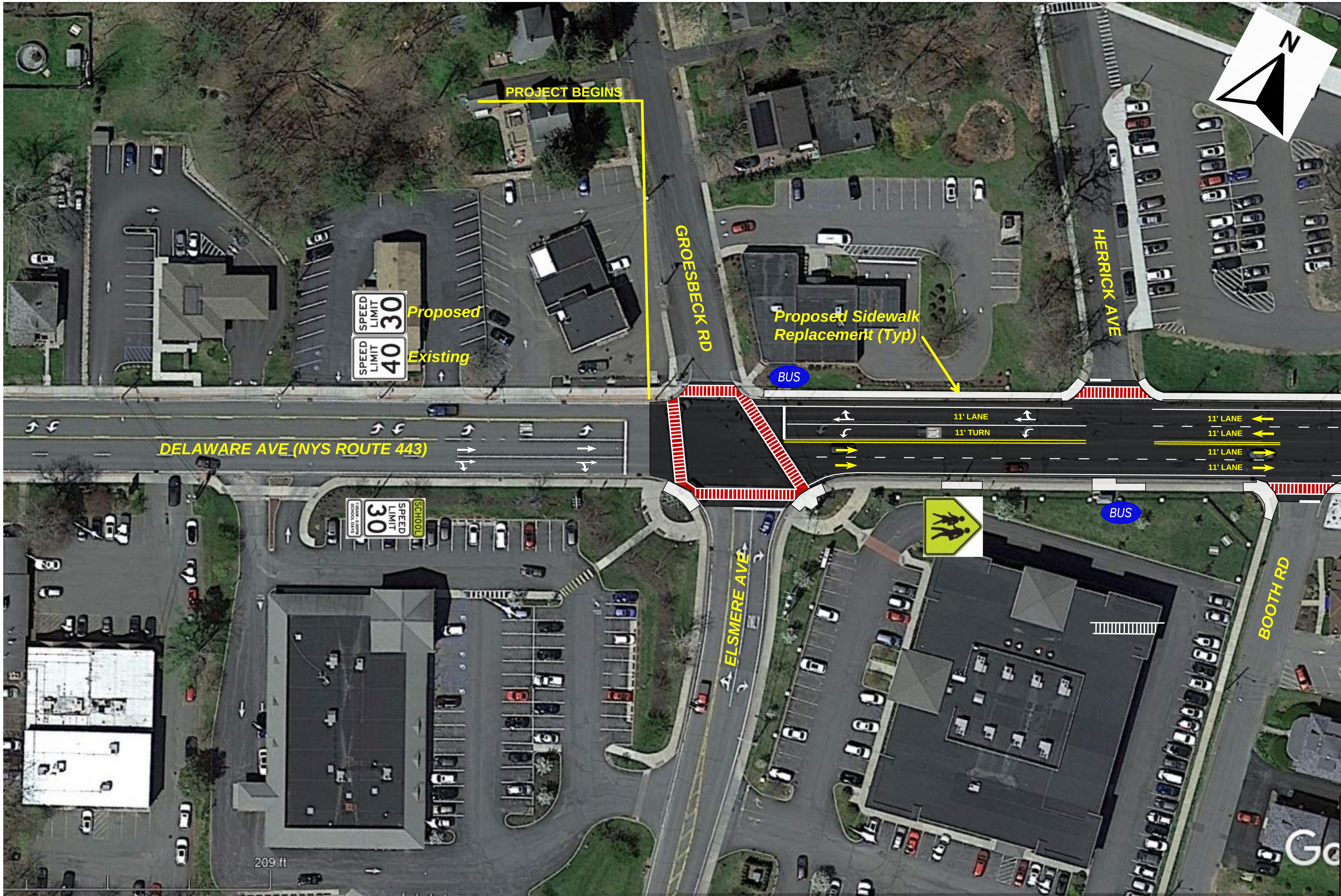
Appendix H: Driveway Modification Plans

Appendix I: Smart Growth Screening Tool

Appendix J: Environmental Documentation:
- **J-1: Social Economic and Environmental Resources Checklist (SEERC)**
- **J-2: Federal Environmental Approvals Worksheet**
- **J-3: National Wetland Inventory (NWI) Mapped Wetlands**
- **J-4: Information for Planning and Consultation (IPaC) / Section 7 ESA / USFWS Consistency Letter / FHWA Endangered Species Act Concurrence Memo**
- **J-5: NYSDEC Environmental Resource Map (ERM)**
- **J-6: FHWA No Effect Response Memo**

Appendix A

Project Plans



MATCH LINE, SEE SHEET 2

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

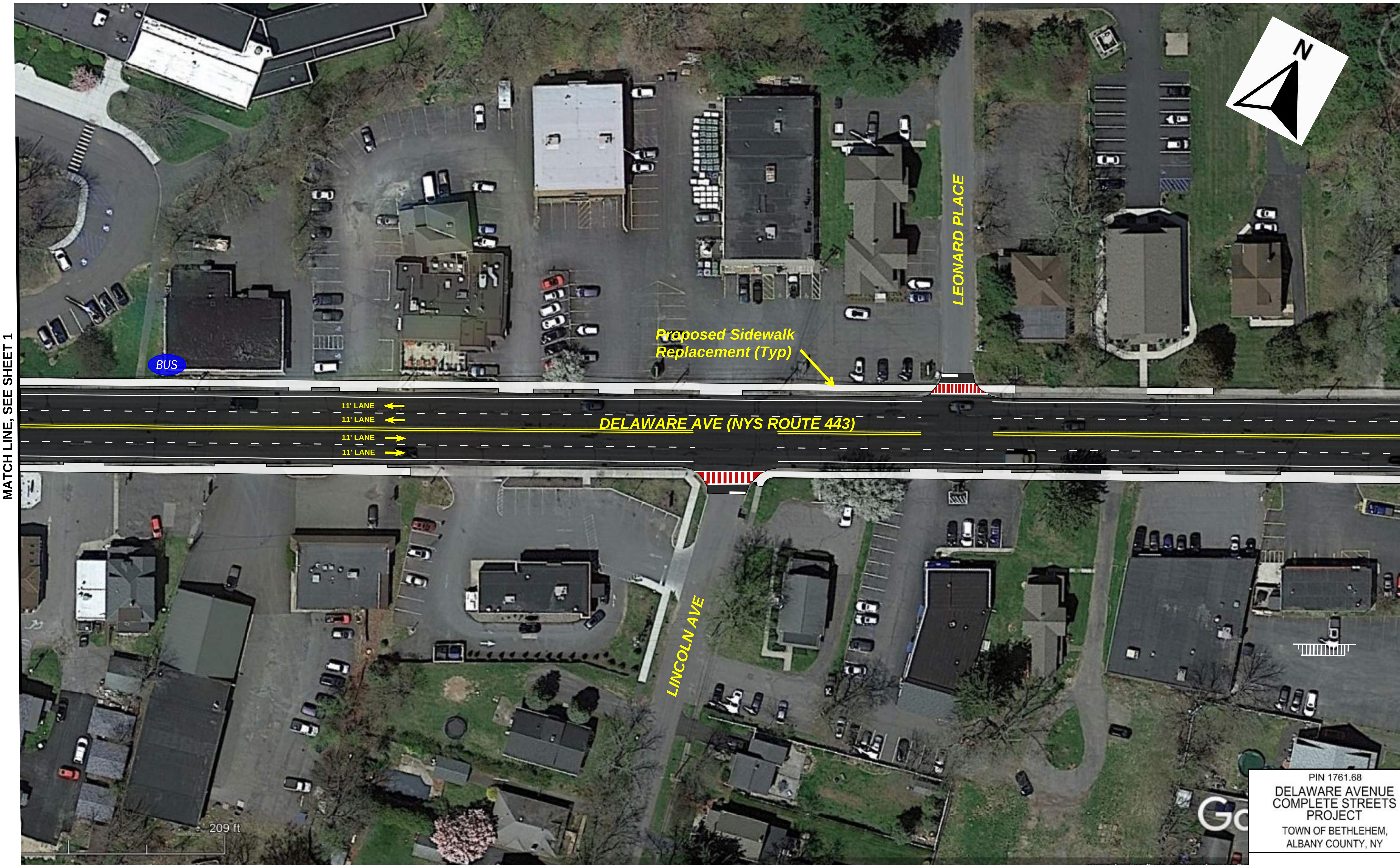
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN ALTERNATIVE 3

N.T.S.

SHEET 1 OF 8

MATCH LINE, SEE SHEET 1

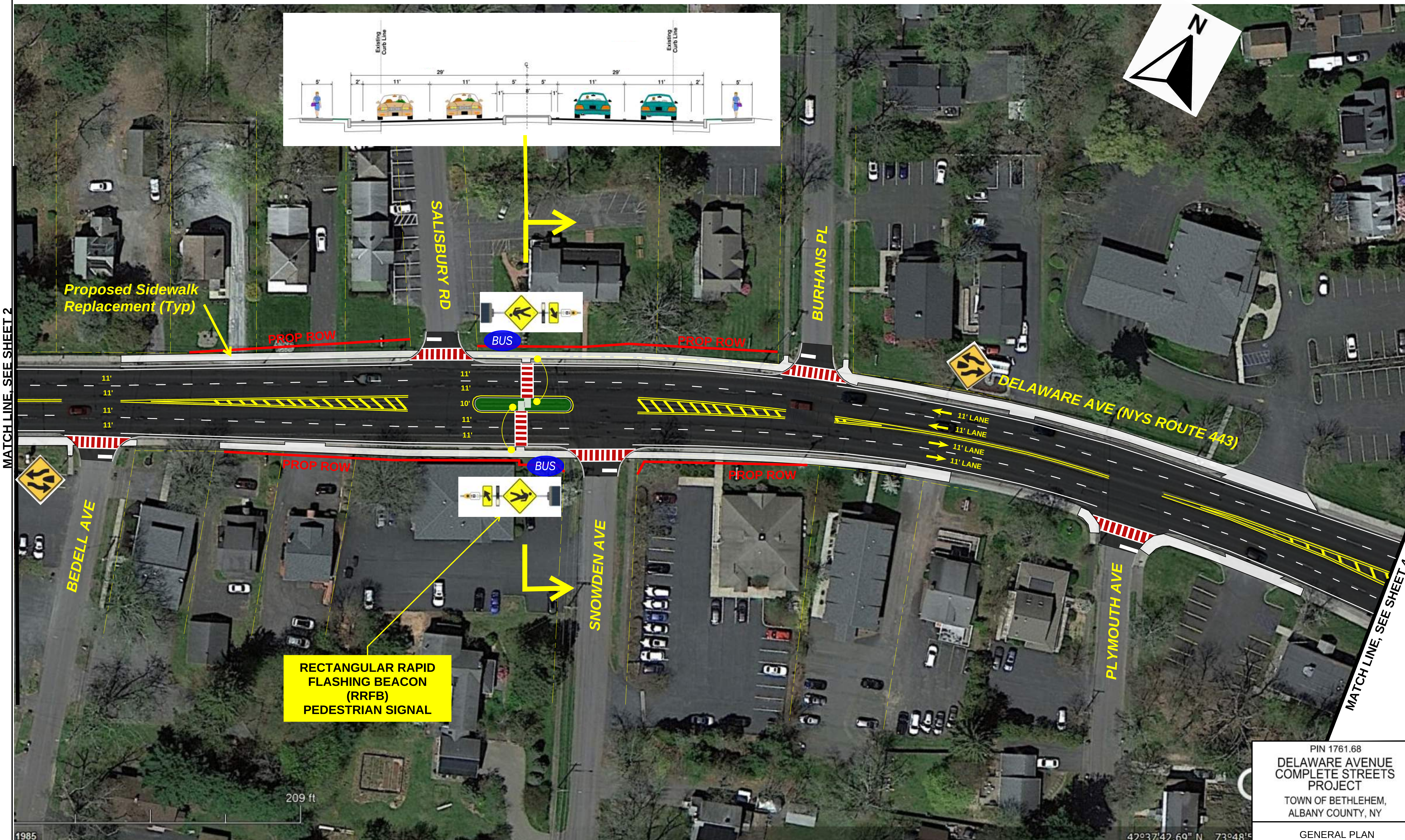


MATCH LINE, SEE SHEET 3

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN
ALTERNATIVE 3
N.T.S.

SHEET 2 OF 8



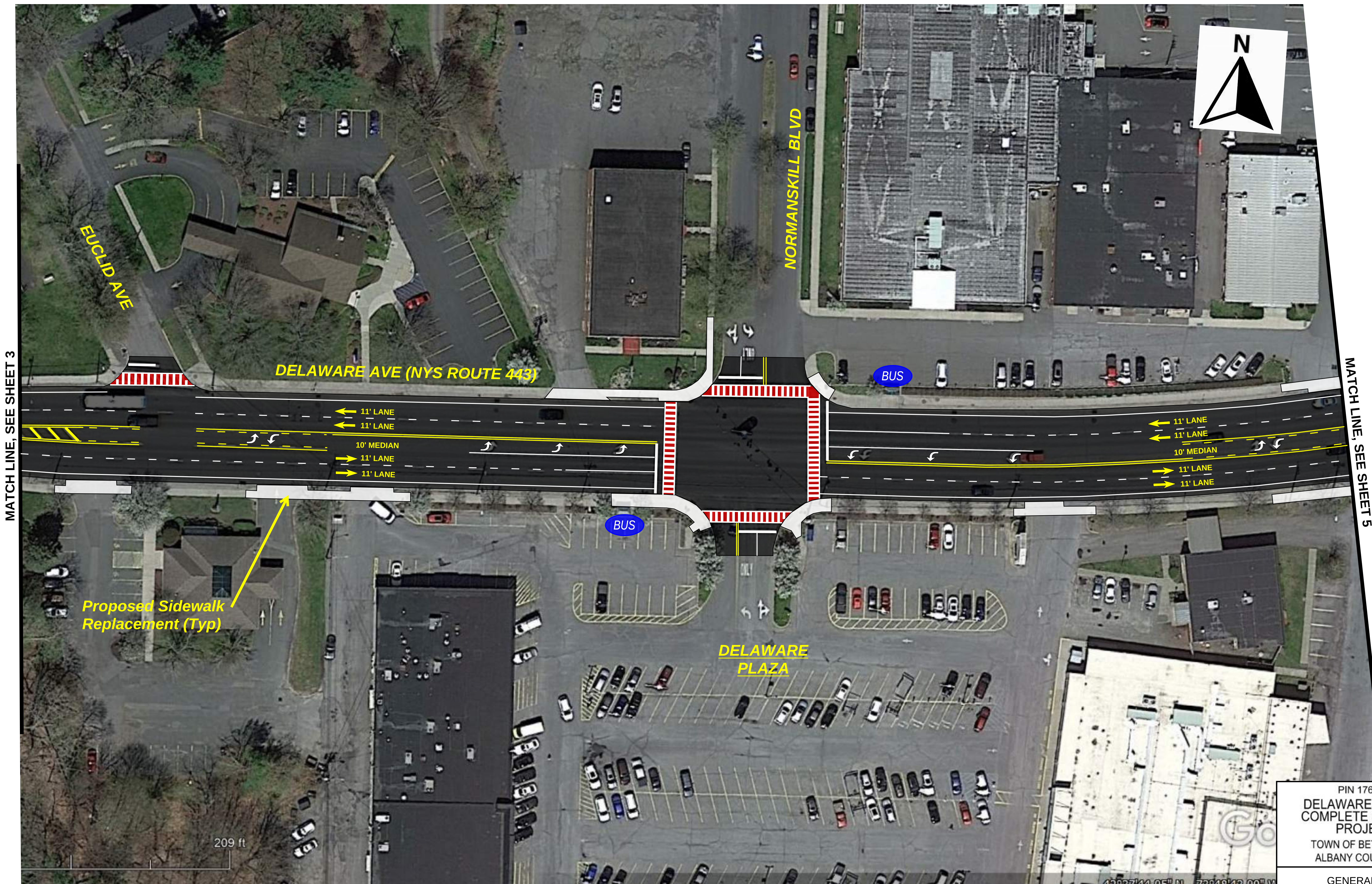
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN
ALTERNATIVE 3
N.T.S.

SHEET 3 OF 8



PIN 1761.68

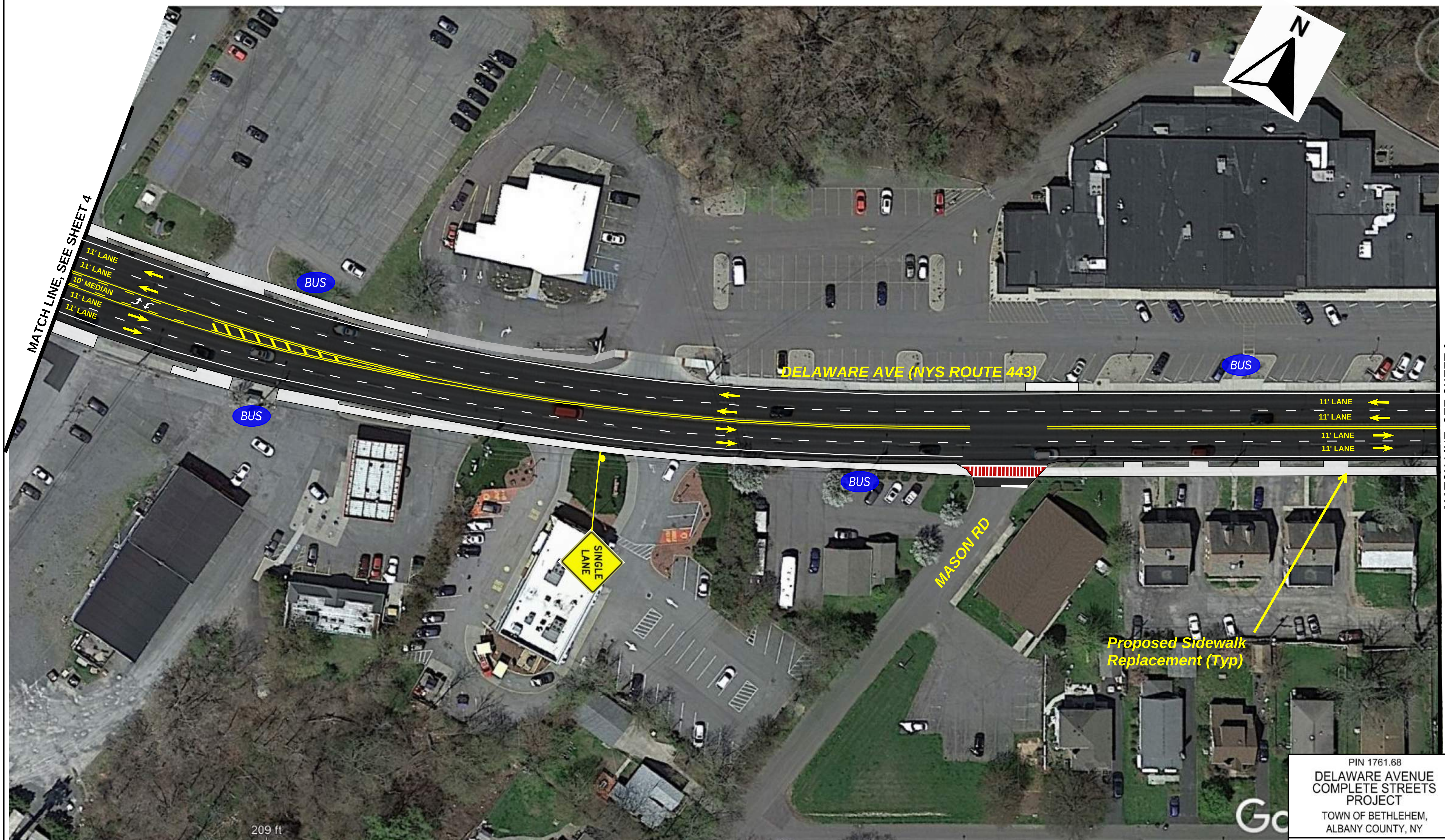
DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN ALTERNATIVE 3

N.T.S.

SHEET 4 OF 8



PIN 1761.68

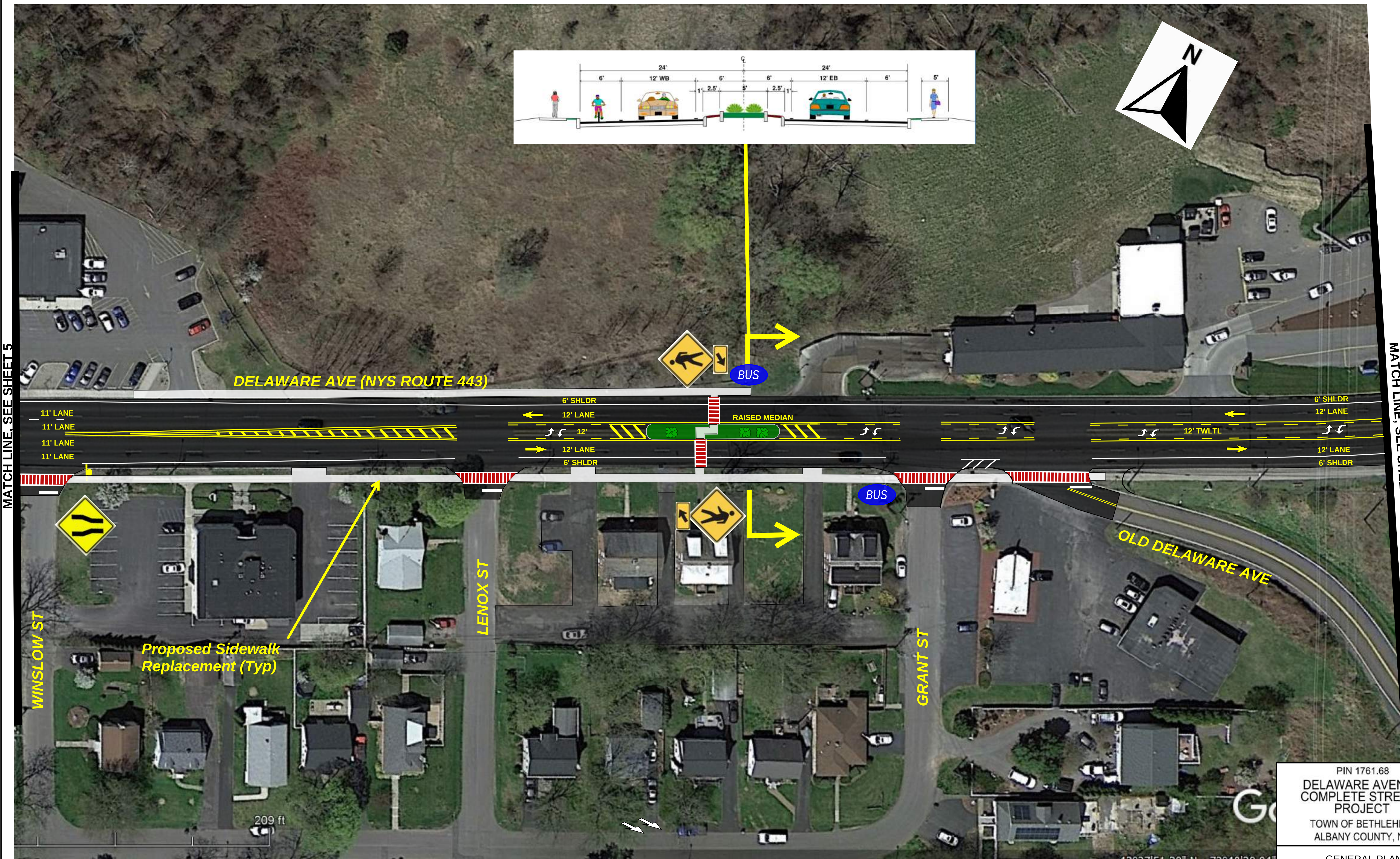
DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN ALTERNATIVE 3

N.T.S.

SHEET 5 OF 8



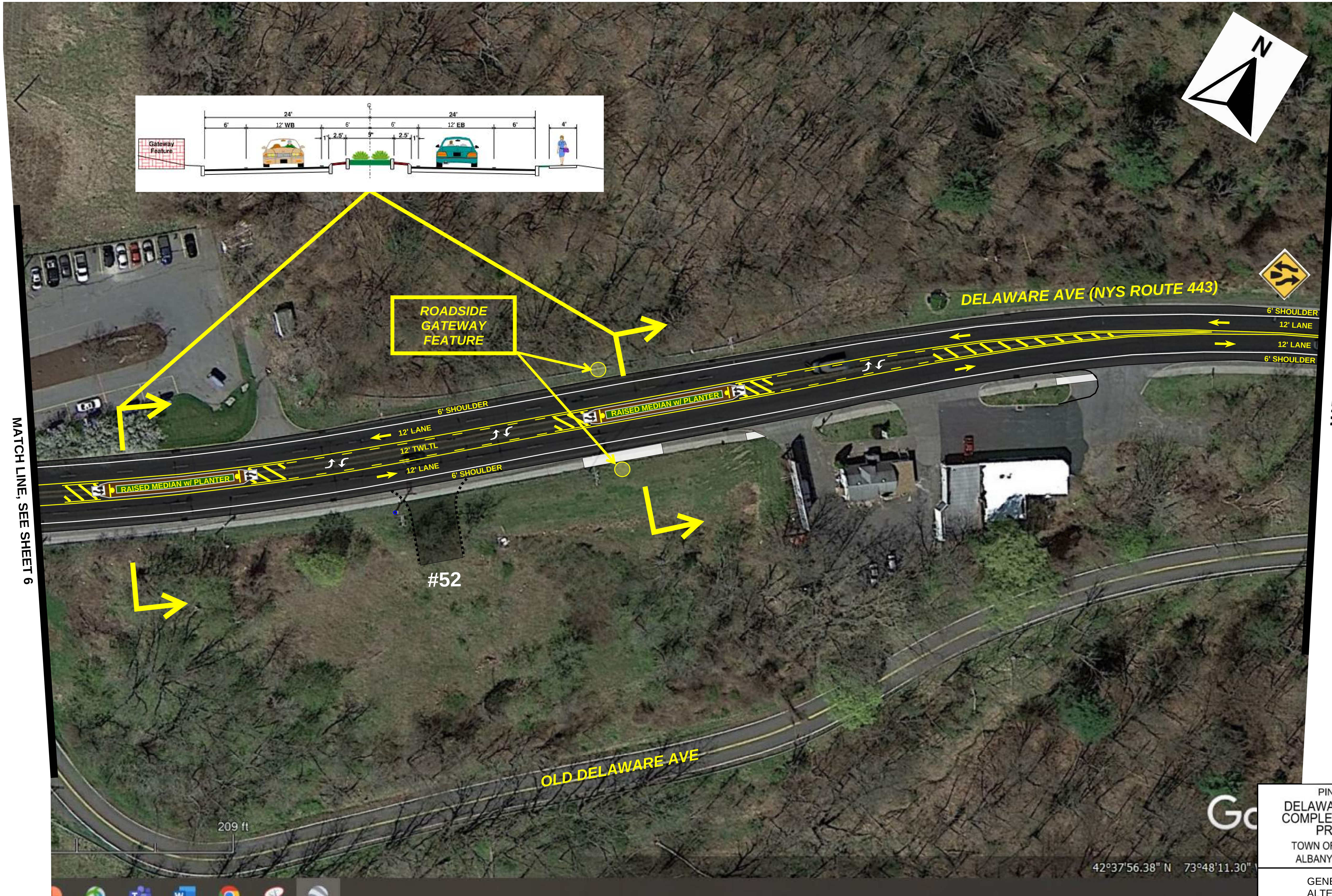
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

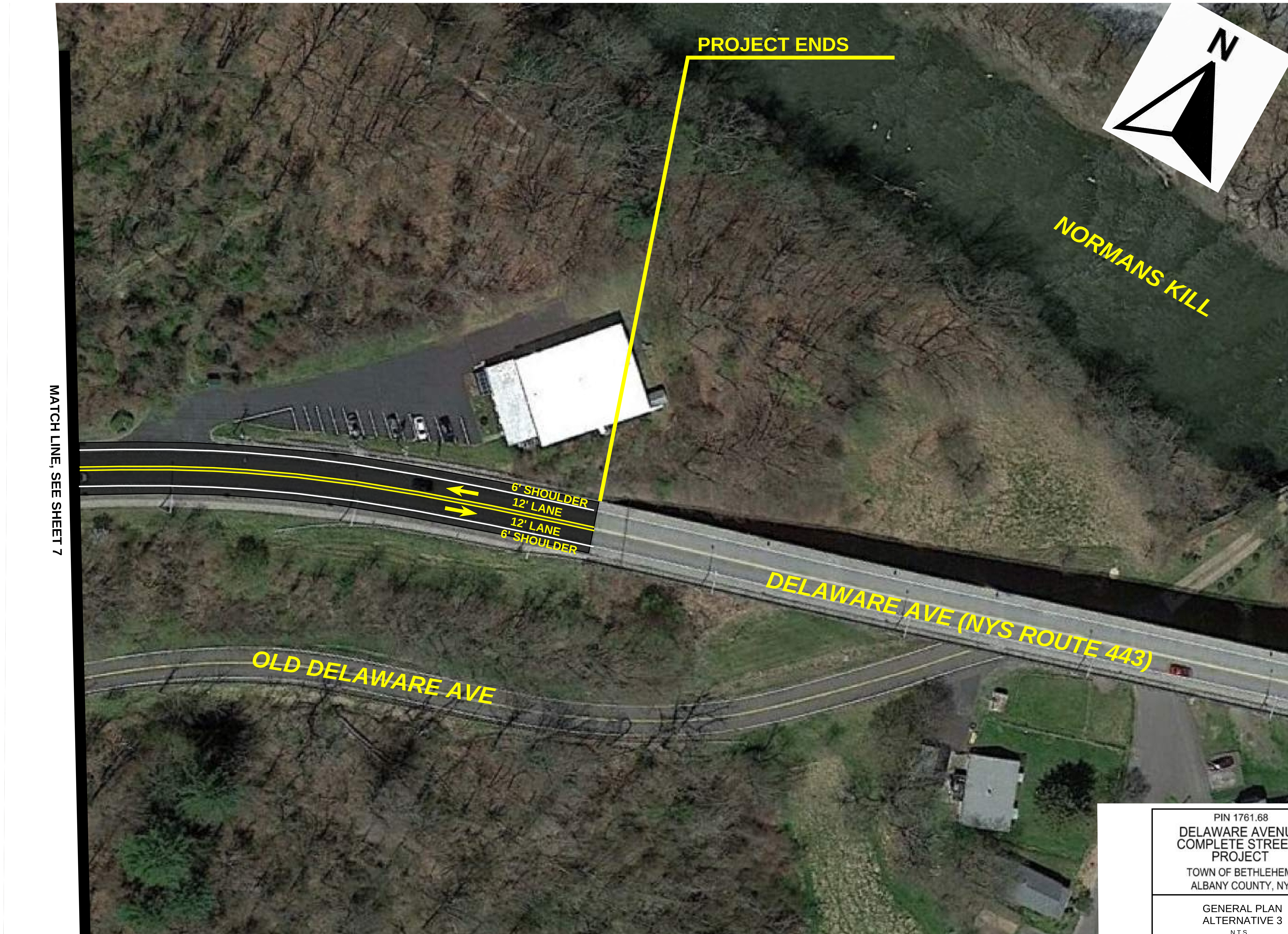
GENERAL PLAN
ALTERNATIVE 3
N.T.S.

SHEET 6 OF 8



PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN
ALTERNATIVE 3
N.T.S.



PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

GENERAL PLAN ALTERNATIVE 3

N.T.S.

SHEET 8 OF 8

Appendix B

Technical Memorandums

Appendix B-1

Hoffman Car Wash Egress Assessment Technical Memorandum

January 9, 2024

Robert Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Subject: **Hoffman Car Wash Egress Assessment, Delaware Avenue, Town of Bethlehem, NY**
Delaware Avenue Complete Streets (PIN: 1761.68)
CHA Project No. 81072

Dear Mr. Leslie:

CHA Consulting, Inc. (CHA) has prepared this Memorandum to present our analysis of the impacts of the proposed design of Delaware Avenue Complete Streets Project on the egress of Hoffman Car Wash located at 55 Delaware Avenue. A Public Informational Meeting (PIM) for the Project was held on June 15, 2023 to share the proposed design with the community. A Project Website was also established at the same time. Public feedback was garnered from both the PIM and Website. Members of the public expressed concern over the reduction of Delaware Avenue from an existing four-lane to three-lane roadway, which could cause the vehicles exiting Hoffman Car Wash to queue back through the car wash. This technical memorandum will describe the traffic operation for the existing and proposed roadway configuration, provide the traffic analysis results, and discuss the impact of the roadway configuration change on the motorists exiting Hoffman Car Wash.

Existing Condition of Hoffman Car Wash

Hoffman Car Wash has its access along Delaware Avenue. It has separate entry and exit driveways, located approximately 230 feet apart, along Delaware Avenue. The exit driveway of Hoffman Car Wash is approximately 30 feet wide, allowing separate right-turn and left-turn lanes (if appropriately striped) to increase queuing. The length along the driveway that is available for vehicles to queue in each dedicated turn lanes is approximately 80 feet, or 4 vehicle lengths, for each lane. There is an additional 25 feet from the end of this queue to the car wash exit allowing single file exit from the building and a decision buffer as to which turn lane to enter. The geometric configuration of the exit driveway of Hoffman Car Wash is not expected to change as a result of this project.

Hoffman Car Wash provides automated car wash services with a single car wash tunnel. It operates from 8am to 7pm during the weekdays, 7:30am to 7pm on Saturday, and 8am to 6pm on Sunday. According to Hoffman Car Wash[1], the <u>maximum</u> throughput of their Delaware Avenue operation is 180 vehicles per

[1] *Bethlehem Planning Board Site Plan Application 19-01500001*

hour[2]. To establish a baseline and estimate the typical traffic generated by Hoffman Car Wash during the peak period, the Trip Generation Manual (11th Edition) from the Institute of Transportation Engineers' (ITE) was utilized. The number of vehicle trips generated was estimated based on ITE land use code 948 - Automated Car Wash with 1 Car Wash Tunnel. The estimated typical peak hour traffic volumes are provided in **Table 1**. The estimated weekend peak volume is noted to be lesser than weekday PM peak volume. This could be due to the locality of the car washes sampled for trip generation rate used in Trip Generation Manual. If the car wash is located within a residential neighborhood, customers are more likely to go to the car wash during weekday PM peak, as they wash their vehicle on their way home from work. However, if the car wash is located within a town center or near to major retail/commercial activities, customers are more likely to go to the car wash during the weekends. The Town of Bethlehem has observed that the weekend is the busiest period for the car wash. Therefore, to be conservative, it is assumed that 52 vehicles will depart from Hoffman Car Wash during weekday PM peak hour and weekend peak hour.

Table 1: Estimated Traffic Volume During Peak Periods based on Land Use Code #948 Automated Car Wash with 1 Car Wash Tunnel

	Weekday PM Peak Hour	**Weekend Peak Hour**
ITE Maximum Rate for Vehicles Entering and Exiting	104.5 trip ends/hour	41.0 trip ends/hour
Percentage of Traffic Volume Exiting	50%	54%
Traffic Volume Exiting	52 vehicles/hour	22 vehicles/hour

Existing Road Configuration

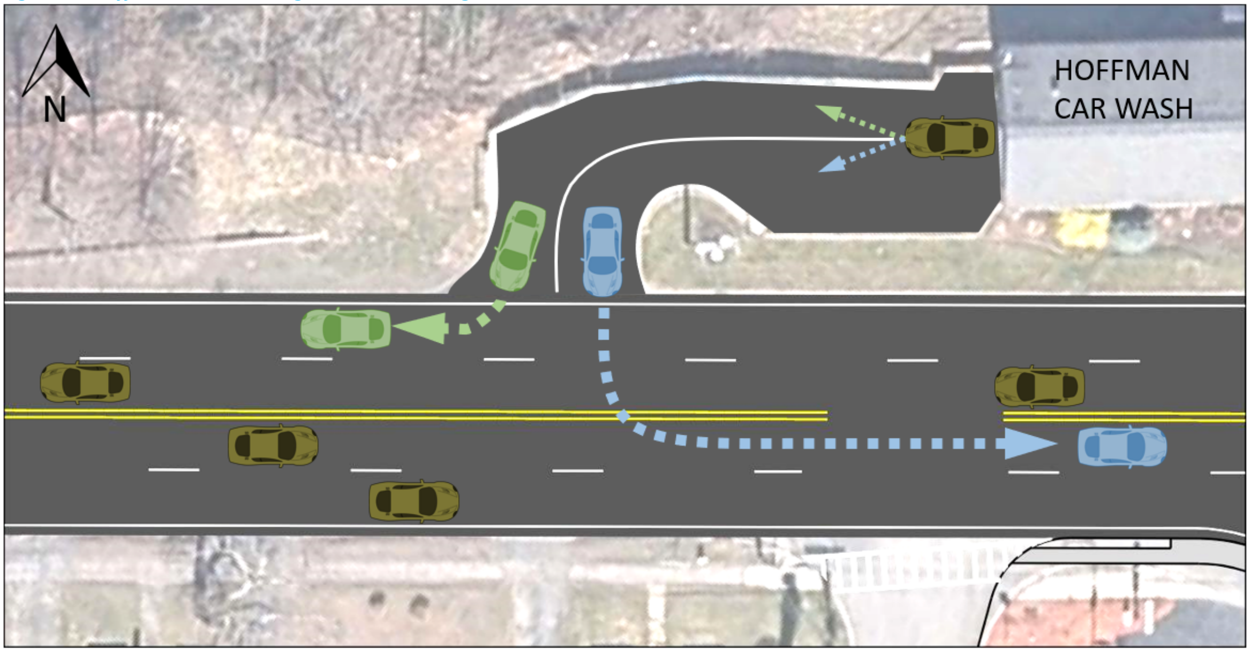
Delaware Avenue is an existing four-lane undivided roadway consisting of two westbound lanes and two eastbound lanes.

Traffic Operation for vehicles exiting the Car Wash - existing (see Figure 1)

- **Right-turning vehicle:**
  Motorists check if there is approaching traffic on the nearest westbound lane *(Point of conflict on 1 lanes)*.
- **Left-turning vehicle:**
  Motorists check if there is approaching traffic on both westbound lanes and the nearest eastbound lane *(Point of conflict on 3 lanes)*.

[2] CHA performed a timed survey on 12/13/23 to determine the car wash throughput. With the assumption of car length = 15', gap between cars = 10', tunnel length = 156', and total timed cycle for one car = 2.25 mins, the total throughput per hour = 162 vehicles. The 180 vehicles per hour provided by Hoffman's is generally confirmed. The distribution of exiting traffic (right-turn/left-turn) was not captured.

Figure 1: Hoffman Car Wash egress with existing 4-Lane Delaware Avenue



Proposed Roadway Configuration

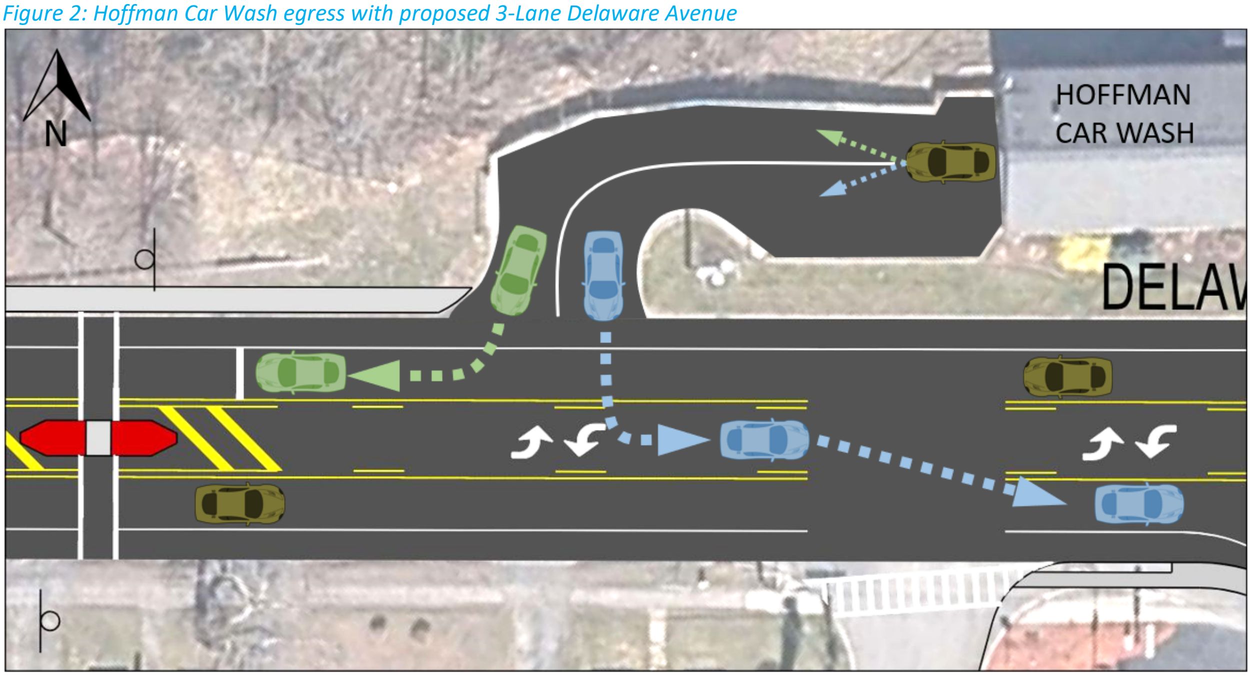
Delaware Avenue is proposed to be converted from an existing four-lane undivided roadway to a three-lane roadway consisting of one westbound lane, one eastbound lane, and a center two-way left-turn lane (TWLTL) within the vicinity of the Hoffman Car Wash. A TWLTL provides a location in the center of the roadway for storing vehicles from either direction that are waiting to make a left turn. This roadway configuration works well in heavy traffic condition for the car wash exit, especially when left-turning vehicles are unable to find sufficient gap to make the left-turn movement in a single maneuver. Left-turning vehicles need only to wait for sufficient opening in the traffic on the near side of the street (westbound through traffic) and look for eastbound vehicles entering the center lane in order to turn left. When safe, the car wash exiting vehicle will turn left into the center TWLTL and then wait for sufficient opening in the opposing traffic (eastbound through traffic) to complete the left-turn.

<u>Traffic Operation for vehicles exiting the Car Wash – proposed (see Figure 2)</u>

- **Right-turning vehicle:**
  Motorists check if there is approaching traffic on the single westbound lane *(Point of conflict on 1 lane)*.

- **Left-turning vehicle:**
  Normal Condition*:* Motorists check if there is approaching traffic on westbound lane, TWLTL, and eastbound lane *(Point of conflict on 3 lanes).*
  Heavy Traffic Condition*:* Motorists typically perform the left-turn maneuver in 2 stages. First stage is to check if there is approaching traffic on the single westbound lane and if there is any vehicle on the TWLTL *(Point of conflict on 2 lanes)*. Motorists make the first maneuver to the TWLTL. In the second stage, motorists check if there is a conflicting traffic on the eastbound lane *(Point of conflict on 1 lane)*.

Figure 2: Hoffman Car Wash egress with proposed 3-Lane Delaware Avenue



Traffic Analysis

For this study, traffic operational analysis was completed for the unsignalized intersection of Hoffman Car Wash exit driveway and Delaware Avenue. In total, two scenarios were reviewed for weekday PM peak hour and weekend peak hour:

- Existing Four-Lane Configuration along Delaware Avenue
- Proposed Three-Lane Configuration along Delaware Avenue

As traffic counts were not performed at the study intersection, neither existing traffic generated by Hoffman Car Wash nor the percentage of vehicles making right-turns and left-turns from the exit driveway was available. Therefore, a sensitivity analysis was performed to determine the impact of the lane-configuration change along Delaware Avenue. Two situations were modeled:

- Typical Situation: Analysis of scenarios based on ITE Trip Volume (see **Table 1**)
- Ultimate Situation: Analysis of scenarios based on maximum throughput

Variable left-turn and right-turn percentages were applied to the two situations to have a good understanding of the impact of the Delaware Avenue lane configuration change.

The criteria for assessment were based on the delay of turning vehicles and queue length at Hoffman exit driveway. The average delay for exiting vehicles should be less than 35 seconds as per NYSDOT Highway Design Manual (HDM). Maximum queue length for Hoffman driveway is 4 vehicles length per lane. The delay and queue length results are shown in **Table 2** for the "typical situation" and **Table 3** for the "ultimate situation". Results that exceed 35 seconds for delay and 4 vehicle lengths for queue have been colored in red.

Typical Situation: Analysis of scenarios based on ITE Trip Volume

In the "typical situation", as estimated based on ITE Trip Rates for automated car wash facilities, Hoffman Car Wash is assumed to generate 52 vehicles/hour during the weekday PM peak and weekend peak.

For the existing 4-lane Delaware Avenue configuration scenario, exiting left-turn traffic will experience extensive delay during the weekday PM peak hour when left-turn volume exceeds 16 vehicles/hour. However, in the proposed 3-lane Delaware Avenue configuration, exiting left-turn traffic will have sufficient opportunities to exit Hoffman's driveway onto Delaware Avenue. Exiting right-turn traffic will also have sufficient opportunities to exit Hoffmans driveway onto Delaware Avenue during the weekday PM peak hour for both the existing 4-lane and proposed 3-lane configuration scenarios. See **Table 2** for full analysis results.

During weekend peak hour, under both the existing 4-lane Delaware Avenue configuration and the proposed 3-lane Delaware Avenue configuration, motorists will have sufficient opportunities to exit Hoffman's driveway onto Delaware Avenue. See **Table 2** for full analysis results.

The impacts of the proposed Delaware Avenue lane configuration change on the maximum delay are as follows:

- **Left-turning vehicle:**
  Weekday PM Peak Hour: Reduction of 24.1 seconds (from 50.1 seconds to 26.0 seconds)
  Weekend Peak Hour: Reduction of 2.6 seconds (from 18.9 seconds to 16.3 seconds)
- **Right-turning vehicle:**
  Weekday PM Peak Hour: Increase of 18.2 seconds (from 3.1 seconds to 21.3 seconds)
  Weekend Peak Hour: Increase of 2.0 seconds (from 10.4 seconds to 12.4 seconds)

Ultimate Situation: Analysis of scenarios based on maximum throughput

In the "ultimate situation", it is assumed that Hoffman Car Wash will generate 180 vehicles per hour during the weekday PM peak hour and weekend peak hour. This situation will be appropriate to represent special events, such as "free car wash day", whereby large turnout of customers is expected.

For the existing 4-lane Delaware Avenue configuration scenario, exiting left-turn traffic will experience extensive delay during the weekday PM peak hour when left-turn volume exceeds 18 vehicles/hour. Exiting right-turn traffic will always have sufficient opportunities to exit Hoffmans driveway onto Delaware Avenue during the weekday PM peak hour. See **Table 3** for full analysis results.

In the proposed 3-lane Delaware Avenue configuration scenario, the left-turn lane will queue beyond the available space when left-turn volume exceeds 108 vehicles/hour. The right lane will queue beyond the available space when right-turn volume exceeds 162 vehicles/hour. See **Table 3** for full analysis results.

During weekend peak hour, under both the existing 4-lane Delaware Avenue configuration and the proposed 3-lane Delaware Avenue configuration, motorists will have sufficient opportunities to exit Hoffman's driveway onto Delaware Avenue. See **Table 3** for full analysis results.

The impacts of the proposed Delaware Avenue lane configuration change on the maximum delay are as follows:

- **Left-turning vehicle:**
  Weekday PM Peak Hour: Reduction of 219.7 seconds (from 289.3 seconds to 69.6 seconds)
  Weekend Peak Hour: Reduction of 8.6 seconds (from 33.3 seconds to 24.7 seconds)
- **Right-turning vehicle:**
  Weekday PM Peak Hour: Increase of 25.5 seconds (from 16.6 seconds to 42.1 seconds)
  Weekend Peak Hour: Increase of 1.3 seconds (from 16.6 seconds to 15.3 seconds)

Conclusion

Based on CHA's analysis, the proposed 3-lane Delaware Avenue lane configuration will allow left-turn motorists to exit Hoffman Car Wash with more ease than the existing 4-lane configuration due to the reduction in the number of conflicting traffic lanes crossed (from 3 to 2) and the left turn maneuver being performed in 2 stages rather than in one single movement. Although this configuration shortened the delay for left-turn motorist, it increases the delay for the right-turn motorists. But the magnitude of delay reduction for the left-turn motorists is greater than the increase in delay for the right-turn motorists. Therefore, the proposed 3-lane Delaware Avenue lane configuration is expected to reduce the overall delay for motorists exiting Hoffman Car Wash. It is important to note that special car wash events (assuming the maximum throughput) may cause backup, but that is shown to be the case regardless of Delaware Avenue maintaining the existing 4-lane configuration or being converted to the proposed 3-lane configuration.

Sincerely,

Joseph F. Cimino

Joe Cimino, PE
Project Manager

Table 2: Delay and Queue Length Results Based on ITE Trip Generation Volume "Typical Situation"

Variable = Left / Right Turn Volume				Existing 4-lane Configuration				Proposed 3-lane Configuration			
Left-Turn		Right-Turn		Left-Turn		Right-Turn		Left-Turn		Right-Turn	
%	Volume (#veh)	%	Volume (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)
Weekday PM Peak Hour											
0%	0	100%	52	0.0	0.0	13.1	0.4	0.0	0.0	21.3	0.7
10%	5	90%	47	33.4	0.1	13.1	0.3	21.4	0.1	20.9	0.6
20%	10	80%	42	34.6	0.3	13.0	0.3	21.8	0.1	20.6	0.6
30%	16	70%	36	36.2	0.4	12.9	0.2	22.3	0.2	20.1	0.5
40%	21	60%	31	37.6	0.6	12.8	0.2	22.7	0.3	19.8	0.4
50%	26	50%	26	39.2	0.7	12.7	0.2	23.2	0.4	19.5	0.3
60%	31	40%	21	40.9	0.9	12.6	0.1	23.7	0.5	19.2	0.3
70%	36	30%	16	42.8	1.1	12.5	0.1	24.2	0.6	18.9	0.2
80%	42	20%	10	45.2	1.3	12.4	0.1	24.8	0.7	18.6	0.1
90%	47	10%	5	47.5	1.5	12.3	0.0	25.4	0.8	18.3	0.1
100%	52	0%	0	50.1	1.8	0.0	0.0	26.0	0.9	0.0	0.0
Weekend Peak Hour											
0%	0	100%	22	0.0	0.0	10.4	0.3	0.0	0.0	12.4	0.3
10%	2	90%	20	16.6	0.1	10.3	0.2	14.8	0.0	12.3	0.3
20%	4	80%	18	16.8	0.1	10.3	0.2	14.9	0.1	12.2	0.3
30%	7	70%	15	17.1	0.2	10.2	0.2	15.1	0.1	12.1	0.3
40%	9	60%	13	17.3	0.2	10.2	0.1	15.3	0.2	12.1	0.2
50%	11	50%	11	17.5	0.3	10.1	0.1	15.4	0.2	12.0	0.2
60%	13	40%	9	17.7	0.4	10.1	0.1	15.6	0.3	11.9	0.1
70%	15	30%	7	18.0	0.4	10.1	0.1	15.7	0.3	11.8	0.1
80%	18	20%	4	18.3	0.5	10.0	0.0	16.0	0.4	11.8	0.1
90%	20	10%	2	18.6	0.6	10.0	0.0	16.1	0.5	11.7	0.0
100%	22	0%	0	18.9	0.6	0.0	0.0	16.3	0.5	0.0	0.0

Table 2: Delay and Queue Length Results Based on Maximum Throughput "Ultimate Situation"

Variable = Left / Right Turn Volume				Existing 4-lane Configuration				Proposed 3-lane Configuration			
Left-Turn		Right-Turn		Left-Turn		Right-Turn		Left-Turn		Right-Turn	
%	Volume (#veh)	%	Volume (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)	Delay (sec)	Queue (#veh)
Weekday PM Peak Hour											
0%	0	100%	180	0.0	0.0	16.6	1.7	0.0	0.0	42.1	4.5
10%	18	90%	162	36.7	0.5	16.0	1.5	22.4	0.3	36.9	3.7
20%	36	80%	144	42.8	1.1	15.4	1.3	24.2	0.6	32.8	3.0
30%	54	70%	126	51.1	1.9	14.8	1.1	26.3	1.0	29.5	2.4
40%	72	60%	108	63.2	2.8	14.4	0.9	28.8	1.4	26.9	1.9
50%	90	50%	90	80.9	4.0	13.9	0.7	32.0	1.9	24.7	1.5
60%	108	40%	72	106.6	5.4	13.5	0.5	36.0	2.5	22.9	1.1
70%	126	30%	54	141.5	7.0	13.2	0.4	41.2	3.3	21.4	0.8
80%	144	20%	36	185.0	8.7	12.9	0.2	48.1	4.2	20.1	0.5
90%	162	10%	18	235.0	10.6	12.5	0.1	57.3	5.2	19.0	0.2
100%	180	0%	0	289.3	12.5	0.0	0.0	69.6	6.4	0.0	0.0
Weekend Peak Hour											
0%	0	100%	180	0.0	0.0	16.6	1.1	0.0	1.6	15.3	1.6
10%	18	90%	162	17.1	0.2	11.5	0.9	15.2	0.2	14.8	1.4
20%	36	80%	144	18.0	0.4	11.3	0.8	15.7	0.3	14.3	1.2
30%	54	70%	126	19.0	0.7	11.1	0.7	16.4	0.6	13.9	1.0
40%	72	60%	108	20.1	1.0	10.9	0.6	17.2	0.8	13.4	0.8
50%	90	50%	90	21.4	1.3	10.7	0.5	18.0	1.0	13.1	0.7
60%	108	40%	72	23.0	1.7	10.5	0.4	19.0	1.3	12.7	0.5
70%	126	30%	54	24.8	2.1	10.4	0.3	20.1	1.6	12.4	0.4
80%	144	20%	36	27.1	2.6	10.2	0.2	21.4	2.0	12.1	0.2
90%	162	10%	18	29.8	3.2	10.1	0.1	22.9	2.4	11.9	0.1
100%	180	0%	0	33.3	3.9	0.0	0.0	24.7	2.9	0.0	0.0

Appendix B-2

Traffic Analysis @ the Intersection of Delaware Ave & Elsmere Ave Technical Memorandum

January 11, 2024

Robert Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Subject: **Traffic Analysis at the Intersection of Delaware Avenue and Elsmere Avenue, Town of Bethlehem, NY**
Delaware Avenue Complete Streets (PIN: 1761.68)
CHA Project No. 81072

Dear Mr. Leslie:

CHA Consulting, Inc. (CHA) has prepared this Memorandum to present our traffic analysis of the proposed eastbound lane configuration change on Delaware Avenue at the intersection of Elsmere Avenue. As part of the Delaware Avenue Complete Streets Project, it is proposed to maintain one eastbound through lane from the Hamlet of Delmar to the Elsmere Avenue intersection (reducing eastbound Delaware Avenue from two through lanes to one through lane on the western intersection approach). The lane configuration and geometry on the other three approaches to, and departures from, this intersection will remain unchanged. One of the Project's goals is to lower vehicular speed along the Project corridor by incorporating traffic calming measures to enhance safety, mobility, and access for all road users. This proposed change to the western intersection approach allows for a slightly raised median island to be constructed between the eastbound through lane and eastbound left turn lane. Inclusion of this island is consistent with other traffic calming measures employed in three other locations along the project corridor.

Application of traffic calming measures at the western and eastern project limits, as well as those strategically placed within the corridor, will support the Town's efforts to solicit NYSDOT to reduce the 40-mph speed limit to 30-mph to be consistent with the Delaware Avenue segments that bookend this Project. Additionally, within 1000 feet of the speed limit change from 30-mph to 40-mph (at the western Project limit), a 30-mph school zone exists. This change in posted speed limit increases the speed variance in the traffic stream and leads to higher travel speed of the motorists, increasing the potential for crashes. FHWA Studies (source: *Lower Citywide Speed Limits and Design Changes (dot.gov)*) have shown that reducing the number of lanes from four-lane to three-lane lowers the travel speed on urban arterials.

This technical memorandum defines the methodology used for the analysis, provides an overview of the existing condition, describes the proposed condition, and discusses the impact of the road configuration change on the motorists along Delaware Avenue.

Analysis Methodology

The traffic capacity of the intersection was reviewed for Existing Year 2023, Estimated Completion Year (ETC) 2025, and Horizon Year 2045 (ETC+20) to understand the short and long-term impacts of this proposal. Three peak periods were identified for the analysis:

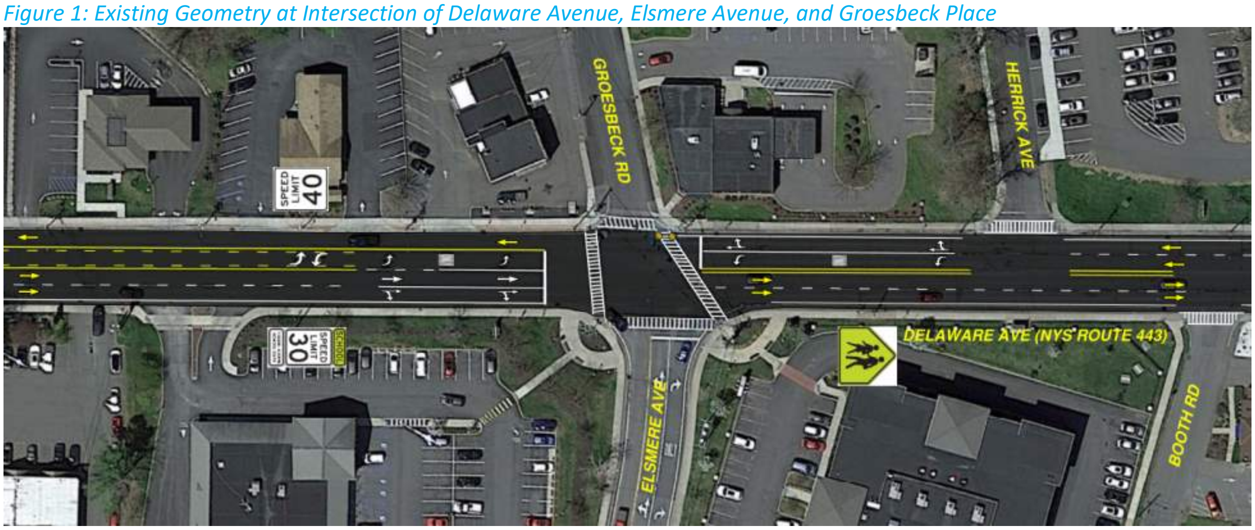
- Weekday AM Peak Hour 7:30 AM to 8:30 AM
- Weekday PM Peak Hour 4:30 PM to 5:30 PM
- Weekend Peak Hour 12:15 PM to 1:15 PM

This technical memo will examine the impact of the road configuration change on the average delay for vehicles and maximum queue length of the eastbound approach.

Existing Condition

Delaware Avenue (NYS Rte 443) intersects Elsmere Avenue (to the south) and Groesbeck Place (to the north) as shown in **Figure 1**.

Figure 1: Existing Geometry at Intersection of Delaware Avenue, Elsmere Avenue, and Groesbeck Place



Roadway

Delaware Avenue is an east-west urban minor arterial road which links the Town of Bethlehem to the City of Albany. At the eastern town line, Delaware Avenue is a two-lane two-way roadway. It widens immediately to a four-lane two-way roadway for the remainder of the project length, and then narrows back to a two-lane two-way roadway at the western project limit beyond Rural Place. There are sidewalks on both sides of the road for the majority of the project. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway the vehicular traffic. The posted speed limit along Delaware Avenue is 40 mph, but it is 30 mph within school zone for Elsmere Elementary School during school hours.

Delaware Avenue intersects Elsmere Avenue at the study intersection. Elsmere Avenue is a north to south two-lane two-way urban major collector that connects Delaware Avenue to the Delmar By-pass. There are sidewalks on both sides of the road near to the intersection and at least one-side of the road for most of its length. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway the vehicular traffic. The posted speed limit along Elsmere Avenue is 35 mph.

Groesbeck Place is a north to south two-lane two-way urban local street that serves the local residential community north of Delaware Avenue. There are sidewalks on both sides of the road for most of its length. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway the vehicular traffic. The posted speed limit along Groesbeck Place is 30 mph.

Traffic Operations

The traffic signal at the study intersection is actuated, which implies that the green time of individual phases are influenced by the real-time traffic volume. If there is higher traffic volume along Delaware Avenue, more green time will be allocated to Delaware Avenue approaches. Right-turn on Red movement is prohibited at all legs of the intersection. An exclusive pedestrian phase is present at this intersection.

Traffic Analysis

To establish a baseline for comparison, capacity analysis was performed based on existing geometry and existing signal timings for all design years which includes 2023 (existing), 2025 (estimated time of completion, ETC), and 2045 (ETC+20). The results of the peak hours for the eastbound approach[1] are presented in **Table 1** and illustrated in **Figure 2**.

The impact of the natural traffic increase is as follows:

Delay changes from existing 2023 to 2025 (ETC) and 2045 (ETC+20)

- 2025 (ETC) AM Peak Hour: **increases by 0.1 seconds** from 20.4 seconds to 20.5 seconds.
- 2025 (ETC) PM Peak Hour: **increases by 0.1 seconds** from 21.9 seconds to 22.0 seconds.
- 2025 (ETC) Weekend Peak Hour: **increases by 0.1 seconds** from 21.6 seconds to 21.7 seconds.

- 2045 (ETC+20) AM Peak Hour: **increases by 0.9 seconds** from 20.4 seconds to 21.3 seconds.
- 2045 (ETC+20) PM Peak Hour: **increases by 1.1 seconds** from 21.9 seconds to 23.0 seconds.
- 2045 (ETC+20) Weekend Peak Hour: **increases by 1.1 seconds** from 21.6 seconds to 22.7 seconds.

Queue length changes and number of vehicles[2] from existing 2023 to 2025 (ETC) and 2045 (ETC+20)

- 2025 (ETC) AM Peak Hour: **increases 3.0 feet (0 vehicles)** from 265 feet (11 vehicles) to 268 feet (11 vehicles).
- 2025 (ETC) PM Peak Hour: **increases 3.0 feet (0 vehicles)** from 231 feet (9 vehicles) to 234 feet (9 vehicles).
- 2025 (ETC) Weekend Peak Hour: **increases 3.0 feet (0 vehicles)** from 188 feet (8 vehicles) to 191 feet (8 vehicles).

- 2045 (ETC+20) AM Peak Hour: **increases 38.0 feet (1 vehicles)** from 265 feet (11 vehicles) to 303 feet (12 vehicles).

[1] The analysis performed looks specifically at the eastbound only as that is the only approach that geometric revisions are being proposed for.

[2] Vehicle length rounded to nearest 25'.

- 2045 (ETC+20) PM Peak Hour: **increases 34.0 feet (1 vehicles)** from 231 feet (9 vehicles) to 265 feet (10 vehicles).
- 2045 (ETC+20) Weekend Peak Hour: **increases 25.0 feet (1 vehicles)** from 188 feet (9 vehicles) to 213 feet (9 vehicles).

Table 1: Delay and Queue Length of Eastbound Approach during Existing 2023, ETC (No-Build), and ETC+20 (No-Build)

	Delay (sec)	**Queue Length (ft)**	**Queue Length (veh)**
AM PEAK (7:30 AM to 8:30 AM)			
EXISTING 2023	20.4	265	11
ETC (No-Build)	20.5	268	11
Change from 2023	*+0.1*	*+3.0*	*None*
ETC+20 (No-Build)	21.3	303	12
Change from 2023	*+0.9*	*+38*	*+1*
PM PEAK (4:30 PM to 5:30 PM)			
EXISTING 2023	21.9	231	9
ETC (No-Build)	22.0	234	9
Change from 2023	*+0.1*	*+3.0*	*None*
ETC+20 (No-Build)	23.0	265	10
Change from 2023	*+1.1*	*+34*	*+1*
WEEKEND PEAK (12:15 PM to 1:15 PM)			
EXISTING 2023	21.6	188	8
ETC (No-Build)	21.7	191	8
Change from 2023	*+0.1*	*+3.0*	*None*
ETC+20 (No-Build)	22.7	213	9
Change from 2023	*+1.1*	*+25*	*+1*

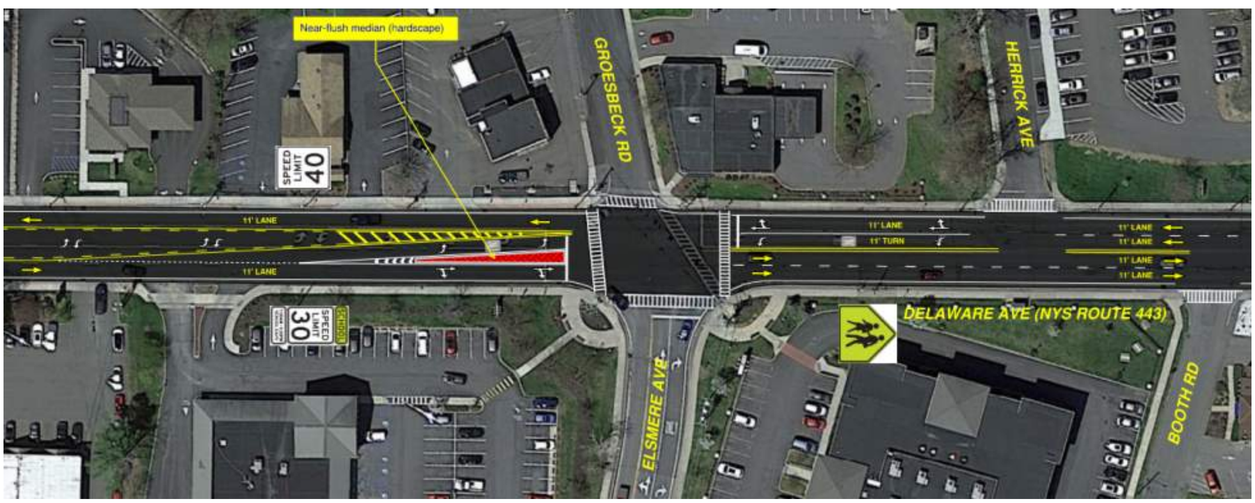
Figure 2: Graphical Representation of Delay and Queue Length of Approach during Existing 2023, ETC (No-Build), and ETC+20 (No-Build)

Proposed Intersection Revision

Roadway

Delaware Avenue is a two-lane two-way roadway west of the project limit, widening to four lanes approaching the study intersection of Delaware Avenue / Elsmere Avenue / Groesbeck Place. At the west leg of the intersection, Delaware Avenue consists of a dedicated left-turn lane, a through lane, a shared through-right lane, eastbound. The fourth lane is a through westbound lane. One of the objectives of this Complete Streets project is to enhance safety for all road users by employing traffic calming strategies. One of the strategies proposed is to introduce a raised median island at the western project limit. This is accomplished by reducing the number of through lanes on the eastbound approach from two to one and reallocating that space for a raised median while still providing a non-offset opposing left turn lane. Beyond the intersection to the east, Delaware Avenue retains its current lane configuration. The same is true for the Elsmere Avenue and Groesbeck Place approaches to the intersection. See **Figure 3** below for an illustration of this proposed configuration.

Figure 3: Proposed Geometry at Intersection of Delaware Avenue and Elsmere Avenue



Traffic Operations

It is assumed that the traffic signal timings will be optimized.

Traffic Analysis

The traffic capacity analysis was performed based on proposed geometry and optimized signal timings for all design years which includes 2023 (existing), 2025 (estimated time of completion, ETC), and 2045 (ETC+20). **Table 2** and **Figure 4** provide results for 2025 (ETC), and **Table 3** and **Figure 5** present results for 2045 (ETC+20) for the eastbound approach only.

The impact of the proposed geometry is as follows:

Delay changes from No-build Scenario

- 2025 (ETC) AM Peak Hour: **increases by 5.2 seconds** from 20.5 seconds to 25.7 seconds.
- 2025 (ETC) PM Peak Hour: **increases by 7.5 seconds** from 22.0 seconds to 29.5 seconds.

- 2025 (ETC) Weekend Peak Hour: **increases by 6.0 seconds** from 21.7 seconds to 27.7 seconds.

- 2045 (ETC+20) AM Peak Hour: **increases by 12.6 seconds** from 21.3 seconds to 33.9 seconds.
- 2045 (ETC+20) PM Peak Hour: **increases by 24.4 seconds** from 23.0 seconds to 47.4 seconds.
- 2045 (ETC+20) Weekend Peak Hour: **increases by 1.6 seconds** from 22.7 seconds to 24.3 seconds.

Queue length changes and number of vehicles from No-build Scenario

- 2025 (ETC) AM Peak Hour: **increases 491 feet (19 vehicles)** from 268 feet (11 vehicles) to 759 feet (30 vehicles).
- 2025 (ETC) PM Peak Hour: **increases 393 feet (16 vehicles)** from 234 feet (9 vehicles) to 627 feet (25 vehicles).
- 2025 (ETC) Weekend Peak Hour: **increases 256 feet (10 vehicles)** from 191 feet (8 vehicles) to 447 feet (18 vehicles).

- 2045 (ETC+20) AM Peak Hour: **increases 558 feet (22 vehicles)** from 303 feet (12 vehicles) to 861 feet (34 vehicles).
- 2045 (ETC+20) PM Peak Hour: **increases 535 feet (21 vehicles)** from 265 feet (11 vehicles) to 800 feet (32 vehicles).
- 2045 (ETC+20) Weekend Peak Hour: **increases 269 feet (11 vehicles)** from 213 feet (9 vehicles) to 482 feet (20 vehicles).

Table 2: Comparison of Delay and Queue Length of Approach during ETC for No-Build and Build Scenario

	Delay (sec)	**Queue Length (ft)**	**Queue Length (veh)**
AM PEAK (7:30 AM to 8:30 AM)			
ETC (No-Build)	20.5	268	11
ETC (Build)	25.7	759	30
Change	*+5.2*	*+491*	*+19*
PM PEAK (4:30 PM to 5:30 PM)			
ETC (No-Build)	22	234	9
ETC (Build)	29.5	627	25
Change	*+7.5*	*+393*	*+16*
WEEKEND PEAK (12:15 PM to 1:15 PM)			
ETC (No-Build)	21.7	191	8
ETC (Build)	27.7	447	18
Change	*+6.0*	*+256*	*+10*

Table 3: Comparison of Delay and Queue Length of Approach during ETC+20 for No-Build and Build Scenario

	Delay (s)	Queue Length (ft)	Queue Length (veh)
AM PEAK (7:30 AM to 8:30 AM)			
ETC+20 (No-Build)	21.3	303	12
ETC+20 (Build)	33.9	861	34
Change	*+12.6*	*+558*	*+22*
PM PEAK (4:30 PM to 5:30 PM)			
ETC+20 (No-Build)	23	265	10
ETC+20 (Build)	47.4	800	32
Change	*+24.4*	*+535*	*+21*
WEEKEND PEAK (12:15 PM to 1:15 PM)			
ETC+20 (No-Build)	22.7	213	9
ETC+20 (Build)	24.3	482	20
Change	*+1.6*	*+269*	*+11*

Figure 4: Comparison of Delay and Queue Length of Approach during ETC for No-Build and Build Scenario

Figure 5: Comparison of Delay and Queue Length of Approach during ETC+20 for No-Build and Build Scenario

Conclusion

Reducing the number of eastbound through lanes on the approach to the Delaware Avenue / Elsmere Avenue / Groesbeck Place intersection from two lanes to one lane is expected to increase the delay on this approach by up to 7.5 seconds when it is implemented at 2025 (ETC), and by up to 24.4 seconds by 2045 (ETC+20). The queue length is also expected to increase by up to 20 vehicle lengths at 2025 (ETC), and 23 vehicle lengths by 2045 (ETC+20). Delay and queue lengths at the three other intersection approaches (unchanged by geometry) is not expected to change with any measurable significance between the no-build and build scenarios for each of the design years.

Although this proposed geometric change increases delay and queue length, motorists can clear the intersection within one signal cycle. This change may lead to a long-term behavioral change that will potentially encourage motorists travel at a more consistent and lower speed as they travel along Delaware Avenue, meeting the goals of this Complete Streets Project by reducing speed and creating a safer travel environment for all users of the roadway.

Sincerely,

Joseph F. Cimino

Joe Cimino, PE
Project Manager

Appendix B-3

Mid-block Crossing Assessment Technical Memorandum

January 9, 2024

Robert Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Subject: Mid-block Crossing Assessment, Delaware Avenue, Town of Bethlehem, NY
Delaware Avenue Complete Streets (PIN: 1761.68)
CHA Project No. 81072

Dear Mr. Leslie:

CHA Consulting, Inc., (CHA) has prepared this Memorandum to provide analysis and recommendations for a mid-block crossing along Delaware Avenue in the segment of roadway between Elsmere Avenue and Delaware Plaza as part of the Delaware Avenue Complete Streets project. It was observed that pedestrians and bicyclists are currently crossing Delaware Avenue in this segment at locations where crosswalks are not present. This behavior demonstrates that there is demand for mid-block crossing. This demand was further bolstered by public sentiment offered at the June 15, 2023 Public Informational Meeting held for this project. An engineering study should be performed before a marked crosswalk is installed.

This technical memorandum serves as an engineering study to justify the inclusion of **a mid-block crossing along Delaware Avenue in the vicinity of the existing bus transit stops between Salisbury Road and Snowden Avenue**. Guidance on the engineering study for marked crosswalks is provided in the section below.

MUTCD Crosswalk Marking Guidance

In December 2023, the 11th Edition of the National Manual in Uniform Traffic Control Devices (MUTCD) was officially released by FHWA. Commentary on the Final Rule for the new MUTCD (changes to the MUTCD) discuss key items, with one being improvements to safety and accessibility for pedestrians. "Marked Crosswalks" has been expanded into its own chapter in the MUTCD (Chapter 3C. Crosswalk Markings). Further, the commentary goes on to say, *"An important factor is roadway context; on roadways where adjacent land use suggests that trips could be served by varied modes, it is important to provide safe crossings. Including projected volumes in the recommended engineering study can address concerns that pedestrian and bicycle demand may not be captured by a traffic count, as locations without an established crosswalk might be avoided by some pedestrians and bicyclists"* (emphasis added).

The new MUTCD Chapter 3C provides updated guidance on establishing legal crosswalks at non-intersection locations:

The installation of other traffic control devices and other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should be considered in addition to a new marked crosswalk and signs across an uncontrolled roadway where any of the following conditions exist:

A. The roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater; or

B. The roadway has four or more lanes of travel with a raised median or pedestrian refuge island and an ADT of 15,000 vehicles per day or greater, or

C. The posted speed limit is 40 mph or greater, or

D. A crash study reveals that multiple-threat crashes are the predominant crash type on a multi-lane approach, or

E. When adequate visibility cannot be provided by parking prohibitions.

Existing Condition

Delaware Avenue (NYS Rte 443) is an east to west four-lane two-way urban minor arterial road which links the Town of Bethlehem to the City of Albany. There are sidewalks on both sides of the road for most of its length. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway with the vehicular traffic. The posted speed limit is 40 mph, with exception for the school zone speed limit of 30 mph located adjacent to Elsmere Elementary School. The land use along Delaware Avenue is primarily commercial, including retail stores, restaurants, religious center, clinics, and others. These commercial activities are surrounded by residential neighborhoods, to both the north and south. **Figure 1** provides an overview of the type of activities along Delaware Avenue and **Table 1** tabulates the summary of the existing conditions.

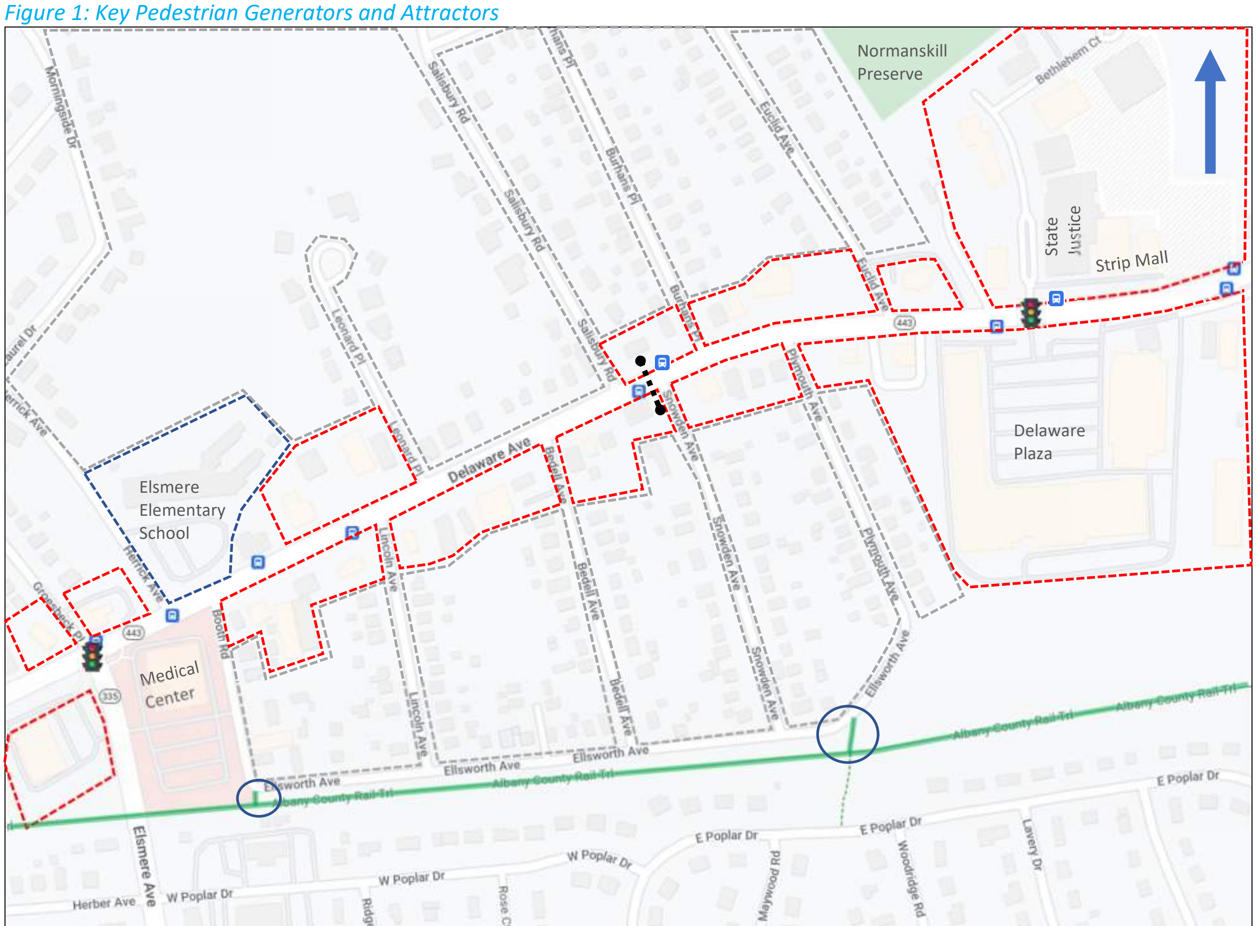
There are six main pedestrian generators (or attractors) within the study area:

(1) Elsmere Elementary School to the west
(2) Delaware Plaza (retail strip mall) to the east
(3) Albany County Rail Trail to the south
(4) Normanskill Preserve to the north
(5) Residential neighborhoods (to the north and south)
(6) Multiple CDTA bus stops along Delaware Avenue

Delaware Avenue is a high traffic volume four-lane road with a 40-mph speed limit. The combination of lanes, speed, and traffic volume make it difficult for pedestrians to cross the road safely without a crosswalk. The only opportunity for the pedestrians and bicyclists to safely cross Delaware Avenue is at the signalized Elsmere Avenue intersection or the signalized Delaware Plaza intersection. These intersections are located 0.5 mile from each other.

A Public Informational Meeting (PIM) for the Project was held on June 15, 2023. A Project Website was also established at the same time. Public feedback was garnered from both the PIM and Website. The public felt that existing infrastructure is dangerous for pedestrians and desire safer pedestrian facilities. Specific to the additional protected crossing opportunities on Delaware Avenue, 29 out of 34 respondents (85%) supported a mid-block crossing. The public also suggested that they would patronize the businesses on both sides of the road more if they are able to cross Delaware Avenue safely.

Figure 1: Key Pedestrian Generators and Attractors



Legend:

	Residential		Parks and Recreation
	Commercial		School
	Bus Stop		Location of Proposed Mid-block Crossing
	Signalized Intersection		Albany County Rail Trail Access

Table 1: Summary of Existing Conditions

Potential Mid-block Crossing Study Area		Delaware Avenue between Elsmere Avenue and Delaware Plaza/ Normanskill Boulevard
Traffic Profile	AADT (veh/day), Year	16,700, 2023
	Truck Percentage (%)	2%
	Posted Speed Limit (mph)	40 mph
	85^{th} Percentile Speed	42 mph
	Classification	Urban Minor Arterial
	Part of National Highway Network?	Non-NHS
Roadway Properties	Number of Lanes	4 lanes (5 lanes at Delaware Plaza)
	Existing Lane Width	Interior: 11 ft Exterior: 11 ft plus 1' offset to curb (14 ft at Delaware Plaza 5-lane section)
	Sidewalks	Available on both sides of the road (within study area)
	Type of Median	2 ft flush striped
	Presence of Street Lighting	Yes, on north side utility poles
	Alignment	Horizontal curve located between Burhans Place and Plymouth Avenue
Landscape	Context Class	Suburban
	Key pedestrian generators/ attractors	- Elsmere Elementary School (to the west) - Delaware Plaza (to the east) - Normanskill Preserve (to the north) - Albany County Rail Trail (to the south) - Residential neighborhoods (to the north and south) - Multiple CDTA Bus stops (both sides in pairs)
	Distance to adjacent signal	There are no signals between Elsmere Avenue and Normanskill Blvd/ Delaware Plaza (0.5 miles)
	Distance to nearest transit stop	Mid-block crossing proposed at Snowden Ave. transit stop
Demo-graphics*	Total Town Population	34,945
	Under 18 years	7,749 (22%)
	18 to 65 years	18, 736 (54%)
	65 years and over	8,460 (24%)
Crash Data	Pedestrian crash in the last 3 years	1 incident at the intersection of Delaware Avenue and Elsmere Avenue
	Bicycle crash in the last 3 years	None

* Note: from US Census Bureau 2022 Estimate Dataset

Pedestrian Survey

A pedestrian survey was conducted in September 2023 on three typical weekdays and one typical weekend to establish the potential demand for the proposed mid-block crossing. Five (5) Miovision video cameras were strategically located to observe pedestrian/ bicyclist movements along Delaware Avenue between 6 AM to 6 PM each day. Details of the survey plan and location of the cameras can be found in the **Attachment** at the end of this document.

The demand for the proposed mid-block crossing is a summation of existing demand and induced demand.

Existing Demand:

- Pedestrians were noted crossing Delaware Avenue between Bedell Avenue and Euclid Avenue. These pedestrians will likely use the proposed pedestrian crossing in future.
- Instead of crossing Delaware Avenue unsafely, some pedestrians were noted traversing to, and crossing at, the Delaware Plaza signalized intersection (Delaware Avenue/ Normanskill Boulevard). These pedestrians would likely use the proposed mid-block pedestrian crossing if more convenient to their destination.

Induced Demand:

- 50% of the pedestrians from Elsmere Avenue (north sidewalk) walking towards Delaware Plaza (south sidewalk) and crossing at the Delaware Plaza signalized intersection will likely use the proposed mid-block pedestrian crossing in future.
- 50% of the pedestrians from Normanskill Boulevard (north sidewalk) walking towards Elsmere Avenue (south sidewalk) and crossing at the Delaware Plaza signalized intersection will likely use the proposed mid-block pedestrian crossing in future.
- 50% of the pedestrians from Elsmere Avenue (south sidewalk) walking towards Delaware Plaza (north sidewalk) and crossing at the Delaware Plaza signalized intersection will likely use the proposed mid-block pedestrian crossing in future.
- 50% of the pedestrians from Delaware Plaza (south sidewalk) walking towards Elsmere Avenue (north sidewalk) and crossing at the Delaware Plaza signalized intersection will likely use the proposed mid-block pedestrian crossing in future.

NYSDOT Traffic Safety and Mobility Instruction (TSMI) 18-02 suggests doubling the count for young, elderly, and disable pedestrians towards the volume threshold. This means that if an adult is crossing the road with a child, the total pedestrian equivalent volume would be 3. The estimated pedestrian equivalent demand for mid-block crossing is shown in the **Table 2,** and the counted volume of estimated young, elderly, handicap pedestrian demand is presented in **Table 3**.

Table 2: Pedestrian Equivalent Demand for Mid-block Crossing

Time	9/17/2023 (Sunday)	9/19/2023 (Tuesday)	9/20/2023 (Wednesday)	9/21/2023 (Thursday)
6 AM to 7 AM	0	1	1	4
7 AM to 8 AM	5	2	6	3
8 AM to 9 AM	6	2	0	1
9 AM to 10 AM	6	8	2	3
10 AM to 11 AM	7	5	4	3
11 AM to 12AM	4	4	0	3
12 PM to 1 PM	2	10	4	6
1 PM to 2 PM	10	9	1	2
2 PM to 3 PM	**14 (Max)**	4	5	**12 (Max)**
3 PM to 4 PM	13	1	6	6
4 PM to 5 PM	5	3	3	2
5 PM to 6 PM	1	1	7	6

Table 3: Young, Elderly, Handicap Pedestrian Demand for Mid-block Crossing

Time	9/17/2023 (Sunday)	9/19/2023 (Tuesday)	9/20/2023 (Wednesday)	9/21/2023 (Thursday)
6 AM to 7 AM	0	0	0	0
7 AM to 8 AM	0	0	0	1
8 AM to 9 AM	0	0	0	0
9 AM to 10 AM	1	1	1	0
10 AM to 11 AM	0	0	1	0
11 AM to 12AM	0	0	0	1
12 PM to 1 PM	0	0	1	0
1 PM to 2 PM	2	1	1	0
2 PM to 3 PM	4	1	0	0
3 PM to 4 PM	4	0	1	0
4 PM to 5 PM	0	0	0	1
5 PM to 6 PM	0	0	0	1

Pedestrian Study Observations

The maximum demand observed during the survey period was 12 pedestrian crossings per hour for weekday, and 14 pedestrian crossings per hour for weekend. The peak demand occurred from 2PM to 3PM during both weekday and weekend. The demand is driven by young, elderly, handicap pedestrian activities during weekend, and by adult pedestrian activities during weekdays.

Majority of the crossing activities take place around the intersection at Plymouth Avenue (29%), followed by intersection at Euclid Avenue (17%), intersection at Snowden Avenue (16%), and intersection at Salisbury Road (13%). It is observed that some of pedestrians and bicyclists cross the road diagonally when they are traveling from side streets to side streets (due to offset intersections), especially when they are located close together. These behaviors typically are observed at the following locations:

- From Snowden Avenue to Salisbury Avenue and vice versa
- From Snowden Avenue to Burhans Place and vice versa
- From Plymouth Avenue to Euclid Avenue and vice versa

It was also observed that some pedestrians took refuge within the 2 ft flush striped median area while waiting for sufficient gap to cross the road. There were also other pedestrians who waited by the curbside but were not able to find sufficient gap to cross the road. Subsequently, they walked to the signalized intersection at Delaware Plaza to cross instead. A pedestrian waited up to 2.5 minutes before proceeding to cross at a signalized intersection. The maximum wait time recorded for pedestrians to cross the road at unmarked locations was 110 seconds on a weekday and 25 seconds on a weekend. **Figure 2** shows the recorded pedestrian/bicycle movements.

Figure 2: North-south pedestrian/bicyclist movement throughout survey period

Legend:
Observed north-south pedestrian/bicyclist movements
*Thickness of line represents demand

Conceptual Design of Mid-block Crossing

Conceptual design of the mid-block crossing was developed during the initial stages of the Project to enhance safe accessibility for pedestrians and bicyclists. The design approach is based on NYSDOT Highway Design Manual (HDM) Chapter 18 – Pedestrian Facility Design (2022) and FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (2018).

CHA identified a potential mid-block pedestrian crossing location between Salisbury Road and Snowden Avenue based on the following factors:

- The mid-block pedestrian crossing should be located mid-way between the signalized intersections of Elsmere Avenue and Delaware Plaza.
- This segment is on a tangent horizontal alignment.
- There are no driveways or intersections within this segment.
- A pair of CDTA bus stops are located at Salisbury Road.
- Although the highest survey-observed pedestrian crossing is located between Plymouth Avenue and Euclid Avenue, the horizontal curve near Plymouth Avenue may limit visibility of a proposed mid-blocking crossing at this location. The proposed location for the mid-block crossing is within 500 feet of the highest survey-observed crossings.

A marked crosswalk alone at the mid-block pedestrian crossing has been deemed insufficient for this segment of Delaware Avenue. HDM Exhibit 18-20 (see **Figure 3**) suggested that roads with 4 or more lanes without a raised median, and AADT of greater than 15,000, should consider using other treatments where warranted, such as traffic calming treatments, pedestrian signals, and others, in addition to the marked crosswalk to provide safe pedestrian crossing.

Figure 3: Recommendations for Installing Marked Crosswalks and Other Needed Pedestrian Improvements at Uncontrolled Locations (Source: NYSDOT HDM Exhibit 18-20 and FHWA Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations)*

No. of Lanes and Median Type	Vehicle ADT ≤ 9,000			Vehicle ADT > 9,000 to 12,000			Vehicle ADT > 12,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit **											
	< 30 mph	35 mph	40 mph	< 30 mph	35 mph	40 mph	< 30 mph	35 mph	40 mph	< 30 mph	35 mph	40 mph
2 Lanes	C	C	P	C	C	P	C	C	N	C	P	N
3 Lanes	C	C	P	C	P	P	P	P	N	P	N	N
4 or more Lanes With Raised Median	C	C	P	C	P	N	P	P	N	N	N	N
4 or more Lanes Without Raised Median	C	P	N	P	P	N	N	N	N	N	N	N

* These guidelines include intersection and midblock locations with no traffic signals, stop signs or any warning/regulatory signing on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median.

** Where the speed limit exceeds 40 mph, marked crosswalks alone should not be used at unsignalized locations.

C = Candidate sites for marked crosswalks. Before installing new marked crosswalks, an engineering study is needed to determine whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, walking speed, vehicle speed, sight distance, vehicle mix, etc., may be needed at other sites. It is recommended that a minimum of 20 pedestrian crossings per peak hour (or 15 or more disabled, elderly, or child pedestrians) exist at a location before placing a high priority on the installation of a marked crosswalk alone.

P = Possible increase in pedestrian crash risk may occur if crosswalks are added without adequate design features and/or traffic control devices. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.
N = Marked crosswalks alone are insufficient since pedestrian crash risk may be increased due to providing marked crosswalks alone. Consider using other treatments where warranted, such as traffic calming treatments, pedestrian signals, various signal phasing and progressions to improve pedestrian safety, ITS and accessible signals, and other substantial improvements to provide safe pedestrian crossing.

FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (2018) provides specific treatments or pedestrian crash countermeasures that could be used to enhance pedestrian safety at the crosswalk (See **Figure 4**).

Figure 4: Application of Pedestrian Crash Countermeasures by Roadway Feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	❶ 2 4 5 6	❶ 5 6 7 9	① 5 6 ❼ ❾	❶ 4 5 6	❶ 5 6 7 9	① 5 6 ❼ ❾	❶ 4 5 6 7 9	① 5 6 7 9	① 5 6 ❾
3 lanes with raised median (1 lane in each direction)	❶ 2 3 4 5	❶ ❸ 5 7 9	① ❸ 5 ❼ ❾	① 3 4 5 7 9	① ❸ 5 ❼ ❾	① ❸ 5 ❼ ❾	① ❸ 4 5 7 9	① ❸ 5 ❼ ❾	① ❸ 5 ❾
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	❶ 2 3 4 5 6 7 9	❶ ❸ 5 6 7 9	① ❸ 5 6 ❾	① 3 4 5 6 7 9	① ❸ 5 6 ❼ ❾	① ❸ 5 6 ❾	① ❸ 4 5 6 7 9	① ❸ 5 6 ❾	① ❸ 5 6 ❾
4+ lanes with raised median (2 or more lanes in each direction)	❶ ❸ 5 7 8 9	❶ ❸ 5 7 8 9	① ❸ 5 8 ❾	① ❸ 5 7 8 9	① ❸ 5 ❼ 8 ❾	① ❸ 5 8 ❾	① ❸ 5 ❼ 8 ❾	① ❸ 5 8 ❾	① ❸ 5 8 ❾
4+ lanes w/o raised median (2 or more lanes in each direction)	❶ ❸ 5 6 7 8 9	① ❸ 5 ❻ 7 8 9	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ 7 8 9	① ❸ 5 ❻ ❼ 8 ❾	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ ❼ 8 ❾	① ❸ 5 ❻ 8 ❾	① ❸ 5 ❻ 8 ❾

Given the set of conditions in a cell,

- \# Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition. (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

For Delaware Avenue, the roadway is 4 lanes without a raised median and has an AADT of greater than 15,000. High-visibility crosswalk markings, adequate nighttime lighting levels, and crossing warning signs should be provided. In addition, provision of an advance Yield Here To (Stop Here For) Pedestrians sign and Yield (Stop) Line, Pedestrian Refuge Island, and Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals or conventional 3-Color Pedestrian Signal should be considered at the proposed crossing location. A “Road Diet” to reduce the 4-lane roadway to 3 lanes (inclusive of a center two-way left turn lane) was previously considered but rejected by a community vote on the *Delaware Avenue Complete Streets and Road Diet Referendum* on November 2, 2021.

Based on the above NYSDOT HDM and FHWA guidance, the conceptual design of the mid-block crossing should include a Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals or conventional 3-Color Pedestrian Signal and pedestrian refuge median island. These measures are expected to reduce conflicts at the crossing location, reduce vehicle speed, and improve visibility of pedestrians. Additionally, the Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals or conventional 3-Color Pedestrian Signal will require drivers to stop for pedestrians in the crosswalk as a legal traffic control device. The proposed pedestrian refuge median island will not only provide a refuge for pedestrians crossing but will provide traffic calming. Several FHWA and other DOT studies also show that adding a pedestrian enhancement to a marked crosswalk at a location with any number of lanes and speed limit between 35 mph and 45 mph can increase compliance rate by 76% to 97% for the Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals and 57% to 75% for the Rectangular Rapid Flashing Beacons[1].

Public Engagement

During the Public Informational Meeting (PIM) for the Project, which was held on June 15, 2023, the idea of Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals at the mid-block crossing was shared with the public. Three alternatives were presented:

- Alternative 1 – No Action will be taken **(Figure 5)**
- Alternative 2 – Mid-block Crossing with Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals **(Figure 6)**
- Alternative 2A – Mid-block Crossing with Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals and Raised Median Island **(Figure 7)**

[1] Source: https://www.fhwa.dot.gov/publications/research/safety/16040/16040.pdf

Figure 5: Alternative 1 between Salisbury Road and Burhans Plan

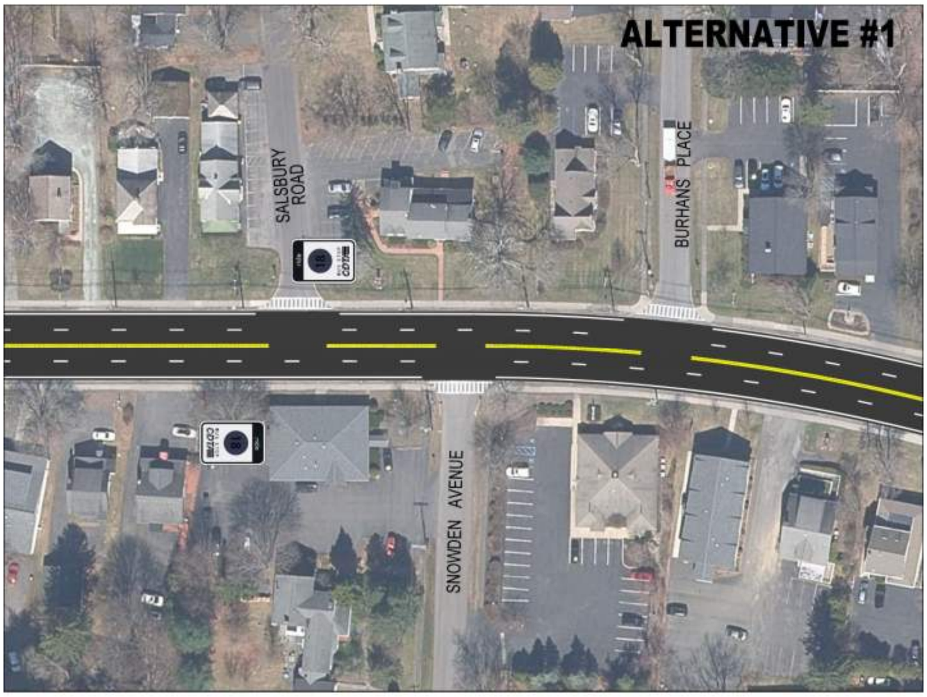


Figure 6: Alternative 2 between Salisbury Road and Burhans Plan

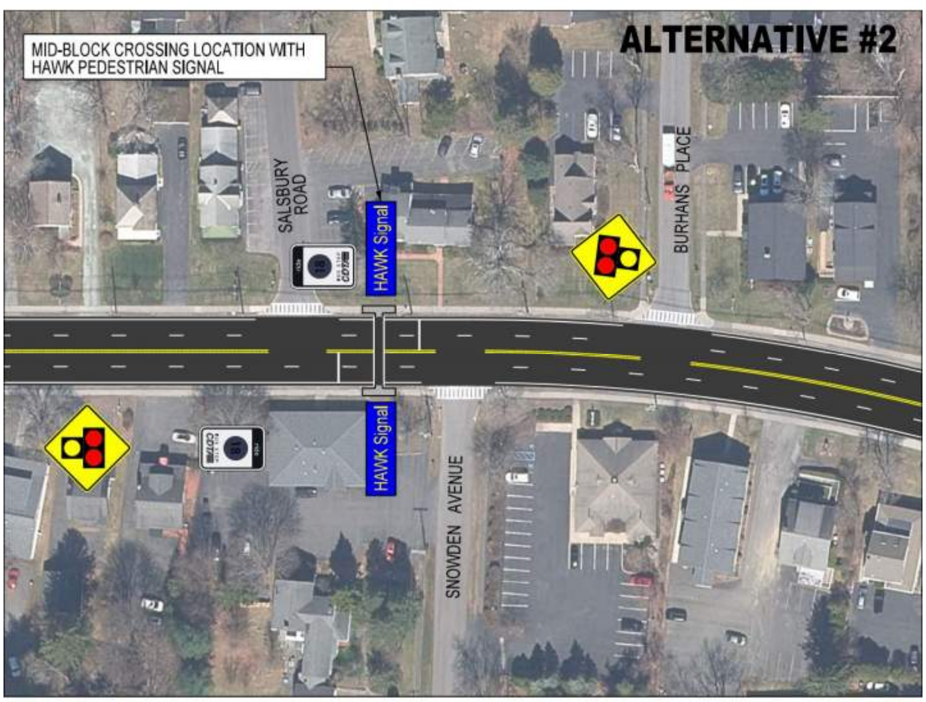
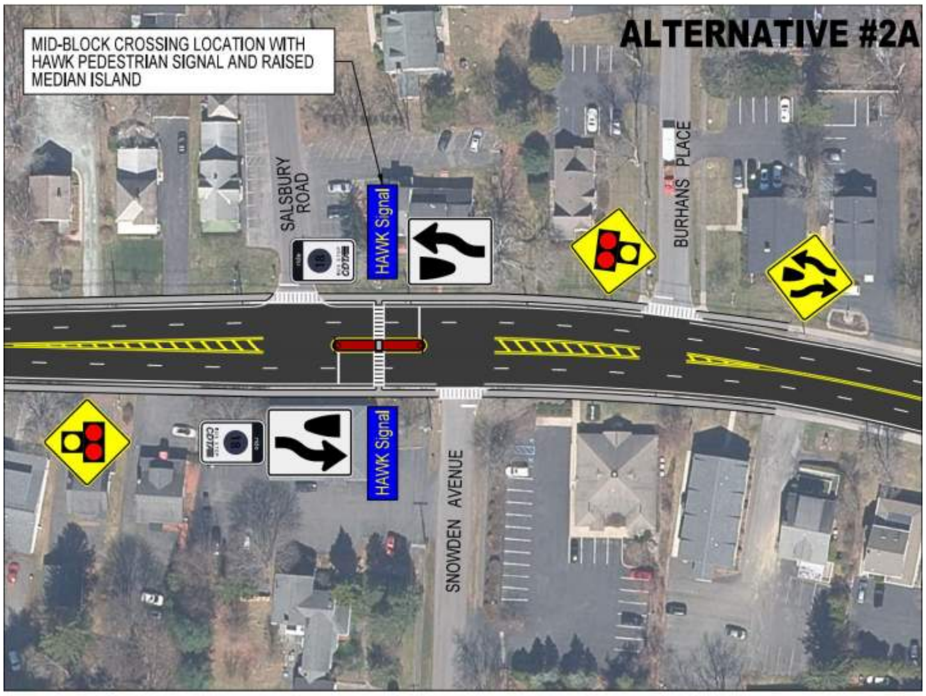


Figure 7: Alternative 2A between Salisbury Road and Burhans Plan



Public feedback was garnered from both the PIM and project website. Over 100 responses were collected in total for all alternatives. These responses comprised the public's expression of support and resistance for the alternatives and their design elements, such as mid-block crossings, Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals, and raised median islands. 50% of all responses commented on the pedestrian facilities, and the walkability of the corridor. 9% of all responses discussed the dangers of existing infrastructure and the need for safer pedestrian facilities. Specific to subject mid-block crossing, out of 34 respondents who commented on this subject, 29 (85%) were in support, 1 (3%) was neutral, and 4 (12%) were against.

Although majority of the respondents supported the mid-block crossing, some respondents did not think that Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals is the appropriate countermeasure. Out of 14 respondents, 11 (76%) supported, and 3 (21%) thought it was insufficient. Respondents who felt that Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals were inadequate believed a conventional pedestrian 3-colored traffic signal is needed to ensure that drivers will stop for the pedestrians and provide them sufficient opportunity to cross the road safely.

Case for Mid-block Crossing

The raw data of the pedestrian survey conducted indicates that the demand for a mid-block pedestrian crossing between Elsmere Avenue and Delaware Plaza is approximately 14 pedestrian crossings per hour. This does not meet the marked crosswalk recommendation of 20 pedestrian crossings per hour as stipulated by NYSDOT Highway Design Manual (HDM) Chapter 18. However, the survey shows that there is a consistent demand for a mid-block crosswalk throughout the day and week. The community has also voiced their desire for additional safe crossing opportunities. In the public feedback that was received at the PIM and Website, approximately 40% of all the respondents highlighted the need to have safe pedestrian facilities and pedestrian crossing facilities. The nearest pedestrian crossing facilities are located at the signalized Elsmere Avenue intersection and the signalized Delaware Plaza intersection, 0.5 miles apart. HDM Section 18.7.1, suggests that pedestrians should have an opportunity to cross every 0.25 miles for urban or suburban residential/ retail areas. The lack of a safe pedestrian crossing between Elsmere Avenue and Delaware Plaza have driven pedestrians/ bicyclists to cross unsafely, such as dashing diagonally across the road or stopping in the middle of the road to wait for sufficient gap to cross. While there have fortunately been no pedestrian/ bicyclist crashes reported in the last three years, this unsafe crossing activity will certainly continue, if not increase. This corridor may have a low pedestrian crash rate, but it has a high risk for future pedestrian crashes.

A mid-block pedestrian crossing could be placed between Salisbury Road and Snowden Avenue. However, a marked crosswalk alone at the mid-block pedestrian crossing will not likely be sufficient to ensure pedestrian safety for this segment of Delaware Avenue. Additional safety measures such as advanced signage, Pedestrian Refuge Island (for both pedestrian refuge and traffic calming), and Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals or conventional 3-color pedestrian traffic signal are being considered during the conceptual design stage.

The conceptual design was shared with the community and feedback was collected. The responses indicated support for the mid-block pedestrian crossing with raised median island and positive traffic control, however some of the respondents raised concern over the unfamiliarity with Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals. In New York State, only a handful of Pedestrian Hybrid Beacon/ HAWK Pedestrian Signals have been implemented in Buffalo area. If a Pedestrian Hybrid Beacon/ HAWK Pedestrian Signal is implemented on this Project, it will be the first Pedestrian Hybrid Beacon/ HAWK Pedestrian Signal in Region 1. Extensive public outreach programs would be required to educate pedestrians, motorists, and bicyclists on how to use the Pedestrian Hybrid Beacon/ HAWK Pedestrian Signal effectively. Studies have shown that it may take up to 3 months for pedestrians and motorists to adapt to the new, unfamiliar traffic control devices. Additionally, New York State Department of Transportation (NYSDOT) Region 1 (owner of NYS Rte 443 – Delaware Avenue) had expressed reluctance to install this first-of-its-kind (in the Region) type of traffic control device. This reluctance on the part of NYSDOT, and the public unfamiliarity of the Pedestrian Hybrid Beacon/ HAWK Pedestrian Signal, does not negate the fact that a safe mid-block crossing is both needed and supported by the Town, community, and engineering judgment. To this end, the Town of Bethlehem, and community at large, support the inclusion of the proposed mid-block pedestrian crossing incorporating a **conventional 3-color pedestrian traffic signal**.

Conclusion

The theoretical pedestrian demand estimate developed for the proposed mid-block pedestrian crossing is very conservative as surveyed numbers cannot possibly estimate the many pedestrians that do not feel safe crossing Delaware Avenue with the current configuration and therefore chose to drive to their local destination or walk out of their way to a protected signalized crossing. The Induced Demand Model estimates the potential demand at the proposed mid-block crossing, but this is likely an undercount given the public sentiment voiced through the Project's public outreach. A series of traffic calming measures to slow traffic along Delaware Avenue is proposed under this Project, as is a reduction of the 40-mph posted speed limit. With slower speeds, implementation of a raised center gateway median at the eastern project limit, and the inclusion of a mid-block pedestrian crossing with raised median refuge island and conventional 3-color pedestrian signal, more pedestrians will be encouraged to walk along this corridor and safely cross using the proposed mid-block pedestrian crossing. All these measures, particularly the new proposed mid-block pedestrian crossing, are critical to truly make this a “Complete Streets” project.

Sincerely,

Joseph F. Cimino

Joe Cimino, PE
Project Manager

Attachment

- Pedestrian Count Plan
- Pedestrian Count Location

Town of Bethlehem
Delaware Avenue Complete Streets Project (PIN 1761.68)
<u>Proposed Pedestrian Count Plan</u>
September 2023

<u>Background:</u>

As part of Delaware Avenue Complete Streets Project, the Town of Bethlehem is studying implementation of a mid-block pedestrian crossing between Salisbury Road and Snowden Avenue. To establish the existing demand for a potential crossing at this location, pedestrian counts were previously conducted on Wednesday May 10, 2023 from 3pm – 6pm and on Saturday May 13, 2023 from 12pm – 3pm.

At this time, it has been determined that additional pedestrian data will be collected using continuous video surveillance to capture a far broader timeframe.

<u>Objective:</u>

Establish the demand for a potential mid-block crossing on Delaware Avenue between Salisbury Road and Snowden Avenue by:

- observing the number of pedestrians/cyclists crossing Delaware Avenue at current “unprotected” mid-block locations between Salisbury Road and the existing controlled signalized crossing at Normanskill Boulevard/Delaware Plaza

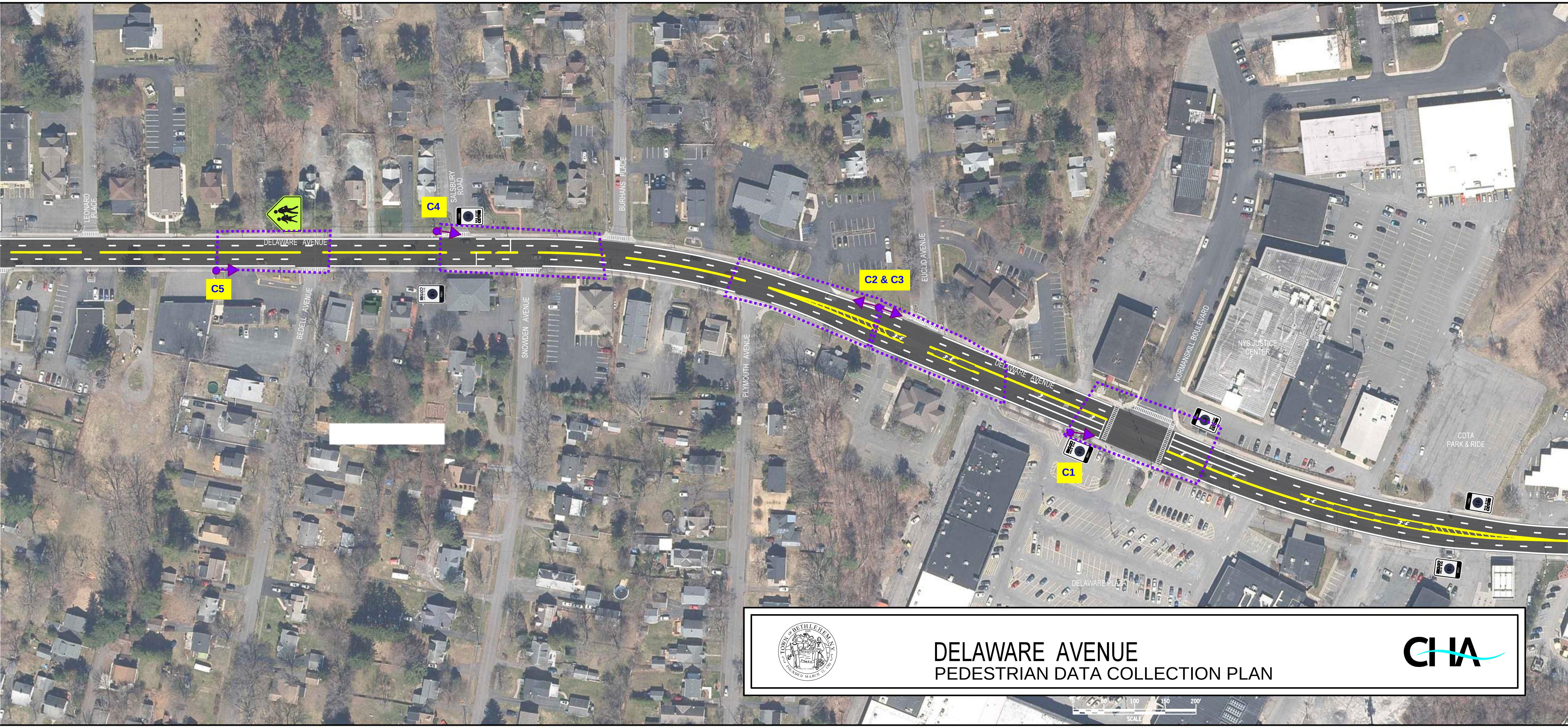
- capturing “induced demand” by observing the number of pedestrians/cyclists that would likely cross at the future proposed mid-block location but instead currently walk to the existing controlled signalized crosswalk at Normanskill Boulevard/Delaware Plaza

<u>Approach:</u>

Miovision video cameras will collect pedestrian/cyclist data along Delaware Avenue on three (3) weekdays (days will be weather-dependent), and on one (1) weekend day. Total pedestrian/cyclist counts will be provided as the output of this survey. The cameras will be strategically located to also observe the CDTA bus stops within the study area, a potential source of pedestrian activity. *The collected data <u>will not</u> be classified into adult, child, wheelchair bounded, and others, as the resolution of the camera is generally inadequate to accurately determine these classifications.*

The locations of the video cameras are listed below (and shown in the attachment):

1. One video camera (C1) will be located on the utility pole to the west of the eastbound bus stop at Delaware Plaza, facing the intersection of Delaware Avenue / Normanskill Boulevard.
2. Two video cameras will be located on the utility pole to the west of Euclid Avenue. One video camera (C2) will be facing the intersection of Delaware Avenue / Normanskill Boulevard and the second video camera (C3) will be facing the intersection of Delaware Avenue and Salisbury Road.
3. One video camera (C4) will be located on the utility pole to the west of Salisbury Road, facing the intersection of Delaware Avenue / Normanskill Boulevard.
4. One video camera (C5) will be located on the utility pole on the west of Valvoline Service (150 feet west of Bedell Avenue) facing the intersection of Delaware Avenue / Normanskill Boulevard.



LEGEND:

CAMERA LOCATION

CAMERA COVERAGE

Appendix B-4

Speed Limit Evaluation Technical Memorandum

March 6, 2024

Robert Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Subject: **Reevaluating Speed Limit Along Delaware Ave**
Delaware Avenue, Town of Bethlehem, NY
Delaware Avenue Complete Streets (PIN: 1761.68)
CHA Project No. 81072

Dear Mr. Leslie:

CHA Consulting, Inc., (CHA) has prepared this Memorandum to reevaluate speed limits and provide recommendations along Delaware Avenue in the segment of roadway between Elsmere Avenue and Normans Kill as part of the Delaware Avenue Complete Streets project. According to MUTCD 2023, Speed zones (other than statutory speed limits) shall only be established based on an engineering study that has been performed in accordance with traffic engineering practices. This technical memorandum serves as an engineering study to justify the **speed reduction along Delaware Avenue between Delaware Avenue and Normans Kill**. Guidance on the engineering study for speed limit is provided in the section below.

MUTCD Guidance on Engineering Study to Reevaluate Speed Limit within Speed Zone

Among the factors that should be considered when conducting an engineering study for establishing or reevaluating speed limits within speed zones are the following:

A. Roadway environment (such as roadside development, number and frequency of driveways and access points, and land use), functional classification, public transit volume and location or frequency of stops, parking practices, and pedestrian and bicycle facilities and activity;
B. Roadway characteristics (such as lane widths, shoulder condition, grade, alignment, median type, and sight distance);
C. Geographic context (such as an urban district, rural town center, non-urbanized rural area, or suburban area), and multi-modal trip generation;
D. Reported crash experience for at least a 12-month period;
E. Speed distribution of free-flowing vehicles including the pace, median (50th-percentile), and 85thprecentile speeds; and
F. A review of past speed studies to identify any trends in operating speeds.

When the 85th-percentile speed is appreciably greater than the posted speed limit, and the roadway context does not support setting a higher speed limit, the engineering study should consider whether changes to geometric features, enforcement, and/or other speed-reduction countermeasures might *improve compliance with the posted speed limit. A similar approach should be used if the results of past speed studies indicate that the 85th-percentile speed has consistently increased.*

On urban and suburban arterials, and on rural arterials that serve as main streets through developed areas of communities, the 85th-percentile speed should not be used to set speed limits without consideration of all factors described in Paragraph 7 of this Section.

On a freeway, expressway, or rural highway (outside urbanized locations or conditions), the speed limit that is posted within a speed zone should be within 5 mph of the 85th-percentile speed of free-flowing motor-vehicle traffic under the following conditions:

A. All factors described in Paragraph 7 of this Section have been considered and determined to be nonmitigating, and

B. The measures described in Paragraph 8 of this Section have been considered to the extent practicable.

State and local agencies should conduct engineering studies to reevaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review (such as changes to roadway context, the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes to road geometrics, changes in traffic control signal coordination, or significant changes in traffic volumes).

Speed studies for signalized intersection approaches should be taken outside the influence area of the traffic control signal, which is generally considered to be approximately 1/2 mile, to avoid obtaining skewed results for the speed distribution. If the signal spacing is less than 1 mile, the speed study should be at approximately the middle of the segment.

Existing Condition

In this section, the existing condition will be presented based on its geographic context and roadway environment, roadway characteristics, crash history, and speed distribution along Delaware Avenue. The study area is proposed to be between the boundary of the Hamlet of Delmar to Mill Road (just west of the Normans Kill), which extends beyond the project area. This is important in understanding the speed profile of the project area as the speed may be affected by upstream speed-related signs, or alignment. **Figure 1** provides illustration of the key existing conditions.

Figure 1: Delaware Avenue Characteristics

Geographic Context and Roadway Environment

Geographic Context

Delaware Avenue (NYS Rte 443) is an urban minor arterial road (Functional Class – 16) which, form west to east, links the Hamlet of Delmar to the Hamlet of Elsmere to the City of Albany. The context class is suburban.

Roadside Developments

Activities vary along the study area. The Hamlet of Delmar is dominated by commercial activities, followed to the east by green spaces such as Bethlehem Veterans Memorial Park and access to Albany County Rail Trail.

- The westernmost segment of roadway in the study area, from Hudson Avenue to Elsmere Avenue, is dominated by commercial activities with 16 access points (97 access points/mile).
- The segment from Elsmere Avenue to Euclid Avenue is dominated by residential and commercial developments. There are 34 access points in this segment (75 access points/mile). The key developments in this segment include the Elsmere Elementary School and the Delaware Avenue Health Park.
- The segment From Euclid Avenue to Mason Road is dominated by commercial activities, which included retail developments and offices. There are 17 access points in this segment (62 access points/mile). The key developments included the Delaware Plaza strip mall, State Justice Center, and Albany Medical Center.
- The segment from Mason Road to Grant Street is dominated by residential activities with 12 access points (71 access points/mile).
- The segment from Grant Street to Mill Road is dominated by green space. There are 8 access points (16 access points/mile).

Transit

Capital District Transportation Authority Bus Route 18 runs along Delaware Avenue at approximately every half hour. There are eight pairs of bus stop serving both eastbound and westbound passengers between Hudson Avenue and Bethlehem Town Boundary.

Parking Practices

There are no on-street parking spaces along Delaware Avenue. Private parking is provided at individual developments. There has been no observation of illegal parking along Delaware Avenue during numerous site visits.

Pedestrian and Bicycle Facilities and Activity

Sidewalks exist on both sides of the road for most of its length. There are only two locations which pedestrians and bicyclists can cross Delaware Avenue under protected signal conditions: (1) the intersection of Delaware Avenue/Elsmere Avenue and (2) the intersection of Delaware Avenue/Normanskill Blvd/Delaware Plaza. These locations are signalized intersection with exclusive pedestrian phases. There is no marked mid-block crossing within the study area. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway with the vehicular traffic.

There are six main pedestrian generators (or attractors) within the study area:

(1) Elsmere Elementary School to the west
(2) Delaware Plaza (retail strip mall) located in the middle
(3) Albany County Rail Trail to the south
(4) Normanskill Preserve to the north
(5) Residential neighborhoods (to the north and south)
(6) Multiple CDTA bus stops along Delaware Avenue

A pedestrian/bicyclist traffic count survey, for the segment between Elsmere Avenue and Normanskill Blvd, was conducted in September 2023 on three typical weekdays and one typical weekend, between 6 AM to 6 PM. The results are as follows.

Table 1: Pedestrian and Bicycle Traffic Volume

	Maximum Pedestrian Volume per hour	**Maximum Bicyclists Volume per hour**
Weekday	51 Pedestrians/hour	13 Bicyclists/hour
Weekend	24 Pedestrians/hour	15 Bicyclists/hour

Roadway Characteristics

Table 2 tabulates the summary of the roadway characteristics of the study area.

Table 2: Summary of Roadway Characteristics

Traffic Profile	
AADT (veh/day), Year	16,900 (2023)
Truck Percentage (%)	2%
Classification	Urban Minor Arterial
Part of National Highway Network?	Non-NHS

Table 2: Summary of Roadway Characteristics (Continue)

Roadway Properties	
Number of Lanes	From Hamlet of Delmar to Rural Pl: 2 lanes From Rural Pl to Delaware Plaza: 4 lanes Delaware Plaza: 5 lanes From Delaware Plaza to 50 Delaware Avenue: 4 lanes From 50 Delaware Avenue to Bethlehem Town Boundary: 2 lanes
Existing Lane Width	Interior: 11 ft Exterior: 11 ft plus 1’ offset to curb (14 ft at Delaware Plaza 5-lane section)
Shoulder	Not present along the 4- or 5-lane segments, but present along the 2-lane segment
Sidewalks	Present on both sides of the road
Sidewalk buffer to roadway	Buffer width varies, but majority of the buffer width is minimal, and some stretches do not have any buffer. Segments that do not have any sidewalk buffer include: - Segment between Hudson Avenue to Rural Pl - Sidewalk outside of Delaware Plaza - Sidewalk outside of Albany Medical Center
Type of Median	2 ft flush striped
Location of Traffic Signals	1) Intersection of Delaware Avenue/ Elsmere Avenue 2) Intersection of Delaware Avenue/ Normanskill Blvd / Delaware Plaza
Presence of Street Lighting	Yes, on north side utility poles
Alignment	Horizontal curve located between Burhans Place and Plymouth Avenue Reverse horizontal curve located between Delaware Plaza and Mason Road Horizontal curve located at 50 Delaware Avenue
Grade	Flat

Speed Distribution

<u>Posted Speed</u>

The posted speed varies from the Hamlet of Delmar to Mill Road (Normans Kill), as follows:

- From the Hamlet of Delmar to Hudson Avenue, the posted speed is 30 mph.
- From Hudson Avenue to Normanskill Bridge, the posted speed is 40 mph
    - a school zone of 30 MPH between CVS and Lincoln Avenue
    - school zone speed limit enforceable from 7 AM to 6 PM during school days

During school hours, a 0.15-mile short segment of 40 mph speed zone exists between Hudson Avenue and CVS, which is less than the recommended minimum of 0.25 miles for speed zones as defined by TSMI 17-05.

Automatic Traffic Recorder Survey

Speed data was collected along Delaware Avenue at twp locations:

- ATR #1: 30' east of Snowden Avenue
- ATR #2: 10' east of Grant Street.

The results are presented in **Table 3**.

Table 3: ATR Speed Results

	Eastbound	**Westbound**
ATR #1: 30' East of Snowden Avenue		
Posted Speed	40 MPH	40 MPH
50^{th} Percentile Speed	37 MPH	37 MPH
Average (Mean) Speed	37 MPH	37 MPH
85^{th} Percentile Speed	42 MPH	42 MPH
10 MPH Pace Speed	36 – 45 MPH	31 – 40 MPH
Percent of Vehicles > 40 MPH	28.8%	26.7%
ATR #2: 10' East of Grant Street		
50^{th} Percentile Speed	37 MPH	38 MPH
Average (Mean) Speed	35 MPH	38 MPH
85^{th} Percentile Speed	43 MPH	43 MPH
10 MPH Pace Speed	36 – 45 MPH	36 – 45 MPH
Percent in Pace	54.9%	68.1%
Percent of Vehicles > 40 MPH	32.6%	38.8%

Travel time and speed survey

A Travel time and speed survey was conducted using the car following technique for the following time periods, with its results illustrated in **Figure 2** to **Figure 4** below:

- AM Peak: May 11, 2023 (Thursday) 7 AM to 8 AM
- PM Peak: May 11, 2023 (Thursday) 4 PM to 5 PM
- Weekend Peak: June 10, 2023 (Saturday) 2 PM to 3 PM

Figure 2: Average Speed Profile during AM Peak

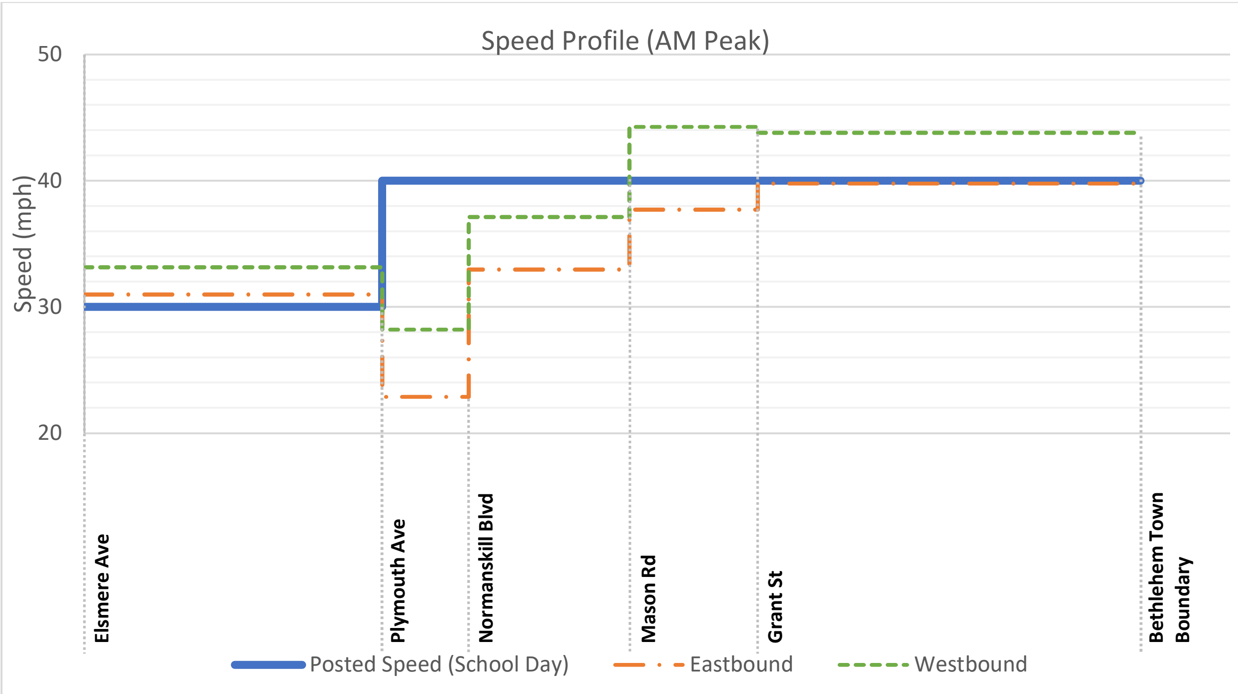


Figure 3: Average Speed Profile during PM Peak

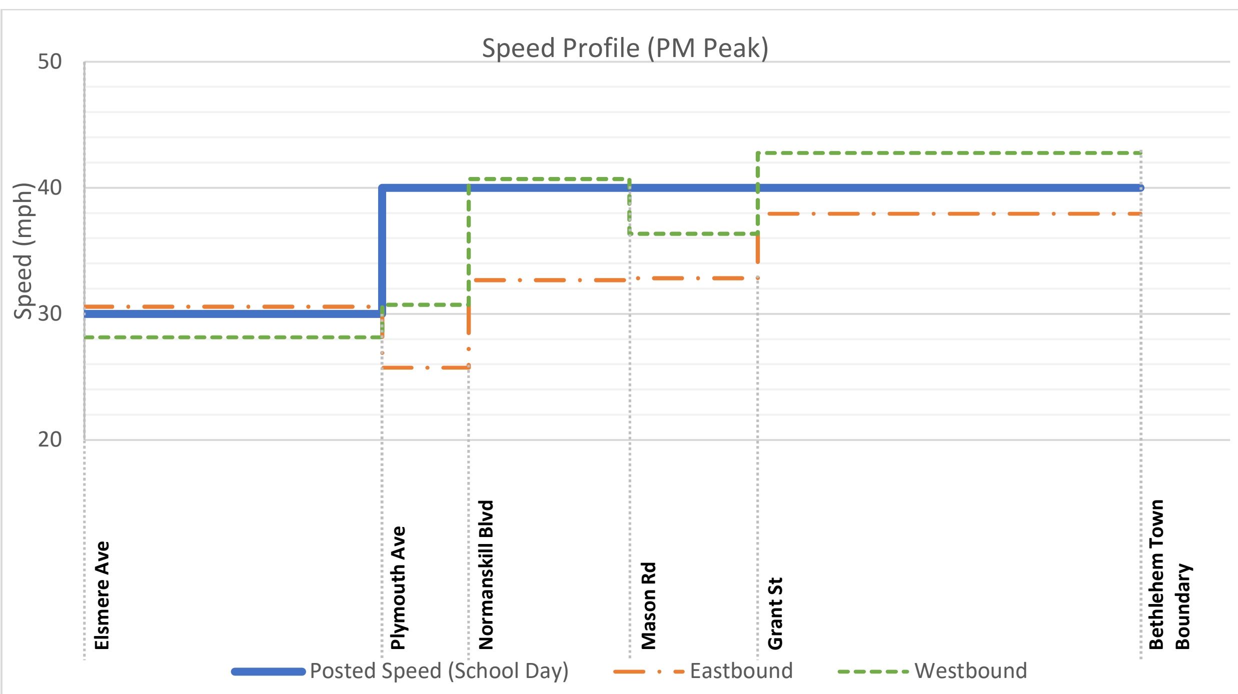
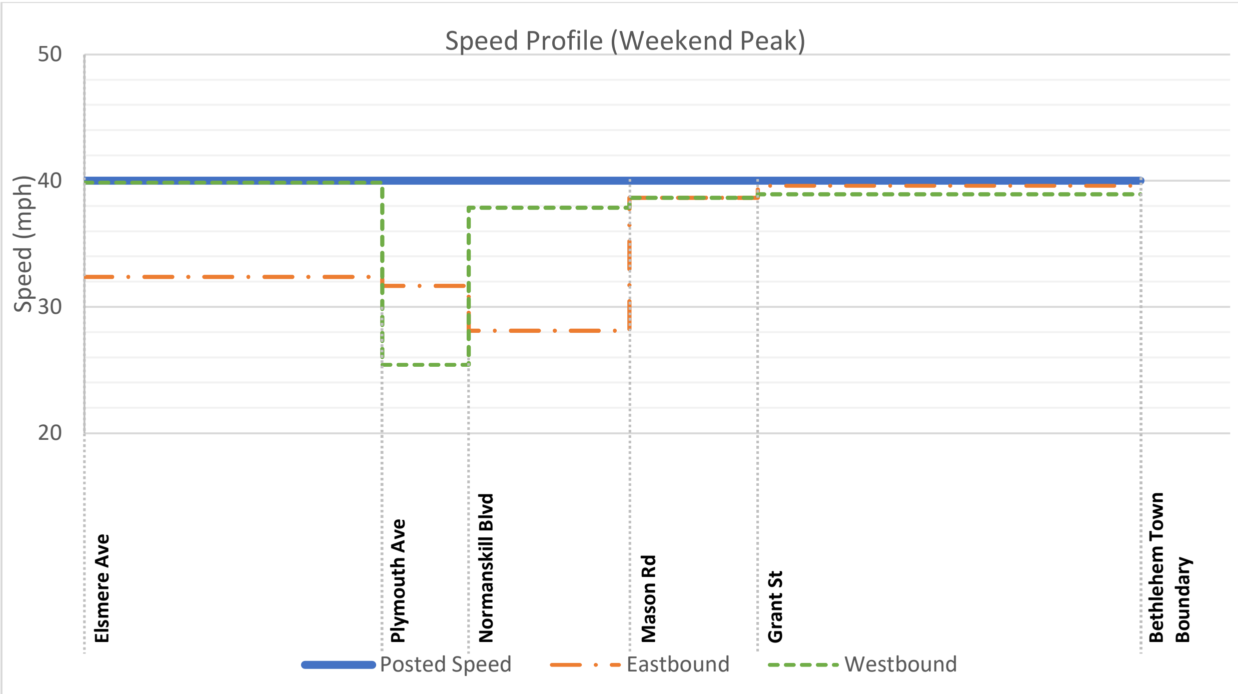


Figure 4: Speed Profile during Weekend Peak



Crash History

Crashes for the project area were provided by NYSDOT for the 12/31/2019 - 12/31/2022 time period. Crashes were reviewed in detail and the data was screened to only include crashes applicable to the project area. **Table 4** summarizes the crashes by intersection and segment within the corridor.

Of the 68 total crashes reported, 56 were property damage only crashes, 10 were injury crashes, and 2 were serious injury crashes. The majority of the crashes along the corridor were rear end (28%) and sideswipe (same direction) (19%). Rear end and sideswipe (same direction) crashes are generally related to lane-changes and/or turning onto side streets and driveways along Delaware Avenue. To curtail the severity of accidents, reducing the speed along Delaware Avenue can provide more opportunity for drivers to react, and thus lighten the impact of the crash.

Table 4: Number of Crashes and Top 3 Manner of Collision based on Geographical Area

	Total Crashes (KABCO)	Total Crashes/ mile	Fatal and Injury Crashes (KABC)	Bicycle or Pedestrian Crashes	Top 3 Manner of Collision
Intersection					
Delaware Avenue/ Elsmere Avenue	9	Not Applicable	1	None	Sideswipe (same direction) – 33% Rear End – 22% Right Angle – 22%
Delaware Avenue / Normanskill Blvd	7	Not Applicable	1	None	Left Turn – 50 % Right Turn – 25% Right Angle – 13% Rear End – 13%
Segment					
Hudson Avenue to Elsmere Avenue	0	0	0	None	Nil
Elsmere Avenue to Plymouth Avenue	24	61	6	1 Pedestrian Crash with Serious Injury	Rear End – 46% Sideswipe (Same direction) – 25 %
Plymouth Avenue to Delaware Plaza	0	0	0	None	Nil
Delaware Plaza to Mason Road	11	47	2	1 Bicycle Crash with Injury	Rear End – 20% Sideswipe (Same direction) – 20 %
Mason Road to Grant Street	3	18	1	None	Sideswipe (Same direction) – 67% Left Turn – 33%
Grant Street to Bethlehem Town Boundary	14	28 and 16 (without animal crashes)	0	None	Animal – 43% Rear End – 21% Other – 21%

Community Feedback

A Public Informational Meeting (PIM) for the Project was held on June 15, 2023. A Project Website was also established at the same time. Public feedback was garnered from both the PIM and Website. 33 responses related to speed reduction were collected, out of which 28 responses supported reducing the speed to 30 MPH for the entire corridor, 4 responses are neutral, and 1 response is against.

The public felt that the vehicle speed along Delaware Avenue is too fast and aggressive. It is dangerous, especially for children as they tend to walk along both sides of the road. The public believe that lowering the speed limit will make it safer for the community and support pedestrian and cycling activities. There is no existing marked mid-block crossing, and the only opportunity for the pedestrians and bicyclists to safely cross Delaware Avenue is at the signalized Elsmere Avenue intersection or the signalized Delaware Plaza intersection. These intersections are located 0.5 mile from each other. The public also suggested that they would patronize the businesses on both sides of the road more if they are able to cross Delaware Avenue safely.

In addition, they felt that the 40 MPH speed zone make little sense considering the commercial density and traffic volume along the corridor, and even less so in the westbound direction considering the short distance between the 30 MPH school zone and the 30 MPH sign at the rail trail bridge.

Potential Traffic Calming Measures

As part of Delaware Avenue Complete Streets projects, potential traffic calming measures are suggested to reduce the speed along Delaware Avenue. The measures include:

- West-end Gateway Treatment
  - 4-lane segment between Rural Pl and Elsmere Avenue will be converted to 3-lane segment
- 2 Mid-Block Pedestrian Crossings with raised median island
  - Located at the mid-block between Salisbury Road and Snowden Avenue with Signalized Pedestrian Crossing
  - Located at the mid-block between Lenox Street and Grant Street with Rectangular Rapid Flashing Beacon
- Reduced 4-lane section to 2-lane section with turn median from Winslow Street to 50 Delaware Avenue
- East-end Gateway Treatment
  - Gateway feature to inform westbound drivers that they are entering Halmet of Elsmere
  - Raised median island with planter

The location of the traffic calming measures can be found in **Figure 1**.

Speed Limit Re-evaluation

The speed limit will be re-evaluated using USLIMITS2, which is a FHWA web-based tool for setting appropriate speed limit that are credible, consistent, and enforceable. This approach considers the surrounding development, access points, road characteristics, crash history, and others. From earlier discussion, it is noted that the segment from Hudson Avenue to Grant Street is more developed than the segment from Grant Street to Bethlehem Town Boundary. Therefore, the analysis will be performed on these two segments separately.

Table 5: USLIMITS2 Results on Existing Condition

	From Hudson Avenue to Grant Street	From Grant Street to Bethlehem Town Boundary
Segment Length	1.06 mile	0.5 mile
Posted Speed Limit	40 MPH 30 MPH at School Zone	40 MPH
Recommended Speed Limit	35 MPH	45 MPH

Recommendations

Delaware Avenue is an Urban Minor Arterial Road that links Hamlet of Delmar, Hamlet of Elsmere to City of Albany. The posted speed limit is 40 MPH, and sandwiched by 30 MPH speed zones at Halmet of Delmar and City of Albany. During a regular school day from 7 AM to 6 PM, this 1.6-mile 40 MPH speed zone segment will be further divided into smaller segments --- 0.15 mile of 40 MPH speed zone, 0.2 mile of 30 MPH school speed zone, and 1.2 mile of 40 MPH speed zone. TSMI 17-05 recommends the speed zone should not be less than 0.25 mile. This conflicts with the short 0.15-mile 40 MPH speed zone segment when school zone is enforceable.

The travel time speed study using the car-following technique exhibit lower traveling speed from Elsmere Avenue to Grant Street compared to Grant Street to Bethlehem Town Boundary. This could be due to the denser commercial and residential developments along Elsmere Avenue to Grant Street. Delaware Avenue is not an access-restricted highway, and all the roadside developments take access directly of the highway. This created many points of conflict within the study area, resulted in slower average speed, as drivers navigate through these points of conflict.

There are major pedestrian and bicyclist attractors, such as Elsmere Elementary School, Delaware Plaza, bus stops along Delaware Avenue, Albany County Rail Trail, and Normanskill Preserve. There are sidewalks on both sides of the road for most of its length. Sidewalk buffer is present at some stretches of the road, and majority of the sidewalk buffer is narrow. There are no dedicated bicycle facilities on the roadway, so bicyclists must share the roadway with the vehicular traffic. It is observed that some bicyclists ride on the sidewalk. The public felt that existing infrastructure is dangerous for pedestrians and desire reduction in speed, so that the infrastructure will be safer for pedestrians and bicyclists.

The crash history also indicated that majority of the crashes along the corridor are rear end, sideswipe (same direction), which are related to lane changes and or turning onto side streets and driveways. Speed reduction along Delaware Avenue can provide more opportunity for drivers to react, and thus reducing the severity of the crashes.

According to USLIMITS2 analysis, the recommended speed limit for segment between Hudson Avenue to Grant Street is 35 MPH and for segment between Grant Street to Bethlehem Town Boundary is 45 MPH. Although the recommended speed limit for the segment between Grant Street to Bethlehem Town Boundary is higher than existing posted speed limit, the segment length is only 0.5 mile. Traffic calming measures, such as reduction from 4-lane section to 2-lane section with turn median, gateway feature to inform westbound drivers that they are entering Halmet of Elsmere and raised median island with planter, are proposed to reduce vehicular along this segment.

In general, traffic calming measures are proposed throughout the corridor to support livability and vitality of the residential and commercial areas. These measures are expected to reduce vehicular speed, resulting in enhanced pedestrian and bicyclist safety, mobility, and comfort, which are the desires of the community. With the lowered vehicular speed, it is recommended to implement 30 MPH speed zone from Hamlet of Delmar to City of Albany.

Sincerely,

Joseph F. Cimino

Joe Cimino, PE
Project Manager

Attachment

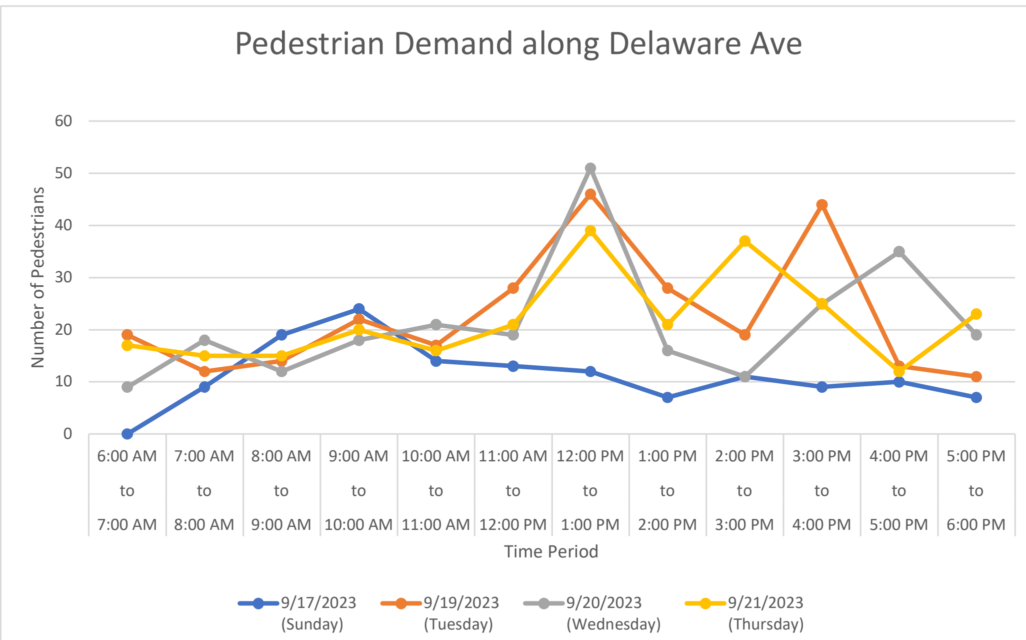
- Pedestrian/ Bicycle Traffic Count
- Travel time and Speed Survey Results
- USLIMITS2 Results

Town of Bethlehem – Delaware Avenue Complete Streets Project **CHA Project No.: 081072.000**
PIN 1761.68 **Date: 1/16/2024**

Pedestrian Demand

60-mins Interval (Total)
Survey Location: Delaware Avenue from Bedell Avenue to Normanskill Blvd

Time			9/17/2023 (Sunday)	9/19/2023 (Tuesday)	9/20/2023 (Wednesday)	9/21/2023 (Thursday)
6:00 AM	to	7:00 AM	0	19	9	17
7:00 AM	to	8:00 AM	9	12	18	15
8:00 AM	to	9:00 AM	19	14	12	15
9:00 AM	to	10:00 AM	24	22	18	20
10:00 AM	to	11:00 AM	14	17	21	16
11:00 AM	to	12:00 PM	13	28	19	21
12:00 PM	to	1:00 PM	12	46	51	39
1:00 PM	to	2:00 PM	7	28	16	21
2:00 PM	to	3:00 PM	11	19	11	37
3:00 PM	to	4:00 PM	9	44	25	25
4:00 PM	to	5:00 PM	10	13	35	12
5:00 PM	to	6:00 PM	7	11	19	23



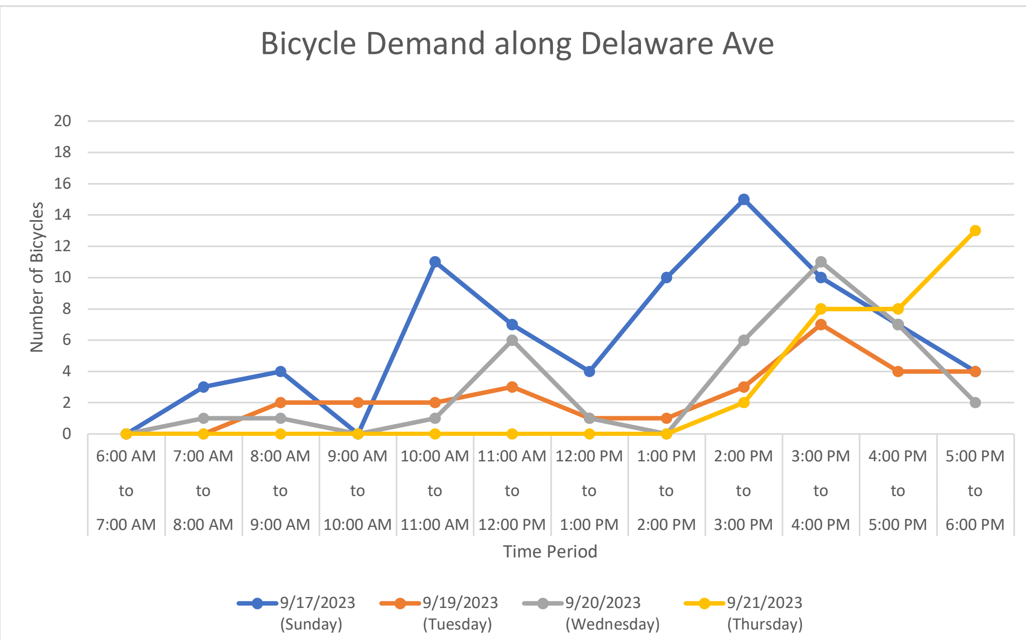
Max. Pedestrian During Weekday = 51 Pedestrians/hr
Max. Pedestrian During Weekend = 24 Pedestrians/hr

Town of Bethlehem – Delaware Avenue Complete Streets Project **CHA Project No.: 081072.000**
PIN 1761.68 **Date: 1/16/2024**

Bicycle Demand

60-mins Interval (Total)
Survey Location: Delaware Avenue from Bedell Avenue to Normanskill Blvd

Time			9/17/2023 (Sunday)	9/19/2023 (Tuesday)	9/20/2023 (Wednesday)	9/21/2023 (Thursday)
6:00 AM	to	7:00 AM	0	0	0	0
7:00 AM	to	8:00 AM	3	0	1	0
8:00 AM	to	9:00 AM	4	2	1	0
9:00 AM	to	10:00 AM	0	2	0	0
10:00 AM	to	11:00 AM	11	2	1	0
11:00 AM	to	12:00 PM	7	3	6	0
12:00 PM	to	1:00 PM	4	1	1	0
1:00 PM	to	2:00 PM	10	1	0	0
2:00 PM	to	3:00 PM	15	3	6	2
3:00 PM	to	4:00 PM	10	7	11	8
4:00 PM	to	5:00 PM	7	4	7	8
5:00 PM	to	6:00 PM	4	4	2	13



Max. Bicyclists During Weekday = 13 Cyclists/hr
Max. Bicyclists During Weekend = 15 Cyclists/hr

PIN 1761.68 Delaware Avenue Complete Streets Project
Travel Time and Speed Analysis

AM Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	31	33
Between Plymouth Ave and Normanskill Blvd	23	28
Between Normanskill Blvd and Mason Road	33	37
Between Mason Road and Grant Street	38	44
Between Grant Street and Bethleham Town Boundary	40	44
Average	34	38

PM Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	31	28
Between Plymouth Ave and Normanskill Blvd	26	31
Between Normanskill Blvd and Mason Road	33	41
Between Mason Road and Grant Street	33	36
Between Grant Street and Bethleham Town Boundary	38	43
Average	33	35

Weekend Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	32	40
Between Plymouth Ave and Normanskill Blvd	32	25
Between Normanskill Blvd and Mason Road	28	38
Between Mason Road and Grant Street	39	39
Between Grant Street and Bethleham Town Boundary	40	39
Average	34	37

Town of Bethlehem – Delaware Avenue Complete Streets Project
Travel Time and Speed Raw Data

Date: May 11, 2023
Time: 7:00 AM to 8:00 AM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES					AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	7:28:00	7:34:00	7:39:30	7:46:00	7:53:00	---	---	---	---	---			0	0.00	0										
@ Plymouth Ave	7:28:44	7:34:44	7:40:16	7:46:48	7:53:47	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:44	00:44	00:46	00:48	00:47	46	0	46	31.0	31
@ Normanskill Blvd	7:28:55	7:35:10	7:40:40	7:47:49	7:54:13	---	00:07	00:08	00:43	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:11	00:26	00:24	01:01	00:26	30	12	18	13.9	23
@ Mason Road	7:29:14	7:35:33	7:41:05	7:48:11	7:54:40	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:19	00:23	00:25	00:22	00:27	23	0	23	33.0	33
@ Grant Street	7:29:29	7:35:47	7:41:22	7:48:27	7:54:59	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:15	00:14	00:17	00:16	00:19	16	0	16	37.7	38
@ Bethleham Town Boundary	7:30:09	7:36:30	7:42:10	7:49:11	7:55:53	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:40	00:43	00:48	00:44	00:54	46	0	46	39.8	40

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES					AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	7:31:00	7:37:00	7:43:00	7:50:00	7:56:30	---	---	---	---	---			0	0.00	0										
@ Grant Street	7:31:40	7:37:43	7:43:41	7:50:43	7:57:11	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:40	00:43	00:41	00:43	00:41	42	0	42	43.8	44
@ Mason Road	7:31:53	7:37:57	7:43:55	7:50:57	7:57:25	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:13	00:14	00:14	00:14	00:14	14	0	14	44.3	44
@ Normanskill Blvd	7:32:16	7:38:12	7:44:16	7:51:23	7:58:06	---	---	---	---	00:23	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:23	00:15	00:21	00:26	00:41	25	5	21	30.4	37
@ Plymouth Ave	7:32:27	7:38:24	7:44:33	7:51:40	7:58:22	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:11	00:12	00:17	00:17	00:16	15	0	15	28.2	28
@ Elsmere Avenue	7:33:26	7:39:04	7:45:25	7:52:35	7:59:02	00:17	---	---	00:15	---	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	00:59	00:40	00:52	00:55	00:40	49	6	43	28.8	33

Date: May 11, 2023
Time: 4:00 PM to 5:00 PM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES					AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	16:00:00	16:04:00	16:08:00	16:12:00	16:16:00	---	---	---	---	---															
@ Plymouth Ave	16:00:47	16:04:45	16:08:45	16:12:42	16:16:53	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:47	00:45	00:45	00:42	00:53	46	0	46	30.6	31
@ Normanskill Blvd	16:01:08	16:04:57	16:08:59	16:12:54	16:17:14	---	---	---	---	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:21	00:12	00:14	00:12	00:21	16	0	16	25.7	26
@ Mason Road	16:01:32	16:05:09	16:09:22	16:13:21	16:17:45	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:24	00:12	00:23	00:27	00:31	23	0	23	32.7	33
@ Grant Street	16:01:50	16:05:29	16:09:40	16:13:39	16:18:04	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:18	00:20	00:18	00:18	00:19	19	0	19	32.8	33
@ Bethleham Town Boundary	16:02:36	16:06:20	16:10:24	16:14:28	16:18:54	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:46	00:51	00:44	00:49	00:50	48	0	48	38.0	38

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES					AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	16:21:00	16:25:00	16:30:00	16:35:00	16:40:00	---	---	---	---	---															
@ Grant Street	16:21:43	16:25:43	16:30:42	16:35:43	16:40:42	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:43	00:43	00:42	00:43	00:42	43	0	43	42.8	43
@ Mason Road	16:22:02	16:25:59	16:30:58	16:36:01	16:40:57	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:19	00:16	00:16	00:18	00:15	17	0	17	36.4	36
@ Normanskill Blvd	16:22:19	16:26:17	16:31:15	16:36:20	16:41:27	---	---	---	---	00:07	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:17	00:18	00:17	00:19	00:30	20	1	19	37.9	41
@ Plymouth Ave	16:22:31	16:26:30	16:31:27	16:36:32	16:41:45	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:12	00:13	00:12	00:12	00:18	13	0	13	30.7	31
@ Elsmere Avenue	16:23:37	16:27:26	16:32:16	16:38:05	16:43:54	00:17	00:03	---	00:58	01:03	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	01:06	00:56	00:49	01:33	02:09	79	28	50	18.1	28

Note:
a. Field stop delays in seconds were measured when travel speed was less than 30 mph.
b. Cruising Speed and Time was not calculated for average stop delays more than 50 seconds within a segment.

Start time
Enter in seconds

Town of Bethlehem – Delaware Avenue Complete Streets Project
Travel Time and Speed Raw Data

Date: June 10, 2023
Time: 2:00 PM to 3:00 PM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	14:00:00	14:10:00	14:20:00	14:30:00	14:40:00	---	---	---	---	---															
@ Plymouth Ave	14:00:45	14:10:40	14:20:43	14:30:48	14:40:42	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:45	00:40	00:43	00:48	00:42	44	0	44	32.4	32
@ Normanskill Blvd	14:00:59	14:10:52	14:20:56	14:31:01	14:40:56	---	---	---	00:01	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:14	00:11	00:13	00:14	00:14	13	0	13	31.2	32
@ Mason Road	14:01:22	14:11:10	14:21:20	14:31:26	14:41:43	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:23	00:18	00:24	00:24	00:47	27	0	27	28.1	28
@ Grant Street	14:01:38	14:11:25	14:21:35	14:31:42	14:41:59	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:16	00:15	00:16	00:16	00:16	16	0	16	38.7	39
@ Bethleham Town Boundary	14:02:22	14:12:10	14:22:24	14:32:29	14:42:45	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:44	00:45	00:48	00:47	00:46	46	0	46	39.6	40

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	14:05:00	14:15:00	14:25:00	14:35:00	14:45:00	---	---	---	---	---															
@ Grant Street	14:05:49	14:15:46	14:25:47	14:35:45	14:45:46	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:49	00:46	00:47	00:45	00:46	47	0	47	38.9	39
@ Mason Road	14:06:08	14:16:05	14:26:01	14:36:00	14:45:59	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:19	00:18	00:14	00:15	00:12	16	0	16	38.7	39
@ Normanskill Blvd	14:06:47	14:16:35	14:26:22	14:36:19	14:46:16	---	---	00:14	00:12	---	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:40	00:30	00:21	00:19	00:17	25	5	20	30.1	38
@ Plymouth Ave	14:07:07	14:16:48	14:26:39	14:36:37	14:46:27	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:19	00:13	00:18	00:19	00:11	16	0	16	25.4	25
@ Elsmere Avenue	14:08:01	14:17:31	14:27:19	14:37:19	14:47:08	00:14	00:26	---	----	----	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	00:54	00:43	00:39	00:42	00:40	44	8	36	32.4	40

Note:
a. Field stop delays in seconds were measured when travel speed was less than 30 mph.
b. Cruising Speed and Time was not calculated for average stop delays more than 50 seconds within a segment.

Start time
Enter in seconds

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	30	6	25	156	380	213	48	1	0	0	0	0	0	0	0	859
09:00	18	14	37	175	268	107	16	1	0	0	0	0	0	0	0	636
10:00	12	3	27	143	227	99	11	0	0	0	0	0	0	0	0	522
11:00	16	3	31	146	258	77	8	0	0	0	0	0	0	0	0	539
12 PM	14	7	31	139	298	113	12	2	0	0	0	0	0	0	0	616
13:00	19	7	34	161	288	101	19	4	0	0	0	0	0	0	0	633
14:00	16	10	29	189	226	92	18	0	2	0	0	0	0	0	0	582
15:00	15	10	14	167	273	117	15	1	0	0	0	0	0	0	0	612
16:00	26	8	32	174	235	119	20	3	0	0	0	0	0	0	0	617
17:00	16	9	34	107	254	149	27	2	0	0	0	0	0	0	0	598
18:00	8	3	18	106	211	127	23	0	0	0	0	0	0	0	0	496
19:00	1	5	22	96	156	92	11	2	0	0	0	0	0	0	0	385
20:00	3	7	22	79	125	31	8	0	0	0	0	0	0	0	0	275
21:00	3	4	13	40	49	20	5	1	0	0	0	0	0	0	0	135
22:00	2	1	4	21	36	19	4	1	0	0	0	0	0	0	0	88
23:00	0	0	1	10	18	11	4	1	0	0	0	0	0	0	0	45
Total	199	97	374	1909	3302	1487	249	19	2	0	0	0	0	0	0	7638

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/10/23	1	0	0	4	9	8	1	0	0	0	0	0	0	0	0	23
01:00	0	0	2	4	3	1	1	0	0	0	0	0	0	0	0	11
02:00	0	0	2	2	3	4	0	1	0	0	0	0	0	0	0	12
03:00	0	0	1	2	6	3	0	1	0	0	0	0	0	0	0	13
04:00	0	0	2	5	8	3	3	0	0	0	0	0	0	0	0	21
05:00	1	0	5	8	22	31	7	2	0	0	0	0	0	0	0	76
06:00	8	1	3	28	81	149	60	11	0	0	0	0	0	0	0	341
07:00	20	9	17	106	332	291	56	4	0	0	0	0	0	0	0	835
08:00	24	9	20	129	330	256	51	2	1	0	0	0	0	0	0	822
09:00	17	9	49	162	255	121	19	3	0	0	0	0	0	0	0	635
10:00	27	5	32	151	235	81	13	1	0	0	0	0	0	0	0	545
11:00	17	5	33	148	254	83	11	1	0	0	0	0	0	0	0	552
12 PM	9	9	31	199	257	100	16	2	0	0	0	0	0	0	0	623
13:00	15	6	27	193	269	89	14	3	0	0	0	0	0	0	0	616
14:00	16	14	39	190	233	63	10	0	0	0	0	0	0	0	0	565
15:00	26	21	24	162	270	108	16	1	0	0	0	0	0	0	0	628
16:00	29	19	39	172	268	118	24	3	1	1	0	0	0	0	0	674
17:00	29	5	20	112	274	152	24	5	0	0	0	0	0	0	0	621
18:00	24	6	12	99	247	135	21	1	0	0	0	0	0	0	0	545
19:00	4	0	14	92	167	81	10	2	0	1	0	0	0	0	0	371
20:00	3	6	17	96	143	56	10	1	2	0	0	0	0	0	0	334
21:00	3	3	5	36	66	19	3	0	0	0	0	0	0	0	0	135
22:00	1	0	1	16	37	21	4	1	1	0	0	0	0	0	0	82
23:00	0	1	1	10	20	9	3	0	0	0	0	0	0	0	0	44
Total	274	128	396	2126	3789	1982	377	45	5	2	0	0	0	0	0	9124

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/11/23	0	1	2	7	12	8	1	0	0	0	0	0	0	0	0	31
01:00	0	0	1	3	11	3	0	0	0	0	0	0	0	0	0	18
02:00	0	2	2	3	6	3	0	0	0	1	0	0	0	0	0	17
03:00	0	0	0	4	5	3	2	0	0	0	0	0	0	0	0	14
04:00	0	0	1	4	6	4	5	1	0	0	0	0	0	0	0	21
05:00	1	0	1	9	31	33	7	2	1	0	0	0	0	0	0	85
06:00	7	3	4	17	82	150	66	7	3	0	0	0	0	0	0	339
07:00	16	8	17	81	290	319	70	5	1	0	0	0	0	0	0	807
08:00	23	6	23	120	333	252	48	6	2	0	0	0	0	0	0	813
09:00	13	8	33	148	271	145	23	0	0	0	0	0	0	0	0	641
10:00	25	6	32	160	232	92	14	0	0	0	0	0	0	0	0	561
11:00	11	8	25	150	277	93	14	1	0	0	0	0	0	0	0	579
12 PM	24	5	43	187	290	120	13	3	0	0	0	0	0	0	0	685
13:00	18	7	36	181	294	111	14	1	0	0	0	0	0	0	0	662
14:00	21	3	26	143	257	111	15	3	0	0	0	0	0	0	0	579
15:00	26	13	51	133	273	140	16	3	0	0	0	0	0	0	0	655
16:00	16	8	28	197	285	167	34	5	0	1	0	0	0	0	0	741
17:00	22	6	31	164	307	156	19	1	0	0	0	0	0	0	0	706
18:00	12	11	18	135	280	118	16	2	0	0	0	0	0	0	0	592
19:00	10	6	22	106	199	91	15	2	0	0	0	0	0	0	0	451
20:00	11	16	30	116	162	62	9	0	0	0	0	0	0	0	0	406
21:00	5	4	11	52	69	18	2	0	0	0	0	0	0	0	0	161
22:00	3	0	1	25	26	17	5	1	0	0	0	0	0	0	0	78
23:00	2	0	3	18	29	12	5	2	0	0	0	0	0	0	0	71
Total	266	121	441	2163	4027	2228	413	45	7	2	0	0	0	0	0	9713

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/12/23	0	0	1	8	13	9	1	1	0	0	0	0	0	0	0	33
01:00	0	1	0	3	6	5	0	0	0	0	0	0	0	0	0	15
02:00	0	0	1	4	4	4	2	0	0	0	0	0	0	0	0	15
03:00	0	0	1	2	8	2	0	1	0	0	0	0	0	0	0	14
04:00	2	1	4	5	11	8	2	0	0	0	0	0	0	0	0	33
05:00	1	1	3	8	25	24	11	0	0	0	0	0	0	0	0	73
06:00	7	0	3	25	113	124	37	7	1	1	0	0	0	0	0	318
07:00	26	8	18	69	293	289	55	8	1	0	0	0	0	0	0	767
08:00	29	11	14	157	346	214	41	4	0	0	0	0	0	0	0	816
09:00	20	6	21	120	303	174	20	0	0	0	0	0	0	0	0	664
10:00	10	2	28	137	258	107	14	3	1	0	0	0	0	0	0	560
11:00	18	6	30	154	295	110	20	5	0	0	0	0	0	0	0	638
12 PM	20	11	25	158	288	139	18	2	1	0	0	0	0	0	0	662
13:00	10	10	32	155	328	126	29	2	0	0	0	0	0	0	0	692
14:00	25	12	30	142	261	132	26	2	2	0	0	0	0	0	0	632
15:00	27	15	52	176	290	134	29	6	0	0	0	0	0	0	0	729
16:00	31	8	25	153	304	152	30	4	0	0	0	0	0	0	0	707
17:00	19	8	14	142	282	123	32	2	0	1	0	0	0	0	0	623
18:00	19	2	22	116	203	140	21	3	0	0	0	0	0	0	0	526
19:00	10	5	9	88	200	77	9	3	0	0	0	0	0	0	0	401
20:00	8	7	25	139	141	37	5	0	1	0	0	0	0	0	0	363
21:00	4	6	12	58	68	35	4	0	1	0	0	0	0	0	0	188
22:00	2	3	8	23	47	21	7	2	0	0	0	0	0	0	0	113
23:00	0	2	4	24	29	11	3	1	1	0	0	0	0	0	0	75
Total	288	125	382	2066	4116	2197	416	56	9	2	0	0	0	0	0	9657

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/13/23	0	1	6	11	16	13	1	0	0	0	0	0	0	0	0	48
01:00	0	0	4	9	12	9	3	0	0	0	0	0	0	0	0	37
02:00	0	0	1	2	9	6	3	0	0	0	0	0	0	0	0	21
03:00	0	0	1	3	3	3	0	1	0	0	0	0	0	0	0	11
04:00	1	0	0	3	5	3	2	0	0	0	0	0	0	0	0	14
05:00	1	1	1	5	12	9	3	1	0	0	0	0	0	0	0	33
06:00	1	2	4	10	32	51	16	3	1	0	0	0	0	0	0	120
07:00	8	4	8	33	97	88	19	3	0	0	0	0	0	0	0	260
08:00	6	2	14	49	164	118	36	2	0	0	0	0	0	0	0	391
09:00	11	6	22	106	257	121	36	4	1	0	0	0	0	0	0	564
10:00	12	6	19	167	344	149	18	4	0	0	0	0	0	0	0	719
11:00	25	6	23	168	310	153	19	4	0	0	0	0	0	0	0	708
12 PM	25	9	27	175	299	136	15	6	3	0	0	0	0	0	0	695
13:00	12	9	31	135	300	140	29	2	0	0	0	0	0	0	0	658
14:00	15	7	19	98	253	121	28	5	0	0	0	0	0	0	0	546
15:00	17	3	13	112	249	159	23	2	1	0	0	0	0	0	0	579
16:00	10	3	14	115	247	113	26	3	1	0	0	0	0	0	0	532
17:00	10	1	14	74	225	116	27	2	1	0	0	0	0	0	0	470
18:00	6	4	21	65	203	113	16	1	0	0	0	0	0	0	0	429
19:00	8	8	23	104	157	62	14	0	0	0	0	0	0	0	0	376
20:00	3	1	21	69	147	67	5	3	0	1	0	0	0	0	0	317
21:00	4	3	7	32	84	26	5	1	1	0	0	0	0	0	0	163
22:00	4	3	6	25	39	26	3	3	0	0	0	0	0	0	0	109
23:00	3	1	2	17	27	15	6	0	0	1	0	0	0	0	0	72
Total	182	80	301	1587	3491	1817	353	50	9	2	0	0	0	0	0	7872

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/14/23	1	0	3	8	14	12	3	0	0	0	0	0	0	0	0	41
01:00	0	0	1	4	9	6	2	0	0	0	0	0	0	0	0	22
02:00	0	0	0	2	4	2	3	0	0	0	0	0	0	0	0	11
03:00	0	0	1	3	6	3	1	0	0	0	0	0	0	0	0	14
04:00	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	6
05:00	0	0	0	8	11	6	2	1	0	0	0	0	0	0	0	28
06:00	2	1	4	16	33	36	8	1	0	0	0	0	0	0	0	101
07:00	4	2	3	33	89	77	17	3	0	0	0	0	0	0	0	228
08:00	4	3	15	36	125	132	28	1	0	0	0	0	0	0	0	344
09:00	4	2	11	57	222	142	25	4	0	0	0	0	0	0	0	467
10:00	10	3	12	68	243	145	24	1	0	0	0	0	0	0	0	506
11:00	9	12	17	102	261	147	30	1	1	0	0	0	0	0	0	580
12 PM	14	8	12	108	241	129	22	2	0	0	0	0	0	0	0	536
13:00	8	6	15	102	234	161	21	2	1	0	0	0	0	0	0	550
14:00	8	1	9	90	229	131	29	0	0	0	0	0	0	0	0	497
15:00	5	3	16	91	229	131	32	3	1	0	0	0	0	0	0	511
16:00	4	4	16	69	192	130	23	5	0	0	0	0	0	0	0	443
17:00	5	8	19	49	188	138	29	3	0	0	0	0	0	0	0	439
18:00	2	1	9	44	174	103	22	0	0	0	0	0	0	0	0	355
19:00	5	1	5	49	150	94	17	2	0	0	0	0	0	0	0	323
20:00	3	2	7	56	111	64	11	1	0	0	0	0	0	0	0	255
21:00	1	4	5	26	53	34	10	0	1	0	0	0	0	0	0	134
22:00	0	3	4	18	37	16	4	1	0	0	0	0	0	0	0	83
23:00	0	0	0	8	14	9	4	1	0	0	0	0	0	0	0	36
Total	89	64	185	1048	2871	1850	367	32	4	0	0	0	0	0	0	6510

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/15/23	0	0	1	6	5	7	2	0	0	0	0	0	0	0	0	21
01:00	0	0	2	1	4	2	0	0	0	0	0	0	0	0	0	9
02:00	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	7
03:00	0	0	0	3	7	6	2	0	0	0	0	0	0	0	0	18
04:00	0	0	1	3	10	6	2	1	0	0	0	0	0	0	0	23
05:00	0	0	4	9	22	30	9	2	0	0	0	0	0	0	0	76
06:00	5	1	4	19	75	138	61	12	2	0	0	0	0	0	0	317
07:00	16	11	11	60	299	284	71	6	0	0	0	0	0	0	0	758
08:00	28	5	29	111	332	290	48	5	0	0	0	0	0	0	0	848
09:00	24	4	34	124	274	122	23	1	1	0	0	0	0	0	0	607
10:00	26	12	24	122	253	91	13	1	0	0	0	0	0	0	0	542
11:00	21	9	25	137	257	109	17	0	0	0	0	0	0	0	0	575
12 PM	18	13	13	182	299	109	5	3	0	0	0	0	0	0	0	642
13:00	21	4	27	146	280	103	20	1	0	0	0	0	0	0	0	602
14:00	16	11	26	137	257	104	14	2	0	0	0	0	0	0	0	567
15:00	21	8	27	138	267	144	23	2	0	0	0	0	0	0	0	630
16:00	22	8	25	140	290	117	25	1	0	0	0	0	0	0	0	628
17:00	18	6	22	124	301	147	29	4	0	0	0	0	0	0	0	651
18:00	10	5	8	67	202	130	25	6	0	0	0	0	0	0	0	453
19:00	9	3	47	97	157	72	15	0	0	0	0	0	0	0	0	400
20:00	8	4	11	70	117	55	6	0	0	0	0	0	0	0	0	271
21:00	2	0	11	28	44	31	3	0	0	0	0	0	0	0	0	119
22:00	1	2	4	16	28	14	4	3	0	0	0	0	0	0	0	72
23:00	0	0	1	10	27	7	4	0	1	0	0	0	0	0	0	50
Total	266	106	357	1752	3810	2120	421	50	4	0	0	0	0	0	0	8886

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/16/23	0	0	3	2	7	7	1	0	0	0	0	0	0	0	0	20
01:00	0	0	2	3	4	7	0	0	0	0	0	0	0	0	0	16
02:00	0	1	1	1	9	2	0	0	0	0	0	0	0	0	0	14
03:00	0	0	1	2	9	1	2	1	0	0	0	0	0	0	0	16
04:00	1	0	3	3	8	5	5	1	0	0	0	0	0	0	0	26
05:00	3	0	0	8	18	34	15	0	0	0	0	0	0	0	0	78
06:00	7	3	3	20	82	119	58	11	0	0	0	0	0	0	0	303
07:00	14	7	13	81	339	317	62	10	0	0	0	0	0	0	0	843
08:00	29	4	33	126	324	255	49	2	0	0	0	0	0	0	0	822
09:00	10	6	35	152	289	127	24	1	0	0	0	0	0	0	0	644
10:00	25	3	14	123	240	113	20	2	0	0	0	0	0	0	0	540
11:00	16	8	14	125	279	123	16	1	0	0	0	0	0	0	0	582
12 PM	16	7	22	134	254	129	27	2	1	0	0	0	0	0	0	592
13:00	20	12	28	151	261	84	14	3	1	0	0	0	0	0	0	574
14:00	15	8	31	137	259	96	17	1	1	0	0	0	0	0	0	565
15:00	16	10	35	139	277	120	17	4	0	0	0	0	0	0	0	618
16:00	19	7	23	134	285	158	22	3	0	0	0	0	0	0	0	651
17:00	15	10	12	117	273	166	33	4	1	0	0	0	0	0	0	631
18:00	12	8	22	102	246	138	22	3	1	0	0	0	0	0	0	554
19:00	6	7	21	62	176	90	15	2	1	0	0	0	0	0	0	380
20:00	6	4	22	76	117	54	8	2	0	0	0	0	0	0	0	289
21:00	0	1	5	48	59	30	6	0	0	0	0	0	0	0	0	149
22:00	1	2	4	9	31	12	9	4	0	0	0	0	0	0	0	72
23:00	1	0	2	7	18	14	5	0	0	0	0	0	0	0	0	47
Total	232	108	349	1762	3864	2201	447	57	6	0	0	0	0	0	0	9026

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/17/23	0	1	1	3	9	8	5	0	0	0	0	0	0	0	0	27
01:00	0	0	2	7	6	5	0	0	0	0	0	0	0	0	0	20
02:00	0	2	1	3	5	2	1	0	0	0	0	0	0	0	0	14
03:00	0	1	0	3	5	3	1	0	1	0	0	0	0	0	0	14
04:00	0	0	0	2	2	11	1	0	0	0	0	0	0	0	0	16
05:00	1	0	1	6	28	35	11	1	0	0	0	0	0	0	0	83
06:00	3	5	7	30	88	137	45	3	1	1	0	0	0	0	0	320
07:00	13	5	11	64	244	375	70	4	0	0	1	0	0	0	0	787
08:00	26	4	19	78	360	256	61	6	1	0	0	0	0	0	0	811
09:00	19	6	22	141	298	156	18	5	0	0	0	0	0	0	0	665
10:00	32	3	13	151	236	115	17	3	0	0	0	0	0	0	0	570
11:00	36	9	23	80	92	46	5	0	0	0	0	0	0	0	0	291
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	130	36	100	568	1373	1149	235	22	3	1	1	0	0	0	0	3618
Grand Total	1926	865	2885	14981	30643	17031	3278	376	49	9	1	0	0	0	0	72044

Stats		
	15th Percentile :	31 MPH
	50th Percentile :	37 MPH
	85th Percentile :	42 MPH
	95th Percentile :	45 MPH
	Mean Speed(Average) :	37 MPH
	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	47674
	Percent in Pace :	66.2%
	Number of Vehicles > 40 MPH :	20744
	Percent of Vehicles > 40 MPH :	28.8%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	12	15	11	93	198	118	27	3	1	0	0	0	0	0	0	478
09:00	10	2	15	99	255	90	18	1	0	0	0	0	0	0	0	490
10:00	9	9	17	138	204	93	24	0	0	0	0	0	0	0	0	494
11:00	16	14	53	157	233	77	16	1	0	0	0	0	0	0	0	567
12 PM	13	15	16	143	297	101	19	0	0	0	0	0	0	0	0	604
13:00	10	5	23	140	253	121	29	4	0	0	0	0	0	0	0	585
14:00	11	10	24	146	318	128	22	2	0	0	0	0	0	0	0	661
15:00	29	8	60	211	340	112	16	1	0	0	0	0	0	0	0	777
16:00	47	26	74	293	377	133	21	1	0	0	0	0	0	0	0	972
17:00	27	16	41	246	429	196	25	3	1	0	0	0	0	0	0	984
18:00	9	4	27	97	264	177	28	2	1	0	0	0	0	0	0	609
19:00	7	5	11	97	207	107	15	1	1	1	0	0	0	0	0	452
20:00	5	1	22	70	158	77	15	1	0	0	0	0	0	0	0	349
21:00	0	0	4	38	77	39	10	0	0	0	0	0	0	0	0	168
22:00	0	0	0	17	48	24	6	0	0	0	0	0	0	0	0	95
23:00	0	0	1	12	29	24	3	3	1	0	0	0	0	0	0	73
Total	205	130	399	1997	3687	1617	294	23	5	1	0	0	0	0	0	8358

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/10/2 3	0	0	0	4	15	10	2	0	0	0	0	0	0	0	0	31
01:00	0	0	1	2	3	4	2	0	0	0	0	0	0	0	0	12
02:00	0	1	0	1	5	3	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	1	2	3	1	0	0	0	0	0	0	0	0	8
04:00	0	0	0	2	10	10	5	2	0	0	0	0	0	0	0	29
05:00	3	1	1	6	15	22	5	2	1	0	0	0	0	0	0	56
06:00	5	4	3	15	35	57	28	6	0	0	0	0	0	0	0	153
07:00	19	12	22	47	124	111	41	7	0	0	0	0	0	0	0	383
08:00	10	7	18	106	178	141	30	5	0	0	0	0	0	0	0	495
09:00	15	9	16	119	206	89	23	3	0	0	0	0	0	0	0	480
10:00	12	9	32	123	191	87	15	3	0	0	0	0	0	0	0	472
11:00	19	6	37	152	246	126	13	1	0	0	0	0	0	0	0	600
12 PM	10	6	42	158	257	119	14	0	0	0	0	0	0	0	0	606
13:00	12	3	34	164	271	87	23	2	0	0	0	0	0	0	0	596
14:00	17	12	65	177	243	95	21	2	0	0	0	0	0	0	0	632
15:00	31	20	77	241	313	113	14	1	1	0	0	0	0	0	0	811
16:00	35	29	96	388	394	86	14	5	0	0	1	0	0	0	0	1048
17:00	28	27	64	296	432	134	22	2	2	0	0	0	0	0	0	1007
18:00	12	5	17	128	253	155	30	5	1	0	0	0	0	0	0	606
19:00	3	3	16	69	199	110	16	2	1	0	0	0	0	0	0	419
20:00	2	3	15	97	173	83	14	0	0	0	0	0	0	0	0	387
21:00	1	3	6	55	90	50	12	3	0	0	0	0	0	0	0	220
22:00	1	1	5	25	41	30	7	2	0	0	0	0	0	0	0	112
23:00	0	0	2	14	18	23	8	1	0	0	0	0	0	0	0	66
Total	235	161	570	2390	3714	1748	361	54	6	0	1	0	0	0	0	9240

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/11/23	1	0	1	3	13	8	0	1	0	0	0	0	0	0	0	27
01:00	1	0	0	1	7	3	4	0	1	0	0	0	0	0	0	17
02:00	0	2	0	0	3	6	2	0	0	0	0	0	0	0	0	13
03:00	0	0	0	2	5	2	1	0	0	0	0	0	0	0	0	10
04:00	0	0	0	5	5	9	6	2	1	0	0	0	0	0	0	28
05:00	3	1	0	4	11	22	6	3	0	0	0	0	0	0	0	50
06:00	2	1	3	8	46	66	28	4	2	0	0	0	0	0	0	160
07:00	19	7	11	30	140	130	46	5	2	0	0	0	0	0	0	390
08:00	10	5	18	76	182	118	31	9	1	0	1	0	0	0	0	451
09:00	21	6	26	123	234	108	23	1	2	0	0	0	0	0	0	544
10:00	19	12	12	136	219	80	19	1	0	0	0	0	0	0	0	498
11:00	13	9	29	138	264	115	11	2	0	1	0	0	0	0	0	582
12 PM	22	9	35	166	311	106	19	2	0	0	0	0	0	0	0	670
13:00	22	10	28	163	303	106	16	5	1	0	0	0	0	0	0	654
14:00	15	19	25	163	310	123	21	2	0	0	0	0	0	0	0	678
15:00	21	19	68	230	313	148	20	0	0	0	0	0	0	0	0	819
16:00	35	19	83	365	422	120	12	2	3	0	0	0	0	0	0	1061
17:00	42	39	134	308	405	144	26	2	1	0	0	0	0	0	0	1101
18:00	12	6	12	115	308	145	28	4	0	0	0	0	0	0	0	630
19:00	10	4	17	126	241	115	25	2	0	0	0	0	0	0	0	540
20:00	12	9	16	119	165	98	16	0	0	0	0	0	0	0	0	435
21:00	3	2	8	67	114	42	9	0	0	0	0	0	0	0	0	245
22:00	1	1	3	31	50	23	13	0	0	0	0	0	0	0	0	122
23:00	1	1	4	12	30	27	4	3	0	0	0	0	0	0	0	82
Total	285	181	533	2391	4101	1864	386	50	14	1	1	0	0	0	0	9807

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/12/2 3	0	0	1	5	17	14	3	0	0	0	0	0	0	0	0	40
01:00	1	0	0	2	5	9	0	0	0	0	0	0	0	0	0	17
02:00	0	0	0	0	6	4	0	0	1	0	0	0	0	0	0	11
03:00	0	1	1	1	6	2	1	0	0	0	0	0	0	0	0	12
04:00	0	0	2	3	4	5	9	1	0	0	0	0	0	0	0	24
05:00	4	1	0	11	14	21	5	0	1	0	0	0	0	0	0	57
06:00	4	3	5	18	57	52	27	1	1	0	0	0	0	0	0	168
07:00	9	9	12	44	140	134	46	9	1	0	0	0	0	0	0	404
08:00	24	5	18	115	215	142	24	3	1	0	0	0	0	0	0	547
09:00	18	10	16	112	235	132	24	2	0	0	0	0	0	0	0	549
10:00	15	7	20	106	239	113	17	2	2	0	1	0	0	0	0	522
11:00	13	9	26	148	261	127	20	1	0	0	0	0	0	0	0	605
12 PM	13	9	32	150	283	144	18	6	0	0	0	0	0	0	0	655
13:00	25	14	33	136	317	138	24	5	0	0	0	0	0	0	0	692
14:00	25	8	48	190	245	137	28	4	0	0	0	0	0	0	0	685
15:00	33	11	46	227	310	161	39	2	0	0	0	0	0	0	0	829
16:00	29	20	72	294	457	148	14	1	0	0	0	0	0	0	0	1035
17:00	18	13	39	249	370	164	28	2	0	0	0	0	0	0	0	883
18:00	13	7	24	124	262	152	26	5	0	0	0	0	0	0	0	613
19:00	5	14	16	116	204	79	19	0	1	0	0	0	0	0	0	454
20:00	4	4	20	104	159	56	10	1	0	0	0	0	0	0	0	358
21:00	5	0	10	49	103	47	7	5	0	0	0	0	0	0	0	226
22:00	3	1	4	37	53	35	8	0	0	0	0	0	0	0	0	141
23:00	0	0	3	18	42	29	4	0	0	0	0	0	0	0	0	96
Total	261	146	448	2259	4004	2045	401	50	8	0	1	0	0	0	0	9623

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/13/23	1	0	2	11	24	19	7	0	0	0	0	0	0	0	0	64
01:00	0	0	1	5	13	9	6	1	0	0	1	0	0	0	0	36
02:00	0	0	0	7	6	6	3	0	1	0	0	1	0	0	0	24
03:00	0	0	0	3	10	6	3	0	0	0	0	0	0	0	0	22
04:00	1	0	0	4	4	5	3	0	0	0	0	0	0	0	0	17
05:00	1	2	3	1	9	8	4	0	0	0	0	0	0	0	0	28
06:00	1	2	3	6	22	40	21	5	0	0	0	0	0	0	0	100
07:00	2	2	12	21	61	83	16	2	0	1	0	0	0	0	0	200
08:00	12	5	5	50	147	116	45	4	0	0	0	0	0	0	0	384
09:00	10	11	21	102	216	137	35	9	0	0	0	0	0	0	0	541
10:00	13	10	29	125	308	135	30	4	0	0	0	0	0	0	0	654
11:00	13	11	32	178	284	142	28	7	0	0	0	0	0	0	0	695
12 PM	9	13	32	180	292	140	16	2	0	0	0	0	0	0	0	684
13:00	19	7	29	149	269	134	36	1	1	0	0	0	0	0	0	645
14:00	11	11	28	150	216	117	16	2	0	0	0	0	0	0	0	551
15:00	7	12	9	117	229	166	31	3	0	0	0	0	0	0	0	574
16:00	7	13	20	97	270	133	31	2	1	0	0	0	0	0	0	574
17:00	8	4	11	89	253	128	19	1	2	2	0	0	0	0	0	517
18:00	5	4	16	92	218	134	18	0	0	0	0	0	0	0	0	487
19:00	7	5	14	92	181	88	19	2	0	0	0	0	0	0	0	408
20:00	2	6	20	91	131	58	4	4	1	0	0	0	0	0	0	317
21:00	0	2	8	74	107	56	17	1	0	0	0	0	0	0	0	265
22:00	2	2	4	30	68	34	6	1	0	0	0	0	0	0	0	147
23:00	2	1	2	14	42	27	7	0	0	1	0	0	0	0	0	96
Total	133	123	301	1688	3380	1921	421	51	6	4	1	1	0	0	0	8030

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/14/2 3	1	0	3	7	13	12	5	1	0	0	0	0	0	0	0	42
01:00	0	0	0	4	9	5	1	2	0	0	0	0	0	0	0	21
02:00	0	0	0	2	6	8	5	2	0	0	0	0	0	0	0	23
03:00	0	0	0	3	5	5	2	1	0	0	0	0	0	0	0	16
04:00	1	0	1	1	6	6	0	1	0	0	0	0	0	0	0	16
05:00	0	0	0	4	9	6	1	0	0	0	0	0	0	0	0	20
06:00	0	0	0	12	18	26	9	0	0	0	0	0	0	0	0	65
07:00	2	3	6	29	70	47	18	3	0	0	0	0	0	0	0	178
08:00	2	1	5	38	136	81	25	4	1	0	0	0	0	0	0	293
09:00	4	4	9	52	160	130	39	3	0	0	0	0	0	0	0	401
10:00	7	7	1	84	205	146	19	3	0	1	0	0	0	0	0	473
11:00	11	7	7	69	197	178	32	8	0	0	0	0	0	0	0	509
12 PM	19	11	15	97	261	169	47	2	0	0	0	0	0	0	0	621
13:00	5	4	13	72	252	140	30	7	0	0	0	0	0	0	0	523
14:00	12	5	20	101	254	155	28	6	1	0	0	0	0	0	0	582
15:00	6	3	18	140	247	138	25	4	0	1	0	0	0	0	0	582
16:00	2	4	21	92	211	165	32	2	0	0	0	0	0	0	0	529
17:00	6	7	7	80	219	136	26	3	0	0	0	1	0	0	0	485
18:00	5	6	9	48	164	128	37	5	0	0	0	0	0	0	0	402
19:00	4	4	4	58	127	125	33	0	0	0	0	0	0	0	0	355
20:00	4	0	7	64	118	64	17	2	0	0	1	0	0	0	0	277
21:00	2	1	2	20	61	44	9	0	0	0	0	0	0	0	0	139
22:00	1	2	2	12	44	28	8	1	0	0	0	0	0	0	0	98
23:00	0	0	1	5	22	10	5	2	0	0	0	0	0	0	0	45
Total	94	69	151	1094	2814	1952	453	62	2	2	1	1	0	0	0	6695

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/15/23	0	0	0	2	9	9	0	0	0	0	0	0	0	0	0	20
01:00	0	0	1	0	5	7	4	1	0	0	0	0	0	0	0	18
02:00	0	0	0	1	1	4	1	0	0	0	0	0	0	0	0	7
03:00	0	0	1	2	2	0	0	1	0	0	0	0	0	0	0	6
04:00	1	1	0	1	7	11	8	1	0	0	0	0	0	0	0	30
05:00	2	2	1	4	18	16	7	2	0	0	0	0	0	0	0	52
06:00	7	2	1	15	37	58	24	8	0	0	0	0	0	0	0	152
07:00	10	6	3	42	124	95	40	5	0	0	0	0	0	0	0	325
08:00	14	3	12	79	208	127	38	3	2	1	0	0	0	0	0	487
09:00	23	11	14	120	199	106	29	0	0	0	0	0	0	0	0	502
10:00	16	7	22	123	227	113	18	3	0	0	1	0	0	0	0	530
11:00	14	8	29	134	251	123	15	5	0	0	0	0	0	0	0	579
12 PM	18	10	35	206	272	106	17	5	0	0	0	0	0	0	0	669
13:00	16	8	30	171	200	142	22	0	0	0	0	0	0	0	0	589
14:00	28	8	38	165	245	130	24	2	0	0	0	0	0	0	0	640
15:00	27	16	50	204	321	153	25	1	0	0	0	0	0	0	0	797
16:00	35	45	100	256	396	152	21	2	3	0	0	0	0	0	0	1010
17:00	32	20	66	310	443	139	16	6	0	0	0	0	0	0	0	1032
18:00	7	5	15	105	247	120	29	1	0	0	0	0	0	0	0	529
19:00	4	5	8	81	185	110	20	1	0	0	0	0	0	0	0	414
20:00	4	4	12	83	135	61	6	1	0	0	0	0	0	0	0	306
21:00	0	2	5	44	82	43	5	0	0	0	0	0	0	0	0	181
22:00	0	0	2	14	47	29	4	0	0	0	0	0	0	0	0	96
23:00	1	0	1	11	14	16	7	2	1	0	0	1	0	0	0	54
Total	259	163	446	2173	3675	1870	380	50	6	1	1	1	0	0	0	9025

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/16/23	0	1	0	3	9	12	5	0	0	0	0	0	0	0	0	30
01:00	0	0	0	0	5	6	0	0	0	0	0	0	0	0	0	11
02:00	0	0	0	4	4	2	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0	10
04:00	2	1	0	4	4	12	4	2	0	0	0	0	0	0	0	29
05:00	1	1	1	5	14	16	8	0	0	0	0	0	0	0	0	46
06:00	2	2	6	12	49	55	26	5	2	0	0	0	0	0	0	159
07:00	12	9	10	52	123	137	30	11	1	0	0	0	0	0	0	385
08:00	9	6	11	90	216	126	21	5	0	0	0	0	0	0	0	484
09:00	24	4	18	96	232	106	22	3	0	0	0	0	0	0	0	505
10:00	18	11	29	123	214	104	21	2	0	2	0	0	0	0	0	524
11:00	11	9	23	138	234	109	18	4	0	0	0	0	0	0	0	546
12 PM	18	16	20	147	287	116	21	5	1	0	0	0	0	0	0	631
13:00	11	9	34	171	261	123	22	2	0	0	0	0	0	0	0	633
14:00	11	10	37	186	275	113	19	3	0	0	0	0	0	0	0	654
15:00	26	15	42	191	351	124	21	2	0	0	0	0	0	0	0	772
16:00	32	16	41	315	473	145	12	1	0	0	0	0	0	0	0	1035
17:00	24	11	59	293	474	150	20	1	0	0	0	0	0	0	0	1032
18:00	4	13	11	148	277	126	16	4	2	1	0	0	0	0	0	602
19:00	7	8	19	98	209	110	17	5	0	0	0	0	0	0	0	473
20:00	4	2	9	64	150	86	14	2	0	0	0	0	0	0	0	331
21:00	1	1	12	32	72	50	9	2	0	0	0	0	0	0	0	179
22:00	0	2	1	21	45	22	7	1	0	0	0	0	0	0	0	99
23:00	1	1	0	15	18	13	7	1	1	0	0	0	0	0	0	57
Total	218	148	384	2212	4001	1863	341	61	7	3	0	0	0	0	0	9238

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/17/2 3	0	0	0	4	10	9	2	2	0	0	0	0	0	0	0	27
01:00	0	0	0	1	5	8	0	0	0	0	0	0	0	0	0	14
02:00	1	0	0	0	3	3	2	0	0	0	0	0	0	0	0	9
03:00	1	0	0	3	1	5	0	0	0	0	0	0	0	0	0	10
04:00	0	0	0	2	7	13	3	0	0	0	0	0	0	0	0	25
05:00	2	0	0	5	16	25	12	2	2	0	0	0	0	0	0	64
06:00	4	6	4	19	44	49	23	2	1	0	0	0	0	0	0	152
07:00	11	5	6	45	104	125	54	10	1	0	0	0	0	0	0	361
08:00	18	6	12	56	181	146	37	5	1	0	0	0	0	0	0	462
09:00	18	8	14	111	203	141	26	3	0	0	0	0	0	0	0	524
10:00	20	6	17	107	219	126	23	1	1	0	0	0	0	0	0	520
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	75	31	53	353	793	650	182	25	6	0	0	0	0	0	0	2168
Grand Total	1765	1152	3285	16557	30169	15530	3219	426	60	12	6	3	0	0	0	72184

Stats		
	15th Percentile :	31 MPH
	50th Percentile :	37 MPH
	85th Percentile :	42 MPH
	95th Percentile :	45 MPH
	Mean Speed(Average) :	37 MPH
	10 MPH Pace Speed :	31-40 MPH
	Number in Pace :	46726
	Percent in Pace :	64.7%
	Number of Vehicles > 40 MPH :	19256
	Percent of Vehicles > 40 MPH :	26.7%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	46	82	80	94	172	131	31	3	0	1	0	0	0	0	0	640
10:00	56	64	71	86	170	103	19	1	0	0	0	0	0	0	0	570
11:00	59	70	85	83	175	85	16	2	0	0	0	0	0	0	0	575
12 PM	59	73	74	111	165	113	31	3	0	1	0	0	0	0	0	630
13:00	65	62	71	90	182	113	25	4	0	0	0	0	0	0	0	612
14:00	83	55	53	83	160	110	46	6	0	0	0	0	0	0	0	596
15:00	65	87	68	122	171	118	27	5	1	1	0	0	0	0	0	665
16:00	60	55	70	85	172	140	29	8	2	0	0	0	0	0	0	621
17:00	47	58	57	77	157	188	52	8	1	0	0	0	0	0	0	645
18:00	54	46	43	71	165	126	34	5	1	1	0	0	0	0	0	546
19:00	62	29	40	45	118	92	22	4	0	0	0	0	0	0	0	412
20:00	62	2	21	48	103	58	15	3	0	0	0	0	0	0	0	312
21:00	23	1	7	62	113	61	11	3	0	0	0	0	0	0	0	281
22:00	2	4	1	14	47	26	7	1	0	0	0	0	0	0	0	102
23:00	13	1	2	5	30	19	8	2	0	0	0	0	0	0	0	80
Total	756	689	743	1076	2100	1483	373	58	5	4	0	0	0	0	0	7287

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/31/23	1	0	1	6	13	10	0	1	0	0	0	0	0	0	0	32
01:00	0	0	0	3	6	4	0	0	1	0	0	0	0	0	0	14
02:00	0	0	2	6	4	2	0	1	0	0	0	0	0	0	0	15
03:00	0	0	0	1	1	3	0	1	0	0	0	0	0	0	0	6
04:00	2	0	0	2	4	6	1	0	0	0	0	0	0	0	0	15
05:00	6	3	1	7	25	44	13	5	0	1	0	0	0	0	0	105
06:00	14	0	3	9	48	127	63	19	5	4	0	0	0	0	0	292
07:00	13	7	19	30	192	371	115	17	2	0	0	0	0	0	0	766
08:00	51	60	74	80	230	270	50	9	2	1	0	0	0	0	0	827
09:00	30	70	43	80	209	142	41	9	0	0	0	0	0	0	0	624
10:00	37	60	54	68	184	100	23	5	0	0	0	0	0	0	0	531
11:00	32	60	50	87	186	117	16	1	0	1	0	0	0	0	0	550
12 PM	75	70	67	108	192	111	25	5	0	0	0	0	0	0	0	653
13:00	45	41	71	84	172	102	28	4	3	0	0	0	0	0	0	550
14:00	52	55	51	70	202	119	33	7	0	0	0	0	0	0	0	589
15:00	81	47	54	83	175	152	36	4	0	0	0	0	0	0	0	632
16:00	56	33	61	88	191	155	39	17	0	1	0	0	0	0	0	641
17:00	50	61	39	80	200	159	40	9	2	0	0	0	0	0	0	640
18:00	45	36	62	61	131	124	42	3	1	1	0	0	0	0	0	506
19:00	80	31	39	67	102	75	14	1	0	0	0	0	0	0	0	409
20:00	41	8	17	55	98	74	16	0	0	0	0	0	0	0	0	309
21:00	15	3	7	26	63	35	9	1	0	1	0	0	0	0	0	160
22:00	4	1	5	18	42	37	6	1	0	0	0	0	0	0	0	114
23:00	4	0	4	10	33	16	2	0	0	0	0	0	0	0	0	69
Total	734	646	724	1129	2703	2355	612	120	16	10	0	0	0	0	0	9049

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/01/23	3	2	1	4	12	12	4	0	0	0	0	0	0	0	0	38
01:00	3	0	0	5	4	4	0	0	0	1	0	0	0	0	0	17
02:00	1	0	1	4	7	3	1	0	0	0	0	0	0	0	0	17
03:00	2	0	0	2	8	2	1	0	0	0	0	0	0	0	0	15
04:00	0	0	2	0	4	4	4	1	0	0	0	0	0	0	0	15
05:00	4	1	0	4	30	41	18	2	2	0	0	0	0	0	0	102
06:00	7	1	0	8	55	143	69	7	1	0	0	0	1	0	0	292
07:00	22	6	20	33	173	307	125	12	6	0	0	0	0	0	0	704
08:00	22	46	73	89	250	259	62	10	3	0	0	0	0	0	0	814
09:00	39	51	67	72	204	151	24	2	2	1	1	0	0	0	0	614
10:00	35	42	51	81	160	134	24	5	0	0	0	0	0	0	0	532
11:00	50	66	58	100	197	93	18	5	0	1	1	0	0	0	0	589
12 PM	66	69	69	80	183	134	34	6	0	0	0	0	0	0	0	641
13:00	50	62	59	104	182	123	36	4	0	0	0	0	0	0	0	620
14:00	84	48	67	94	180	126	29	6	0	0	0	0	0	0	0	634
15:00	71	46	50	82	149	136	39	8	1	0	0	0	0	0	0	582
16:00	51	48	41	84	201	164	57	9	2	0	0	0	0	0	0	657
17:00	41	40	46	62	167	189	48	8	1	0	0	0	0	0	0	602
18:00	47	26	40	53	153	146	40	10	0	2	0	0	0	0	0	517
19:00	59	19	31	56	119	100	28	5	0	0	0	0	0	0	0	417
20:00	58	6	13	82	123	74	12	2	0	0	0	0	0	0	0	370
21:00	28	2	5	68	94	51	13	2	0	0	0	0	0	0	0	263
22:00	9	4	7	18	34	38	8	0	0	0	0	0	0	0	0	118
23:00	3	0	3	14	21	16	3	2	0	0	0	0	0	0	0	62
Total	755	585	704	1199	2710	2450	697	106	18	5	2	0	1	0	0	9232

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/02/23	0	1	2	10	11	9	2	0	0	0	0	1	0	0	0	36
01:00	0	0	1	1	7	6	0	2	0	0	0	0	0	0	0	17
02:00	0	1	1	0	3	0	0	1	0	0	0	0	0	0	0	6
03:00	3	0	0	4	3	6	1	0	0	0	0	0	0	0	0	17
04:00	3	0	2	2	8	8	4	0	0	0	0	0	0	0	0	27
05:00	2	0	2	6	26	37	19	2	0	1	0	0	0	0	0	95
06:00	8	0	3	9	50	127	76	9	3	2	0	0	0	0	0	287
07:00	15	9	24	34	157	299	115	20	2	0	0	0	0	0	0	675
08:00	29	48	64	67	210	239	60	14	2	0	0	0	0	0	0	733
09:00	24	43	57	96	194	116	34	4	0	0	2	0	0	0	0	570
10:00	39	43	65	79	189	110	29	1	3	0	0	0	0	0	0	558
11:00	37	51	43	92	181	130	29	1	4	0	0	0	0	0	0	568
12 PM	60	56	55	77	200	117	18	3	1	1	0	0	0	0	0	588
13:00	59	48	53	89	207	118	33	3	1	0	0	0	0	0	0	611
14:00	43	42	60	75	168	125	38	8	0	1	0	0	0	0	0	560
15:00	66	43	57	109	205	154	34	4	1	0	0	0	0	0	0	673
16:00	47	47	38	91	176	159	36	5	2	0	0	0	0	0	0	601
17:00	39	27	44	80	208	124	39	4	0	0	0	0	0	0	0	565
18:00	54	42	32	80	142	114	32	4	0	0	0	0	0	0	0	500
19:00	31	23	24	49	130	79	18	4	0	0	0	0	0	0	0	358
20:00	54	10	20	56	101	70	13	3	0	1	0	0	0	0	0	328
21:00	17	2	6	50	69	46	8	0	0	0	0	0	0	0	0	198
22:00	6	0	6	25	51	43	6	1	1	0	0	0	0	0	0	139
23:00	9	1	2	8	30	26	5	1	0	0	0	0	0	0	0	82
Total	645	537	661	1189	2726	2262	649	94	20	6	2	1	0	0	0	8792

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/03/2 3	3	0	2	7	19	10	1	1	0	0	0	0	0	0	0	43
01:00	0	1	1	1	9	4	2	0	0	0	0	0	0	0	0	18
02:00	0	0	2	0	0	3	1	0	0	0	0	0	0	0	0	6
03:00	0	0	1	5	1	1	2	0	0	0	0	0	0	0	0	10
04:00	0	0	0	3	7	3	3	0	1	0	0	0	0	0	0	17
05:00	3	0	2	4	13	9	4	3	0	0	0	0	0	0	0	38
06:00	2	1	6	9	30	39	16	4	2	1	0	0	0	0	0	110
07:00	17	22	31	19	64	60	16	2	1	0	0	0	0	0	0	232
08:00	31	36	26	41	95	87	21	0	1	0	0	0	0	0	0	338
09:00	16	26	21	53	155	144	21	7	1	0	0	0	0	0	0	444
10:00	20	11	29	84	214	125	33	1	1	0	0	0	0	0	0	518
11:00	26	13	26	61	191	155	20	4	1	0	0	0	0	0	0	497
12 PM	22	30	31	75	157	113	25	3	0	2	0	0	0	0	0	458
13:00	44	36	57	63	187	142	24	4	0	0	0	0	0	0	0	557
14:00	48	33	47	73	145	88	15	8	1	0	0	0	0	0	0	458
15:00	44	34	56	82	181	104	29	2	1	0	0	0	0	0	0	533
16:00	32	49	37	47	126	108	35	3	0	0	0	0	0	0	0	437
17:00	37	44	39	49	131	106	19	3	1	0	0	0	0	0	0	429
18:00	37	26	31	43	101	113	21	2	1	0	0	0	0	0	0	375
19:00	42	19	32	39	97	63	18	1	0	0	0	2	0	0	0	313
20:00	52	0	12	37	94	55	10	1	0	0	0	0	0	0	0	261
21:00	9	1	8	42	83	37	12	1	0	0	0	0	0	0	0	193
22:00	13	1	4	30	65	33	9	3	0	0	0	0	0	0	0	158
23:00	7	0	6	16	40	20	12	1	0	0	0	0	0	0	0	102
Total	505	383	507	883	2205	1622	369	54	12	3	0	2	0	0	0	6545

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/04/23	2	1	1	3	28	26	3	1	1	1	0	0	0	0	0	67
01:00	3	0	1	5	14	11	2	0	0	0	0	0	0	0	0	36
02:00	0	1	0	3	6	5	1	1	0	0	0	0	0	0	0	17
03:00	2	0	1	3	1	5	1	0	0	0	0	0	0	0	0	13
04:00	0	0	0	2	4	3	2	0	0	0	0	0	0	0	0	11
05:00	2	0	0	2	3	6	4	2	0	0	0	0	0	0	0	19
06:00	2	1	0	5	13	38	22	5	0	0	0	0	0	0	0	86
07:00	9	6	22	17	47	50	13	5	1	0	0	0	0	0	0	170
08:00	38	57	49	42	63	69	24	1	0	0	0	0	0	0	0	343
09:00	45	68	74	49	101	71	25	2	0	0	0	0	0	0	0	435
10:00	44	65	69	62	118	88	17	3	0	0	0	0	0	0	0	466
11:00	88	71	65	54	130	75	30	4	0	0	0	0	0	0	0	517
12 PM	100	62	62	106	120	82	15	1	0	0	0	0	0	0	0	548
13:00	70	96	59	88	135	86	23	3	0	1	0	0	0	0	0	561
14:00	84	71	64	68	119	93	22	2	0	0	0	0	0	0	0	523
15:00	81	80	71	82	142	71	20	3	0	0	0	0	0	0	0	550
16:00	91	83	82	74	126	88	17	3	1	0	0	0	0	0	0	565
17:00	62	52	68	68	135	98	23	4	0	0	0	0	0	0	0	510
18:00	38	12	23	47	115	107	26	2	0	0	0	0	0	0	0	370
19:00	29	5	11	31	106	69	17	2	1	0	0	0	0	0	0	271
20:00	36	2	6	30	75	45	12	1	0	0	0	0	0	0	0	207
21:00	4	0	7	20	48	35	5	0	0	0	0	0	0	0	0	119
22:00	3	0	2	12	30	25	8	0	0	0	0	0	0	0	0	80
23:00	3	0	2	9	13	14	6	0	1	0	0	0	0	0	0	48
Total	836	733	739	882	1692	1260	338	45	5	2	0	0	0	0	0	6532

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/05/23	3	0	2	7	10	7	3	1	0	0	0	0	0	0	0	33
01:00	1	0	0	3	5	2	0	0	0	0	0	0	0	0	0	11
02:00	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	7
03:00	1	0	2	3	6	3	0	0	0	0	0	0	0	0	0	15
04:00	2	0	0	0	9	7	3	0	0	0	0	0	0	0	0	21
05:00	2	0	2	3	20	28	16	4	0	0	0	0	0	0	0	75
06:00	7	0	0	8	58	134	65	9	1	0	0	0	0	0	0	282
07:00	23	15	22	31	220	317	90	4	1	0	0	0	0	0	0	723
08:00	29	48	65	83	259	260	59	11	0	0	0	0	0	0	0	814
09:00	41	52	56	67	175	143	34	3	0	0	0	1	0	0	0	572
10:00	30	62	47	88	145	85	26	4	0	0	0	0	0	0	0	487
11:00	42	50	56	76	181	89	18	3	0	0	0	0	0	0	0	515
12 PM	52	55	66	79	197	98	28	4	1	0	0	0	0	0	0	580
13:00	46	58	45	78	172	104	27	6	1	0	0	0	0	0	0	537
14:00	44	49	51	100	184	96	19	3	0	0	0	0	0	0	0	546
15:00	61	63	60	119	164	126	37	4	0	0	0	0	0	0	0	634
16:00	59	49	52	99	197	136	24	4	0	0	0	0	0	0	0	620
17:00	40	51	44	99	195	120	38	7	0	0	0	0	0	0	0	594
18:00	46	32	33	74	177	122	33	10	2	0	0	0	0	0	0	529
19:00	68	22	28	52	116	77	11	2	1	0	1	0	0	0	0	378
20:00	29	8	10	32	108	47	15	0	1	0	0	0	0	0	0	250
21:00	11	1	8	44	65	51	8	3	0	0	0	0	0	0	0	191
22:00	1	0	4	7	38	25	9	1	0	0	0	0	0	0	0	85
23:00	4	2	8	10	14	5	2	1	0	0	0	0	0	0	0	46
Total	642	617	661	1162	2720	2084	565	84	8	0	1	1	0	0	0	8545

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/06/23	0	0	1	9	10	13	6	0	0	0	0	0	0	0	0	39
01:00	0	0	0	3	5	2	0	0	0	0	0	0	0	0	0	10
02:00	0	0	1	0	4	5	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	6
04:00	1	0	0	2	5	4	2	1	0	0	0	0	0	0	0	15
05:00	1	0	1	9	23	41	19	3	1	0	0	0	0	0	0	98
06:00	1	0	1	13	49	139	53	12	5	1	0	0	0	0	0	274
07:00	15	3	12	39	209	338	101	11	1	0	0	0	0	0	0	729
08:00	26	35	42	52	243	298	70	8	2	0	0	0	0	0	0	776
09:00	30	42	40	78	193	146	27	6	1	0	0	0	0	0	0	563
10:00	30	31	40	71	162	107	23	5	1	0	0	0	0	0	0	470
11:00	24	43	51	95	171	86	20	1	1	0	1	0	0	0	0	493
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	128	154	190	371	1079	1179	322	47	12	1	1	0	0	0	0	3484
Grand Total	5001	4344	4929	7891	17935	14695	3925	608	96	31	6	4	1	0	0	59466

Stats		
	15th Percentile :	24 MPH
	50th Percentile :	37 MPH
	85th Percentile :	43 MPH
	95th Percentile :	47 MPH
	Mean Speed(Average) :	35 MPH
	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	32630
	Percent in Pace :	54.9%
	Number of Vehicles > 40 MPH :	19366
	Percent of Vehicles > 40 MPH :	32.6%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	7	6	18	74	188	124	24	3	0	0	0	0	0	0	0	444
10:00	11	13	25	85	145	113	16	3	0	0	1	0	0	0	0	412
11:00	20	6	26	97	181	90	13	3	0	0	0	0	0	0	0	436
12 PM	11	15	22	104	181	112	20	2	0	1	0	0	0	0	0	468
13:00	17	6	22	92	202	119	21	1	0	0	0	0	0	0	0	480
14:00	18	9	41	104	167	140	25	3	0	0	0	0	0	0	0	507
15:00	22	17	34	117	259	184	27	4	1	0	0	0	0	0	0	665
16:00	18	14	40	168	369	259	36	3	0	0	0	0	0	0	0	907
17:00	30	11	44	106	311	263	50	6	0	0	0	0	0	0	0	821
18:00	34	10	19	76	155	113	33	7	1	0	0	0	0	0	0	448
19:00	29	6	6	43	126	92	30	0	0	0	0	0	0	0	0	332
20:00	31	7	8	57	116	75	16	1	0	0	0	0	0	0	0	311
21:00	16	2	2	18	83	44	10	0	1	0	0	0	0	0	0	176
22:00	1	0	2	7	37	31	12	2	0	0	0	0	0	0	0	92
23:00	4	0	1	8	28	28	8	0	0	0	0	0	0	0	0	77
Total	269	122	310	1156	2548	1787	341	38	3	1	1	0	0	0	0	6576

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/31/23	0	0	0	3	10	8	1	1	0	0	0	0	0	0	0	23
01:00	0	0	0	3	7	5	1	1	0	0	0	0	0	0	0	17
02:00	0	0	0	3	2	1	1	1	0	0	1	0	0	0	0	9
03:00	0	0	0	1	4	4	0	0	0	0	0	0	0	0	0	9
04:00	1	0	0	4	8	8	8	1	2	0	0	0	0	0	0	32
05:00	1	1	0	4	16	27	13	2	2	1	0	1	0	0	0	68
06:00	1	1	1	6	35	61	39	2	4	1	0	0	0	0	0	151
07:00	5	1	5	22	133	156	74	8	2	0	0	1	0	0	0	407
08:00	8	4	16	65	191	184	38	4	1	0	0	0	0	0	0	511
09:00	5	4	12	56	162	153	33	4	1	0	0	0	0	0	0	430
10:00	6	6	9	73	173	121	35	3	0	1	0	0	0	0	0	427
11:00	12	9	13	69	231	102	27	4	0	0	0	0	0	0	0	467
12 PM	17	8	24	77	198	129	29	7	0	0	0	0	0	0	0	489
13:00	15	3	18	91	172	103	28	11	1	0	0	0	0	0	0	442
14:00	18	8	17	93	191	124	32	1	0	0	0	0	0	0	0	484
15:00	19	9	34	122	285	207	39	12	1	0	0	0	0	0	0	728
16:00	29	16	29	109	310	253	62	4	1	0	0	0	0	0	0	813
17:00	21	11	31	98	318	303	61	11	2	0	0	0	0	0	0	856
18:00	16	10	12	47	158	132	32	6	1	0	0	0	0	0	0	414
19:00	19	9	7	59	135	88	18	1	0	0	0	0	0	0	0	336
20:00	39	5	17	33	122	74	18	6	1	0	0	0	0	0	0	315
21:00	3	1	4	27	80	52	14	0	0	0	0	0	0	0	0	181
22:00	1	0	7	17	34	21	4	1	0	1	0	0	0	0	0	86
23:00	1	0	3	7	31	15	7	1	1	0	1	0	0	0	0	67
Total	237	106	259	1089	3006	2331	614	92	20	4	2	2	0	0	0	7762

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/01/23	1	0	2	4	12	6	10	1	0	0	0	0	0	0	0	36
01:00	0	0	0	2	10	6	0	2	0	0	0	0	0	0	0	20
02:00	0	0	0	1	4	4	2	0	0	0	0	0	0	0	0	11
03:00	0	0	0	3	3	8	1	0	0	0	0	0	0	0	0	15
04:00	0	0	0	1	11	11	13	5	0	0	0	0	0	0	0	41
05:00	0	0	0	2	14	21	7	8	1	1	0	0	0	0	0	54
06:00	5	2	1	9	35	76	37	7	1	0	0	0	0	0	0	173
07:00	8	0	4	24	86	159	59	15	1	0	0	0	0	0	0	356
08:00	4	5	18	55	173	169	47	7	0	0	0	0	0	0	0	478
09:00	12	13	19	61	165	127	30	5	1	0	0	0	0	0	0	433
10:00	16	8	10	58	181	131	33	1	1	0	0	0	0	0	0	439
11:00	8	7	16	81	203	127	25	4	0	0	0	0	0	0	0	471
12 PM	10	9	15	62	181	144	28	2	2	0	0	0	0	0	0	453
13:00	14	9	13	74	192	115	32	2	0	0	0	0	0	0	0	451
14:00	24	12	22	88	194	133	29	4	1	0	0	0	0	0	0	507
15:00	25	9	27	105	289	186	41	2	0	0	0	0	0	0	0	684
16:00	18	11	19	109	347	317	58	9	0	0	0	0	0	0	0	888
17:00	28	12	25	112	333	238	36	8	1	0	0	0	0	0	0	793
18:00	16	6	9	87	153	193	39	8	0	0	0	0	0	0	0	511
19:00	27	3	8	59	129	122	24	0	0	0	0	0	0	0	0	372
20:00	36	8	14	51	128	72	11	0	0	0	0	0	0	0	0	320
21:00	9	1	8	40	80	61	11	0	0	0	0	0	0	0	0	210
22:00	5	0	3	17	51	30	10	2	0	0	0	0	0	0	0	118
23:00	1	0	0	6	27	27	5	1	1	0	0	0	0	0	0	68
Total	267	115	233	1111	3001	2483	588	93	10	1	0	0	0	0	0	7902

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/02/23	0	0	1	5	9	13	3	3	0	0	0	0	0	0	0	34
01:00	0	0	0	1	10	6	1	1	0	0	0	0	0	0	0	19
02:00	0	0	0	1	2	7	0	0	0	0	0	0	0	0	0	10
03:00	0	0	1	2	9	8	0	0	0	0	0	0	0	0	0	20
04:00	0	0	1	0	5	23	6	2	2	0	0	0	0	0	0	39
05:00	0	0	1	5	18	27	21	0	2	0	0	0	0	0	0	74
06:00	6	1	2	12	38	83	31	13	0	0	0	0	0	0	0	186
07:00	4	5	8	14	80	167	74	15	3	1	0	0	0	0	0	371
08:00	12	2	8	79	159	152	35	8	1	0	0	0	0	0	0	456
09:00	15	9	12	51	182	152	34	5	1	0	0	0	0	0	0	461
10:00	7	7	17	78	148	139	26	5	1	0	0	0	0	0	0	428
11:00	15	12	18	64	162	127	33	2	3	0	0	0	0	0	0	436
12 PM	9	1	20	77	200	153	35	2	0	0	1	0	0	0	0	498
13:00	19	8	15	77	193	143	28	7	0	0	0	0	0	0	0	490
14:00	17	12	13	80	227	128	22	1	1	0	0	0	0	0	0	501
15:00	31	20	37	93	273	203	40	6	1	0	0	0	0	0	0	704
16:00	26	12	28	107	319	249	45	0	0	0	0	0	0	0	0	786
17:00	24	5	23	75	265	197	40	9	2	0	0	0	0	0	0	640
18:00	16	12	16	63	169	124	22	1	2	0	0	0	0	0	0	425
19:00	25	8	7	51	118	91	12	4	0	0	0	0	0	0	0	316
20:00	26	7	12	53	118	67	8	1	0	0	0	0	0	0	0	292
21:00	7	3	7	44	87	47	12	2	0	0	0	0	0	0	0	209
22:00	8	1	4	13	50	36	5	2	0	0	0	0	0	0	0	119
23:00	4	1	2	14	28	29	7	4	0	0	0	0	0	0	0	89
Total	271	126	253	1059	2869	2371	540	93	19	1	1	0	0	0	0	7603

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/03/23	0	0	1	8	16	22	7	1	0	0	0	0	0	0	0	55
01:00	0	0	2	4	4	10	3	1	0	0	0	0	0	0	0	24
02:00	0	0	1	0	9	5	3	1	0	0	0	0	0	0	0	19
03:00	0	0	0	4	5	5	2	1	0	0	0	0	0	0	0	17
04:00	0	0	1	6	10	6	3	2	0	0	0	0	0	0	0	28
05:00	0	0	0	2	15	9	3	3	0	0	0	0	0	0	0	32
06:00	5	0	2	6	32	29	15	4	0	0	0	0	0	0	0	93
07:00	4	2	7	33	60	97	15	2	0	0	0	0	0	0	0	220
08:00	6	6	8	24	115	104	33	3	2	0	0	0	0	0	0	301
09:00	6	8	12	44	136	163	31	3	0	0	0	0	0	0	0	403
10:00	13	1	3	49	174	148	41	4	0	0	0	0	0	0	0	433
11:00	10	9	11	46	182	197	31	2	0	0	0	0	0	0	0	488
12 PM	21	11	19	70	221	119	21	2	2	0	0	0	0	0	0	486
13:00	13	6	12	50	177	119	23	2	0	0	1	0	0	0	0	403
14:00	11	6	13	43	141	129	20	2	0	0	0	0	0	0	0	365
15:00	17	9	15	45	140	111	38	3	0	0	0	0	0	0	0	378
16:00	16	8	13	44	144	95	22	2	0	0	0	0	0	0	0	344
17:00	14	4	14	30	111	100	18	4	1	0	0	0	0	0	0	296
18:00	8	7	9	44	122	94	15	4	0	0	0	0	0	0	0	303
19:00	25	2	3	37	92	73	14	4	0	0	0	0	0	0	0	250
20:00	27	5	11	43	75	70	14	4	0	0	0	0	0	0	0	249
21:00	8	6	13	46	86	63	13	1	0	0	0	0	0	0	0	236
22:00	4	1	2	15	55	32	16	0	1	0	0	0	0	0	0	126
23:00	7	1	3	14	33	28	9	0	0	0	0	0	0	0	0	95
Total	215	92	175	707	2155	1828	410	55	6	0	1	0	0	0	0	5644

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/04/23	0	0	0	7	22	24	3	1	0	0	0	0	0	0	0	57
01:00	1	0	0	2	14	20	4	0	0	0	0	0	0	0	0	41
02:00	0	0	0	4	10	3	3	2	1	0	0	0	0	0	0	23
03:00	1	0	1	3	6	5	3	2	0	0	0	0	0	0	0	21
04:00	0	0	0	1	6	7	3	0	0	0	0	0	0	0	0	17
05:00	0	0	1	2	6	9	3	0	2	0	0	0	0	0	0	23
06:00	5	0	2	2	15	21	14	2	1	0	0	0	0	0	0	62
07:00	6	1	0	2	53	61	18	2	0	0	0	0	0	0	0	143
08:00	5	2	3	21	71	69	21	2	0	0	0	0	0	0	0	194
09:00	4	2	5	39	90	68	21	0	1	0	0	0	0	0	0	230
10:00	11	9	7	51	111	101	14	1	0	0	0	0	0	0	0	305
11:00	19	9	23	70	124	101	23	6	0	0	0	0	0	0	0	375
12 PM	28	9	26	94	159	90	21	2	1	1	0	0	0	0	0	431
13:00	15	9	26	74	177	112	28	1	1	0	0	0	0	0	0	443
14:00	24	15	23	93	160	115	20	1	0	0	0	0	0	0	0	451
15:00	23	22	22	82	128	115	28	6	0	0	0	0	0	0	0	426
16:00	27	12	22	90	126	100	29	0	0	0	0	0	0	0	0	406
17:00	21	8	12	42	104	96	26	0	0	0	0	0	0	0	0	309
18:00	13	16	20	33	106	94	25	2	1	0	0	0	0	0	0	310
19:00	27	10	7	38	101	76	18	3	1	0	0	0	0	0	0	281
20:00	19	1	6	16	76	69	15	3	0	0	0	0	0	0	0	205
21:00	4	0	1	22	54	36	11	1	0	0	0	0	0	0	0	129
22:00	2	0	2	7	27	26	4	1	0	0	0	0	0	0	0	69
23:00	2	0	1	7	20	22	4	0	0	0	0	0	0	0	0	56
Total	257	125	210	802	1766	1440	359	38	9	1	0	0	0	0	0	5007

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/05/23	1	0	0	4	12	2	5	1	0	0	0	0	0	0	0	25
01:00	1	0	0	1	5	4	7	0	0	0	0	0	0	0	0	18
02:00	0	0	0	2	6	4	0	0	0	0	0	0	0	0	0	12
03:00	0	0	0	1	4	3	2	0	0	0	0	0	0	0	0	10
04:00	0	0	0	1	8	11	10	0	0	0	0	0	0	0	0	30
05:00	2	0	0	3	12	20	15	4	2	0	0	0	0	0	0	58
06:00	2	1	0	3	33	58	46	5	2	0	0	0	0	0	0	150
07:00	9	2	2	31	92	162	53	17	1	0	0	0	0	0	0	369
08:00	6	0	6	30	152	173	54	8	1	0	0	0	0	0	0	430
09:00	10	1	22	71	166	115	29	4	2	0	0	0	0	0	0	420
10:00	11	4	17	77	189	154	29	0	1	0	0	0	0	0	0	482
11:00	8	11	20	60	182	114	33	4	0	0	0	0	0	0	0	432
12 PM	14	11	22	71	163	145	28	2	0	0	0	0	0	0	0	456
13:00	18	6	22	72	173	119	19	2	2	0	0	0	0	0	0	433
14:00	13	11	17	77	181	126	36	2	1	0	0	0	0	0	0	464
15:00	29	8	24	115	265	165	34	4	0	0	0	0	0	0	0	644
16:00	16	7	29	142	339	254	54	3	0	0	0	0	0	0	0	844
17:00	27	14	30	122	365	222	32	6	0	0	0	0	0	0	0	818
18:00	21	3	17	61	172	170	29	3	0	0	0	0	0	0	0	476
19:00	21	4	9	46	107	80	24	0	2	0	0	0	0	0	0	293
20:00	11	1	7	25	96	61	16	1	0	0	0	0	0	0	0	218
21:00	5	1	0	34	60	35	9	2	0	0	0	0	0	0	0	146
22:00	1	1	1	6	35	34	6	0	0	0	0	0	0	0	0	84
23:00	2	1	1	10	24	8	2	1	0	0	0	0	0	0	0	49
Total	228	87	246	1065	2841	2239	572	69	14	0	0	0	0	0	0	7361

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/06/23	0	0	2	4	8	8	7	0	0	0	0	0	0	0	0	29
01:00	0	0	0	0	5	7	3	3	0	0	0	0	0	0	0	18
02:00	1	0	0	1	7	3	1	0	0	1	0	0	0	0	0	14
03:00	0	0	1	1	5	3	0	0	0	0	0	0	0	0	0	10
04:00	0	0	1	2	6	5	9	5	0	0	0	0	0	0	0	28
05:00	0	0	0	5	16	25	7	4	1	0	0	0	0	0	0	58
06:00	4	0	2	7	32	83	32	10	1	0	0	0	0	0	0	171
07:00	10	2	1	24	94	179	75	5	1	1	0	0	0	0	0	392
08:00	23	1	13	85	162	130	34	5	1	0	0	0	0	0	0	454
09:00	13	16	21	82	176	98	21	2	0	1	0	0	0	0	0	430
10:00	11	12	13	98	142	118	20	0	1	0	0	0	0	0	0	415
11:00	26	10	20	82	173	83	15	3	0	0	0	0	0	0	0	412
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	88	41	74	391	826	742	224	37	5	3	0	0	0	0	0	2431
Grand Total	1832	814	1760	7380	19012	15221	3648	515	86	11	5	2	0	0	0	50286

Stats		
	15th Percentile :	32 MPH
	50th Percentile :	38 MPH
	85th Percentile :	43 MPH
	95th Percentile :	47 MPH
	Mean Speed(Average) :	38 MPH
	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	34233
	Percent in Pace :	68.1%
	Number of Vehicles > 40 MPH :	19488
	Percent of Vehicles > 40 MPH :	38.8%

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: Delaware Ave Complete Streets Project

Analyst: Juvena

Date: 2024-02-06

Basic Project Information
Project Number: PIN 1761.68
Route Name: US 443
From: Hudson Avenue
To: Grant Street
State: New York
County: Albany County
City: Delmar CDP
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information
Section Length: 1.06 mile(s)
Statutory Speed Limit: 55 mph
Existing Speed Limit: 40 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 4
Area Type: Residential-Collector/Arterial
Number of Driveways: 80
Number of Signals: 2

Crash Data Information
Crash Data Years: 3.00
Crash AADT: 16700 veh/day
Total Number of Crashes: 51
Total Number of Injury Crashes: 11
Section Crash Rate: 263 per 100 MVM
Section Injury Crash Rate: 57 per 100 MVM
Crash Rate Average for Similar Roads: 575
Injury Rate Average for Similar Roads: 163

Traffic Information
85th Percentile Speed: 42 mph
50th Percentile Speed: 37 mph
AADT: 16700 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: Not High

Project Description: Existing Condition

Recommended Speed Limit: 35

Equations Used in the Crash Data Calculations

Exposure (M)
M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)
M = (16700 * 365 * 1.06 * 3.00) / (100000000)
M = 0.1938

Crash Rate (Rc)
Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (17.00 * 100000000) / (16700 * 365 * 1.06)
Rc = 263.11 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (3.67 * 100000000) / (16700 * 365 * 1.06)
Ri = 56.75 injuries per 100 MVM

Critical Crash Rate (Cc)
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))
Cc = 574.79 + 1.645 * (574.79 / 0.1938) ^ (1/2) + (1 / (2 * 0.1938))
Cc = 666.95 crashes per 100 MVM

Critical Injury Rate (Ic)
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))
Ic = 162.62 + 1.645 * (162.62 / 0.1938) ^ (1/2) + (1 / (2 * 0.1938))
Ic = 212.84 injuries per 100 MVM

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: Delaware Ave Complete Streets Project

Analyst: Juvena

Date: 2024-02-06

Basic Project Information
Project Number: PIN 1761.68
Route Name: US 443
From: Grant Street
To: Bethlehem Town Boundary
State: New York
County: Albany County
City: Delmar CDP
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information
Section Length: 0.5 mile(s)
Statutory Speed Limit: 55 mph
Existing Speed Limit: 40 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 4
Area Type: Residential-Collector/Arterial
Number of Driveways: 7
Number of Signals: 0

Crash Data Information
Crash Data Years: 3.00
Crash AADT: 16700 veh/day
Total Number of Crashes: 14
Total Number of Injury Crashes: 0
Section Crash Rate: 153 per 100 MVM
Section Injury Crash Rate: 0 per 100 MVM
Crash Rate Average for Similar Roads: 575
Injury Rate Average for Similar Roads: 163

Traffic Information
85th Percentile Speed: 43 mph
50th Percentile Speed: 37 mph
AADT: 16700 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: Not High

Project Description: Existing Condition

Recommended Speed Limit: 45

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Equations Used in the Crash Data Calculations

Exposure (M)
M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)
M = (16700 * 365 * 0.5 * 3.00) / (100000000)
M = 0.0914

Crash Rate (Rc)
Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (4.67 * 100000000) / (16700 * 365 * 0.5)
Rc = 153.12 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (0.00 * 100000000) / (16700 * 365 * 0.5)
Ri = 0.00 injuries per 100 MVM

Critical Crash Rate (Cc)
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))
Cc = 574.79 + 1.645 * (574.79 / 0.0914) ^ (1/2) + (1 / (2 * 0.0914))
Cc = 710.69 crashes per 100 MVM

Critical Injury Rate (Ic)
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))
Ic = 162.62 + 1.645 * (162.62 / 0.0914) ^ (1/2) + (1 / (2 * 0.0914))
Ic = 237.46 injuries per 100 MVM

Appendix C

Public Involvement Comments

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A3	6/20/2023	Website Alt 1 page	This seems to be the most welcoming alternative offered.	I am all for any option that incorporates bike lanes along Delaware Ave.
A4	6/22/2023	Website Alt 1 page	I think that not changing Delaware is the best solution.	Parents need to teach their children not to walk in the middle of the road like they do in developments
A5	6/25/2023	Website Alt 1 page	I appreciate the consistent road widths and improvements, but see no bicycle infrastructure.	How are bicyclists meant to get to the rail trail and shopping in the district safely?
A6	6/26/2023	Website Alt 1 page	All of the proposals are focused on cars and pedestrians and not bicycles or other modes of transportation (e.g., buses, vans, etc). There should be some effort to integrate these other forms of transportation into the plan, whether by signals or signage or striping. If we want to encourage people to use these alternatives we need to make them feel welcome.	Reduce the speed limit to 30 at the Normanskill. It will make Delaware Avenue safer for all concerned.
A7	6/27/2023	Website Alt 1 page	While repaving and re-striping will make a smoother passage for cars, there are zero solutions for pedestrians to cross safely in more locations on a very busy commercial stretch. This impedes residents who want to patronize these businesses on both sides of Delaware. This Alternative also omits any changes to make cycling safe or more welcoming in our community. Big cities and small cities are making these changes - Bethlehem can and should modernize and be more inclusive by creating complete streets!	This does not change much. It also does not appear to make left turns any easier - a detriment to all residents and visitors to town.
A8	6/27/2023	Website Alt 1 page	I would like to support Alternative 1. I think the other alternatives are catering to a small group of very vocal people rather than the majority that defeated changing Delaware Avenue.	Please stop spending money on proposals that seem to cater to a few opinions.
A9	6/27/2023	Website Alt 1 page	Delaware Ave is already optimally configured for its most important tasks.	I agree with the prior comment that the best alternative is to leave Delaware Ave in its current configuration ... and it saves a bunch of taxpaper funds for other projects/needs. In my opinion, attempting to ride a bicycle on a heavily trafficed street such as Delaware Ave is inherently dangerous. Not only are bicycles harder to see and travel at different speeds than the motor vehicles, they lack all of the safety features (seat belts, airbags, crumple zones, roll cages, etc) that we have legislated into cars to protect against injuries. I certainly agree that folks should have the option/right to ride their bicycles on Delaware Ave if they want, but I strongly disagree with the premise that we should substantially interfere with the motorist traffic in a futile attempt to make this instrinsically dangerous activity a little safer. Given Northeast weather, how many Delmartions really want to regularly ride bicycles on Delaware Ave ? I would argue only a handful of very vocal folks that are trying to inconvenience that vastly larger number of commuters just trying to get home after a long day of work. With respect to curb work, newer designs are not always better. I have already had to replace a full set of tires because the new and improved curbs at the post office entrance were sharp enough to cut through the tire sidewalls.

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A10	6/29/2023	Website Alt 1 page	Widening the road shoulder from 1 foot to 2 feet is still insufficient for bicyclists to ride safely. Yes, many more of us would ride on Delaware Avenue if it were not currently so dangerous.	Reducing the lanes from 4 to 3, with the center lane for turning, and creating more crosswalks are the most important improvements to be made, and it they are the cheapest and least permanent. All you have to do is paint. Then, let people try those changes for a while; they can always be reversed. Trying them on a provisional basis seems like a great way to build support for what is surprisingly controversial.
A11	7/4/2023	Website Alt 1 page	I do not support Alternative 1. While Delaware Avenue needs re-surfacing, it also needs so much more. I believe that, as an absolute minimum, any work on Delaware Avenue must include an expansion of turning lanes, as shown in Alternatives 2 and 2A. As cars travel from Albany into Elsmere, they pick up speed and not simply due to the increase in the speed limit but also due to the road design. Drivers often weave in and out of lanes, putting other drivers, such as those who might be attempting a left turn to Tastee Freez or onto the side streets at risk of injury.	
A12	7/6/2023	Website Alt 1 page	A clear need to have a pedestrian crossing at Salsbury Road and Snowden Ave to connect bus stops to surrounding neighborhoods and add elements (like curb extensions, etc) to slow traffic. Also need a mid-block crossing to connect to Elsmere Elementary that basically extends from the sidewalk from near the bus stop NE of Booth Road.	Lack of bike/micromobility accommodation or transit improvements, station or operations (transit signal priority, queue jumps, etc), is disappointing and not in keeping with the principles of Complete Streets or Vision Zero.
A13	7/6/2023	Website Alt 1 page	Not enough to reduce the craziness of driving here. Let's try the restriping and reduced speeds and see how it goes. I would bike instead of drive here if these things were done. Can always revert back easily if it is a disaster.	
A15	7/6/2023	Website Alt 1 page	This is the most feasible plan	Agree with comments before mine. The vocal minority who claim they won’t cycle to shops aren’t doing the volume of shopping, errand running that those of us who need vehicles to do so are. So it’s highly likely the majority of spending on that end of town is coming from those in vehicles who need four lane access in that area. We live off the rail trail. When we want to bike, we head right into town. The rail trail is perfectly convenient to the heart of town, to the farmers market, to Stewart’s. Enlarging the shoulders accommodates them as well.
A16	7/6/2023	Website Alt 1 page	I don't believe just narrowing the lanes will significantly lower the speed vehicles are traveling. This is a primary route for shoppers and commuters. A 2 foot shoulder is not adequate separation from speeding vehicles for people that cycle to work and shop. The tendencies of drivers to speed more and the growth in vehicle size is causing more violent crashes and greater harm to vulnerable road users. Looking at county statistics on ITSMR since COVID shows less crashes - but more deaths and more serious injuries. Without reducing the size of vehicles, the only way to reduce the kinetic energy in crashes is to reduce the speed. The best way to do that is reduce the number of traffic lanes. If you have a four lane highway, people will drive like it is a four lane highway. Reducing the number of crashes is the other alternative. A separate bicycle lane for cyclists and a separate turn lane for motorists will serve that purpose.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A17	7/6/2023	Website Alt 1 page	We need to have an easier way to drive down the road without interruption and a safe speed. Including all these stops will cause more problems with the commute.	The only thing that should be done is re-pave the road. There is a bicycle trail literally parallel to the same area roadway that covers the entire distance. It takes too long to get down Delaware ave, I have no issue with low speed limits but all this stuff is unnecessary and a colossal waste of money.
A18	7/6/2023	Website Alt 1 page		Given the large number of curb cuts along the 1.3 miles of road, incorporating bike lanes into the design is an invitation for disaster as vehicles would be turning across the bike lane to enter various side streets and businesses along the corridor. Bike lanes would not improve safety, they would reduce safety for cyclists, young and old.
A19	7/7/2023	Website Alt 1 page	I like the repaving. I don't like that most of these proposed changes do not seem to reflect the reality that many Delmartians commute east in the am and west in the pm on Delaware. Rather than slow down traffic, consider how to move vehicles more efficiently. Some strategies that would help - signs to remind drivers to stay in the right lane unless passing, timing the signals so traffic flows more continuously, repairing and leveling the road so cars don't swerve around dips and sewer covers at corner of Delaware and Elsmere and in front of Delaware Plaza, and increase access to/from the Rail Trail at spots like behind Delaware Plaza so bikers would use it more than ride on Delaware.	Restricting traffic on Delaware will have the unintended consequence of increasing traffic and speeds on Kenwood which is densely residential, only 2 lanes, and has more school bus traffic than Delaware.
A20	7/7/2023	Website Alt 1 page Website Alt 2 page Website Alt 2A page	Sign to indicate the Dunkin Donuts drive-thru is full (like one at Glenmont location). Traffic backs up onto Delaware Ave and is a hazard.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A21	7/7/2023	Website Alt 1 page Website Alt 2 page Website Alt 2A page	I believe Alt. 2 is the best of the options presented - however, it is lacking in several respects: 1. Like all three options, Alt. 2 fails to provide a protected left turn between Elsmere and Euclid, and also between the CDTA lot and Lenox. The lack of a protected turn lane is a major cause of accidents in this corridor, and should be properly addressed in this re-design. 2. The pedestrian islands in Alt. 2 and 2A (as well as the raised barrier islands in 2A) are well intentioned, but are a barrier to the frequent emergency traffic in this corridor. Moreover, DOT maintenance of pedestrian infrastructure is notoriously lacking - if history is a guide, these improvements will quickly fall in disrepair. 3. While only experienced cyclists tend to use Delaware Avenue, the 2' shoulder is unusable. Historically, DOT fails to clean road shoulders with any regularity, and cyclists are forced to ride in the travel lane anyway. It's better to simply acknowledge this and provide a design that reflects reality. 4. While the HAWK signals are also well-intentioned, they are no substitute for legitimate traffic signals with pedestrian countdown timers - there is plenty of evidence to support this. Additionally, the location of the added signalized crossings could be optimized. 5. The retention of the 40 MPH speed limit makes little sense considering the commercial density and traffic volumes in this corridor, and even less so in the westbound direction considering the short distance between the 30 MPH school zone and the 30 MPH sign at the rail trail bridge. 6. The added sidewalk on the east end of the project doesn't appear to have a sufficient buffer strip. Historically, DOT operates its snowplows at excessive speed, throwing snow and ice back onto the sidewalks after the Town has already cleaned them. Sufficient buffer strips are a remedy.ewalks.	I do not believe that any of the current design options properly balance the needs of pedestrians, motorists, emergency traffic, and cyclists. While there is no "silver bullet" redesign of this corridor - particularly with the ROW constraints - that will make everyone happy, the designers should pay closer attention to the recent Fuller Road roadwork between Railroad and Central. This redesign not only reduced accidents and improved capacity, but also reduced the actual travel speed and improved non-vehicular access at the same time. Some of these features could be readily incorporated in this project. Using Alternative 2 as a starting point: 1. Reduce the speed limit through the corridor to 30 MPH, with a 20 MPH limit at the school zone only. While the speed limit signage by itself doesn't necessarily slow traffic, the narrowing of the inner travel lanes and added signals (see below) will provide this benefit. 2. Remove the inner eastbound lane between Elsmere and Euclid, and also between the CDTA lot and Lenox. Add a 10' protected turn lane in these locations and provide proper signage. 3. Instead of the HAWK pedestrian signals, provide full traffic signals with vehicular sensors and coincident pedestrian countdown timers, relocated to the Salsbury and Lenox intersections, along with other typical pedestrian improvements (crosswalk markings, H/C ramps, etc.). These signals will not only provide a greater degree of pedestrian crossing protection, but will also properly manage peak-period traffic for motorist left-turn access to the nearby side streets.
A21	7/7/2023	Website Alt 1 page Website Alt 2 page Website Alt 2A page		4. Remove the white fog lines on the outer lanes in both directions (increasing lane width to 13.5 or 14'), and provide "shared access" signage and pavement markings for cyclists. 5. Remove any raised islands or unnecessary hardscape features that limit emergency traffic flow. 6. Increase the buffer strip width adjacent to any new sidewalks.
A22	7/7/2023	Website Alt 1 page	Alternative 1 is the only acceptable option, hopefully, with a speed limit reduction to 30 mph the entire length of Delaware Ave within the town which would increase the safety of everyone. Encourage healthy lifestyles by encouraging walking between current stop lights. The other two options do not promote safe streets for everyone and are unacceptable.	Islands in the middle of Delaware Ave would increase safety concerns for pedestrians and bicyclists due to distracted motorists mowing them down. Islands would get damaged from plowing or plow blades would get bent hitting islands costing taxpayers plenty. Distracted drivers will glance off islands into other vehicles causing damage, injury or death.

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A23	7/7/2023	Website Alt 1 page		There are a lot of comments that I agree with on here, but there is one in particular that I am most in agreement with. I think any design needs to pay more attention to the pedestrians and children at the Elsmere school. I am a frequent walker on this portion of Delaware and what makes walking difficult is the how close the sidewalk is to the car lanes (no buffer) and how thin the sidewalk is. Is there any way to purchase more land to make bigger right-of-ways or maybe put a sidewalk on only one side of the street and make it a safer sidewalk? I would really like to see better pedestrian access especially for kids. Crossing has never been an issue for me as I usually cross where it is safer such as near the CVS or Delaware Plaza. I'm wondering whether crossing has been an issue for people and whether this might be resolved with an additional light instead of medians. There are a number of comments about biking on Delaware Avenue and people commenting on how they would prefer to use Delaware instead of the Rail Trail. Most of the people that I speak with feel much safer biking on the Rail Trail. Adding bikes to Delaware is unsafe for everyone, especially with the large number of curb cuts on this particular stretch. I don't know if people realize what is unique about our rail trail. It is the only one in the state that cuts directly through the business areas of where it passes. That is why before the rail trail there was discussion of making it into a mass transit corridor. I can get to every business fairly easily on this small stretch of Delaware through the rail trail. I would support the town spending money on improving the connections between the trail and the businesses and the connection between the trail and the Normanskill Bridge although biking on Delaware Avenue through Albany is about the worst option you can have as there are no bike lanes and the road is not wide with cars parked on both sides, but people seem anxious to want to do that. Lastly, one of the most important things we can do to improve this portion of Delaware is to work with the businesses on facade and landscaping improvements and implementing
A24	6/20/2023	Website Alt 1 Comment	the speed limit being 40 mph on the road and 30 mph on the Elsmere Elementary School side isn't sensible; the kids walk on both side of the road; although no one seems to drive the lesseR speed limit MOST OF THE TIME! i THINK THERE SHOULD BE MORE WAYS TO SLOW CARS DOWN, NOT ALLOW THEM TO IGNORE THE SAFTY ISSUES.	
A25	6/20/2023	Website Alt 1 Comment	I don't see any of the plans addressing safety concerns in front of Elsmere Elementary. There is no protection for children waiting to cross Delaware Avenue - cars making a right-hand turn from Elsmere to Delaware are inches away from kids and often speed through the turn. Additionally, the block between Groesbeck and Herrick is crowded with walkers and bikers during arrival and dismissal time, yet there is no buffer between the sidewalk and the road. I would request a physical barrier, such as the median with flowers or trees in one of the alternative plans, between the sidewalk and Delaware on both sides of Delaware in the area surrounding the school.	
A26	6/28/2023	Website Alt 1 Comment	Ageee. I would like to support Alternative 1. I think the other alternatives are catering to a small group of very vocal people rather than the majority that defeated changing Delaware Avenue. Please stop spending money on only a few. These places atleast have sidewalks.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
A27	7/6/2023	Website Alt 1 Comment	I do not see any cycling infrastructure in this plan. You won't get many people off the trail to visit shops on Delaware Ave. They will be passing through, not stopping. This does not meet the needs of all users.	
A28	7/7/2023	Website Alt 1 Comment	Couldn't agree more with first comment. The road north of Elsmere is a major connector to Albany but what about 32? Not many towns have a bypass that works fine and rarely has heavy traffic. Town has studied the "corridor" to no end. Bike trail is a great amenity and yes we do have sidewalks for pedestrians. 18 comments show that plenty of folks like to "talk" about their preference but few really care to be part of planning and design team. Time to move forward and start looking at the other parts of town that are dealing with traffic issues as we grow.	
B1	6/20/2023	Website Alt 2 page	I love all the ideas. Especially the ones which encourage slower vehicle movement. The mid-block crossings are a great idea. Some feedback about this one: "The potential improvement shown includes a new delineated mid-block roadway pedestrian crossing in the vicinity of Salisbury Road in which pedestrians would have the benefit of High-Intensity Activated Crosswalk (HAWK) signal stopping vehicular traffic when they are present. The HAWK signal would only activate when pedestrians are present, minimizing motorist delays." - I love this, although I think it should be moved closer to Phillips Hardware, as the next closest place to cross Delaware is way down by the CVS. And there's already a spot to cross Delaware by the intersection at Delaware Plaza.	Thank you for putting this together. I would love to see this portion of Delaware be as calm as the area by Swifty's and the four corners. By Swifty's, all roads are 1 lane in each direction and it's completely fine. I'm not sure what other parts of Delaware need to be 3 or 4 lanes. 2 total lanes is ideal in my opinion. Thank you, John DeBois 27 Herrick Avenue
B2	6/20/2023	Website Alt 2 page	I like both alternatives 2 and 2A due to the traffic calming effect and increased usability of this part of Delaware Ave. I only have 2 concerns. 1. Exiting Hoffman Carwash onto the one lane section may result in a backup through the car wash. 2. Groesbeck left turn would need a left turn signal added to ensure safe access to Delaware Ave. It's currently an issue with people taking a left out of Groesbeck interfering with those taking a right from Elsmere onto Delaware Ave.	Excellent compromise. I do feel that the speed limit needs to be reduced to 35 or 30 MPH in this section as well.
B3	6/21/2023	Website Alt 2 page	It is a mistake to block one lane on Delaware Avenue at the crossing with Groesbeck/Elsmere for cars going in the direction of Albany. Very few of these cars make a left turn to Groesbeck while many more cars stay on Delaware or turn right on Elsmere Ave. As it stands, this alternative will generate long lines of cars on the only lane left for drivers who do not want to make a left turn to Groesbeck. Traffic on Elsmere Ave. is much more dense than on Groesbeck. The plan should take that into account.	
B4	6/22/2023	Website Alt 2 page	I think that not changing Delaware is the best solution.	I've walked portions of Delaware at different times and don't see a problem
B5	6/25/2023	Website Alt 2 page	I like that there is additional safety measures included in this design for pedestrians, but I see no bicycle infrastructure.	As engineering consultants, whose mission is to "reduce our environmental footprint and bring greener solutions to our clients", how is it possible that you have over looked bicycle infrastructure?

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
B6	6/26/2023	Website Alt 2 page	All of these plans mention features to ensure the safety of pedestrians. But none of these plans make ANY mention whatsoever of any kind of features or infrastructure to assist or protect bicyclists, who are legally equally entitled to use the right of way as much as pedestrians or motor vehicles. Without any written justification as to why cycling safety features have not been included, both of these primary plans appear to ignore current NY DOT regulations mandating consideration of cycling infrastructure for road improvement plans. Additionally, in this era of vehicles that are larger than ever, I'm at a loss to understand how narrowing lanes will slow vehicle traffic as stated. With attendant increases in distracted driving, both of these plans seem to only ensure that four lanes of larger vehicles will be moving at unsafe speeds closer together, and that bicyclists forced to share traffic lanes with those vehicles will be in greater danger than before.	See above
B7	6/27/2023	Website Alt 2 page	Dedicated turn left turn lane for Groesbeck makes no sense.	I agree with the prior post that a dedicated left turn lane from Delaware onto Groesbeck is unwarranted given that the vast majority of traffic proceeds straight on Delaware, or turns right onto Elsmere. Many years ago (after a fatality at the Delaware/Elsmere intersection) I distinctly remember signing a petition to have a dedicated time (with cars stopped in all directions/turns) to allow pedestrian crossing. It seems like this is an appropriate and sufficient concession from the motorists to assure pedestrian safety. If pedestrians remain in the crosswalk and cross during their designated time there should be no need to further interfere with the motorists on Delaware ave.
B8	7/2/2023	Website Alt 2 page	Happy with Alternative 2 and 2a. Our concern is the entrance to Hoffman's Car Wash (West) with left turn only lane will have traffic backed up with vehicles trying to enter Hoffman's Car Wash. Exiting Hoffman to go East will also be more difficult with lane limitation. This will create backup in Hoffmans Car Wash. Also, is extra drainage included in these plans at the exit of Hoffman's car wash?	Happy to see that change is in the works. Concern is that Delaware Avenue is now too developed for lane limitations. While bike lanes sound nice, realistically the road is too busy to keep bikers safe.
B9	7/3/2023	Website Alt 2 page	Being a commercial property owner that is directly affected by these changes, we feel alternative 2 is the best and safest option for the development of this area. The single lane will slow traffic entering the town of Bethlehem, and the turning lane will allow for safer and more effective entry to and from the establishments on this stretch of Delaware Avenue. We agree with the town's thought of making this area more pedestrian and bicycle friendly.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
B10	7/6/2023	Website Alt 2 page	I like the various improvements to slow traffic on the road - the added pedestrian crossings, the narrower lanes, and I appreciate the added separation between the travel lanes and the sidewalks. I am concerned that there isn't enough attention being paid to the elementary school. A median at the signaled intersection nearby isn't enough. Children walk and bike along a longer stretch of this road and there needs to be more separation between them (and all other pedestrians) and the traffic. I also don't see the reasoning behind the removal of a left lane ON Delaware when completing the left turn off Groesbeck. There is a lot of traffic coming out of that road at the end of a school day, and I think this will just cause more problems. But then again, if it was safer for people to walk or bike their kids to school, maybe there wouldn't be so many cars on the road in the end.	In general, this road is a hot mess. It's ugly, it's broken, it's dangerous, it's too fast. We can't settle with just repaving it and then painting it back to how it is. Vehicles travel too fast and don't seem to give much thought to other users of the road not in a car. We need more traffic calming/slowing measures added in, and definitely more done near the school to get people to pay attention and just relax while driving. It needs to be a more welcoming entry point to our town, though I don't think it needs the median/gateways outlined in option 2A.
B11	7/6/2023	Website Alt 2 page	Possible opportunity to work with CDTA to consolidate stops and build a more robust mid-block crossing at this location. A mid-block crossing at Elsmere Elementary should also be added	Huge improvement over Alternative 1. The single lane design (or addition of bike/micromobility lanes) should be extended throughout the study area. While this may lower the level of service for vehicles, the safety and economic development benefits would likely outweigh whatever (likely small) delays that may result.
B12	7/6/2023	Website Alt 2 page	I love the ideas to reduce the craziness of driving here. I would bike instead of drive here if these things were done.	
B14	7/6/2023	Website Alt 2 page		I agree that a crosswalk is needed here!
B15	7/6/2023	Website Alt 2 page	'd like to see anything that can make this intersection safer for the vehicle turning left and right onto Delaware from Hudson.	
B16	7/6/2023	Website Alt 2 page	The gateway concept would at least extend the traffic calming two-lane road with turn lane on the East end of the area so that cyclist shoppers and cyclist commuters coming from nearby neighborhoods or the rail trail could have a 3 foot shoulder to ride on and slower motor traffic to deal with. The rest of the plan suggests there is satisfaction with making the rest of the area of no-go zone for the growing population of people that use or wish to use bicycles to get around. With the average cost of the average vehicle well over $10,000 per year such road systems guarantee limited transportation and economic opportunities for significant portions of the population or guarantee they will need to suffer the effects of crushing debt to support road infrastructure that saves some people seconds of travel time. The whole study area should be two lanes with a turning lane and a wide shoulder or bike lane in each direction.	
B17	7/6/2023	Website Alt 2 page	The crosswalk at Delaware and Elsmere by Berkshire Bank needs to go corner to corner, not straight across the road. This is not a safe design.	Crosswalks should be as current pattern.

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
B18	7/6/2023	Website Alt 2 page		When the Road Diet was proposed and voted on a couple years ago, elected officials and representatives from the Town told us that we needed to approve the then-proposed project otherwise we would lose federal funding or grant money that was to go toward that project would be lost. Did that happen? It certainly does not appear so, as officials discussed the availability of that federal funding for these new proposed designs. Can we get some clarification on that point as we consider these new proposed designs? Are there possibly other designs that would allow us to use the funds that we were told we'd lose access to if the first Road Diet was voted down (as it was)?
B22	7/4/2023	Website Alt 2 Comment page	While I understand your concerns about Hoffman's Car Wash, these problems already exist - there are back ups on Delaware at various times with vehicles trying to enter the car wash, and vehicles exiting the car wash to head east currently face challenges as well. But it is also very challenging to enter Delaware Avenue (particularly if you want to head west) from Old Delaware Avenue, the laundromat, Tastee Freez, and Grant Street, often due to the vehicles trying to enter and exit the car wash. I favor a turning lane because the speed limit increases when a driver leaves Albany and enters Elsmere. Drivers sometimes weave in and out of the lanes, and I don't think some drivers expect to see someone stopped in a lane trying to turn left. (I've been rear-ended when trying to make a left turn in this section of Delaware.)	
B23	7/6/2023	Website Alt 2 Comment page	Traffic calming and more crosswalks are great. Sidewalks are great. There are no bike lanes in this plan with 4 lanes of car traffic. This is your chance to make this road better for all users. This is your chance to make it safer and to bring people together, not to have them passing through at fast speeds. How do cyclists from the trail use Delaware Ave? They don't.	
B24	7/7/2023	Website Alt 2 Comment page Website Alt 2A Comment page	Frankly, I don't understand the rationale of having a two way center turn lane heading into Elsmere from the bridge. In the part closest to the bridge, there is hardly anyplace to turn. Then, as you get to the car wash across from Tastee Freez, you have lots of traffic which would create a dangerous situation with opposing traffic wishing to use the turn lane. Better to keep it 4 lanes. Similarly, I don't understand the rationale for a crosswalk in this same area. People drive their cars to the car wash. Who is going to use a crosswalk in this area? As I have publicly stated in the past, I think that a decreased speed limit should be investigated. That, along with strict enforcement, would take a big step to enhance safety on this stretch of Delaware Avenue.	
C1	6/20/2023	Website Alt 2A page	I like that this narrows the flow of traffic and creates more aesthetic elements. The elements for pedestrian safety are also great. I think this is the best option.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C2	6/20/2023	Website Alt 2A page		I am strongly in favor of proposal 2A. It is future- oriented for traffic calming, commercial access, and encouraging pedestrian and cycling along this important corridor. While people currently are used to this section of Delaware Ave. at higher speeds, it's incongruous with the section coming from Albany and after the rail-trail bridge. In the longer run, I think it will be a major improvement for our town.
C3	6/21/2023	Website Alt 2A page	This is the best plan!! I used to stop at Delmar Beverage Center on my home home. Taking a left turn across two oncoming lanes was a nightmare. On coming cars would dash between two lanes and I had to guess which lane will be free. Also I am blocking traffic behind me so those cars and panicking lane change. Now when I used to leave Delmar Beverage taking a left turn was even worse. Looking both directions I had predict where the cars will be when I take a left turn. And god forbid I miss a cyclist coming on my left or when I get back onto the westbound another car cuts off a cyclist I have experienced a few road diets in the area, like Madison Ave and I feel it's so much more better	
C4	6/22/2023	Website Alt 2A page	I think that not changing Delaware is the best solution.	None of these changes will improve the street. Why not just clear the street of all businesses and add extra lanes. This will eliminate the fears of diminished ability shoppers
C5	6/24/2023	Website Alt 2A page	I don't see any safe improvements for cyclists. The 4 lane stretch between Elsmere and the bridge past Jiffy Lube is treacherous by bike. expanding the shoulder another foot at least is better, but should also be in conjunction with lowering the speed limit to 25 or 30. As it is now, cars speed through at 45-50.	This comment pertains to any of the options. Asking cyclists to rely on the trail for safety is not a great option. There are limited access points and riding on the sidewalk is not legal.
C6	6/25/2023	Website Alt 2A page	Why were no bicycle counts conducted?	CHA states a mission to "reduce our environmental footprint and bring greener solutions to our clients," yet no bicycle infrastructure has been included.
C7	6/27/2023	Website Alt 2A page	This is the worst of the alternatives ...	I object to further attempts to narrow Delaware Ave and place obstatcles in the roadway as was already defeated in the recent referendum. I also object to the Town repeatedly spending our tax dollars on Engineering Studies (this one, and Kenwood Ave) that are unnecessary and not supported by the majority of Town residents. Rather than investing in more engineering studies, how about just having a referendum to see if a majority of town resident support lowering the speed limit on Delaware Ave ? My guess is that it would be soundly defeated, just as one would have if offered on the Cherry Ave extension speed reduction. Lowering a speed limit without demonstrating a clear public consensus is just going to result in more people deliberately ignoring the posted signage (i.e. Civil Disobedience).

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C8	6/28/2023	Website Alt 2A page	I like that the speed limit will be lowered. But , more importantly that devices and road lines will be added to actually slow the traffic down. I do not like that there are not designated bicycle lanes to make access to neighborhoods and business accessible by bikes.	I have lived behind the Ellesmere grade school for 60 years. The speed and number of vehicles have increased over the years making this stretches of road one of the most dangerous in the Capital District. I use this road on my bicycle to travel to work, shop at the Delaware Plaza since I was a child. Today I would never take my grandchildren or recommend to others to do the same. It is simply too dangerous and I would feel responsible if they were injured or killed.
C9	6/29/2023	Website Alt 2A page	The center island idea is a great one in theory, but I would rather see the space devoted to wider shoulders to allow bicycle traffic that doesn’t interfere with cars. Also, I wonder if such islands merely encourage jaywalking. It seems like the dedicated crosswalks of alternative 2 are sufficient to protect pedestrians. The most important improvement that could be made is to reduce lanes from 4 to 3 all the way from the CVS to the bridge over the Normanskill, with the center lane for turning. This would be a great advantage to drivers, who currently have great difficulty making turns and also entering the roadway from businesses along the side. Allowing some room on the shoulder also enables drivers to maintain speed without having to change lanes to accommodate bicyclists.	
C10	6/30/2023	Website Alt 2A page	I strongly support 2a. Delaware Ave needs all the traffic calming and safety improvements it can get! We need as many options for bikes and peds as possible.	It is so disappointing there are no real bike lanes. I understand why that happened (with the referendum) but I don't think the community has an idea how far behind others we are going to fall without bike lanes. The Normanside area neighborhoods are THE gateway to Albany bike/bus routes for state employees, and have more affordable homes for young families. Please think about the future, neighbors!!!
C11	7/2/2023	Website Alt 2A page	I like alternative 2a best. I realize it is compromise. I am against the “no change” concepts. I like the additional cross walks, which are sorely needed. I’ll take the 2 feet for bicycle but 4 feet is needed.	I would like to see small trees in the raised medians, similar to the Saratoga park Rt 9 section. This helps alert drivers to the crossings and thus safer. Also more tree planting needs to be included similar to the tee planting in front of hannaford plaza. The stretch of road in front of Bank of America and Albany med are particularly ugly and need of denser tree plantings w a narrow green strip instead of parking and pavement. There are other locations throughout the project that would benefit w street trees especially the storefront parking lots that are paved to the street.
C12	7/3/2023	Website Alt 2A page	I like this plan best and though I wish for more dedicated bike paths, it doesn't seem to be an option. There is no reason for Delaware Ave to speed up after leaving Albany and then slow down again after CVS, so slowing the traffic makes sense and will be safer. People will make up the time by not having to wait behind someone trying to turn left forever. This plan will be a significant improvement to this area, both in terms of encouraging transportation alternatives, making it safer to use that part of town, and in making the area near Hannaford toward Alb, which is pretty ugly now, generally look nicer. And though it's the only way to get to that part of Albany by bike, that section of Delaware is scary to ride, currently.	There is no reason cars should be prioritized over all other modes of transportation. The road should be safe for people, no matter the conveyance.

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C13	7/3/2023	Website Alt 2A page	Being the vacant commercial property owner located immediately adjacent to the proposed raised median with planter, we feel there are a number of concerns regarding the access and safety in this area. This median will restrict access to any future development at this site, and with this site currently listed on the real estate market, future development is imminent. As you know, with commercial lot planning, the location of the ingress/egress will vary based on the developer/development. Second to restricted access to our property, this raised median will impact the acceleration lane to our neighboring commercial property owner. As we are in favor of making this area more pedestrian and bicycle friendly, the raised median poses a safety concern when allowing for caution while driving alongside bicyclists. There will be no additional space to move over as needed. In addition, this raised median presents the same safety concerns for emergency vehicles.	
C14	7/6/2023	Website Alt 2A page	I like alternate 2a. I like the idea of a center median refuge area on the busier sections. The raised medians could use trees or other indicators to cars.	I wish we could get more than 2 feet for bike riders.
C15	7/6/2023	Website Alt 2A page	I like the alternative 2a the best as it adds the medians and the Hawkeye system.	
C16	7/6/2023	Website Alt 2A page	Should add mid-block crossing here in front of the school as kids will likely cross where it is convenient for them, it our responsibility to make sure they are safe. Putting in the mid block crossing and improving the intersection at Groesbeck/Elsmere will send the message that this is a place that people's lives should be more important than drivers' convenience.	Should still add bike/micromobility lanes, look at CDTA bus stop consolidation, further improved and more frequent crossing treatments, more opportunities for planted, vertical elements, coordinated stop lights & crossing signals.
C17	7/6/2023	Website Alt 2A page	Delaware Ave in the study area is super unpleasant now. I avoid it. The shopping experience will improve for me if it was more pleasant to drive, walk or cycle there. I don't avoid four corners and I do feel more comfortable biking in street and walking on sidewalks there.	
C18	7/6/2023	Website Alt 2A page	I love this alternative in general. Delaware Ave in the study area is super unpleasant now. Drivers are going too fast for all the curb cuts. Few walk the sidewalks and no one bikes there because it is too dangerous. I wish there were more than 2 ft allowed for bicycling.	
C19	7/6/2023	Website Alt 2A page	A crosswalk here is important for people crossing Delaware around this area. The country club at the end of Salsbury Rd means people will be walking and biking there.	
C20	7/6/2023	Website Alt 2A page	Could something be added to the road diet to help with vehicles turning left and right from Hudson Ave. onto Delaware Ave.? Keep the speed limit at 30 MPH here? A yield sign on Delaware? Something!?	
C21	7/6/2023	Website Alt 2A page	I'd like to see slower traffic & easier crossings on Delaware	Median seems like a good plan
C22	7/6/2023	Website Alt 2A page	Option 2a is the best of the three options presented but still a bare minimum to achieve traffic calming and greater pedestrian safety. The plan does not appear to do much to improve bicycle safety.	Long overdue and cannot start soon enough!

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C23	7/6/2023	Website Alt 2A page	This plan is the worst of the three. We need to work on moving traffic through the area. Safe low speeds are important but we don't need to reduce traffic flow areas.	Please replace the road this year like the Town promised when the road diet was defeated the first time. It would be nice if you listened the residents and their votes and just replace the road and not change it. Thank you.
C24	7/7/2023	Website Alt 2A page	Alternative 2A goes a long way towards improving pedestrian safety of this section on Delaware Avenue.The enhancements outlined are significant and will encourage the NYS DOT to give strong consideration to lowering the current speed limit of 40 mph. This is the only remaining segment of Delaware Avenue with a 40 mph limit. Before and after this segment it is 30 mph. The enhancements will cause motorists to drive slower in this section and a new speed limit is warranted. There are a number of people who work in the Delmar community business establishments and commute by bicycle from Albany. The are now traveling on a high risk roadway and need improvements to insure safe travel to and from Albany. There are also a number of Bethlehem residents who travel by bicycle to Albany for work and they are continuing to ask for a safer roadway to travel on. Bethlehem would be remiss in not finding additional measures that would enhance the safety of all users of this roadway. Having such a short section of roadway remaining as a four lane highway while the connecting sections are two lanes does not improve travel times for drivers in any significant way. Alternatives to the four lanes will improve safety for the vehicles that need to make left or right turns into the many businesses on this busy road. Many motorists currently are switching lanes at 40 mph to avoid other vehicles that are turning in front of them and this increases the crash potential. Having a center turn lane reduces the potential of vehicle accidents and gives those vehicles more opportunity to pull into a local business.	
C25	7/7/2023	Website Alt 2A page	The street	
C26	7/7/2023	Website Alt 2A page	We support the 2a alternative plan as the best way to create a safe, inviting environment for all users. This stretch of Delaware avenue needs slower traffic and more pedestrian crosswalks to improve the safety of the road for all users in our community. It's also important that they are moving traffic lanes further from sidewalks. Since it appears bike lanes are no longer an option, bicycles will be sharing the road with cars. Shared lane marking should be painted on the road and posted with signs to remind drivers that they share the road with bicycles. The gateways are needed to calm the traffic on this stretch of road. The speed limit should be reduced to 30 MPH to improve safety. These are important, proven safety measures. It would be nice to have trees planted along the roadside too.	
C27	7/7/2023	Website Alt 2A page	Alternative 2a is the best of the given options, but it is lacking. This plan should include bike lanes or shoulders wide enough to be used as such, stop lights and 30 mph speed limits in both directions. From the perspective of a pedestrian crossing a four-lane road, there is something inherently unsafe in having to gauge the speed of vehicles going 30 on half of the road and 40 on the other. I am also wary of crossings in which there is any ambiguity regarding whether cars are obligated to come to a full stop, or those in which the burden of vigilance is placed mostly on the pedestrian.	This is a residential community before it is a business district, but enhanced walkability will only improve prospects for commerce. The potential of this area is currently wasted in empty storefronts, dilapidated plazas, and businesses that residents of other parts of Bethlehem enjoy using but would not have in their own neighborhoods. The neighborhoods of Elsmere buffeting this stretch of Delaware Avenue would be a strong community, given the chance. It deserves its own main street as safe and attractive as anywhere else.

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C28	7/7/2023	Website Alt 2A page	2a has the best potential for achieving a balance between pedestrian and vehicular traffic safety. However, I did not see speed limit reductions as part of any of the proposals(maybe I missed it) . I think that in addition to reduction of lane width a reduced speed limit is needed in the whole corridor, i.e. 30 MPH from Albany (30mph) to Elsmere(which starts 30 mph E-W). the current Changing speed limits make enforcement more difficult and provide drivers an excuse of ignorance of the changes. BTW: enforcement is going to be a major component of success in improving safety in this corridor; increased use of radar, patrols, cameras,signals and signage are all necessary to change the speeding culture.	Consideration should be given to combining access driveways, narrowing wide uncurbed frontage that allows access across the whole frontage; allow side street access to businesses to funnel more turning traffic to the side street which access Delaware Ave in order to reduce direct driveway access to Delaware ave. Also please consider signage and signals that make it clear this is a "safety corridor" that alerts all users to the changes and intent of increasing safety, improving business access and egress . The location selected below should be interpreted as a precise location of my comments ; my comments apply to the overall concept of 2a.
C29	7/7/2023	Website Alt 2A page	I like the additions of pedestrian crossings various traffic slowing and calming structures and configurations. I feel strongly that the speed limit for the entire length of Delaware Ave in this project should be reduced to 30 miles per hour for consistency and safety. Since there are no bicycle accommodations and no buffer for pedestrians, which bike lanes would have provided, 30 mph will help make this roadway safer for all users. Repaving and restriping the road is essential, and wisely included in all 3 plans, since funding is provided for this; please also consider including shared lane markings and share the road signage. Thanks!	I walk, ride my bicycle and drive throughout town daily. When crossing Delaware Ave on foot, I try to cross where I can wave one of the red flags provided, or at Stewart's where there is a flashing signal and still, it is life threatening crossing anywhere unless cars stop in both directions and this is rare. When cycling, I avoid riding on Delaware Avenue because it is treacherous for bicyclists. When crossing Delaware I generally have to get off of my bike and use it as a barrier to protect myself from drivers. In order to ride into Albany, I must either ride on the sidewalk or risk being stuck by a car. Gratefully, the shoulder on the bridge across the Normanskill is fairly ample. Although opponents of bicycle lanes seem to think that I can ride the trail and get where I need to go, this is not the case. The trail is great as long as you just want to ride, but if you are trying to get to a specific place on Delaware Ave, well, you need to ride on that road. It currently is not safe to do so. I was emotionally crushed when the public voted down the Complete Streets project as previously proposed. I have seriously considered moving out of town, knowing that so many town residents are opposed to me riding and walking safely within it. I am hopeful that the changes proposed in 2a, and modifications suggested by other commenters as concerns bicycle infrastructure and safety for pedestrians and cyclists are implemented. Thank you for considering various options.
C32	7/7/2023	Website Alt 2A page	I support option 2a. I was a fan of the road diet plan and this appears to most closely achieve the intent of that plan.	
C33	7/7/2023	Website Alt 2A page	Best for pedestrians and for calming road. Although no bike lanes, still much better for cyclists with the wider shoulder.	This stretch of road is a nasty throwback to the 1950s. Let upgrade it to meet modern needs as much as possible.
C34	7/7/2023	Website Alt 2A page	I feel Plan 2a is the safest option. I feel the need for the HAWK crossing as motorists are giving sufficient warning that someone will be crossing. If no traffic lights, motorists don't stop. Thank you for considering.	
C35	7/7/2023	Website Alt 2A page	I support Alternative 2a because it is the safest for drivers and pedestrians and most aethestically pleasing option. The wider shulder will also be helpful for cyclists.	

PIN 1761.68 Delaware Avenue Complete Streets Project
Comments from Website

ID	Submitted On	Source	Description of Concern	Notes
C36	7/7/2023	Website Alt 2A page	I prefer Alternative 2A because it is the most protective of pedestrians and bikers. However, bike lanes should be included and more trees added. It should also be one lane each way with a turning lane in between, as proposed in the prior referendum.	I commute to Albany every other day, by bike, CDTA bus, or car, in that order of preference. I take the rail trail because biking on Delaware is unsafe. When I otherwise bike on Delaware I ride on the sidewalks. Unless there is a separate bike lane with sufficient physical barriers between bikes and cars, it's just not safe. Walking here is a nightmare as well. I walked recently with a family member and was reminded why we never want to do that - cars whiz by, crossings are perilous, and it's loud. The design says "Pedestrians, you don't belong here." And the wide lanes, set-back stores behind stretches of unused parking lots is soul-crushingly ugly.
C37	6/20/2023	Website Alt 2A Comment page	I really like the inclusion of the HAWK crossing from the Normanside neighborhood to Snowden. I think that will be useful for adding walkability to the Delaware Ave corridor and will help with slowing traffic. My biggest concern is the lack of consideration toward the elementary foot and bicycle traffic in front of Elsmere Elementary. It appears that there is no concern for the safety of student walkers and cyclists. This section (from Elsmere/Grosbeck to Salisbury) of each plan does not include a narrowing of lanes, slowing of traffic, or use of traffic calming measures in the vicinity of Elsmere Elementary. This area is extremely dangerous for our youngest citizens. I encourage the committee to look at narrowing the lanes in front of Elsmere Elementary to two lanes or including more traffic calming measures like barriers, bike lanes, or a tree-lined sidewalk to create a barrier between the sidewalk and the road.	
C38	7/3/2023	Website Alt 2A Comment page	I agree! This compromise seems to be the best. Any extra space for cyclists helps. For those who say cyclists have the rail trail, it's not an option if you're riding into Albany--when I ride to work, I have no choice but to ride a section of Delaware and it feels unsafe. Crossing Delaware by car (or by foot, or bike) as it currently is also isn't safe and is time consuming. The current set-up discourages customers from using those businesses. I also agree that the entrance into town near Albany Med and Hannaford is so unattractive--any new trees/shrubs and other street enhancements will be welcome!	
C39	7/6/2023	Website Alt 2A Comment page	Still no cycling safety features. Put in bike lanes and a center turn lane. You are missing this opportunity to improve this area for all users. You will increase business and make things safer for everyone. More users would stop to spend money at your local businesses. That is what the data supports.	
C40	7/7/2023	Website Alt 2A Comment page	As someone who lives in this neighborhood, I am strongly in favor of alternative 2A. The intersection at Delaware and Elsmere is currently unsafe. People do not pay attention to the no turn on red signs. Others are confused by the left turn lane onto Groesbeck. This intersection needs all kinds of help to make it safer for pedestrians. Also, I come in and out of this neighborhood multiple times a day. I don't really care that it might cost someone an extra 2 minutes to get through at rush hours. I do care that multiple times as my kids were walking home from the middle school, while they had the walk signal, someone turned right on red as they were in or about to enter the crosswalk. Everyone will get used to it and it will make the whole area look better, like the rest of Delaware Ave.	


WEST PROJECT LIMIT
- Safer left-right turning from Hudson Ave to Delaware Ave [B15; C20]
- Re-design intersection of Hudson Ave/ Delaware Ave [D9; D27]
- Unsafe intersection for pedestrians [A25; C40]
- Raised Median along Kenwood Ave WB
-- Limits SB left turn and NB right turn flow [B2]
-- Increases queue along EB through [B3]
-- May have insufficient buffer between pedestrian/traffic [B10]
- Left-turn signals for SB Groesbeck Place [B2]
- Dedicated left-turn lane along Kenwood Ave EB
-- Low demand, and not necessary [B3; B7; B7A]
- Exclusive pedestrian phase [B7]
- Crosswalk should be from corner to corner, not perpendicular to road [B17]
- Mid-block crossing [A12; B11; C16]
- TWLTL [A21; C3; C37; D14; D30]
- Traffic Calming [C37]
- Safe pedestrian facilities [A25; C37; D14]
- Safe bicycle facilities [C37; D14; D30]
- Insufficient buffer between pedestrian/traffic [D19]
MID-BLOCK CROSSING #2
- Crosswalk
-- Support Crosswalk [A12; B1; B14; C37; D16]
- Hawk Signals
-- Support Hawk signals at this location [B1; C37; D14; D16; D27]
-- May be insufficient [A21; B10], and may require full signalization [A21]
- Raised Median [D27]
- TWLTL [A21; D14; D30]
- Bicycle Lane [D14]
- Pull-offs for bus stops [D9]
- Provide Sign to indicate Dunkin' drive-thru is full (like one at Glenmont location) [A20]
MID-BLOCK CROSSING LOCATION WITH HAWK PEDESTRIAN SIGNAL
- Signalized Intersection [D27]
MATCH LINE SEE BELOW
MID-BLOCK CROSSING #2A
MID-BLOCK CROSSING LOCATION WITH HAWK PEDESTRIAN SIGNAL AND RAISED MEDIAN ISLAND
PROPOSED TYPICAL SECTION
MATCH LINE SEE ABOVE
- Hawk Signals
-- May be insufficient, and may require full signalization [A21]
EAST END GATEWAY WITH FLUSH MEDIAN
EAST PROJECT LIMIT
MID-BLOCK CROSSING #1
MID-BLOCK PEDESTRIAN CROSSING #1 (WITH MEDIAN ISLAND AND RRFB - RECTANGULAR RAPID FLASHING BEACON)
- Consolidate Bus stops and optimize mid-block crossing [B11; C16]
- Pull-offs for bus stops [D9]
- TWLTL [A21; D13]
- Crosswalk [D8]
IMPROVEMENTS TO OLD DELAWARE AVENUE INTERSECTION
- Gateway: Support (5); Against (1); Insufficient (2)
- 3-Lane Road with TWTLTL: Support (27); Neutral (3); Against (6)
- Traffic Calming: Support (18)
- Reduce Speed Limit: Support (28); Neutral (4); Against (1)
- Bicycle Facilities
-- Safe Bicycle Facilities: Support (34)
-- Bicycle Lane along Delaware Ave: Support (15); Neutral (1); Against (4)
-- Shared Bicycle Facilities: Support (7)
-- Widening Road Shoulder 1-2 feet for Bicycle Lane: Support (5); Neutral (2); Against (3); Insufficient (2)
- Pedestrian Facilities
-- Safe Pedestrian Facilities: Support (14); Neutral (1)
-- Mid-block Crossing: Support (28); Neutral (1); Against (5)
-- Raised Median: Support (9); Neutral (1); Against (6); Insufficient (1)
-- Increase Buffer between Sidewalk/Road: Support (5); Insufficient (3)
-- HAWK Signals: Support (9); Against (1); Insufficient (2)
- Multi-modal Considerations: Support (4)
Public Opinion on Alternatives
Alt 1: Support 11; Against 4
Alt 2: Support 6; Against 1
Alt 2A: Support 31; Against 3
Support
Against
Public Opinion on Design Elements
TWLTL: 26; 6
Traffic Calming: 18; 0
Lower Speed Limit: 28; 1
Bicycle Imp: 60; 7
Pedestrian Imp: 65; 12
Multi-modal: 4; 0
Gateway: 5; 1
LEGEND:
Public Comment [Comment ID]
Comment ID 'A' - comments from Alternative 1 webpage,
Comment ID 'B' - comments from Alternative 2 webpage,
Comment ID 'C' - comments from Alternative 2A webpage, and
Comment ID 'D' - comments from email and other sources
Public Opinion: Support (Count); Neutral (Count); Against (Count)
EAST END GATEWAY WITH RAISED MEDIAN
RAISED MEDIAN ISLAND
- Gateway
-- Support Gateway [B16; C26; C38; D12; D17]
-- Needs more welcoming entry point [B10]
-- Gateway with an overhead feature [D9]
DELAWARE AVENUE - ALTERNATIVE 2 & 2A
CHA

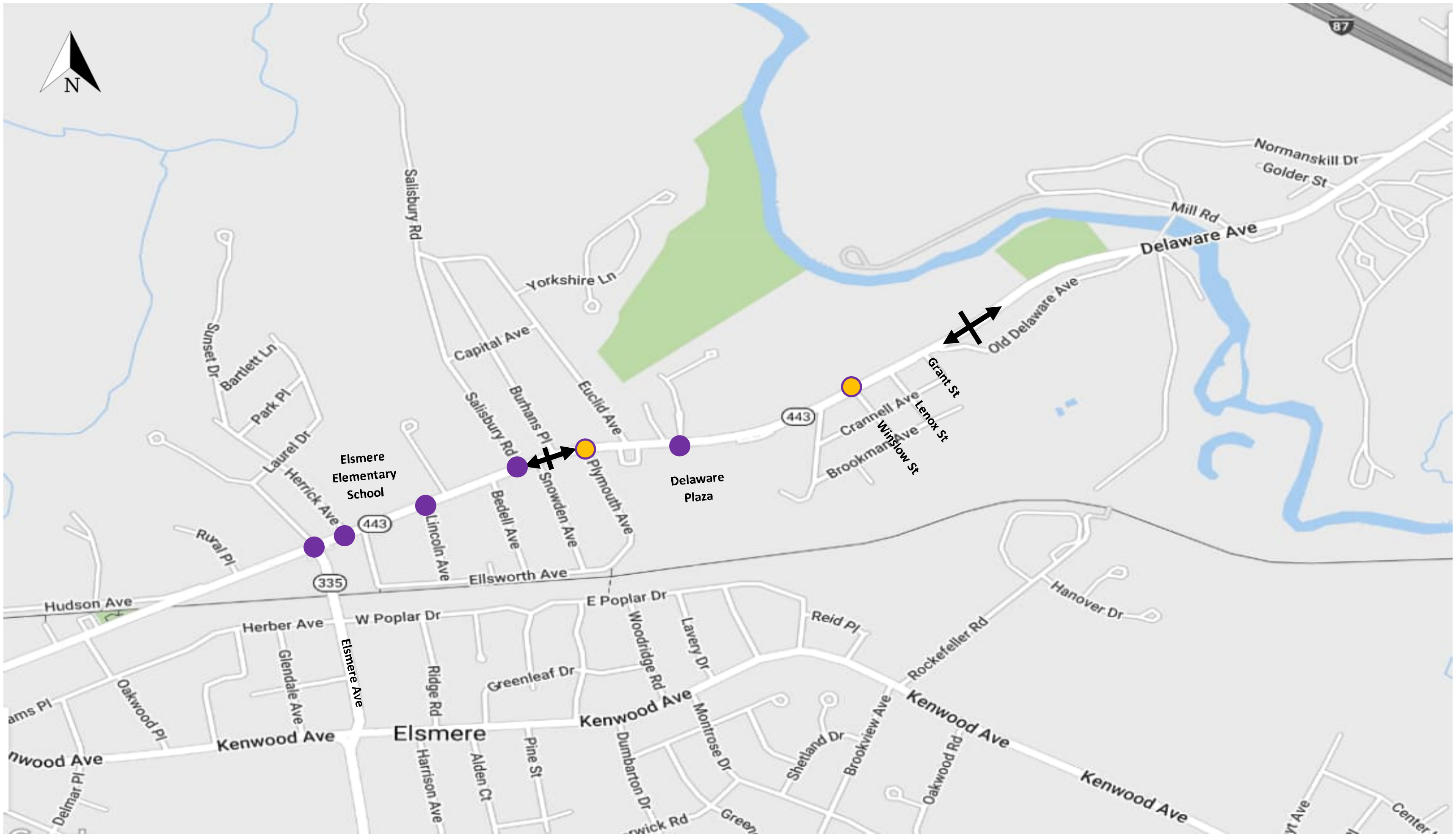
Appendix D

Traffic Data

Appendix D-1

Data Collection Map with Study Area locations

Traffic Data Collection Plan



- Intersection Turning Movement Locations – Weekday AM (6 am-9am), Weekday PM (3 pm-6 pm), and Saturday MD (12 pm to 3 pm)
- Seven Days ATR to collect traffic volumes, speeds, and vehicle classifications
- Intersection Turning Movement Locations - Weekday PM (3 pm-6 pm) and Saturday MD (12 pm to 3 pm)

Appendix D-2

Background Growth Rate

PIN 1761.68 Delaware Avenue Complete Streets Project
Background Growth Rate Calculations

Road	Station	% HV	AADT[1]					Simple Annual Growth Rate
			2019	2016	2009	2002	2001	
DELAWARE AVE from RT 355 ELSMERE to US9W SOUTHERN BLVD	110111	2.1%	15476	15560	15527	17429	16790	-0.43%
							Average	**-0.43%**

Recommended Simple Annual Growth Rate Per Year	**0.50%**

Source: NYSDOT Traffic Data

Appendix D-3

Raw Automatic Traffic Recorders (ATRs) Data(Volume, Class, Speed)

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

Start Time	Mon 08-May-23	Tue 09-May-23	Wed 10-May-23	Thu 11-May-23	Fri 12-May-23		Average Day		Sat 13-May-23	Sun 14-May-23		Week Average		
12:00 AM	*	*	23	31	33		29		48	41		35		
01:00	*	*	11	18	15		15		37	22		21		
02:00	*	*	12	17	15		15		21	11		15		
03:00	*	*	13	14	14		14		11	14		13		
04:00	*	*	21	21	33		25		14	6		19		
05:00	*	*	76	85	73		78		33	28		59		
06:00	*	*	341	339	318		333		120	101		244		
07:00	*	*	**834**	805	766		802		260	228		579		
08:00	*	**857**	820	**812**	**813**		**826**		391	344		**673**		
09:00	*	635	635	641	662		643		564	467		601		
10:00	*	521	544	558	560		546		**717**	506		568		
11:00	*	537	552	578	637		576		707	**580**		598		
12:00 PM	*	616	623	685	662		646		**695**	535		**636**		
01:00	*	**633**	615	662	692		650		658	**549**		635		
02:00	*	580	564	577	631		588		546	497		566		
03:00	*	610	627	652	**727**		654		579	511		618		
04:00	*	617	**672**	**740**	706		**684**		532	443		618		
05:00	*	596	621	706	622		636		469	439		576		
06:00	*	496	545	592	525		540		429	355		490		
07:00	*	385	371	451	401		402		376	323		384		
08:00	*	275	334	406	362		344		317	255		325		
09:00	*	135	135	161	188		155		163	134		153		
10:00	*	88	82	78	113		90		109	83		92		
11:00	*	45	44	71	75		59		72	36		57		
Day Total	0	7626	9115	9700	9643		9350		7868	6508		8575		
% Avg. WkDay	0.0%	81.6%	97.5%	103.7%	103.1%									
% Avg. Week	0.0%	88.9%	106.3%	113.1%	112.5%		109.0%		91.8%	75.9%				
AM Peak	-	08:00	07:00	08:00	08:00	-	08:00	-	10:00	11:00	-	08:00	-	-
Vol.	-	857	834	812	813	-	826	-	717	580	-	673	-	-
PM Peak	-	13:00	16:00	16:00	15:00	-	16:00	-	12:00	13:00	-	12:00	-	-
Vol.	-	633	672	740	727	-	684	-	695	549	-	636	-	-

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

Start Time	Mon 15-May-23	Tue 16-May-23	Wed 17-May-23	Thu 18-May-23	Fri 19-May-23		Average Day		Sat 20-May-23	Sun 21-May-23		Week Average		
12:00 AM	21	20	27	*	*		23		*	*		23		
01:00	9	16	20	*	*		15		*	*		15		
02:00	7	14	14	*	*		12		*	*		12		
03:00	18	16	14	*	*		16		*	*		16		
04:00	23	26	16	*	*		22		*	*		22		
05:00	76	78	83	*	*		79		*	*		79		
06:00	317	303	320	*	*		313		*	*		313		
07:00	758	**841**	786	*	*		795		*	*		795		
08:00	**848**	821	**811**	*	*		**827**		*	*		**827**		
09:00	607	644	665	*	*		639		*	*		639		
10:00	540	539	569	*	*		549		*	*		549		
11:00	575	581	*	*	*		578		*	*		578		
12:00 PM	641	591	*	*	*		616		*	*		616		
01:00	602	573	*	*	*		588		*	*		588		
02:00	566	564	*	*	*		565		*	*		565		
03:00	629	618	*	*	*		624		*	*		624		
04:00	627	**651**	*	*	*		639		*	*		639		
05:00	**651**	631	*	*	*		**641**		*	*		**641**		
06:00	453	552	*	*	*		502		*	*		502		
07:00	400	380	*	*	*		390		*	*		390		
08:00	271	289	*	*	*		280		*	*		280		
09:00	119	149	*	*	*		134		*	*		134		
10:00	72	72	*	*	*		72		*	*		72		
11:00	50	47	*	*	*		48		*	*		48		
Day Total	8880	9016	3325	0	0		8967		0	0		8967		
% Avg. WkDay	99.0%	100.5%	37.1%	0.0%	0.0%									
% Avg. Week	99.0%	100.5%	37.1%	0.0%	0.0%		100.0%		0.0%	0.0%				
AM Peak	08:00	07:00	08:00	-	-	-	08:00	-	-	-	-	08:00	-	-
Vol.	848	841	811	-	-	-	827	-	-	-	-	827	-	-
PM Peak	17:00	16:00	-	-	-	-	17:00	-	-	-	-	17:00	-	-
Vol.	651	651	-	-	-	-	641	-	-	-	-	641	-	-
Grand Total	8880	16642	12440	9700	9643		18317		7868	6508		17542		

ADT	ADT 8,722	AADT 8,722

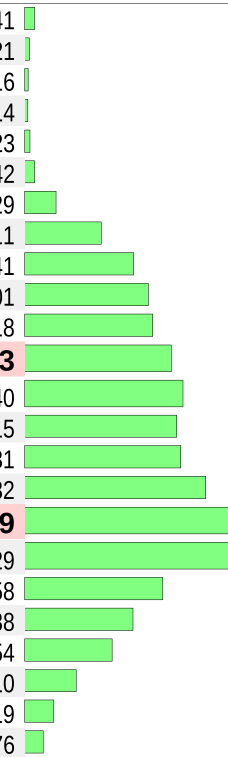
Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

Start Time	Mon 08-May-23	Tue 09-May-23	Wed 10-May-23	Thu 11-May-23	Fri 12-May-23		Average Day		Sat 13-May-23	Sun 14-May-23		Week Average		
12:00 AM	*	*	31	27	40		33		64	42		41		
01:00	*	*	12	17	17		15		36	21		21		
02:00	*	*	11	13	11		12		24	23		16		
03:00	*	*	8	10	12		10		22	16		14		
04:00	*	*	29	28	24		27		17	16		23		
05:00	*	*	56	50	57		54		28	20		42		
06:00	*	*	153	160	168		160		100	65		129		
07:00	*	*	382	390	404		392		200	178		311		
08:00	*	478	495	451	546		492		384	293		441		
09:00	*	490	480	544	549		516		541	401		501		
10:00	*	494	471	498	521		496		653	473		518		
11:00	*	**567**	**599**	**582**	**604**		**588**		**695**	**509**		**593**		
12:00 PM	*	604	605	669	655		633		**684**	**621**		640		
01:00	*	584	596	653	691		631		645	523		615		
02:00	*	660	631	677	685		663		551	582		631		
03:00	*	776	810	819	829		808		574	582		732		
04:00	*	971	**1048**	1059	**1034**		**1028**		574	529		**869**		
05:00	*	**984**	1006	**1101**	882		993		517	485		829		
06:00	*	609	606	630	612		614		487	402		558		
07:00	*	452	419	540	454		466		408	355		438		
08:00	*	349	387	434	358		382		317	277		354		
09:00	*	168	220	245	226		215		265	139		210		
10:00	*	95	112	122	141		118		147	98		119		
11:00	*	73	66	82	96		79		96	45		76		
Day Total	0	8354	9233	9801	9616		9425		8029	6695		8721		
% Avg. WkDay	0.0%	88.6%	98.0%	104.0%	102.0%									
% Avg. Week	0.0%	95.8%	105.9%	112.4%	110.3%		108.1%		92.1%	76.8%				
AM Peak	-	11:00	11:00	11:00	11:00	-	11:00	-	11:00	11:00	-	11:00	-	-
Vol.	-	567	599	582	604	-	588	-	695	509	-	593	-	-
PM Peak	-	17:00	16:00	17:00	16:00	-	16:00	-	12:00	12:00	-	16:00	-	-
Vol.	-	984	1048	1101	1034	-	1028	-	684	621	-	869	-	-



Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

Start Time	Mon 15-May-23	Tue 16-May-23	Wed 17-May-23	Thu 18-May-23	Fri 19-May-23		Average Day		Sat 20-May-23	Sun 21-May-23		Week Average		
12:00 AM	20	30	27	*	*		26		*	*		26		
01:00	18	11	14	*	*		14		*	*		14		
02:00	7	11	9	*	*		9		*	*		9		
03:00	6	10	10	*	*		9		*	*		9		
04:00	30	29	25	*	*		28		*	*		28		
05:00	52	46	64	*	*		54		*	*		54		
06:00	152	159	152	*	*		154		*	*		154		
07:00	325	384	361	*	*		357		*	*		357		
08:00	486	484	461	*	*		477		*	*		477		
09:00	501	505	**524**	*	*		510		*	*		510		
10:00	530	523	520	*	*		524		*	*		524		
11:00	**579**	**546**	*	*	*		**562**		*	*		**562**		
12:00 PM	669	631	*	*	*		650		*	*		650		
01:00	588	632	*	*	*		610		*	*		610		
02:00	640	653	*	*	*		646		*	*		646		
03:00	796	772	*	*	*		784		*	*		784		
04:00	1009	**1034**	*	*	*		1022		*	*		1022		
05:00	**1031**	1030	*	*	*		**1030**		*	*		**1030**		
06:00	529	602	*	*	*		566		*	*		566		
07:00	414	473	*	*	*		444		*	*		444		
08:00	306	331	*	*	*		318		*	*		318		
09:00	181	179	*	*	*		180		*	*		180		
10:00	96	99	*	*	*		98		*	*		98		
11:00	54	57	*	*	*		56		*	*		56		
Day Total	9019	9231	2167	0	0		9128		0	0		9128		
% Avg. WkDay	98.8%	101.1%	23.7%	0.0%	0.0%									
% Avg. Week	98.8%	101.1%	23.7%	0.0%	0.0%		100.0%		0.0%	0.0%				
AM Peak	11:00	11:00	09:00	-	-	-	11:00	-	-	-	-	11:00	-	-
Vol.	579	546	524	-	-	-	562	-	-	-	-	562	-	-
PM Peak	17:00	16:00	-	-	-	-	17:00	-	-	-	-	17:00	-	-
Vol.	1031	1034	-	-	-	-	1030	-	-	-	-	1030	-	-
Grand Total	9019	17585	11400	9801	9616		18553		8029	6695		17849		

ADT	ADT 8,835	AADT 8,835

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320

"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

Start Time	Mon 29-May-23	Tue 30-May-23	Wed 31-May-23	Thu 01-Jun-23	Fri 02-Jun-23		Average Day		Sat 03-Jun-23	Sun 04-Jun-23		Week Average		
12:00 AM	*	*	32	38	36		35		43	67		43		
01:00	*	*	14	17	17		16		18	36		20		
02:00	*	*	15	17	6		13		6	17		12		
03:00	*	*	6	15	17		13		10	13		12		
04:00	*	*	15	15	27		19		17	11		17		
05:00	*	*	105	102	95		101		38	19		72		
06:00	*	*	292	292	286		290		110	86		213		
07:00	*	*	766	703	674		714		230	170		509		
08:00	*	*	**827**	**812**	**732**		**790**		337	341		**610**		
09:00	*	**638**	624	614	568		611		443	435		554		
10:00	*	570	529	532	558		547		**518**	464		528		
11:00	*	574	550	587	568		570		497	**516**		549		
12:00 PM	*	629	**651**	640	588		627		457	547		585		
01:00	*	612	550	618	611		598		**555**	560		584		
02:00	*	594	589	633	560		594		457	523		559		
03:00	*	**663**	632	582	**671**		**637**		532	549		**605**		
04:00	*	620	641	**656**	597		628		437	**564**		586		
05:00	*	645	639	602	563		612		429	510		565		
06:00	*	545	504	515	499		516		375	368		468		
07:00	*	411	409	417	358		399		311	271		363		
08:00	*	312	307	368	326		328		260	207		297		
09:00	*	280	160	262	198		225		193	119		202		
10:00	*	102	114	118	139		118		158	80		118		
11:00	*	80	69	62	82		73		102	48		74		
Day Total	0	7275	9040	9217	8776		9074		6533	6521		8145		
% Avg. WkDay	0.0%	80.2%	99.6%	101.6%	96.7%									
% Avg. Week	0.0%	89.3%	111.0%	113.2%	107.7%		111.4%		80.2%	80.1%				
AM Peak	-	09:00	08:00	08:00	08:00	-	08:00	-	10:00	11:00	-	08:00	-	-
Vol.	-	638	827	812	732	-	790	-	518	516	-	610	-	-
PM Peak	-	15:00	12:00	16:00	15:00	-	15:00	-	13:00	16:00	-	15:00	-	-
Vol.	-	663	651	656	671	-	637	-	555	564	-	605	-	-

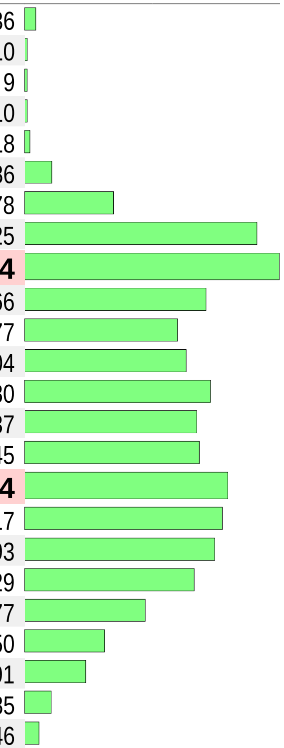
Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

Start Time	Mon 05-Jun-23	Tue 06-Jun-23	Wed 07-Jun-23	Thu 08-Jun-23	Fri 09-Jun-23		Average Day		Sat 10-Jun-23	Sun 11-Jun-23		Week Average		
12:00 AM	33	39	*	*	*		36		*	*		36		
01:00	11	10	*	*	*		10		*	*		10		
02:00	7	11	*	*	*		9		*	*		9		
03:00	15	6	*	*	*		10		*	*		10		
04:00	21	15	*	*	*		18		*	*		18		
05:00	75	98	*	*	*		86		*	*		86		
06:00	282	274	*	*	*		278		*	*		278		
07:00	722	728	*	*	*		725		*	*		725		
08:00	**814**	**773**	*	*	*		**794**		*	*		**794**		
09:00	571	561	*	*	*		566		*	*		566		
10:00	486	468	*	*	*		477		*	*		477		
11:00	515	493	*	*	*		504		*	*		504		
12:00 PM	580	*	*	*	*		580		*	*		580		
01:00	537	*	*	*	*		537		*	*		537		
02:00	545	*	*	*	*		545		*	*		545		
03:00	**634**	*	*	*	*		**634**		*	*		**634**		
04:00	617	*	*	*	*		617		*	*		617		
05:00	593	*	*	*	*		593		*	*		593		
06:00	529	*	*	*	*		529		*	*		529		
07:00	377	*	*	*	*		377		*	*		377		
08:00	250	*	*	*	*		250		*	*		250		
09:00	191	*	*	*	*		191		*	*		191		
10:00	85	*	*	*	*		85		*	*		85		
11:00	46	*	*	*	*		46		*	*		46		
Day Total	8536	3476	0	0	0		8497		0	0		8497		
% Avg. WkDay	100.5%	40.9%	0.0%	0.0%	0.0%									
% Avg. Week	100.5%	40.9%	0.0%	0.0%	0.0%		100.0%		0.0%	0.0%				
AM Peak	08:00	08:00	-	-	-	-	08:00	-	-	-	-	08:00	-	-
Vol.	814	773	-	-	-	-	794	-	-	-	-	794	-	-
PM Peak	15:00	-	-	-	-	-	15:00	-	-	-	-	15:00	-	-
Vol.	634	-	-	-	-	-	634	-	-	-	-	634	-	-
Grand Total	8536	10751	9040	9217	8776		17571		6533	6521		16642		



ADT	ADT 8,240	AADT 8,240

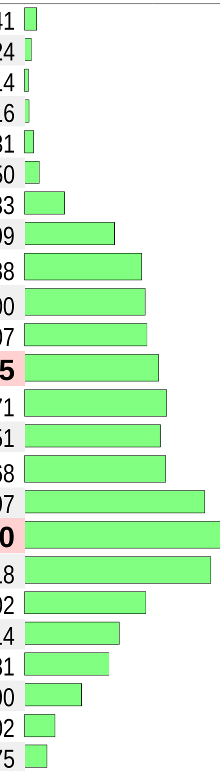
Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

Start Time	Mon 29-May-23	Tue 30-May-23	Wed 31-May-23	Thu 01-Jun-23	Fri 02-Jun-23		Average Day		Sat 03-Jun-23	Sun 04-Jun-23		Week Average		
12:00 AM	*	*	23	36	34		31		55	57		41		
01:00	*	*	17	20	19		19		24	41		24		
02:00	*	*	9	11	10		10		19	23		14		
03:00	*	*	9	15	20		15		17	21		16		
04:00	*	*	32	41	39		37		28	17		31		
05:00	*	*	68	54	74		65		32	23		50		
06:00	*	*	151	173	186		170		93	62		133		
07:00	*	*	407	356	371		378		220	143		299		
08:00	*	*	**511**	**478**	455		**481**		301	194		388		
09:00	*	**444**	430	433	**459**		442		403	230		400		
10:00	*	411	427	438	428		426		433	305		407		
11:00	*	435	467	471	434		452		**488**	**375**		**445**		
12:00 PM	*	468	489	453	498		477		**486**	431		471		
01:00	*	480	441	451	488		465		403	442		451		
02:00	*	507	483	506	500		499		365	**450**		468		
03:00	*	665	728	683	704		695		378	426		597		
04:00	*	**906**	812	**887**	**786**		**848**		344	405		**690**		
05:00	*	820	**855**	793	639		777		296	308		618		
06:00	*	448	413	511	425		449		303	310		402		
07:00	*	331	336	372	314		338		250	280		314		
08:00	*	309	314	319	291		308		249	205		281		
09:00	*	175	181	210	209		194		236	129		190		
10:00	*	92	86	118	119		104		126	69		102		
11:00	*	77	67	68	89		75		95	56		75		
Day Total	0	6568	7756	7897	7591		7755		5644	5002		6907		
% Avg. WkDay	0.0%	84.7%	100.0%	101.8%	97.9%									
% Avg. Week	0.0%	95.1%	112.3%	114.3%	109.9%		112.3%		81.7%	72.4%				
AM Peak	-	09:00	08:00	08:00	09:00	-	08:00	-	11:00	11:00	-	11:00	-	-
Vol.	-	444	511	478	459	-	481	-	488	375	-	445	-	-
PM Peak	-	16:00	17:00	16:00	16:00	-	16:00	-	12:00	14:00	-	16:00	-	-
Vol.	-	906	855	887	786	-	848	-	486	450	-	690	-	-



Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.631212, -73.805322

Start Time	Mon 05-Jun-23	Tue 06-Jun-23	Wed 07-Jun-23	Thu 08-Jun-23	Fri 09-Jun-23		Average Day		Sat 10-Jun-23	Sun 11-Jun-23		Week Average		
12:00 AM	25	29	*	*	*		27		*	*		27		
01:00	18	18	*	*	*		18		*	*		18		
02:00	12	14	*	*	*		13		*	*		13		
03:00	10	10	*	*	*		10		*	*		10		
04:00	30	28	*	*	*		29		*	*		29		
05:00	58	58	*	*	*		58		*	*		58		
06:00	150	171	*	*	*		160		*	*		160		
07:00	368	392	*	*	*		380		*	*		380		
08:00	430	**453**	*	*	*		442		*	*		442		
09:00	420	429	*	*	*		424		*	*		424		
10:00	**482**	414	*	*	*		**448**		*	*		**448**		
11:00	432	412	*	*	*		422		*	*		422		
12:00 PM	455	*	*	*	*		455		*	*		455		
01:00	432	*	*	*	*		432		*	*		432		
02:00	464	*	*	*	*		464		*	*		464		
03:00	644	*	*	*	*		644		*	*		644		
04:00	**843**	*	*	*	*		**843**		*	*		**843**		
05:00	818	*	*	*	*		818		*	*		818		
06:00	476	*	*	*	*		476		*	*		476		
07:00	292	*	*	*	*		292		*	*		292		
08:00	218	*	*	*	*		218		*	*		218		
09:00	146	*	*	*	*		146		*	*		146		
10:00	84	*	*	*	*		84		*	*		84		
11:00	49	*	*	*	*		49		*	*		49		
Day Total	7356	2428	0	0	0		7352		0	0		7352		
% Avg. WkDay	100.1%	33.0%	0.0%	0.0%	0.0%									
% Avg. Week	100.1%	33.0%	0.0%	0.0%	0.0%		100.0%		0.0%	0.0%				
AM Peak	10:00	08:00	-	-	-	-	10:00	-	-	-	-	10:00	-	-
Vol.	482	453	-	-	-	-	448	-	-	-	-	448	-	-
PM Peak	16:00	-	-	-	-	-	16:00	-	-	-	-	16:00	-	-
Vol.	843	-	-	-	-	-	843	-	-	-	-	843	-	-
Grand Total	7356	8996	7756	7897	7591		15107		5644	5002		14259		

ADT	ADT 6,984	AADT 6,984

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	2	**728**	**100**	**4**	18	**3**	**1**	1	0	0	0	0	0	**857**
09:00	5	512	89	2	**25**	0	1	0	0	0	**1**	0	0	635
10:00	2	426	77	2	11	0	0	**2**	**1**	0	0	0	0	521
11:00	**6**	435	82	3	9	1	0	1	0	0	0	0	0	537
12 PM	1	496	**97**	2	17	1	**2**	0	0	0	0	0	0	616
13:00	2	**513**	96	4	17	0	0	1	0	0	0	0	0	**633**
14:00	3	481	77	4	12	1	0	**2**	0	0	0	0	0	580
15:00	**7**	485	89	3	**23**	1	0	1	**1**	0	0	0	0	610
16:00	3	512	85	**5**	11	0	0	0	0	**1**	0	0	0	617
17:00	3	508	70	1	11	**3**	0	0	0	0	0	0	0	596
18:00	0	426	59	1	8	1	1	0	0	0	0	0	0	496
19:00	2	339	39	2	3	0	0	0	0	0	0	0	0	385
20:00	3	230	35	1	5	1	0	0	0	0	0	0	0	275
21:00	1	118	14	2	0	0	0	0	0	0	0	0	0	135
22:00	0	77	10	1	0	0	0	0	0	0	0	0	0	88
23:00	0	35	7	1	2	0	0	0	0	0	0	0	0	45
Total	40	6321	1026	38	172	12	5	8	2	1	1	0	0	7626
Percent	0.5%	82.9%	13.5%	0.5%	2.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	08:00	08:00	09:00	08:00	08:00	10:00	10:00		09:00			08:00
Vol.	6	728	100	4	25	3	1	2	1		1			857
PM Peak	15:00	13:00	12:00	16:00	15:00	17:00	12:00	14:00	15:00	16:00				13:00
Vol.	7	513	97	5	23	3	2	2	1	1				633

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/23	0	21	2	0	0	0	0	0	0	0	0	0	0	23
01:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
02:00	0	7	3	0	2	0	0	0	0	0	0	0	0	12
03:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
04:00	0	15	6	0	0	0	0	0	0	0	0	0	0	21
05:00	0	58	16	1	1	0	0	0	0	0	0	0	0	76
06:00	**5**	264	59	1	8	1	1	0	**1**	0	**1**	0	0	341
07:00	3	**691**	**115**	3	18	2	**2**	0	0	0	0	0	0	**834**
08:00	5	687	99	**6**	18	**3**	0	1	1	0	0	0	0	820
09:00	3	502	104	3	**19**	1	2	1	0	0	0	0	0	635
10:00	3	429	93	1	15	1	0	**2**	0	0	0	0	0	544
11:00	3	438	91	4	14	1	1	0	0	0	0	0	0	552
12 PM	2	502	93	1	18	3	1	1	**2**	0	0	0	0	623
13:00	4	493	85	5	15	**8**	**2**	1	2	0	0	0	0	615
14:00	5	442	91	4	19	2	0	1	0	0	0	0	0	564
15:00	2	486	**107**	2	**25**	1	1	**3**	0	0	0	0	0	627
16:00	5	**532**	106	4	21	1	1	2	0	0	0	0	0	**672**
17:00	1	516	86	2	12	2	2	0	0	0	0	0	0	621
18:00	2	463	64	**6**	8	0	1	1	0	0	0	0	0	545
19:00	5	320	39	2	4	1	0	0	0	0	0	0	0	371
20:00	**7**	293	29	2	3	0	0	0	0	0	0	0	0	334
21:00	1	119	9	2	4	0	0	0	0	0	0	0	0	135
22:00	1	71	8	1	1	0	0	0	0	0	0	0	0	82
23:00	0	40	3	1	0	0	0	0	0	0	0	0	0	44
Total	57	7411	1310	51	225	27	14	13	6	0	1	0	0	9115
Percent	0.6%	81.3%	14.4%	0.6%	2.5%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	08:00	09:00	08:00	07:00	10:00	06:00		06:00			07:00
Vol.	5	691	115	6	19	3	2	2	1		1			834
PM Peak	20:00	16:00	15:00	18:00	15:00	13:00	13:00	15:00	12:00					16:00
Vol.	7	532	107	6	25	8	2	3	2					672

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/11/23	0	27	2	0	1	0	0	0	1	0	0	0	0	31
01:00	0	17	0	0	1	0	0	0	0	0	0	0	0	18
02:00	0	13	2	0	2	0	0	0	0	0	0	0	0	17
03:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
04:00	0	16	4	0	1	0	0	0	0	0	0	0	0	21
05:00	0	67	13	1	4	0	0	0	0	0	0	0	0	85
06:00	3	276	47	2	9	2	0	0	0	0	0	0	0	339
07:00	4	676	100	**5**	13	**4**	1	**2**	0	0	0	0	0	805
08:00	2	**677**	101	4	20	4	1	2	1	0	0	0	0	**812**
09:00	**5**	498	**105**	4	**23**	2	**4**	0	0	0	0	0	0	641
10:00	1	456	83	3	9	2	2	0	**2**	0	0	0	0	558
11:00	5	456	94	5	13	3	1	1	0	0	0	0	0	578
12 PM	2	545	110	**5**	18	3	**1**	1	0	0	0	0	0	685
13:00	5	528	100	4	**19**	2	1	**2**	**1**	0	0	0	0	662
14:00	2	462	93	3	11	**4**	1	0	1	0	0	0	0	577
15:00	**7**	522	102	3	15	2	1	0	0	0	0	0	0	652
16:00	7	**594**	**120**	3	11	2	0	2	0	0	**1**	0	0	**740**
17:00	3	594	94	3	9	0	0	2	0	0	1	0	0	706
18:00	2	516	69	0	4	0	1	0	0	0	0	0	0	592
19:00	3	383	59	2	4	0	0	0	0	0	0	0	0	451
20:00	3	338	58	1	5	0	1	0	0	0	0	0	0	406
21:00	2	134	16	2	6	0	0	0	1	0	0	0	0	161
22:00	0	66	11	1	0	0	0	0	0	0	0	0	0	78
23:00	1	59	10	1	0	0	0	0	0	0	0	0	0	71
Total	57	7932	1394	52	199	30	15	12	7	0	2	0	0	9700
Percent	0.6%	81.8%	14.4%	0.5%	2.1%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	09:00	07:00	09:00	07:00	09:00	07:00	10:00					08:00
Vol.	5	677	105	5	23	4	4	2	2					812
PM Peak	15:00	16:00	16:00	12:00	13:00	14:00	12:00	13:00	13:00		16:00			16:00
Vol.	7	594	120	5	19	4	1	2	1		1			740

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/12/23	0	28	3	0	2	0	0	0	0	0	0	0	0	33
01:00	0	13	1	0	1	0	0	0	0	0	0	0	0	15
02:00	0	12	0	0	3	0	0	0	0	0	0	0	0	15
03:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
04:00	0	21	9	0	2	0	**1**	0	0	0	0	0	0	33
05:00	0	51	17	2	1	1	0	1	0	0	0	0	0	73
06:00	4	254	47	2	9	1	1	0	0	0	0	0	0	318
07:00	**9**	628	101	**7**	17	2	1	1	0	0	0	0	0	766
08:00	2	**661**	122	5	15	**4**	1	**3**	0	0	0	0	0	**813**
09:00	6	513	**123**	3	15	0	0	2	0	0	0	0	0	662
10:00	2	446	88	2	**20**	2	0	0	0	0	0	0	0	560
11:00	0	507	103	4	19	2	1	1	0	0	0	0	0	637
12 PM	3	522	**118**	3	12	**2**	**2**	0	0	0	0	0	0	662
13:00	4	555	102	3	**27**	0	0	0	**1**	0	0	0	0	692
14:00	4	520	83	**4**	18	1	0	0	1	0	0	0	0	631
15:00	6	**602**	95	3	16	1	2	**2**	0	0	0	0	0	**727**
16:00	**8**	573	112	3	7	1	1	1	0	0	0	0	0	706
17:00	4	523	86	3	5	1	0	0	0	0	0	0	0	622
18:00	5	440	72	1	7	0	0	0	0	0	0	0	0	525
19:00	3	334	55	2	5	1	1	0	0	0	0	0	0	401
20:00	4	307	46	1	3	1	0	0	0	0	0	0	0	362
21:00	0	173	12	2	0	0	1	0	0	0	0	0	0	188
22:00	1	100	10	1	1	0	0	0	0	0	0	0	0	113
23:00	0	65	9	1	0	0	0	0	0	0	0	0	0	75
Total	65	7861	1415	52	205	20	12	11	2	0	0	0	0	9643
Percent	0.7%	81.5%	14.7%	0.5%	2.1%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	09:00	07:00	10:00	08:00	04:00	08:00						08:00
Vol.	9	661	123	7	20	4	1	3						813
PM Peak	16:00	15:00	12:00	14:00	13:00	12:00	12:00	15:00	13:00					15:00
Vol.	8	602	118	4	27	2	2	2	1					727

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/13/23	0	38	9	0	1	0	0	0	0	0	0	0	0	48
01:00	0	32	5	0	0	0	0	0	0	0	0	0	0	37
02:00	0	13	6	0	2	0	0	0	0	0	0	0	0	21
03:00	0	8	2	0	0	0	0	0	**1**	0	0	0	0	11
04:00	0	11	3	0	0	0	0	0	0	0	0	0	0	14
05:00	0	22	8	1	1	0	0	0	1	0	0	0	0	33
06:00	0	97	18	1	4	0	0	0	0	0	0	0	0	120
07:00	3	212	39	**2**	3	0	0	0	0	**1**	0	0	0	260
08:00	2	304	76	1	6	1	1	0	0	0	0	0	0	391
09:00	**4**	447	102	2	**8**	0	1	0	0	0	0	0	0	564
10:00	4	**586**	**115**	2	8	0	1	**1**	0	0	0	0	0	**717**
11:00	3	586	104	2	7	**3**	**2**	0	0	0	0	0	0	707
12 PM	5	**580**	91	**3**	**10**	**2**	**2**	2	0	0	0	0	0	**695**
13:00	2	537	**106**	2	5	2	1	**3**	0	0	0	0	0	658
14:00	6	444	85	1	9	0	1	0	0	0	0	0	0	546
15:00	**10**	487	71	3	7	0	1	0	0	0	0	0	0	579
16:00	1	445	74	2	6	1	2	1	0	0	0	0	0	532
17:00	1	403	58	3	3	0	1	0	0	0	0	0	0	469
18:00	3	351	67	2	4	0	1	1	0	0	0	0	0	429
19:00	4	324	46	1	1	0	0	0	0	0	0	0	0	376
20:00	6	272	33	1	4	0	1	0	0	0	0	0	0	317
21:00	0	135	23	2	3	0	0	0	0	0	0	0	0	163
22:00	0	96	10	0	2	0	0	1	0	0	0	0	0	109
23:00	0	57	13	1	0	0	1	0	0	0	0	0	0	72
Total	54	6487	1164	32	94	9	16	9	2	1	0	0	0	7868
Percent	0.7%	82.4%	14.8%	0.4%	1.2%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	10:00	10:00	07:00	09:00	11:00	11:00	10:00	03:00	07:00				10:00
Vol.	4	586	115	2	8	3	2	1	1	1				717
PM Peak	15:00	12:00	13:00	12:00	12:00	12:00	12:00	13:00						12:00
Vol.	10	580	106	3	10	2	2	3						695

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/14/23	0	35	5	0	0	**1**	0	0	0	0	0	0	0	41
01:00	0	16	4	0	2	0	0	0	0	0	0	0	0	22
02:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
03:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
04:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	23	4	1	0	0	0	0	0	0	0	0	0	28
06:00	0	89	10	1	0	0	0	**1**	0	0	0	0	0	101
07:00	0	181	38	1	7	1	0	0	0	0	0	0	0	228
08:00	2	282	52	1	7	0	0	0	0	0	0	0	0	344
09:00	3	378	73	**2**	**10**	0	**1**	0	0	0	0	0	0	467
10:00	**10**	402	91	1	2	0	0	0	0	0	0	0	0	506
11:00	3	**475**	**96**	0	5	1	0	0	0	0	0	0	0	**580**
12 PM	**4**	436	**82**	**2**	**6**	1	**4**	0	0	0	0	0	0	535
13:00	1	**473**	69	0	5	0	1	0	0	0	0	0	0	**549**
14:00	2	416	72	1	6	0	0	0	0	0	0	0	0	497
15:00	4	427	73	0	5	0	2	0	0	0	0	0	0	511
16:00	2	380	57	1	3	0	0	0	0	0	0	0	0	443
17:00	3	360	68	1	4	**2**	0	**1**	0	0	0	0	0	439
18:00	2	301	49	1	2	0	0	0	0	0	0	0	0	355
19:00	2	280	39	0	1	1	0	0	0	0	0	0	0	323
20:00	0	222	32	0	1	0	0	0	0	0	0	0	0	255
21:00	0	117	16	0	1	0	0	0	0	0	0	0	0	134
22:00	0	74	8	0	1	0	0	0	0	0	0	0	0	83
23:00	0	34	1	0	1	0	0	0	0	0	0	0	0	36
Total	38	5429	941	13	70	7	8	2	0	0	0	0	0	6508
Percent	0.6%	83.4%	14.5%	0.2%	1.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00	09:00	09:00	00:00	09:00	06:00						11:00
Vol.	10	475	96	2	10	1	1	1						580
PM Peak	12:00	13:00	12:00	12:00	12:00	17:00	12:00	17:00						13:00
Vol.	4	473	82	2	6	2	4	1						549

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/15/23	0	16	5	0	0	0	0	0	0	0	0	0	0	21
01:00	0	7	0	0	2	0	0	0	0	0	0	0	0	9
02:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
03:00	0	17	1	0	0	0	0	0	0	0	0	0	0	18
04:00	0	16	6	0	1	0	0	0	0	0	0	0	0	23
05:00	0	59	14	2	1	0	0	0	0	0	0	0	0	76
06:00	3	243	55	2	11	2	0	1	0	0	0	0	0	317
07:00	4	610	117	**5**	15	2	3	**2**	0	0	0	0	0	758
08:00	**11**	**673**	**129**	4	**23**	2	**4**	2	0	0	0	0	0	**848**
09:00	2	480	103	5	13	0	2	1	**1**	0	0	0	0	607
10:00	5	438	83	4	3	**4**	2	0	0	**1**	0	0	0	540
11:00	2	438	117	3	14	0	0	0	0	0	**1**	0	0	575
12 PM	1	506	105	**5**	17	1	3	**3**	0	0	0	0	0	641
13:00	4	462	**112**	4	16	1	2	1	0	0	0	0	0	602
14:00	4	449	83	3	18	**2**	**4**	2	**1**	0	0	0	0	566
15:00	**7**	489	104	4	**21**	2	1	0	0	0	**1**	0	0	629
16:00	2	504	103	2	11	2	0	3	0	0	0	0	0	627
17:00	3	**534**	99	4	7	1	0	2	1	0	0	0	0	**651**
18:00	1	378	65	1	5	2	0	1	0	0	0	0	0	453
19:00	0	339	57	1	2	0	0	1	0	0	0	0	0	400
20:00	1	235	31	1	3	0	0	0	0	0	0	0	0	271
21:00	2	100	14	2	1	0	0	0	0	0	0	0	0	119
22:00	0	60	11	1	0	0	0	0	0	0	0	0	0	72
23:00	0	39	10	1	0	0	0	0	0	0	0	0	0	50
Total	52	7096	1426	54	185	21	21	19	3	1	2	0	0	8880
Percent	0.6%	79.9%	16.1%	0.6%	2.1%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00	07:00	08:00	10:00	08:00	07:00	09:00	10:00	11:00			08:00
Vol.	11	673	129	5	23	4	4	2	1	1	1			848
PM Peak	15:00	17:00	13:00	12:00	15:00	14:00	14:00	12:00	14:00		15:00			17:00
Vol.	7	534	112	5	21	2	4	3	1		1			651

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/16/23	0	18	2	0	0	0	0	0	0	0	0	0	0	20
01:00	0	11	3	0	1	0	0	0	**1**	0	0	0	0	16
02:00	0	10	2	0	2	0	0	0	0	0	0	0	0	14
03:00	0	12	3	0	1	0	0	0	0	0	0	0	0	16
04:00	0	19	5	0	2	0	0	0	0	0	0	0	0	26
05:00	1	60	12	2	3	0	0	0	0	0	0	0	0	78
06:00	5	238	49	2	7	1	0	0	1	0	0	0	0	303
07:00	**15**	**678**	**128**	**6**	12	0	0	**2**	0	0	0	0	0	**841**
08:00	12	665	113	5	**18**	**5**	**2**	0	1	0	0	0	0	821
09:00	11	510	101	3	16	1	0	1	1	0	0	0	0	644
10:00	2	424	91	3	18	0	1	0	0	0	0	0	0	539
11:00	3	469	89	1	17	2	0	0	0	0	0	0	0	581
12 PM	3	465	**101**	4	12	**3**	2	1	0	0	0	0	0	591
13:00	2	465	84	1	16	0	**3**	**2**	0	0	0	0	0	573
14:00	3	438	101	**6**	12	2	1	0	**1**	0	0	0	0	564
15:00	**6**	496	90	4	**20**	1	0	1	0	0	0	0	0	618
16:00	2	**532**	96	4	14	0	2	1	0	0	0	0	0	**651**
17:00	4	523	90	3	9	0	1	1	0	0	0	0	0	631
18:00	4	459	78	1	9	0	0	1	0	0	0	0	0	552
19:00	2	318	54	2	4	0	0	0	0	0	0	0	0	380
20:00	0	236	45	1	7	0	0	0	0	0	0	0	0	289
21:00	0	128	18	2	1	0	0	0	0	0	0	0	0	149
22:00	1	61	7	1	2	0	0	0	0	0	0	0	0	72
23:00	0	40	6	1	0	0	0	0	0	0	0	0	0	47
Total	76	7275	1368	52	203	15	12	10	5	0	0	0	0	9016
Percent	0.8%	80.7%	15.2%	0.6%	2.3%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	07:00	08:00	08:00	08:00	07:00	01:00					07:00
Vol.	15	678	128	6	18	5	2	2	1					841
PM Peak	15:00	16:00	12:00	14:00	15:00	12:00	13:00	13:00	14:00					16:00
Vol.	6	532	101	6	20	3	3	2	1					651

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/17/23	0	22	3	0	2	0	0	0	0	0	0	0	0	27
01:00	0	18	1	0	1	0	0	0	0	0	0	0	0	20
02:00	0	8	2	0	3	1	0	0	0	0	0	0	0	14
03:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
04:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
05:00	0	66	12	2	1	1	0	0	**1**	0	0	0	0	83
06:00	1	240	58	3	15	**2**	0	1	0	0	0	0	0	320
07:00	**6**	630	**127**	4	12	2	**2**	**2**	1	0	0	0	0	786
08:00	4	**682**	97	4	**21**	0	2	1	0	0	0	0	0	**811**
09:00	6	528	110	**6**	11	0	2	2	0	0	0	0	0	665
10:00	4	449	89	4	18	2	2	0	1	0	0	0	0	569
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	21	2670	502	23	84	8	8	6	3	0	0	0	0	3325
Percent	0.6%	80.3%	15.1%	0.7%	2.5%	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	07:00	09:00	08:00	06:00	07:00	07:00	05:00					08:00
Vol.	6	682	127	6	21	2	2	2	1					811
PM Peak														
Vol.														
Grand Total	460	58482	10546	367	1437	149	111	90	30	3	6	0	0	71681
Percent	0.6%	81.6%	14.7%	0.5%	2.0%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	**3**	369	79	2	**21**	1	**1**	**2**	0	0	0	0	0	478
09:00	1	414	63	1	11	0	0	0	0	0	0	0	0	490
10:00	0	416	57	**3**	12	**3**	0	0	**3**	0	0	0	0	494
11:00	3	**457**	**88**	3	11	2	0	1	2	0	0	0	0	**567**
12 PM	2	490	92	2	16	0	1	**1**	0	0	0	0	0	604
13:00	1	479	84	3	17	0	0	0	0	0	0	0	0	584
14:00	5	540	91	**4**	18	1	0	1	0	0	0	0	0	660
15:00	8	630	111	3	**21**	0	1	1	0	**1**	0	0	0	776
16:00	7	829	**115**	4	11	**2**	2	1	0	0	0	0	0	971
17:00	**9**	**863**	90	1	16	1	**3**	0	**1**	0	0	0	0	**984**
18:00	5	548	50	2	2	0	1	1	0	0	0	0	0	609
19:00	3	386	54	2	6	1	0	0	0	0	0	0	0	452
20:00	1	303	40	1	3	0	0	0	0	1	0	0	0	349
21:00	0	154	12	1	0	0	0	1	0	0	0	0	0	168
22:00	0	87	5	3	0	0	0	0	0	0	0	0	0	95
23:00	0	68	3	1	1	0	0	0	0	0	0	0	0	73
Total	48	7033	1034	36	166	11	9	9	6	2	0	0	0	8354
Percent	0.6%	84.2%	12.4%	0.4%	2.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	11:00	10:00	08:00	10:00	08:00	08:00	10:00					11:00
Vol.	3	457	88	3	21	3	1	2	3					567
PM Peak	17:00	17:00	16:00	14:00	15:00	16:00	17:00	12:00	17:00	15:00				17:00
Vol.	9	863	115	4	21	2	3	1	1	1				984

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/23	0	27	3	0	1	0	0	0	0	0	0	0	0	31
01:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
02:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
03:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
04:00	0	26	1	0	1	0	0	0	1	0	0	0	0	29
05:00	0	47	8	0	1	0	0	0	0	0	0	0	0	56
06:00	2	117	25	1	4	2	0	0	**2**	0	0	0	0	153
07:00	3	310	53	4	6	3	**1**	1	1	0	0	0	0	382
08:00	3	386	80	**5**	**19**	1	0	0	1	0	0	0	0	495
09:00	3	394	67	2	13	0	1	0	0	0	0	0	0	480
10:00	1	381	65	3	19	2	0	0	0	0	0	0	0	471
11:00	**5**	**477**	**93**	2	13	**5**	0	**2**	1	**1**	0	0	0	**599**
12 PM	5	498	82	3	11	**4**	2	0	0	0	0	0	0	605
13:00	3	495	77	**6**	13	1	1	0	0	0	0	0	0	596
14:00	2	508	95	4	20	1	0	0	**1**	0	0	0	0	631
15:00	6	680	93	5	**24**	0	2	0	0	0	0	0	0	810
16:00	10	**900**	**112**	2	16	2	3	**3**	0	0	0	0	0	**1048**
17:00	**13**	873	95	2	16	2	**4**	1	0	0	0	0	0	1006
18:00	6	531	59	2	6	0	1	1	0	0	0	0	0	606
19:00	4	369	42	2	2	0	0	0	0	0	0	0	0	419
20:00	3	346	31	3	4	0	0	0	0	0	0	0	0	387
21:00	3	201	11	1	4	0	0	0	0	0	0	0	0	220
22:00	1	103	3	3	2	0	0	0	0	0	0	0	0	112
23:00	1	60	4	1	0	0	0	0	0	0	0	0	0	66
Total	74	7756	1102	51	196	23	15	8	7	1	0	0	0	9233
Percent	0.8%	84.0%	11.9%	0.6%	2.1%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	08:00	08:00	11:00	07:00	11:00	06:00	11:00				11:00
Vol.	5	477	93	5	19	5	1	2	2	1				599
PM Peak	17:00	16:00	16:00	13:00	15:00	12:00	17:00	16:00	14:00					16:00
Vol.	13	900	112	6	24	4	4	3	1					1048

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/11/23	1	23	1	0	1	0	0	0	1	0	0	0	0	27
01:00	0	15	1	0	1	0	0	0	0	0	0	0	0	17
02:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
03:00	1	7	1	0	1	0	0	0	0	0	0	0	0	10
04:00	0	24	2	0	1	1	0	0	0	0	0	0	0	28
05:00	0	41	4	0	3	2	0	0	0	0	0	0	0	50
06:00	0	121	24	2	8	1	**2**	**1**	1	0	0	0	0	160
07:00	1	306	63	**5**	13	1	0	1	0	0	0	0	0	390
08:00	3	371	60	3	11	1	1	1	0	0	0	0	0	451
09:00	5	416	**92**	2	**22**	**3**	2	0	**2**	0	0	0	0	544
10:00	4	405	69	2	15	1	1	1	0	0	0	0	0	498
11:00	**6**	**463**	91	2	17	1	1	1	0	0	0	0	0	**582**
12 PM	2	552	86	3	19	**4**	3	0	0	0	0	0	0	669
13:00	6	533	86	**5**	15	2	4	2	0	0	0	0	0	653
14:00	2	556	94	4	16	1	3	1	0	0	0	0	0	677
15:00	6	679	100	4	**22**	0	**5**	**3**	0	0	0	0	0	819
16:00	**8**	874	**154**	3	14	3	1	1	0	0	**1**	0	0	1059
17:00	6	**938**	131	1	16	4	3	2	0	0	0	0	0	**1101**
18:00	3	552	65	3	6	0	1	0	0	0	0	0	0	630
19:00	4	478	52	2	3	1	0	0	0	0	0	0	0	540
20:00	4	378	49	1	2	0	0	0	0	0	0	0	0	434
21:00	1	221	20	1	2	0	0	0	0	0	0	0	0	245
22:00	0	101	15	3	2	0	0	0	**1**	0	0	0	0	122
23:00	2	72	6	1	1	0	0	0	0	0	0	0	0	82
Total	65	8138	1266	47	212	26	27	14	5	0	1	0	0	9801
Percent	0.7%	83.0%	12.9%	0.5%	2.2%	0.3%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	09:00	07:00	09:00	09:00	06:00	06:00	09:00					11:00
Vol.	6	463	92	5	22	3	2	1	2					582
PM Peak	16:00	17:00	16:00	13:00	15:00	12:00	15:00	15:00	22:00		16:00			17:00
Vol.	8	938	154	5	22	4	5	3	1		1			1101

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/12/23	0	38	2	0	0	0	0	0	0	0	0	0	0	40
01:00	0	13	1	0	3	0	0	0	0	0	0	0	0	17
02:00	0	9	0	0	1	1	0	0	0	0	0	0	0	11
03:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
04:00	0	24	0	0	0	0	0	0	0	0	0	0	0	24
05:00	0	44	10	0	2	1	0	0	0	0	0	0	0	57
06:00	0	140	24	1	3	0	0	0	0	0	0	0	0	168
07:00	1	332	54	5	9	**2**	**1**	0	0	0	0	0	0	404
08:00	3	429	91	5	15	2	0	**1**	0	0	0	0	0	546
09:00	2	420	**102**	**6**	**17**	1	0	0	0	0	**1**	0	0	549
10:00	**5**	424	76	2	11	2	0	1	0	0	0	0	0	521
11:00	0	**511**	76	3	12	0	1	1	0	0	0	0	0	**604**
12 PM	7	531	93	2	**19**	0	0	**2**	**1**	0	0	0	0	655
13:00	4	579	82	**5**	19	1	1	0	0	0	0	0	0	691
14:00	**9**	559	90	3	19	0	3	2	0	0	0	0	0	685
15:00	9	703	96	3	13	**3**	2	0	0	0	0	0	0	829
16:00	8	**886**	**118**	3	10	2	**5**	2	0	0	0	0	0	**1034**
17:00	6	772	86	2	12	1	3	0	0	0	0	0	0	882
18:00	5	538	60	2	4	1	1	1	0	0	0	0	0	612
19:00	4	393	52	2	2	0	0	0	0	**1**	0	0	0	454
20:00	0	317	31	1	6	0	2	1	0	0	0	0	0	358
21:00	5	198	19	1	2	1	0	0	0	0	0	0	0	226
22:00	0	125	12	3	0	0	1	0	0	0	0	0	0	141
23:00	1	87	6	1	1	0	0	0	0	0	0	0	0	96
Total	69	8082	1182	50	181	18	20	11	1	1	1	0	0	9616
Percent	0.7%	84.0%	12.3%	0.5%	1.9%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	09:00	09:00	09:00	07:00	07:00	08:00			09:00			11:00
Vol.	5	511	102	6	17	2	1	1			1			604
PM Peak	14:00	16:00	16:00	13:00	12:00	15:00	16:00	12:00	12:00	19:00				16:00
Vol.	9	886	118	5	19	3	5	2	1	1				1034

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/13/23	0	56	6	0	2	0	0	0	0	0	0	0	0	64
01:00	0	33	3	0	0	0	0	0	0	0	0	0	0	36
02:00	0	22	0	0	2	0	0	0	0	0	0	0	0	24
03:00	0	21	0	0	0	0	0	0	**1**	0	0	0	0	22
04:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
05:00	1	19	6	0	1	0	0	0	0	**1**	0	0	0	28
06:00	1	81	15	**2**	1	0	0	0	0	0	0	0	0	100
07:00	1	168	25	1	4	1	0	0	0	0	0	0	0	200
08:00	0	315	64	2	3	0	0	0	0	0	0	0	0	384
09:00	**5**	452	71	2	9	1	0	**1**	0	0	0	0	0	541
10:00	4	550	82	1	**11**	**3**	0	1	0	0	**1**	0	0	653
11:00	5	**595**	**85**	2	4	2	**1**	0	0	0	1	0	0	**695**
12 PM	**9**	**572**	84	2	**11**	**2**	**3**	**1**	0	0	0	0	0	**684**
13:00	3	540	**93**	2	5	1	1	0	0	0	0	0	0	645
14:00	2	464	77	**3**	5	0	0	0	0	0	0	0	0	551
15:00	5	510	50	1	7	1	0	0	0	0	0	0	0	574
16:00	2	511	48	3	9	1	0	0	0	0	0	0	0	574
17:00	5	452	56	2	2	0	0	0	0	0	0	0	0	517
18:00	6	424	52	2	3	0	0	0	0	0	0	0	0	487
19:00	1	362	42	2	1	0	0	0	0	0	0	0	0	408
20:00	2	280	31	1	2	1	0	0	0	0	0	0	0	317
21:00	1	236	25	1	1	1	0	0	0	0	0	0	0	265
22:00	0	135	9	2	1	0	0	0	0	0	0	0	0	147
23:00	2	91	3	0	0	0	0	0	0	0	0	0	0	96
Total	55	6904	929	31	84	14	5	3	1	1	2	0	0	8029
Percent	0.7%	86.0%	11.6%	0.4%	1.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	06:00	10:00	10:00	11:00	09:00	03:00	05:00	10:00			11:00
Vol.	5	595	85	2	11	3	1	1	1	1	1			695
PM Peak	12:00	12:00	13:00	14:00	12:00	12:00	12:00	12:00						12:00
Vol.	9	572	93	3	11	2	3	1						684

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/14/23	0	34	8	0	0	0	0	0	0	0	0	0	0	42
01:00	0	19	2	0	0	0	0	0	0	0	0	0	0	21
02:00	0	19	2	0	1	0	0	0	**1**	0	0	0	0	23
03:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
04:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
05:00	0	19	0	0	1	0	0	0	0	0	0	0	0	20
06:00	0	57	7	0	1	0	0	0	0	0	0	0	0	65
07:00	0	150	25	1	2	0	0	0	0	0	0	0	0	178
08:00	0	236	51	1	**5**	0	0	0	0	0	0	0	0	293
09:00	2	344	49	**2**	2	1	**1**	0	0	0	0	0	0	401
10:00	1	411	54	1	4	1	0	**1**	0	0	0	0	0	473
11:00	**6**	**419**	**78**	1	2	**2**	0	0	0	**1**	0	0	0	**509**
12 PM	3	**536**	**73**	1	7	0	0	**1**	0	0	0	0	0	**621**
13:00	4	456	55	**2**	3	**2**	**1**	0	0	0	0	0	0	523
14:00	**5**	501	61	1	**11**	1	1	1	0	0	0	0	0	582
15:00	4	504	67	1	5	1	0	0	0	0	0	0	0	582
16:00	4	465	57	0	2	0	1	0	0	0	0	0	0	529
17:00	3	422	57	1	2	0	0	0	0	0	0	0	0	485
18:00	1	357	41	1	1	0	1	0	0	0	0	0	0	402
19:00	4	313	37	0	1	0	0	0	0	0	0	0	0	355
20:00	2	252	22	0	0	1	0	0	0	0	0	0	0	277
21:00	0	123	15	0	1	0	0	0	0	0	0	0	0	139
22:00	0	92	4	1	1	0	0	0	0	0	0	0	0	98
23:00	0	43	1	0	1	0	0	0	0	0	0	0	0	45
Total	39	5802	768	14	53	9	5	3	1	1	0	0	0	6695
Percent	0.6%	86.7%	11.5%	0.2%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	09:00	08:00	11:00	09:00	10:00	02:00	11:00				11:00
Vol.	6	419	78	2	5	2	1	1	1	1				509
PM Peak	14:00	12:00	12:00	13:00	14:00	13:00	13:00	12:00						12:00
Vol.	5	536	73	2	11	2	1	1						621

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/15/23	0	16	4	0	0	0	0	0	0	0	0	0	0	20
01:00	0	16	1	0	1	0	0	0	0	0	0	0	0	18
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
04:00	0	28	1	0	0	0	0	0	**1**	0	0	0	0	30
05:00	0	46	5	0	0	0	1	0	0	0	0	0	0	52
06:00	1	114	26	1	7	2	0	0	1	0	0	0	0	152
07:00	0	263	47	**4**	9	0	**2**	0	0	0	0	0	0	325
08:00	4	388	71	4	15	1	2	0	1	0	0	0	0	486
09:00	2	397	**79**	3	**17**	**3**	0	0	0	0	0	0	0	501
10:00	**5**	429	78	1	11	2	2	**1**	1	0	0	0	0	530
11:00	1	**486**	77	4	8	0	2	1	0	0	0	0	0	**579**
12 PM	3	545	95	3	19	3	0	1	0	0	0	0	0	669
13:00	2	483	84	2	13	3	0	0	**1**	0	0	0	0	588
14:00	2	539	76	2	**20**	0	0	1	0	0	0	0	0	640
15:00	**7**	670	97	**4**	11	**4**	2	1	0	0	0	0	0	796
16:00	6	858	**121**	2	10	3	**4**	**5**	0	0	0	0	0	1009
17:00	7	**885**	115	2	12	1	4	5	0	0	0	0	0	**1031**
18:00	4	473	45	2	5	0	0	0	0	0	0	0	0	529
19:00	4	352	49	2	5	0	1	1	0	0	0	0	0	414
20:00	1	269	31	1	4	0	0	0	0	0	0	0	0	306
21:00	2	165	13	1	0	0	0	0	0	0	0	0	0	181
22:00	0	87	6	3	0	0	0	0	0	0	0	0	0	96
23:00	1	46	6	1	0	0	0	0	0	0	0	0	0	54
Total	52	7565	1130	42	167	22	20	16	5	0	0	0	0	9019
Percent	0.6%	83.9%	12.5%	0.5%	1.9%	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	09:00	07:00	09:00	09:00	07:00	10:00	04:00					11:00
Vol.	5	486	79	4	17	3	2	1	1					579
PM Peak	15:00	17:00	16:00	15:00	14:00	15:00	16:00	16:00	13:00					17:00
Vol.	7	885	121	4	20	4	4	5	1					1031

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/16/23	0	28	2	0	0	0	0	0	0	0	0	0	0	30
01:00	0	9	0	0	1	0	0	0	1	0	0	0	0	11
02:00	0	8	2	0	0	1	0	0	0	0	0	0	0	11
03:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
04:00	0	27	1	0	1	0	0	0	0	0	0	0	0	29
05:00	0	35	5	0	2	**2**	0	0	**2**	0	0	0	0	46
06:00	0	133	20	1	3	2	0	0	0	0	0	0	0	159
07:00	0	314	58	**4**	7	0	0	**1**	0	0	0	0	0	384
08:00	2	398	57	3	**22**	0	**1**	0	0	**1**	0	0	0	484
09:00	**3**	403	**82**	3	12	1	1	0	0	0	0	0	0	505
10:00	3	438	60	4	15	0	1	1	0	1	0	0	0	523
11:00	3	**454**	73	2	11	1	0	0	2	0	0	0	0	**546**
12 PM	7	512	92	3	13	1	**3**	0	0	0	0	0	0	631
13:00	2	521	91	2	13	1	2	0	0	0	0	0	0	632
14:00	0	540	93	4	15	0	1	0	0	0	0	0	0	653
15:00	9	637	104	**5**	**16**	0	1	0	0	0	0	0	0	772
16:00	**15**	877	**122**	4	12	**3**	0	1	0	0	0	0	0	**1034**
17:00	7	**915**	92	1	10	2	1	**2**	0	0	0	0	0	1030
18:00	2	518	70	2	8	1	1	0	0	0	0	0	0	602
19:00	4	406	58	1	2	0	1	1	0	0	0	0	0	473
20:00	3	291	32	0	3	1	1	0	0	0	0	0	0	331
21:00	3	159	14	1	2	0	0	0	0	0	0	0	0	179
22:00	1	86	9	3	0	0	0	0	0	0	0	0	0	99
23:00	0	50	5	1	1	0	0	0	0	0	0	0	0	57
Total	64	7767	1144	44	169	16	14	6	5	2	0	0	0	9231
Percent	0.7%	84.1%	12.4%	0.5%	1.8%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	09:00	07:00	08:00	05:00	08:00	07:00	05:00	08:00				11:00
Vol.	3	454	82	4	22	2	1	1	2	1				546
PM Peak	16:00	17:00	16:00	15:00	15:00	16:00	12:00	17:00						16:00
Vol.	15	915	122	5	16	3	3	2						1034

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/17/23	1	22	3	0	1	0	0	0	0	0	0	0	0	27
01:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
02:00	0	6	1	0	1	1	0	0	0	0	0	0	0	9
03:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
04:00	0	24	0	0	0	0	0	0	**1**	0	0	0	0	25
05:00	0	54	7	0	1	1	0	0	1	0	0	0	0	64
06:00	0	114	21	2	13	1	0	0	1	0	0	0	0	152
07:00	1	286	57	**5**	10	1	**1**	0	0	0	0	0	0	361
08:00	2	368	68	5	14	**2**	0	**1**	0	**1**	0	0	0	461
09:00	2	424	**89**	1	7	1	0	0	0	0	0	0	0	**524**
10:00	**3**	**429**	66	1	**18**	0	1	0	1	1	0	0	0	520
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	9	1748	314	14	66	7	2	1	4	2	0	0	0	2167
Percent	0.4%	80.7%	14.5%	0.6%	3.0%	0.3%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	09:00	07:00	10:00	08:00	07:00	08:00	04:00	08:00				09:00
Vol.	3	429	89	5	18	2	1	1	1	1				524
PM Peak														
Vol.														
Grand Total	475	60795	8869	329	1294	146	117	71	35	10	4	0	0	72145
Percent	0.7%	84.3%	12.3%	0.5%	1.8%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	**7**	**511**	**99**	**4**	**14**	2	0	0	1	0	0	0	0	**638**
10:00	1	476	77	2	8	3	0	0	**2**	**1**	0	0	0	570
11:00	6	461	90	3	5	**6**	**1**	0	2	0	0	0	0	574
12 PM	4	513	85	4	**15**	7	0	0	0	**1**	0	0	0	629
13:00	5	515	82	2	4	3	**1**	0	0	0	0	0	0	612
14:00	4	479	**86**	4	9	11	0	0	**1**	0	0	0	0	594
15:00	**8**	564	73	**7**	3	7	0	1	0	0	0	0	0	**663**
16:00	6	530	69	4	4	4	1	**2**	0	0	0	0	0	620
17:00	2	**581**	50	3	1	7	0	0	1	0	0	0	0	645
18:00	4	475	56	1	3	5	1	0	0	0	0	0	0	545
19:00	5	343	45	2	4	12	0	0	0	0	0	0	0	411
20:00	4	259	25	1	3	**19**	0	1	0	0	0	0	0	312
21:00	1	243	25	2	4	4	0	0	1	0	0	0	0	280
22:00	1	89	11	1	0	0	0	0	0	0	0	0	0	102
23:00	2	61	12	1	1	3	0	0	0	0	0	0	0	80
Total	60	6100	885	41	78	93	4	4	8	2	0	0	0	7275
Percent	0.8%	83.8%	12.2%	0.6%	1.1%	1.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	09:00	09:00	09:00	09:00	11:00	11:00		10:00	10:00				09:00
Vol.	7	511	99	4	14	6	1		2	1				638
PM Peak	15:00	17:00	14:00	15:00	12:00	20:00	13:00	16:00	14:00	12:00				15:00
Vol.	8	581	86	7	15	19	1	2	1	1				663

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/23	1	29	1	0	1	0	0	0	0	0	0	0	0	32
01:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
02:00	0	13	0	0	0	0	0	0	**2**	0	0	0	0	15
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
04:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
05:00	2	82	16	2	0	3	0	0	0	0	0	0	0	105
06:00	3	245	38	2	4	0	0	0	0	0	0	0	0	292
07:00	**6**	663	**85**	3	7	1	**1**	0	0	0	0	0	0	766
08:00	4	**736**	67	4	**13**	2	1	0	0	0	0	0	0	**827**
09:00	3	521	80	4	10	**4**	0	**2**	0	0	0	0	0	624
10:00	4	433	79	**6**	5	1	0	1	0	0	0	0	0	529
11:00	3	462	62	5	11	3	1	2	1	0	0	0	0	550
12 PM	12	509	**104**	4	**14**	8	0	0	0	0	0	0	0	**651**
13:00	4	458	76	4	7	1	0	0	0	0	0	0	0	550
14:00	**14**	483	78	3	5	4	**2**	0	0	0	0	0	0	589
15:00	6	521	81	**6**	9	8	1	0	0	0	0	0	0	632
16:00	6	551	69	4	7	3	0	0	0	**1**	0	0	0	641
17:00	6	**556**	67	2	3	5	0	0	0	0	0	0	0	639
18:00	7	427	53	1	7	8	0	**1**	0	0	0	0	0	504
19:00	7	342	41	2	0	**15**	0	1	**1**	0	0	0	0	409
20:00	1	277	18	0	2	9	0	0	0	0	0	0	0	307
21:00	0	142	13	2	0	3	0	0	0	0	0	0	0	160
22:00	0	106	5	1	1	0	0	0	1	0	0	0	0	114
23:00	0	64	4	1	0	0	0	0	0	0	0	0	0	69
Total	89	7650	1042	56	106	78	6	7	5	1	0	0	0	9040
Percent	1.0%	84.6%	11.5%	0.6%	1.2%	0.9%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	07:00	10:00	08:00	09:00	07:00	09:00	02:00					08:00
Vol.	6	736	85	6	13	4	1	2	2					827
PM Peak	14:00	17:00	12:00	15:00	12:00	19:00	14:00	18:00	19:00	16:00				12:00
Vol.	14	556	104	6	14	15	2	1	1	1				651

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/01/23	0	37	1	0	0	0	0	0	0	0	0	0	0	38
01:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
02:00	0	13	1	0	1	1	0	0	1	0	0	0	0	17
03:00	1	11	1	0	0	0	0	0	**2**	0	0	0	0	15
04:00	0	10	5	0	0	0	0	0	0	0	0	0	0	15
05:00	2	78	16	3	2	0	0	0	1	0	0	0	0	102
06:00	1	253	32	1	2	3	0	0	0	0	0	0	0	292
07:00	3	622	63	**5**	6	**4**	0	0	0	0	0	0	0	703
08:00	5	**715**	**70**	4	**16**	2	0	0	0	0	0	0	0	**812**
09:00	**9**	522	67	3	9	2	1	0	1	0	0	0	0	614
10:00	2	442	68	4	9	4	**2**	0	0	0	0	**1**	0	532
11:00	3	503	61	5	12	3	0	0	0	0	0	0	0	587
12 PM	**12**	538	68	6	**11**	3	**1**	0	0	**1**	0	0	0	640
13:00	3	512	81	2	6	7	1	**2**	**3**	0	**1**	0	0	618
14:00	8	501	**102**	**7**	8	7	0	0	0	0	0	0	0	633
15:00	6	487	74	3	5	6	0	0	0	1	0	0	0	582
16:00	3	**565**	75	3	7	1	1	0	1	0	0	0	0	**656**
17:00	4	533	49	3	6	5	1	1	0	0	0	0	0	602
18:00	4	463	32	1	6	**8**	0	0	1	0	0	0	0	515
19:00	1	367	37	3	1	6	0	1	0	1	0	0	0	417
20:00	6	317	35	2	1	6	0	0	1	0	0	0	0	368
21:00	0	229	27	2	1	3	0	0	0	0	0	0	0	262
22:00	2	103	10	1	0	1	0	0	1	0	0	0	0	118
23:00	0	56	4	1	1	0	0	0	0	0	0	0	0	62
Total	75	7892	981	59	110	72	7	4	12	3	1	1	0	9217
Percent	0.8%	85.6%	10.6%	0.6%	1.2%	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00	07:00	08:00	07:00	10:00		03:00			10:00		08:00
Vol.	9	715	70	5	16	4	2		2			1		812
PM Peak	12:00	16:00	14:00	14:00	12:00	18:00	12:00	13:00	13:00	12:00	13:00			16:00
Vol.	12	565	102	7	11	8	1	2	3	1	1			656

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/02/23	0	34	1	0	1	0	0	0	0	0	0	0	0	36
01:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	12	1	0	1	2	0	0	**1**	0	0	0	0	17
04:00	0	20	4	0	0	2	1	0	0	0	0	0	0	27
05:00	0	74	11	2	6	1	0	0	1	0	0	0	0	95
06:00	0	249	32	2	1	2	0	0	0	0	0	0	0	286
07:00	4	579	**77**	3	5	3	**2**	0	1	0	0	0	0	674
08:00	**5**	**627**	74	**4**	**18**	3	0	0	0	**1**	0	0	0	**732**
09:00	1	476	73	4	10	3	0	0	1	0	0	0	0	568
10:00	2	475	66	3	4	**6**	1	0	1	0	0	0	0	558
11:00	4	469	75	3	10	3	1	**2**	1	0	0	0	0	568
12 PM	4	505	59	5	8	6	0	**1**	0	0	0	0	0	588
13:00	4	512	**72**	**7**	6	10	0	0	0	0	0	0	0	611
14:00	1	459	71	5	**10**	**12**	**1**	0	**1**	0	0	0	0	560
15:00	**6**	**575**	72	2	8	7	1	0	0	0	0	0	0	**671**
16:00	4	523	60	3	3	4	0	0	0	0	0	0	0	597
17:00	2	493	56	3	4	4	0	0	1	0	0	0	0	563
18:00	6	429	52	1	5	6	0	0	0	0	0	0	0	499
19:00	0	312	37	2	2	5	0	0	0	0	0	0	0	358
20:00	2	281	29	1	2	11	0	0	0	0	0	0	0	326
21:00	3	176	14	1	1	3	0	0	0	0	0	0	0	198
22:00	1	125	8	2	1	2	0	0	0	0	0	0	0	139
23:00	0	70	8	1	1	1	0	0	1	0	0	0	0	82
Total	49	7497	953	54	107	96	7	3	9	1	0	0	0	8776
Percent	0.6%	85.4%	10.9%	0.6%	1.2%	1.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	08:00	08:00	10:00	07:00	11:00	03:00	08:00				08:00
Vol.	5	627	77	4	18	6	2	2	1	1				732
PM Peak	15:00	15:00	13:00	13:00	14:00	14:00	14:00	12:00	14:00					15:00
Vol.	6	575	72	7	10	12	1	1	1					671

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/03/23	1	39	3	0	0	0	0	0	0	0	0	0	0	43
01:00	0	15	1	0	1	0	0	0	**1**	0	0	0	0	18
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
04:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
05:00	0	30	5	1	0	1	0	0	1	0	0	0	0	38
06:00	0	96	12	1	0	1	0	0	0	0	0	0	0	110
07:00	2	199	22	1	4	0	**1**	**1**	0	0	0	0	0	230
08:00	**3**	300	31	1	0	1	0	0	1	0	0	0	0	337
09:00	0	388	48	**3**	0	**4**	0	0	0	0	0	0	0	443
10:00	0	**454**	**50**	2	**7**	3	1	0	1	0	0	0	0	**518**
11:00	1	443	45	3	2	2	0	0	1	0	0	0	0	497
12 PM	2	402	42	1	**6**	3	**1**	0	0	0	0	0	0	457
13:00	**4**	473	**61**	**4**	6	6	1	0	0	0	0	0	0	**555**
14:00	3	399	47	3	0	5	0	0	0	0	0	0	0	457
15:00	3	**474**	45	1	2	7	0	0	0	0	0	0	0	532
16:00	3	378	39	4	5	7	0	0	**1**	0	0	0	0	437
17:00	2	383	35	3	0	5	0	**1**	0	0	0	0	0	429
18:00	3	335	29	3	4	1	0	0	0	0	0	0	0	375
19:00	2	268	31	1	1	7	1	0	0	0	0	0	0	311
20:00	2	225	19	1	2	**10**	0	1	0	0	0	0	0	260
21:00	0	183	8	1	0	0	0	0	1	0	0	0	0	193
22:00	1	144	9	0	0	4	0	0	0	0	0	0	0	158
23:00	0	91	7	1	1	2	0	0	0	0	0	0	0	102
Total	32	5749	592	35	41	69	5	3	7	0	0	0	0	6533
Percent	0.5%	88.0%	9.1%	0.5%	0.6%	1.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	10:00	10:00	09:00	10:00	09:00	07:00	07:00	01:00					10:00
Vol.	3	454	50	3	7	4	1	1	1					518
PM Peak	13:00	15:00	13:00	13:00	12:00	20:00	12:00	17:00	16:00					13:00
Vol.	4	474	61	4	6	10	1	1	1					555

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/04/23	0	60	3	0	2	1	0	0	**1**	0	0	0	0	67
01:00	0	35	0	0	1	0	0	0	0	0	0	0	0	36
02:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
03:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
04:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
05:00	0	15	2	1	0	0	0	0	1	0	0	0	0	19
06:00	0	73	12	0	0	1	0	0	0	0	0	0	0	86
07:00	0	142	26	1	0	1	0	0	0	0	0	0	0	170
08:00	**2**	293	40	1	2	3	0	0	0	0	0	0	0	341
09:00	2	365	60	2	3	3	0	0	0	0	0	0	0	435
10:00	1	389	**64**	**3**	**4**	3	0	0	0	0	0	0	0	464
11:00	1	**456**	47	0	4	**7**	0	**1**	0	0	0	0	0	**516**
12 PM	**8**	464	**64**	2	0	8	0	**1**	0	0	0	0	0	547
13:00	6	**493**	48	1	**5**	6	0	1	0	0	0	0	0	560
14:00	6	452	55	2	1	6	**1**	0	0	0	0	0	0	523
15:00	2	471	59	**3**	3	9	1	0	0	**1**	0	0	0	549
16:00	7	489	57	2	3	6	0	0	0	0	0	0	0	**564**
17:00	2	447	47	1	1	**11**	0	0	0	1	0	0	0	510
18:00	0	321	35	2	1	9	0	0	0	0	0	0	0	368
19:00	3	241	23	0	2	1	1	0	0	0	0	0	0	271
20:00	2	179	20	0	0	6	0	0	0	0	0	0	0	207
21:00	0	113	5	0	0	1	0	0	0	0	0	0	0	119
22:00	0	78	2	0	0	0	0	0	0	0	0	0	0	80
23:00	0	43	3	0	0	2	0	0	0	0	0	0	0	48
Total	42	5660	672	21	32	84	3	3	2	2	0	0	0	6521
Percent	0.6%	86.8%	10.3%	0.3%	0.5%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	10:00	10:00	10:00	11:00		11:00	00:00					11:00
Vol.	2	456	64	3	4	7		1	1					516
PM Peak	12:00	13:00	12:00	15:00	13:00	17:00	14:00	12:00		15:00				16:00
Vol.	8	493	64	3	5	11	1	1		1				564

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/05/23	0	32	0	0	1	0	0	0	0	0	0	0	0	33
01:00	0	9	0	0	1	0	0	0	1	0	0	0	0	11
02:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	13	1	0	0	0	0	0	1	0	0	0	0	15
04:00	0	14	6	1	0	0	0	0	0	0	0	0	0	21
05:00	0	63	8	1	3	0	0	0	0	0	0	0	0	75
06:00	1	246	28	3	3	1	0	0	0	0	0	0	0	282
07:00	5	632	75	3	7	0	0	0	0	0	0	0	0	722
08:00	**6**	**711**	80	4	9	3	0	0	1	0	0	0	0	**814**
09:00	4	482	68	**6**	7	2	**2**	0	0	0	0	0	0	571
10:00	2	401	68	5	7	2	0	0	1	0	0	0	0	486
11:00	1	410	**84**	1	**10**	**6**	1	0	**2**	0	0	0	0	515
12 PM	3	478	80	4	7	6	**2**	0	0	0	0	0	0	580
13:00	**4**	440	75	3	**12**	3	0	0	0	0	0	0	0	537
14:00	2	460	61	**6**	10	6	0	0	0	0	0	0	0	545
15:00	2	525	**84**	4	11	7	0	**1**	0	0	0	0	0	**634**
16:00	2	**544**	54	3	8	5	0	1	0	0	0	0	0	617
17:00	0	534	48	1	2	5	0	0	**2**	0	**1**	0	0	593
18:00	4	473	41	1	2	6	1	1	0	0	0	0	0	529
19:00	2	325	34	2	3	**10**	0	0	1	0	0	0	0	377
20:00	4	216	18	1	4	7	0	0	0	0	0	0	0	250
21:00	2	162	19	1	1	4	0	0	1	**1**	0	0	0	191
22:00	0	80	3	2	0	0	0	0	0	0	0	0	0	85
23:00	0	41	4	1	0	0	0	0	0	0	0	0	0	46
Total	44	7298	939	53	108	73	6	3	10	1	1	0	0	8536
Percent	0.5%	85.5%	11.0%	0.6%	1.3%	0.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	11:00	09:00	11:00	11:00	09:00		11:00					08:00
Vol.	6	711	84	6	10	6	2		2					814
PM Peak	13:00	16:00	15:00	14:00	13:00	19:00	12:00	15:00	17:00	21:00	17:00			15:00
Vol.	4	544	84	6	12	10	2	1	2	1	1			634

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/06/23	0	39	0	0	0	0	0	0	0	0	0	0	0	39
01:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
02:00	0	9	0	0	1	0	0	0	1	0	0	0	0	11
03:00	0	4	0	0	1	0	0	0	1	0	0	0	0	6
04:00	0	11	2	1	0	0	0	0	1	0	0	0	0	15
05:00	0	79	16	2	1	0	0	0	0	0	0	0	0	98
06:00	1	230	37	2	3	1	0	0	0	0	0	0	0	274
07:00	2	644	62	4	12	3	0	**1**	0	0	0	0	0	728
08:00	1	**699**	52	4	11	2	**2**	1	0	**1**	0	0	0	**773**
09:00	**4**	485	50	**5**	9	**5**	1	0	**2**	0	0	0	0	561
10:00	2	391	54	5	**13**	3	0	0	0	0	0	0	0	468
11:00	3	408	**66**	2	10	2	0	0	1	0	0	**1**	0	493
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	13	3008	340	25	61	16	3	2	6	1	0	1	0	3476
Percent	0.4%	86.5%	9.8%	0.7%	1.8%	0.5%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	11:00	09:00	10:00	09:00	08:00	07:00	09:00	08:00		11:00		08:00
Vol.	4	699	66	5	13	5	2	1	2	1		1		773
PM Peak														
Vol.														
Grand Total	404	50854	6404	344	643	581	41	29	59	11	2	2	0	59374
Percent	0.7%	85.7%	10.8%	0.6%	1.1%	1.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	0	**364**	62	3	13	0	**1**	0	0	**1**	0	0	0	**444**
10:00	**3**	330	**63**	**5**	10	0	0	0	0	0	0	0	0	411
11:00	2	361	50	3	**15**	**3**	0	0	0	1	0	0	0	435
12 PM	4	387	59	**4**	9	0	**3**	0	0	**2**	0	0	0	468
13:00	4	392	66	3	14	1	0	0	0	0	0	0	0	480
14:00	3	432	53	3	**16**	0	0	0	0	0	0	0	0	507
15:00	2	567	83	4	6	**2**	0	0	**1**	0	0	0	0	665
16:00	4	**801**	**90**	2	7	1	1	0	0	0	0	0	0	**906**
17:00	4	728	74	2	9	2	0	**1**	0	0	0	0	0	820
18:00	**5**	390	47	1	2	0	3	0	0	0	0	0	0	448
19:00	1	292	33	2	3	0	0	0	0	0	0	0	0	331
20:00	4	276	19	3	6	0	0	0	1	0	0	0	0	309
21:00	0	163	9	1	2	0	0	0	0	0	0	0	0	175
22:00	1	81	6	3	1	0	0	0	0	0	0	0	0	92
23:00	1	71	4	1	0	0	0	0	0	0	0	0	0	77
Total	38	5635	718	40	113	9	8	1	2	4	0	0	0	6568
Percent	0.6%	85.8%	10.9%	0.6%	1.7%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	09:00	10:00	10:00	11:00	11:00	09:00			09:00				09:00
Vol.	3	364	63	5	15	3	1			1				444
PM Peak	18:00	16:00	16:00	12:00	14:00	15:00	12:00	17:00	15:00	12:00				16:00
Vol.	5	801	90	4	16	2	3	1	1	2				906

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/23	1	18	4	0	0	0	0	0	0	0	0	0	0	23
01:00	0	14	1	0	0	0	0	0	**2**	0	0	0	0	17
02:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
03:00	1	7	1	0	0	0	0	0	0	0	0	0	0	9
04:00	0	29	2	0	0	0	0	0	1	0	0	0	0	32
05:00	0	59	5	1	1	2	0	0	0	0	0	0	0	68
06:00	2	119	22	1	4	2	**1**	0	0	0	0	0	0	151
07:00	3	340	48	**5**	4	**4**	1	1	1	0	0	0	0	407
08:00	2	**422**	**66**	5	**15**	0	0	1	0	0	0	0	0	**511**
09:00	3	355	53	5	11	1	1	0	1	0	0	0	0	430
10:00	**5**	333	66	4	14	0	1	**3**	1	0	0	0	0	427
11:00	3	386	60	3	14	0	0	0	1	0	0	0	0	467
12 PM	4	405	68	3	8	0	1	0	0	0	0	0	0	489
13:00	1	356	70	**6**	6	1	0	1	0	0	0	0	0	441
14:00	1	419	49	3	11	0	0	0	0	0	0	0	0	483
15:00	**5**	624	75	2	**16**	3	0	**2**	0	**1**	0	0	0	728
16:00	4	714	**85**	4	3	2	0	0	0	0	0	0	0	812
17:00	5	**747**	84	2	10	**4**	**3**	0	0	0	0	0	0	**855**
18:00	1	371	33	2	4	0	2	0	0	0	0	0	0	413
19:00	4	292	31	2	2	2	2	0	**1**	0	0	0	0	336
20:00	4	278	29	1	1	0	0	1	0	0	0	0	0	314
21:00	4	164	10	1	2	0	0	0	0	0	0	0	0	181
22:00	0	76	5	3	1	0	0	0	1	0	0	0	0	86
23:00	1	55	10	1	0	0	0	0	0	0	0	0	0	67
Total	54	6591	878	54	127	21	12	9	9	1	0	0	0	7756
Percent	0.7%	85.0%	11.3%	0.7%	1.6%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00	07:00	08:00	07:00	06:00	10:00	01:00					08:00
Vol.	5	422	66	5	15	4	1	3	2					511
PM Peak	15:00	17:00	16:00	13:00	15:00	17:00	17:00	15:00	19:00	15:00				17:00
Vol.	5	747	85	6	16	4	3	2	1	1				855

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/01/23	1	31	2	0	2	0	0	0	0	0	0	0	0	36
01:00	1	15	2	0	1	0	0	0	1	0	0	0	0	20
02:00	0	9	0	0	0	0	0	0	**2**	0	0	0	0	11
03:00	1	12	1	0	0	0	0	0	1	0	0	0	0	15
04:00	0	36	3	0	0	1	0	0	0	**1**	0	0	0	41
05:00	2	42	7	1	1	1	0	0	0	0	0	0	0	54
06:00	1	133	31	1	5	**2**	0	0	0	0	0	0	0	173
07:00	3	289	50	4	7	0	1	**1**	1	0	0	0	0	356
08:00	1	**400**	56	**5**	**13**	0	**2**	0	1	0	0	0	0	**478**
09:00	5	364	53	2	8	0	1	0	0	0	0	0	0	433
10:00	4	367	54	3	7	0	0	1	2	0	0	0	0	438
11:00	**9**	372	**70**	4	12	2	0	1	0	1	0	0	0	471
12 PM	2	359	75	3	11	1	1	0	**1**	0	0	0	0	453
13:00	2	387	51	3	7	0	0	1	0	0	0	0	0	451
14:00	7	435	53	2	7	0	**2**	0	0	0	0	0	0	506
15:00	5	593	74	**5**	3	1	1	1	0	0	0	0	0	683
16:00	4	**778**	**86**	2	**14**	0	2	1	0	0	0	0	0	**887**
17:00	5	709	61	2	12	0	1	**2**	1	0	0	0	0	793
18:00	1	459	42	2	6	0	1	0	0	0	0	0	0	511
19:00	**8**	320	41	1	0	1	0	0	1	0	0	0	0	372
20:00	4	277	31	1	3	**2**	0	0	0	0	**1**	0	0	319
21:00	3	188	16	1	2	0	0	0	0	0	0	0	0	210
22:00	3	102	9	3	1	0	0	0	0	0	0	0	0	118
23:00	0	62	5	1	0	0	0	0	0	0	0	0	0	68
Total	72	6739	873	46	122	11	12	8	11	2	1	0	0	7897
Percent	0.9%	85.3%	11.1%	0.6%	1.5%	0.1%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	11:00	08:00	08:00	06:00	08:00	07:00	02:00	04:00				08:00
Vol.	9	400	70	5	13	2	2	1	2	1				478
PM Peak	19:00	16:00	16:00	15:00	16:00	20:00	14:00	17:00	12:00		20:00			16:00
Vol.	8	778	86	5	14	2	2	2	1		1			887

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/02/23	1	29	2	0	2	0	0	0	0	0	0	0	0	34
01:00	0	19	0	0	0	0	0	0	0	0	0	0	0	19
02:00	0	8	0	0	1	0	0	0	1	0	0	0	0	10
03:00	0	18	1	0	0	1	0	0	0	0	0	0	0	20
04:00	0	35	3	0	0	1	0	0	0	0	0	0	0	39
05:00	0	62	6	1	3	1	0	0	1	0	0	0	0	74
06:00	**4**	148	27	1	1	**4**	0	0	1	0	0	0	0	186
07:00	1	307	47	4	8	1	0	**2**	0	**1**	0	0	0	371
08:00	3	**371**	59	3	12	3	**2**	0	**2**	0	0	0	0	455
09:00	1	370	62	**7**	**14**	2	0	2	1	0	0	0	0	**459**
10:00	2	346	**69**	4	6	1	0	0	0	0	0	0	0	428
11:00	3	366	53	3	5	1	1	1	0	1	0	0	0	434
12 PM	2	413	63	**5**	**13**	0	**1**	0	**1**	0	0	0	0	498
13:00	2	430	42	4	4	**4**	1	0	0	**1**	0	0	0	488
14:00	2	422	62	4	9	0	0	1	0	0	0	0	0	500
15:00	**12**	596	**80**	4	9	0	0	**3**	0	0	0	0	0	704
16:00	10	**685**	77	3	8	1	1	1	0	0	0	0	0	**786**
17:00	5	567	55	2	8	2	0	0	0	0	0	0	0	639
18:00	1	386	32	2	3	0	0	0	1	0	0	0	0	425
19:00	2	276	33	3	0	0	0	0	0	0	0	0	0	314
20:00	2	259	26	1	2	1	0	0	0	0	0	0	0	291
21:00	2	194	8	1	3	1	0	0	0	0	0	0	0	209
22:00	0	113	3	3	0	0	0	0	0	0	0	0	0	119
23:00	2	79	7	1	0	0	0	0	0	0	0	0	0	89
Total	57	6499	817	56	111	24	6	10	8	3	0	0	0	7591
Percent	0.8%	85.6%	10.8%	0.7%	1.5%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	08:00	10:00	09:00	09:00	06:00	08:00	07:00	08:00	07:00				09:00
Vol.	4	371	69	7	14	4	2	2	2	1				459
PM Peak	15:00	16:00	15:00	12:00	12:00	13:00	12:00	15:00	12:00	13:00				16:00
Vol.	12	685	80	5	13	4	1	3	1	1				786

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/03/23	0	52	3	0	0	0	0	0	0	0	0	0	0	55
01:00	0	20	2	0	1	0	0	0	**1**	0	0	0	0	24
02:00	0	18	1	0	0	0	0	0	0	0	0	0	0	19
03:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
04:00	0	24	3	0	0	0	0	0	1	0	0	0	0	28
05:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32
06:00	1	78	8	2	3	**1**	0	0	0	0	0	0	0	93
07:00	0	193	21	1	4	1	0	0	0	0	0	0	0	220
08:00	3	257	36	2	3	0	0	0	0	0	0	0	0	301
09:00	1	347	47	**3**	3	1	0	**1**	0	0	0	0	0	403
10:00	**6**	366	**52**	2	5	0	**1**	1	0	0	0	0	0	433
11:00	5	**426**	47	1	**6**	1	0	0	1	0	**1**	0	0	**488**
12 PM	2	**418**	**55**	**4**	**6**	**1**	0	0	0	0	0	0	0	**486**
13:00	1	349	48	1	3	1	0	0	0	0	0	0	0	403
14:00	**3**	326	27	3	5	0	1	0	0	0	0	0	0	365
15:00	2	342	25	3	5	0	1	0	0	0	0	0	0	378
16:00	2	298	36	3	3	0	0	**2**	0	0	0	0	0	344
17:00	0	264	27	3	2	0	0	0	0	0	0	0	0	296
18:00	2	274	20	2	3	0	1	1	0	0	0	0	0	303
19:00	2	227	19	2	0	0	0	0	0	0	0	0	0	250
20:00	3	223	17	2	0	0	**3**	0	**1**	0	0	0	0	249
21:00	2	210	18	2	2	0	1	0	0	**1**	0	0	0	236
22:00	0	120	5	1	0	0	0	0	0	0	0	0	0	126
23:00	0	88	7	0	0	0	0	0	0	0	0	0	0	95
Total	35	4965	527	37	55	6	8	5	4	1	1	0	0	5644
Percent	0.6%	88.0%	9.3%	0.7%	1.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	09:00	11:00	06:00	10:00	09:00	01:00		11:00			11:00
Vol.	6	426	52	3	6	1	1	1	1		1			488
PM Peak	14:00	12:00	12:00	12:00	12:00	12:00	20:00	16:00	20:00	21:00				12:00
Vol.	3	418	55	4	6	1	3	2	1	1				486

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/04/23	0	54	1	0	1	0	0	0	**1**	0	0	0	0	57
01:00	0	39	1	0	1	0	0	0	0	0	0	0	0	41
02:00	0	23	0	0	0	0	0	0	0	0	0	0	0	23
03:00	0	19	2	0	0	0	0	0	0	0	0	0	0	21
04:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
05:00	0	20	2	0	0	0	0	0	1	0	0	0	0	23
06:00	0	53	8	0	1	0	0	0	0	0	0	0	0	62
07:00	1	118	21	1	2	0	0	0	0	0	0	0	0	143
08:00	1	156	34	1	1	**1**	0	0	0	0	0	0	0	194
09:00	1	195	30	**2**	2	0	0	0	0	0	0	0	0	230
10:00	1	263	**36**	1	3	1	0	0	0	0	0	0	0	305
11:00	**2**	**331**	34	1	**6**	0	0	0	0	0	**1**	0	0	**375**
12 PM	5	374	**47**	**2**	2	0	0	**1**	0	0	0	0	0	431
13:00	2	393	40	2	4	0	0	1	0	0	0	0	0	442
14:00	1	**406**	40	1	2	0	0	0	0	0	0	0	0	**450**
15:00	**6**	374	42	2	2	0	0	0	0	0	0	0	0	426
16:00	0	366	31	2	**5**	**1**	0	0	0	0	0	0	0	405
17:00	2	283	18	2	3	0	0	0	0	0	0	0	0	308
18:00	2	280	25	1	1	0	**1**	0	0	0	0	0	0	310
19:00	2	250	25	0	2	0	0	1	0	0	0	0	0	280
20:00	3	185	14	0	3	0	0	0	0	0	0	0	0	205
21:00	2	117	9	0	1	0	0	0	0	0	0	0	0	129
22:00	0	65	4	0	0	0	0	0	0	0	0	0	0	69
23:00	0	55	1	0	0	0	0	0	0	0	0	0	0	56
Total	31	4435	466	18	42	3	1	3	2	0	1	0	0	5002
Percent	0.6%	88.7%	9.3%	0.4%	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00	09:00	11:00	08:00			00:00		11:00			11:00
Vol.	2	331	36	2	6	1			1		1			375
PM Peak	15:00	14:00	12:00	12:00	16:00	16:00	18:00	12:00						14:00
Vol.	6	406	47	2	5	1	1	1						450

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/05/23	0	23	2	0	0	0	0	0	0	0	0	0	0	25
01:00	0	15	2	0	0	0	0	0	1	0	0	0	0	18
02:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
03:00	0	7	2	0	0	0	0	0	1	0	0	0	0	10
04:00	0	28	2	0	0	0	0	0	0	0	0	0	0	30
05:00	1	47	7	0	3	0	0	0	0	0	0	0	0	58
06:00	0	112	24	2	10	0	1	0	1	0	0	0	0	150
07:00	0	324	33	3	5	3	0	0	0	0	0	0	0	368
08:00	0	364	49	5	8	0	**2**	0	**2**	0	0	0	0	430
09:00	1	336	61	**6**	**12**	**4**	0	0	0	0	0	0	0	420
10:00	**3**	**393**	63	5	10	3	0	**3**	2	0	0	0	0	**482**
11:00	1	344	**72**	2	9	3	0	1	0	0	0	0	0	432
12 PM	0	379	62	2	10	1	0	1	0	0	0	0	0	455
13:00	1	353	58	2	**15**	0	0	**2**	**1**	0	0	0	0	432
14:00	4	401	46	**4**	6	**2**	0	1	0	0	0	0	0	464
15:00	**6**	552	74	4	6	2	0	0	0	0	0	0	0	644
16:00	5	**748**	**84**	2	2	1	1	0	0	0	0	0	0	**843**
17:00	6	737	66	0	6	1	**2**	0	0	0	0	0	0	818
18:00	3	429	37	2	3	1	0	1	0	0	0	0	0	476
19:00	0	264	19	2	3	2	1	1	0	0	0	0	0	292
20:00	3	185	26	1	2	0	0	0	1	0	0	0	0	218
21:00	2	130	11	1	0	0	1	0	0	**1**	0	0	0	146
22:00	0	78	4	2	0	0	0	0	0	0	0	0	0	84
23:00	0	45	3	1	0	0	0	0	0	0	0	0	0	49
Total	36	6305	808	46	110	23	8	10	9	1	0	0	0	7356
Percent	0.5%	85.7%	11.0%	0.6%	1.5%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	11:00	09:00	09:00	09:00	08:00	10:00	08:00					10:00
Vol.	3	393	72	6	12	4	2	3	2					482
PM Peak	15:00	16:00	16:00	14:00	13:00	14:00	17:00	13:00	13:00	21:00				16:00
Vol.	6	748	84	4	15	2	2	2	1	1				843

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.631212, -73.805322

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/06/23	0	26	3	0	0	0	0	0	0	0	0	0	0	29
01:00	0	15	2	0	0	0	0	0	**1**	0	0	0	0	18
02:00	0	11	0	0	0	0	0	1	1	**1**	0	0	0	14
03:00	0	6	3	0	1	0	0	0	0	0	0	0	0	10
04:00	0	28	0	0	0	0	0	0	0	0	0	0	0	28
05:00	0	49	3	1	4	1	0	0	0	0	0	0	0	58
06:00	0	137	31	0	2	0	0	0	1	0	0	0	0	171
07:00	3	332	44	4	7	1	0	0	1	0	0	0	0	392
08:00	**4**	**388**	42	**6**	10	**2**	0	0	1	0	0	0	0	**453**
09:00	3	350	**54**	3	**17**	1	0	1	0	0	0	0	0	429
10:00	2	350	45	3	10	2	0	**2**	0	0	0	0	0	414
11:00	3	334	54	6	13	2	0	0	0	0	0	0	0	412
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	15	2026	281	23	64	9	0	4	5	1	0	0	0	2428
Percent	0.6%	83.4%	11.6%	0.9%	2.6%	0.4%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	09:00	08:00	09:00	08:00		10:00	01:00	02:00				08:00
Vol.	4	388	54	6	17	2		2	1	1				453
PM Peak														
Vol.														
Grand Total	338	43195	5368	320	744	106	55	50	50	13	3	0	0	50242
Percent	0.7%	86.0%	10.7%	0.6%	1.5%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	30	6	25	156	380	213	48	1	0	0	0	0	0	0	0	859
09:00	18	14	37	175	268	107	16	1	0	0	0	0	0	0	0	636
10:00	12	3	27	143	227	99	11	0	0	0	0	0	0	0	0	522
11:00	16	3	31	146	258	77	8	0	0	0	0	0	0	0	0	539
12 PM	14	7	31	139	298	113	12	2	0	0	0	0	0	0	0	616
13:00	19	7	34	161	288	101	19	4	0	0	0	0	0	0	0	633
14:00	16	10	29	189	226	92	18	0	2	0	0	0	0	0	0	582
15:00	15	10	14	167	273	117	15	1	0	0	0	0	0	0	0	612
16:00	26	8	32	174	235	119	20	3	0	0	0	0	0	0	0	617
17:00	16	9	34	107	254	149	27	2	0	0	0	0	0	0	0	598
18:00	8	3	18	106	211	127	23	0	0	0	0	0	0	0	0	496
19:00	1	5	22	96	156	92	11	2	0	0	0	0	0	0	0	385
20:00	3	7	22	79	125	31	8	0	0	0	0	0	0	0	0	275
21:00	3	4	13	40	49	20	5	1	0	0	0	0	0	0	0	135
22:00	2	1	4	21	36	19	4	1	0	0	0	0	0	0	0	88
23:00	0	0	1	10	18	11	4	1	0	0	0	0	0	0	0	45
Total	199	97	374	1909	3302	1487	249	19	2	0	0	0	0	0	0	7638

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/10/23	1	0	0	4	9	8	1	0	0	0	0	0	0	0	0	23
01:00	0	0	2	4	3	1	1	0	0	0	0	0	0	0	0	11
02:00	0	0	2	2	3	4	0	1	0	0	0	0	0	0	0	12
03:00	0	0	1	2	6	3	0	1	0	0	0	0	0	0	0	13
04:00	0	0	2	5	8	3	3	0	0	0	0	0	0	0	0	21
05:00	1	0	5	8	22	31	7	2	0	0	0	0	0	0	0	76
06:00	8	1	3	28	81	149	60	11	0	0	0	0	0	0	0	341
07:00	20	9	17	106	332	291	56	4	0	0	0	0	0	0	0	835
08:00	24	9	20	129	330	256	51	2	1	0	0	0	0	0	0	822
09:00	17	9	49	162	255	121	19	3	0	0	0	0	0	0	0	635
10:00	27	5	32	151	235	81	13	1	0	0	0	0	0	0	0	545
11:00	17	5	33	148	254	83	11	1	0	0	0	0	0	0	0	552
12 PM	9	9	31	199	257	100	16	2	0	0	0	0	0	0	0	623
13:00	15	6	27	193	269	89	14	3	0	0	0	0	0	0	0	616
14:00	16	14	39	190	233	63	10	0	0	0	0	0	0	0	0	565
15:00	26	21	24	162	270	108	16	1	0	0	0	0	0	0	0	628
16:00	29	19	39	172	268	118	24	3	1	1	0	0	0	0	0	674
17:00	29	5	20	112	274	152	24	5	0	0	0	0	0	0	0	621
18:00	24	6	12	99	247	135	21	1	0	0	0	0	0	0	0	545
19:00	4	0	14	92	167	81	10	2	0	1	0	0	0	0	0	371
20:00	3	6	17	96	143	56	10	1	2	0	0	0	0	0	0	334
21:00	3	3	5	36	66	19	3	0	0	0	0	0	0	0	0	135
22:00	1	0	1	16	37	21	4	1	1	0	0	0	0	0	0	82
23:00	0	1	1	10	20	9	3	0	0	0	0	0	0	0	0	44
Total	274	128	396	2126	3789	1982	377	45	5	2	0	0	0	0	0	9124

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/11/23	0	1	2	7	12	8	1	0	0	0	0	0	0	0	0	31
01:00	0	0	1	3	11	3	0	0	0	0	0	0	0	0	0	18
02:00	0	2	2	3	6	3	0	0	0	1	0	0	0	0	0	17
03:00	0	0	0	4	5	3	2	0	0	0	0	0	0	0	0	14
04:00	0	0	1	4	6	4	5	1	0	0	0	0	0	0	0	21
05:00	1	0	1	9	31	33	7	2	1	0	0	0	0	0	0	85
06:00	7	3	4	17	82	150	66	7	3	0	0	0	0	0	0	339
07:00	16	8	17	81	290	319	70	5	1	0	0	0	0	0	0	807
08:00	23	6	23	120	333	252	48	6	2	0	0	0	0	0	0	813
09:00	13	8	33	148	271	145	23	0	0	0	0	0	0	0	0	641
10:00	25	6	32	160	232	92	14	0	0	0	0	0	0	0	0	561
11:00	11	8	25	150	277	93	14	1	0	0	0	0	0	0	0	579
12 PM	24	5	43	187	290	120	13	3	0	0	0	0	0	0	0	685
13:00	18	7	36	181	294	111	14	1	0	0	0	0	0	0	0	662
14:00	21	3	26	143	257	111	15	3	0	0	0	0	0	0	0	579
15:00	26	13	51	133	273	140	16	3	0	0	0	0	0	0	0	655
16:00	16	8	28	197	285	167	34	5	0	1	0	0	0	0	0	741
17:00	22	6	31	164	307	156	19	1	0	0	0	0	0	0	0	706
18:00	12	11	18	135	280	118	16	2	0	0	0	0	0	0	0	592
19:00	10	6	22	106	199	91	15	2	0	0	0	0	0	0	0	451
20:00	11	16	30	116	162	62	9	0	0	0	0	0	0	0	0	406
21:00	5	4	11	52	69	18	2	0	0	0	0	0	0	0	0	161
22:00	3	0	1	25	26	17	5	1	0	0	0	0	0	0	0	78
23:00	2	0	3	18	29	12	5	2	0	0	0	0	0	0	0	71
Total	266	121	441	2163	4027	2228	413	45	7	2	0	0	0	0	0	9713

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/12/23	0	0	1	8	13	9	1	1	0	0	0	0	0	0	0	33
01:00	0	1	0	3	6	5	0	0	0	0	0	0	0	0	0	15
02:00	0	0	1	4	4	4	2	0	0	0	0	0	0	0	0	15
03:00	0	0	1	2	8	2	0	1	0	0	0	0	0	0	0	14
04:00	2	1	4	5	11	8	2	0	0	0	0	0	0	0	0	33
05:00	1	1	3	8	25	24	11	0	0	0	0	0	0	0	0	73
06:00	7	0	3	25	113	124	37	7	1	1	0	0	0	0	0	318
07:00	26	8	18	69	293	289	55	8	1	0	0	0	0	0	0	767
08:00	29	11	14	157	346	214	41	4	0	0	0	0	0	0	0	816
09:00	20	6	21	120	303	174	20	0	0	0	0	0	0	0	0	664
10:00	10	2	28	137	258	107	14	3	1	0	0	0	0	0	0	560
11:00	18	6	30	154	295	110	20	5	0	0	0	0	0	0	0	638
12 PM	20	11	25	158	288	139	18	2	1	0	0	0	0	0	0	662
13:00	10	10	32	155	328	126	29	2	0	0	0	0	0	0	0	692
14:00	25	12	30	142	261	132	26	2	2	0	0	0	0	0	0	632
15:00	27	15	52	176	290	134	29	6	0	0	0	0	0	0	0	729
16:00	31	8	25	153	304	152	30	4	0	0	0	0	0	0	0	707
17:00	19	8	14	142	282	123	32	2	0	1	0	0	0	0	0	623
18:00	19	2	22	116	203	140	21	3	0	0	0	0	0	0	0	526
19:00	10	5	9	88	200	77	9	3	0	0	0	0	0	0	0	401
20:00	8	7	25	139	141	37	5	0	1	0	0	0	0	0	0	363
21:00	4	6	12	58	68	35	4	0	1	0	0	0	0	0	0	188
22:00	2	3	8	23	47	21	7	2	0	0	0	0	0	0	0	113
23:00	0	2	4	24	29	11	3	1	1	0	0	0	0	0	0	75
Total	288	125	382	2066	4116	2197	416	56	9	2	0	0	0	0	0	9657

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/13/23	0	1	6	11	16	13	1	0	0	0	0	0	0	0	0	48
01:00	0	0	4	9	12	9	3	0	0	0	0	0	0	0	0	37
02:00	0	0	1	2	9	6	3	0	0	0	0	0	0	0	0	21
03:00	0	0	1	3	3	3	0	1	0	0	0	0	0	0	0	11
04:00	1	0	0	3	5	3	2	0	0	0	0	0	0	0	0	14
05:00	1	1	1	5	12	9	3	1	0	0	0	0	0	0	0	33
06:00	1	2	4	10	32	51	16	3	1	0	0	0	0	0	0	120
07:00	8	4	8	33	97	88	19	3	0	0	0	0	0	0	0	260
08:00	6	2	14	49	164	118	36	2	0	0	0	0	0	0	0	391
09:00	11	6	22	106	257	121	36	4	1	0	0	0	0	0	0	564
10:00	12	6	19	167	344	149	18	4	0	0	0	0	0	0	0	719
11:00	25	6	23	168	310	153	19	4	0	0	0	0	0	0	0	708
12 PM	25	9	27	175	299	136	15	6	3	0	0	0	0	0	0	695
13:00	12	9	31	135	300	140	29	2	0	0	0	0	0	0	0	658
14:00	15	7	19	98	253	121	28	5	0	0	0	0	0	0	0	546
15:00	17	3	13	112	249	159	23	2	1	0	0	0	0	0	0	579
16:00	10	3	14	115	247	113	26	3	1	0	0	0	0	0	0	532
17:00	10	1	14	74	225	116	27	2	1	0	0	0	0	0	0	470
18:00	6	4	21	65	203	113	16	1	0	0	0	0	0	0	0	429
19:00	8	8	23	104	157	62	14	0	0	0	0	0	0	0	0	376
20:00	3	1	21	69	147	67	5	3	0	1	0	0	0	0	0	317
21:00	4	3	7	32	84	26	5	1	1	0	0	0	0	0	0	163
22:00	4	3	6	25	39	26	3	3	0	0	0	0	0	0	0	109
23:00	3	1	2	17	27	15	6	0	0	1	0	0	0	0	0	72
Total	182	80	301	1587	3491	1817	353	50	9	2	0	0	0	0	0	7872

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/14/2 3	1	0	3	8	14	12	3	0	0	0	0	0	0	0	0	41
01:00	0	0	1	4	9	6	2	0	0	0	0	0	0	0	0	22
02:00	0	0	0	2	4	2	3	0	0	0	0	0	0	0	0	11
03:00	0	0	1	3	6	3	1	0	0	0	0	0	0	0	0	14
04:00	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	6
05:00	0	0	0	8	11	6	2	1	0	0	0	0	0	0	0	28
06:00	2	1	4	16	33	36	8	1	0	0	0	0	0	0	0	101
07:00	4	2	3	33	89	77	17	3	0	0	0	0	0	0	0	228
08:00	4	3	15	36	125	132	28	1	0	0	0	0	0	0	0	344
09:00	4	2	11	57	222	142	25	4	0	0	0	0	0	0	0	467
10:00	10	3	12	68	243	145	24	1	0	0	0	0	0	0	0	506
11:00	9	12	17	102	261	147	30	1	1	0	0	0	0	0	0	580
12 PM	14	8	12	108	241	129	22	2	0	0	0	0	0	0	0	536
13:00	8	6	15	102	234	161	21	2	1	0	0	0	0	0	0	550
14:00	8	1	9	90	229	131	29	0	0	0	0	0	0	0	0	497
15:00	5	3	16	91	229	131	32	3	1	0	0	0	0	0	0	511
16:00	4	4	16	69	192	130	23	5	0	0	0	0	0	0	0	443
17:00	5	8	19	49	188	138	29	3	0	0	0	0	0	0	0	439
18:00	2	1	9	44	174	103	22	0	0	0	0	0	0	0	0	355
19:00	5	1	5	49	150	94	17	2	0	0	0	0	0	0	0	323
20:00	3	2	7	56	111	64	11	1	0	0	0	0	0	0	0	255
21:00	1	4	5	26	53	34	10	0	1	0	0	0	0	0	0	134
22:00	0	3	4	18	37	16	4	1	0	0	0	0	0	0	0	83
23:00	0	0	0	8	14	9	4	1	0	0	0	0	0	0	0	36
Total	89	64	185	1048	2871	1850	367	32	4	0	0	0	0	0	0	6510

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/15/23	0	0	1	6	5	7	2	0	0	0	0	0	0	0	0	21
01:00	0	0	2	1	4	2	0	0	0	0	0	0	0	0	0	9
02:00	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	7
03:00	0	0	0	3	7	6	2	0	0	0	0	0	0	0	0	18
04:00	0	0	1	3	10	6	2	1	0	0	0	0	0	0	0	23
05:00	0	0	4	9	22	30	9	2	0	0	0	0	0	0	0	76
06:00	5	1	4	19	75	138	61	12	2	0	0	0	0	0	0	317
07:00	16	11	11	60	299	284	71	6	0	0	0	0	0	0	0	758
08:00	28	5	29	111	332	290	48	5	0	0	0	0	0	0	0	848
09:00	24	4	34	124	274	122	23	1	1	0	0	0	0	0	0	607
10:00	26	12	24	122	253	91	13	1	0	0	0	0	0	0	0	542
11:00	21	9	25	137	257	109	17	0	0	0	0	0	0	0	0	575
12 PM	18	13	13	182	299	109	5	3	0	0	0	0	0	0	0	642
13:00	21	4	27	146	280	103	20	1	0	0	0	0	0	0	0	602
14:00	16	11	26	137	257	104	14	2	0	0	0	0	0	0	0	567
15:00	21	8	27	138	267	144	23	2	0	0	0	0	0	0	0	630
16:00	22	8	25	140	290	117	25	1	0	0	0	0	0	0	0	628
17:00	18	6	22	124	301	147	29	4	0	0	0	0	0	0	0	651
18:00	10	5	8	67	202	130	25	6	0	0	0	0	0	0	0	453
19:00	9	3	47	97	157	72	15	0	0	0	0	0	0	0	0	400
20:00	8	4	11	70	117	55	6	0	0	0	0	0	0	0	0	271
21:00	2	0	11	28	44	31	3	0	0	0	0	0	0	0	0	119
22:00	1	2	4	16	28	14	4	3	0	0	0	0	0	0	0	72
23:00	0	0	1	10	27	7	4	0	1	0	0	0	0	0	0	50
Total	266	106	357	1752	3810	2120	421	50	4	0	0	0	0	0	0	8886

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/16/23	0	0	3	2	7	7	1	0	0	0	0	0	0	0	0	20
01:00	0	0	2	3	4	7	0	0	0	0	0	0	0	0	0	16
02:00	0	1	1	1	9	2	0	0	0	0	0	0	0	0	0	14
03:00	0	0	1	2	9	1	2	1	0	0	0	0	0	0	0	16
04:00	1	0	3	3	8	5	5	1	0	0	0	0	0	0	0	26
05:00	3	0	0	8	18	34	15	0	0	0	0	0	0	0	0	78
06:00	7	3	3	20	82	119	58	11	0	0	0	0	0	0	0	303
07:00	14	7	13	81	339	317	62	10	0	0	0	0	0	0	0	843
08:00	29	4	33	126	324	255	49	2	0	0	0	0	0	0	0	822
09:00	10	6	35	152	289	127	24	1	0	0	0	0	0	0	0	644
10:00	25	3	14	123	240	113	20	2	0	0	0	0	0	0	0	540
11:00	16	8	14	125	279	123	16	1	0	0	0	0	0	0	0	582
12 PM	16	7	22	134	254	129	27	2	1	0	0	0	0	0	0	592
13:00	20	12	28	151	261	84	14	3	1	0	0	0	0	0	0	574
14:00	15	8	31	137	259	96	17	1	1	0	0	0	0	0	0	565
15:00	16	10	35	139	277	120	17	4	0	0	0	0	0	0	0	618
16:00	19	7	23	134	285	158	22	3	0	0	0	0	0	0	0	651
17:00	15	10	12	117	273	166	33	4	1	0	0	0	0	0	0	631
18:00	12	8	22	102	246	138	22	3	1	0	0	0	0	0	0	554
19:00	6	7	21	62	176	90	15	2	1	0	0	0	0	0	0	380
20:00	6	4	22	76	117	54	8	2	0	0	0	0	0	0	0	289
21:00	0	1	5	48	59	30	6	0	0	0	0	0	0	0	0	149
22:00	1	2	4	9	31	12	9	4	0	0	0	0	0	0	0	72
23:00	1	0	2	7	18	14	5	0	0	0	0	0	0	0	0	47
Total	232	108	349	1762	3864	2201	447	57	6	0	0	0	0	0	0	9026

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628425, -73.815433

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/17/23	0	1	1	3	9	8	5	0	0	0	0	0	0	0	0	27
01:00	0	0	2	7	6	5	0	0	0	0	0	0	0	0	0	20
02:00	0	2	1	3	5	2	1	0	0	0	0	0	0	0	0	14
03:00	0	1	0	3	5	3	1	0	1	0	0	0	0	0	0	14
04:00	0	0	0	2	2	11	1	0	0	0	0	0	0	0	0	16
05:00	1	0	1	6	28	35	11	1	0	0	0	0	0	0	0	83
06:00	3	5	7	30	88	137	45	3	1	1	0	0	0	0	0	320
07:00	13	5	11	64	244	375	70	4	0	0	1	0	0	0	0	787
08:00	26	4	19	78	360	256	61	6	1	0	0	0	0	0	0	811
09:00	19	6	22	141	298	156	18	5	0	0	0	0	0	0	0	665
10:00	32	3	13	151	236	115	17	3	0	0	0	0	0	0	0	570
11:00	36	9	23	80	92	46	5	0	0	0	0	0	0	0	0	291
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	130	36	100	568	1373	1149	235	22	3	1	1	0	0	0	0	3618
Grand Total	1926	865	2885	14981	30643	17031	3278	376	49	9	1	0	0	0	0	72044

Stats		
	15th Percentile :	31 MPH
	50th Percentile :	37 MPH
	85th Percentile :	42 MPH
	95th Percentile :	45 MPH
	Mean Speed(Average) :	37 MPH
	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	47674
	Percent in Pace :	66.2%
	Number of Vehicles > 40 MPH :	20744
	Percent of Vehicles > 40 MPH :	28.8%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/09/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	12	15	11	93	198	118	27	3	1	0	0	0	0	0	0	478
09:00	10	2	15	99	255	90	18	1	0	0	0	0	0	0	0	490
10:00	9	9	17	138	204	93	24	0	0	0	0	0	0	0	0	494
11:00	16	14	53	157	233	77	16	1	0	0	0	0	0	0	0	567
12 PM	13	15	16	143	297	101	19	0	0	0	0	0	0	0	0	604
13:00	10	5	23	140	253	121	29	4	0	0	0	0	0	0	0	585
14:00	11	10	24	146	318	128	22	2	0	0	0	0	0	0	0	661
15:00	29	8	60	211	340	112	16	1	0	0	0	0	0	0	0	777
16:00	47	26	74	293	377	133	21	1	0	0	0	0	0	0	0	972
17:00	27	16	41	246	429	196	25	3	1	0	0	0	0	0	0	984
18:00	9	4	27	97	264	177	28	2	1	0	0	0	0	0	0	609
19:00	7	5	11	97	207	107	15	1	1	1	0	0	0	0	0	452
20:00	5	1	22	70	158	77	15	1	0	0	0	0	0	0	0	349
21:00	0	0	4	38	77	39	10	0	0	0	0	0	0	0	0	168
22:00	0	0	0	17	48	24	6	0	0	0	0	0	0	0	0	95
23:00	0	0	1	12	29	24	3	3	1	0	0	0	0	0	0	73
Total	205	130	399	1997	3687	1617	294	23	5	1	0	0	0	0	0	8358

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/10/23	0	0	0	4	15	10	2	0	0	0	0	0	0	0	0	31
01:00	0	0	1	2	3	4	2	0	0	0	0	0	0	0	0	12
02:00	0	1	0	1	5	3	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	1	2	3	1	0	0	0	0	0	0	0	0	8
04:00	0	0	0	2	10	10	5	2	0	0	0	0	0	0	0	29
05:00	3	1	1	6	15	22	5	2	1	0	0	0	0	0	0	56
06:00	5	4	3	15	35	57	28	6	0	0	0	0	0	0	0	153
07:00	19	12	22	47	124	111	41	7	0	0	0	0	0	0	0	383
08:00	10	7	18	106	178	141	30	5	0	0	0	0	0	0	0	495
09:00	15	9	16	119	206	89	23	3	0	0	0	0	0	0	0	480
10:00	12	9	32	123	191	87	15	3	0	0	0	0	0	0	0	472
11:00	19	6	37	152	246	126	13	1	0	0	0	0	0	0	0	600
12 PM	10	6	42	158	257	119	14	0	0	0	0	0	0	0	0	606
13:00	12	3	34	164	271	87	23	2	0	0	0	0	0	0	0	596
14:00	17	12	65	177	243	95	21	2	0	0	0	0	0	0	0	632
15:00	31	20	77	241	313	113	14	1	1	0	0	0	0	0	0	811
16:00	35	29	96	388	394	86	14	5	0	0	1	0	0	0	0	1048
17:00	28	27	64	296	432	134	22	2	2	0	0	0	0	0	0	1007
18:00	12	5	17	128	253	155	30	5	1	0	0	0	0	0	0	606
19:00	3	3	16	69	199	110	16	2	1	0	0	0	0	0	0	419
20:00	2	3	15	97	173	83	14	0	0	0	0	0	0	0	0	387
21:00	1	3	6	55	90	50	12	3	0	0	0	0	0	0	0	220
22:00	1	1	5	25	41	30	7	2	0	0	0	0	0	0	0	112
23:00	0	0	2	14	18	23	8	1	0	0	0	0	0	0	0	66
Total	235	161	570	2390	3714	1748	361	54	6	0	1	0	0	0	0	9240

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/11/23	1	0	1	3	13	8	0	1	0	0	0	0	0	0	0	27
01:00	1	0	0	1	7	3	4	0	1	0	0	0	0	0	0	17
02:00	0	2	0	0	3	6	2	0	0	0	0	0	0	0	0	13
03:00	0	0	0	2	5	2	1	0	0	0	0	0	0	0	0	10
04:00	0	0	0	5	5	9	6	2	1	0	0	0	0	0	0	28
05:00	3	1	0	4	11	22	6	3	0	0	0	0	0	0	0	50
06:00	2	1	3	8	46	66	28	4	2	0	0	0	0	0	0	160
07:00	19	7	11	30	140	130	46	5	2	0	0	0	0	0	0	390
08:00	10	5	18	76	182	118	31	9	1	0	1	0	0	0	0	451
09:00	21	6	26	123	234	108	23	1	2	0	0	0	0	0	0	544
10:00	19	12	12	136	219	80	19	1	0	0	0	0	0	0	0	498
11:00	13	9	29	138	264	115	11	2	0	1	0	0	0	0	0	582
12 PM	22	9	35	166	311	106	19	2	0	0	0	0	0	0	0	670
13:00	22	10	28	163	303	106	16	5	1	0	0	0	0	0	0	654
14:00	15	19	25	163	310	123	21	2	0	0	0	0	0	0	0	678
15:00	21	19	68	230	313	148	20	0	0	0	0	0	0	0	0	819
16:00	35	19	83	365	422	120	12	2	3	0	0	0	0	0	0	1061
17:00	42	39	134	308	405	144	26	2	1	0	0	0	0	0	0	1101
18:00	12	6	12	115	308	145	28	4	0	0	0	0	0	0	0	630
19:00	10	4	17	126	241	115	25	2	0	0	0	0	0	0	0	540
20:00	12	9	16	119	165	98	16	0	0	0	0	0	0	0	0	435
21:00	3	2	8	67	114	42	9	0	0	0	0	0	0	0	0	245
22:00	1	1	3	31	50	23	13	0	0	0	0	0	0	0	0	122
23:00	1	1	4	12	30	27	4	3	0	0	0	0	0	0	0	82
Total	285	181	533	2391	4101	1864	386	50	14	1	1	0	0	0	0	9807

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/12/2 3	0	0	1	5	17	14	3	0	0	0	0	0	0	0	0	40
01:00	1	0	0	2	5	9	0	0	0	0	0	0	0	0	0	17
02:00	0	0	0	0	6	4	0	0	1	0	0	0	0	0	0	11
03:00	0	1	1	1	6	2	1	0	0	0	0	0	0	0	0	12
04:00	0	0	2	3	4	5	9	1	0	0	0	0	0	0	0	24
05:00	4	1	0	11	14	21	5	0	1	0	0	0	0	0	0	57
06:00	4	3	5	18	57	52	27	1	1	0	0	0	0	0	0	168
07:00	9	9	12	44	140	134	46	9	1	0	0	0	0	0	0	404
08:00	24	5	18	115	215	142	24	3	1	0	0	0	0	0	0	547
09:00	18	10	16	112	235	132	24	2	0	0	0	0	0	0	0	549
10:00	15	7	20	106	239	113	17	2	2	0	1	0	0	0	0	522
11:00	13	9	26	148	261	127	20	1	0	0	0	0	0	0	0	605
12 PM	13	9	32	150	283	144	18	6	0	0	0	0	0	0	0	655
13:00	25	14	33	136	317	138	24	5	0	0	0	0	0	0	0	692
14:00	25	8	48	190	245	137	28	4	0	0	0	0	0	0	0	685
15:00	33	11	46	227	310	161	39	2	0	0	0	0	0	0	0	829
16:00	29	20	72	294	457	148	14	1	0	0	0	0	0	0	0	1035
17:00	18	13	39	249	370	164	28	2	0	0	0	0	0	0	0	883
18:00	13	7	24	124	262	152	26	5	0	0	0	0	0	0	0	613
19:00	5	14	16	116	204	79	19	0	1	0	0	0	0	0	0	454
20:00	4	4	20	104	159	56	10	1	0	0	0	0	0	0	0	358
21:00	5	0	10	49	103	47	7	5	0	0	0	0	0	0	0	226
22:00	3	1	4	37	53	35	8	0	0	0	0	0	0	0	0	141
23:00	0	0	3	18	42	29	4	0	0	0	0	0	0	0	0	96
Total	261	146	448	2259	4004	2045	401	50	8	0	1	0	0	0	0	9623

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/13/23	1	0	2	11	24	19	7	0	0	0	0	0	0	0	0	64
01:00	0	0	1	5	13	9	6	1	0	0	1	0	0	0	0	36
02:00	0	0	0	7	6	6	3	0	1	0	0	1	0	0	0	24
03:00	0	0	0	3	10	6	3	0	0	0	0	0	0	0	0	22
04:00	1	0	0	4	4	5	3	0	0	0	0	0	0	0	0	17
05:00	1	2	3	1	9	8	4	0	0	0	0	0	0	0	0	28
06:00	1	2	3	6	22	40	21	5	0	0	0	0	0	0	0	100
07:00	2	2	12	21	61	83	16	2	0	1	0	0	0	0	0	200
08:00	12	5	5	50	147	116	45	4	0	0	0	0	0	0	0	384
09:00	10	11	21	102	216	137	35	9	0	0	0	0	0	0	0	541
10:00	13	10	29	125	308	135	30	4	0	0	0	0	0	0	0	654
11:00	13	11	32	178	284	142	28	7	0	0	0	0	0	0	0	695
12 PM	9	13	32	180	292	140	16	2	0	0	0	0	0	0	0	684
13:00	19	7	29	149	269	134	36	1	1	0	0	0	0	0	0	645
14:00	11	11	28	150	216	117	16	2	0	0	0	0	0	0	0	551
15:00	7	12	9	117	229	166	31	3	0	0	0	0	0	0	0	574
16:00	7	13	20	97	270	133	31	2	1	0	0	0	0	0	0	574
17:00	8	4	11	89	253	128	19	1	2	2	0	0	0	0	0	517
18:00	5	4	16	92	218	134	18	0	0	0	0	0	0	0	0	487
19:00	7	5	14	92	181	88	19	2	0	0	0	0	0	0	0	408
20:00	2	6	20	91	131	58	4	4	1	0	0	0	0	0	0	317
21:00	0	2	8	74	107	56	17	1	0	0	0	0	0	0	0	265
22:00	2	2	4	30	68	34	6	1	0	0	0	0	0	0	0	147
23:00	2	1	2	14	42	27	7	0	0	1	0	0	0	0	0	96
Total	133	123	301	1688	3380	1921	421	51	6	4	1	1	0	0	0	8030

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/14/23	1	0	3	7	13	12	5	1	0	0	0	0	0	0	0	42
01:00	0	0	0	4	9	5	1	2	0	0	0	0	0	0	0	21
02:00	0	0	0	2	6	8	5	2	0	0	0	0	0	0	0	23
03:00	0	0	0	3	5	5	2	1	0	0	0	0	0	0	0	16
04:00	1	0	1	1	6	6	0	1	0	0	0	0	0	0	0	16
05:00	0	0	0	4	9	6	1	0	0	0	0	0	0	0	0	20
06:00	0	0	0	12	18	26	9	0	0	0	0	0	0	0	0	65
07:00	2	3	6	29	70	47	18	3	0	0	0	0	0	0	0	178
08:00	2	1	5	38	136	81	25	4	1	0	0	0	0	0	0	293
09:00	4	4	9	52	160	130	39	3	0	0	0	0	0	0	0	401
10:00	7	7	1	84	205	146	19	3	0	1	0	0	0	0	0	473
11:00	11	7	7	69	197	178	32	8	0	0	0	0	0	0	0	509
12 PM	19	11	15	97	261	169	47	2	0	0	0	0	0	0	0	621
13:00	5	4	13	72	252	140	30	7	0	0	0	0	0	0	0	523
14:00	12	5	20	101	254	155	28	6	1	0	0	0	0	0	0	582
15:00	6	3	18	140	247	138	25	4	0	1	0	0	0	0	0	582
16:00	2	4	21	92	211	165	32	2	0	0	0	0	0	0	0	529
17:00	6	7	7	80	219	136	26	3	0	0	0	1	0	0	0	485
18:00	5	6	9	48	164	128	37	5	0	0	0	0	0	0	0	402
19:00	4	4	4	58	127	125	33	0	0	0	0	0	0	0	0	355
20:00	4	0	7	64	118	64	17	2	0	0	1	0	0	0	0	277
21:00	2	1	2	20	61	44	9	0	0	0	0	0	0	0	0	139
22:00	1	2	2	12	44	28	8	1	0	0	0	0	0	0	0	98
23:00	0	0	1	5	22	10	5	2	0	0	0	0	0	0	0	45
Total	94	69	151	1094	2814	1952	453	62	2	2	1	1	0	0	0	6695

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/15/2 3	0	0	0	2	9	9	0	0	0	0	0	0	0	0	0	20
01:00	0	0	1	0	5	7	4	1	0	0	0	0	0	0	0	18
02:00	0	0	0	1	1	4	1	0	0	0	0	0	0	0	0	7
03:00	0	0	1	2	2	0	0	1	0	0	0	0	0	0	0	6
04:00	1	1	0	1	7	11	8	1	0	0	0	0	0	0	0	30
05:00	2	2	1	4	18	16	7	2	0	0	0	0	0	0	0	52
06:00	7	2	1	15	37	58	24	8	0	0	0	0	0	0	0	152
07:00	10	6	3	42	124	95	40	5	0	0	0	0	0	0	0	325
08:00	14	3	12	79	208	127	38	3	2	1	0	0	0	0	0	487
09:00	23	11	14	120	199	106	29	0	0	0	0	0	0	0	0	502
10:00	16	7	22	123	227	113	18	3	0	0	1	0	0	0	0	530
11:00	14	8	29	134	251	123	15	5	0	0	0	0	0	0	0	579
12 PM	18	10	35	206	272	106	17	5	0	0	0	0	0	0	0	669
13:00	16	8	30	171	200	142	22	0	0	0	0	0	0	0	0	589
14:00	28	8	38	165	245	130	24	2	0	0	0	0	0	0	0	640
15:00	27	16	50	204	321	153	25	1	0	0	0	0	0	0	0	797
16:00	35	45	100	256	396	152	21	2	3	0	0	0	0	0	0	1010
17:00	32	20	66	310	443	139	16	6	0	0	0	0	0	0	0	1032
18:00	7	5	15	105	247	120	29	1	0	0	0	0	0	0	0	529
19:00	4	5	8	81	185	110	20	1	0	0	0	0	0	0	0	414
20:00	4	4	12	83	135	61	6	1	0	0	0	0	0	0	0	306
21:00	0	2	5	44	82	43	5	0	0	0	0	0	0	0	0	181
22:00	0	0	2	14	47	29	4	0	0	0	0	0	0	0	0	96
23:00	1	0	1	11	14	16	7	2	1	0	0	1	0	0	0	54
Total	259	163	446	2173	3675	1870	380	50	6	1	1	1	0	0	0	9025

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/16/23	0	1	0	3	9	12	5	0	0	0	0	0	0	0	0	30
01:00	0	0	0	0	5	6	0	0	0	0	0	0	0	0	0	11
02:00	0	0	0	4	4	2	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0	10
04:00	2	1	0	4	4	12	4	2	0	0	0	0	0	0	0	29
05:00	1	1	1	5	14	16	8	0	0	0	0	0	0	0	0	46
06:00	2	2	6	12	49	55	26	5	2	0	0	0	0	0	0	159
07:00	12	9	10	52	123	137	30	11	1	0	0	0	0	0	0	385
08:00	9	6	11	90	216	126	21	5	0	0	0	0	0	0	0	484
09:00	24	4	18	96	232	106	22	3	0	0	0	0	0	0	0	505
10:00	18	11	29	123	214	104	21	2	0	2	0	0	0	0	0	524
11:00	11	9	23	138	234	109	18	4	0	0	0	0	0	0	0	546
12 PM	18	16	20	147	287	116	21	5	1	0	0	0	0	0	0	631
13:00	11	9	34	171	261	123	22	2	0	0	0	0	0	0	0	633
14:00	11	10	37	186	275	113	19	3	0	0	0	0	0	0	0	654
15:00	26	15	42	191	351	124	21	2	0	0	0	0	0	0	0	772
16:00	32	16	41	315	473	145	12	1	0	0	0	0	0	0	0	1035
17:00	24	11	59	293	474	150	20	1	0	0	0	0	0	0	0	1032
18:00	4	13	11	148	277	126	16	4	2	1	0	0	0	0	0	602
19:00	7	8	19	98	209	110	17	5	0	0	0	0	0	0	0	473
20:00	4	2	9	64	150	86	14	2	0	0	0	0	0	0	0	331
21:00	1	1	12	32	72	50	9	2	0	0	0	0	0	0	0	179
22:00	0	2	1	21	45	22	7	1	0	0	0	0	0	0	0	99
23:00	1	1	0	15	18	13	7	1	1	0	0	0	0	0	0	57
Total	218	148	384	2212	4001	1863	341	61	7	3	0	0	0	0	0	9238

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: NY 443 - Delaware Ave
Segment: 30' E of Snowden Ave
Date: 05/09/2023

GPS: 42.628578, -73.815518

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/17/23	0	0	0	4	10	9	2	2	0	0	0	0	0	0	0	27
01:00	0	0	0	1	5	8	0	0	0	0	0	0	0	0	0	14
02:00	1	0	0	0	3	3	2	0	0	0	0	0	0	0	0	9
03:00	1	0	0	3	1	5	0	0	0	0	0	0	0	0	0	10
04:00	0	0	0	2	7	13	3	0	0	0	0	0	0	0	0	25
05:00	2	0	0	5	16	25	12	2	2	0	0	0	0	0	0	64
06:00	4	6	4	19	44	49	23	2	1	0	0	0	0	0	0	152
07:00	11	5	6	45	104	125	54	10	1	0	0	0	0	0	0	361
08:00	18	6	12	56	181	146	37	5	1	0	0	0	0	0	0	462
09:00	18	8	14	111	203	141	26	3	0	0	0	0	0	0	0	524
10:00	20	6	17	107	219	126	23	1	1	0	0	0	0	0	0	520
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	75	31	53	353	793	650	182	25	6	0	0	0	0	0	0	2168
Grand Total	1765	1152	3285	16557	30169	15530	3219	426	60	12	6	3	0	0	0	72184

Stats		
	15th Percentile :	31 MPH
	50th Percentile :	37 MPH
	85th Percentile :	42 MPH
	95th Percentile :	45 MPH
	Mean Speed(Average) :	37 MPH
	10 MPH Pace Speed :	31-40 MPH
	Number in Pace :	46726
	Percent in Pace :	64.7%
	Number of Vehicles > 40 MPH :	19256
	Percent of Vehicles > 40 MPH :	26.7%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	46	82	80	94	172	131	31	3	0	1	0	0	0	0	0	640
10:00	56	64	71	86	170	103	19	1	0	0	0	0	0	0	0	570
11:00	59	70	85	83	175	85	16	2	0	0	0	0	0	0	0	575
12 PM	59	73	74	111	165	113	31	3	0	1	0	0	0	0	0	630
13:00	65	62	71	90	182	113	25	4	0	0	0	0	0	0	0	612
14:00	83	55	53	83	160	110	46	6	0	0	0	0	0	0	0	596
15:00	65	87	68	122	171	118	27	5	1	1	0	0	0	0	0	665
16:00	60	55	70	85	172	140	29	8	2	0	0	0	0	0	0	621
17:00	47	58	57	77	157	188	52	8	1	0	0	0	0	0	0	645
18:00	54	46	43	71	165	126	34	5	1	1	0	0	0	0	0	546
19:00	62	29	40	45	118	92	22	4	0	0	0	0	0	0	0	412
20:00	62	2	21	48	103	58	15	3	0	0	0	0	0	0	0	312
21:00	23	1	7	62	113	61	11	3	0	0	0	0	0	0	0	281
22:00	2	4	1	14	47	26	7	1	0	0	0	0	0	0	0	102
23:00	13	1	2	5	30	19	8	2	0	0	0	0	0	0	0	80
Total	756	689	743	1076	2100	1483	373	58	5	4	0	0	0	0	0	7287

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/31/23	1	0	1	6	13	10	0	1	0	0	0	0	0	0	0	32
01:00	0	0	0	3	6	4	0	0	1	0	0	0	0	0	0	14
02:00	0	0	2	6	4	2	0	1	0	0	0	0	0	0	0	15
03:00	0	0	0	1	1	3	0	1	0	0	0	0	0	0	0	6
04:00	2	0	0	2	4	6	1	0	0	0	0	0	0	0	0	15
05:00	6	3	1	7	25	44	13	5	0	1	0	0	0	0	0	105
06:00	14	0	3	9	48	127	63	19	5	4	0	0	0	0	0	292
07:00	13	7	19	30	192	371	115	17	2	0	0	0	0	0	0	766
08:00	51	60	74	80	230	270	50	9	2	1	0	0	0	0	0	827
09:00	30	70	43	80	209	142	41	9	0	0	0	0	0	0	0	624
10:00	37	60	54	68	184	100	23	5	0	0	0	0	0	0	0	531
11:00	32	60	50	87	186	117	16	1	0	1	0	0	0	0	0	550
12 PM	75	70	67	108	192	111	25	5	0	0	0	0	0	0	0	653
13:00	45	41	71	84	172	102	28	4	3	0	0	0	0	0	0	550
14:00	52	55	51	70	202	119	33	7	0	0	0	0	0	0	0	589
15:00	81	47	54	83	175	152	36	4	0	0	0	0	0	0	0	632
16:00	56	33	61	88	191	155	39	17	0	1	0	0	0	0	0	641
17:00	50	61	39	80	200	159	40	9	2	0	0	0	0	0	0	640
18:00	45	36	62	61	131	124	42	3	1	1	0	0	0	0	0	506
19:00	80	31	39	67	102	75	14	1	0	0	0	0	0	0	0	409
20:00	41	8	17	55	98	74	16	0	0	0	0	0	0	0	0	309
21:00	15	3	7	26	63	35	9	1	0	1	0	0	0	0	0	160
22:00	4	1	5	18	42	37	6	1	0	0	0	0	0	0	0	114
23:00	4	0	4	10	33	16	2	0	0	0	0	0	0	0	0	69
Total	734	646	724	1129	2703	2355	612	120	16	10	0	0	0	0	0	9049

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/01/23	3	2	1	4	12	12	4	0	0	0	0	0	0	0	0	38
01:00	3	0	0	5	4	4	0	0	0	1	0	0	0	0	0	17
02:00	1	0	1	4	7	3	1	0	0	0	0	0	0	0	0	17
03:00	2	0	0	2	8	2	1	0	0	0	0	0	0	0	0	15
04:00	0	0	2	0	4	4	4	1	0	0	0	0	0	0	0	15
05:00	4	1	0	4	30	41	18	2	2	0	0	0	0	0	0	102
06:00	7	1	0	8	55	143	69	7	1	0	0	0	1	0	0	292
07:00	22	6	20	33	173	307	125	12	6	0	0	0	0	0	0	704
08:00	22	46	73	89	250	259	62	10	3	0	0	0	0	0	0	814
09:00	39	51	67	72	204	151	24	2	2	1	1	0	0	0	0	614
10:00	35	42	51	81	160	134	24	5	0	0	0	0	0	0	0	532
11:00	50	66	58	100	197	93	18	5	0	1	1	0	0	0	0	589
12 PM	66	69	69	80	183	134	34	6	0	0	0	0	0	0	0	641
13:00	50	62	59	104	182	123	36	4	0	0	0	0	0	0	0	620
14:00	84	48	67	94	180	126	29	6	0	0	0	0	0	0	0	634
15:00	71	46	50	82	149	136	39	8	1	0	0	0	0	0	0	582
16:00	51	48	41	84	201	164	57	9	2	0	0	0	0	0	0	657
17:00	41	40	46	62	167	189	48	8	1	0	0	0	0	0	0	602
18:00	47	26	40	53	153	146	40	10	0	2	0	0	0	0	0	517
19:00	59	19	31	56	119	100	28	5	0	0	0	0	0	0	0	417
20:00	58	6	13	82	123	74	12	2	0	0	0	0	0	0	0	370
21:00	28	2	5	68	94	51	13	2	0	0	0	0	0	0	0	263
22:00	9	4	7	18	34	38	8	0	0	0	0	0	0	0	0	118
23:00	3	0	3	14	21	16	3	2	0	0	0	0	0	0	0	62
Total	755	585	704	1199	2710	2450	697	106	18	5	2	0	1	0	0	9232

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/02/23	0	1	2	10	11	9	2	0	0	0	0	1	0	0	0	36
01:00	0	0	1	1	7	6	0	2	0	0	0	0	0	0	0	17
02:00	0	1	1	0	3	0	0	1	0	0	0	0	0	0	0	6
03:00	3	0	0	4	3	6	1	0	0	0	0	0	0	0	0	17
04:00	3	0	2	2	8	8	4	0	0	0	0	0	0	0	0	27
05:00	2	0	2	6	26	37	19	2	0	1	0	0	0	0	0	95
06:00	8	0	3	9	50	127	76	9	3	2	0	0	0	0	0	287
07:00	15	9	24	34	157	299	115	20	2	0	0	0	0	0	0	675
08:00	29	48	64	67	210	239	60	14	2	0	0	0	0	0	0	733
09:00	24	43	57	96	194	116	34	4	0	0	2	0	0	0	0	570
10:00	39	43	65	79	189	110	29	1	3	0	0	0	0	0	0	558
11:00	37	51	43	92	181	130	29	1	4	0	0	0	0	0	0	568
12 PM	60	56	55	77	200	117	18	3	1	1	0	0	0	0	0	588
13:00	59	48	53	89	207	118	33	3	1	0	0	0	0	0	0	611
14:00	43	42	60	75	168	125	38	8	0	1	0	0	0	0	0	560
15:00	66	43	57	109	205	154	34	4	1	0	0	0	0	0	0	673
16:00	47	47	38	91	176	159	36	5	2	0	0	0	0	0	0	601
17:00	39	27	44	80	208	124	39	4	0	0	0	0	0	0	0	565
18:00	54	42	32	80	142	114	32	4	0	0	0	0	0	0	0	500
19:00	31	23	24	49	130	79	18	4	0	0	0	0	0	0	0	358
20:00	54	10	20	56	101	70	13	3	0	1	0	0	0	0	0	328
21:00	17	2	6	50	69	46	8	0	0	0	0	0	0	0	0	198
22:00	6	0	6	25	51	43	6	1	1	0	0	0	0	0	0	139
23:00	9	1	2	8	30	26	5	1	0	0	0	0	0	0	0	82
Total	645	537	661	1189	2726	2262	649	94	20	6	2	1	0	0	0	8792

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/03/23	3	0	2	7	19	10	1	1	0	0	0	0	0	0	0	43
01:00	0	1	1	1	9	4	2	0	0	0	0	0	0	0	0	18
02:00	0	0	2	0	0	3	1	0	0	0	0	0	0	0	0	6
03:00	0	0	1	5	1	1	2	0	0	0	0	0	0	0	0	10
04:00	0	0	0	3	7	3	3	0	1	0	0	0	0	0	0	17
05:00	3	0	2	4	13	9	4	3	0	0	0	0	0	0	0	38
06:00	2	1	6	9	30	39	16	4	2	1	0	0	0	0	0	110
07:00	17	22	31	19	64	60	16	2	1	0	0	0	0	0	0	232
08:00	31	36	26	41	95	87	21	0	1	0	0	0	0	0	0	338
09:00	16	26	21	53	155	144	21	7	1	0	0	0	0	0	0	444
10:00	20	11	29	84	214	125	33	1	1	0	0	0	0	0	0	518
11:00	26	13	26	61	191	155	20	4	1	0	0	0	0	0	0	497
12 PM	22	30	31	75	157	113	25	3	0	2	0	0	0	0	0	458
13:00	44	36	57	63	187	142	24	4	0	0	0	0	0	0	0	557
14:00	48	33	47	73	145	88	15	8	1	0	0	0	0	0	0	458
15:00	44	34	56	82	181	104	29	2	1	0	0	0	0	0	0	533
16:00	32	49	37	47	126	108	35	3	0	0	0	0	0	0	0	437
17:00	37	44	39	49	131	106	19	3	1	0	0	0	0	0	0	429
18:00	37	26	31	43	101	113	21	2	1	0	0	0	0	0	0	375
19:00	42	19	32	39	97	63	18	1	0	0	0	2	0	0	0	313
20:00	52	0	12	37	94	55	10	1	0	0	0	0	0	0	0	261
21:00	9	1	8	42	83	37	12	1	0	0	0	0	0	0	0	193
22:00	13	1	4	30	65	33	9	3	0	0	0	0	0	0	0	158
23:00	7	0	6	16	40	20	12	1	0	0	0	0	0	0	0	102
Total	505	383	507	883	2205	1622	369	54	12	3	0	2	0	0	0	6545

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/04/23	2	1	1	3	28	26	3	1	1	1	0	0	0	0	0	67
01:00	3	0	1	5	14	11	2	0	0	0	0	0	0	0	0	36
02:00	0	1	0	3	6	5	1	1	0	0	0	0	0	0	0	17
03:00	2	0	1	3	1	5	1	0	0	0	0	0	0	0	0	13
04:00	0	0	0	2	4	3	2	0	0	0	0	0	0	0	0	11
05:00	2	0	0	2	3	6	4	2	0	0	0	0	0	0	0	19
06:00	2	1	0	5	13	38	22	5	0	0	0	0	0	0	0	86
07:00	9	6	22	17	47	50	13	5	1	0	0	0	0	0	0	170
08:00	38	57	49	42	63	69	24	1	0	0	0	0	0	0	0	343
09:00	45	68	74	49	101	71	25	2	0	0	0	0	0	0	0	435
10:00	44	65	69	62	118	88	17	3	0	0	0	0	0	0	0	466
11:00	88	71	65	54	130	75	30	4	0	0	0	0	0	0	0	517
12 PM	100	62	62	106	120	82	15	1	0	0	0	0	0	0	0	548
13:00	70	96	59	88	135	86	23	3	0	1	0	0	0	0	0	561
14:00	84	71	64	68	119	93	22	2	0	0	0	0	0	0	0	523
15:00	81	80	71	82	142	71	20	3	0	0	0	0	0	0	0	550
16:00	91	83	82	74	126	88	17	3	1	0	0	0	0	0	0	565
17:00	62	52	68	68	135	98	23	4	0	0	0	0	0	0	0	510
18:00	38	12	23	47	115	107	26	2	0	0	0	0	0	0	0	370
19:00	29	5	11	31	106	69	17	2	1	0	0	0	0	0	0	271
20:00	36	2	6	30	75	45	12	1	0	0	0	0	0	0	0	207
21:00	4	0	7	20	48	35	5	0	0	0	0	0	0	0	0	119
22:00	3	0	2	12	30	25	8	0	0	0	0	0	0	0	0	80
23:00	3	0	2	9	13	14	6	0	1	0	0	0	0	0	0	48
Total	836	733	739	882	1692	1260	338	45	5	2	0	0	0	0	0	6532

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/05/23	3	0	2	7	10	7	3	1	0	0	0	0	0	0	0	33
01:00	1	0	0	3	5	2	0	0	0	0	0	0	0	0	0	11
02:00	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	7
03:00	1	0	2	3	6	3	0	0	0	0	0	0	0	0	0	15
04:00	2	0	0	0	9	7	3	0	0	0	0	0	0	0	0	21
05:00	2	0	2	3	20	28	16	4	0	0	0	0	0	0	0	75
06:00	7	0	0	8	58	134	65	9	1	0	0	0	0	0	0	282
07:00	23	15	22	31	220	317	90	4	1	0	0	0	0	0	0	723
08:00	29	48	65	83	259	260	59	11	0	0	0	0	0	0	0	814
09:00	41	52	56	67	175	143	34	3	0	0	0	1	0	0	0	572
10:00	30	62	47	88	145	85	26	4	0	0	0	0	0	0	0	487
11:00	42	50	56	76	181	89	18	3	0	0	0	0	0	0	0	515
12 PM	52	55	66	79	197	98	28	4	1	0	0	0	0	0	0	580
13:00	46	58	45	78	172	104	27	6	1	0	0	0	0	0	0	537
14:00	44	49	51	100	184	96	19	3	0	0	0	0	0	0	0	546
15:00	61	63	60	119	164	126	37	4	0	0	0	0	0	0	0	634
16:00	59	49	52	99	197	136	24	4	0	0	0	0	0	0	0	620
17:00	40	51	44	99	195	120	38	7	0	0	0	0	0	0	0	594
18:00	46	32	33	74	177	122	33	10	2	0	0	0	0	0	0	529
19:00	68	22	28	52	116	77	11	2	1	0	1	0	0	0	0	378
20:00	29	8	10	32	108	47	15	0	1	0	0	0	0	0	0	250
21:00	11	1	8	44	65	51	8	3	0	0	0	0	0	0	0	191
22:00	1	0	4	7	38	25	9	1	0	0	0	0	0	0	0	85
23:00	4	2	8	10	14	5	2	1	0	0	0	0	0	0	0	46
Total	642	617	661	1162	2720	2084	565	84	8	0	1	1	0	0	0	8545

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320

"Serving Transportation Professionls Since 1995"

GPS: 42.631097, -73.805196

EB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/06/2 3	0	0	1	9	10	13	6	0	0	0	0	0	0	0	0	39
01:00	0	0	0	3	5	2	0	0	0	0	0	0	0	0	0	10
02:00	0	0	1	0	4	5	1	0	0	0	0	0	0	0	0	11
03:00	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	6
04:00	1	0	0	2	5	4	2	1	0	0	0	0	0	0	0	15
05:00	1	0	1	9	23	41	19	3	1	0	0	0	0	0	0	98
06:00	1	0	1	13	49	139	53	12	5	1	0	0	0	0	0	274
07:00	15	3	12	39	209	338	101	11	1	0	0	0	0	0	0	729
08:00	26	35	42	52	243	298	70	8	2	0	0	0	0	0	0	776
09:00	30	42	40	78	193	146	27	6	1	0	0	0	0	0	0	563
10:00	30	31	40	71	162	107	23	5	1	0	0	0	0	0	0	470
11:00	24	43	51	95	171	86	20	1	1	0	1	0	0	0	0	493
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	128	154	190	371	1079	1179	322	47	12	1	1	0	0	0	0	3484
Grand Total	5001	4344	4929	7891	17935	14695	3925	608	96	31	6	4	1	0	0	59466

Stats		
	15th Percentile :	24 MPH
	50th Percentile :	37 MPH
	85th Percentile :	43 MPH
	95th Percentile :	47 MPH
	Mean Speed(Average) :	35 MPH
	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	32630
	Percent in Pace :	54.9%
	Number of Vehicles > 40 MPH :	19366
	Percent of Vehicles > 40 MPH :	32.6%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/30/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	7	6	18	74	188	124	24	3	0	0	0	0	0	0	0	444
10:00	11	13	25	85	145	113	16	3	0	0	1	0	0	0	0	412
11:00	20	6	26	97	181	90	13	3	0	0	0	0	0	0	0	436
12 PM	11	15	22	104	181	112	20	2	0	1	0	0	0	0	0	468
13:00	17	6	22	92	202	119	21	1	0	0	0	0	0	0	0	480
14:00	18	9	41	104	167	140	25	3	0	0	0	0	0	0	0	507
15:00	22	17	34	117	259	184	27	4	1	0	0	0	0	0	0	665
16:00	18	14	40	168	369	259	36	3	0	0	0	0	0	0	0	907
17:00	30	11	44	106	311	263	50	6	0	0	0	0	0	0	0	821
18:00	34	10	19	76	155	113	33	7	1	0	0	0	0	0	0	448
19:00	29	6	6	43	126	92	30	0	0	0	0	0	0	0	0	332
20:00	31	7	8	57	116	75	16	1	0	0	0	0	0	0	0	311
21:00	16	2	2	18	83	44	10	0	1	0	0	0	0	0	0	176
22:00	1	0	2	7	37	31	12	2	0	0	0	0	0	0	0	92
23:00	4	0	1	8	28	28	8	0	0	0	0	0	0	0	0	77
Total	269	122	310	1156	2548	1787	341	38	3	1	1	0	0	0	0	6576

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
05/31/23	0	0	0	3	10	8	1	1	0	0	0	0	0	0	0	23
01:00	0	0	0	3	7	5	1	1	0	0	0	0	0	0	0	17
02:00	0	0	0	3	2	1	1	1	0	0	1	0	0	0	0	9
03:00	0	0	0	1	4	4	0	0	0	0	0	0	0	0	0	9
04:00	1	0	0	4	8	8	8	1	2	0	0	0	0	0	0	32
05:00	1	1	0	4	16	27	13	2	2	1	0	1	0	0	0	68
06:00	1	1	1	6	35	61	39	2	4	1	0	0	0	0	0	151
07:00	5	1	5	22	133	156	74	8	2	0	0	1	0	0	0	407
08:00	8	4	16	65	191	184	38	4	1	0	0	0	0	0	0	511
09:00	5	4	12	56	162	153	33	4	1	0	0	0	0	0	0	430
10:00	6	6	9	73	173	121	35	3	0	1	0	0	0	0	0	427
11:00	12	9	13	69	231	102	27	4	0	0	0	0	0	0	0	467
12 PM	17	8	24	77	198	129	29	7	0	0	0	0	0	0	0	489
13:00	15	3	18	91	172	103	28	11	1	0	0	0	0	0	0	442
14:00	18	8	17	93	191	124	32	1	0	0	0	0	0	0	0	484
15:00	19	9	34	122	285	207	39	12	1	0	0	0	0	0	0	728
16:00	29	16	29	109	310	253	62	4	1	0	0	0	0	0	0	813
17:00	21	11	31	98	318	303	61	11	2	0	0	0	0	0	0	856
18:00	16	10	12	47	158	132	32	6	1	0	0	0	0	0	0	414
19:00	19	9	7	59	135	88	18	1	0	0	0	0	0	0	0	336
20:00	39	5	17	33	122	74	18	6	1	0	0	0	0	0	0	315
21:00	3	1	4	27	80	52	14	0	0	0	0	0	0	0	0	181
22:00	1	0	7	17	34	21	4	1	0	1	0	0	0	0	0	86
23:00	1	0	3	7	31	15	7	1	1	0	1	0	0	0	0	67
Total	237	106	259	1089	3006	2331	614	92	20	4	2	2	0	0	0	7762

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/01/23	1	0	2	4	12	6	10	1	0	0	0	0	0	0	0	36
01:00	0	0	0	2	10	6	0	2	0	0	0	0	0	0	0	20
02:00	0	0	0	1	4	4	2	0	0	0	0	0	0	0	0	11
03:00	0	0	0	3	3	8	1	0	0	0	0	0	0	0	0	15
04:00	0	0	0	1	11	11	13	5	0	0	0	0	0	0	0	41
05:00	0	0	0	2	14	21	7	8	1	1	0	0	0	0	0	54
06:00	5	2	1	9	35	76	37	7	1	0	0	0	0	0	0	173
07:00	8	0	4	24	86	159	59	15	1	0	0	0	0	0	0	356
08:00	4	5	18	55	173	169	47	7	0	0	0	0	0	0	0	478
09:00	12	13	19	61	165	127	30	5	1	0	0	0	0	0	0	433
10:00	16	8	10	58	181	131	33	1	1	0	0	0	0	0	0	439
11:00	8	7	16	81	203	127	25	4	0	0	0	0	0	0	0	471
12 PM	10	9	15	62	181	144	28	2	2	0	0	0	0	0	0	453
13:00	14	9	13	74	192	115	32	2	0	0	0	0	0	0	0	451
14:00	24	12	22	88	194	133	29	4	1	0	0	0	0	0	0	507
15:00	25	9	27	105	289	186	41	2	0	0	0	0	0	0	0	684
16:00	18	11	19	109	347	317	58	9	0	0	0	0	0	0	0	888
17:00	28	12	25	112	333	238	36	8	1	0	0	0	0	0	0	793
18:00	16	6	9	87	153	193	39	8	0	0	0	0	0	0	0	511
19:00	27	3	8	59	129	122	24	0	0	0	0	0	0	0	0	372
20:00	36	8	14	51	128	72	11	0	0	0	0	0	0	0	0	320
21:00	9	1	8	40	80	61	11	0	0	0	0	0	0	0	0	210
22:00	5	0	3	17	51	30	10	2	0	0	0	0	0	0	0	118
23:00	1	0	0	6	27	27	5	1	1	0	0	0	0	0	0	68
Total	267	115	233	1111	3001	2483	588	93	10	1	0	0	0	0	0	7902

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/02/23	0	0	1	5	9	13	3	3	0	0	0	0	0	0	0	34
01:00	0	0	0	1	10	6	1	1	0	0	0	0	0	0	0	19
02:00	0	0	0	1	2	7	0	0	0	0	0	0	0	0	0	10
03:00	0	0	1	2	9	8	0	0	0	0	0	0	0	0	0	20
04:00	0	0	1	0	5	23	6	2	2	0	0	0	0	0	0	39
05:00	0	0	1	5	18	27	21	0	2	0	0	0	0	0	0	74
06:00	6	1	2	12	38	83	31	13	0	0	0	0	0	0	0	186
07:00	4	5	8	14	80	167	74	15	3	1	0	0	0	0	0	371
08:00	12	2	8	79	159	152	35	8	1	0	0	0	0	0	0	456
09:00	15	9	12	51	182	152	34	5	1	0	0	0	0	0	0	461
10:00	7	7	17	78	148	139	26	5	1	0	0	0	0	0	0	428
11:00	15	12	18	64	162	127	33	2	3	0	0	0	0	0	0	436
12 PM	9	1	20	77	200	153	35	2	0	0	1	0	0	0	0	498
13:00	19	8	15	77	193	143	28	7	0	0	0	0	0	0	0	490
14:00	17	12	13	80	227	128	22	1	1	0	0	0	0	0	0	501
15:00	31	20	37	93	273	203	40	6	1	0	0	0	0	0	0	704
16:00	26	12	28	107	319	249	45	0	0	0	0	0	0	0	0	786
17:00	24	5	23	75	265	197	40	9	2	0	0	0	0	0	0	640
18:00	16	12	16	63	169	124	22	1	2	0	0	0	0	0	0	425
19:00	25	8	7	51	118	91	12	4	0	0	0	0	0	0	0	316
20:00	26	7	12	53	118	67	8	1	0	0	0	0	0	0	0	292
21:00	7	3	7	44	87	47	12	2	0	0	0	0	0	0	0	209
22:00	8	1	4	13	50	36	5	2	0	0	0	0	0	0	0	119
23:00	4	1	2	14	28	29	7	4	0	0	0	0	0	0	0	89
Total	271	126	253	1059	2869	2371	540	93	19	1	1	0	0	0	0	7603

Tri-State Traffic Data Inc

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/03/2 3	0	0	1	8	16	22	7	1	0	0	0	0	0	0	0	55
01:00	0	0	2	4	4	10	3	1	0	0	0	0	0	0	0	24
02:00	0	0	1	0	9	5	3	1	0	0	0	0	0	0	0	19
03:00	0	0	0	4	5	5	2	1	0	0	0	0	0	0	0	17
04:00	0	0	1	6	10	6	3	2	0	0	0	0	0	0	0	28
05:00	0	0	0	2	15	9	3	3	0	0	0	0	0	0	0	32
06:00	5	0	2	6	32	29	15	4	0	0	0	0	0	0	0	93
07:00	4	2	7	33	60	97	15	2	0	0	0	0	0	0	0	220
08:00	6	6	8	24	115	104	33	3	2	0	0	0	0	0	0	301
09:00	6	8	12	44	136	163	31	3	0	0	0	0	0	0	0	403
10:00	13	1	3	49	174	148	41	4	0	0	0	0	0	0	0	433
11:00	10	9	11	46	182	197	31	2	0	0	0	0	0	0	0	488
12 PM	21	11	19	70	221	119	21	2	2	0	0	0	0	0	0	486
13:00	13	6	12	50	177	119	23	2	0	0	1	0	0	0	0	403
14:00	11	6	13	43	141	129	20	2	0	0	0	0	0	0	0	365
15:00	17	9	15	45	140	111	38	3	0	0	0	0	0	0	0	378
16:00	16	8	13	44	144	95	22	2	0	0	0	0	0	0	0	344
17:00	14	4	14	30	111	100	18	4	1	0	0	0	0	0	0	296
18:00	8	7	9	44	122	94	15	4	0	0	0	0	0	0	0	303
19:00	25	2	3	37	92	73	14	4	0	0	0	0	0	0	0	250
20:00	27	5	11	43	75	70	14	4	0	0	0	0	0	0	0	249
21:00	8	6	13	46	86	63	13	1	0	0	0	0	0	0	0	236
22:00	4	1	2	15	55	32	16	0	1	0	0	0	0	0	0	126
23:00	7	1	3	14	33	28	9	0	0	0	0	0	0	0	0	95
Total	215	92	175	707	2155	1828	410	55	6	0	1	0	0	0	0	5644

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/04/2 3	0	0	0	7	22	24	3	1	0	0	0	0	0	0	0	57
01:00	1	0	0	2	14	20	4	0	0	0	0	0	0	0	0	41
02:00	0	0	0	4	10	3	3	2	1	0	0	0	0	0	0	23
03:00	1	0	1	3	6	5	3	2	0	0	0	0	0	0	0	21
04:00	0	0	0	1	6	7	3	0	0	0	0	0	0	0	0	17
05:00	0	0	1	2	6	9	3	0	2	0	0	0	0	0	0	23
06:00	5	0	2	2	15	21	14	2	1	0	0	0	0	0	0	62
07:00	6	1	0	2	53	61	18	2	0	0	0	0	0	0	0	143
08:00	5	2	3	21	71	69	21	2	0	0	0	0	0	0	0	194
09:00	4	2	5	39	90	68	21	0	1	0	0	0	0	0	0	230
10:00	11	9	7	51	111	101	14	1	0	0	0	0	0	0	0	305
11:00	19	9	23	70	124	101	23	6	0	0	0	0	0	0	0	375
12 PM	28	9	26	94	159	90	21	2	1	1	0	0	0	0	0	431
13:00	15	9	26	74	177	112	28	1	1	0	0	0	0	0	0	443
14:00	24	15	23	93	160	115	20	1	0	0	0	0	0	0	0	451
15:00	23	22	22	82	128	115	28	6	0	0	0	0	0	0	0	426
16:00	27	12	22	90	126	100	29	0	0	0	0	0	0	0	0	406
17:00	21	8	12	42	104	96	26	0	0	0	0	0	0	0	0	309
18:00	13	16	20	33	106	94	25	2	1	0	0	0	0	0	0	310
19:00	27	10	7	38	101	76	18	3	1	0	0	0	0	0	0	281
20:00	19	1	6	16	76	69	15	3	0	0	0	0	0	0	0	205
21:00	4	0	1	22	54	36	11	1	0	0	0	0	0	0	0	129
22:00	2	0	2	7	27	26	4	1	0	0	0	0	0	0	0	69
23:00	2	0	1	7	20	22	4	0	0	0	0	0	0	0	0	56
Total	257	125	210	802	1766	1440	359	38	9	1	0	0	0	0	0	5007

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/05/23	1	0	0	4	12	2	5	1	0	0	0	0	0	0	0	25
01:00	1	0	0	1	5	4	7	0	0	0	0	0	0	0	0	18
02:00	0	0	0	2	6	4	0	0	0	0	0	0	0	0	0	12
03:00	0	0	0	1	4	3	2	0	0	0	0	0	0	0	0	10
04:00	0	0	0	1	8	11	10	0	0	0	0	0	0	0	0	30
05:00	2	0	0	3	12	20	15	4	2	0	0	0	0	0	0	58
06:00	2	1	0	3	33	58	46	5	2	0	0	0	0	0	0	150
07:00	9	2	2	31	92	162	53	17	1	0	0	0	0	0	0	369
08:00	6	0	6	30	152	173	54	8	1	0	0	0	0	0	0	430
09:00	10	1	22	71	166	115	29	4	2	0	0	0	0	0	0	420
10:00	11	4	17	77	189	154	29	0	1	0	0	0	0	0	0	482
11:00	8	11	20	60	182	114	33	4	0	0	0	0	0	0	0	432
12 PM	14	11	22	71	163	145	28	2	0	0	0	0	0	0	0	456
13:00	18	6	22	72	173	119	19	2	2	0	0	0	0	0	0	433
14:00	13	11	17	77	181	126	36	2	1	0	0	0	0	0	0	464
15:00	29	8	24	115	265	165	34	4	0	0	0	0	0	0	0	644
16:00	16	7	29	142	339	254	54	3	0	0	0	0	0	0	0	844
17:00	27	14	30	122	365	222	32	6	0	0	0	0	0	0	0	818
18:00	21	3	17	61	172	170	29	3	0	0	0	0	0	0	0	476
19:00	21	4	9	46	107	80	24	0	2	0	0	0	0	0	0	293
20:00	11	1	7	25	96	61	16	1	0	0	0	0	0	0	0	218
21:00	5	1	0	34	60	35	9	2	0	0	0	0	0	0	0	146
22:00	1	1	1	6	35	34	6	0	0	0	0	0	0	0	0	84
23:00	2	1	1	10	24	8	2	1	0	0	0	0	0	0	0	49
Total	228	87	246	1065	2841	2239	572	69	14	0	0	0	0	0	0	7361

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville PA 19320
"Serving Transportation Professionls Since 1995"

Location: Bethlehem, New York
Road Name: Delaware Ave
Segment: 10' E of Grant St
Date: 05/30/2023

GPS: 42.631212, -73.805322

WB

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
06/06/23	0	0	2	4	8	8	7	0	0	0	0	0	0	0	0	29
01:00	0	0	0	0	5	7	3	3	0	0	0	0	0	0	0	18
02:00	1	0	0	1	7	3	1	0	0	1	0	0	0	0	0	14
03:00	0	0	1	1	5	3	0	0	0	0	0	0	0	0	0	10
04:00	0	0	1	2	6	5	9	5	0	0	0	0	0	0	0	28
05:00	0	0	0	5	16	25	7	4	1	0	0	0	0	0	0	58
06:00	4	0	2	7	32	83	32	10	1	0	0	0	0	0	0	171
07:00	10	2	1	24	94	179	75	5	1	1	0	0	0	0	0	392
08:00	23	1	13	85	162	130	34	5	1	0	0	0	0	0	0	454
09:00	13	16	21	82	176	98	21	2	0	1	0	0	0	0	0	430
10:00	11	12	13	98	142	118	20	0	1	0	0	0	0	0	0	415
11:00	26	10	20	82	173	83	15	3	0	0	0	0	0	0	0	412
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	88	41	74	391	826	742	224	37	5	3	0	0	0	0	0	2431
Grand Total	1832	814	1760	7380	19012	15221	3648	515	86	11	5	2	0	0	0	50286

Stats

15th Percentile :	32 MPH
50th Percentile :	38 MPH
85th Percentile :	43 MPH
95th Percentile :	47 MPH
Mean Speed(Average) :	38 MPH
10 MPH Pace Speed :	36-45 MPH
Number in Pace :	34233
Percent in Pace :	68.1%
Number of Vehicles > 40 MPH :	19488
Percent of Vehicles > 40 MPH :	38.8%

Appendix D-4

Travel Time and Average Speed Study

PIN 1761.68 Delaware Avenue Complete Streets Project
Travel Time and Speed Analysis

AM Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	31	33
Between Plymouth Ave and Normanskill Blvd	23	28
Between Normanskill Blvd and Mason Road	33	37
Between Mason Road and Grant Street	38	44
Between Grant Street and Bethleham Town Boundary	40	44
Average	34	38

PM Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	31	28
Between Plymouth Ave and Normanskill Blvd	26	31
Between Normanskill Blvd and Mason Road	33	41
Between Mason Road and Grant Street	33	36
Between Grant Street and Bethleham Town Boundary	38	43
Average	33	35

Weekend Peak

Speed Analysis Segment	Average Speed (mph)	
	Eastbound	Westbound
Between Elsmere Avenue and Plymouth Ave	32	40
Between Plymouth Ave and Normanskill Blvd	32	25
Between Normanskill Blvd and Mason Road	28	38
Between Mason Road and Grant Street	39	39
Between Grant Street and Bethleham Town Boundary	40	39
Average	34	37

Town of Bethlehem – Delaware Avenue Complete Streets Project
Travel Time and Speed Raw Data

Date: May 11, 2023
Time: 7:00 AM to 8:00 AM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	7:28:00	7:34:00	7:39:30	7:46:00	7:53:00	---	---	---	---	---			0	0.00	0										
@ Plymouth Ave	7:28:44	7:34:44	7:40:16	7:46:48	7:53:47	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:44	00:44	00:46	00:48	00:47	46	0	46	31.0	31
@ Normanskill Blvd	7:28:55	7:35:10	7:40:40	7:47:49	7:54:13	---	00:07	00:08	00:43	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:11	00:26	00:24	01:01	00:26	30	12	18	13.9	23
@ Mason Road	7:29:14	7:35:33	7:41:05	7:48:11	7:54:40	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:19	00:23	00:25	00:22	00:27	23	0	23	33.0	33
@ Grant Street	7:29:29	7:35:47	7:41:22	7:48:27	7:54:59	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:15	00:14	00:17	00:16	00:19	16	0	16	37.7	38
@ Bethleham Town Boundary	7:30:09	7:36:30	7:42:10	7:49:11	7:55:53	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:40	00:43	00:48	00:44	00:54	46	0	46	39.8	40

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	7:31:00	7:37:00	7:43:00	7:50:00	7:56:30	---	---	---	---	---			0	0.00	0										
@ Grant Street	7:31:40	7:37:43	7:43:41	7:50:43	7:57:11	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:40	00:43	00:41	00:43	00:41	42	0	42	43.8	44
@ Mason Road	7:31:53	7:37:57	7:43:55	7:50:57	7:57:25	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:13	00:14	00:14	00:14	00:14	14	0	14	44.3	44
@ Normanskill Blvd	7:32:16	7:38:12	7:44:16	7:51:23	7:58:06	---	---	---	---	00:23	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:23	00:15	00:21	00:26	00:41	25	5	21	30.4	37
@ Plymouth Ave	7:32:27	7:38:24	7:44:33	7:51:40	7:58:22	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:11	00:12	00:17	00:17	00:16	15	0	15	28.2	28
@ Elsmere Avenue	7:33:26	7:39:04	7:45:25	7:52:35	7:59:02	00:17	---	---	00:15	---	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	00:59	00:40	00:52	00:55	00:40	49	6	43	28.8	33

Date: May 11, 2023
Time: 4:00 PM to 5:00 PM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	16:00:00	16:04:00	16:08:00	16:12:00	16:16:00	---	---	---	---	---															
@ Plymouth Ave	16:00:47	16:04:45	16:08:45	16:12:42	16:16:53	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:47	00:45	00:45	00:42	00:53	46	0	46	30.6	31
@ Normanskill Blvd	16:01:08	16:04:57	16:08:59	16:12:54	16:17:14	---	---	---	---	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:21	00:12	00:14	00:12	00:21	16	0	16	25.7	26
@ Mason Road	16:01:32	16:05:09	16:09:22	16:13:21	16:17:45	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:24	00:12	00:23	00:27	00:31	23	0	23	32.7	33
@ Grant Street	16:01:50	16:05:29	16:09:40	16:13:39	16:18:04	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:18	00:20	00:18	00:18	00:19	19	0	19	32.8	33
@ Bethleham Town Boundary	16:02:36	16:06:20	16:10:24	16:14:28	16:18:54	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:46	00:51	00:44	00:49	00:50	48	0	48	38.0	38

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	16:21:00	16:25:00	16:30:00	16:35:00	16:40:00	---	---	---	---	---															
@ Grant Street	16:21:43	16:25:43	16:30:42	16:35:43	16:40:42	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:43	00:43	00:42	00:43	00:42	43	0	43	42.8	43
@ Mason Road	16:22:02	16:25:59	16:30:58	16:36:01	16:40:57	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:19	00:16	00:16	00:18	00:15	17	0	17	36.4	36
@ Normanskill Blvd	16:22:19	16:26:17	16:31:15	16:36:20	16:41:27	---	---	---	---	00:07	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:17	00:18	00:17	00:19	00:30	20	1	19	37.9	41
@ Plymouth Ave	16:22:31	16:26:30	16:31:27	16:36:32	16:41:45	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:12	00:13	00:12	00:12	00:18	13	0	13	30.7	31
@ Elsmere Avenue	16:23:37	16:27:26	16:32:16	16:38:05	16:43:54	00:17	00:03	---	00:58	01:03	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	01:06	00:56	00:49	01:33	02:09	79	28	50	18.1	28

Note:
a. Field stop delays in seconds were measured when travel speed was less than 30 mph.
b. Cruising Speed and Time was not calculated for average stop delays more than 50 seconds within a segment.

Start time
Enter in seconds

Town of Bethlehem – Delaware Avenue Complete Streets Project
Travel Time and Speed Raw Data

Date: June 10, 2023
Time: 2:00 PM to 3:00 PM

EB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Elsmere Avenue	14:00:00	14:10:00	14:20:00	14:30:00	14:40:00	---	---	---	---	---															
@ Plymouth Ave	14:00:45	14:10:40	14:20:43	14:30:48	14:40:42	---	---	---	---	---	@ Elsmere Avenue	@ Plymouth Ave	2081	0.39	5	00:45	00:40	00:43	00:48	00:42	44	0	44	32.4	32
@ Normanskill Blvd	14:00:59	14:10:52	14:20:56	14:31:01	14:40:56	---	---	---	00:01	---	@ Plymouth Ave	@ Normanskill Blvd	604	0.11	5	00:14	00:11	00:13	00:14	00:14	13	0	13	31.2	32
@ Mason Road	14:01:22	14:11:10	14:21:20	14:31:26	14:41:43	---	---	---	---	---	@ Normanskill Blvd	@ Mason Road	1122	0.21	5	00:23	00:18	00:24	00:24	00:47	27	0	27	28.1	28
@ Grant Street	14:01:38	14:11:25	14:21:35	14:31:42	14:41:59	---	---	---	---	---	@ Mason Road	@ Grant Street	896	0.17	5	00:16	00:15	00:16	00:16	00:16	16	0	16	38.7	39
@ Bethleham Town Boundary	14:02:22	14:12:10	14:22:24	14:32:29	14:42:45	---	---	---	---	---	@ Grant Street	@ Bethleham Town Boundary	2672	0.51	5	00:44	00:45	00:48	00:47	00:46	46	0	46	39.6	40

WB DELAWARE AVENUE SPEED RUN

START TIME	RUN # 1	RUN # 2	RUN # 3	RUN # 4	RUN # 5	FIELD STOP DELAYS[a] (Seconds) 1	2	3	4	5	LINK FROM	LINK TO	LINK LENGTH (FT)	LINK LENGTH (MI)	# OF RUNS	LINK TRAVEL TIMES 1	2	3	4	5	AVG LINK TIME (SEC)	AVG DELAY TIME (SEC)	AVG CRUISING TIME (SEC)	AVG LINK SPEED (MPH)	AVG CRUISING SPEED[b] (MPH)
@ Bethleham Town Boundary	14:05:00	14:15:00	14:25:00	14:35:00	14:45:00	---	---	---	---	---															
@ Grant Street	14:05:49	14:15:46	14:25:47	14:35:45	14:45:46	---	---	---	---	---	@ Bethleham Town Boundary	@ Grant Street	2672	0.51	5	00:49	00:46	00:47	00:45	00:46	47	0	47	38.9	39
@ Mason Road	14:06:08	14:16:05	14:26:01	14:36:00	14:45:59	---	---	---	---	---	@ Grant Street	@ Mason Road	896	0.17	5	00:19	00:18	00:14	00:15	00:12	16	0	16	38.7	39
@ Normanskill Blvd	14:06:47	14:16:35	14:26:22	14:36:19	14:46:16	---	---	00:14	00:12	---	@ Mason Road	@ Normanskill Blvd	1122	0.21	5	00:40	00:30	00:21	00:19	00:17	25	5	20	30.1	38
@ Plymouth Ave	14:07:07	14:16:48	14:26:39	14:36:37	14:46:27	---	---	---	---	---	@ Normanskill Blvd	@ Plymouth Ave	604	0.11	5	00:19	00:13	00:18	00:19	00:11	16	0	16	25.4	25
@ Elsmere Avenue	14:08:01	14:17:31	14:27:19	14:37:19	14:47:08	00:14	00:26	---	----	----	@ Plymouth Ave	@ Elsmere Avenue	2081	0.39	5	00:54	00:43	00:39	00:42	00:40	44	8	36	32.4	40

Note:
a. Field stop delays in seconds were measured when travel speed was less than 30 mph.
b. Cruising Speed and Time was not calculated for average stop delays more than 50 seconds within a segment.

Start time
Enter in seconds

Appendix D-5

AADT, DHV, DDHV

PIN 1761.68 Delaware Avenue Complete Streets Project
AADT, DHV, DDHV
January 2024

Survey Period: 5/9/2023 to 5/16/2023

Location	**ATR 1**	**ATR 2**
NYSDOT Station	110111	110111
Location	30' East of Snowden Ave	10' East of Grant Avenue
Existing	**2023**	
AADT	16,696	10,093
AADT (round to nearest 100)	16,700	10,100
DHV	1,606	971
DDHV	1,008	609
K	9.6%	9.6%
D	63%	63%
ETC	**2025**	
AADT (round to nearest 100)	16,900	10,200
DHV	1,622	981
DDHV	1,018	615
ETC + 20	**2045**	
AADT (round to nearest 100)	18,500	11,200
DHV	1,783	1,078
DDHV	1,118	676

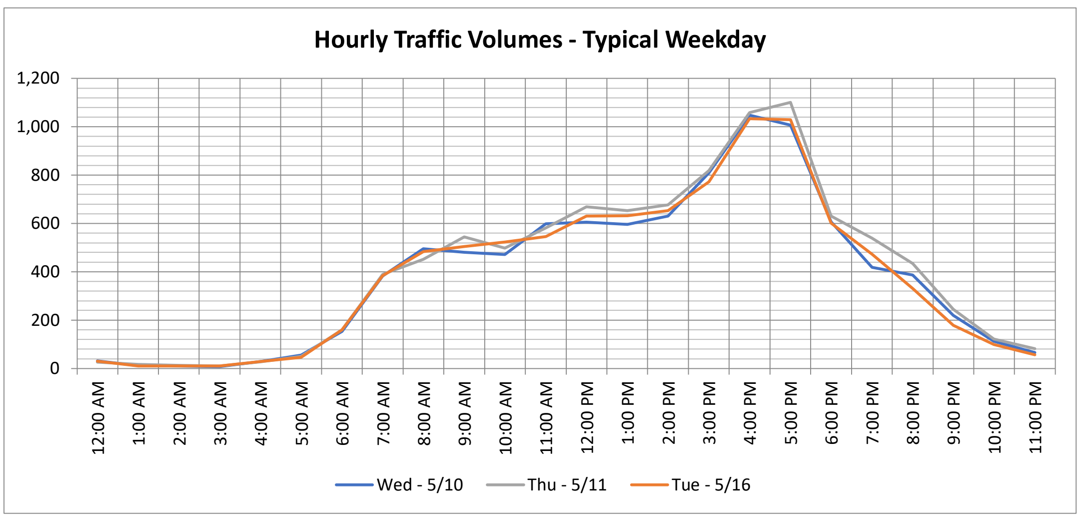
ATR Data Summary

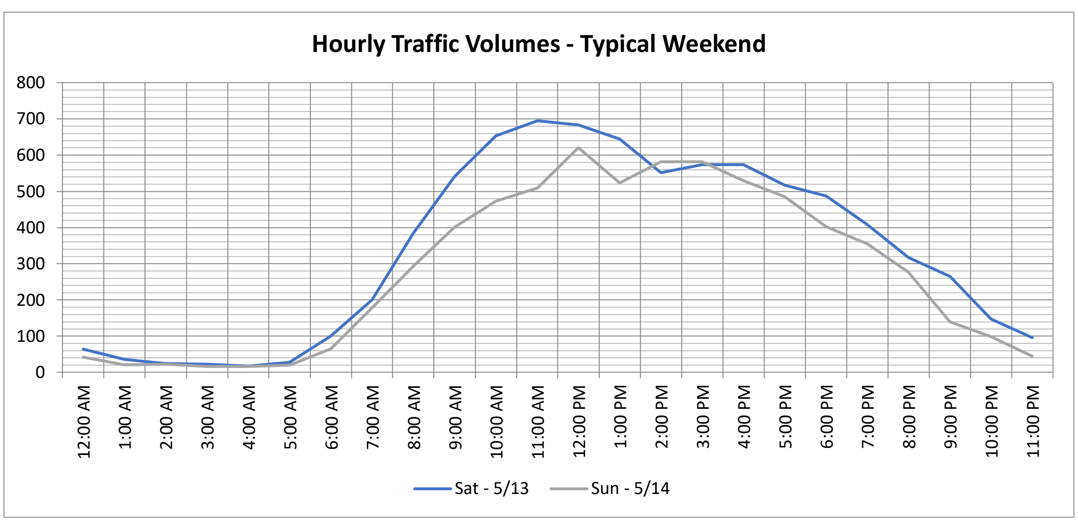
Location	ATR 1	ATR 1	ATR 2	ATR 2
Direction	WB	EB	WB	EB
Factor Group	30	30	30	30
Seasonal Factor	1.102	1.102	1.102	1.102
Functional Class	16	16	16	16
Region of Study Area	1	1	1	1
Axle Adjustment Factors	0.984	0.984	0.984	0.984
Station	110111	110111	110111	110111
Total Tuesday	9,231	9,016	0	0
Total Wednesday	9,233	9,115	7,756	9,040
Total Thursday	9,801	9,700	7,897	9,217
Average Daily	9,422	9,277	5,218	6,086
Estimated AADT	**8,413**	**8,284**	**4,659**	**5,434**

Seasonal Factor and axle adjustment factor based on 2021 rates

PIN 1761.68 Delaware Avenue Complete Streets Project
ATR Data Summary (Motorcycle + Cars & Light Goods + Buses + Trucks) - May 2023
30' E of Snowden Ave – Station 110111
Coordinates 42.628578, -73.815518 ATR # 1 WB

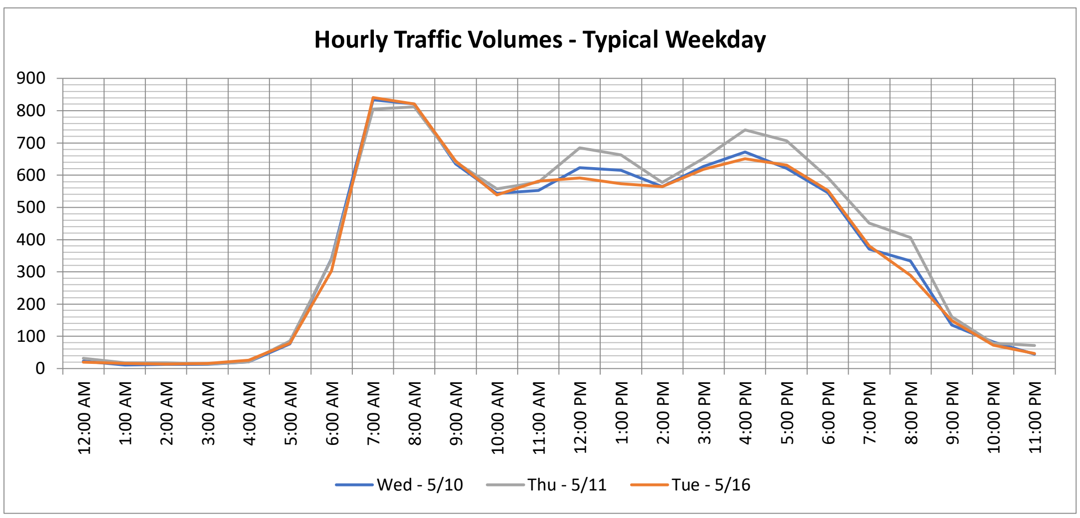
Time Begin Begin	Tue - 5/9 05/09/23	Wed - 5/10 05/10/23	Thu - 5/11 05/11/23	Fri - 5/12 05/12/23	Sat - 5/13 05/13/23	Sun - 5/14 05/14/23	Mon - 5/15 05/15/23	Tue - 5/16 05/16/23
12:00 AM		31	27	40	64	42	20	30
1:00 AM		12	17	17	36	21	18	11
2:00 AM		11	13	11	24	23	7	11
3:00 AM		8	10	12	22	16	6	10
4:00 AM		29	28	24	17	16	30	29
5:00 AM		56	50	57	28	20	52	46
6:00 AM		153	160	168	100	65	152	159
7:00 AM		382	390	404	200	178	325	384
8:00 AM	478	495	451	546	384	293	486	484
9:00 AM	490	480	544	549	541	401	501	505
10:00 AM	494	471	498	521	653	473	530	523
11:00 AM	567	599	582	604	695	509	579	546
12:00 PM	604	605	669	655	684	621	669	631
1:00 PM	584	596	653	691	645	523	588	632
2:00 PM	660	631	677	685	551	582	640	653
3:00 PM	776	810	819	829	574	582	796	772
4:00 PM	971	1,048	1,059	1,034	574	529	1,009	1,034
5:00 PM	984	1,006	1,101	882	517	485	1,031	1,030
6:00 PM	609	606	630	612	487	402	529	602
7:00 PM	452	419	540	454	408	355	414	473
8:00 PM	349	387	434	358	317	277	306	331
9:00 PM	168	220	245	226	265	139	181	179
10:00 PM	95	112	122	141	147	98	96	99
11:00 PM	73	66	82	96	96	45	54	57
Max	984	1,048	1,101	1,034	695	621	1,031	1,034
Total	8,354	9,233	9,801	9,616	8,029	6,695	9,019	9,231

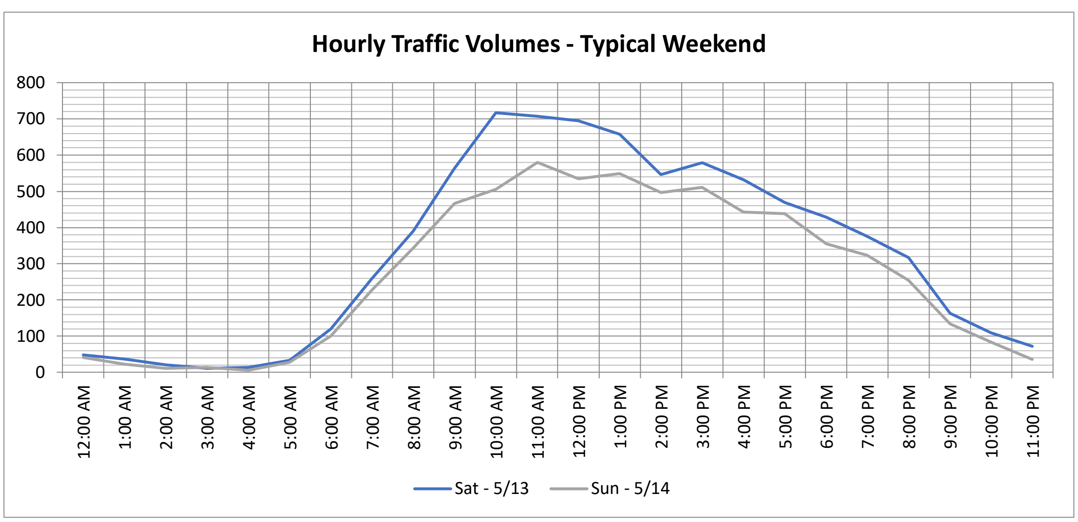




PIN 1761.68 Delaware Avenue Complete Streets Project
ATR Data Summary (Motorcycle + Cars & Light Goods + Buses + Trucks) - May 2023
30' E of Snowden Ave – Station 110111
Coordinates 42.628578, -73.815518 **ATR # 1 EB**

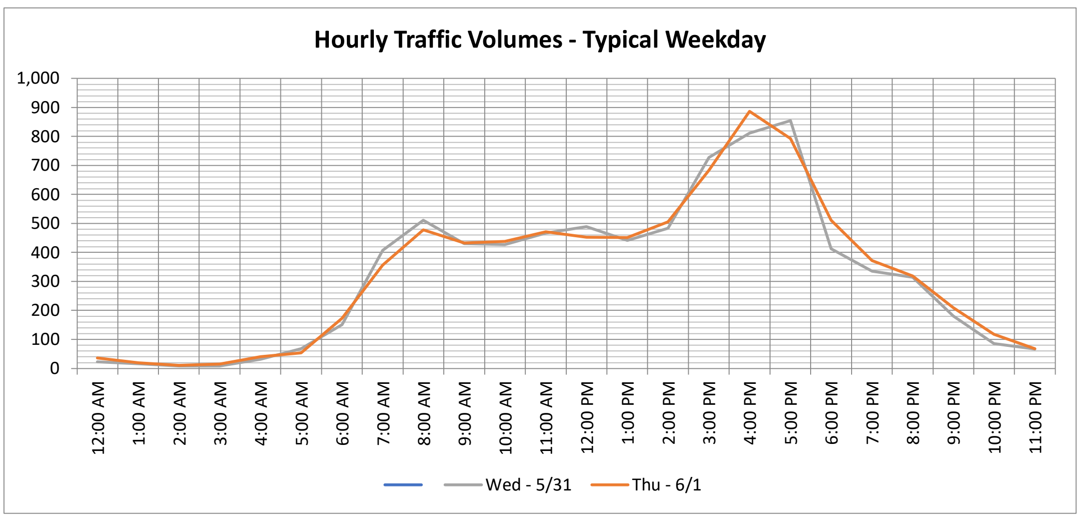
Time Begin Begin	Tue - 5/9 05/09/23	Wed - 5/10 05/10/23	Thu - 5/11 05/11/23	Fri - 5/12 05/12/23	Sat - 5/13 05/13/23	Sun - 5/14 05/14/23	Mon - 5/15 05/15/23	Tue - 5/16 05/16/23
12:00 AM		23	31	33	48	41	21	20
1:00 AM		11	18	15	37	22	9	16
2:00 AM		12	17	15	21	11	7	14
3:00 AM		13	14	14	11	14	18	16
4:00 AM		21	21	33	14	6	23	26
5:00 AM		76	85	73	33	28	76	78
6:00 AM		341	339	318	120	101	317	303
7:00 AM		834	805	766	260	228	758	841
8:00 AM	857	820	812	813	391	344	848	821
9:00 AM	635	635	641	662	564	467	607	644
10:00 AM	521	544	558	560	717	506	540	539
11:00 AM	537	552	578	637	707	580	575	581
12:00 PM	616	623	685	662	695	535	641	591
1:00 PM	633	615	662	692	658	549	602	573
2:00 PM	580	564	577	631	546	497	566	564
3:00 PM	610	627	652	727	579	511	629	618
4:00 PM	617	672	740	706	532	443	627	651
5:00 PM	596	621	706	622	469	439	651	631
6:00 PM	496	545	592	525	429	355	453	552
7:00 PM	385	371	451	401	376	323	400	380
8:00 PM	275	334	406	362	317	255	271	289
9:00 PM	135	135	161	188	163	134	119	149
10:00 PM	88	82	78	113	109	83	72	72
11:00 PM	45	44	71	75	72	36	50	47
Max	857	834	812	813	717	580	848	841
Total	7,626	9,115	9,700	9,643	7,868	6,508	8,880	9,016

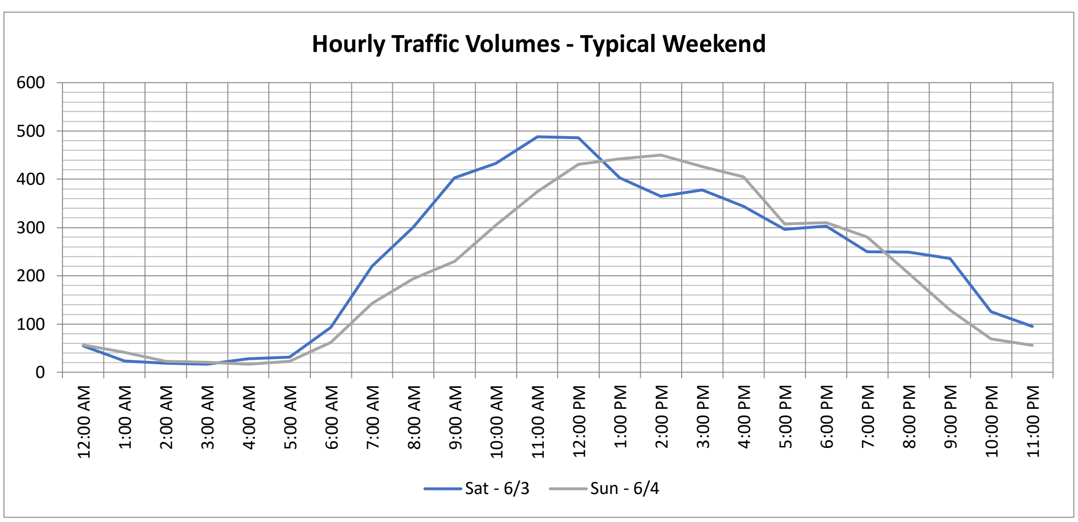




PIN 1761.68 Delaware Avenue Complete Streets Project
ATR Data Summary (Motorcycle + Cars & Light Goods + Buses + Trucks) - May 2023
10' E of Grant St – Station 110111
Coordinates 42.631212, -73.805322 ATR # 2 WB

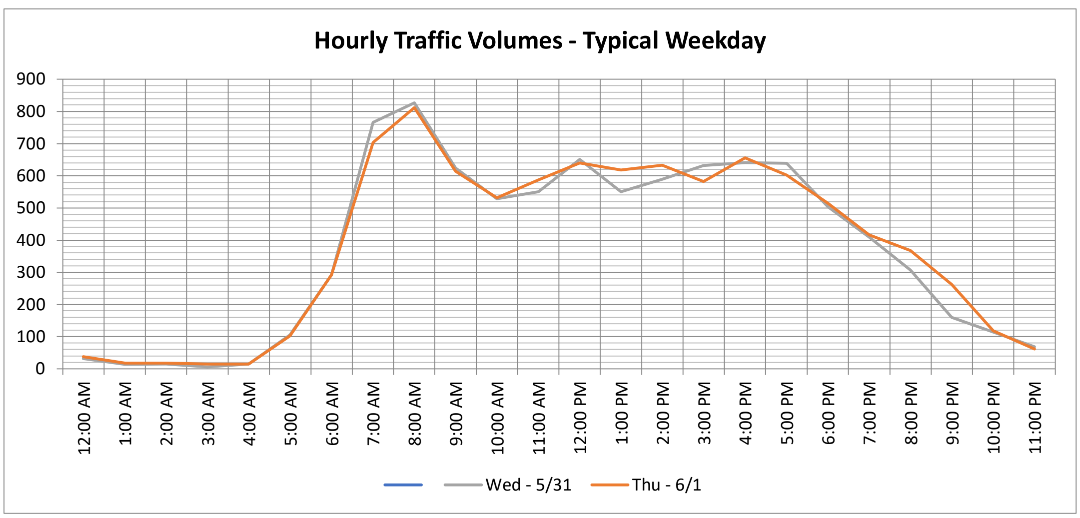
Time Begin Begin	Tue - 5/30 05/30/23	Wed - 5/31 05/31/23	Thu - 6/1 06/01/23	Fri - 6/2 06/02/23	Sat - 6/3 06/03/23	Sun - 6/4 06/04/23	Mon - 6/5 06/05/23	Tue - 6/6 06/06/23
12:00 AM		23	36	34	55	57	25	29
1:00 AM		17	20	19	24	41	18	18
2:00 AM		9	11	10	19	23	12	14
3:00 AM		9	15	20	17	21	10	10
4:00 AM		32	41	39	28	17	30	28
5:00 AM		68	54	74	32	23	58	58
6:00 AM		151	173	186	93	62	150	171
7:00 AM		407	356	371	220	143	368	392
8:00 AM		511	478	455	301	194	430	453
9:00 AM	444	430	433	459	403	230	420	429
10:00 AM	411	427	438	428	433	305	482	414
11:00 AM	435	467	471	434	488	375	432	412
12:00 PM	468	489	453	498	486	431	455	
1:00 PM	480	441	451	488	403	442	432	
2:00 PM	507	483	506	500	365	450	464	
3:00 PM	665	728	683	704	378	426	644	
4:00 PM	906	812	887	786	344	405	843	
5:00 PM	820	855	793	639	296	308	818	
6:00 PM	448	413	511	425	303	310	476	
7:00 PM	331	336	372	314	250	280	292	
8:00 PM	309	314	319	291	249	205	218	
9:00 PM	175	181	210	209	236	129	146	
10:00 PM	92	86	118	119	126	69	84	
11:00 PM	77	67	68	89	95	56	49	
Max	906	855	887	786	488	450	843	453
Total	6,568	7,756	7,897	7,591	5,644	5,002	7,356	2,428

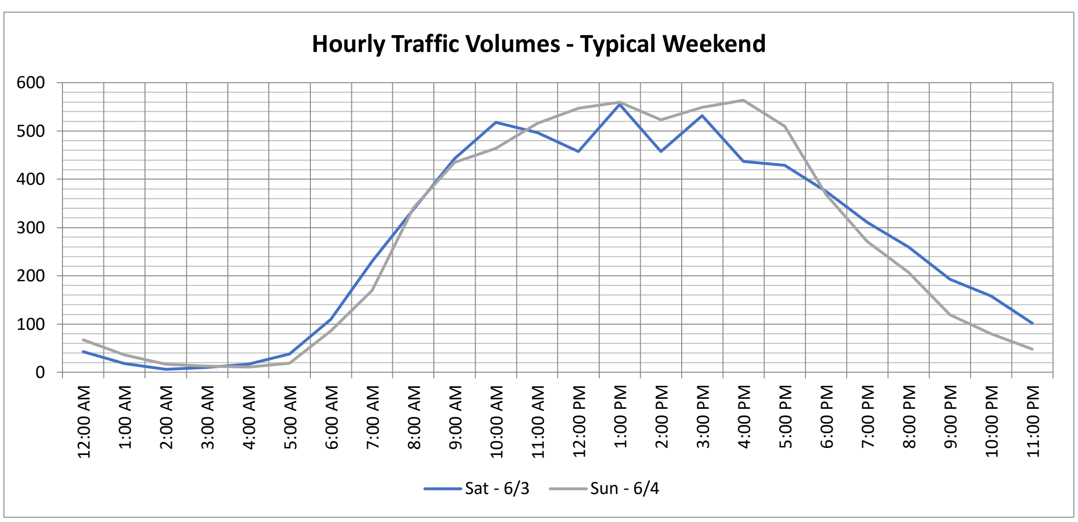




PIN 1761.68 Delaware Avenue Complete Streets Project
ATR Data Summary (Motorcycle + Cars & Light Goods + Buses + Trucks) - May 2023
10' E of Grant St – Station 110111
Coordinates 42.631212, -73.805322 **ATR # 2 EB**

Time Begin	Tue - 5/30	Wed - 5/31	Thu - 6/1	Fri - 6/2	Sat - 6/3	Sun - 6/4	Mon - 6/5	Tue - 6/6
Begin	05/30/23	05/31/23	06/01/23	06/02/23	06/03/23	06/04/23	06/05/23	06/06/23
12:00 AM		32	38	36	43	67	33	39
1:00 AM		14	17	17	18	36	11	10
2:00 AM		15	17	6	6	17	7	11
3:00 AM		6	15	17	10	13	15	6
4:00 AM		15	15	27	17	11	21	15
5:00 AM		105	102	95	38	19	75	98
6:00 AM		292	292	286	110	86	282	274
7:00 AM		766	703	674	230	170	722	728
8:00 AM		827	812	732	337	341	814	773
9:00 AM	638	624	614	568	443	435	571	561
10:00 AM	570	529	532	558	518	464	486	468
11:00 AM	574	550	587	568	497	516	515	493
12:00 PM	629	651	640	588	457	547	580	
1:00 PM	612	550	618	611	555	560	537	
2:00 PM	594	589	633	560	457	523	545	
3:00 PM	663	632	582	671	532	549	634	
4:00 PM	620	641	656	597	437	564	617	
5:00 PM	645	639	602	563	429	510	593	
6:00 PM	545	504	515	499	375	368	529	
7:00 PM	411	409	417	358	311	271	377	
8:00 PM	312	307	368	326	260	207	250	
9:00 PM	280	160	262	198	193	119	191	
10:00 PM	102	114	118	139	158	80	85	
11:00 PM	80	69	62	82	102	48	46	
Max	663	827	812	732	555	564	814	773
Total	7,275	9,040	9,217	8,776	6,533	6,521	8,536	3,476





Appendix D-6

Raw Turning Movement Counts

TRI-STATE TRAFFIC DATA

TSTData.com

Project	CHA
Project Code	11358
Site Name	NY 443 & Elsmere Ave
Legs and Movements	All Processed Legs & Moven
Bin Size	15 minutes
Survey Date	2023/05/16, Tuesday
Location	NY 443 & Elsmere Ave
Latitude and Longitude	42.62632, -73.82143

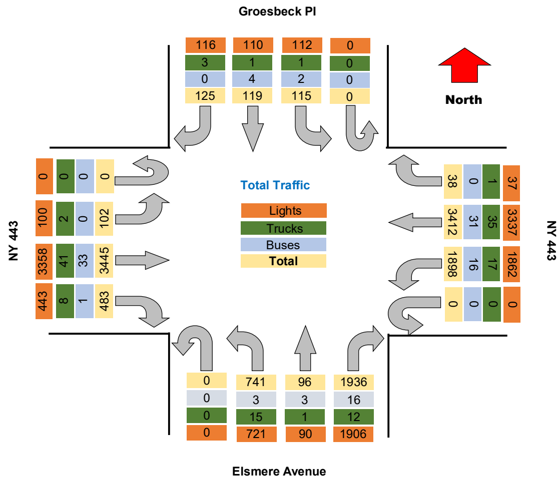
	Start	End	PHF
AM Peak	2023/05/16 07:30:00	2023/05/16 08:30:00	0.99
PM Peak	2023/05/16 16:30:00	2023/05/16 17:30:00	0.98

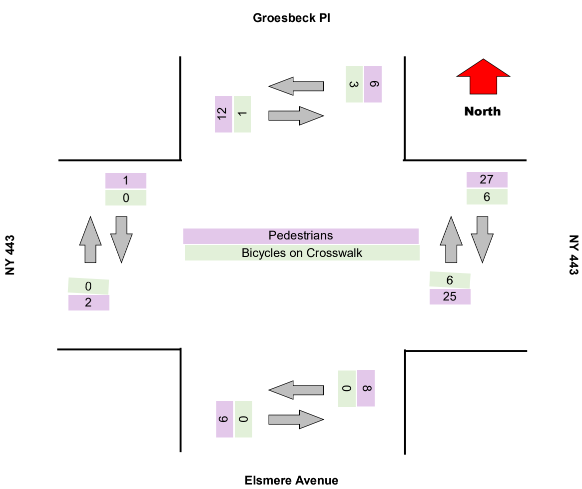
Turning Movement Data

Leg	Groesbeck Pl							NY 443							Elsmere Avenue							NY 443							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
6:00:00 AM	0	1	0	0	**1**	0	1	0	16	5	0	**21**	0	0	13	0	12	0	**25**	0	0	5	23	0	0	**28**	0	0	**75**
6:15:00 AM	0	1	0	0	**1**	4	0	0	18	10	0	**28**	1	0	23	0	5	0	**28**	0	1	4	46	0	0	**50**	0	0	**107**
6:30:00 AM	0	0	3	0	**3**	1	1	0	27	13	0	**40**	0	0	39	0	4	0	**43**	0	0	6	42	0	0	**48**	0	0	**134**
6:45:00 AM	0	3	2	0	**5**	0	0	1	50	17	0	**68**	0	1	41	0	11	0	**52**	0	0	17	90	2	0	**109**	0	0	**234**
Hourly Total	0	5	5	0	**10**	5	2	1	111	45	0	**157**	1	1	116	0	32	0	**148**	0	1	32	201	2	0	**235**	0	0	**550**
7:00:00 AM	2	3	1	0	**6**	0	0	0	56	23	0	**79**	0	0	45	1	12	0	**58**	0	0	10	109	0	0	**119**	0	0	**262**
7:15:00 AM	5	3	3	0	**11**	0	1	1	66	14	0	**81**	0	0	70	1	11	0	**82**	0	0	8	137	2	0	**147**	0	0	**321**
7:30:00 AM	7	0	4	0	**11**	0	0	0	63	35	0	**98**	0	0	112	1	12	0	**125**	0	0	13	155	5	0	**173**	0	0	**407**
7:45:00 AM	2	10	4	0	**16**	0	1	0	60	36	0	**96**	4	2	106	3	25	0	**134**	0	0	16	152	1	0	**169**	0	0	**415**
Hourly Total	16	16	12	0	**44**	0	2	1	245	108	0	**354**	4	2	333	6	60	0	**399**	0	0	47	553	8	0	**608**	0	0	**1405**
8:00:00 AM	6	2	3	0	**11**	0	0	1	70	54	0	**125**	0	0	88	3	18	0	**109**	0	0	23	142	1	0	**166**	1	1	**411**
8:15:00 AM	3	2	6	0	**11**	1	0	1	74	44	0	**119**	0	6	81	6	24	0	**111**	0	0	19	144	2	0	**165**	0	0	**406**
8:30:00 AM	3	2	4	0	**9**	0	0	0	88	45	0	**133**	2	2	87	2	16	0	**105**	0	0	6	138	6	0	**150**	0	0	**397**
8:45:00 AM	1	7	4	0	**12**	1	0	1	97	31	0	**129**	0	3	78	1	33	0	**112**	0	0	17	126	3	0	**146**	0	0	**399**
Hourly Total	13	13	17	0	**43**	2	0	3	329	174	0	**506**	2	11	334	12	91	0	**437**	0	0	65	550	12	0	**627**	1	1	**1613**
11:30:00 AM	3	1	4	0	**8**	0	0	0	96	56	0	**152**	0	0	60	3	26	0	**89**	0	0	20	97	5	0	**122**	0	0	**371**
11:45:00 AM	2	1	1	0	**4**	1	0	0	105	52	0	**157**	0	0	63	2	39	0	**104**	2	0	15	115	0	0	**130**	1	0	**395**
Hourly Total	5	2	5	0	**12**	1	0	0	201	108	0	**309**	0	0	123	5	65	0	**193**	2	0	35	212	5	0	**252**	1	0	**766**
12:00:00 PM	5	1	3	0	**9**	0	0	1	113	57	0	**171**	0	0	50	4	25	0	**79**	0	0	18	106	3	0	**127**	0	0	**386**
12:15:00 PM	2	1	2	0	**5**	0	0	3	101	68	0	**172**	0	0	44	4	28	0	**76**	2	0	20	95	2	0	**117**	0	0	**370**
12:30:00 PM	4	1	5	0	**10**	0	0	1	96	49	0	**146**	0	0	43	1	27	0	**71**	0	0	13	102	3	0	**118**	0	0	**345**
12:45:00 PM	2	3	2	0	**7**	0	1	1	101	58	0	**160**	0	0	51	1	26	0	**78**	0	0	24	126	6	0	**156**	0	0	**401**
Hourly Total	13	6	12	0	**31**	0	1	6	411	232	0	**649**	0	0	188	10	106	0	**304**	2	0	75	429	14	0	**518**	0	0	**1502**
1:00:00 PM	2	1	2	0	**5**	0	0	0	120	53	0	**173**	0	0	48	3	24	0	**75**	0	0	10	104	5	0	**119**	0	0	**372**
1:15:00 PM	5	1	4	0	**10**	0	0	2	118	58	0	**178**	1	0	52	2	29	0	**83**	0	0	16	105	2	0	**123**	0	0	**394**
Hourly Total	7	2	6	0	**15**	0	0	2	238	111	0	**351**	1	0	100	5	53	0	**158**	0	0	26	209	7	0	**242**	0	0	**766**
3:00:00 PM	7	6	6	0	**19**	0	0	5	116	58	0	**179**	0	10	57	12	27	0	**96**	0	0	32	93	8	0	**133**	0	0	**427**
3:15:00 PM	9	17	11	0	**37**	0	0	4	126	75	0	**205**	19	2	53	7	24	0	**84**	0	0	21	101	7	0	**129**	0	0	**455**
3:30:00 PM	12	5	7	0	**24**	0	0	1	127	91	0	**219**	0	0	67	1	24	0	**92**	1	0	21	91	2	0	**114**	0	0	**449**
3:45:00 PM	6	4	4	0	**14**	0	0	1	141	82	0	**224**	0	0	63	8	29	0	**100**	2	2	20	117	1	0	**138**	0	0	**476**
Hourly Total	34	32	28	0	**94**	0	0	11	510	306	0	**827**	19	12	240	28	104	0	**372**	3	2	94	402	18	0	**514**	0	0	**1807**
4:00:00 PM	4	3	5	0	**12**	3	0	3	150	74	0	**227**	0	1	70	3	38	0	**111**	1	1	10	111	3	0	**124**	0	0	**474**
4:15:00 PM	8	8	2	0	**18**	0	1	4	194	104	0	**302**	1	0	48	3	36	0	**87**	0	1	11	102	4	0	**117**	0	0	**524**
4:30:00 PM	3	4	4	0	**11**	0	1	0	177	104	0	**281**	0	0	64	2	31	0	**97**	0	0	12	114	5	0	**131**	0	0	**520**
4:45:00 PM	4	3	4	0	**11**	0	0	3	180	92	0	**275**	0	0	70	3	27	0	**100**	0	0	17	125	3	0	**145**	0	0	**531**
Hourly Total	19	18	15	0	**52**	3	2	10	701	374	0	**1085**	1	1	252	11	132	0	**395**	1	2	50	452	15	0	**517**	0	0	**2049**
5:00:00 PM	3	4	5	0	**12**	0	2	0	171	115	0	**286**	2	1	59	4	17	0	**80**	0	1	21	138	7	0	**166**	0	0	**544**
5:15:00 PM	6	6	2	0	**14**	1	0	1	188	108	0	**297**	1	2	64	5	30	0	**99**	0	0	13	106	4	0	**123**	0	0	**533**
5:30:00 PM	2	8	5	0	**15**	0	0	2	154	108	0	**264**	2	1	67	6	30	0	**103**	0	0	17	111	6	0	**134**	0	0	**516**
5:45:00 PM	7	7	3	0	**17**	1	0	1	153	109	0	**263**	0	0	60	4	21	0	**85**	0	0	8	82	4	0	**94**	0	0	**459**
Hourly Total	18	25	15	0	**58**	2	2	4	666	440	0	**1110**	5	4	250	19	98	0	**367**	0	1	59	437	21	0	**517**	0	0	**2052**
Grand Total	125	119	115	0	**359**	13	9	38	3412	1898	0	**5348**	33	31	1936	96	741	0	**2773**	8	6	483	3445	102	0	**4030**	2	1	**12510**
%Approach	34.8%	33.1%	32.0%	0.0%	**0.0%**	0.0%	0.0%	0.7%	63.8%	35.5%	0.0%	**0.0%**	0.0%	0.0%	69.8%	3.5%	26.7%	0.0%	**0.0%**	0.0%	0.0%	12.0%	85.5%	2.5%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
%Total	1.0%	1.0%	0.9%	0.0%	**2.9%**	0.0%	0.0%	0.3%	27.3%	15.2%	0.0%	**42.7%**	0.0%	0.0%	15.5%	0.8%	5.9%	0.0%	**22.2%**	0.0%	0.0%	3.9%	27.5%	0.8%	0.0%	**32.2%**	0.0%	0.0%	**0.0%**
Lights	116	110	112	0	**338**	0	0	37	3337	1862	0	**5236**	0	0	1906	90	721	0	**2717**	0	0	443	3358	100	0	**3901**	0	0	**12192**
%Lights	92.8%	92.4%	97.4%	0.0%	**94.2%**	0.0%	0.0%	97.4%	97.8%	98.1%	0.0%	**97.9%**	0.0%	0.0%	98.5%	93.8%	97.3%	0.0%	**98.0%**	0.0%	0.0%	91.7%	97.5%	98.0%	0.0%	**96.8%**	0.0%	0.0%	**97.5%**
Trucks	3	1	1	0	**5**	0	0	1	35	17	0	**53**	0	0	12	1	15	0	**28**	0	0	8	41	2	0	**51**	0	0	**137**
%Trucks	2.4%	0.8%	0.9%	0.0%	**1.4%**	0.0%	0.0%	2.6%	1.0%	0.9%	0.0%	**1.0%**	0.0%	0.0%	0.6%	1.0%	2.0%	0.0%	**1.0%**	0.0%	0.0%	1.7%	1.2%	2.0%	0.0%	**1.3%**	0.0%	0.0%	**1.1%**
Buses	0	4	2	0	**6**	0	0	0	31	16	0	**47**	0	0	16	3	3	0	**22**	0	0	1	33	0	0	**34**	0	0	**109**
%Buses	0.0%	3.4%	1.7%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.9%	0.8%	0.0%	**0.0%**	0.0%	0.0%	0.8%	3.1%	0.4%	0.0%	**0.0%**	0.0%	0.0%	0.2%	1.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.9%**
Pedestrians	0	0	0	0	**0**	12	6	0	0	0	0	**0**	27	25	0	0	0	0	**0**	8	6	0	0	0	0	**0**	2	1	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	92.3%	66.7%	0.0%	0.0%	0.0%	0.0%	**0.0%**	81.8%	80.6%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	1	3	0	0	0	0	**0**	6	6	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	7.7%	33.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	18.2%	19.4%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

TSTData.com

Turning Movement Data Plot





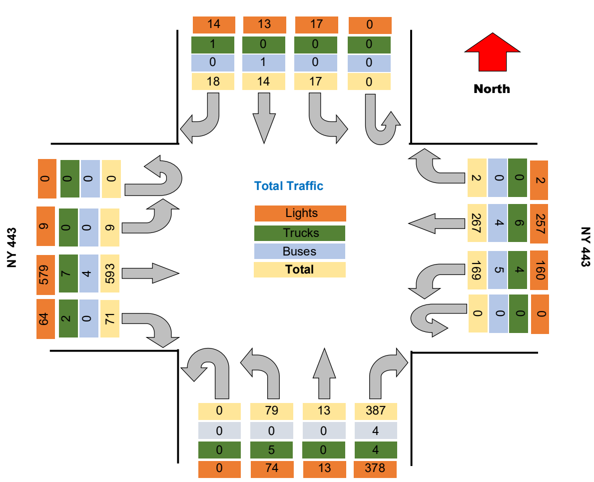
TRI-STATE TRAFFIC DATA

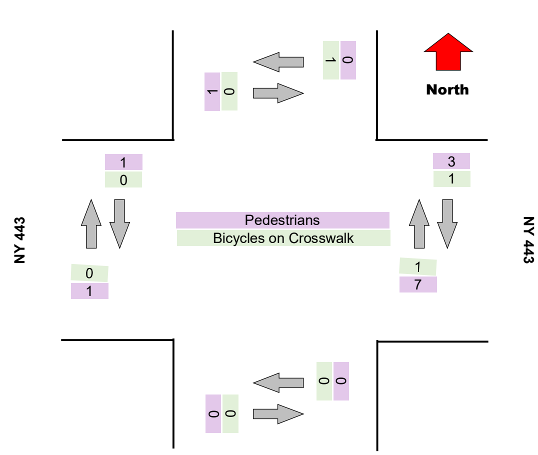
TSTData.com

Turning Movement Peak Hour Data (AM)

7:30:00 AM

Leg	Groesbeck Pl							NY 443							Elsmere Avenue							NY 443							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
7:30:00 AM	7	0	4	0	**11**	0	0	0	63	35	0	**98**	0	0	112	1	12	0	**125**	0	0	13	155	5	0	**173**	0	0	**407**
7:45:00 AM	2	10	4	0	**16**	0	1	0	60	36	0	**96**	4	2	106	3	25	0	**134**	0	0	16	152	1	0	**169**	0	0	**415**
8:00:00 AM	6	2	3	0	**11**	0	0	1	70	54	0	**125**	0	0	88	3	18	0	**109**	0	0	23	142	1	0	**166**	1	1	**411**
8:15:00 AM	3	2	6	0	**11**	1	0	1	74	44	0	**119**	0	6	81	6	24	0	**111**	0	0	19	144	2	0	**165**	0	0	**406**
Grand Total	18	14	17	0	**49**	1	1	2	267	169	0	**438**	4	8	387	13	79	0	**479**	0	0	71	593	9	0	**673**	1	1	**1639**
%Approach	36.7%	28.6%	34.7%	0.0%	**0.0%**	0.0%	0.0%	0.5%	61.0%	38.6%	0.0%	**0.0%**	0.0%	0.0%	80.8%	2.7%	16.5%	0.0%	**0.0%**	0.0%	0.0%	10.5%	88.1%	1.3%	0.0%	**0.0%**	0.0%	0.0%	
%Total	1.1%	0.9%	1.0%	0.0%	**3.0%**	0.0%	0.0%	0.1%	16.3%	10.3%	0.0%	**26.7%**	0.0%	0.0%	23.6%	0.8%	4.8%	0.0%	**29.2%**	0.0%	0.0%	4.3%	36.2%	0.5%	0.0%	**41.1%**	0.0%	0.0%	
PHF	0.643	0.350	0.708	0.000	**0.766**	0.000	0.000	0.500	0.902	0.782	0.000	**0.876**	0.000	0.000	0.864	0.542	0.790	0.000	**0.894**	0.000	0.000	0.772	0.956	0.450	0.000	**0.973**	0.000	0.000	**0.987**
Lights	14	13	17	0	**44**	0	0	2	257	160	0	**419**	0	0	378	13	74	0	**465**	0	0	64	579	9	0	**652**	0	0	**1580**
%Lights	77.8%	92.9%	100.0%	0.0%	**89.8%**	0.0%	0.0%	100.0%	96.3%	94.7%	0.0%	**95.7%**	0.0%	0.0%	97.7%	100.0%	93.7%	0.0%	**97.1%**	0.0%	0.0%	90.1%	97.6%	100.0%	0.0%	**96.9%**	0.0%	0.0%	**96.4%**
Trucks	1	0	0	0	**1**	0	0	0	6	4	0	**10**	0	0	4	0	5	0	**9**	0	0	2	7	0	0	**9**	0	0	**29**
%Trucks	5.6%	0.0%	0.0%	0.0%	**2.0%**	0.0%	0.0%	0.0%	2.2%	2.4%	0.0%	**2.3%**	0.0%	0.0%	1.0%	0.0%	6.3%	0.0%	**1.9%**	0.0%	0.0%	2.8%	1.2%	0.0%	0.0%	**1.3%**	0.0%	0.0%	**1.8%**
Buses	0	1	0	0	**1**	0	0	0	4	5	0	**9**	0	0	4	0	0	0	**4**	0	0	0	4	0	0	**4**	0	0	**18**
%Buses	0.0%	7.1%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.5%	3.0%	0.0%	**0.0%**	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**1.1%**
Pedestrians	0	0	0	0	**0**	1	0	0	0	0	0	**0**	3	7	0	0	0	0	**0**	0	0	0	0	0	0	**0**	1	1	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	75.0%	87.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	0	1	0	0	0	0	**0**	1	1	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	25.0%	12.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





TRI-STATE TRAFFIC DATA

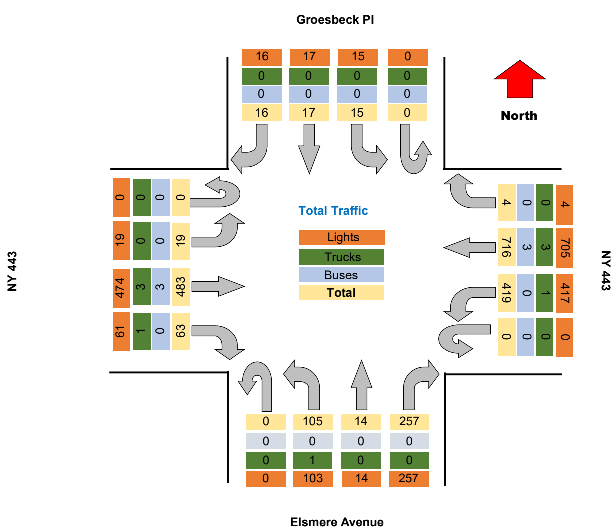
TSTData.com

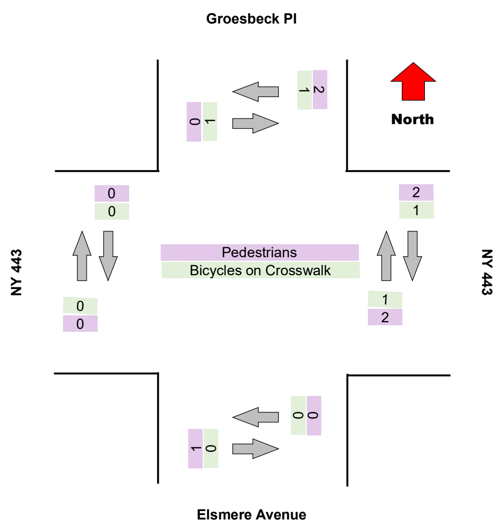
Turning Movement Peak Hour Data (PM)

4:30:00 PM

Leg	Groesbeck Pl							NY 443						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
4:30:00 PM	3	4	4	0	**11**	0	1	0	177	104	0	**281**	0	0
4:45:00 PM	4	3	4	0	**11**	0	0	3	180	92	0	**275**	0	0
5:00:00 PM	3	4	5	0	**12**	0	2	0	171	115	0	**286**	2	1
5:15:00 PM	6	6	2	0	**14**	1	0	1	188	108	0	**297**	1	2
Grand Total	16	17	15	0	**48**	1	3	4	716	419	0	**1139**	3	3
%Approach	33.3%	35.4%	31.3%	0.0%	**0.0%**	0.0%	0.0%	0.4%	62.9%	36.8%	0.0%	**0.0%**	0.0%	0.0%
%Total	0.8%	0.8%	0.7%	0.0%	**2.3%**	0.0%	0.0%	0.2%	33.6%	19.7%	0.0%	**53.5%**	0.0%	0.0%
PHF	0.667	0.708	0.750	0.000	**0.857**	0.000	0.000	0.333	0.952	0.911	0.000	**0.959**	0.000	0.000
Lights	16	17	15	0	**48**	0	0	4	705	417	0	**1126**	0	0
%Lights	100.0%	100.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	100.0%	98.5%	99.5%	0.0%	**98.9%**	0.0%	0.0%
Trucks	0	0	0	0	**0**	0	0	0	3	1	0	**4**	0	0
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.4%	0.2%	0.0%	**0.4%**	0.0%	0.0%
Buses	0	0	0	0	**0**	0	0	0	3	0	0	**3**	0	0
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Pedestrians	0	0	0	0	**0**	0	2	0	0	0	0	**0**	2	2
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	**0.0%**	66.7%	66.7%
Bicycles on Crosswalk	0	0	0	0	**0**	1	1	0	0	0	0	**0**	1	1
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	33.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	33.3%	33.3%

Leg	Elsmere Avenue							NY 443							
Direction	Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
4:30:00 PM	64	2	31	0	**97**	0	0	12	114	5	0	**131**	0	0	**520**
4:45:00 PM	70	3	27	0	**100**	0	0	17	125	3	0	**145**	0	0	**531**
5:00:00 PM	59	4	17	0	**80**	0	1	21	138	7	0	**166**	0	0	**544**
5:15:00 PM	64	5	30	0	**99**	0	0	13	106	4	0	**123**	0	0	**533**
Grand Total	257	14	105	0	**376**	0	1	63	483	19	0	**565**	0	0	**2128**
%Approach	68.4%	3.7%	27.9%	0.0%	**0.0%**	0.0%	0.0%	11.2%	85.5%	3.4%	0.0%	**0.0%**	0.0%	0.0%	
%Total	12.1%	0.7%	4.9%	0.0%	**17.7%**	0.0%	0.0%	3.0%	22.7%	0.9%	0.0%	**26.6%**	0.0%	0.0%	
PHF	0.918	0.700	0.847	0.000	**0.940**	0.000	0.000	0.750	0.875	0.679	0.000	**0.851**	0.000	0.000	**0.978**
Lights	257	14	103	0	**374**	0	0	61	474	19	0	**554**	0	0	**2102**
%Lights	100.0%	100.0%	98.1%	0.0%	**99.5%**	0.0%	0.0%	96.8%	98.1%	100.0%	0.0%	**98.1%**	0.0%	0.0%	**98.8%**
Trucks	0	0	1	0	**1**	0	0	1	3	0	0	**4**	0	0	**9**
%Trucks	0.0%	0.0%	1.0%	0.0%	**0.3%**	0.0%	0.0%	1.6%	0.6%	0.0%	0.0%	**0.7%**	0.0%	0.0%	**0.4%**
Buses	0	0	0	0	**0**	0	0	0	3	0	0	**3**	0	0	**6**
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.3%**
Pedestrians	0	0	0	0	**0**	0	1	0	0	0	0	**0**	0	0	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





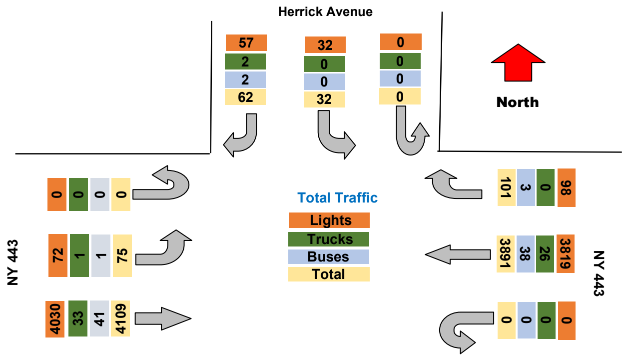
Project	CHA
Project Code	11358
Site Name	NY 443 & Herrick
Legs and Movements	All Processed Legs & Movements
Bin Size	15 minutes
Survey Date	2023/05/18, Thursday
Location	NY 443 & Herrick
Latitude and Longitude	42.62663, -73.82066

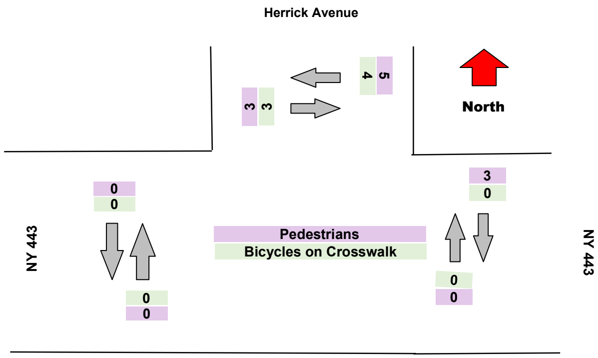
	Start	End	PHF
AM Peak	2023/05/18 07:30:00	2023/05/18 08:30:00	0.9432
PM Peak	2023/05/18 16:15:00	2023/05/18 17:15:00	0.95

Turning Movement Data

Leg	**Herrick Avenue**						**NY 443**						**NY 443**						
Direction	**Southbound**						**Westbound**						**Eastbound**						
Start Time	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
6:00:00 AM	2	0	0	**2**	0	0	0	23	0	**23**	1	0	40	0	0	**40**	0	0	**65**
6:15:00 AM	0	1	0	**1**	3	0	1	22	0	**23**	0	0	68	0	0	**68**	0	0	**92**
6:30:00 AM	0	1	0	**1**	0	1	1	39	0	**40**	1	0	99	0	0	**99**	0	0	**140**
6:45:00 AM	0	1	0	**1**	0	0	2	57	0	**59**	0	0	117	0	0	**117**	0	0	**177**
Hourly Total	2	3	0	**5**	3	1	4	141	0	**145**	2	0	324	0	0	**324**	0	0	**474**
7:00:00 AM	0	3	0	**3**	0	0	3	71	0	**74**	0	0	145	2	0	**147**	0	0	**224**
7:15:00 AM	1	2	0	**3**	0	0	3	72	0	**75**	0	0	196	4	0	**200**	0	0	**278**
7:30:00 AM	3	4	0	**7**	0	0	3	96	0	**99**	0	0	246	6	0	**252**	0	0	**358**
7:45:00 AM	5	4	0	**9**	0	0	8	113	0	**121**	0	0	232	13	0	**245**	0	0	**375**
Hourly Total	9	13	0	**22**	0	0	17	352	0	**369**	0	0	819	25	0	**844**	0	0	**1235**
8:00:00 AM	6	5	0	**11**	0	0	8	129	0	**137**	0	0	245	12	0	**257**	0	0	**405**
8:15:00 AM	11	2	0	**13**	0	0	5	123	0	**128**	0	0	242	7	0	**249**	0	0	**390**
8:30:00 AM	1	0	0	**1**	0	0	1	129	0	**130**	0	0	184	10	0	**194**	0	0	**325**
8:45:00 AM	2	0	0	**2**	0	0	3	130	0	**133**	0	0	194	4	0	**198**	0	0	**333**
Hourly Total	20	7	0	**27**	0	0	17	511	0	**528**	0	0	865	33	0	**898**	0	0	**1453**
3:00:00 PM	4	0	0	**4**	0	0	4	177	0	**181**	1	0	152	2	0	**154**	0	0	**339**
3:15:00 PM	2	1	0	**3**	0	0	3	213	0	**216**	0	0	176	0	0	**176**	0	0	**395**
3:30:00 PM	12	2	0	**14**	0	1	3	200	0	**203**	0	0	172	2	0	**174**	0	0	**391**
3:45:00 PM	2	0	0	**2**	0	0	6	254	0	**260**	0	0	181	1	0	**182**	0	0	**444**
Hourly Total	20	3	0	**23**	0	1	16	844	0	**860**	1	0	681	5	0	**686**	0	0	**1569**
4:00:00 PM	2	1	0	**3**	0	0	4	234	0	**238**	0	0	198	2	0	**200**	0	0	**441**
4:15:00 PM	1	1	0	**2**	0	0	6	270	0	**276**	0	0	167	1	0	**168**	0	0	**446**
4:30:00 PM	1	0	0	**1**	3	1	8	277	0	**285**	0	0	167	0	0	**167**	0	0	**453**
4:45:00 PM	2	0	0	**2**	0	2	7	289	0	**296**	0	0	184	3	0	**187**	0	0	**485**
Hourly Total	6	2	0	**8**	3	3	25	1070	0	**1095**	0	0	716	6	0	**722**	0	0	**1825**
5:00:00 PM	2	1	0	**3**	0	0	4	258	0	**262**	0	0	194	0	0	**194**	0	0	**459**
5:15:00 PM	2	1	0	**3**	0	3	5	244	0	**249**	0	0	178	2	0	**180**	0	0	**432**
5:30:00 PM	1	0	0	**1**	0	1	6	262	0	**268**	0	0	168	1	0	**169**	0	0	**438**
5:45:00 PM	0	2	0	**2**	0	0	7	209	0	**216**	0	0	164	3	0	**167**	0	0	**385**
Hourly Total	5	4	0	**9**	0	4	22	973	0	**995**	0	0	704	6	0	**710**	0	0	**1714**
Grand Total	62	32	0	**94**	6	9	101	3891	0	**3992**	3	0	4109	75	0	**4184**	0	0	**8270**
% Approach	66.0%	34.0%	0.0%	**0.0%**	0.0%	0.0%	2.5%	97.5%	0.0%	**0.0%**	0.0%	0.0%	98.2%	1.8%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
% Total	0.7%	0.4%	0.0%	**1.1%**	0.0%	0.0%	1.2%	47.0%	0.0%	**48.3%**	0.0%	0.0%	49.7%	0.9%	0.0%	**50.6%**	0.0%	0.0%	**0.0%**
Lights	57	32	0	**89**	0	0	98	3819	0	**3917**	0	0	4030	72	0	**4102**	0	0	**8108**
% Lights	91.9%	100.0%	0.0%	**94.7%**	0.0%	0.0%	97.0%	98.1%	0.0%	**98.1%**	0.0%	0.0%	98.1%	96.0%	0.0%	**98.0%**	0.0%	0.0%	**98.0%**
Trucks	2	0	0	**2**	0	0	0	26	0	**26**	0	0	33	1	0	**34**	0	0	**62**
% Trucks	3.2%	0.0%	0.0%	**2.1%**	0.0%	0.0%	0.0%	0.7%	0.0%	**0.7%**	0.0%	0.0%	0.8%	1.3%	0.0%	**0.8%**	0.0%	0.0%	**0.7%**
Buses	2	0	0	**2**	0	0	3	38	0	**41**	0	0	41	1	0	**42**	0	0	**85**
% Buses	3.2%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.0%	0.0%	**0.0%**	0.0%	0.0%	1.0%	1.3%	0.0%	**0.0%**	0.0%	0.0%	**1.0%**
Pedestrians	0	0	0	**0**	3	5	0	0	0	**0**	3	0	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	50.0%	55.6%	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	3	4	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	50.0%	44.4%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

Turning Movement Data Plot

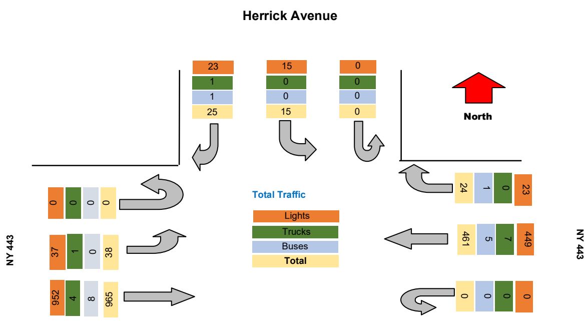


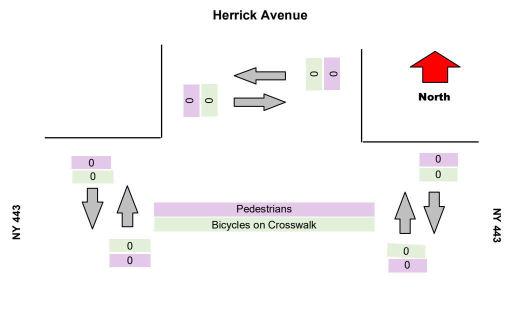


Turning Movement Peak Hour Data (AM)

7:30:00 AM

Leg	Herrick Avenue						NY 443						NY 443						
Direction	Southbound						Westbound						Eastbound						
Start Time	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
7:30:00 AM	3	4	0	**7**	0	0	3	96	0	**99**	0	0	246	6	0	**252**	0	0	**358**
7:45:00 AM	5	4	0	**9**	0	0	8	113	0	**121**	0	0	232	13	0	**245**	0	0	**375**
8:00:00 AM	6	5	0	**11**	0	0	8	129	0	**137**	0	0	245	12	0	**257**	0	0	**405**
8:15:00 AM	11	2	0	**13**	0	0	5	123	0	**128**	0	0	242	7	0	**249**	0	0	**390**
Grand Total	25	15	0	**40**	0	0	24	461	0	**485**	0	0	965	38	0	**1003**	0	0	**1528**
% Approach	62.5%	37.5%	0.0%	**0.0%**	0.0%	0.0%	4.9%	95.1%	0.0%	**0.0%**	0.0%	0.0%	96.2%	3.8%	0.0%	**0.0%**	0.0%	0.0%	
% Total	1.6%	1.0%	0.0%	**2.6%**	0.0%	0.0%	1.6%	30.2%	0.0%	**31.7%**	0.0%	0.0%	63.2%	2.5%	0.0%	**65.6%**	0.0%	0.0%	
PHF	0.568	0.750	0.000	**0.769**	0.000	0.000	0.750	0.893	0.000	**0.885**	0.000	0.000	0.981	0.731	0.000	**0.976**	0.000	0.000	**0.943**
Lights	23	15	0	**38**	0	0	23	449	0	**472**	0	0	952	37	0	**989**	0	0	**1499**
% Lights	92.0%	100.0%	0.0%	**95.0%**	0.0%	0.0%	95.8%	97.4%	0.0%	**97.3%**	0.0%	0.0%	98.7%	97.4%	0.0%	**98.6%**	0.0%	0.0%	**98.1%**
Trucks	1	0	0	**1**	0	0	0	7	0	**7**	0	0	4	1	0	**5**	0	0	**13**
% Trucks	4.0%	0.0%	0.0%	**2.5%**	0.0%	0.0%	0.0%	1.5%	0.0%	**1.4%**	0.0%	0.0%	0.4%	2.6%	0.0%	**0.5%**	0.0%	0.0%	**0.9%**
Buses	1	0	0	**1**	0	0	1	5	0	**6**	0	0	8	0	0	**8**	0	0	**15**
% Buses	4.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	4.2%	1.1%	0.0%	**0.0%**	0.0%	0.0%	0.8%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**1.0%**
Pedestrians	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

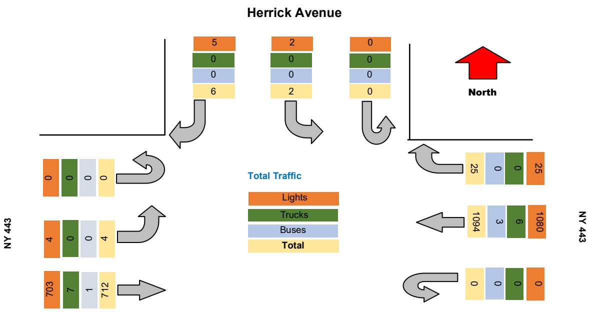


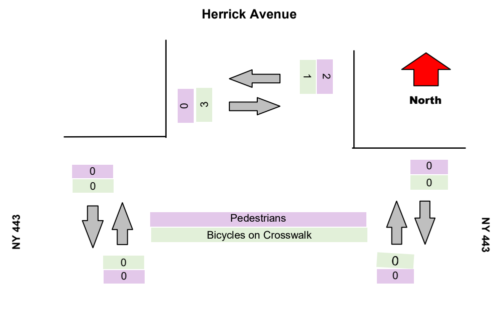


Turning Movement Peak Hour Data (PM)

4:15:00 PM

Leg	Herrick Avenue						NY 443						NY 443						
Direction	Southbound						Westbound						Eastbound						
Start Time	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
4:15:00 PM	1	1	0	**2**	0	0	6	270	0	**276**	0	0	167	1	0	**168**	0	0	**446**
4:30:00 PM	1	0	0	**1**	3	1	8	277	0	**285**	0	0	167	0	0	**167**	0	0	**453**
4:45:00 PM	2	0	0	**2**	0	2	7	289	0	**296**	0	0	184	3	0	**187**	0	0	**485**
5:00:00 PM	2	1	0	**3**	0	0	4	258	0	**262**	0	0	194	0	0	**194**	0	0	**459**
Grand Total	6	2	0	**8**	3	3	25	1094	0	**1119**	0	0	712	4	0	**716**	0	0	**1843**
% Approach	75.0%	25.0%	0.0%	**0.0%**	0.0%	0.0%	2.2%	97.8%	0.0%	**0.0%**	0.0%	0.0%	99.4%	0.6%	0.0%	**0.0%**	0.0%	0.0%	
% Total	0.3%	0.1%	0.0%	**0.4%**	0.0%	0.0%	1.4%	59.4%	0.0%	**60.7%**	0.0%	0.0%	38.6%	0.2%	0.0%	**38.8%**	0.0%	0.0%	
PHF	0.750	0.500	0.000	**0.667**	0.000	0.000	0.781	0.946	0.000	**0.945**	0.000	0.000	0.918	0.333	0.000	**0.923**	0.000	0.000	**0.950**
Lights	5	2	0	**7**	0	0	25	1080	0	**1105**	0	0	703	4	0	**707**	0	0	**1819**
% Lights	83.3%	100.0%	0.0%	**87.5%**	0.0%	0.0%	100.0%	98.7%	0.0%	**98.7%**	0.0%	0.0%	98.7%	100.0%	0.0%	**98.7%**	0.0%	0.0%	**98.7%**
Trucks	0	0	0	**0**	0	0	0	6	0	**6**	0	0	7	0	0	**7**	0	0	**13**
% Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.5%	0.0%	**0.5%**	0.0%	0.0%	1.0%	0.0%	0.0%	**1.0%**	0.0%	0.0%	**0.7%**
Buses	0	0	0	**0**	0	0	0	3	0	**3**	0	0	1	0	0	**1**	0	0	**4**
% Buses	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.3%	0.0%	**0.0%**	0.0%	0.0%	0.1%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.2%**
Pedestrians	0	0	0	**0**	0	2	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	0.0%	66.7%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	3	1	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	100.0%	33.3%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





TRI-STATE TRAFFIC DATA

TSTData.com

Project	CHA
Project Code	11358
Site Name	NY 443 & Lincoln Ave
Legs and Movements	All Processed Legs & Movem
Bin Size	15 minutes
Survey Date	2023/05/10, Wednesday
Location	NY 443 & Lincoln Ave
Latitude and Longitude	42.62736, -73.81849

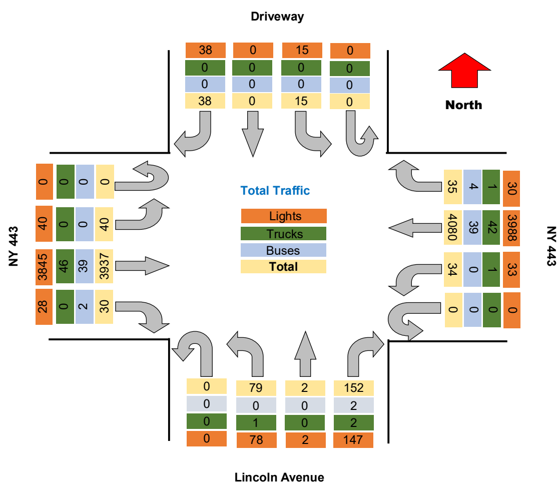
	Start	End	PHF
AM Peak	2023/05/10 07:30:00	2023/05/10 08:30:00	0.95
PM Peak	2023/05/10 16:30:00	2023/05/10 17:30:00	0.94

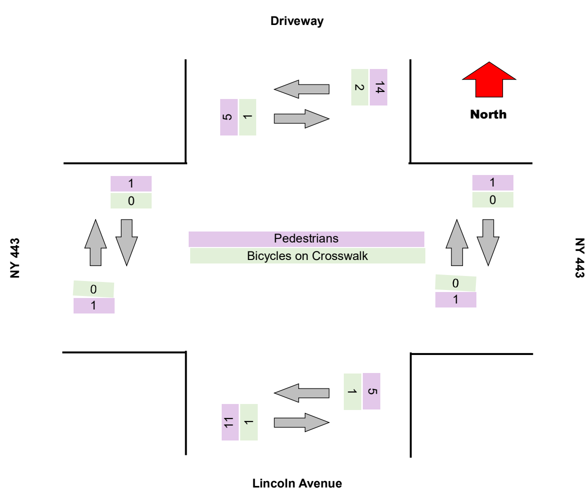
Turning Movement Data

Leg	Driveway							NY 443							Lincoln Avenue							NY 443							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
6:00:00 AM	0	0	0	0	**0**	0	0	0	18	0	0	**18**	0	0	0	0	4	0	**4**	0	0	0	43	0	0	**43**	0	0	**65**
6:15:00 AM	0	0	0	0	**0**	0	0	0	34	0	0	**34**	0	0	5	0	0	0	**5**	0	1	1	64	0	0	**65**	0	0	**104**
6:30:00 AM	0	0	0	0	**0**	0	0	0	42	1	0	**43**	0	0	4	0	1	0	**5**	0	0	0	104	0	0	**104**	0	0	**152**
6:45:00 AM	1	0	0	0	**1**	0	0	0	60	2	0	**62**	0	0	13	0	3	0	**16**	0	0	2	116	0	0	**118**	0	0	**197**
Hourly Total	1	0	0	0	**1**	0	0	0	154	3	0	**157**	0	0	22	0	8	0	**30**	0	1	3	327	0	0	**330**	0	0	**518**
7:00:00 AM	0	0	0	0	**0**	0	1	3	59	0	0	**62**	0	0	7	0	11	0	**18**	0	0	0	127	1	0	**128**	0	0	**208**
7:15:00 AM	0	0	0	0	**0**	0	0	2	80	0	0	**82**	0	0	10	0	2	0	**12**	1	1	2	206	0	0	**208**	0	0	**302**
7:30:00 AM	0	0	0	0	**0**	0	2	1	111	1	0	**113**	0	0	12	0	6	0	**18**	1	0	1	260	0	0	**261**	0	0	**392**
7:45:00 AM	0	0	0	0	**0**	0	4	1	138	5	0	**144**	0	0	13	1	5	0	**19**	1	0	0	219	0	0	**219**	0	0	**382**
Hourly Total	0	0	0	0	**0**	0	7	7	388	6	0	**401**	0	0	42	1	24	0	**67**	3	1	3	812	1	0	**816**	0	0	**1284**
8:00:00 AM	0	0	0	0	**0**	0	0	0	132	4	0	**136**	0	0	12	0	2	0	**14**	0	0	1	209	1	0	**211**	0	0	**361**
8:15:00 AM	0	0	2	0	**2**	0	0	2	96	1	0	**99**	0	0	20	0	6	0	**26**	0	0	2	223	0	0	**225**	0	0	**352**
8:30:00 AM	0	0	2	0	**2**	0	0	0	130	0	0	**130**	0	0	5	0	7	0	**12**	0	0	0	199	2	0	**201**	0	0	**345**
8:45:00 AM	0	0	0	0	**0**	0	0	2	141	0	0	**143**	1	0	7	0	4	0	**11**	0	1	1	181	2	0	**184**	0	0	**338**
Hourly Total	0	0	4	0	**4**	0	0	4	499	5	0	**508**	1	0	44	0	19	0	**63**	0	1	4	812	5	0	**821**	0	0	**1396**
3:00:00 PM	4	0	1	0	**5**	1	0	1	222	2	0	**225**	0	0	2	0	6	0	**8**	0	4	1	167	2	0	**170**	1	1	**408**
3:15:00 PM	5	0	0	0	**5**	0	0	0	239	0	0	**239**	0	0	4	1	2	0	**7**	0	2	4	141	5	0	**150**	0	0	**401**
3:30:00 PM	4	0	1	0	**5**	0	2	3	194	1	0	**198**	0	0	6	0	3	0	**9**	0	1	1	186	4	0	**191**	0	0	**403**
3:45:00 PM	6	0	1	0	**7**	0	1	5	224	0	0	**229**	0	0	2	0	3	0	**5**	1	0	2	155	5	0	**162**	0	0	**403**
Hourly Total	19	0	3	0	**22**	1	3	9	879	3	0	**891**	0	0	14	1	14	0	**29**	1	7	8	649	16	0	**673**	1	1	**1615**
4:00:00 PM	2	0	1	0	**3**	1	0	0	266	1	0	**267**	0	0	8	0	3	0	**11**	0	0	2	152	3	0	**157**	0	0	**438**
4:15:00 PM	4	0	1	0	**5**	2	1	2	279	2	0	**283**	0	0	4	0	1	0	**5**	1	0	1	186	4	0	**191**	0	0	**484**
4:30:00 PM	3	0	2	0	**5**	0	1	2	270	3	0	**275**	0	0	3	0	2	0	**5**	0	0	3	167	2	0	**172**	0	0	**457**
4:45:00 PM	0	0	1	0	**1**	2	2	2	261	0	0	**263**	0	0	3	0	2	0	**5**	1	1	0	176	5	0	**181**	0	0	**450**
Hourly Total	9	0	5	0	**14**	5	4	6	1076	6	0	**1088**	0	0	18	0	8	0	**26**	2	1	6	681	14	0	**701**	0	0	**1829**
5:00:00 PM	5	0	0	0	**5**	0	0	2	305	5	0	**312**	0	0	6	0	1	0	**7**	0	1	1	177	2	0	**180**	0	0	**504**
5:15:00 PM	1	0	1	0	**2**	0	0	4	295	2	0	**301**	0	0	1	0	1	0	**2**	0	0	0	181	0	0	**181**	0	0	**486**
5:30:00 PM	0	0	1	0	**1**	0	0	2	264	2	0	**268**	0	0	4	0	1	0	**5**	0	0	2	161	1	0	**164**	0	0	**438**
5:45:00 PM	3	0	1	0	**4**	0	2	1	220	2	0	**223**	0	1	1	0	3	0	**4**	0	0	3	137	1	0	**141**	0	0	**372**
Hourly Total	9	0	3	0	**12**	0	2	9	1084	11	0	**1104**	0	1	12	0	6	0	**18**	0	1	6	656	4	0	**666**	0	0	**1800**
Grand Total	38	0	15	0	**53**	6	16	35	4080	34	0	**4149**	1	1	152	2	79	0	**233**	6	12	30	3937	40	0	**4007**	1	1	**8442**
%Approach	71.7%	0.0%	28.3%	0.0%	**0.0%**	0.0%	0.0%	0.8%	98.3%	0.8%	0.0%	**0.0%**	0.0%	0.0%	65.2%	0.9%	33.9%	0.0%	**0.0%**	0.0%	0.0%	0.7%	98.3%	1.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
%Total	0.5%	0.0%	0.2%	0.0%	**0.6%**	0.0%	0.0%	0.4%	48.3%	0.4%	0.0%	**49.1%**	0.0%	0.0%	1.8%	0.0%	0.9%	0.0%	**2.8%**	0.0%	0.0%	0.4%	46.6%	0.5%	0.0%	**47.5%**	0.0%	0.0%	**0.0%**
Lights	38	0	15	0	**53**	0	0	30	3988	33	0	**4051**	0	0	147	2	78	0	**227**	0	0	28	3845	40	0	**3913**	0	0	**8244**
%Lights	100.0%	0.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	85.7%	97.7%	97.1%	0.0%	**97.6%**	0.0%	0.0%	96.7%	100.0%	98.7%	0.0%	**97.4%**	0.0%	0.0%	93.3%	97.7%	100.0%	0.0%	**97.7%**	0.0%	0.0%	**97.7%**
Trucks	0	0	0	0	**0**	0	0	1	42	1	0	**44**	0	0	2	0	1	0	**3**	0	0	0	46	0	0	**46**	0	0	**93**
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	2.9%	1.0%	2.9%	0.0%	**1.1%**	0.0%	0.0%	1.3%	0.0%	1.3%	0.0%	**1.3%**	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	**1.1%**	0.0%	0.0%	**1.1%**
Buses	0	0	0	0	**0**	0	0	4	39	0	0	**43**	0	0	2	0	0	0	**2**	0	0	2	39	0	0	**41**	0	0	**86**
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	6.7%	1.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**1.0%**
Pedestrians	0	0	0	0	**0**	5	14	0	0	0	0	**0**	1	1	0	0	0	0	**0**	5	11	0	0	0	0	**0**	1	1	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	83.3%	87.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	83.3%	91.7%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	1	2	0	0	0	0	**0**	0	0	0	0	0	0	**0**	1	1	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	16.7%	12.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	16.7%	8.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

TSTData.com

Turning Movement Data Plot





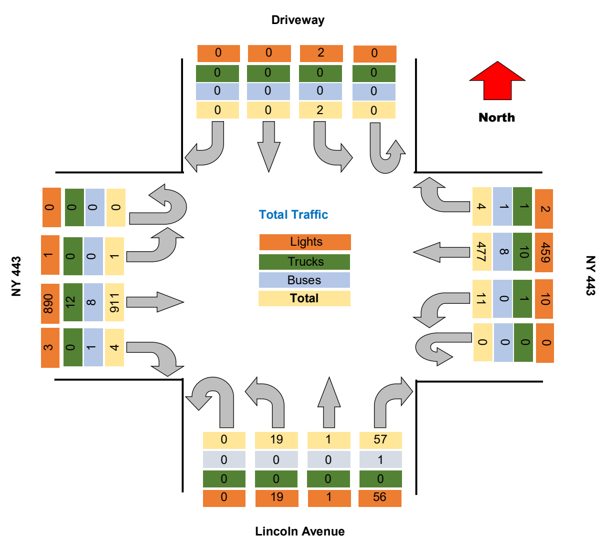
TSTData.com

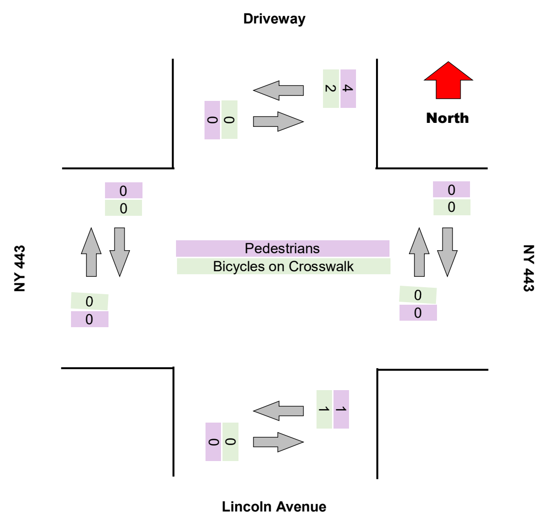
Turning Movement Peak Hour Data (AM)

7:30:00 AM

Leg	Driveway							NY 443						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
7:30:00 AM	0	0	0	0	**0**	0	2	1	111	1	0	**113**	0	0
7:45:00 AM	0	0	0	0	**0**	0	4	1	138	5	0	**144**	0	0
8:00:00 AM	0	0	0	0	**0**	0	0	0	132	4	0	**136**	0	0
8:15:00 AM	0	0	2	0	**2**	0	0	2	96	1	0	**99**	0	0
Grand Total	0	0	2	0	**2**	0	6	4	477	11	0	**492**	0	0
% Approach	0.0%	0.0%	100.0%	0.0%	**0.0%**	0.0%	0.0%	0.8%	97.0%	2.2%	0.0%	**0.0%**	0.0%	0.0%
% Total	0.0%	0.0%	0.1%	0.0%	**0.1%**	0.0%	0.0%	0.3%	32.1%	0.7%	0.0%	**33.1%**	0.0%	0.0%
PHF	0.000	0.000	0.250	0.000	**0.250**	0.000	0.000	0.500	0.864	0.550	0.000	**0.854**	0.000	0.000
Lights	0	0	2	0	**2**	0	0	2	459	10	0	**471**	0	0
% Lights	0.0%	0.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	50.0%	96.2%	90.9%	0.0%	**95.7%**	0.0%	0.0%
Trucks	0	0	0	0	**0**	0	0	1	10	1	0	**12**	0	0
% Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	25.0%	2.1%	9.1%	0.0%	**2.4%**	0.0%	0.0%
Buses	0	0	0	0	**0**	0	0	1	8	0	0	**9**	0	0
% Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	25.0%	1.7%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Pedestrians	0	0	0	0	**0**	0	4	0	0	0	0	**0**	0	0
% Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Bicycles on Crosswalk	0	0	0	0	**0**	0	2	0	0	0	0	**0**	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%

Leg	Lincoln Avenue							NY 443							
Direction	Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
7:30:00 AM	12	0	6	0	**18**	1	0	1	260	0	0	**261**	0	0	**392**
7:45:00 AM	13	1	5	0	**19**	1	0	0	219	0	0	**219**	0	0	**382**
8:00:00 AM	12	0	2	0	**14**	0	0	1	209	1	0	**211**	0	0	**361**
8:15:00 AM	20	0	6	0	**26**	0	0	2	223	0	0	**225**	0	0	**352**
Grand Total	57	1	19	0	**77**	2	0	4	911	1	0	**916**	0	0	**1487**
% Approach	74.0%	1.3%	24.7%	0.0%	**0.0%**	0.0%	0.0%	0.4%	99.5%	0.1%	0.0%	**0.0%**	0.0%	0.0%	
% Total	3.8%	0.1%	1.3%	0.0%	**5.2%**	0.0%	0.0%	0.3%	61.3%	0.1%	0.0%	**61.6%**	0.0%	0.0%	
PHF	0.713	0.250	0.792	0.000	**0.740**	0.000	0.000	0.500	0.876	0.250	0.000	**0.877**	0.000	0.000	**0.948**
Lights	56	1	19	0	**76**	0	0	3	890	1	0	**894**	0	0	**1443**
% Lights	98.2%	100.0%	100.0%	0.0%	**98.7%**	0.0%	0.0%	75.0%	97.7%	100.0%	0.0%	**97.6%**	0.0%	0.0%	**97.0%**
Trucks	0	0	0	0	**0**	0	0	0	12	0	0	**12**	0	0	**24**
% Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	**1.3%**	0.0%	0.0%	**1.6%**
Buses	1	0	0	0	**1**	0	0	1	8	0	0	**9**	0	0	**19**
% Buses	1.8%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	25.0%	0.9%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**1.3%**
Pedestrians	0	0	0	0	**0**	1	0	0	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	1	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





TRI-STATE TRAFFIC DATA

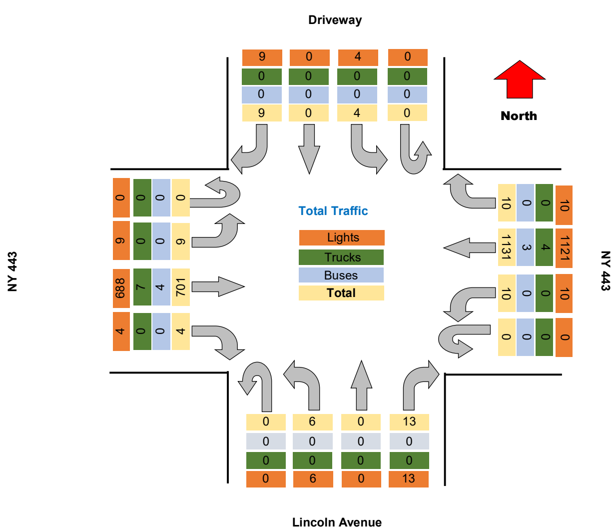
TSTData.com

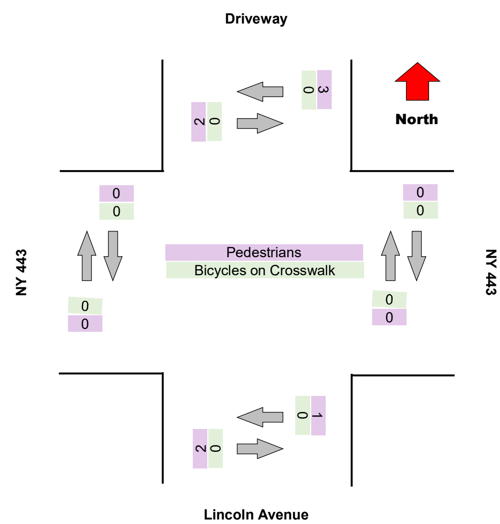
Turning Movement Peak Hour Data (PM)

4:30:00 PM

Leg	Driveway							NY 443						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
4:30:00 PM	3	0	2	0	**5**	0	1	2	270	3	0	**275**	0	0
4:45:00 PM	0	0	1	0	**1**	2	2	2	261	0	0	**263**	0	0
5:00:00 PM	5	0	0	0	**5**	0	0	2	305	5	0	**312**	0	0
5:15:00 PM	1	0	1	0	**2**	0	0	4	295	2	0	**301**	0	0
Grand Total	9	0	4	0	**13**	2	3	10	1131	10	0	**1151**	0	0
%Approach	69.2%	0.0%	30.8%	0.0%	**0.0%**	0.0%	0.0%	0.9%	98.3%	0.9%	0.0%	**0.0%**	0.0%	0.0%
%Total	0.5%	0.0%	0.2%	0.0%	**0.7%**	0.0%	0.0%	0.5%	59.6%	0.5%	0.0%	**60.7%**	0.0%	0.0%
PHF	0.450	0.000	0.500	0.000	**0.650**	0.000	0.000	0.625	0.927	0.500	0.000	**0.922**	0.000	0.000
Lights	9	0	4	0	**13**	0	0	10	1121	10	0	**1141**	0	0
%Lights	100.0%	0.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	100.0%	99.1%	100.0%	0.0%	**99.1%**	0.0%	0.0%
Trucks	0	0	0	0	**0**	0	0	0	4	0	0	**4**	0	0
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	**0.3%**	0.0%	0.0%
Buses	0	0	0	0	**0**	0	0	0	3	0	0	**3**	0	0
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Pedestrians	0	0	0	0	**0**	2	3	0	0	0	0	**0**	0	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%

Leg	Lincoln Avenue							NY 443							
Direction	Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
4:30:00 PM	3	0	2	0	**5**	0	0	3	167	2	0	**172**	0	0	**457**
4:45:00 PM	3	0	2	0	**5**	1	1	0	176	5	0	**181**	0	0	**450**
5:00:00 PM	6	0	1	0	**7**	0	1	1	177	2	0	**180**	0	0	**504**
5:15:00 PM	1	0	1	0	**2**	0	0	0	181	0	0	**181**	0	0	**486**
Grand Total	13	0	6	0	**19**	1	2	4	701	9	0	**714**	0	0	**1897**
%Approach	68.4%	0.0%	31.6%	0.0%	**0.0%**	0.0%	0.0%	0.6%	98.2%	1.3%	0.0%	**0.0%**	0.0%	0.0%	
%Total	0.7%	0.0%	0.3%	0.0%	**1.0%**	0.0%	0.0%	0.2%	37.0%	0.5%	0.0%	**37.6%**	0.0%	0.0%	
PHF	0.542	0.000	0.750	0.000	**0.679**	0.000	0.000	0.333	0.968	0.450	0.000	**0.986**	0.000	0.000	**0.941**
Lights	13	0	6	0	**19**	0	0	4	688	9	0	**701**	0	0	**1874**
%Lights	100.0%	0.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	100.0%	98.1%	100.0%	0.0%	**98.2%**	0.0%	0.0%	**98.8%**
Trucks	0	0	0	0	**0**	0	0	0	7	0	0	**7**	0	0	**11**
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	**1.0%**	0.0%	0.0%	**0.6%**
Buses	0	0	0	0	**0**	0	0	0	4	0	0	**4**	0	0	**7**
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.4%**
Pedestrians	0	0	0	0	**0**	1	2	0	0	0	0	**0**	0	0	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





TSTData.com

TRI-STATE TRAFFIC DATA

TSTData.com

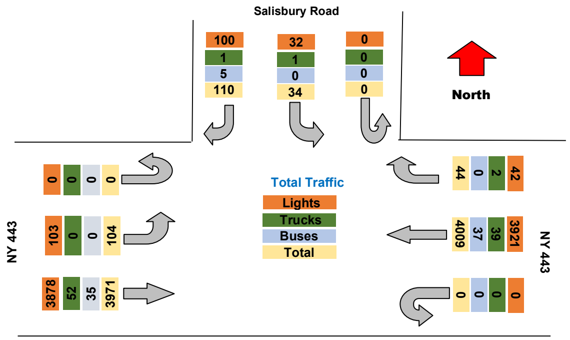
Project	CHA
Project Code	11358
Site Name	NY 443 & Salisbury Rd
Legs and Movements	All Processed Legs & Movements
Bin Size	15 minutes
Survey Date	2023/05/10, Wednesday
Location	NY 443 & Salisbury Rd
Latitude and Longitude	42.62829, -73.81602

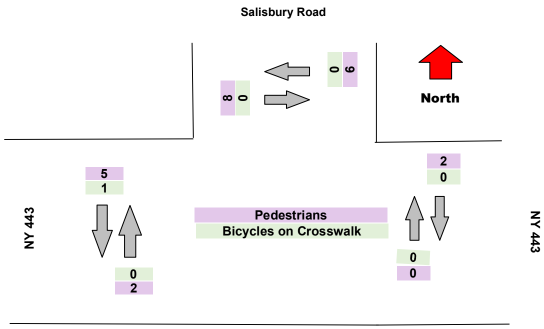
	Start	End	PHF
AM Peak	2023/05/10 07:30:00	2023/05/10 08:30:00	0.9459
PM Peak	2023/05/10 16:15:00	2023/05/10 17:15:00	0.9482

Turning Movement Data

Leg	**Salisbury Road**						**NY 443**						**NY 443**						
Direction	**Southbound**						**Westbound**						**Eastbound**						
Start Time	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
6:00:00 AM	0	0	0	**0**	0	0	0	17	0	**17**	0	0	43	0	0	**43**	0	0	**60**
6:15:00 AM	1	0	0	**1**	0	0	0	32	0	**32**	0	0	67	1	0	**68**	0	0	**101**
6:30:00 AM	2	0	0	**2**	1	0	0	40	0	**40**	0	0	102	1	0	**103**	1	0	**145**
6:45:00 AM	2	1	0	**3**	0	1	2	59	0	**61**	1	0	131	1	0	**132**	0	1	**196**
Hourly Total	5	1	0	**6**	1	1	2	148	0	**150**	1	0	343	3	0	**346**	1	1	**502**
7:00:00 AM	3	1	0	**4**	0	0	0	62	0	**62**	0	0	132	0	0	**132**	0	0	**198**
7:15:00 AM	1	1	0	**2**	0	0	0	83	0	**83**	0	0	217	2	0	**219**	0	0	**304**
7:30:00 AM	3	3	0	**6**	0	0	3	105	0	**108**	0	0	261	2	0	**263**	0	1	**377**
7:45:00 AM	6	0	0	**6**	0	0	3	140	0	**143**	0	0	238	1	0	**239**	0	0	**388**
Hourly Total	13	5	0	**18**	0	0	6	390	0	**396**	0	0	848	5	0	**853**	0	1	**1267**
8:00:00 AM	1	0	0	**1**	1	0	2	135	0	**137**	0	0	204	8	0	**212**	0	0	**350**
8:15:00 AM	1	3	0	**4**	0	0	4	102	0	**106**	0	0	240	3	0	**243**	0	0	**353**
8:30:00 AM	5	3	0	**8**	0	0	2	125	0	**127**	0	0	201	2	0	**203**	0	1	**338**
8:45:00 AM	4	1	0	**5**	0	0	4	140	0	**144**	0	0	186	1	0	**187**	0	0	**336**
Hourly Total	11	7	0	**18**	1	0	12	502	0	**514**	0	0	831	14	0	**845**	0	1	**1377**
3:00:00 PM	4	2	0	**6**	0	0	1	202	0	**203**	0	0	163	7	0	**170**	0	0	**379**
3:15:00 PM	10	2	0	**12**	2	0	2	237	0	**239**	0	0	143	4	0	**147**	0	0	**398**
3:30:00 PM	7	0	0	**7**	0	2	2	182	0	**184**	0	0	185	3	0	**188**	0	0	**379**
3:45:00 PM	7	4	0	**11**	0	1	3	223	0	**226**	0	0	151	6	0	**157**	0	0	**394**
Hourly Total	28	8	0	**36**	2	3	8	844	0	**852**	0	0	642	20	0	**662**	0	0	**1550**
4:00:00 PM	9	6	0	**15**	1	0	3	266	0	**269**	0	0	161	7	0	**168**	0	1	**452**
4:15:00 PM	7	0	0	**7**	1	1	2	275	0	**277**	0	0	196	9	0	**205**	0	0	**489**
4:30:00 PM	11	3	0	**14**	0	2	2	260	0	**262**	0	0	157	11	0	**168**	0	0	**444**
4:45:00 PM	4	2	0	**6**	0	1	2	261	0	**263**	0	0	164	8	0	**172**	1	0	**441**
Hourly Total	31	11	0	**42**	2	4	9	1062	0	**1071**	0	0	678	35	0	**713**	1	1	**1826**
5:00:00 PM	5	2	0	**7**	2	0	1	300	0	**301**	0	0	179	5	0	**184**	0	1	**492**
5:15:00 PM	8	0	0	**8**	0	0	2	288	0	**290**	0	0	170	8	0	**178**	0	1	**476**
5:30:00 PM	3	0	0	**3**	0	0	2	259	0	**261**	0	0	156	6	0	**162**	0	0	**426**
5:45:00 PM	6	0	0	**6**	0	1	2	216	0	**218**	1	0	124	8	0	**132**	0	0	**356**
Hourly Total	22	2	0	**24**	2	1	7	1063	0	**1070**	1	0	629	27	0	**656**	0	2	**1750**
Grand Total	110	34	0	**144**	8	9	44	4009	0	**4053**	2	0	3971	104	0	**4075**	2	6	**8272**
% Approach	76.4%	23.6%	0.0%	**0.0%**	0.0%	0.0%	1.1%	98.9%	0.0%	**0.0%**	0.0%	0.0%	97.4%	2.6%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
% Total	1.3%	0.4%	0.0%	**1.7%**	0.0%	0.0%	0.5%	48.5%	0.0%	**49.0%**	0.0%	0.0%	48.0%	1.3%	0.0%	**49.3%**	0.0%	0.0%	**0.0%**
Lights	100	32	0	**132**	0	0	42	3921	0	**3963**	0	0	3878	103	0	**3981**	0	0	**8076**
% Lights	90.9%	94.1%	0.0%	**91.7%**	0.0%	0.0%	95.5%	97.8%	0.0%	**97.8%**	0.0%	0.0%	97.7%	99.0%	0.0%	**97.7%**	0.0%	0.0%	**97.6%**
Trucks	1	1	0	**2**	0	0	2	39	0	**41**	0	0	52	0	0	**52**	0	0	**95**
% Trucks	0.9%	2.9%	0.0%	**1.4%**	0.0%	0.0%	4.5%	1.0%	0.0%	**1.0%**	0.0%	0.0%	1.3%	0.0%	0.0%	**1.3%**	0.0%	0.0%	**1.1%**
Buses	5	0	0	**5**	0	0	0	37	0	**37**	0	0	35	0	0	**35**	0	0	**77**
% Buses	4.5%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.9%	0.0%	**0.0%**	0.0%	0.0%	0.9%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.9%**
Pedestrians	0	0	0	**0**	8	9	0	0	0	**0**	2	0	0	0	0	**0**	2	5	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	83.3%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	16.7%	**0.0%**

Turning Movement Data Plot



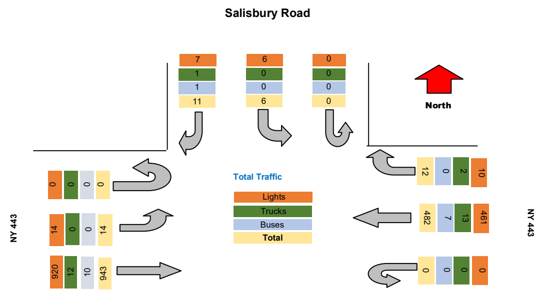


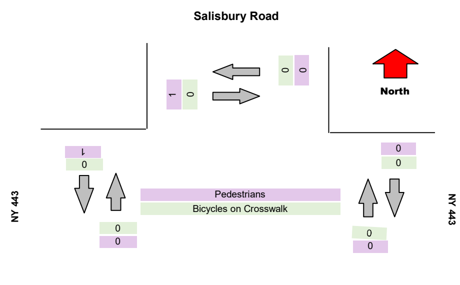
TRI-STATE TRAFFIC DATA
TSTData.com

Turning Movement Peak Hour Data (AM)

7:30:00 AM

Leg	Salisbury Road						NY 443						NY 443						
Direction	Southbound						Westbound						Eastbound						
Start Time	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
7:30:00 AM	3	3	0	**6**	0	0	3	105	0	**108**	0	0	261	2	0	**263**	0	1	**377**
7:45:00 AM	6	0	0	**6**	0	0	3	140	0	**143**	0	0	238	1	0	**239**	0	0	**388**
8:00:00 AM	1	0	0	**1**	1	0	2	135	0	**137**	0	0	204	8	0	**212**	0	0	**350**
8:15:00 AM	1	3	0	**4**	0	0	4	102	0	**106**	0	0	240	3	0	**243**	0	0	**353**
Grand Total	11	6	0	**17**	1	0	12	482	0	**494**	0	0	943	14	0	**957**	0	1	**1468**
% Approach	64.7%	35.3%	0.0%	**0.0%**	0.0%	0.0%	2.4%	97.6%	0.0%	**0.0%**	0.0%	0.0%	98.5%	1.5%	0.0%	**0.0%**	0.0%	0.0%	
% Total	0.7%	0.4%	0.0%	**1.2%**	0.0%	0.0%	0.8%	32.8%	0.0%	**33.7%**	0.0%	0.0%	64.2%	1.0%	0.0%	**65.2%**	0.0%	0.0%	
PHF	0.458	0.500	0.000	**0.708**	0.000	0.000	0.750	0.861	0.000	**0.864**	0.000	0.000	0.903	0.438	0.000	**0.910**	0.000	0.000	**0.946**
Lights	7	6	0	**13**	0	0	10	461	0	**471**	0	0	920	14	0	**934**	0	0	**1418**
% Lights	63.6%	100.0%	0.0%	**76.5%**	0.0%	0.0%	83.3%	95.6%	0.0%	**95.3%**	0.0%	0.0%	97.6%	100.0%	0.0%	**97.6%**	0.0%	0.0%	**96.6%**
Trucks	1	0	0	**1**	0	0	2	13	0	**15**	0	0	12	0	0	**12**	0	0	**28**
% Trucks	9.1%	0.0%	0.0%	**5.9%**	0.0%	0.0%	16.7%	2.7%	0.0%	**3.0%**	0.0%	0.0%	1.3%	0.0%	0.0%	**1.3%**	0.0%	0.0%	**1.9%**
Buses	1	0	0	**1**	0	0	0	7	0	**7**	0	0	10	0	0	**10**	0	0	**18**
% Buses	9.1%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.5%	0.0%	**0.0%**	0.0%	0.0%	1.1%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**1.2%**
Pedestrians	0	0	0	**0**	1	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

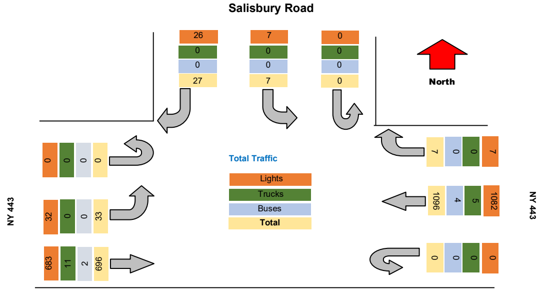


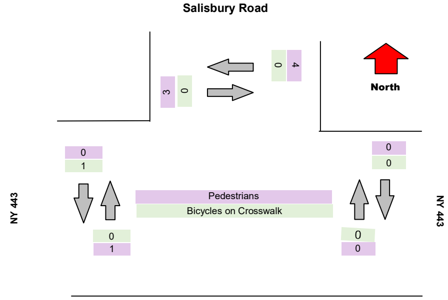


Turning Movement Peak Hour Data (PM)

4:15:00 PM

Leg	Salisbury Road						NY 443						NY 443						
Direction	**Southbound**						**Westbound**						**Eastbound**						
Start Time	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
4:15:00 PM	7	0	0	**7**	1	1	2	275	0	**277**	0	0	196	9	0	**205**	0	0	**489**
4:30:00 PM	11	3	0	**14**	0	2	2	260	0	**262**	0	0	157	11	0	**168**	0	0	**444**
4:45:00 PM	4	2	0	**6**	0	1	2	261	0	**263**	0	0	164	8	0	**172**	1	0	**441**
5:00:00 PM	5	2	0	**7**	2	0	1	300	0	**301**	0	0	179	5	0	**184**	0	1	**492**
Grand Total	27	7	0	**34**	3	4	7	1096	0	**1103**	0	0	696	33	0	**729**	1	1	**1866**
% Approach	79.4%	20.6%	0.0%	**0.0%**	0.0%	0.0%	0.6%	99.4%	0.0%	**0.0%**	0.0%	0.0%	95.5%	4.5%	0.0%	**0.0%**	0.0%	0.0%	
% Total	1.4%	0.4%	0.0%	**1.8%**	0.0%	0.0%	0.4%	58.7%	0.0%	**59.1%**	0.0%	0.0%	37.3%	1.8%	0.0%	**39.1%**	0.0%	0.0%	
PHF	0.614	0.583	0.000	**0.607**	0.000	0.000	0.875	0.913	0.000	**0.916**	0.000	0.000	0.888	0.750	0.000	**0.889**	0.000	0.000	**0.948**
Lights	26	7	0	**33**	0	0	7	1082	0	**1089**	0	0	683	32	0	**715**	0	0	**1837**
% Lights	96.3%	100.0%	0.0%	**97.1%**	0.0%	0.0%	100.0%	98.7%	0.0%	**98.7%**	0.0%	0.0%	98.1%	97.0%	0.0%	**98.1%**	0.0%	0.0%	**98.4%**
Trucks	0	0	0	**0**	0	0	0	5	0	**5**	0	0	11	0	0	**11**	0	0	**16**
% Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.5%	0.0%	**0.5%**	0.0%	0.0%	1.6%	0.0%	0.0%	**1.5%**	0.0%	0.0%	**0.9%**
Buses	0	0	0	**0**	0	0	0	4	0	**4**	0	0	2	0	0	**2**	0	0	**6**
% Buses	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.4%	0.0%	**0.0%**	0.0%	0.0%	0.3%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.3%**
Pedestrians	0	0	0	**0**	3	4	0	0	0	**0**	0	0	0	0	0	**0**	1	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	**0.0%**





TRI-STATE TRAFFIC DATA TSTData.com

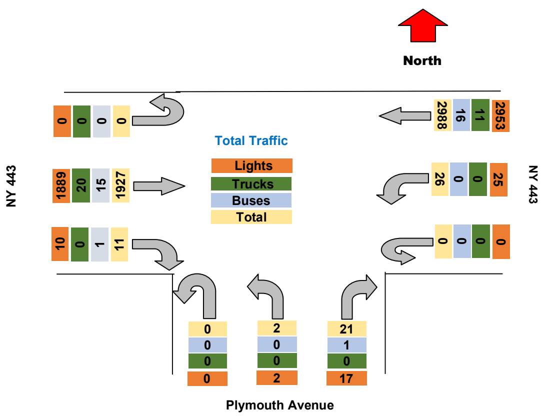
Project	CHA
Project Code	11358
Site Name	NY 443 & Plymouth Ave
Legs and Movements	All Processed Legs & Movements
Bin Size	15 minutes
Survey Date	2023/05/10, Wednesday
Location	NY 443 & Plymouth Ave
Latitude and Longitude	42.62873, -73.81432

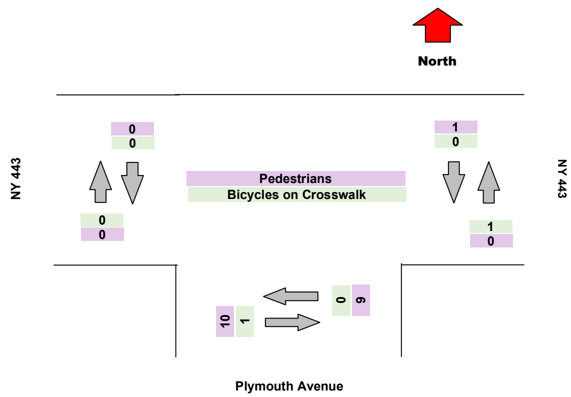
	Start	End	PHF
PM Peak	2023/05/10 16:15:00	2023/05/10 17:15:00	0.9285

Turning Movement Data

Leg	**NY 443**						**Plymouth Avenue**						**NY 443**						
Direction	**Westbound**						**Northbound**						**Eastbound**						
Start Time	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
3:00:00 PM	202	1	0	**203**	0	0	2	0	0	**2**	0	1	0	159	0	**159**	0	0	**364**
3:15:00 PM	233	0	0	**233**	0	0	0	0	0	**0**	0	6	2	138	0	**140**	0	0	**373**
3:30:00 PM	187	1	0	**188**	1	0	1	1	0	**2**	1	1	2	183	0	**185**	0	0	**375**
3:45:00 PM	227	1	0	**228**	0	0	1	0	0	**1**	1	0	1	150	0	**151**	0	0	**380**
Hourly Total	849	3	0	**852**	1	0	4	1	0	**5**	2	8	5	630	0	**635**	0	0	**1492**
4:00:00 PM	265	2	0	**267**	0	1	1	0	0	**1**	0	0	1	160	0	**161**	0	0	**429**
4:15:00 PM	291	3	0	**294**	0	0	1	0	0	**1**	0	0	1	190	0	**191**	0	0	**486**
4:30:00 PM	248	4	0	**252**	0	0	2	0	0	**2**	1	0	0	154	0	**154**	0	0	**408**
4:45:00 PM	271	3	0	**274**	0	0	2	1	0	**3**	3	2	1	164	0	**165**	0	0	**442**
Hourly Total	1075	12	0	**1087**	0	1	6	1	0	**7**	4	2	3	668	0	**671**	0	0	**1765**
5:00:00 PM	283	2	0	**285**	0	0	3	0	0	**3**	0	1	0	181	0	**181**	0	0	**469**
5:15:00 PM	286	4	0	**290**	0	0	3	0	0	**3**	0	0	0	176	0	**176**	0	0	**469**
5:30:00 PM	259	1	0	**260**	0	0	4	0	0	**4**	0	0	1	149	0	**150**	0	0	**414**
5:45:00 PM	236	4	0	**240**	0	0	1	0	0	**1**	0	0	2	123	0	**125**	0	0	**366**
Hourly Total	1064	11	0	**1075**	0	0	11	0	0	**11**	0	1	3	629	0	**632**	0	0	**1718**
Grand Total	2988	26	0	**3014**	1	1	21	2	0	**23**	6	11	11	1927	0	**1938**	0	0	**4975**
% Approach	99.1%	0.9%	0.0%	**0.0%**	0.0%	0.0%	91.3%	8.7%	0.0%	**0.0%**	0.0%	0.0%	0.6%	99.4%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
% Total	60.1%	0.5%	0.0%	**60.6%**	0.0%	0.0%	0.4%	0.0%	0.0%	**0.5%**	0.0%	0.0%	0.2%	38.7%	0.0%	**39.0%**	0.0%	0.0%	**0.0%**
Lights	2953	25	0	**2978**	0	0	17	2	0	**19**	0	0	10	1889	0	**1899**	0	0	**4896**
% Lights	98.8%	96.2%	0.0%	**98.8%**	0.0%	0.0%	81.0%	100.0%	0.0%	**82.6%**	0.0%	0.0%	90.9%	98.0%	0.0%	**98.0%**	0.0%	0.0%	**98.4%**
Trucks	11	0	0	**11**	0	0	0	0	0	**0**	0	0	0	20	0	**20**	0	0	**31**
% Trucks	0.4%	0.0%	0.0%	**0.4%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.0%	0.0%	**1.0%**	0.0%	0.0%	**0.6%**
Buses	16	0	0	**16**	0	0	1	0	0	**1**	0	0	1	15	0	**16**	0	0	**33**
% Buses	0.5%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	9.1%	0.8%	0.0%	**0.0%**	0.0%	0.0%	**0.7%**
Pedestrians	0	0	0	**0**	1	0	0	0	0	**0**	6	10	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	90.9%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	1	0	0	0	**0**	0	1	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	9.1%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

Turning Movement Data Plot



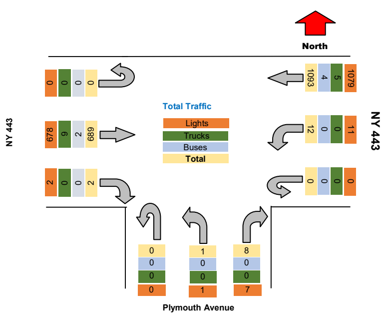


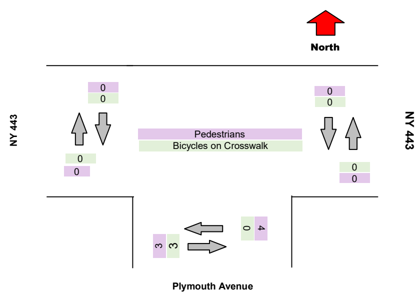
TRI-STATE TRAFFIC DATA TSTData.com

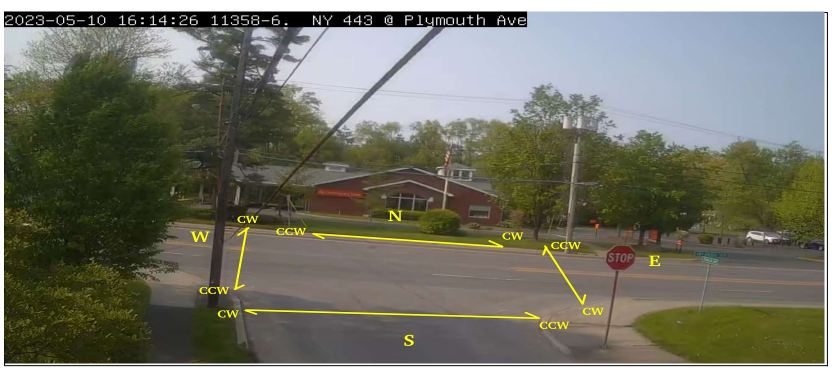
Turning Movement Peak Hour Data (PM)

4:15:00 PM

Leg	NY 443						Plymouth Avenue						NY 443						
Direction	Westbound						Northbound						Eastbound						
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Total
4:15:00 PM	291	3	0	**294**	0	0	1	0	0	**1**	0	0	1	190	0	**191**	0	0	**486**
4:30:00 PM	248	4	0	**252**	0	0	2	0	0	**2**	1	0	0	154	0	**154**	0	0	**408**
4:45:00 PM	271	3	0	**274**	0	0	2	1	0	**3**	3	2	1	164	0	**165**	0	0	**442**
5:00:00 PM	283	2	0	**285**	0	0	3	0	0	**3**	0	1	0	181	0	**181**	0	0	**469**
Grand Total	1093	12	0	**1105**	0	0	8	1	0	**9**	4	3	2	689	0	**691**	0	0	**1805**
% Approach	98.9%	1.1%	0.0%	**0.0%**	0.0%	0.0%	88.9%	11.1%	0.0%	**0.0%**	0.0%	0.0%	0.3%	99.7%	0.0%	**0.0%**	0.0%	0.0%	
% Total	60.6%	0.7%	0.0%	**61.2%**	0.0%	0.0%	0.4%	0.1%	0.0%	**0.5%**	0.0%	0.0%	0.1%	38.2%	0.0%	**38.3%**	0.0%	0.0%	
PHF	0.939	0.750	0.000	**0.940**	0.000	0.000	0.667	0.250	0.000	**0.750**	0.000	0.000	0.500	0.907	0.000	**0.904**	0.000	0.000	**0.928**
Lights	1079	11	0	**1090**	0	0	7	1	0	**8**	0	0	2	678	0	**680**	0	0	**1778**
% Lights	98.7%	91.7%	0.0%	**98.6%**	0.0%	0.0%	87.5%	100.0%	0.0%	**88.9%**	0.0%	0.0%	100.0%	98.4%	0.0%	**98.4%**	0.0%	0.0%	**98.5%**
Trucks	5	0	0	**5**	0	0	0	0	0	**0**	0	0	0	9	0	**9**	0	0	**14**
% Trucks	0.5%	0.0%	0.0%	**0.5%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.3%	0.0%	**1.3%**	0.0%	0.0%	**0.8%**
Buses	4	0	0	**4**	0	0	0	0	0	**0**	0	0	0	2	0	**2**	0	0	**6**
% Buses	0.4%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.3%	0.0%	**0.0%**	0.0%	0.0%	**0.3%**
Pedestrians	0	0	0	**0**	0	0	0	0	0	**0**	4	3	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**







TRI-STATE TRAFFIC DATA

TSTData.com

Project	CHA
Project Code	11358
Site Name	NY 443 & Delaware Plaza
Legs and Movements	All Processed Legs & Moven
Bin Size	15 minutes
Survey Date	2023/05/10, Wednesday
Location	NY 443 & Delaware Plaza
Latitude and Longitude	42.62889, -73.81183

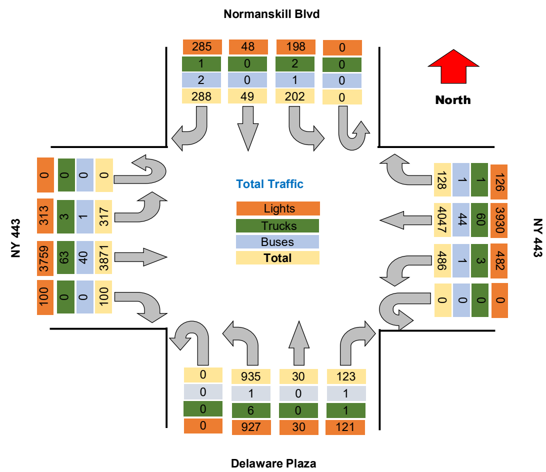
	Start	End	PHF
AM Peak	2023/05/10 07:30:00	2023/05/10 08:30:00	0.9
PM Peak	2023/05/10 16:30:00	2023/05/10 17:30:00	0.92

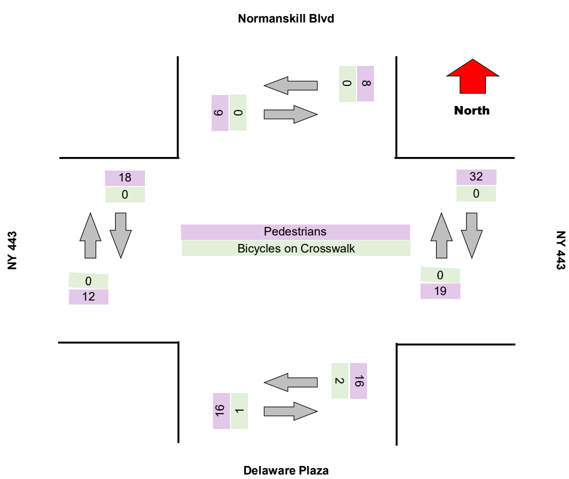
Turning Movement Data

Leg	Normanskill Blvd							NY 443							Delaware Plaza							NY 443							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Total
6:00:00 AM	0	0	0	0	**0**	0	0	0	14	3	0	**17**	0	0	0	0	1	0	**1**	0	0	2	36	0	0	**38**	0	0	**56**
6:15:00 AM	0	0	0	0	**0**	0	0	1	30	2	0	**33**	0	1	1	0	3	0	**4**	1	0	2	60	3	0	**65**	0	0	**102**
6:30:00 AM	2	1	0	0	**3**	0	0	5	38	1	0	**44**	0	0	2	0	5	0	**7**	0	0	1	93	3	0	**97**	0	0	**151**
6:45:00 AM	1	1	1	0	**3**	0	0	4	51	5	0	**60**	0	0	1	0	5	0	**6**	0	0	1	110	6	0	**117**	0	0	**186**
Hourly Total	3	2	1	0	**6**	0	0	10	133	11	0	**154**	0	1	4	0	14	0	**18**	1	0	6	299	12	0	**317**	0	0	**495**
7:00:00 AM	2	1	3	0	**6**	0	0	0	53	3	0	**56**	1	0	1	1	4	0	**6**	0	0	2	115	8	0	**125**	0	0	**193**
7:15:00 AM	4	2	3	0	**9**	0	0	2	60	5	0	**67**	0	0	1	1	7	0	**9**	0	0	2	190	10	0	**202**	0	0	**287**
7:30:00 AM	8	1	6	0	**15**	1	0	3	96	3	0	**102**	0	1	5	0	12	0	**17**	0	0	1	234	21	0	**256**	0	0	**390**
7:45:00 AM	9	2	7	0	**18**	0	0	4	102	6	0	**112**	3	0	2	1	9	0	**12**	1	0	1	181	23	0	**205**	0	0	**347**
Hourly Total	23	6	19	0	**48**	1	0	9	311	17	0	**337**	4	1	9	3	32	0	**44**	1	0	6	720	62	0	**788**	0	0	**1217**
8:00:00 AM	12	0	4	0	**16**	0	0	4	110	13	0	**127**	0	0	1	2	10	0	**13**	0	1	2	167	23	0	**192**	0	1	**348**
8:15:00 AM	2	4	3	0	**9**	0	2	7	78	8	0	**93**	1	0	6	0	16	0	**22**	1	0	0	166	27	0	**193**	3	0	**317**
8:30:00 AM	12	1	5	0	**18**	0	0	5	97	10	0	**112**	0	0	4	1	19	0	**24**	0	0	2	159	14	0	**175**	0	0	**329**
8:45:00 AM	5	0	6	0	**11**	0	0	4	127	14	0	**145**	1	0	7	0	14	0	**21**	0	0	2	148	10	0	**160**	0	0	**337**
Hourly Total	31	5	18	0	**54**	0	2	20	412	45	0	**477**	2	0	18	3	59	0	**80**	1	1	6	640	74	0	**720**	3	1	**1331**
11:30:00 AM	11	4	10	0	**25**	0	0	1	105	16	0	**122**	1	0	7	0	45	0	**52**	0	1	5	105	6	0	**116**	0	1	**315**
11:45:00 AM	7	1	2	0	**10**	0	0	3	135	18	0	**156**	5	0	7	1	31	0	**39**	0	0	4	99	9	0	**112**	0	0	**317**
Hourly Total	18	5	12	0	**35**	0	0	4	240	34	0	**278**	6	0	14	1	76	0	**91**	0	1	9	204	15	0	**228**	0	1	**632**
12:00:00 PM	8	1	4	0	**13**	2	3	3	101	24	0	**128**	5	1	6	0	35	0	**41**	0	0	8	102	6	0	**116**	2	0	**298**
12:15:00 PM	13	1	9	0	**23**	0	0	1	114	27	0	**142**	1	4	4	2	23	0	**29**	3	0	4	117	7	0	**128**	1	3	**322**
12:30:00 PM	6	1	6	0	**13**	1	0	4	106	22	0	**132**	3	3	6	1	38	0	**45**	1	2	8	96	11	0	**115**	0	0	**305**
12:45:00 PM	7	3	5	0	**15**	0	0	6	103	12	0	**121**	0	0	9	2	36	0	**47**	1	1	3	105	16	0	**124**	2	2	**307**
Hourly Total	34	6	24	0	**64**	3	3	14	424	85	0	**523**	9	8	25	5	132	0	**162**	5	3	23	420	40	0	**483**	5	5	**1232**
1:00:00 PM	4	1	5	0	**10**	0	0	8	88	14	0	**110**	6	1	5	6	40	0	**51**	1	0	1	110	9	0	**120**	0	0	**291**
1:15:00 PM	7	1	7	0	**15**	0	0	3	133	15	0	**151**	1	1	5	3	34	0	**42**	0	0	6	106	11	0	**123**	0	0	**331**
Hourly Total	11	2	12	0	**25**	0	0	11	221	29	0	**261**	7	2	10	9	74	0	**93**	1	0	7	216	20	0	**243**	0	0	**622**
3:00:00 PM	13	1	16	0	**30**	0	0	9	152	15	0	**176**	1	0	5	0	46	0	**51**	1	1	4	117	5	0	**126**	0	0	**383**
3:15:00 PM	13	1	4	0	**18**	0	1	5	179	22	0	**206**	0	1	1	1	38	0	**40**	0	2	5	99	2	0	**106**	0	3	**370**
3:30:00 PM	7	0	5	0	**12**	0	1	2	144	16	0	**162**	0	0	4	0	39	0	**43**	1	1	4	132	9	0	**145**	1	2	**362**
3:45:00 PM	11	1	8	0	**20**	0	0	3	181	18	0	**202**	0	1	7	1	43	0	**51**	1	1	1	101	7	0	**109**	0	0	**382**
Hourly Total	44	3	33	0	**80**	0	2	19	656	71	0	**746**	1	2	17	2	166	0	**185**	3	5	14	449	23	0	**486**	1	5	**1497**
4:00:00 PM	11	2	12	0	**25**	0	0	4	198	20	0	**222**	0	1	4	0	51	0	**55**	1	0	3	118	8	0	**129**	1	0	**431**
4:15:00 PM	21	3	11	0	**35**	2	0	3	220	27	0	**250**	0	0	6	2	53	0	**61**	0	1	5	121	8	0	**134**	0	0	**480**
4:30:00 PM	16	2	10	0	**28**	0	1	6	196	23	0	**225**	0	0	3	0	49	0	**52**	1	0	6	105	14	0	**125**	0	0	**430**
4:45:00 PM	12	3	6	0	**21**	0	0	6	227	25	0	**258**	1	0	2	1	44	0	**47**	2	0	2	125	7	0	**134**	2	2	**460**
Hourly Total	60	10	39	0	**109**	2	1	19	841	95	0	**955**	1	1	15	3	197	0	**215**	4	1	16	469	37	0	**522**	3	2	**1801**
5:00:00 PM	18	1	20	0	**39**	0	0	7	207	28	0	**242**	2	0	2	2	56	0	**60**	0	0	2	115	11	0	**128**	0	0	**469**
5:15:00 PM	25	1	13	0	**39**	0	0	7	223	26	0	**256**	0	0	3	1	48	0	**52**	0	5	3	143	13	0	**159**	0	4	**506**
5:30:00 PM	10	6	5	0	**21**	0	0	2	215	22	0	**239**	0	4	2	0	44	0	**46**	1	1	7	101	6	0	**114**	0	0	**420**
5:45:00 PM	11	2	6	0	**19**	0	0	6	164	23	0	**193**	0	0	4	1	37	0	**42**	1	0	1	95	4	0	**100**	0	0	**354**
Hourly Total	64	10	44	0	**118**	0	0	22	809	99	0	**930**	2	4	11	4	185	0	**200**	2	6	13	454	34	0	**501**	0	4	**1749**
Grand Total	288	49	202	0	**539**	6	8	128	4047	486	0	**4661**	32	19	123	30	935	0	**1088**	18	17	100	3871	317	0	**4288**	12	18	**10576**
%Approach	53.4%	9.1%	37.5%	0.0%	**0.0%**	0.0%	0.0%	2.7%	86.8%	10.4%	0.0%	**0.0%**	0.0%	0.0%	11.3%	2.8%	85.9%	0.0%	**0.0%**	0.0%	0.0%	2.3%	90.3%	7.4%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
%Total	2.7%	0.5%	1.9%	0.0%	**5.1%**	0.0%	0.0%	1.2%	38.3%	4.6%	0.0%	**44.1%**	0.0%	0.0%	1.2%	0.3%	8.8%	0.0%	**10.3%**	0.0%	0.0%	0.9%	36.6%	3.0%	0.0%	**40.5%**	0.0%	0.0%	**0.0%**
Lights	285	48	198	0	**531**	0	0	126	3930	482	0	**4538**	0	0	121	30	927	0	**1078**	0	0	100	3759	313	0	**4172**	0	0	**10319**
%Lights	99.0%	98.0%	98.0%	0.0%	**98.5%**	0.0%	0.0%	98.4%	97.1%	99.2%	0.0%	**97.4%**	0.0%	0.0%	98.4%	100.0%	99.1%	0.0%	**99.1%**	0.0%	0.0%	100.0%	97.1%	98.7%	0.0%	**97.3%**	0.0%	0.0%	**97.6%**
Trucks	1	0	2	0	**3**	0	0	1	60	3	0	**64**	0	0	1	0	6	0	**7**	0	0	0	63	3	0	**66**	0	0	**140**
%Trucks	0.3%	0.0%	1.0%	0.0%	**0.6%**	0.0%	0.0%	0.8%	1.5%	0.6%	0.0%	**1.4%**	0.0%	0.0%	0.8%	0.0%	0.6%	0.0%	**0.6%**	0.0%	0.0%	0.0%	1.6%	0.9%	0.0%	**1.5%**	0.0%	0.0%	**1.3%**
Buses	2	0	1	0	**3**	0	0	1	44	1	0	**46**	0	0	1	0	1	0	**2**	0	0	0	40	1	0	**41**	0	0	**92**
%Buses	0.7%	0.0%	0.5%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.1%	0.2%	0.0%	**0.0%**	0.0%	0.0%	0.8%	0.0%	0.1%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.0%	0.3%	0.0%	**0.0%**	0.0%	0.0%	**0.9%**
Pedestrians	0	0	0	0	**0**	6	8	0	0	0	0	**0**	32	19	0	0	0	0	**0**	16	16	0	0	0	0	**0**	12	18	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	88.9%	94.1%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	2	1	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	11.1%	5.9%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

TSTData.com

Turning Movement Data Plot





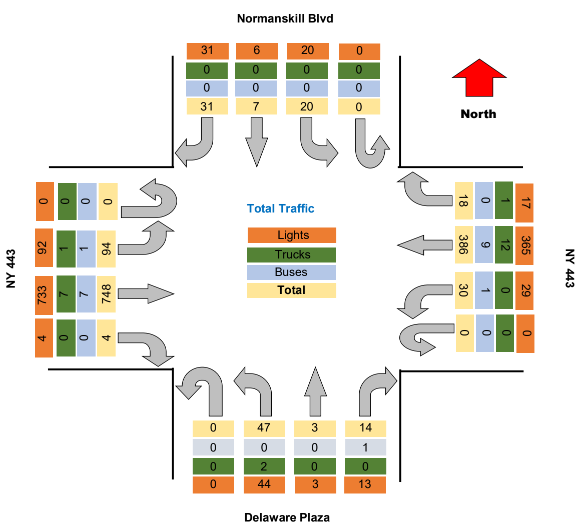
TSTData.com

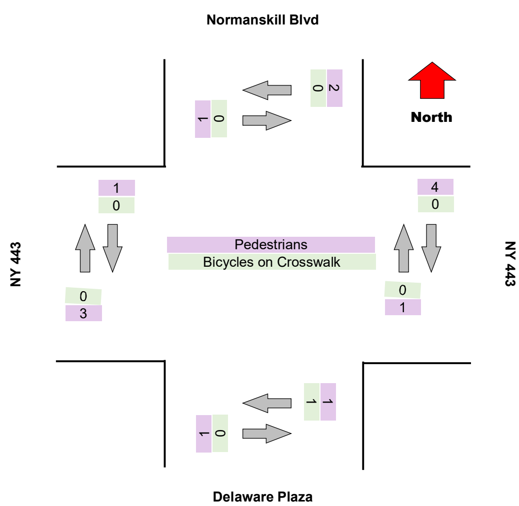
Turning Movement Peak Hour Data (AM)

7:30:00 AM

Leg	Normanskill Blvd							NY 443						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW
7:30:00 AM	8	1	6	0	**15**	1	0	3	96	3	0	**102**	0	1
7:45:00 AM	9	2	7	0	**18**	0	0	4	102	6	0	**112**	3	0
8:00:00 AM	12	0	4	0	**16**	0	0	4	110	13	0	**127**	0	0
8:15:00 AM	2	4	3	0	**9**	0	2	7	78	8	0	**93**	1	0
Grand Total	31	7	20	0	**58**	1	2	18	386	30	0	**434**	4	1
%Approach	53.4%	12.1%	34.5%	0.0%	**0.0%**	0.0%	0.0%	4.1%	88.9%	6.9%	0.0%	**0.0%**	0.0%	0.0%
%Total	2.2%	0.5%	1.4%	0.0%	**4.1%**	0.0%	0.0%	1.3%	27.5%	2.1%	0.0%	**31.0%**	0.0%	0.0%
PHF	0.646	0.438	0.714	0.000	**0.806**	0.000	0.000	0.643	0.877	0.577	0.000	**0.854**	0.000	0.000
Lights	31	6	20	0	**57**	0	0	17	365	29	0	**411**	0	0
%Lights	100.0%	85.7%	100.0%	0.0%	**98.3%**	0.0%	0.0%	94.4%	94.6%	96.7%	0.0%	**94.7%**	0.0%	0.0%
Trucks	0	0	0	0	**0**	0	0	1	12	0	0	**13**	0	0
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	5.6%	3.1%	0.0%	0.0%	**3.0%**	0.0%	0.0%
Buses	0	0	0	0	**0**	0	0	0	9	1	0	**10**	0	0
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	2.3%	3.3%	0.0%	**0.0%**	0.0%	0.0%
Pedestrians	0	0	0	0	**0**	1	2	0	0	0	0	**0**	4	1
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%

Leg	Delaware Plaza							NY 443							
Direction	Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
7:30:00 AM	5	0	12	0	**17**	0	0	1	234	21	0	**256**	0	0	**390**
7:45:00 AM	2	1	9	0	**12**	1	0	1	181	23	0	**205**	0	0	**347**
8:00:00 AM	1	2	10	0	**13**	0	1	2	167	23	0	**192**	0	1	**348**
8:15:00 AM	6	0	16	0	**22**	1	0	0	166	27	0	**193**	3	0	**317**
Grand Total	14	3	47	0	**64**	2	1	4	748	94	0	**846**	3	1	**1402**
%Approach	21.9%	4.7%	73.4%	0.0%	**0.0%**	0.0%	0.0%	0.5%	88.4%	11.1%	0.0%	**0.0%**	0.0%	0.0%	
%Total	1.0%	0.2%	3.4%	0.0%	**4.6%**	0.0%	0.0%	0.3%	53.4%	6.7%	0.0%	**60.3%**	0.0%	0.0%	
PHF	0.583	0.375	0.734	0.000	**0.727**	0.000	0.000	0.500	0.799	0.870	0.000	**0.826**	0.000	0.000	**0.899**
Lights	13	3	44	0	**60**	0	0	4	733	92	0	**829**	0	0	**1357**
%Lights	92.9%	100.0%	93.6%	0.0%	**93.8%**	0.0%	0.0%	100.0%	98.0%	97.9%	0.0%	**98.0%**	0.0%	0.0%	**96.8%**
Trucks	0	0	2	0	**2**	0	0	0	7	1	0	**8**	0	0	**23**
%Trucks	0.0%	0.0%	4.3%	0.0%	**3.1%**	0.0%	0.0%	0.0%	0.9%	1.1%	0.0%	**0.9%**	0.0%	0.0%	**1.6%**
Buses	1	0	0	0	**1**	0	0	0	7	1	0	**8**	0	0	**19**
%Buses	7.1%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.9%	1.1%	0.0%	**0.0%**	0.0%	0.0%	**1.4%**
Pedestrians	0	0	0	0	**0**	1	1	0	0	0	0	**0**	3	1	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	1	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





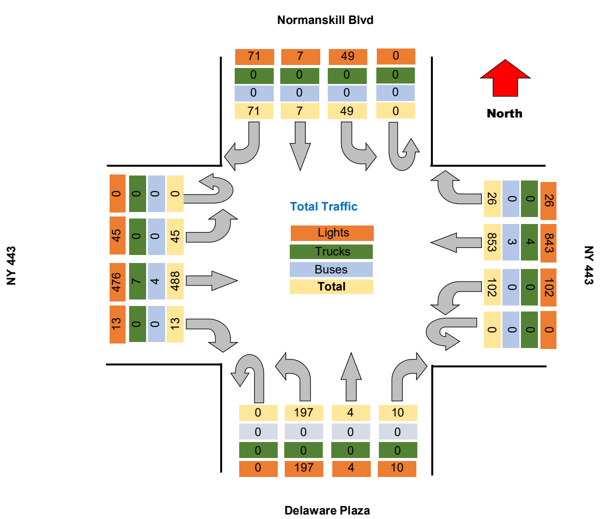
TSTData.com

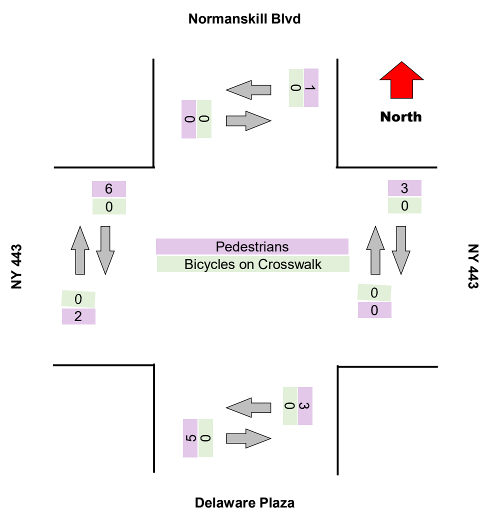
Turning Movement Peak Hour Data (PM)

4:30:00 PM

Leg	Normanskill Blvd							NY 443						
Direction	Southbound							Westbound						
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW
4:30:00 PM	16	2	10	0	**28**	0	1	6	196	23	0	**225**	0	0
4:45:00 PM	12	3	6	0	**21**	0	0	6	227	25	0	**258**	1	0
5:00:00 PM	18	1	20	0	**39**	0	0	7	207	28	0	**242**	2	0
5:15:00 PM	25	1	13	0	**39**	0	0	7	223	26	0	**256**	0	0
Grand Total	71	7	49	0	**127**	0	1	26	853	102	0	**981**	3	0
%Approach	55.9%	5.5%	38.6%	0.0%	**0.0%**	0.0%	0.0%	2.7%	87.0%	10.4%	0.0%	**0.0%**	0.0%	0.0%
%Total	3.8%	0.4%	2.6%	0.0%	**6.8%**	0.0%	0.0%	1.4%	45.7%	5.5%	0.0%	**52.6%**	0.0%	0.0%
PHF	0.710	0.583	0.613	0.000	**0.814**	0.000	0.000	0.929	0.939	0.911	0.000	**0.951**	0.000	0.000
Lights	71	7	49	0	**127**	0	0	26	843	102	0	**971**	0	0
%Lights	100.0%	100.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	100.0%	98.8%	100.0%	0.0%	**99.0%**	0.0%	0.0%
Trucks	0	0	0	0	**0**	0	0	0	4	0	0	**4**	0	0
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	**0.4%**	0.0%	0.0%
Buses	0	0	0	0	**0**	0	0	0	3	0	0	**3**	0	0
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	**0.0%**	0.0%	0.0%
Pedestrians	0	0	0	0	**0**	0	1	0	0	0	0	**0**	3	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	0.0%
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%

Leg	Delaware Plaza							NY 443							
Direction	Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
4:30:00 PM	3	0	49	0	**52**	1	0	6	105	14	0	**125**	0	0	**430**
4:45:00 PM	2	1	44	0	**47**	2	0	2	125	7	0	**134**	2	2	**460**
5:00:00 PM	2	2	56	0	**60**	0	0	2	115	11	0	**128**	0	0	**469**
5:15:00 PM	3	1	48	0	**52**	0	5	3	143	13	0	**159**	0	4	**506**
Grand Total	10	4	197	0	**211**	3	5	13	488	45	0	**546**	2	6	**1865**
%Approach	4.7%	1.9%	93.4%	0.0%	**0.0%**	0.0%	0.0%	2.4%	89.4%	8.2%	0.0%	**0.0%**	0.0%	0.0%	
%Total	0.5%	0.2%	10.6%	0.0%	**11.3%**	0.0%	0.0%	0.7%	26.2%	2.4%	0.0%	**29.3%**	0.0%	0.0%	
PHF	0.833	0.500	0.879	0.000	**0.879**	0.000	0.000	0.542	0.853	0.804	0.000	**0.858**	0.000	0.000	**0.921**
Lights	10	4	197	0	**211**	0	0	13	476	45	0	**534**	0	0	**1843**
%Lights	100.0%	100.0%	100.0%	0.0%	**100.0%**	0.0%	0.0%	100.0%	97.5%	100.0%	0.0%	**97.8%**	0.0%	0.0%	**98.8%**
Trucks	0	0	0	0	**0**	0	0	0	7	0	0	**7**	0	0	**11**
%Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	**1.3%**	0.0%	0.0%	**0.6%**
Buses	0	0	0	0	**0**	0	0	0	4	0	0	**4**	0	0	**7**
%Buses	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.4%**
Pedestrians	0	0	0	0	**0**	3	5	0	0	0	0	**0**	2	6	0
%Pedestrians	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	100.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0
%Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





TRI-STATE TRAFFIC DATA TSTData.com

Project	CHA
Project Code	11358
Site Name	NY 443 & Winslow Ave
Legs and Movements	All Processed Legs & Movements
Bin Size	15 minutes
Survey Date	2023/05/10, Wednesday
Location	NY 443 & Winslow Ave
Latitude and Longitude	42.63019, -73.80722

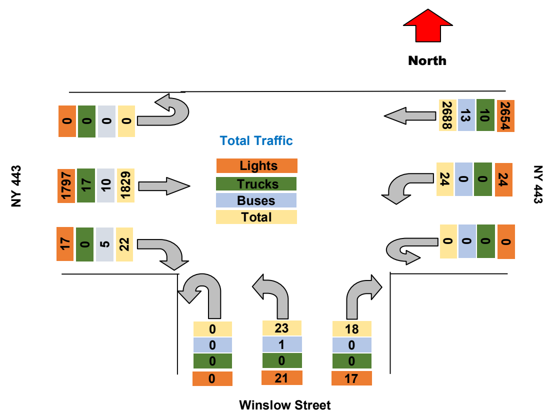
	Start	End	PHF
PM Peak	2023/05/10 16:30:00	2023/05/10 17:30:00	0.9597

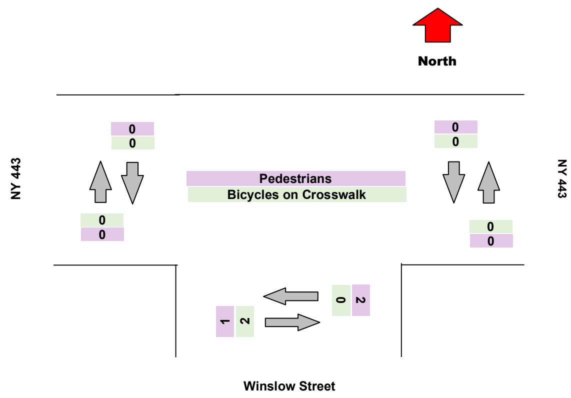
Turning Movement Data

Leg	NY 443						Winslow Street						NY 443						
Direction	Westbound						Northbound						Eastbound						
Start Time	Thru	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Left	U-Turn	**App Total**	Peds CW	Peds CCW	Right	Thru	U-Turn	**App Total**	Peds CW	Peds CCW	**Total**
3:00:00 PM	174	2	0	**176**	0	0	0	2	0	**2**	0	0	2	162	0	**164**	0	0	**342**
3:15:00 PM	210	4	0	**214**	0	0	1	4	0	**5**	0	0	1	128	0	**129**	0	0	**348**
3:30:00 PM	162	0	0	**162**	0	0	2	2	0	**4**	1	0	2	156	0	**158**	0	0	**324**
3:45:00 PM	235	2	0	**237**	0	0	3	0	0	**3**	0	0	4	138	0	**142**	0	0	**382**
Hourly Total	781	8	0	**789**	0	0	6	8	0	**14**	1	0	9	584	0	**593**	0	0	**1396**
4:00:00 PM	220	1	0	**221**	0	0	1	1	0	**2**	0	0	3	174	0	**177**	0	0	**400**
4:15:00 PM	254	5	0	**259**	0	0	2	1	0	**3**	0	1	2	147	0	**149**	0	0	**411**
4:30:00 PM	239	1	0	**240**	0	0	3	6	0	**9**	0	0	0	145	0	**145**	0	0	**394**
4:45:00 PM	259	4	0	**263**	0	0	1	2	0	**3**	0	0	1	164	0	**165**	0	0	**431**
Hourly Total	972	11	0	**983**	0	0	7	10	0	**17**	0	1	6	630	0	**636**	0	0	**1636**
5:00:00 PM	262	0	0	**262**	0	0	3	2	0	**5**	0	0	2	171	0	**173**	0	0	**440**
5:15:00 PM	244	2	0	**246**	0	0	2	2	0	**4**	0	1	3	171	0	**174**	0	0	**424**
5:30:00 PM	234	2	0	**236**	0	0	0	1	0	**1**	0	1	2	141	0	**143**	0	0	**380**
5:45:00 PM	195	1	0	**196**	0	0	0	0	0	**0**	1	0	0	132	0	**132**	0	0	**328**
Hourly Total	935	5	0	**940**	0	0	5	5	0	**10**	1	2	7	615	0	**622**	0	0	**1572**
Grand Total	2688	24	0	**2712**	0	0	18	23	0	**41**	2	3	22	1829	0	**1851**	0	0	**4604**
% Approach	99.1%	0.9%	0.0%	**0.0%**	0.0%	0.0%	43.9%	56.1%	0.0%	**0.0%**	0.0%	0.0%	1.2%	98.8%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
% Total	58.4%	0.5%	0.0%	**58.9%**	0.0%	0.0%	0.4%	0.5%	0.0%	**0.9%**	0.0%	0.0%	0.5%	39.7%	0.0%	**40.2%**	0.0%	0.0%	**0.0%**
Lights	2654	24	0	**2678**	0	0	17	21	0	**38**	0	0	17	1797	0	**1814**	0	0	**4530**
% Lights	98.7%	100.0%	0.0%	**98.7%**	0.0%	0.0%	94.4%	91.3%	0.0%	**92.7%**	0.0%	0.0%	77.3%	98.3%	0.0%	**98.0%**	0.0%	0.0%	**98.4%**
Trucks	10	0	0	**10**	0	0	0	0	0	**0**	0	0	0	17	0	**17**	0	0	**27**
% Trucks	0.4%	0.0%	0.0%	**0.4%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.9%	0.0%	**0.9%**	0.0%	0.0%	**0.6%**
Buses	13	0	0	**13**	0	0	0	1	0	**1**	0	0	5	10	0	**15**	0	0	**29**
% Buses	0.5%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	4.3%	0.0%	**0.0%**	0.0%	0.0%	22.7%	0.5%	0.0%	**0.0%**	0.0%	0.0%	**0.6%**
Pedestrians	0	0	0	**0**	0	0	0	0	0	**0**	2	1	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	100.0%	33.3%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	2	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	66.7%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

TRI-STATE TRAFFIC DATA TSTData.com

Turning Movement Data Plot



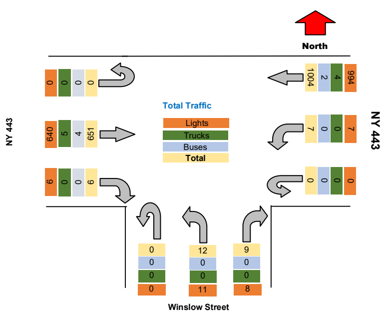


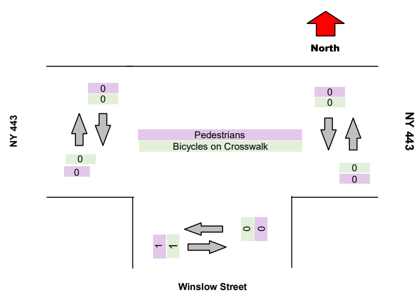
TRI-STATE TRAFFIC DATA TSTData.com

Turning Movement Peak Hour Data (PM)

4:30:00 PM

Leg	NY 443						Winslow Street						NY 443						
Direction	Westbound						Northbound						Eastbound						
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Total
4:30:00 PM	239	1	0	**240**	0	0	3	6	0	**9**	0	0	0	145	0	**145**	0	0	**394**
4:45:00 PM	259	4	0	**263**	0	0	1	2	0	**3**	0	0	1	164	0	**165**	0	0	**431**
5:00:00 PM	262	0	0	**262**	0	0	3	2	0	**5**	0	0	2	171	0	**173**	0	0	**440**
5:15:00 PM	244	2	0	**246**	0	0	2	2	0	**4**	0	1	3	171	0	**174**	0	0	**424**
Grand Total	1004	7	0	**1011**	0	0	9	12	0	**21**	0	1	6	651	0	**657**	0	0	**1689**
% Approach	99.3%	0.7%	0.0%	**0.0%**	0.0%	0.0%	42.9%	57.1%	0.0%	**0.0%**	0.0%	0.0%	0.9%	99.1%	0.0%	**0.0%**	0.0%	0.0%	
% Total	59.4%	0.4%	0.0%	**59.9%**	0.0%	0.0%	0.5%	0.7%	0.0%	**1.2%**	0.0%	0.0%	0.4%	38.5%	0.0%	**38.9%**	0.0%	0.0%	
PHF	0.958	0.438	0.000	**0.961**	0.000	0.000	0.750	0.500	0.000	**0.583**	0.000	0.000	0.500	0.952	0.000	**0.944**	0.000	0.000	**0.960**
Lights	994	7	0	**1001**	0	0	8	11	0	**19**	0	0	6	640	0	**646**	0	0	**1666**
% Lights	99.0%	100.0%	0.0%	**99.0%**	0.0%	0.0%	88.9%	91.7%	0.0%	**90.5%**	0.0%	0.0%	100.0%	98.3%	0.0%	**98.3%**	0.0%	0.0%	**98.6%**
Trucks	4	0	0	**4**	0	0	0	0	0	**0**	0	0	0	5	0	**5**	0	0	**9**
% Trucks	0.4%	0.0%	0.0%	**0.4%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.8%	0.0%	**0.8%**	0.0%	0.0%	**0.5%**
Buses	2	0	0	**2**	0	0	0	0	0	**0**	0	0	0	4	0	**4**	0	0	**6**
% Buses	0.2%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.6%	0.0%	**0.0%**	0.0%	0.0%	**0.4%**
Pedestrians	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0	0	0	**0**	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	100.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**
Bicycles on Crosswalk	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**





Appendix D-7

Peak Hour Determination

PIN 1761.68 Delaware Avenue Complete Streets Project
Peak Hour Determination

Weekday Intersection Turning Movement Hourly Count

Time	Total Hourly	Total 15-mins	% Difference from Max	1. Delaware Ave & Elsmere Ave / Groesbeck Pl	2. Delaware Ave & Herrick Ave	3. Delaware Ave & Lincoln Ave / Phillips Hardware Driveway	4. Delaware Ave & Salisbury Rd	6. Delaware Ave & Plymouth Ave	5. Delaware Ave & Delaware Plaza	7. Delaware Ave & Winslow Ave
Survey Date				5/16/2023	5/18/2023	5/10/2023	5/10/2023	5/10/2023	5/10/2023	5/10/2023
AM PEAK PERIOD										
6:00 AM	2539	321	-66.3%	75	65	65	60		56	
6:15 AM	3303	506	-56.1%	107	92	104	101		102	
6:30 AM	4289	722	-43.0%	134	140	152	145		151	
6:45 AM	5491	990	-27.0%	234	177	197	196		186	
7:00 AM	6408	1085	-14.8%	262	224	208	198		193	
7:15 AM	7198	1492	-4.3%	321	278	302	304		287	
7:30 AM	7524	1924	0.0%	407	358	392	377		390	
7:45 AM	7334	1907	-2.5%	415	375	382	388		347	
8:00 AM	7170	1875	-4.7%	411	405	361	350		348	
8:15 AM		1818		406	390	352	353		317	
8:30 AM		1734		397	325	345	338		329	
8:45 AM		1743		399	333	338	336		337	
MIDDAY PEAK PERIOD										
11:30 AM	2774	686	0.0%	371					315	
11:45 AM	2738	712	-1.3%	395					317	
12:00 PM	2734	684	-1.4%	386					298	
12:15 PM	2713	692	-2.2%	370					322	
12:30 PM	2746	650	-1.0%	345					305	
12:45 PM		708		401					307	
1:00 PM		663		372					291	
1:15 PM		725		394					331	
PM PEAK PERIOD										
3:00 PM	8038	1936	-16.0%	427	339	408	379	364	383	342
3:15 PM	8338	2019	-12.9%	455	395	401	398	373	370	348
3:30 PM	8742	1984	-8.7%	449	391	403	379	375	362	324
3:45 PM	9062	2099	-5.3%	476	444	403	394	380	382	382
4:00 PM	9330	2236	-2.5%	474	441	438	452	429	431	400
4:15 PM	9562	2423	-0.1%	524	446	484	489	486	480	411
4:30 PM	9572	2304	0.0%	520	453	457	444	408	430	394
4:45 PM	9506	2367	-0.7%	531	485	450	441	442	460	431
5:00 PM	9065	2468	-5.3%	544	459	504	492	469	469	440
5:15 PM		2433		533	432	486	476	469	506	424
5:30 PM		2238		516	438	438	426	414	420	380
5:45 PM		1926		459	385	372	356	366	354	328

Peak Hours are identified to be:
AM PEAK 7:30 AM to 8:30 AM
PM PEAK 4:30 PM to 5:30 PM

PIN 1761.68 Delaware Avenue Complete Streets Project
Peak Hour Determination

Weekend Intersection Turning Movement Hourly Count

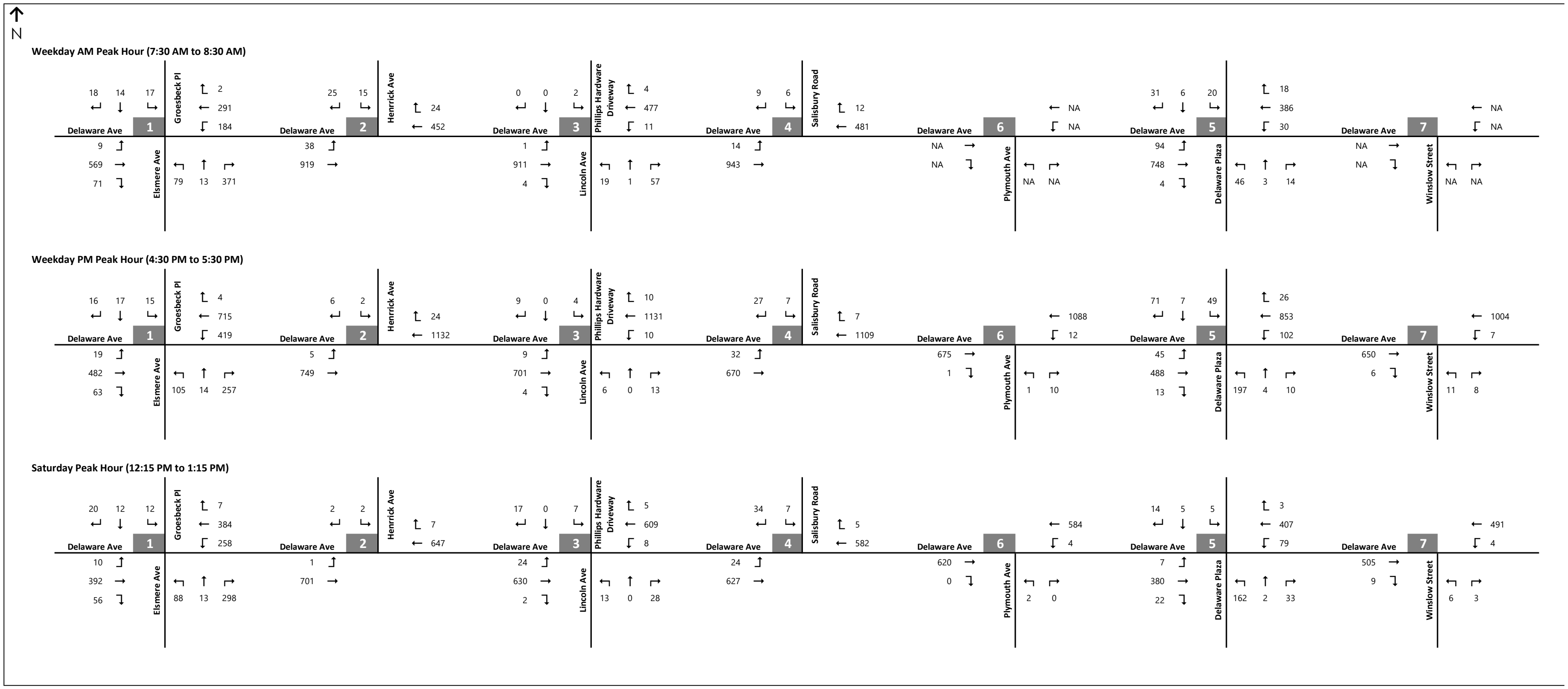
Time	Total Hourly	Total 15-mins	% Difference from Max	1. Delaware Ave & Elsmere Ave / Groesbeck Pl	2. Delaware Ave & Herrick Ave	3. Delaware Ave & Lincoln Ave / Phillips Hardware Driveway	4. Delaware Ave & Salisbury Rd	6. Delaware Ave & Plymouth Ave	5. Delaware Ave & Delaware Plaza	7. Delaware Ave & Winslow Ave
Survey Date				6/10/2023	6/10/2023	6/10/2023	6/10/2023	6/10/2023	6/10/2023	6/10/2023
WEEKEND PEAK PERIOD										
12:00 PM	6574	1601	-1.2%	376	323	307	300	276	295	279
12:15 PM	6654	1722	0.0%	402	343	343	330	324	304	279
12:30 PM	6548	1686	-1.6%	390	350	338	322	300	286	260
12:45 PM	6567	1565	-1.3%	359	315	324	300	287	267	251
1:00 PM	6577	1681	-1.2%	397	350	340	329	306	265	230
1:15 PM	6497	1616	-2.4%	355	327	330	312	303	292	254
1:30 PM	6465	1705	-2.8%	385	335	344	348	322	293	234
1:45 PM	6100	1575	-8.3%	346	308	312	306	289	303	275
2:00 PM	5961	1601	-10.4%	358	319	320	314	297	290	241
2:15 PM		1584		357	327	313	304	297	283	256
2:30 PM		1340		285	266	259	266	262	264	239
2:45 PM		1436		337	291	285	264	256	259	229

Peak Hours are identified to be:

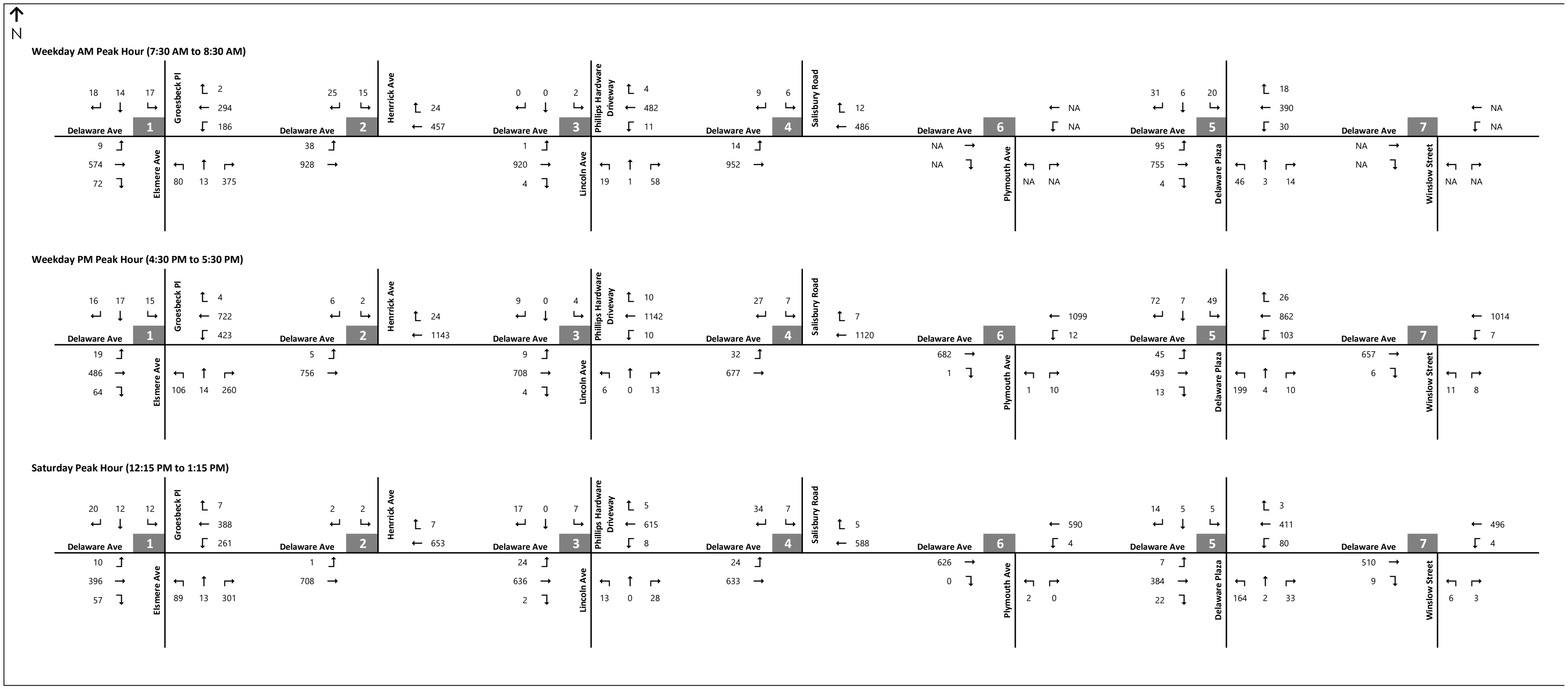
Weekend PEAK **12:15 PM to 1:15 PM**

Appendix D-8

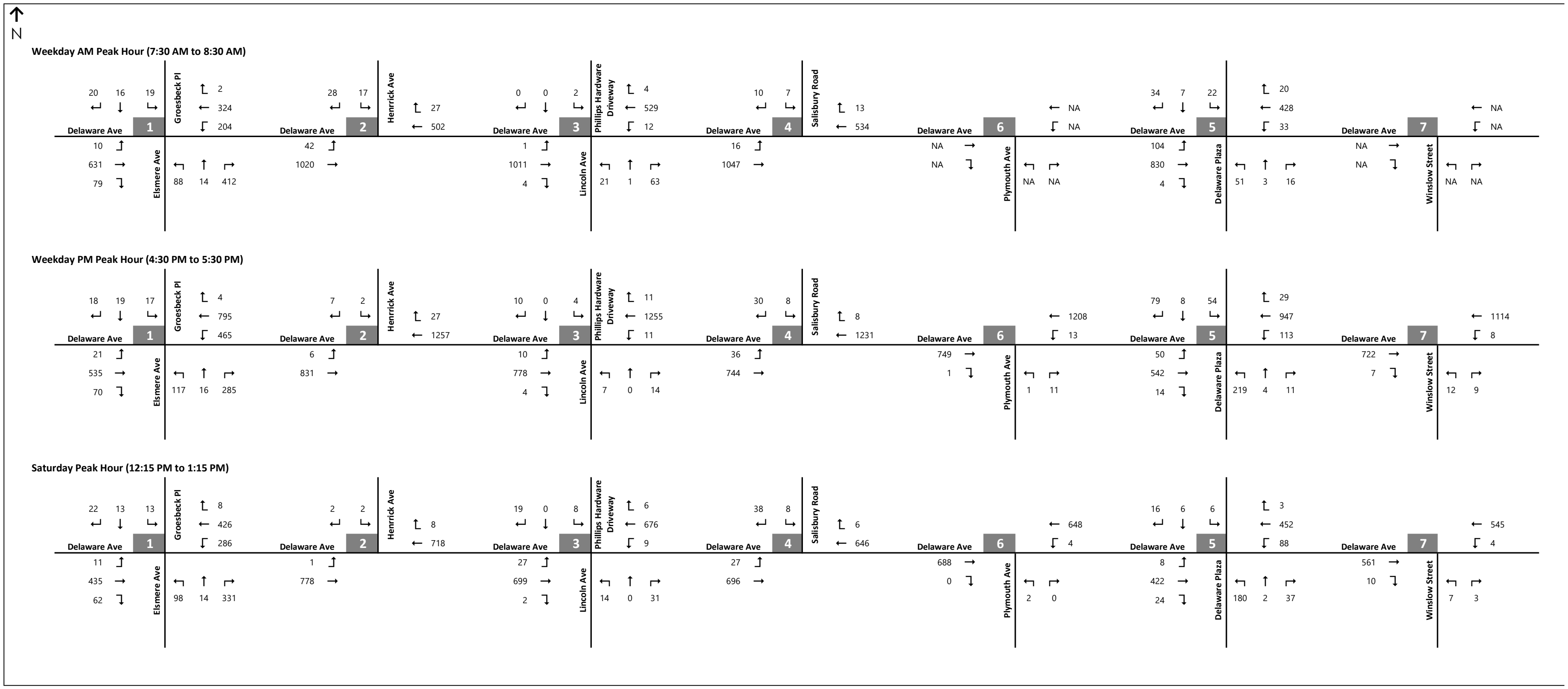
Traffic Volume Diagrams



PIN 1761.68 Delaware Avenue Complete Streets Project
Existing 2023 Traffic Volumes



PIN 1761.68 Delaware Avenue Complete Streets Project
ETC 2025 Traffic Volumes



PIN 1761.68 Delaware Avenue Complete Streets Project
ETC+20 2045 Traffic Volumes

Appendix D-9

Synchro Results for Existing and No-Build Scenarios

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	569	71	184	291	2	79	13	371	17	14	18
Future Volume (vph)	9	569	71	184	291	2	79	13	371	17	14	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			1.00	0.98		0.99	
Frt		0.983			0.999				0.850		0.950	
Flt Protected	0.950			0.950				0.959			0.983	
Satd. Flow (prot)	1805	3475	0	1719	1825	0	0	1733	1583	0	1687	0
Flt Permitted	0.579			0.257				0.721			0.863	
Satd. Flow (perm)	1099	3475	0	465	1825	0	0	1298	1550	0	1475	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1					1	2		10	10		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	5%	4%	0%	6%	0%	2%	0%	7%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	575	72	186	294	2	80	13	375	17	14	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	647	0	186	296	0	0	93	375	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	15.0	45.0		20.0	45.0		30.0	30.0	20.0	25.0	25.0	
Total Split (%)	12.2%	36.6%		16.3%	36.6%		24.4%	24.4%	16.3%	20.3%	20.3%	
Maximum Green (s)	10.0	40.0		15.0	40.0		25.0	25.0	15.0	20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	23.6	23.6		39.1	41.1			13.1	21.4		13.1	
Actuated g/C Ratio	0.37	0.37		0.61	0.64			0.21	0.34		0.21	
v/c Ratio	0.02	0.50		0.35	0.25			0.35	0.71		0.16	
Control Delay	19.9	20.4		15.9	14.5			34.1	23.5		31.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	19.9	20.4		15.9	14.5			34.1	23.5		31.0	
LOS	B	C		B	B			C	C		C	
Approach Delay		20.4			15.0			25.6			31.0	
Approach LOS		C			B			C			C	
90th %ile Green (s)	18.7	37.1		15.0	33.4		18.7	18.7	15.0	18.7	18.7	
90th %ile Term Code	Hold	Gap		Max	Gap		Gap	Gap	Max	Hold	Hold	
70th %ile Green (s)	0.0	22.9		14.2	42.1		11.7	11.7	14.2	11.7	11.7	
70th %ile Term Code	Skip	Gap		Gap	Hold		Gap	Gap	Gap	Hold	Hold	
50th %ile Green (s)	0.0	20.8		11.7	37.5		10.0	10.0	11.7	10.0	10.0	
50th %ile Term Code	Skip	Gap		Gap	Hold		Min	Min	Gap	Min	Min	
30th %ile Green (s)	0.0	17.6		9.4	32.0		10.0	10.0	9.4	0.0	0.0	
30th %ile Term Code	Skip	Gap		Gap	Hold		Min	Min	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		7.1	27.1		0.0	0.0	7.1	0.0	0.0	
10th %ile Term Code	Skip	Min		Gap	Hold		Skip	Skip	Gap	Skip	Skip	
Stops (vph)	8	454		82	138			75	266		41	
Fuel Used(gal)	0	8		1	2			2	5		1	
CO Emissions (g/hr)	9	580		99	155			110	368		51	
NOx Emissions (g/hr)	2	113		19	30			21	72		10	
VOC Emissions (g/hr)	2	134		23	36			25	85		12	
Dilemma Vehicles (#)	0	0		0	0			5	0		0	
Queue Length 50th (ft)	2	89		20	34			29	85		15	
Queue Length 95th (ft)	17	265		174	273			116	#242		69	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	673	2393		631	1268			598	659		680	

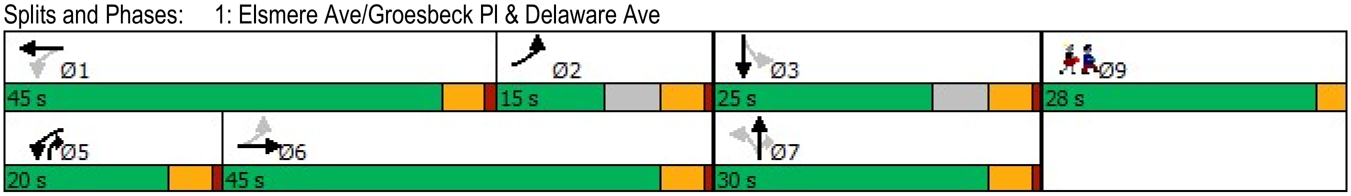
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.27		0.29	0.23			0.16	0.57		0.07	

Intersection Summary

Area Type: Other
Cycle Length: 123
Actuated Cycle Length: 63.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 20.6 Intersection LOS: C
Intersection Capacity Utilization 62.8% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 113.8
70th %ile Actuated Cycle: 63.8
50th %ile Actuated Cycle: 57.5
30th %ile Actuated Cycle: 52
10th %ile Actuated Cycle: 32.1
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	919	452	24	15	25
Future Volume (vph)	38	919	452	24	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.915	
Flt Protected		0.998			0.982	
Satd. Flow (prot)	0	3564	3475	0	1626	0
Flt Permitted		0.998			0.982	
Satd. Flow (perm)	0	3564	3475	0	1626	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	1%	3%	4%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	40	978	481	26	16	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1018	507	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 53.1%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	911	4	11	477	4	19	1	57	2	0	0
Future Volume (vph)	1	911	4	11	477	4	19	1	57	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.900				
Flt Protected					0.999			0.988			0.950	
Satd. Flow (prot)	0	3532	0	0	3449	0	0	1665	0	0	1805	0
Flt Permitted					0.999			0.988			0.950	
Satd. Flow (perm)	0	3532	0	0	3449	0	0	1665	0	0	1805	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	4		1	1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	25%	9%	4%	50%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	959	4	12	502	4	20	1	60	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	964	0	0	518	0	0	81	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 36.9%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	943	481	12	6	9
Future Volume (vph)	14	943	481	12	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.919	
Flt Protected		0.999			0.980	
Satd. Flow (prot)	0	3537	3446	0	1512	0
Flt Permitted		0.999			0.980	
Satd. Flow (perm)	0	3537	3446	0	1512	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	1			1		1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	4%	17%	0%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	15	993	506	13	6	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1008	519	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 46.3%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	748	4	30	386	18	46	3	14	20	6	31
Future Volume (vph)	94	748	4	30	386	18	46	3	14	20	6	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		1.00	1.00		0.99	0.98		0.99	0.99	
Frt		0.999			0.993			0.874			0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3536	0	1752	3409	0	1736	1542	0	1805	1639	0
Flt Permitted	0.477			0.276			0.730			0.745		
Satd. Flow (perm)	887	3536	0	509	3409	0	1326	1542	0	1405	1639	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	3		2	2		3	4		5	5		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	3%	5%	6%	4%	0%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	104	831	4	33	429	20	51	3	16	22	7	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	835	0	33	449	0	51	19	0	22	41	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	30.0	55.0		30.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	19.4%	35.5%		19.4%	35.5%		22.6%	22.6%		22.6%	22.6%	
Maximum Green (s)	25.0	50.0		25.0	50.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	38.7	39.3		30.9	27.9		10.9	10.9		10.7	10.7	
Actuated g/C Ratio	0.68	0.69		0.54	0.49		0.19	0.19		0.19	0.19	
v/c Ratio	0.14	0.34		0.08	0.27		0.20	0.06		0.08	0.13	
Control Delay	9.8	11.9		11.8	18.4		31.7	31.5		31.6	30.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.8	11.9		11.8	18.4		31.7	31.5		31.6	30.8	
LOS	A	B		B	B		C	C		C	C	
Approach Delay		11.6			18.0			31.6			31.1	
Approach LOS		B			B			C			C	
90th %ile Green (s)	22.9	46.1		5.2	28.4		14.7	14.7		14.7	14.7	
90th %ile Term Code	Hold	Gap		Gap	Gap		Gap	Gap		Hold	Hold	
70th %ile Green (s)	12.4	26.9		5.0	19.5		10.4	10.4		10.4	10.4	
70th %ile Term Code	Hold	Gap		Min	Gap		Gap	Gap		Hold	Hold	
50th %ile Green (s)	5.0	26.9		0.0	16.9		9.2	9.2		9.2	9.2	
50th %ile Term Code	Min	Hold		Skip	Gap		Gap	Gap		Hold	Hold	
30th %ile Green (s)	5.0	25.0		0.0	15.0		0.0	0.0		0.0	0.0	
30th %ile Term Code	Min	Hold		Skip	Min		Skip	Skip		Skip	Skip	
10th %ile Green (s)	0.0	30.0		0.0	30.0		0.0	0.0		0.0	0.0	
10th %ile Term Code	Skip	Dwell		Skip	Dwell		Skip	Skip		Skip	Skip	
Stops (vph)	34	335		17	247		38	16		18	31	
Fuel Used(gal)	1	9		1	8		1	0		0	1	
CO Emissions (g/hr)	67	604		36	529		39	15		20	35	
NOx Emissions (g/hr)	13	118		7	103		8	3		4	7	
VOC Emissions (g/hr)	16	140		8	123		9	3		5	8	
Dilemma Vehicles (#)	0	30		0	25		0	0		0	0	
Queue Length 50th (ft)	10	53		1	43		11	4		5	9	
Queue Length 95th (ft)	73	321		30	208		75	36		41	63	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	1233	3043		1113	2934		910	1058		964	1125	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	23%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.27		0.03	0.15		0.06	0.02		0.02	0.04	

Intersection Summary

Area Type: Other

Cycle Length: 155

Actuated Cycle Length: 56.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 15.3 Intersection LOS: B

Intersection Capacity Utilization 46.7% ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 116

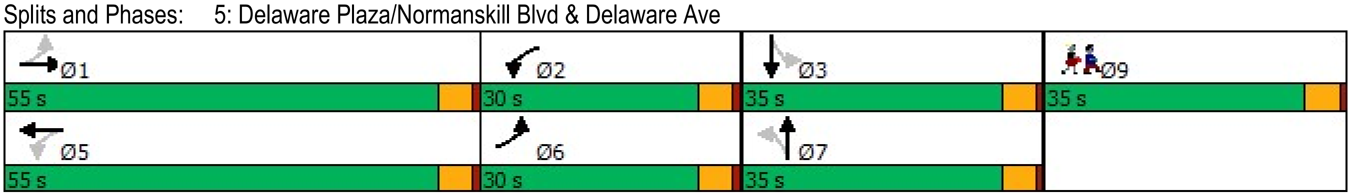
70th %ile Actuated Cycle: 57.3

50th %ile Actuated Cycle: 46.1

30th %ile Actuated Cycle: 30

10th %ile Actuated Cycle: 35

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	482	63	419	715	4	105	14	257	15	17	16
Future Volume (vph)	19	482	63	419	715	4	105	14	257	15	17	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.98		1.00	
Frt		0.983			0.999				0.850		0.955	
Flt Protected	0.950			0.950				0.958			0.985	
Satd. Flow (prot)	1805	3501	0	1805	1879	0	0	1804	1615	0	1787	0
Flt Permitted	0.386			0.294				0.716			0.874	
Satd. Flow (perm)	733	3501	0	558	1879	0	0	1348	1590	0	1584	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	492	64	428	730	4	107	14	262	15	17	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	556	0	428	734	0	0	121	262	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	15.0	45.0		20.0	45.0		30.0	30.0	20.0	25.0	25.0	
Total Split (%)	12.2%	36.6%		16.3%	36.6%		24.4%	24.4%	16.3%	20.3%	20.3%	
Maximum Green (s)	10.0	40.0		15.0	40.0		25.0	25.0	15.0	20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	28.1	23.3		43.6	45.1			13.0	26.3		13.0	
Actuated g/C Ratio	0.41	0.34		0.64	0.67			0.19	0.39		0.19	
v/c Ratio	0.05	0.46		0.65	0.59			0.47	0.42		0.16	
Control Delay	19.2	22.0		19.4	16.8			35.9	13.7		29.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	19.2	22.0		19.4	16.8			35.9	13.7		29.5	
LOS	B	C		B	B			D	B		C	
Approach Delay		21.9			17.8			20.7			29.5	
Approach LOS		C			B			C			C	
90th %ile Green (s)	6.7	31.7		15.0	40.0		20.4	20.4	15.0	20.4	20.4	
90th %ile Term Code	Hold	Gap		Max	Max		Gap	Gap	Max	Hold	Hold	
70th %ile Green (s)	0.0	20.3		15.0	40.3		12.9	12.9	15.0	12.9	12.9	
70th %ile Term Code	Skip	Gap		Max	Hold		Gap	Gap	Max	Hold	Hold	
50th %ile Green (s)	0.0	20.0		15.0	40.0		10.8	10.8	15.0	10.8	10.8	
50th %ile Term Code	Skip	Hold		Max	Max		Gap	Gap	Max	Hold	Hold	
30th %ile Green (s)	0.0	20.0		15.0	40.0		10.0	10.0	15.0	0.0	0.0	
30th %ile Term Code	Skip	Hold		Max	Max		Min	Min	Max	Skip	Skip	
10th %ile Green (s)	0.0	20.0		15.0	40.0		0.0	0.0	15.0	0.0	0.0	
10th %ile Term Code	Skip	Hold		Max	Max		Skip	Skip	Max	Skip	Skip	
Stops (vph)	13	397		160	345			97	159		39	
Fuel Used(gal)	0	7		3	6			2	3		1	
CO Emissions (g/hr)	17	510		237	407			145	206		48	
NOx Emissions (g/hr)	3	99		46	79			28	40		9	
VOC Emissions (g/hr)	4	118		55	94			34	48		11	
Dilemma Vehicles (#)	0	0		0	0			7	0		0	
Queue Length 50th (ft)	3	84		58	124			41	52		15	
Queue Length 95th (ft)	28	231		#461	#809			138	120		63	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	677	2325		658	1249			540	621		635	

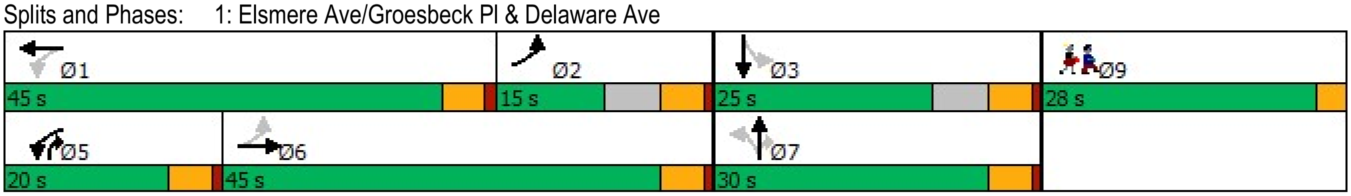
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.03	0.24		0.65	0.59			0.22	0.42		0.08	

Intersection Summary

Area Type: Other
Cycle Length: 123
Actuated Cycle Length: 67.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 19.7 Intersection LOS: B
Intersection Capacity Utilization 67.8% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 110.1
70th %ile Actuated Cycle: 63.2
50th %ile Actuated Cycle: 60.8
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 45
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	749	1132	24	2	6
Future Volume (vph)	5	749	1132	24	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.899	
Flt Protected					0.988	
Satd. Flow (prot)	0	3574	3564	0	1688	0
Flt Permitted					0.988	
Satd. Flow (perm)	0	3574	3564	0	1688	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	5	797	1204	26	2	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	802	1230	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 42.1%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	701	4	10	1131	10	6	0	13	4	0	9
Future Volume (vph)	9	701	4	10	1131	10	6	0	13	4	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.905			0.904	
Flt Protected		0.999						0.985			0.986	
Satd. Flow (prot)	0	3533	0	0	3571	0	0	1694	0	0	1694	0
Flt Permitted		0.999						0.985			0.986	
Satd. Flow (perm)	0	3533	0	0	3571	0	0	1694	0	0	1694	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	5		3	3		5						
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	746	4	11	1203	11	6	0	14	4	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	760	0	0	1225	0	0	20	0	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	32	670	1109	7	7	27
Future Volume (vph)	32	670	1109	7	7	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.891	
Flt Protected		0.998			0.990	
Satd. Flow (prot)	0	3535	3571	0	1676	0
Flt Permitted		0.998			0.990	
Satd. Flow (perm)	0	3535	3571	0	1676	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	5			5		2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	34	713	1180	7	7	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	747	1187	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 52.8%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	488	13	102	853	26	197	4	10	49	7	71
Future Volume (vph)	45	488	13	102	853	26	197	4	10	49	7	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		1.00	1.00		0.99	0.99		1.00	0.98	
Frt		0.996			0.996			0.890			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3524	0	1805	3559	0	1805	1670	0	1805	1606	0
Flt Permitted	0.165			0.337			0.702			0.748		
Satd. Flow (perm)	313	3524	0	638	3559	0	1319	1670	0	1415	1606	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	1		8	8		1	8		3	3		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	49	530	14	111	927	28	214	4	11	53	8	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	544	0	111	955	0	214	15	0	53	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	30.0	55.0		30.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	19.4%	35.5%		19.4%	35.5%		22.6%	22.6%		22.6%	22.6%	
Maximum Green (s)	25.0	50.0		25.0	50.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	30.5	24.3		45.3	36.9		24.3	24.3		24.3	24.3	
Actuated g/C Ratio	0.36	0.29		0.53	0.43		0.29	0.29		0.29	0.29	
v/c Ratio	0.22	0.54		0.20	0.62		0.57	0.03		0.13	0.19	
Control Delay	21.2	30.9		16.8	23.9		38.3	31.2		30.9	30.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.2	30.9		16.8	23.9		38.3	31.2		30.9	30.9	
LOS	C	C		B	C		D	C		C	C	
Approach Delay		30.1			23.1			37.9			30.9	
Approach LOS		C			C			D			C	
90th %ile Green (s)	8.1	36.1		22.0	50.0		30.0	30.0		30.0	30.0	
90th %ile Term Code	Gap	Gap		Hold	Max		Max	Max		Hold	Hold	
70th %ile Green (s)	5.9	24.9		18.9	37.9		26.6	26.6		26.6	26.6	
70th %ile Term Code	Gap	Gap		Hold	Gap		Gap	Gap		Hold	Hold	
50th %ile Green (s)	5.1	22.8		17.0	34.7		24.4	24.4		24.4	24.4	
50th %ile Term Code	Gap	Gap		Hold	Gap		Gap	Gap		Hold	Hold	
30th %ile Green (s)	5.0	20.5		15.1	30.6		21.1	21.1		21.1	21.1	
30th %ile Term Code	Min	Gap		Hold	Gap		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	15.4		5.0	25.4		15.2	15.2		15.2	15.2	
10th %ile Term Code	Skip	Gap		Min	Hold		Gap	Gap		Hold	Hold	
Stops (vph)	28	392		45	635		152	11		36	54	
Fuel Used(gal)	1	9		2	18		3	0		1	1	
CO Emissions (g/hr)	48	654		119	1286		180	11		45	70	
NOx Emissions (g/hr)	9	127		23	250		35	2		9	14	
VOC Emissions (g/hr)	11	151		28	298		42	3		10	16	
Dilemma Vehicles (#)	0	22		0	42		0	0		0	0	
Queue Length 50th (ft)	10	118		23	183		87	5		19	30	
Queue Length 95th (ft)	49	287		95	474		#298	31		79	114	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	677	2300		813	2323		516	654		554	629	

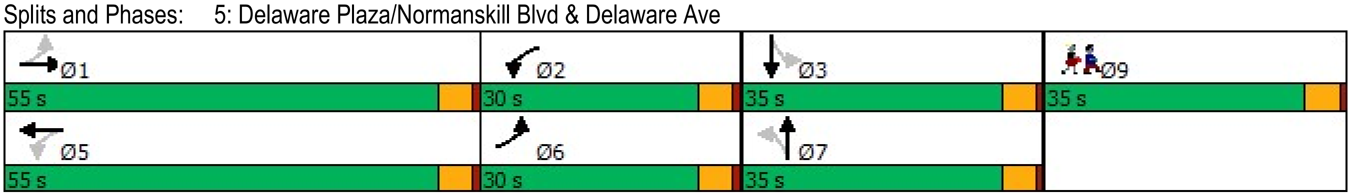
Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	23%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.24		0.14	0.41		0.41	0.02		0.10	0.14	

Intersection Summary

Area Type: Other
Cycle Length: 155
Actuated Cycle Length: 85
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 27.4 Intersection LOS: C
Intersection Capacity Utilization 58.7% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 138.1
70th %ile Actuated Cycle: 85.4
50th %ile Actuated Cycle: 79.2
30th %ile Actuated Cycle: 71.7
10th %ile Actuated Cycle: 50.6
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	392	56	258	384	7	88	13	298	12	12	20
Future Volume (vph)	10	392	56	258	384	7	88	13	298	12	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			0.99			0.99	
Frt		0.981			0.997				0.850		0.940	
Flt Protected	0.950			0.950				0.958			0.986	
Satd. Flow (prot)	1805	3501	0	1805	1875	0	0	1820	1615	0	1738	0
Flt Permitted	0.523			0.340				0.721			0.889	
Satd. Flow (perm)	993	3501	0	646	1875	0	0	1359	1615	0	1567	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1		1	1		1	4					4
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	408	58	269	400	7	92	14	310	13	13	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	466	0	269	407	0	0	106	310	0	47	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

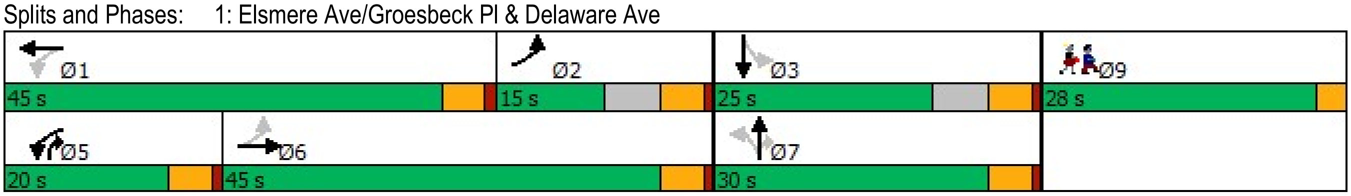
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	15.0	45.0		20.0	45.0		30.0	30.0	20.0	25.0	25.0	
Total Split (%)	12.2%	36.6%		16.3%	36.6%		24.4%	24.4%	16.3%	20.3%	20.3%	
Maximum Green (s)	10.0	40.0		15.0	40.0		25.0	25.0	15.0	20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	19.2	19.2		38.5	40.2			12.5	27.1		12.5	
Actuated g/C Ratio	0.31	0.31		0.63	0.65			0.20	0.44		0.20	
v/c Ratio	0.03	0.43		0.39	0.33			0.38	0.44		0.15	
Control Delay	22.0	21.6		13.1	12.4			32.1	12.5		28.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	22.0	21.6		13.1	12.4			32.1	12.5		28.3	
LOS	C	C		B	B			C	B		C	
Approach Delay		21.6			12.7			17.5			28.3	
Approach LOS		C			B			B			C	
90th %ile Green (s)	5.0	28.3		15.0	38.3		18.2	18.2	15.0	18.2	18.2	
90th %ile Term Code	Min	Hold		Max	Gap		Gap	Gap	Max	Hold	Hold	
70th %ile Green (s)	0.0	18.0		15.0	38.0		11.4	11.4	15.0	11.4	11.4	
70th %ile Term Code	Skip	Gap		Max	Hold		Gap	Gap	Max	Hold	Hold	
50th %ile Green (s)	0.0	15.5		15.0	35.5		10.0	10.0	15.0	0.0	0.0	
50th %ile Term Code	Skip	Gap		Max	Hold		Min	Min	Max	Skip	Skip	
30th %ile Green (s)	0.0	15.0		13.0	33.0		10.0	10.0	13.0	0.0	0.0	
30th %ile Term Code	Skip	Min		Gap	Hold		Min	Min	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		10.2	30.2		0.0	0.0	10.2	0.0	0.0	
10th %ile Term Code	Skip	Min		Gap	Hold		Skip	Skip	Gap	Skip	Skip	
Stops (vph)	9	326		116	186			84	178		37	
Fuel Used(gal)	0	6		2	3			2	3		1	
CO Emissions (g/hr)	10	416		130	196			119	230		45	
NOx Emissions (g/hr)	2	81		25	38			23	45		9	
VOC Emissions (g/hr)	2	96		30	45			28	53		10	
Dilemma Vehicles (#)	0	0		0	0			7	0		0	
Queue Length 50th (ft)	2	66		31	51			32	52		13	
Queue Length 95th (ft)	18	188		204	319			119	132		61	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	587	2473		722	1324			623	768		718	

Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	23%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.19		0.37	0.31			0.17	0.40		0.07	

Intersection Summary	
Area Type: Other	
Cycle Length: 123	
Actuated Cycle Length: 61.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 17.0	Intersection LOS: B
Intersection Capacity Utilization 51.9%	ICU Level of Service A
Analysis Period (min) 15	
90th %ile Actuated Cycle: 104.5	
70th %ile Actuated Cycle: 59.4	
50th %ile Actuated Cycle: 55.5	
30th %ile Actuated Cycle: 53	
10th %ile Actuated Cycle: 35.2	

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	701	647	7	2	2
Future Volume (vph)	1	701	647	7	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3574	3567	0	1728	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3574	3567	0	1728	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	1	723	667	7	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	724	674	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 30.1%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	630	2	8	609	5	13	0	28	7	0	17
Future Volume (vph)	24	630	2	8	609	5	13	0	28	7	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999			0.907			0.904	
Flt Protected		0.998			0.999			0.985			0.986	
Satd. Flow (prot)	0	3568	0	0	3568	0	0	1697	0	0	1694	0
Flt Permitted		0.998			0.999			0.985			0.986	
Satd. Flow (perm)	0	3568	0	0	3568	0	0	1697	0	0	1694	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	1		4	4		1	1					1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	643	2	8	621	5	13	0	29	7	0	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	669	0	0	634	0	0	42	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 45.3%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	627	582	5	7	34
Future Volume (vph)	24	627	582	5	7	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.887	
Flt Protected		0.998			0.992	
Satd. Flow (prot)	0	3568	3571	0	1631	0
Flt Permitted		0.998			0.992	
Satd. Flow (perm)	0	3568	3571	0	1631	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	2			2	5	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	25	646	600	5	7	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	671	605	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 44.9%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	380	22	79	407	3	162	2	33	5	5	14
Future Volume (vph)	7	380	22	79	407	3	162	2	33	5	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		0.99		
Frt		0.992			0.999			0.858			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3542	0	1787	3571	0	1805	1595	0	1805	1685	0
Flt Permitted	0.477			0.466			0.744			0.733		
Satd. Flow (perm)	795	3542	0	874	3571	0	1414	1595	0	1378	1685	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)			6	6					7	7		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	14%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	409	24	85	438	3	174	2	35	5	5	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	433	0	85	441	0	174	37	0	5	20	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	30.0	55.0		30.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	19.4%	35.5%		19.4%	35.5%		22.6%	22.6%		22.6%	22.6%	
Maximum Green (s)	25.0	50.0		25.0	50.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	24.6	18.8		28.1	25.9		15.0	15.0		15.0	15.0	
Actuated g/C Ratio	0.43	0.33		0.49	0.45		0.26	0.26		0.26	0.26	
v/c Ratio	0.02	0.37		0.16	0.27		0.47	0.09		0.01	0.05	
Control Delay	15.6	20.0		15.4	15.3		26.9	21.9		22.6	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.6	20.0		15.4	15.3		26.9	21.9		22.6	22.1	
LOS	B	B		B	B		C	C		C	C	
Approach Delay		19.9			15.3			26.0			22.2	
Approach LOS		B			B			C			C	
90th %ile Green (s)	5.0	26.0		5.1	26.1		25.7	25.7		25.7	25.7	
90th %ile Term Code	Min	Gap		Hold	Gap		Gap	Gap		Hold	Hold	
70th %ile Green (s)	0.0	16.5		5.0	26.5		14.7	14.7		14.7	14.7	
70th %ile Term Code	Skip	Gap		Min	Hold		Gap	Gap		Hold	Hold	
50th %ile Green (s)	0.0	15.0		5.0	25.0		12.9	12.9		12.9	12.9	
50th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	15.0		5.0	25.0		11.3	11.3		11.3	11.3	
30th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	15.0		0.0	15.0		9.3	9.3		9.3	9.3	
10th %ile Term Code	Skip	Min		Skip	Min		Gap	Gap		Hold	Hold	
Stops (vph)	6	285		41	231		123	26		6	15	
Fuel Used(gal)	0	6		1	7		2	0		0	0	
CO Emissions (g/hr)	8	443		95	505		121	23		5	15	
NOx Emissions (g/hr)	2	86		18	98		23	4		1	3	
VOC Emissions (g/hr)	2	103		22	117		28	5		1	4	
Dilemma Vehicles (#)	0	27		0	28		0	0		0	0	
Queue Length 50th (ft)	1	48		10	31		40	8		1	4	
Queue Length 95th (ft)	15	185		77	188		174	47		12	31	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	1007	3148		1184	3174		852	962		831	1016	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	23%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.14		0.07	0.14		0.20	0.04		0.01	0.02	

Intersection Summary

Area Type: Other

Cycle Length: 155

Actuated Cycle Length: 57.3

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 19.0 Intersection LOS: B

Intersection Capacity Utilization 45.0% ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 106.8

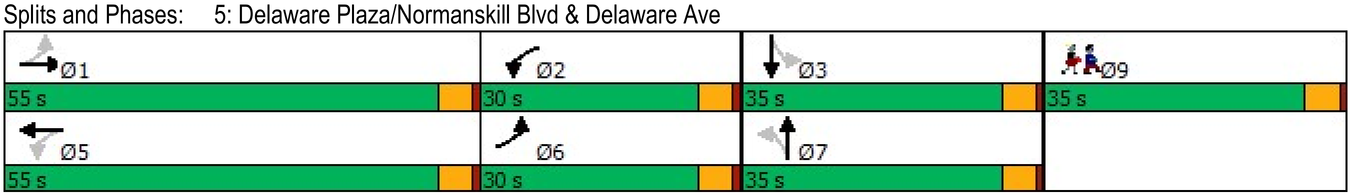
70th %ile Actuated Cycle: 51.2

50th %ile Actuated Cycle: 47.9

30th %ile Actuated Cycle: 46.3

10th %ile Actuated Cycle: 34.3

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	574	72	186	294	2	80	13	375	17	14	18
Future Volume (vph)	9	574	72	186	294	2	80	13	375	17	14	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			0.99	0.98		0.98	
Frt		0.983			0.999				0.850		0.950	
Flt Protected	0.950			0.950				0.959			0.983	
Satd. Flow (prot)	1805	3475	0	1719	1825	0	0	1733	1583	0	1685	0
Flt Permitted	0.578			0.238				0.721			0.849	
Satd. Flow (perm)	1097	3475	0	431	1825	0	0	1293	1548	0	1443	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1					1	2		10	10		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	5%	4%	0%	6%	0%	2%	0%	7%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	580	73	188	297	2	81	13	379	17	14	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	653	0	188	299	0	0	94	379	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	15.0	27.0		20.0	32.0		15.0	15.0	20.0	15.0	15.0	
Total Split (%)	16.7%	30.0%		22.2%	35.6%		16.7%	16.7%	22.2%	16.7%	16.7%	
Maximum Green (s)	10.0	22.0		15.0	27.0		10.0	10.0	15.0	10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	20.4	20.4		36.3	37.9			10.9	20.2		10.9	
Actuated g/C Ratio	0.35	0.35		0.62	0.64			0.19	0.34		0.19	
v/c Ratio	0.02	0.54		0.35	0.25			0.39	0.70		0.18	
Control Delay	19.7	20.7		13.4	12.2			34.6	23.6		29.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	19.7	20.7		13.4	12.2			34.6	23.6		29.6	
LOS	B	C		B	B			C	C		C	
Approach Delay		20.7			12.6			25.8			29.6	
Approach LOS		C			B			C			C	
90th %ile Green (s)	10.0	22.0		15.0	27.0		10.0	10.0	15.0	10.0	10.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max	Max	Max	Max	
70th %ile Green (s)	0.0	22.0		13.2	40.2		10.0	10.0	13.2	10.0	10.0	
70th %ile Term Code	Skip	Max		Gap	Hold		Max	Max	Gap	Max	Max	
50th %ile Green (s)	0.0	20.4		10.2	35.6		10.0	10.0	10.2	10.0	10.0	
50th %ile Term Code	Skip	Gap		Gap	Hold		Max	Max	Gap	Max	Max	
30th %ile Green (s)	0.0	17.8		8.7	31.5		10.0	10.0	8.7	0.0	0.0	
30th %ile Term Code	Skip	Gap		Gap	Hold		Max	Max	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		12.0	32.0		0.0	0.0	12.0	0.0	0.0	
10th %ile Term Code	Skip	Min		Gap	Hold		Skip	Skip	Gap	Skip	Skip	
Stops (vph)	8	480		85	141			74	273		44	
Fuel Used(gal)	0	9		1	2			2	5		1	
CO Emissions (g/hr)	9	596		95	148			111	375		52	
NOx Emissions (g/hr)	2	116		18	29			22	73		10	
VOC Emissions (g/hr)	2	138		22	34			26	87		12	
Dilemma Vehicles (#)	0	0		0	0			7	0		0	
Queue Length 50th (ft)	2	85		21	35			28	84		14	
Queue Length 95th (ft)	16	245		143	223			#125	#253		61	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	509	1409		621	1175			238	639		266	

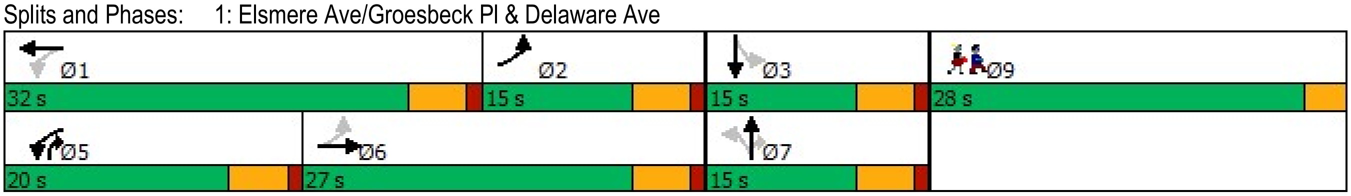
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.46		0.30	0.25			0.39	0.59		0.18	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 58.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 20.1 Intersection LOS: C
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 60.2
50th %ile Actuated Cycle: 55.6
30th %ile Actuated Cycle: 51.5
10th %ile Actuated Cycle: 37
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	928	457	24	15	25
Future Volume (vph)	38	928	457	24	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.915	
Flt Protected		0.998			0.982	
Satd. Flow (prot)	0	3564	3475	0	1626	0
Flt Permitted		0.998			0.982	
Satd. Flow (perm)	0	3564	3475	0	1626	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	1%	3%	4%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	40	987	486	26	16	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1027	512	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	920	4	11	482	4	19	1	58	2	0	0
Future Volume (vph)	1	920	4	11	482	4	19	1	58	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.900				
Flt Protected					0.999			0.988			0.950	
Satd. Flow (prot)	0	3532	0	0	3449	0	0	1665	0	0	1805	0
Flt Permitted					0.999			0.988			0.950	
Satd. Flow (perm)	0	3532	0	0	3449	0	0	1665	0	0	1805	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	4		1	1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	25%	9%	4%	50%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	968	4	12	507	4	20	1	61	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	973	0	0	523	0	0	82	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.2%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	952	486	12	6	9
Future Volume (vph)	14	952	486	12	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.919	
Flt Protected		0.999			0.980	
Satd. Flow (prot)	0	3537	3447	0	1512	0
Flt Permitted		0.999			0.980	
Satd. Flow (perm)	0	3537	3447	0	1512	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	1			1		1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	4%	17%	0%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	15	1002	512	13	6	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1017	525	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 46.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	755	4	30	390	18	46	3	14	20	6	31
Future Volume (vph)	95	755	4	30	390	18	46	3	14	20	6	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		1.00	1.00		0.99	0.98		0.98	0.98	
Frt		0.999			0.993			0.874			0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3536	0	1752	3409	0	1736	1529	0	1805	1629	0
Flt Permitted	0.478			0.269			0.930			0.930		
Satd. Flow (perm)	889	3536	0	496	3409	0	1676	1529	0	1736	1629	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	3		2	2		3	4		5	5		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	3%	5%	6%	4%	0%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	106	839	4	33	433	20	51	3	16	22	7	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	843	0	33	453	0	51	19	0	22	41	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

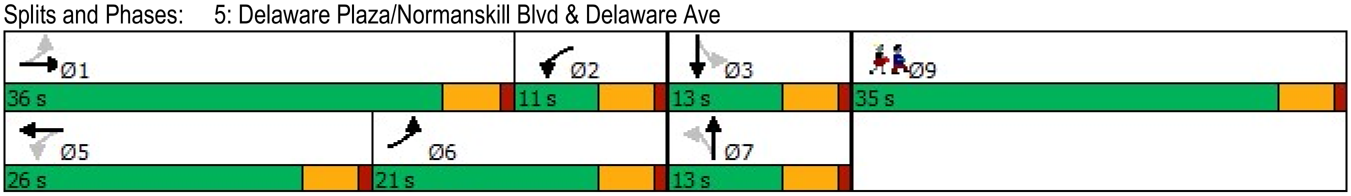
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	21.0	36.0		11.0	26.0		13.0	13.0		13.0	13.0	
Total Split (%)	22.1%	37.9%		11.6%	27.4%		13.7%	13.7%		13.7%	13.7%	
Maximum Green (s)	16.0	31.0		6.0	21.0		8.0	8.0		8.0	8.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	34.5	34.6		27.3	24.4		8.7	8.7		8.6	8.6	
Actuated g/C Ratio	0.68	0.68		0.53	0.48		0.17	0.17		0.17	0.17	
v/c Ratio	0.14	0.35		0.08	0.28		0.18	0.07		0.08	0.15	
Control Delay	9.6	11.8		11.4	17.0		29.0	29.6		29.4	29.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.6	11.8		11.4	17.0		29.0	29.6		29.4	29.2	
LOS	A	B		B	B		C	C		C	C	
Approach Delay		11.6			16.7			29.2			29.2	
Approach LOS		B			B			C			C	
90th %ile Green (s)	15.1	31.0		5.1	21.0		8.0	8.0		8.0	8.0	
90th %ile Term Code	Hold	Max		Gap	Max		Max	Max		Max	Max	
70th %ile Green (s)	13.6	25.4		5.0	16.8		8.0	8.0		8.0	8.0	
70th %ile Term Code	Hold	Gap		Min	Gap		Max	Max		Max	Max	
50th %ile Green (s)	5.0	25.0		0.0	15.0		8.0	8.0		8.0	8.0	
50th %ile Term Code	Min	Hold		Skip	Min		Max	Max		Hold	Hold	
30th %ile Green (s)	5.0	25.0		0.0	15.0		0.0	0.0		0.0	0.0	
30th %ile Term Code	Min	Hold		Skip	Min		Skip	Skip		Skip	Skip	
10th %ile Green (s)	0.0	30.0		0.0	30.0		0.0	0.0		0.0	0.0	
10th %ile Term Code	Skip	Dwell		Skip	Dwell		Skip	Skip		Skip	Skip	
Stops (vph)	36	360		18	259		40	17		19	32	
Fuel Used(gal)	1	9		1	8		1	0		0	0	
CO Emissions (g/hr)	69	625		36	533		38	15		19	35	
NOx Emissions (g/hr)	13	122		7	104		7	3		4	7	
VOC Emissions (g/hr)	16	145		8	123		9	3		5	8	
Dilemma Vehicles (#)	0	37		0	29		0	0		0	0	
Queue Length 50th (ft)	9	48		2	42		11	4		4	8	
Queue Length 95th (ft)	69	301		28	180		67	33		36	56	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	1007	2486		446	1912		307	280		317	298	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	37%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.34		0.07	0.24		0.17	0.07		0.07	0.14	

Intersection Summary	
Area Type: Other	
Cycle Length: 95	
Actuated Cycle Length: 51.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 46.9%	ICU Level of Service A
Analysis Period (min) 15	
90th %ile Actuated Cycle: 94.1	
70th %ile Actuated Cycle: 53.4	
50th %ile Actuated Cycle: 43	
30th %ile Actuated Cycle: 30	
10th %ile Actuated Cycle: 35	

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	486	64	423	722	4	106	14	260	15	17	16
Future Volume (vph)	19	486	64	423	722	4	106	14	260	15	17	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.98		1.00	
Frt		0.983			0.999				0.850		0.955	
Flt Protected	0.950			0.950				0.958			0.985	
Satd. Flow (prot)	1805	3500	0	1805	1879	0	0	1804	1615	0	1787	0
Flt Permitted	0.384			0.255				0.716			0.866	
Satd. Flow (perm)	729	3500	0	484	1879	0	0	1348	1590	0	1568	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	496	65	432	737	4	108	14	265	15	17	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	561	0	432	741	0	0	122	265	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	10.0	22.0		20.0	32.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	11.1%	24.4%		22.2%	35.6%		22.2%	22.2%	22.2%	22.2%	22.2%	
Maximum Green (s)	5.0	17.0		15.0	27.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	18.2	17.4		37.4	38.9			11.9	24.9		11.8	
Actuated g/C Ratio	0.30	0.29		0.62	0.64			0.20	0.41		0.20	
v/c Ratio	0.06	0.56		0.67	0.61			0.46	0.40		0.16	
Control Delay	23.8	24.8		20.5	17.9			32.6	11.4		26.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	23.8	24.8		20.5	17.9			32.6	11.4		26.6	
LOS	C	C		C	B			C	B		C	
Approach Delay		24.8			18.9			18.1			26.6	
Approach LOS		C			B			B			C	
90th %ile Green (s)	5.0	17.0		15.0	27.0		15.0	15.0	15.0	15.0	15.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max	Max	Hold	Hold	
70th %ile Green (s)	0.0	17.0		15.0	37.0		12.1	12.1	15.0	12.1	12.1	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap	Max	Hold	Hold	
50th %ile Green (s)	0.0	17.0		15.0	37.0		10.4	10.4	15.0	0.0	0.0	
50th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap	Max	Skip	Skip	
30th %ile Green (s)	0.0	16.1		15.0	36.1		10.0	10.0	15.0	0.0	0.0	
30th %ile Term Code	Skip	Gap		Max	Hold		Min	Min	Max	Skip	Skip	
10th %ile Green (s)	0.0	15.0		15.0	35.0		0.0	0.0	15.0	0.0	0.0	
10th %ile Term Code	Skip	Min		Max	Hold		Skip	Skip	Max	Skip	Skip	
Stops (vph)	17	417		173	334			100	154		40	
Fuel Used(gal)	0	8		4	6			2	3		1	
CO Emissions (g/hr)	19	543		250	417			142	196		47	
NOx Emissions (g/hr)	4	106		49	81			28	38		9	
VOC Emissions (g/hr)	5	126		58	97			33	45		11	
Dilemma Vehicles (#)	0	0		0	0			8	0		0	
Queue Length 50th (ft)	5	84		57	123			38	46		14	
Queue Length 95th (ft)	28	#248		#444	#765			121	97		56	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	313	1050		648	1208			357	660		415	

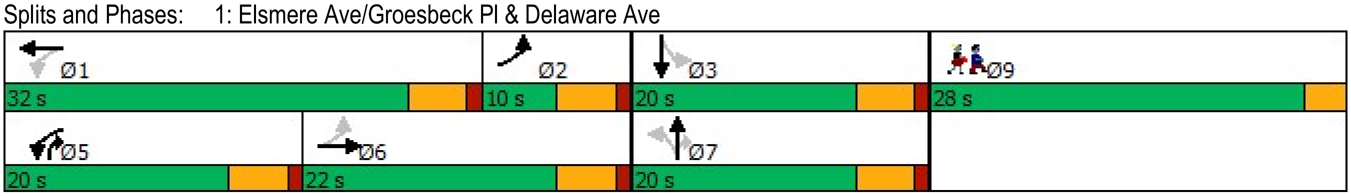
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.06	0.53		0.67	0.61			0.34	0.40		0.12	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 60.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 20.5 Intersection LOS: C
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 59.1
50th %ile Actuated Cycle: 57.4
30th %ile Actuated Cycle: 56.1
10th %ile Actuated Cycle: 40
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	756	1143	24	2	6
Future Volume (vph)	5	756	1143	24	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.899	
Flt Protected					0.988	
Satd. Flow (prot)	0	3574	3564	0	1688	0
Flt Permitted					0.988	
Satd. Flow (perm)	0	3574	3564	0	1688	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	5	804	1216	26	2	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	809	1242	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 42.4%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	708	4	10	1142	10	6	0	13	4	0	9
Future Volume (vph)	9	708	4	10	1142	10	6	0	13	4	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.905			0.904	
Flt Protected		0.999						0.985			0.986	
Satd. Flow (prot)	0	3533	0	0	3571	0	0	1694	0	0	1694	0
Flt Permitted		0.999						0.985			0.986	
Satd. Flow (perm)	0	3533	0	0	3571	0	0	1694	0	0	1694	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	5		3	3		5						
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	753	4	11	1215	11	6	0	14	4	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	767	0	0	1237	0	0	20	0	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 48.9%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	32	677	1120	7	7	27
Future Volume (vph)	32	677	1120	7	7	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.891	
Flt Protected		0.998			0.990	
Satd. Flow (prot)	0	3535	3571	0	1676	0
Flt Permitted		0.998			0.990	
Satd. Flow (perm)	0	3535	3571	0	1676	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	5			5		2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	34	720	1191	7	7	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	754	1198	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 53.0%		ICU Level of Service A
Analysis Period (min) 15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	493	13	103	862	26	199	4	10	49	7	72
Future Volume (vph)	45	493	13	103	862	26	199	4	10	49	7	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		0.99	1.00		0.99	0.99		1.00	0.98	
Frt		0.996			0.996			0.890			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3524	0	1805	3559	0	1805	1670	0	1805	1605	0
Flt Permitted	0.189			0.370			0.701			0.748		
Satd. Flow (perm)	359	3524	0	699	3559	0	1317	1670	0	1415	1605	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	1		8	8		1	8		3	3		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	49	536	14	112	937	28	216	4	11	53	8	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	550	0	112	965	0	216	15	0	53	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

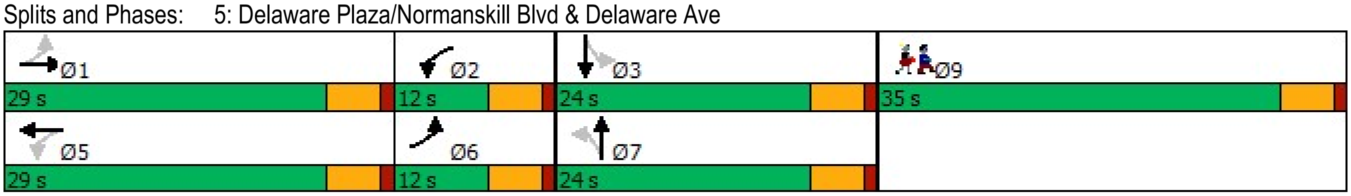
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	12.0	29.0		12.0	29.0		24.0	24.0		24.0	24.0	
Total Split (%)	12.0%	29.0%		12.0%	29.0%		24.0%	24.0%		24.0%	24.0%	
Maximum Green (s)	7.0	24.0		7.0	24.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	26.8	21.2		31.3	26.1		17.6	17.6		17.6	17.6	
Actuated g/C Ratio	0.41	0.33		0.48	0.40		0.27	0.27		0.27	0.27	
v/c Ratio	0.18	0.48		0.24	0.67		0.60	0.03		0.14	0.20	
Control Delay	18.5	22.9		16.7	23.6		33.7	24.8		24.6	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.5	22.9		16.7	23.6		33.7	24.8		24.6	24.7	
LOS	B	C		B	C		C	C		C	C	
Approach Delay		22.6			22.9			33.1			24.6	
Approach LOS		C			C			C			C	
90th %ile Green (s)	7.0	24.0		7.0	24.0		19.0	19.0		19.0	19.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max		Hold	Hold	
70th %ile Green (s)	5.0	19.5		9.5	24.0		19.0	19.0		19.0	19.0	
70th %ile Term Code	Min	Gap		Hold	Max		Max	Max		Hold	Hold	
50th %ile Green (s)	5.0	17.1		11.9	24.0		18.3	18.3		18.3	18.3	
50th %ile Term Code	Min	Gap		Hold	Max		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	15.4		5.0	25.4		16.0	16.0		16.0	16.0	
30th %ile Term Code	Skip	Gap		Min	Hold		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	24.0		0.0	24.0		12.4	12.4		12.4	12.4	
10th %ile Term Code	Skip	Hold		Skip	Max		Gap	Gap		Hold	Hold	
Stops (vph)	28	384		53	603		145	12		36	57	
Fuel Used(gal)	1	9		2	18		2	0		1	1	
CO Emissions (g/hr)	46	595		125	1269		165	11		40	65	
NOx Emissions (g/hr)	9	116		24	247		32	2		8	13	
VOC Emissions (g/hr)	11	138		29	294		38	2		9	15	
Dilemma Vehicles (#)	0	31		0	63		0	0		0	0	
Queue Length 50th (ft)	8	93		18	156		68	4		15	24	
Queue Length 95th (ft)	45	224		88	#504		#267	26		64	93	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	327	1402		504	1436		415	526		445	505	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	35%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.39		0.22	0.67		0.52	0.03		0.12	0.17	

Intersection Summary	
Area Type: Other	
Cycle Length: 100	
Actuated Cycle Length: 64.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 59.0%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 100	
70th %ile Actuated Cycle: 63	
50th %ile Actuated Cycle: 62.3	
30th %ile Actuated Cycle: 51.4	
10th %ile Actuated Cycle: 46.4	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

1: Elsmere Ave/Groesbeck Pl & Delaware Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	396	57	261	388	7	89	13	301	12	12	20
Future Volume (vph)	10	396	57	261	388	7	89	13	301	12	12	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			0.99			0.98	
Frt		0.981			0.997				0.850		0.940	
Flt Protected	0.950			0.950				0.958			0.986	
Satd. Flow (prot)	1805	3501	0	1805	1875	0	0	1820	1615	0	1734	0
Flt Permitted	0.521			0.335				0.721			0.883	
Satd. Flow (perm)	989	3501	0	636	1875	0	0	1353	1615	0	1553	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1		1	1		1	4					4
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	413	59	272	404	7	93	14	314	13	13	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	472	0	272	411	0	0	107	314	0	47	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	11.0	25.0		20.0	34.0		17.0	17.0	20.0	17.0	17.0	
Total Split (%)	12.2%	27.8%		22.2%	37.8%		18.9%	18.9%	22.2%	18.9%	18.9%	
Maximum Green (s)	6.0	20.0		15.0	29.0		12.0	12.0	15.0	12.0	12.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	17.9	17.9		34.7	36.4			11.7	24.0		11.7	
Actuated g/C Ratio	0.31	0.31		0.61	0.64			0.20	0.42		0.20	
v/c Ratio	0.03	0.43		0.42	0.34			0.39	0.46		0.15	
Control Delay	21.8	21.2		13.7	12.7			31.5	12.6		27.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	21.8	21.2		13.7	12.7			31.5	12.6		27.3	
LOS	C	C		B	B			C	B		C	
Approach Delay		21.2			13.1			17.4			27.3	
Approach LOS		C			B			B			C	
90th %ile Green (s)	6.0	20.0		15.0	29.0		12.0	12.0	15.0	12.0	12.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max	Max	Max	Max	
70th %ile Green (s)	0.0	17.6		15.0	37.6		11.8	11.8	15.0	11.8	11.8	
70th %ile Term Code	Skip	Gap		Max	Hold		Gap	Gap	Max	Hold	Hold	
50th %ile Green (s)	0.0	15.4		13.0	33.4		10.1	10.1	13.0	0.0	0.0	
50th %ile Term Code	Skip	Gap		Gap	Hold		Gap	Gap	Gap	Skip	Skip	
30th %ile Green (s)	0.0	15.0		10.4	30.4		10.0	10.0	10.4	0.0	0.0	
30th %ile Term Code	Skip	Min		Gap	Hold		Min	Min	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		7.7	27.7		0.0	0.0	7.7	0.0	0.0	
10th %ile Term Code	Skip	Min		Gap	Hold		Skip	Skip	Gap	Skip	Skip	
Stops (vph)	9	337		125	202			85	187		38	
Fuel Used(gal)	0	6		2	3			2	3		1	
CO Emissions (g/hr)	10	421		136	205			120	237		45	
NOx Emissions (g/hr)	2	82		26	40			23	46		9	
VOC Emissions (g/hr)	2	98		32	48			28	55		10	
Dilemma Vehicles (#)	0	0		0	0			7	0		0	
Queue Length 50th (ft)	2	64		31	52			30	53		13	
Queue Length 95th (ft)	18	178		#197	305			#124	116		57	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	404	1359		725	1150			315	791		361	

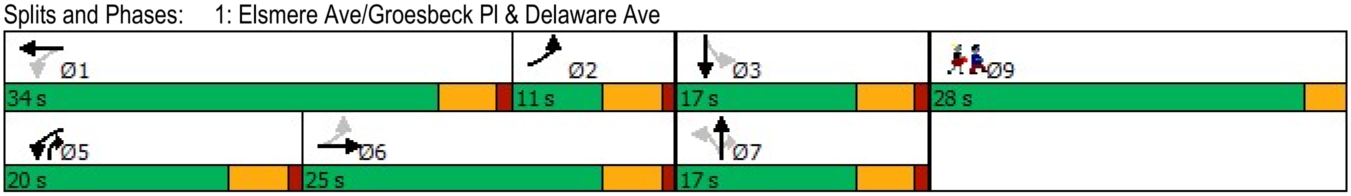
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.35		0.38	0.36			0.34	0.40		0.13	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 57.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 17.0 Intersection LOS: B
Intersection Capacity Utilization 52.2% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 59.4
50th %ile Actuated Cycle: 53.5
30th %ile Actuated Cycle: 50.4
10th %ile Actuated Cycle: 32.7
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	708	653	7	2	2
Future Volume (vph)	1	708	653	7	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3574	3567	0	1728	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3574	3567	0	1728	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	1	730	673	7	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	731	680	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 30.3%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	636	2	8	615	5	13	0	28	7	0	17
Future Volume (vph)	24	636	2	8	615	5	13	0	28	7	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999			0.907			0.904	
Flt Protected		0.998			0.999			0.985			0.986	
Satd. Flow (prot)	0	3568	0	0	3568	0	0	1697	0	0	1694	0
Flt Permitted		0.998			0.999			0.985			0.986	
Satd. Flow (perm)	0	3568	0	0	3568	0	0	1697	0	0	1694	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	1		4	4		1	1					1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	24	649	2	8	628	5	13	0	29	7	0	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	675	0	0	641	0	0	42	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 45.5%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	633	588	5	7	34
Future Volume (vph)	24	633	588	5	7	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.887	
Flt Protected		0.998			0.992	
Satd. Flow (prot)	0	3568	3571	0	1631	0
Flt Permitted		0.998			0.992	
Satd. Flow (perm)	0	3568	3571	0	1631	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	2			2	5	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	25	653	606	5	7	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	678	611	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	384	22	80	411	3	164	2	33	5	5	14
Future Volume (vph)	7	384	22	80	411	3	164	2	33	5	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		0.99				0.98		0.99		
Frt		0.992			0.999			0.858			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3540	0	1787	3571	0	1805	1595	0	1805	1685	0
Flt Permitted	0.479			0.467			0.744			0.733		
Satd. Flow (perm)	798	3540	0	874	3571	0	1414	1595	0	1378	1685	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)			6	6					7	7		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	14%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	413	24	86	442	3	176	2	35	5	5	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	437	0	86	445	0	176	37	0	5	20	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	12.0	21.0		12.0	21.0		22.0	22.0		22.0	22.0	
Total Split (%)	13.3%	23.3%		13.3%	23.3%		24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	7.0	16.0		7.0	16.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	24.5	18.8		27.9	25.8		12.8	12.8		12.8	12.8	
Actuated g/C Ratio	0.44	0.34		0.51	0.47		0.23	0.23		0.23	0.23	
v/c Ratio	0.02	0.36		0.16	0.27		0.54	0.10		0.02	0.05	
Control Delay	14.7	19.6		14.5	15.1		29.0	21.8		22.2	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.7	19.6		14.5	15.1		29.0	21.8		22.2	21.9	
LOS	B	B		B	B		C	C		C	C	
Approach Delay		19.5			15.0			27.8			22.0	
Approach LOS		B			B			C			C	
90th %ile Green (s)	7.0	16.0		7.0	16.0		17.0	17.0		17.0	17.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max		Hold	Hold	
70th %ile Green (s)	0.0	16.0		5.0	26.0		13.9	13.9		13.9	13.9	
70th %ile Term Code	Skip	Max		Min	Hold		Gap	Gap		Hold	Hold	
50th %ile Green (s)	0.0	15.0		5.0	25.0		12.2	12.2		12.2	12.2	
50th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	15.0		5.0	25.0		10.7	10.7		10.7	10.7	
30th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	24.1		0.0	24.1		8.6	8.6		8.6	8.6	
10th %ile Term Code	Skip	Dwell		Skip	Dwell		Gap	Gap		Hold	Hold	
Stops (vph)	6	293		42	240		127	27		7	16	
Fuel Used(gal)	0	6		1	7		2	0		0	0	
CO Emissions (g/hr)	8	448		96	513		128	23		5	16	
NOx Emissions (g/hr)	2	87		19	100		25	5		1	3	
VOC Emissions (g/hr)	2	104		22	119		30	5		1	4	
Dilemma Vehicles (#)	0	33		0	31		0	0		0	0	
Queue Length 50th (ft)	1	47		10	30		41	8		1	4	
Queue Length 95th (ft)	13	175		70	178		#179	44		12	29	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	488	1240		598	1671		469	529		457	559	

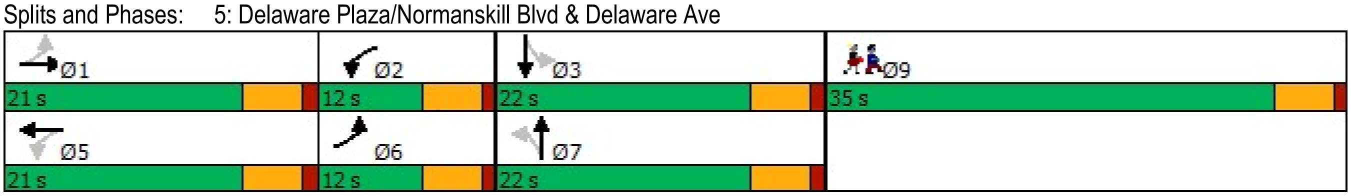
Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	39%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.35		0.14	0.27		0.38	0.07		0.01	0.04	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 55.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 19.1	Intersection LOS: B
Intersection Capacity Utilization 45.2%	ICU Level of Service A
Analysis Period (min) 15	
90th %ile Actuated Cycle: 90	
70th %ile Actuated Cycle: 49.9	
50th %ile Actuated Cycle: 47.2	
30th %ile Actuated Cycle: 45.7	
10th %ile Actuated Cycle: 42.7	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	631	79	204	324	2	88	14	412	19	16	20
Future Volume (vph)	10	631	79	204	324	2	88	14	412	19	16	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00			0.99	0.98		0.98	
Frt		0.983			0.999				0.850		0.951	
Flt Protected	0.950			0.950				0.959			0.983	
Satd. Flow (prot)	1805	3475	0	1719	1825	0	0	1732	1583	0	1686	0
Flt Permitted	0.562			0.195				0.716			0.844	
Satd. Flow (perm)	1066	3475	0	353	1825	0	0	1284	1548	0	1436	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1					1	2		10	10		2
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	3%	5%	4%	0%	6%	0%	2%	0%	7%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	637	80	206	327	2	89	14	416	19	16	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	717	0	206	329	0	0	103	416	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	15.0	27.0		20.0	32.0		15.0	15.0	20.0	15.0	15.0	
Total Split (%)	16.7%	30.0%		22.2%	35.6%		16.7%	16.7%	22.2%	16.7%	16.7%	
Maximum Green (s)	10.0	22.0		15.0	27.0		10.0	10.0	15.0	10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	20.8	20.8		39.3	40.8			10.7	22.8		10.7	
Actuated g/C Ratio	0.34	0.34		0.63	0.66			0.17	0.37		0.17	
v/c Ratio	0.02	0.61		0.37	0.27			0.47	0.72		0.22	
Control Delay	20.1	23.0		13.3	12.2			38.1	24.6		31.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	20.1	23.0		13.3	12.2			38.1	24.6		31.1	
LOS	C	C		B	B			D	C		C	
Approach Delay		23.0			12.6			27.3			31.1	
Approach LOS		C			B			C			C	
90th %ile Green (s)	10.0	22.0		15.0	27.0		10.0	10.0	15.0	10.0	10.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max	Max	Max	Max	
70th %ile Green (s)	0.0	22.0		15.0	42.0		10.0	10.0	15.0	10.0	10.0	
70th %ile Term Code	Skip	Max		Max	Hold		Max	Max	Max	Max	Max	
50th %ile Green (s)	0.0	22.0		13.8	40.8		10.0	10.0	13.8	10.0	10.0	
50th %ile Term Code	Skip	Max		Gap	Hold		Max	Max	Gap	Max	Max	
30th %ile Green (s)	0.0	19.5		12.3	36.8		10.0	10.0	12.3	0.0	0.0	
30th %ile Term Code	Skip	Gap		Gap	Hold		Max	Max	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		15.0	35.0		0.0	0.0	15.0	0.0	0.0	
10th %ile Term Code	Skip	Min		Max	Hold		Skip	Skip	Max	Skip	Skip	
Stops (vph)	9	533		92	154			81	299		47	
Fuel Used(gal)	0	10		1	2			2	6		1	
CO Emissions (g/hr)	10	680		103	162			127	417		57	
NOx Emissions (g/hr)	2	132		20	32			25	81		11	
VOC Emissions (g/hr)	2	158		24	38			29	97		13	
Dilemma Vehicles (#)	0	0		0	0			7	0		0	
Queue Length 50th (ft)	2	108		23	39			35	102		18	
Queue Length 95th (ft)	17	#296		156	248			#139	#300		67	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	485	1319		577	1203			221	599		247	

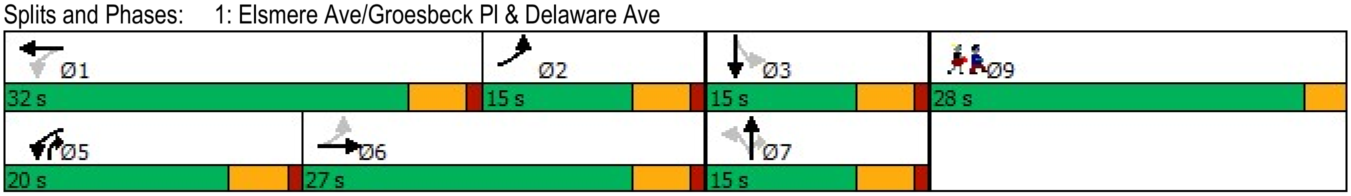
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.54		0.36	0.27			0.47	0.69		0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 61.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 62
50th %ile Actuated Cycle: 60.8
30th %ile Actuated Cycle: 56.8
10th %ile Actuated Cycle: 40
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	42	1020	502	27	17	28
Future Volume (vph)	42	1020	502	27	17	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.916	
Flt Protected		0.998			0.982	
Satd. Flow (prot)	0	3564	3475	0	1628	0
Flt Permitted		0.998			0.982	
Satd. Flow (perm)	0	3564	3475	0	1628	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	1%	3%	4%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	45	1085	534	29	18	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1130	563	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1011	4	12	529	4	21	1	63	2	0	0
Future Volume (vph)	1	1011	4	12	529	4	21	1	63	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.900				
Flt Protected					0.999			0.988			0.950	
Satd. Flow (prot)	0	3533	0	0	3450	0	0	1665	0	0	1805	0
Flt Permitted					0.999			0.988			0.950	
Satd. Flow (perm)	0	3533	0	0	3450	0	0	1665	0	0	1805	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	4		1	1		4						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	25%	9%	4%	50%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	1064	4	13	557	4	22	1	66	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1069	0	0	574	0	0	89	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.1% ICU Level of Service A

Analysis Period (min) 15

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	1047	534	13	7	10
Future Volume (vph)	16	1047	534	13	7	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.917	
Flt Protected		0.999			0.981	
Satd. Flow (prot)	0	3537	3447	0	1507	0
Flt Permitted		0.999			0.981	
Satd. Flow (perm)	0	3537	3447	0	1507	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	1			1		1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	4%	17%	0%	22%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	17	1102	562	14	7	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1119	576	0	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	830	4	33	428	20	51	3	16	22	7	34
Future Volume (vph)	104	830	4	33	428	20	51	3	16	22	7	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		1.00	1.00		0.99	0.97		0.98	0.98	
Frt		0.999			0.993			0.871			0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3536	0	1752	3409	0	1736	1522	0	1805	1629	0
Flt Permitted	0.445			0.233			0.952			0.952		
Satd. Flow (perm)	828	3536	0	430	3409	0	1716	1522	0	1778	1629	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	3		2	2		3	4		5	5		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	3%	5%	6%	4%	0%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	116	922	4	37	476	22	57	3	18	24	8	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	926	0	37	498	0	57	21	0	24	46	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

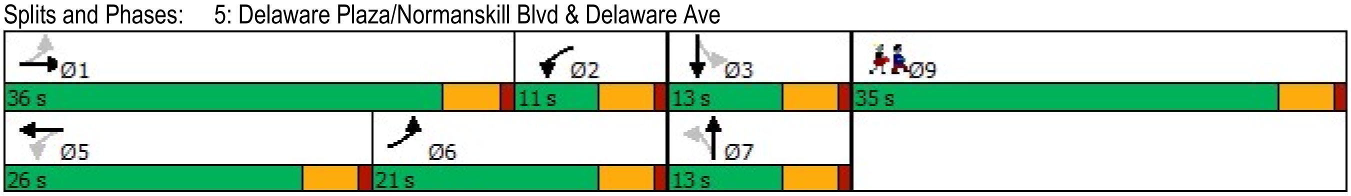
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	21.0	36.0		11.0	26.0		13.0	13.0		13.0	13.0	
Total Split (%)	22.1%	37.9%		11.6%	27.4%		13.7%	13.7%		13.7%	13.7%	
Maximum Green (s)	16.0	31.0		6.0	21.0		8.0	8.0		8.0	8.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	35.5	35.8		27.9	25.0		8.9	8.9		8.6	8.6	
Actuated g/C Ratio	0.68	0.69		0.54	0.48		0.17	0.17		0.17	0.17	
v/c Ratio	0.16	0.38		0.10	0.30		0.20	0.08		0.08	0.17	
Control Delay	9.8	12.0		11.9	17.5		29.8	30.4		30.2	30.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.8	12.0		11.9	17.5		29.8	30.4		30.2	30.0	
LOS	A	B		B	B		C	C		C	C	
Approach Delay		11.8			17.1			29.9			30.1	
Approach LOS		B			B			C			C	
90th %ile Green (s)	15.2	31.0		5.2	21.0		8.0	8.0		8.0	8.0	
90th %ile Term Code	Hold	Max		Gap	Max		Max	Max		Max	Max	
70th %ile Green (s)	16.4	29.0		5.0	17.6		8.0	8.0		8.0	8.0	
70th %ile Term Code	Hold	Gap		Min	Gap		Max	Max		Max	Max	
50th %ile Green (s)	5.0	26.4		0.0	16.4		8.0	8.0		8.0	8.0	
50th %ile Term Code	Min	Hold		Skip	Gap		Max	Max		Max	Max	
30th %ile Green (s)	5.0	25.0		0.0	15.0		0.0	0.0		0.0	0.0	
30th %ile Term Code	Min	Hold		Skip	Min		Skip	Skip		Skip	Skip	
10th %ile Green (s)	0.0	30.0		0.0	30.0		0.0	0.0		0.0	0.0	
10th %ile Term Code	Skip	Dwell		Skip	Dwell		Skip	Skip		Skip	Skip	
Stops (vph)	38	395		19	286		43	18		21	37	
Fuel Used(gal)	1	10		1	8		1	0		0	1	
CO Emissions (g/hr)	75	688		39	589		42	16		22	40	
NOx Emissions (g/hr)	15	134		8	115		8	3		4	8	
VOC Emissions (g/hr)	17	159		9	136		10	4		5	9	
Dilemma Vehicles (#)	0	39		0	31		0	0		0	0	
Queue Length 50th (ft)	10	55		2	46		12	5		5	10	
Queue Length 95th (ft)	75	338		31	198		73	35		39	62	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	974	2444		416	1884		309	274		320	293	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	37%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.38		0.09	0.26		0.18	0.08		0.07	0.16	

Intersection Summary	
Area Type: Other	
Cycle Length: 95	
Actuated Cycle Length: 52.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	
90th %ile Actuated Cycle: 94.2	
70th %ile Actuated Cycle: 57	
50th %ile Actuated Cycle: 44.4	
30th %ile Actuated Cycle: 30	
10th %ile Actuated Cycle: 35	

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	535	70	465	795	4	117	16	285	17	19	18
Future Volume (vph)	21	535	70	465	795	4	117	16	285	17	19	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.98		1.00	
Frt		0.983			0.999				0.850		0.955	
Flt Protected	0.950			0.950				0.958			0.985	
Satd. Flow (prot)	1805	3500	0	1805	1879	0	0	1804	1615	0	1787	0
Flt Permitted	0.358			0.224				0.713			0.859	
Satd. Flow (perm)	679	3500	0	425	1879	0	0	1343	1590	0	1556	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	2		1	1		2			4	4		
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	21	546	71	474	811	4	119	16	291	17	19	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	617	0	474	815	0	0	135	291	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	10.0	22.0		20.0	32.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	11.1%	24.4%		22.2%	35.6%		22.2%	22.2%	22.2%	22.2%	22.2%	
Maximum Green (s)	5.0	17.0		15.0	27.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	18.1	17.9		37.8	39.3			11.9	24.9		11.9	
Actuated g/C Ratio	0.30	0.29		0.62	0.64			0.19	0.41		0.19	
v/c Ratio	0.07	0.60		0.76	0.68			0.52	0.44		0.18	
Control Delay	24.0	25.7		25.2	19.1			34.4	12.0		26.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	24.0	25.7		25.2	19.1			34.4	12.0		26.8	
LOS	C	C		C	B			C	B		C	
Approach Delay		25.7			21.4			19.1			26.8	
Approach LOS		C			C			B			C	
90th %ile Green (s)	5.0	17.0		15.0	27.0		15.0	15.0	15.0	15.0	15.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max	Max	Hold	Hold	
70th %ile Green (s)	0.0	17.0		15.0	37.0		12.4	12.4	15.0	12.4	12.4	
70th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap	Max	Hold	Hold	
50th %ile Green (s)	0.0	17.0		15.0	37.0		10.7	10.7	15.0	10.7	10.7	
50th %ile Term Code	Skip	Max		Max	Hold		Gap	Gap	Max	Hold	Hold	
30th %ile Green (s)	0.0	17.0		15.0	37.0		10.0	10.0	15.0	0.0	0.0	
30th %ile Term Code	Skip	Max		Max	Hold		Min	Min	Max	Skip	Skip	
10th %ile Green (s)	0.0	16.4		15.0	36.4		0.0	0.0	15.0	0.0	0.0	
10th %ile Term Code	Skip	Gap		Max	Hold		Skip	Skip	Max	Skip	Skip	
Stops (vph)	17	453		204	378			110	174		45	
Fuel Used(gal)	0	9		4	7			2	3		1	
CO Emissions (g/hr)	21	603		312	477			159	220		53	
NOx Emissions (g/hr)	4	117		61	93			31	43		10	
VOC Emissions (g/hr)	5	140		72	110			37	51		12	
Dilemma Vehicles (#)	0	0		0	0			9	0		0	
Queue Length 50th (ft)	5	95		76	147			43	52		16	
Queue Length 95th (ft)	30	#287		#513	#859			#141	107		61	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	298	1035		623	1207			350	655		405	

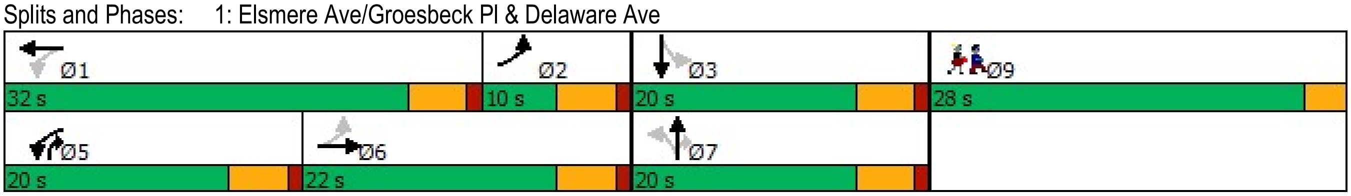
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.07	0.60		0.76	0.68			0.39	0.44		0.13	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 61.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 22.2	Intersection LOS: C
Intersection Capacity Utilization 72.7%	ICU Level of Service C
Analysis Period (min) 15	
90th %ile Actuated Cycle: 90	
70th %ile Actuated Cycle: 59.4	
50th %ile Actuated Cycle: 57.7	
30th %ile Actuated Cycle: 57	
10th %ile Actuated Cycle: 41.4	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	831	1257	27	2	7
Future Volume (vph)	6	831	1257	27	2	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.895	
Flt Protected					0.989	
Satd. Flow (prot)	0	3574	3564	0	1682	0
Flt Permitted					0.989	
Satd. Flow (perm)	0	3574	3564	0	1682	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	6	884	1337	29	2	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	890	1366	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	778	4	11	1255	11	7	0	14	4	0	10
Future Volume (vph)	10	778	4	11	1255	11	7	0	14	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999			0.908			0.901	
Flt Protected		0.999						0.984			0.987	
Satd. Flow (prot)	0	3533	0	0	3571	0	0	1698	0	0	1690	0
Flt Permitted		0.999						0.984			0.987	
Satd. Flow (perm)	0	3533	0	0	3571	0	0	1698	0	0	1690	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	5		3	3		5						
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	11	828	4	12	1335	12	7	0	15	4	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	843	0	0	1359	0	0	22	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 52.8%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	36	744	1231	8	8	30
Future Volume (vph)	36	744	1231	8	8	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.895	
Flt Protected		0.998			0.989	
Satd. Flow (prot)	0	3535	3571	0	1682	0
Flt Permitted		0.998			0.989	
Satd. Flow (perm)	0	3535	3571	0	1682	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	5			5		2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	38	791	1310	9	9	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	829	1319	0	41	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 57.8%	ICU Level of Service B
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	542	14	113	947	29	219	4	11	54	8	79
Future Volume (vph)	50	542	14	113	947	29	219	4	11	54	8	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		1.00	1.00		0.99	0.99		1.00	0.98	
Frt		0.996			0.995			0.887			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3524	0	1805	3555	0	1805	1664	0	1805	1605	0
Flt Permitted	0.183			0.328			0.695			0.747		
Satd. Flow (perm)	348	3524	0	620	3555	0	1306	1664	0	1413	1605	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)	1		8	8		1	8		3	3		8
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	54	589	15	123	1029	32	238	4	12	59	9	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	604	0	123	1061	0	238	16	0	59	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	12.0	29.0		12.0	29.0		24.0	24.0		24.0	24.0	
Total Split (%)	12.0%	29.0%		12.0%	29.0%		24.0%	24.0%		24.0%	24.0%	
Maximum Green (s)	7.0	24.0		7.0	24.0		19.0	19.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	27.4	21.9		31.0	26.0		19.6	19.6		19.6	19.6	
Actuated g/C Ratio	0.41	0.33		0.47	0.39		0.29	0.29		0.29	0.29	
v/c Ratio	0.20	0.52		0.29	0.76		0.62	0.03		0.14	0.20	
Control Delay	19.3	23.3		18.7	26.3		34.0	24.7		24.5	24.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.3	23.3		18.7	26.3		34.0	24.7		24.5	24.6	
LOS	B	C		B	C		C	C		C	C	
Approach Delay		23.0			25.5			33.4			24.5	
Approach LOS		C			C			C			C	
90th %ile Green (s)	7.0	24.0		7.0	24.0		19.0	19.0		19.0	19.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max		Hold	Hold	
70th %ile Green (s)	5.0	20.9		8.1	24.0		19.0	19.0		19.0	19.0	
70th %ile Term Code	Min	Gap		Hold	Max		Max	Max		Hold	Hold	
50th %ile Green (s)	5.0	19.1		9.9	24.0		19.0	19.0		19.0	19.0	
50th %ile Term Code	Min	Gap		Hold	Max		Max	Max		Hold	Hold	
30th %ile Green (s)	0.0	16.9		5.0	26.9		19.0	19.0		19.0	19.0	
30th %ile Term Code	Skip	Gap		Min	Hold		Max	Max		Hold	Hold	
10th %ile Green (s)	0.0	24.0		0.0	24.0		17.3	17.3		17.3	17.3	
10th %ile Term Code	Skip	Hold		Skip	Max		Gap	Gap		Hold	Hold	
Stops (vph)	31	429		62	687		157	13		39	63	
Fuel Used(gal)	1	9		2	21		3	0		1	1	
CO Emissions (g/hr)	52	662		143	1449		182	11		44	71	
NOx Emissions (g/hr)	10	129		28	282		35	2		9	14	
VOC Emissions (g/hr)	12	153		33	336		42	3		10	16	
Dilemma Vehicles (#)	0	33		0	66		0	0		0	0	
Queue Length 50th (ft)	9	101		21	182		77	4		16	27	
Queue Length 95th (ft)	49	248		95	#573		#303	27		70	100	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	314	1338		444	1387		392	500		425	482	

Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	35%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.45		0.28	0.76		0.61	0.03		0.14	0.20	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 66.6

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 25.6 Intersection LOS: C

Intersection Capacity Utilization 62.6% ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 100

70th %ile Actuated Cycle: 63

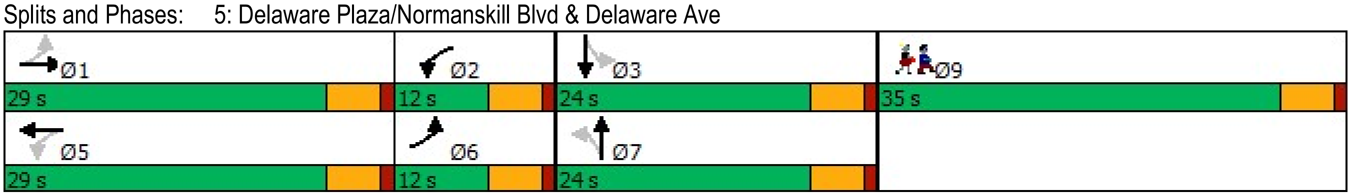
50th %ile Actuated Cycle: 63

30th %ile Actuated Cycle: 55.9

10th %ile Actuated Cycle: 51.3

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	435	62	286	426	8	98	14	331	13	13	22
Future Volume (vph)	11	435	62	286	426	8	98	14	331	13	13	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	140		0	0		0	200		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			0.99			0.98	
Frt		0.981			0.997				0.850		0.939	
Flt Protected	0.950			0.950				0.958			0.986	
Satd. Flow (prot)	1805	3501	0	1805	1875	0	0	1820	1615	0	1731	0
Flt Permitted	0.502			0.301				0.717			0.877	
Satd. Flow (perm)	953	3501	0	572	1875	0	0	1344	1615	0	1539	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		625			260			556			521	
Travel Time (s)		14.2			5.9			10.8			11.8	
Confl. Peds. (#/hr)	1		1	1		1	4					4
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	11	453	65	298	444	8	102	15	345	14	14	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	518	0	298	452	0	0	117	345	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template							Left			Left		
Leading Detector (ft)	60	60		75	75		20	60	60	20	40	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Detector Phase	2	6		5	1		7	7	5	3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		15.0	15.0	10.0	15.0	15.0	
Total Split (s)	13.0	26.0		20.0	33.0		16.0	16.0	20.0	16.0	16.0	
Total Split (%)	14.4%	28.9%		22.2%	36.7%		17.8%	17.8%	22.2%	17.8%	17.8%	
Maximum Green (s)	8.0	21.0		15.0	28.0		11.0	11.0	15.0	11.0	11.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Minimum Gap (s)	2.5	5.0		2.0	5.0		3.0	3.0	2.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	18.2	18.2		35.5	37.2			11.5	24.6		11.5	
Actuated g/C Ratio	0.31	0.31		0.61	0.64			0.20	0.42		0.20	
v/c Ratio	0.03	0.47		0.47	0.38			0.44	0.50		0.17	
Control Delay	21.3	21.5		15.1	13.5			34.4	14.7		28.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	21.3	21.5		15.1	13.5			34.4	14.7		28.2	
LOS	C	C		B	B			C	B		C	
Approach Delay		21.5			14.1			19.7			28.2	
Approach LOS		C			B			B			C	
90th %ile Green (s)	8.0	21.0		15.0	28.0		11.0	11.0	15.0	11.0	11.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max	Max	Max	Max	
70th %ile Green (s)	0.0	18.3		15.0	38.3		11.0	11.0	15.0	11.0	11.0	
70th %ile Term Code	Skip	Gap		Max	Hold		Max	Max	Max	Hold	Hold	
50th %ile Green (s)	0.0	16.0		14.2	35.2		10.5	10.5	14.2	10.5	10.5	
50th %ile Term Code	Skip	Gap		Gap	Hold		Gap	Gap	Gap	Hold	Hold	
30th %ile Green (s)	0.0	15.0		12.0	32.0		10.0	10.0	12.0	0.0	0.0	
30th %ile Term Code	Skip	Min		Gap	Hold		Min	Min	Gap	Skip	Skip	
10th %ile Green (s)	0.0	15.0		8.6	28.6		0.0	0.0	8.6	0.0	0.0	
10th %ile Term Code	Skip	Min		Gap	Hold		Skip	Skip	Gap	Skip	Skip	
Stops (vph)	10	375		129	215			86	211		42	
Fuel Used(gal)	0	7		2	3			2	4		1	
CO Emissions (g/hr)	11	466		152	228			132	273		50	
NOx Emissions (g/hr)	2	91		30	44			26	53		10	
VOC Emissions (g/hr)	3	108		35	53			30	63		12	
Dilemma Vehicles (#)	0	0		0	0			8	0		0	
Queue Length 50th (ft)	3	74		36	60			35	61		14	
Queue Length 95th (ft)	18	194		#234	#376			#149	#174		62	
Internal Link Dist (ft)		545			180			476			441	
Turn Bay Length (ft)	140											
Base Capacity (vph)	427	1395		700	1201			280	769		321	

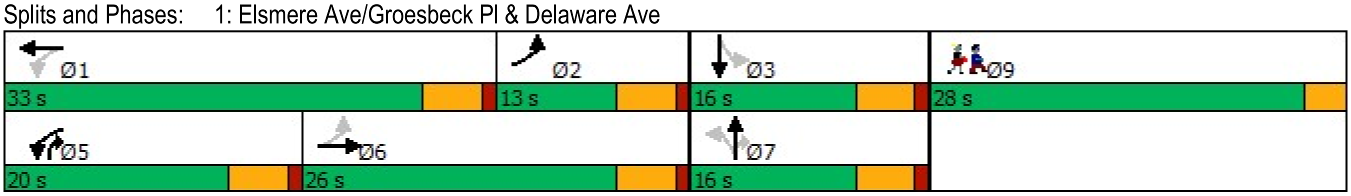
Lane Group	Ø9
Minimum Initial (s)	20.0
Minimum Split (s)	28.0
Total Split (s)	28.0
Total Split (%)	31%
Maximum Green (s)	25.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Minimum Gap (s)	0.2
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	25.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.03	0.37		0.43	0.38			0.42	0.45		0.16	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 58.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 55.3%	ICU Level of Service B
Analysis Period (min) 15	
90th %ile Actuated Cycle: 90	
70th %ile Actuated Cycle: 59.3	
50th %ile Actuated Cycle: 55.7	
30th %ile Actuated Cycle: 52	
10th %ile Actuated Cycle: 33.6	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Elsmere Ave/Groesbeck Pl & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	778	718	8	2	2
Future Volume (vph)	1	778	718	8	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3574	3567	0	1728	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3574	3567	0	1728	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		260	618		500	
Travel Time (s)		5.9	14.0		11.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	1	802	740	8	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	803	748	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 32.2%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	699	2	9	676	6	14	0	31	8	0	19
Future Volume (vph)	27	699	2	9	676	6	14	0	31	8	0	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.999			0.906			0.905	
Flt Protected		0.998			0.999			0.985			0.985	
Satd. Flow (prot)	0	3569	0	0	3568	0	0	1696	0	0	1694	0
Flt Permitted		0.998			0.999			0.985			0.985	
Satd. Flow (perm)	0	3569	0	0	3568	0	0	1696	0	0	1694	0
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		618			743			530			144	
Travel Time (s)		14.0			12.7			12.0			3.3	
Confl. Peds. (#/hr)	1		4	4		1	1					1
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	28	713	2	9	690	6	14	0	32	8	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	705	0	0	46	0	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.4% ICU Level of Service A

Analysis Period (min) 15

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	696	646	6	8	38
Future Volume (vph)	27	696	646	6	8	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.888	
Flt Protected		0.998			0.992	
Satd. Flow (prot)	0	3568	3571	0	1633	0
Flt Permitted		0.998			0.992	
Satd. Flow (perm)	0	3568	3571	0	1633	0
Link Speed (mph)		40	40		30	
Link Distance (ft)		743	482		696	
Travel Time (s)		12.7	8.2		15.8	
Confl. Peds. (#/hr)	2			2	5	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	28	718	666	6	8	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	746	672	0	47	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 49.0%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	422	24	88	452	3	180	2	37	6	6	16
Future Volume (vph)	8	422	24	88	452	3	180	2	37	6	6	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	377		0	265		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		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		0.99				0.98		0.99		
Frt		0.992			0.999			0.857			0.889	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3541	0	1787	3571	0	1805	1593	0	1805	1689	0
Flt Permitted	0.436			0.428			0.742			0.730		
Satd. Flow (perm)	727	3541	0	801	3571	0	1410	1593	0	1372	1689	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		694			1322			127			346	
Travel Time (s)		11.8			22.5			2.9			7.9	
Confl. Peds. (#/hr)			6	6					7	7		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	14%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	454	26	95	486	3	194	2	40	6	6	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	480	0	95	489	0	194	42	0	6	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template												
Leading Detector (ft)	60	106		60	106		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Detector Phase	6	1		2	5		7	7		3	3	
Switch Phase												

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	12.0	21.0		12.0	21.0		22.0	22.0		22.0	22.0	
Total Split (%)	13.3%	23.3%		13.3%	23.3%		24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	7.0	16.0		7.0	16.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Minimum Gap (s)	2.0	5.0		2.0	5.0		4.0	4.0		4.0	4.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	23.3	17.6		26.6	24.3		13.8	13.8		13.8	13.8	
Actuated g/C Ratio	0.43	0.32		0.49	0.44		0.25	0.25		0.25	0.25	
v/c Ratio	0.02	0.42		0.19	0.31		0.55	0.10		0.02	0.05	
Control Delay	15.0	20.8		15.6	16.0		29.1	21.6		22.2	21.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.0	20.8		15.6	16.0		29.1	21.6		22.2	21.6	
LOS	B	C		B	B		C	C		C	C	
Approach Delay		20.7			15.9			27.7			21.7	
Approach LOS		C			B			C			C	
90th %ile Green (s)	7.0	16.0		7.0	16.0		17.0	17.0		17.0	17.0	
90th %ile Term Code	Hold	Max		Max	Max		Max	Max		Hold	Hold	
70th %ile Green (s)	0.0	16.0		5.0	26.0		15.4	15.4		15.4	15.4	
70th %ile Term Code	Skip	Max		Min	Hold		Gap	Gap		Hold	Hold	
50th %ile Green (s)	0.0	15.0		5.0	25.0		13.4	13.4		13.4	13.4	
50th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
30th %ile Green (s)	0.0	15.0		5.0	25.0		11.7	11.7		11.7	11.7	
30th %ile Term Code	Skip	Min		Min	Hold		Gap	Gap		Hold	Hold	
10th %ile Green (s)	0.0	18.0		0.0	18.0		9.0	9.0		9.0	9.0	
10th %ile Term Code	Skip	Dwell		Skip	Dwell		Gap	Gap		Hold	Hold	
Stops (vph)	7	325		48	266		135	31		7	17	
Fuel Used(gal)	0	7		2	8		2	0		0	0	
CO Emissions (g/hr)	9	502		108	571		139	27		6	17	
NOx Emissions (g/hr)	2	98		21	111		27	5		1	3	
VOC Emissions (g/hr)	2	116		25	132		32	6		1	4	
Dilemma Vehicles (#)	0	36		0	34		0	0		0	0	
Queue Length 50th (ft)	1	55		12	36		45	9		1	5	
Queue Length 95th (ft)	14	#195		76	#201		#205	49		13	32	
Internal Link Dist (ft)		614			1242			47			266	
Turn Bay Length (ft)	377			265								
Base Capacity (vph)	454	1167		555	1586		477	539		464	572	

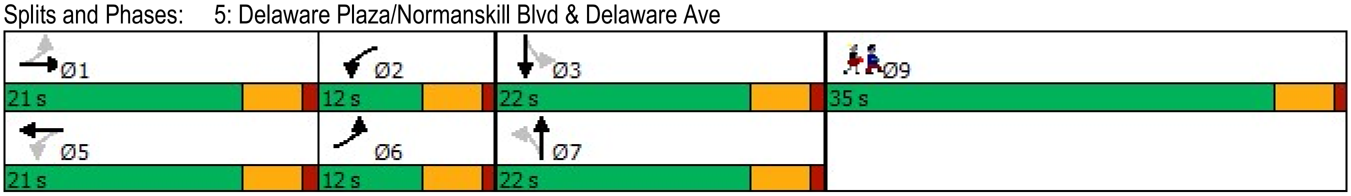
Lane Group	Ø9
Minimum Initial (s)	10.0
Minimum Split (s)	35.0
Total Split (s)	35.0
Total Split (%)	39%
Maximum Green (s)	30.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	10.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
90th %ile Green (s)	30.0
90th %ile Term Code	Ped
70th %ile Green (s)	0.0
70th %ile Term Code	Skip
50th %ile Green (s)	0.0
50th %ile Term Code	Skip
30th %ile Green (s)	0.0
30th %ile Term Code	Skip
10th %ile Green (s)	0.0
10th %ile Term Code	Skip
Stops (vph)	
Fuel Used(gal)	
CO Emissions (g/hr)	
NOx Emissions (g/hr)	
VOC Emissions (g/hr)	
Dilemma Vehicles (#)	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.41		0.17	0.31		0.41	0.08		0.01	0.04	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 54.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 46.5% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 51.4
50th %ile Actuated Cycle: 48.4
30th %ile Actuated Cycle: 46.7
10th %ile Actuated Cycle: 37
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Delaware Plaza/Normanskill Blvd & Delaware Ave



Lane Group	Ø9
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Appendix D-10

HCS 2023 Results for Existing and No-Build Scenarios

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/9/2024
Agency	CHA	Analysis Year	2023
Jurisdiction	Delmar, NY	Time Analyzed	(2023) Existing AM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	797	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	473
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.3
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	459	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	272
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	8.8
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	6/4/2024
Agency	CHA	Analysis Year	2023
Jurisdiction	Delmar, NY	Time Analyzed	(2023) Existing PM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	658	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	346
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	11.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1011	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	532
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/9/2024
Agency	CHA	Analysis Year	2023
Jurisdiction	Delmar, NY	Time Analyzed	(2023) Existing WEEKEND
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	508	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	279
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	9.0
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	495	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	274
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.14

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	8.9
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/9/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	ETC (2025) No-Build AM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	805	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	478
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.5
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	464	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	276
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	8.9
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	6/4/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	ETC (2025) No-Build PM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	665	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	350
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	11.3
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1021	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	537
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.4
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	6/4/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	ETC (2025) No-Build WEEKEND
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	513	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	282
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	9.1
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	500	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	278
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	9.0
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/9/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	ETC+20 (2045) No-Build AM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	885	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	525
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.0
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	509	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	302
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	9.8
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	6/4/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	ETC+20 (2045) No-Build PM
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	731	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	384
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	12.4
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1122	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	590
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.1
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	5.0		

HCS Multilane Highway Report

Project Information

Analyst	M. Kowalski	Date	6/4/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	ETC+20 (2045) No-Build WEEKEND
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	564	Heavy Vehicle Adjustment Factor (f_{HV})	0.990
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	310
Total Trucks, %	1.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	10.0
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	10	Access Point Density, pts/mi	20.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	30.9	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	549	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	304
Total Trucks, %	2.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	6.6	Average Speed (S), mi/h	30.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	9.8
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	5.0		

Appendix D-11

HCS 2023 Results for Build Scenarios

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build AM EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	936	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.86	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.55

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.0
2	Horizontal Curve	350	1915	0.0	38.0
3	Tangent	355	-	-	38.0
4	Horizontal Curve	550	1070	0.0	38.0
5	Tangent	245	-	-	38.0

Vehicle Results

Average Speed, mi/h	38.0	Percent Followers, %	75.4
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	18.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	77	0.13	18.6	E

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build AM WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	540	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.86	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.6
2	Horizontal Curve	350	1915	0.0	38.6
3	Tangent	355	-	-	38.6
4	Horizontal Curve	550	1070	0.0	38.6
5	Tangent	245	-	-	38.6

Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	61.7
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	8.6
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	44	0.05	8.6	C

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build PM EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	693	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.4
2	Horizontal Curve	350	1915	0.0	38.4
3	Tangent	355	-	-	38.4
4	Horizontal Curve	550	1070	0.0	38.4
5	Tangent	245	-	-	38.4

Vehicle Results

Average Speed, mi/h	38.4	Percent Followers, %	68.0
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	12.3
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	63	0.09	12.3	D

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build PM WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1064	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.63

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	37.9
2	Horizontal Curve	350	1915	0.0	37.9
3	Tangent	355	-	-	37.9
4	Horizontal Curve	550	1070	0.0	37.9
5	Tangent	245	-	-	37.9

Vehicle Results

Average Speed, mi/h	37.9	Percent Followers, %	78.3
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	22.0
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	97	0.17	22.0	E

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build WEEKEND EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	558	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.6
2	Horizontal Curve	350	1915	0.0	38.6
3	Tangent	355	-	-	38.6
4	Horizontal Curve	550	1070	0.0	38.6
5	Tangent	245	-	-	38.6

Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	62.5
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	9.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	49	0.06	9.0	C

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2025
Jurisdiction	Delmar, NY	Time Analyzed	Build WEEKEND WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	543	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.6
2	Horizontal Curve	350	1915	0.0	38.6
3	Tangent	355	-	-	38.6
4	Horizontal Curve	550	1070	0.0	38.6
5	Tangent	245	-	-	38.6

Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	61.8
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	8.7
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	48	0.06	8.7	C

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build AM EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1029	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.86	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.61

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	21.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	37.9
2	Horizontal Curve	350	1915	0.0	37.9
3	Tangent	355	-	-	37.9
4	Horizontal Curve	550	1070	0.0	37.9
5	Tangent	245	-	-	37.9

Vehicle Results

Average Speed, mi/h	37.9	Percent Followers, %	77.6
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	21.1
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	84	0.14	21.1	E

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build AM WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	592	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.86	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.5
2	Horizontal Curve	350	1915	0.0	38.5
3	Tangent	355	-	-	38.5
4	Horizontal Curve	550	1070	0.0	38.5
5	Tangent	245	-	-	38.5

Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	64.0
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	9.8
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	48	0.06	9.8	C

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build PM EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	761	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.45

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.3
2	Horizontal Curve	350	1915	0.0	38.3
3	Tangent	355	-	-	38.3
4	Horizontal Curve	550	1070	0.0	38.3
5	Tangent	245	-	-	38.3

Vehicle Results

Average Speed, mi/h	38.3	Percent Followers, %	70.3
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	14.0
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	70	0.10	14.0	D

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build PM WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1169	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.96	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.69

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	24.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	37.8
2	Horizontal Curve	350	1915	0.0	37.8
3	Tangent	355	-	-	37.8
4	Horizontal Curve	550	1070	0.0	37.8
5	Tangent	245	-	-	37.8

Vehicle Results

Average Speed, mi/h	37.8	Percent Followers, %	80.5
Segment Travel Time, minutes	0.60	Follower Density (FD), followers/mi/ln	24.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	107	0.19	24.9	E

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build WEEKEND EB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	613	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.6
Speed Slope Coefficient (m)	2.71948	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46657	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.5
2	Horizontal Curve	350	1915	0.0	38.5
3	Tangent	355	-	-	38.5
4	Horizontal Curve	550	1070	0.0	38.5
5	Tangent	245	-	-	38.5

Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	64.9
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	10.3
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/mi/ln	LOS
1	54	0.07	10.3	D

HCS Two-Lane Highway Report

Project Information

Analyst	M. Kowalski	Date	7/10/2024
Agency	CHA	Analysis Year	2045
Jurisdiction	Delmar, NY	Time Analyzed	Build WEEKEND WB
Project Description	Delaware Ave (Lenox St to City Limit)	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2010
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	20.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	597	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.5
Speed Slope Coefficient (m)	2.71767	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46645	PF Power Coefficient (p)	0.68886
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	510	-	-	38.5
2	Horizontal Curve	350	1915	0.0	38.5
3	Tangent	355	-	-	38.5
4	Horizontal Curve	550	1070	0.0	38.5
5	Tangent	245	-	-	38.5

Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	64.2
Segment Travel Time, minutes	0.59	Follower Density (FD), followers/mi/ln	10.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	52	0.07	10.0	C

Appendix D-12

Crash Analysis Tables

Crash Summary - Overall (Intersection)

Crash Type	Total # of Crashes	Crashes by Injury Status				
		K - Fatal	A - SERIOUS INJURY	B - INJURY	C - POSSIBLE INJURY	PROPERTY DAMAGE
Elsmere Ave/ Delaware Ave						
	9	0	1	0	0	8
Delaware Plaza / Delaware Ave						
	7	0	0	1	0	6

Crash Summary - Overall (Segment)

Crash Type	Total # of Crashes	Crashes by Injury Status				
		K - Fatal	A - SERIOUS INJURY	B - INJURY	C - POSSIBLE INJURY	PROPERTY DAMAGE
Hudson Ave to Elsmere Ave						
	0	0	0	0	0	0
Elsmere Ave to Plymouth Ave						
	24	0	1	1	4	18
Plymouth Ave to Delaware Plaza						
	0	0	0	0	0	0
Delaware Plaza to Mason Road						
	11	0	0	1	2	8
Mason Rd to Grant St						
	3	0	0	1	0	2

Summary of Manner of Collision (Intersection)

Crash Type	K - Fatal	A - SERIOUS INJURY	B - INJURY	C - POSSIBLE INJURY	PROPERTY DAMAGE	Grand Total	Percentage
Elsmere Ave/ Delaware Ave							
Rear End	0	0	0	0	2	2	22%
Right Angle	0	0	0	0	2	2	22%
Sideswipe (same direction)	0	0	0	0	3	3	33%
Sideswipe (opposite direction)	0	0	0	0	1	1	11%
Other	0	1	0	0	0	1	11%
Grand Total	**0**	**1**	**0**	**0**	**8**	**9**	**100%**
Delaware Plaza / Delaware Ave							
Left Turn	0	0	0	0	4	4	57%
Right Turn	0	0	0	0	2	2	29%
Right Angle	0	0	0	0	0	0	0%
Rear End	0	0	1	0	0	1	14%
Grand Total	**0**	**0**	**1**	**0**	**6**	**7**	**100%**

Summary of Manner of Collision (Segment)

Crash Type	K - Fatal	A - SERIOUS INJURY	B - INJURY	C - POSSIBLE INJURY	PROPERTY DAMAGE	Grand Total	Percentage
Hudson Ave to Elsmere Ave							
--	0	0	0	0	0	0	0%
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Elsmere Ave to Plymouth Ave							
Rear End	0	0	1	3	7	11	46%
Head On	0	1	0	0	0	1	4%
Right Angle	0	0	0	1	0	1	4%
Sideswipe (same direction)	0	0	0	0	6	6	25%
Animal	0	0	0	0	2	2	8%
Other	0	0	0	0	3	3	13%
Grand Total	**0**	**1**	**1**	**4**	**18**	**24**	**100%**
Plymouth Ave to Delaware Plaza							
--	0	0	0	0	0	0	0%
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Delaware Plaza to Mason Road							
Rear End	0	0	0	1	1	2	18%
Right Angle	0	0	0	0	1	1	9%
Left Turn	0	0	0	1	1	2	18%
Right Turn	0	0	0	0	1	1	9%
Sideswipe (same direction)	0	0	0	0	2	2	18%
Animal	0	0	0	0	1	1	9%
Other	0	0	1	0	1	2	18%
Grand Total	**0**	**0**	**1**	**2**	**8**	**11**	**100%**
Mason Rd to Grant St							
Sideswipe (same direction)	0	0	0	0	2	2	67%
Left Turn	0	0	1	0	0	1	33%
Grand Total	**0**	**0**	**1**	**0**	**2**	**3**	**100%**
Grant St to Town Boundary							
Rear End	0	0	0	0	3	3	21%
Left Turn	0	0	0	0	1	1	7%
Right Turn	0	0	0	0	1	1	7%
Animal	0	0	0	0	6	6	43%
Other	0	0	0	0	3	3	21%
Grand Total	**0**	**0**	**0**	**0**	**14**	**14**	**100%**

Summary of Light Conditions (Intersection)

Time of Day	Number of Crashes	Percentage
Elsmere Ave/ Delaware Ave		
Daylight	8	89%
Dark-Road Lighted	1	11%
Dawn	0	0%
Grand Total	**9**	**100%**
Delaware Plaza / Delaware Ave		
Daylight	5	71%
Dark-Road Lighted	2	29%
Dawn	0	0%
Grand Total	**7**	**100%**

Summary of Light Conditions (Segment)

Time of Day	Number of Crashes	Percentage
Hudson Ave to Elsmere Ave		
Daylight	0	NA
Dark-Road Lighted	0	NA
Dawn	0	NA
Grand Total	**0**	**0%**
Elsmere Ave to Plymouth Ave		
Daylight	18	75%
Dark-Road Lighted	5	21%
Dawn	1	4%
Grand Total	**24**	**100%**
Plymouth Ave to Delaware Plaza		
Daylight	0	NA
Dark-Road Lighted	0	NA
Dawn	0	NA
Grand Total	**0**	**0%**
Delaware Plaza to Mason Road		
Daylight	10	91%
Dark-Road Lighted	1	9%
Dawn	0	0%
Grand Total	**11**	**100%**
Mason Rd to Grant St		
Daylight	2	67%
Dark-Road Lighted	1	33%
Dawn	0	0%
Grand Total	**3**	**100%**
Grant St to Town Boundary		
Daylight	10	71%
Dark-Road Lighted	4	29%
Dawn	0	0%
Grand Total	**14**	**100%**

Summary of Weather Conditions (Intersection)

Time of Day	Number of Crashes	Percentage
Elsmere Ave/ Delaware Ave		
Clear	8	89%
Cloudy	1	11%
Rain	0	0%
Snow	0	0%
Grand Total	**9**	**100%**
Delaware Plaza / Delaware Ave		
Clear	8	89%
Cloudy	1	11%
Rain	0	0%
Snow	0	0%
Grand Total	**9**	**100%**

Summary of Weather Conditions (Segment)

Time of Day	Number of Crashes	Percentage
Hudson Ave to Elsmere Ave		
Clear	0	NA
Cloudy	0	NA
Rain	0	NA
Snow	0	NA
Grand Total	**0**	**0%**
Elsmere Ave to Plymouth Ave		
Clear	12	50%
Cloudy	9	38%
Rain	3	13%
Snow	0	0%
Grand Total	**24**	**100%**
Plymouth Ave to Delaware Plaza		
Clear	0	NA
Cloudy	0	NA
Rain	0	NA
Snow	0	NA
Grand Total	**0**	**0%**
Delaware Plaza to Mason Road		
Clear	7	64%
Cloudy	3	27%
Rain	0	0%
Snow	1	9%
Grand Total	**11**	**100%**
Mason Rd to Grant St		
Clear	2	67%
Cloudy	1	33%
Rain	0	0%
Snow	0	0%
Grand Total	**3**	**100%**
Grant St to Town Boundary		
Clear	10	71%
Cloudy	4	29%
Rain	0	0%
Snow	0	0%
Grand Total	**14**	**100%**

Summary of Surface Conditions (Intersection)		
Time of Day	**Number of Crashes**	**Percentage**
Elsmere Ave/ Delaware Ave		
Dry	8	89%
Wet	1	11%
Snow/Ice	0	0%
Grand Total	**9**	**100%**
Delaware Plaza / Delaware Ave		
Dry	8	89%
Wet	1	11%
Snow/Ice	0	0%
Grand Total	**9**	**100%**

Summary of Surface Conditions (Segment)		
Time of Day	**Number of Crashes**	**Percentage**
Hudson Ave to Elsmere Ave		
Dry	0	NA
Wet	0	NA
Snow/Ice	0	NA
Grand Total	**0**	**0%**
Elsmere Ave to Plymouth Ave		
Dry	18	75%
Wet	6	25%
Snow/Ice	0	0%
Grand Total	**24**	**100%**
Plymouth Ave to Delaware Plaza		
Dry	0	NA
Wet	0	NA
Snow/Ice	0	NA
Grand Total	**0**	**0%**
Delaware Plaza to Mason Road		
Dry	10	91%
Wet	0	0%
Snow/Ice	1	9%
Grand Total	**11**	**100%**
Mason Rd to Grant St		
Dry	3	100%
Wet	0	0%
Snow/Ice	0	0%
Grand Total	**3**	**100%**
Grant St to Town Boundary		
Dry	14	100%
Wet	0	0%
Snow/Ice	0	0%
Grand Total	**14**	**100%**

Summary of Road Alignment (Intersection)

Time of Day	Number of Crashes	Percentage
Elsmere Ave/ Delaware Ave		
STRAIGHT AND LEVEL	9	100%
STRAIGHT/ GRADE	0	0%
CURVE AND LEVEL	0	0%
CURVE AND GRADE	0	0%
Grand Total	**9**	**100%**
Delaware Plaza / Delaware Ave		
STRAIGHT AND LEVEL	9	100%
STRAIGHT/ GRADE	0	0%
CURVE AND LEVEL	0	0%
CURVE AND GRADE	0	0%
Grand Total	**9**	**100%**

Summary of Road Alignment (Segment)

Time of Day	Number of Crashes	Percentage
Hudson Ave to Elsmere Ave		
STRAIGHT AND LEVEL	0	NA
STRAIGHT/ GRADE	0	NA
CURVE AND LEVEL	0	NA
CURVE AND GRADE	0	NA
Grand Total	**0**	**0%**
Elsmere Ave to Plymouth Ave		
STRAIGHT AND LEVEL	24	100%
STRAIGHT/ GRADE	0	0%
CURVE AND LEVEL	0	0%
CURVE AND GRADE	0	0%
Grand Total	**24**	**100%**
Plymouth Ave to Delaware Plaza		
STRAIGHT AND LEVEL	0	NA
STRAIGHT/ GRADE	0	NA
CURVE AND LEVEL	0	NA
CURVE AND GRADE	0	NA
Grand Total	**0**	**0%**
Delaware Plaza to Mason Road		
STRAIGHT AND LEVEL	10	91%
STRAIGHT/ GRADE	0	0%
CURVE AND LEVEL	1	9%
CURVE AND GRADE	0	0%
Grand Total	**11**	**100%**
Mason Rd to Grant St		
STRAIGHT AND LEVEL	3	100%
STRAIGHT/ GRADE	0	0%
CURVE AND LEVEL	0	0%
CURVE AND GRADE	0	0%
Grand Total	**3**	**100%**
Grant St to Town Boundary		
STRAIGHT AND LEVEL	4	29%
STRAIGHT/ GRADE	9	64%
CURVE AND LEVEL	0	0%
CURVE AND GRADE	1	7%
Grand Total	**14**	**100%**

Analysis Period (years)	3
Segment length (miles)	1.3

	Station ID	AADT	Year
Delaware Ave	110111	15476	2019 Estimate
Elsmere/Groesbeck	110563	7800	2019 Estimate

* source: NYSDOT Traffic Data Viewer

Intersection	Crashes	AADT	MEV	Crash rate	**Statewide
Elsmere Ave/ Delaware Ave	9	23276	25.48722	0.35	0.53
Delaware Plaza / Delaware Ave	7	15476	16.94622	0.41	0.53

** source: NYSDOT 2019-2020 Avg. Acc. Rates

* Due to insignificant sidestreet volume, vehicle miles at intersection of Delaware Ave/ Delaware Plaza is estimated using mainline AADT only

Segment	Crashes	AADT	MEV	Crash rate	**Statewide
Hudson Ave to Elsmere Ave	0	15476	16.94622	0.00	3.46
Elsmere Ave to Plymouth Ave	24	15476	16.94622	1.42	3.46
Plymouth Ave to Delaware Plaza	0	15476	16.94622	0.00	3.46
Delaware Plaza to Mason Road	11	15476	16.94622	0.65	3.46
Mason Rd to Grant St	3	15476	16.94622	0.18	3.46
Grant St to Town Boundary	14	15476	16.94622	0.83	3.46

** source: NYSDOT 2019-2020 Avg. Acc. Rates

	Crashes	AADT	MEV	Crash rate	**Statewide
Study Area	68	15476	16.94622	4.01	6.11

** source: NYSDOT 2019-2020 Avg. Acc. Rates

Appendix D-13

Pedestrian Counts from Mason Road to Grant Street

Town of Bethlehem – Delaware Avenue Complete Streets Project

PIN 1761.68 **CHA Project No.: 081072.000**

<u>Pedestrian Observation Between Mason Road to Grant Street</u>

Date: 5/10/2023 (Wednesday)

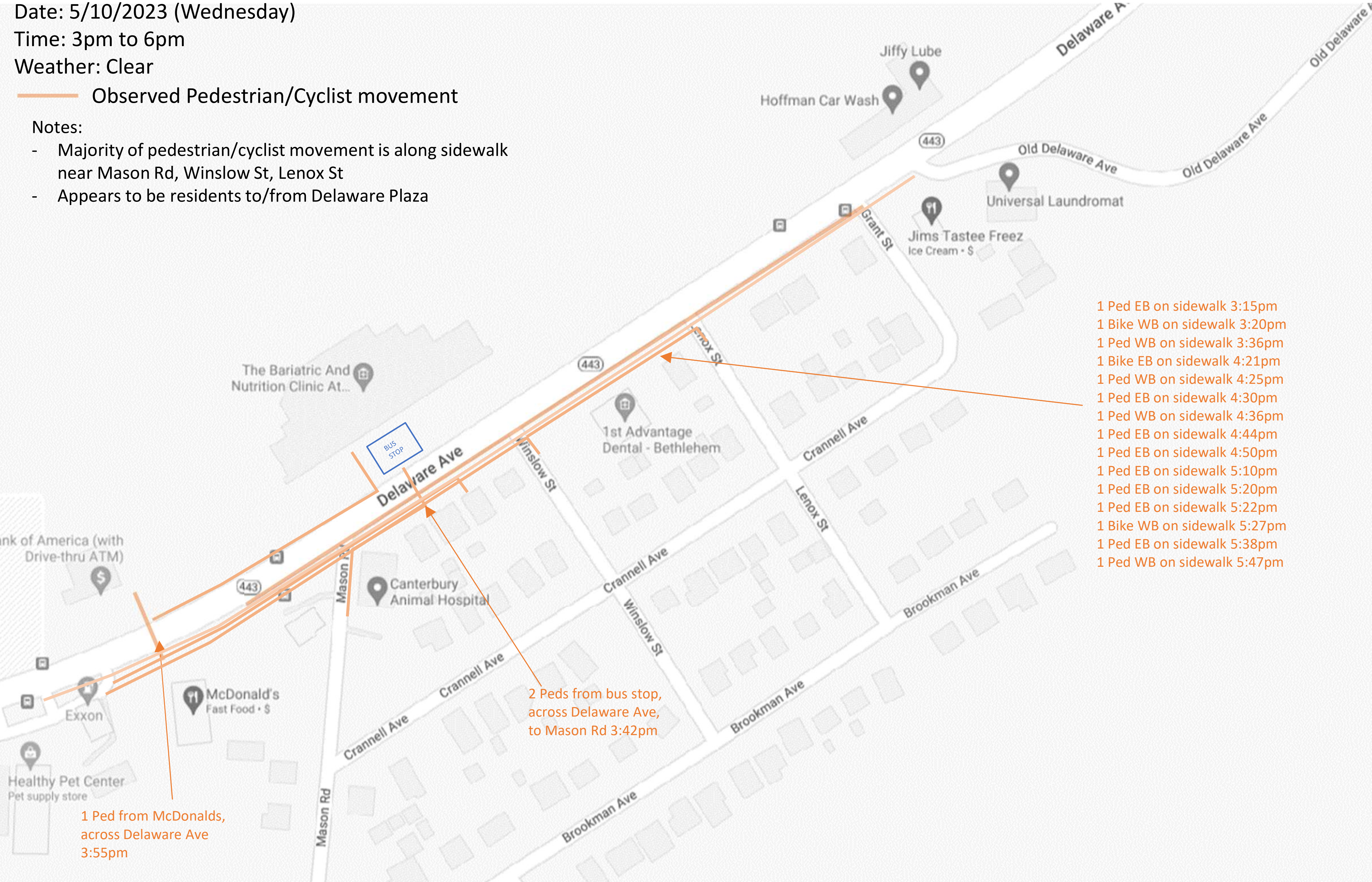
Time: 3pm to 6pm

Weather: Clear

Observed Pedestrian/Cyclist movement

Notes:

- Majority of pedestrian/cyclist movement is along sidewalk near Mason Rd, Winslow St, Lenox St
- Appears to be residents to/from Delaware Plaza



Weekday Midblock Crossing (from Mason Road to Grant Street) Demand

15 minutes

Time	Count
3:00 pm – 3:15 pm	0
3:15 pm – 3:30 pm	0
3:30 pm – 3:45 pm	0
3:45 pm – 4:00 pm	3
4:00 pm – 4:15 pm	0
4:15 pm – 4:30 pm	0
4:30 pm – 4:45 pm	0
4:45 pm – 5:00 pm	0
5:00 pm – 5:15 pm	0
5:15 pm – 5:30 pm	0
5:30 pm – 5:45 pm	0
5:45 pm – 6:00 pm	0

Hourly

Time	Hourly Count
3:00 pm – 4:00 pm	3
3:15 pm – 4:15 pm	3
3:30 pm – 4:30 pm	3
3:45 pm – 4:45 pm	3
4:00 pm – 5:00 pm	0
4:15 pm – 5:15 pm	0
4:30 pm – 5:30 pm	0
4:45 pm – 5:45 pm	0
5:00 pm – 6:00 pm	0

Hourly maximum = 3 pedestrians/hour

Town of Bethlehem – Delaware Avenue Complete Streets Project

PIN 1761.68 **CHA Project No.: 081072.000**

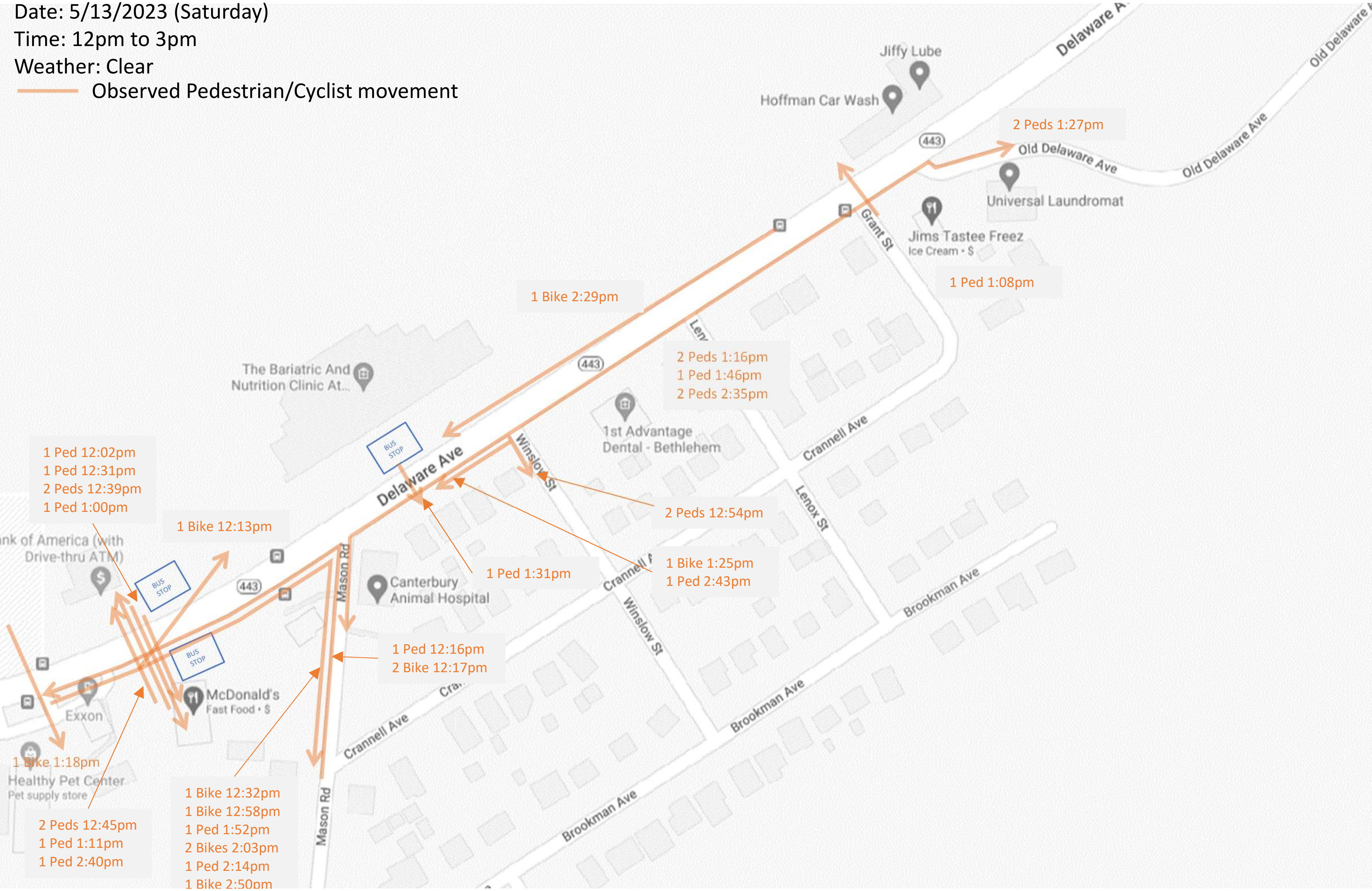
Pedestrian Observation Between Mason Road to Grant Street

Date: 5/13/2023 (Saturday)

Time: 12pm to 3pm

Weather: Clear

Observed Pedestrian/Cyclist movement



Weekend Midblock Crossing (from Mason Road to Grant Street) Demand

15 minutes

Time	Count
12:00 pm – 12:15 pm	2
12:15 pm – 12:30 pm	0
12:30 pm – 12:45 pm	3
12:45 pm – 1:00 pm	2
1:00 pm – 1:15 pm	3
1:15 pm – 1:30 pm	1
1:30 pm – 1:45 pm	1
1:45 pm – 2:00 pm	0
2:00 pm – 2:15 pm	0
2:15 pm – 2:30 pm	0
2:30 pm – 2:45 pm	1
2:45 pm – 3:00 pm	0

Hourly

Time	Hourly Count
12:00 pm – 1:00 pm	7
12:15 pm – 1:15 pm	8
12:30 pm – 1:30 pm	9
12:45 pm – 1:45 pm	7
1:00 pm – 2:00 pm	2
1:15 pm – 2:15 pm	1
1:30 pm – 2:30 pm	1
1:45 pm – 2:45 pm	1
2:00 pm – 3:00 pm	1

Hourly maximum = 9 pedestrians/hour

Appendix E

Complete Streets Checklist

Introduction

The intent of this checklist is to assist in the identification of needs for Complete Streets design features on Capital projects, including locally-administered projects.

This checklist is one tool that NYSDOT employs in its integrated approach to Complete Streets considerations. It provides a focused project-level evaluation which aids in identifying access and mobility issues and opportunities within a defined project area. For broader geographic considerations (e.g., bicycle route planning, corridor continuity), NYSDOT and other state and local agencies use a system-wide approach to identifying complete streets opportunities.

Use of this checklist is initiated during the earliest phase of a project, when information about existing conditions and needs may be limited; it is therefore likely that the Preparer will only be able to complete Steps 1 and 2 at this time. As the project progresses, and more detailed information becomes available, the Preparer will be able to complete Step 3 and continue to refine earlier answers, to give an increasingly accurate indication of needs and opportunities for Complete Streets features.

Guidance for Steps 1, 2 and 3

Based on the guidance below, the Regions will assign the appropriate staff to complete each step in the Checklist. The Preparer should have expertise in the subject matter and be able to effectively work with and coordinate comments/responses with involved Regional Groups.

- Steps 1 & 2: Preparer is from Planning; review occurs as part of the normal IPP process.
- Step 3: Preparer is Project Designer; review occurs as part of Design Approval Document review/approval process.
- For Local Projects - Local Project Sponsors will be responsible for completing all steps.

a. A check of “yes” indicates a need to further evaluate the project for Complete Streets features.

b. Use the “Comment/Action” text box for brief remarks that clarify answers and indicate direction for the project. Use the section titled “Additional comments, supporting documentation and clarifications” at the end of Step 3 of the checklist for any supporting information or remarks that do not fit in the Comment/Action text box provided. Append additional pages if necessary. For additional text entered at the end, reference the step and checklist number.

c. Answers to the questions should be checked with the local municipality, transit provider, MPO, etc., as appropriate, to ensure accuracy and evaluate needed items versus desirable items (i.e., prioritize needs).

d. Answers to the questions should be coordinated with NYSDOT Regional program areas as appropriate (e.g., Traffic and Safety, Landscape Architecture, Maintenance, etc.)

e. This checklist should be reviewed during the development of the IPP, Scoping Document, and Design Approval Document; and revisited due to a project delay or if site conditions or local planning changes during the project development process. Continued coordination with the Regional Bicycle and Pedestrian Coordinator is necessary throughout project scoping and design.

f. It will be assumed that the Project Description and Limits will be as described in the IPP for Step I, the Scoping Document for Step 2 and the Design Approval Document for Step 3. Preparers should describe any deviations from this assumption under “Preparer’s Supporting Documentation”.

g. For the purposes of this checklist, the “project area” is within 0.5 mi (800 m) for pedestrian facilities and 1.0 mi

(1600 m) for bicycle facilities. In some circumstances, bicyclists may travel up to 7 miles for a unique generator, attraction or event. These special circumstances may be considered and described as appropriate.

h. For background on Complete Streets features and terminology, please visit the following websites:

http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/design_nonmotor/highway/index.cfm
http://www.fhwa.dot.gov/publications/publicroads/10julaug/03.cfm
http://www.smartgrowthamerica.org/complete-streets/

i. Refer to *Highway Design Manual* Chapter 18, Section 18.5.1 for further information and guidance on the use of this checklist.

j. For projects with multiple sites, Preparers may choose to prepare multiple checklists for each site.

Definitions

- CAMCI (Comprehensive Asset Management/Capital Investment) Viewer - A web-based GIS application used for planning purposes and located at http://gisweb/camci/.
- Generator - A generator, in this document, refers to both origins and destinations for bicycle and/or pedestrian trips (e.g., schools, libraries, shopping areas, bus stops, transit stations, depots/terminals).
- HDM - New York State Department of Transportation's *Highway Design Manual*.
- Maintenance project - For the purposes of this checklist, maintenance projects are listed as the following project types: Rigid pavement repairs, pavement grooving, drainage system restoration, recharge basin reconditioning, SPDES facilities maintenance, underdrain installation, guide rail and/or median barrier upgrading, impact attenuator repair, and/or replacement, reference marker replacement, traffic management systems maintenance, repair and replace loop detectors, highway lighting upgrades, noise wall rehab/replacement, retaining wall rehab/replacement, graffiti removal/prevention, vegetation management, permanent traffic count detectors, weigh-in-motion detectors, slope stabilization, ditch cleaning, bridge washing/cleaning, bridge joint repair, bridge painting and crack sealing.
- MPO (Metropolitan Planning Organization) - A federally mandated and federally funded transportation policy-making organization made up of representatives from local government and governmental transportation authorities.
- Raised Pedestrian Refuge Medians and Corner Islands - Raised elements within the street at an intersection or midblock crossing that provide a clear or safety zone to separate pedestrians, bicyclists, and other non-motorized modes, from motor vehicles . See FHWA's *Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations* at http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf.
- Road diet - A transportation planning technique used to achieve systemic improvements to safety or provide space for alternate modes of travel. For example, a two-way, four lane road might be reduced to one travel lane in each direction, with more space allocated to pedestrian and cyclist facilities. Also known as a lane reduction or road re-channelization.
- Transit facilities - Includes facilities such as transit shelters, bus turnouts and standing pads.
- 1R project - A road resurfacing project that includes the placement or replacement of the top and/or binder pavement course(s) to extend or renew the existing pavement design life and to improve serviceability while not degrading safety.
- 2R project - A multicourse structural pavement and resurfacing project that may include: milling, super elevation, traffic signals, turn lanes, driveway modifications, roadside work, minor safety work, lane and shoulder widening, shoulder reconstruction, drainage work, sidewalk curb ramps, etc.

PIN:	1761.68	**Project Location:**	Delaware Ave, Delmar (Elsmere Ave to City of Alb)
Context:	◉ Urban / Village ○ Suburban ○ Rural		
Project Title:	Delaware Ave Complete Streets		

STEP 1- APPLICABILITY OF CHECKLIST

1.1	Is the project located entirely on a facility where bicyclists and pedestrians are prohibited by law and the project does not involve a shared use path or pedestrian/bicycle structure? *If **no**, continue to question 1.2. If **yes**, stop here.*	○ Yes ◉ No
1.2	a. Is this project a 1R* Maintenance project? *If **no**, continue to question 1.3. If **yes**, go to part b of this question.*	○ Yes ◉ No
1.2	b. Are there opportunities on the 1R project to improve safety for bicyclists and pedestrians with the following Complete Street features? • Sidewalk curb ramps and crosswalks • Shoulder condition and width • Pavement markings • Signing *Document opportunities or deficiencies in the IPP and **stop here.*** * *Refer to Highway Design Manual (HDM) Chapter 7, Exhibit 7-1 "Resurfacing ADA and Safety Assessment Form" under ADA, Pavement Markings and Shoulder Resurfacing for guidance.*	○ Yes ○ No
1.3	Is this project a Cyclical Pavement Marking project? *If **no**, continue to question 1.4. If **yes**, review EI 13-021* and identify opportunities to improve safety for bicyclists and pedestrians with the following Complete Streets features:* • Travel lane width • Shoulder width • Markings for pedestrians and bicyclists *Document opportunities or deficiencies in the IPP and **stop here.*** * *EI 13-021, "Requirements and Guidance for Pavement Marking Operations - Required Installation of CARDS and Travel Lane and Shoulder Width Adjustments".*	○ Yes ◉ No
1.4	Is this a Maintenance project *(as described in the "Definitions" section of this checklist)* and different from 1.2 and 1.3 projects? *If **no**, continue to Step 2. If **yes,** the Project Development Team should continue to look for opportunities during the Design Approval process to improve existing bicycle and pedestrian facilities within the scope of project. Identify the project type in the space below and **stop here.***	○ Yes ◉ No

STEP 1 prepared by: Marissa White P.E. Date: 03-04-24

STEP 2 - IPP LEVEL QUESTIONS (At Initiation)	**Comment / Action**

2.1	Are there public policies or approved known development plans (e.g., community Complete Streets policy, Comprehensive Plan, MPO Long Range and/or Bike/Ped plan, Corridor Study, etc.) that call for consideration of pedestrian, bicycle or transit facilities in, or linking to, the project area? *Contact municipal planning office, Regional Planning Group and Regional Bicycle/Pedestrian Coordinator.*	◉ Yes ○ No	NYS Complete Streets Act (2011) and Town of Bethlehem's Complete Streets Policy (2009)
2.2	Is there an existing or planned sidewalk, shared use path, bicycle facility, pedestrian-crossing facility or transit stop in the project area?	◉ Yes ○ No	Multiple ped crossings, sidewalks, and transit stops (CDTA) along the length of the project.
2.3	a. Is the highway part of an existing or planned State, regional or local bicycle route? *If **no**, proceed to question 2.4. If **yes**, go to part b of this question.* b. Do the existing bicycle accommodations meet the minimum standard guidelines of HDM Chapter 17 or the AASHTO "Guide for the Development of Bicycle Facilities"? * *Contact Regional Bicycle/Pedestrian Coordinator* ** Per HDM Chapter 17- Section 17.4.3, Minimum Standards and Guidelines.*	a. ○ Yes ◉ No b. ○ Yes ◉ No	Not in most locations, where only 11' wide travel lanes existing next to curb/sidewalk.
2.4	Is the highway considered important to bicycle tourism by the municipality or region?	◉ Yes ○ No	Yes, as a major "main Street' in the town with the nearby Albany County Rail Trail.
2.5	Is the highway affected by special events (e.g., fairs, triathlons, festivals) that might influence bicycle, pedestrian or transit users? *Contact Regional Traffic and Safety*	○ Yes ◉ No	
2.6	Are there existing or proposed generators within the project area (*refer to the "Guidance" section*) that have the potential to generate pedestrian or bicycle traffic or improved transit accommodations? *Contact the municipal planning office, Regional Planning Group, and refer to the CAMCI Viewer, described in the "Definitions" section.*	◉ Yes ○ No	Elsmere Elementary School, Delaware Plaza (retail strip mall), Albany County Rail Trail, Normanskill Preserve, CDTA bus stops
2.7	Is the highway an undivided 4 lane section in an urban or suburban setting, with narrow shoulders, no center turn lanes, and existing Annual Average Daily Traffic (AADT) < 15,000 vehicles per day? *If **yes**, consider a road diet evaluation for the scoping/design phase. Refer to the "Definitions" section for more information on road diets.*	○ Yes ◉ No	2023 AADT 17,557. A Road diet was considered and rejected by the public.

2.8	Is there evidence of pedestrian activity (e.g., a worn path) and no or limited pedestrian infrastructure?	◉ **Yes** ○ **No**	Insufficient safe ped crossings between Elsmere Ave and Delaware Plaza as well as between Delaware Plaza and City of Alb.

STEP 2 prepared by: Marissa White P.E. Date: 03/04/2024

Bicycle/Pedestrian Coordinator has been provided an opportunity to comment: ○ **Yes** ○ **No**

ATTACH TO IPP AND INCLUDE RECOMMENDATIONS FOR SCOPING/DESIGN.

STEP 3 - PROJECT DEVELOPMENT LEVEL QUESTIONS (Scoping/Design Stage)			**Comment / Action**
3.1	Is there an identified need for bicycle/pedestrian/ transit or "way finding" signs that could be incorporated into the project?	○ **Yes** ◉ **No**	
3.2	Is there history of bicycle or pedestrian crashes in the project area for which improvements have not yet been made?	◉ **Yes** ○ **No**	3- year crash study with 2 serious injury vehicular crashes into ped (1) and bike (1)
3.3	Are there existing curb ramps, crosswalks, pedestrian traffic signal features, or sidewalks that don't meet ADA standards per [HDM Chapter 18]?	◉ **Yes** ○ **No**	Some ramps missing detectable warning surfaces. Some do not meet ADA grade requirements. Both signals lack APS butttons
3.4	Is the posted speed limit is 40 mph or more and the paved shoulder width less than 4' (1.2 m) (6' in the Adirondack or other State Park)? *Refer to EI 13-021.*	◉ **Yes** ○ **No**	
3.5	Is there a perceived pedestrian safety or access concern that could be addressed by the use of traffic calming tools (e.g., bulb outs, raised pedestrian refuge medians, corner islands, raised crosswalks, mid-block crossings)?	◉ **Yes** ○ **No**	Mid-block crossing is difficult. Addition of mid-block crossings with raised median refuge islands and speed limit reduction are desired.
3.6	Are there conflicts among vehicles (moving or parked) and bike, pedestrian or transit users which could be addressed by the project?	◉ **Yes** ○ **No**	Lack of mid-block crossings result in Peds crossing dangerously unprotected across the existing 4-lane roadway.
3.7	Are there opportunities (or has the community expressed a desire) for new/improved pedestrian-level lighting, to create a more inviting or safer environment?	○ **Yes** ◉ **No**	
3.8	Does the community have an existing street furniture program or a desire for street appurtenances (e.g., bike racks, benches)?	○ **Yes** ◉ **No**	

3.9	Are there gaps in the bike/pedestrian connections between existing/planned generators? *Consider locations within and in close proximity of the project area. (Within 0.5 mi (800 m) for pedestrian facilities and within 1.0 mi (1600 m) for bicycle facilities.)*	(•) Yes ( ) No	Insufficient safe ped crossings between Elsmere Ave and Delaware Plaza as well as between Delaware Plaza and City of Alb.
3.10	Are existing transit route facilities (bus stops, shelters, pullouts) inadequate or in inconvenient locations? (e.g., not near crosswalks) *Consult with Traffic and Safety and transit operator, as appropriate*	(•) Yes ( ) No	Bus stop near Hoffman's Car wash with no sidewalk accessibility.
3.11	Are there opportunities to improve vehicle parking patterns or to consolidate driveways, (which would benefit transit, pedestrians and bicyclists) as part of this project?	(•) Yes ( ) No	Some opportunities to consolidate driveways will take occur.
3.12	Is the project on a “local delivery” route and/or do area businesses rely upon truck deliveries that need to be considered in design?	(•) Yes ( ) No	Many commercial properties along the project that require deliveries.
3.13	Are there opportunities to include green infrastructure which may help reduce stormwater runoff and/or create a more inviting pedestrian environment?	(•) Yes ( ) No	A raised grass median planter / Gateway being planned at the eastern project limit (near Albany).
3.14	Are there opportunities to improve bicyclist operation through intersections and interchanges such as with the use of bicycle lane width and/or signing?	(•) Yes ( ) No	However, a road concept that was to add a bicycle lane in each direction, was rejected by the public.

STEP 3 prepared by: Marissa White P.E. Date: 03/04/2024

Additional comments, supporting documentation and clarifications for answers in step 1, 2 or 3:

Appendix F

Pavement Cores Memo

Technical Memorandum

To: Joe Cimino, CHA

From: Adam Bryant, CHA
Scott Doehla, CHA

Date: January 26, 2024

Re: **Pavement Core Exploration**
Delaware Avenue Complete Streets
Bethlehem, New York
CHA Project # 81072.3000

INTRODUCTION & PROJECT DESCRIPTION

CHA was retained by the Town of Bethlehem for a complete streets design for a portion of Delaware Avenue. As part of the design effort, CHA performed a pavement exploration along the project alignment.

The project begins near the intersection with Hudson Avenue and extends approximately 1.4 miles west along Delaware Avenue in Bethlehem, New York. The project site alignment is shown on *Figure 1: Site Location Map*, attached to this memo. Delaware Avenue is a two to four lane, asphalt paved road with sidewalks on both sides that is bounded by wooded areas, parking lots, commercial and residential buildings. The project site slopes down from west to east, with surface elevations across the alignment ranging from approximately 150 feet to 200 feet based on a site survey. Photos of the project site are provided in the Site and Exploration Photolog, attached to this memo.

SUBSURFACE INVESTIGATION

Pave Cores and Soil Sampling

CHA conducted a subsurface exploration program consisting of eight (8) pavement cores designated as PC-1 through PC-8. Pavement cores PC-1, PC-5, PC-6 and PC-8 were performed within the eastbound travel lanes, and pavement cores PC-2, PC-3, PC-4 and PC-7 were performed within the westbound travel lane. The pavement cores were completed between November 13 and November 14, 2023, to termination depths of 1.0 to 1.4 feet below grade. The pavement cores were backfilled with asphalt patch upon completion of coring.

The pavement cores were located on-site by measuring from existing site features. Ground surface elevations within the roadway were not available on the site survey. Ground surface elevations at the pavement core locations are interpolated from nearby spot elevations on the site survey. The location of the pavement cores should be considered accurate only to the degree implied by the method used to determine them. The pavement core locations are shown on *Figures 2 through 17: Subsurface Exploration Plans*, attached to this memo.

CHA retained Atlantic Testing Laboratories, Ltd. of Clifton Park, New York to advance the pavement cores. The field exploration was performed under the observation of a CHA geotechnical engineer who observed and described soil samples and prepared field logs documenting the subsurface conditions. Typed copies of the pavement core logs are attached to this memo.

The pavement cores were performed by a Husqvarna DMS-240 portable core machine using a 6-inch diameter core bit. Photos of each pavement core are provided in the Pavement Core Photo Log, attached to this memo. Grab samples were obtained below the pavement section upon the completion of pavement coring. Classification of soils was performed in general conformance to ASTM Standards D2487 and D2488.

SUBSURFACE CONDITIONS

Regional Geology

According to the *Surficial Geologic Map of New York, Hudson-Mohawk Sheet (Cadwell, D.H., et.al, 1987)*, the surficial geology consists of dune deposits, lacustrine silt and clay, and recent alluvium.

According to the *Geologic Map of New York, Hudson-Mohawk Sheet (Fisher, D., et.al, 1970)*, the underlying bedrock geology consist of Normanskill Shale.

Subsurface Stratigraphy

Subsurface conditions encountered in the pavement cores are detailed and described on the attached pavement core logs. A general description of the subsurface conditions encountered is provided below.

Asphalt Pavement –Asphalt pavement was encountered at the ground surface in all pavement core borings and extended to depths ranging from 0.75 to 1.1 feet below grade. The asphalt pavement consisted of a top course over a base course. The pavement thickness encountered in each pavement core boring is identified in *Table 1 – Pavement Thickness*.

Subbase – A layer of subbase was encountered below the asphalt pavement in all pavement core locations and extended to termination depths ranging from 1.0 to 1.4 feet below grade. The subbase consisted of fine to coarse gravel or fine to coarse sand with varying amounts of silt. The subbase was described as brown or gray and visually classified as wet.

Table 1 – Pavement Thicknesses

Pavement Core ID Number	Project Stationing	Measured Asphalt Top Course Thickness (in)	Measured Asphalt Base Course Thickness (in)
PC-1	109+53	2	9.5
PC-2	103+97	5.5	7
PC-3	94+82	3	7
PC-4	88+65	3.5	6.75
PC-5	75+25	2	7
PC-6	69+29	3	8
PC-7	60+54	2.5	8
PC-8	54+13	2	7

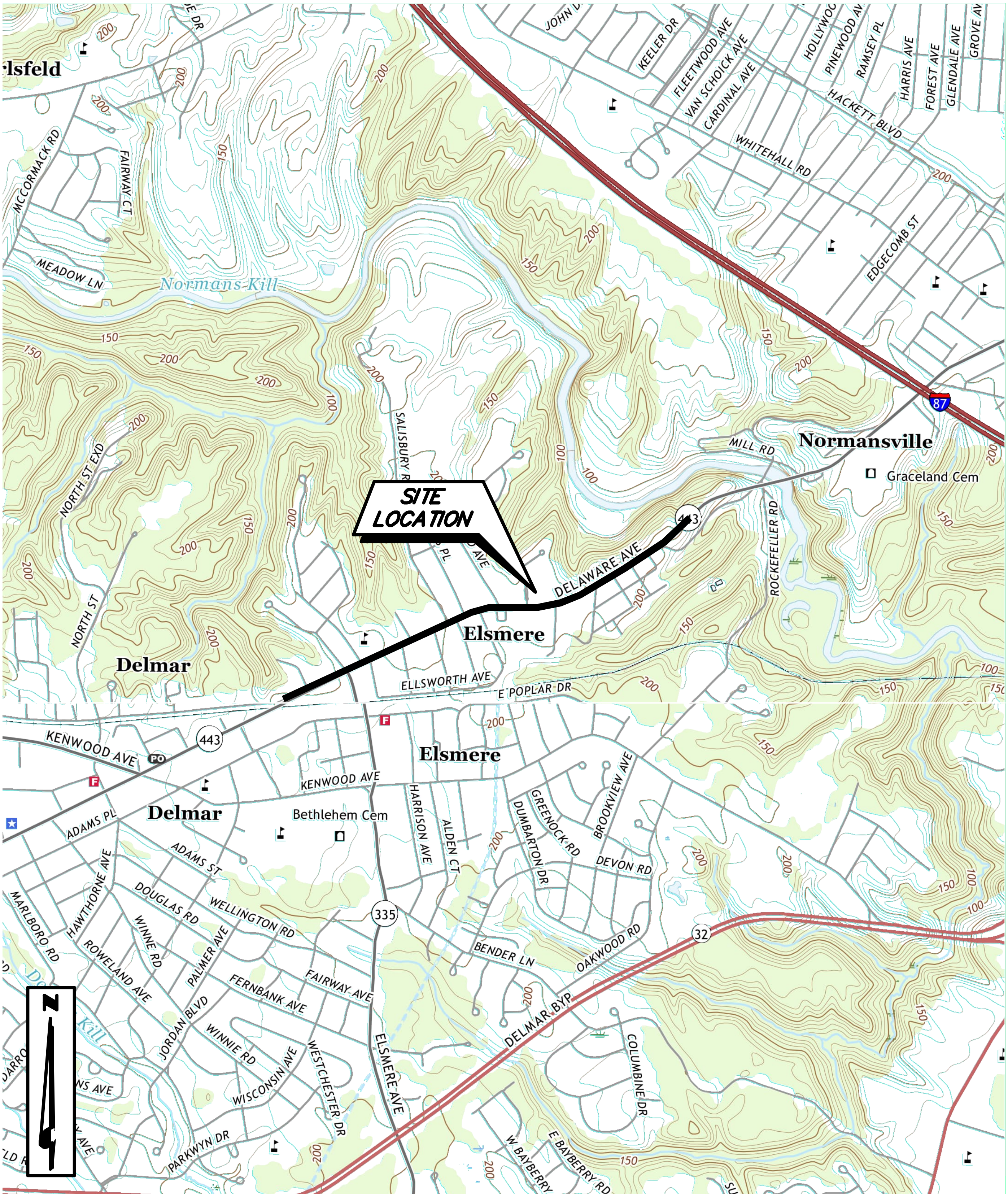
CLOSURE

The geotechnical data presented in this memo is based, in part, on project and subsurface information available at the time this memo was prepared and in accordance with generally accepted soil engineering practices. No other warranty, expressed or implied, is made. Some variation of subsurface conditions may occur between locations explored that may not become evident until construction.

ATTACHMENTS

- Figure 1: Site Location Map
- Figures 2 through 17: Subsurface Exploration Plan
- Site and Exploration Photo Log

FIGURES



SOURCE: U.S.G.S. 7.5' Topographic
QUADRANGLES: ALBANY AND DELMAR, NY

SCALE: 1"=2000'

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

SITE LOCATION MAP

DELAWARE AVENUE
COMPLETE STREETS PROJECT
BETHLEHEM, NEW YORK

PROJECT NO. 081072

DATE: 01/2024

FIGURE 1

File: V:\PROJECTS\ANY\K6\081072.000\09_DESIGN\DRAWINGS\GEO\081072_SITELOC.DWG Saved: 12/21/2023 6:00:39 PM Plotted: 1/4/2024 2:29:40 PM User: Gray, Timmolyn

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_2.dgn
DATE/TIME = 16-JAN-2024
USER = 3511

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 2
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_3.dgn
DATE/TIME = 16-JAN-2024
USER = 3511

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

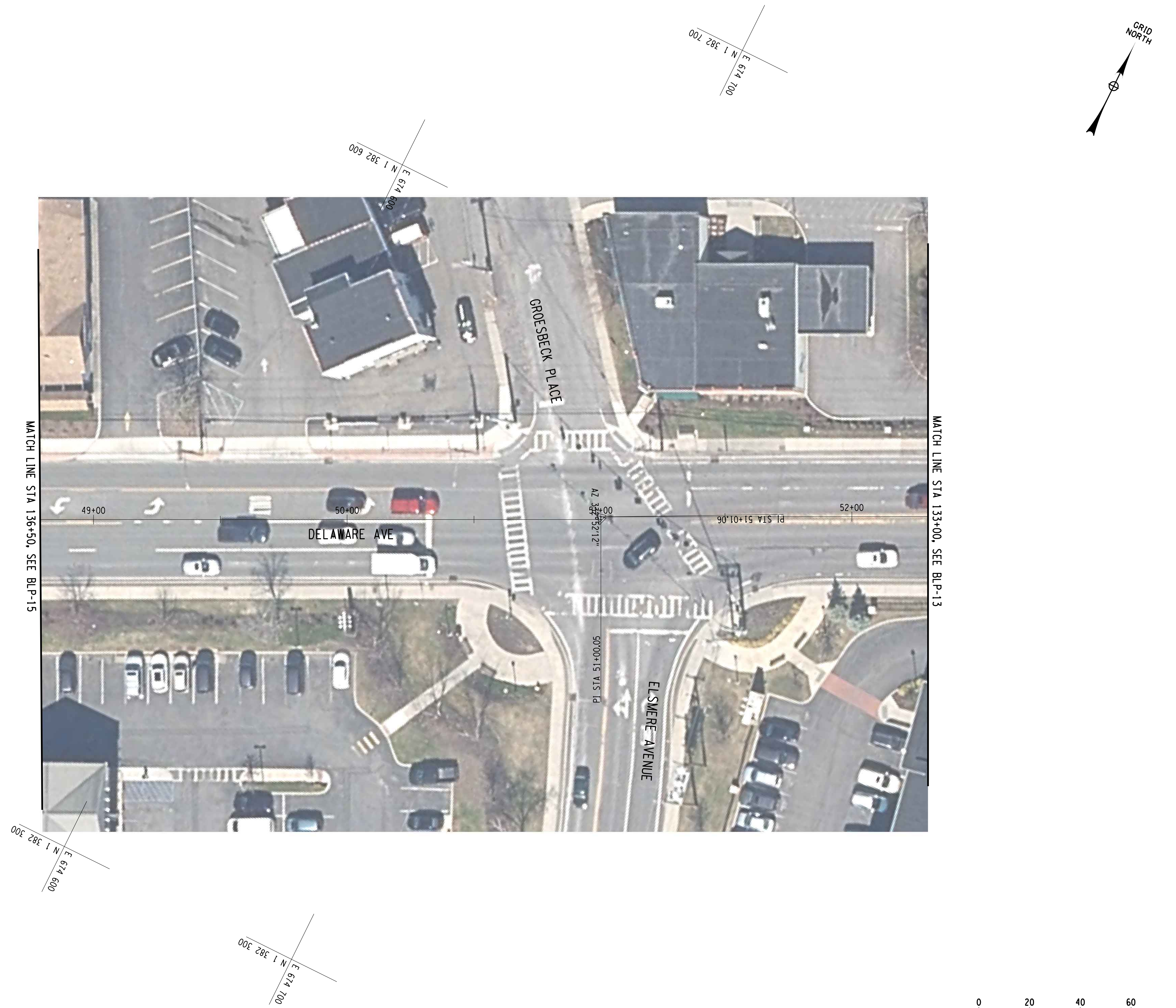
TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 3
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX



III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

No.	Submittal / Revision	Appd.	Date

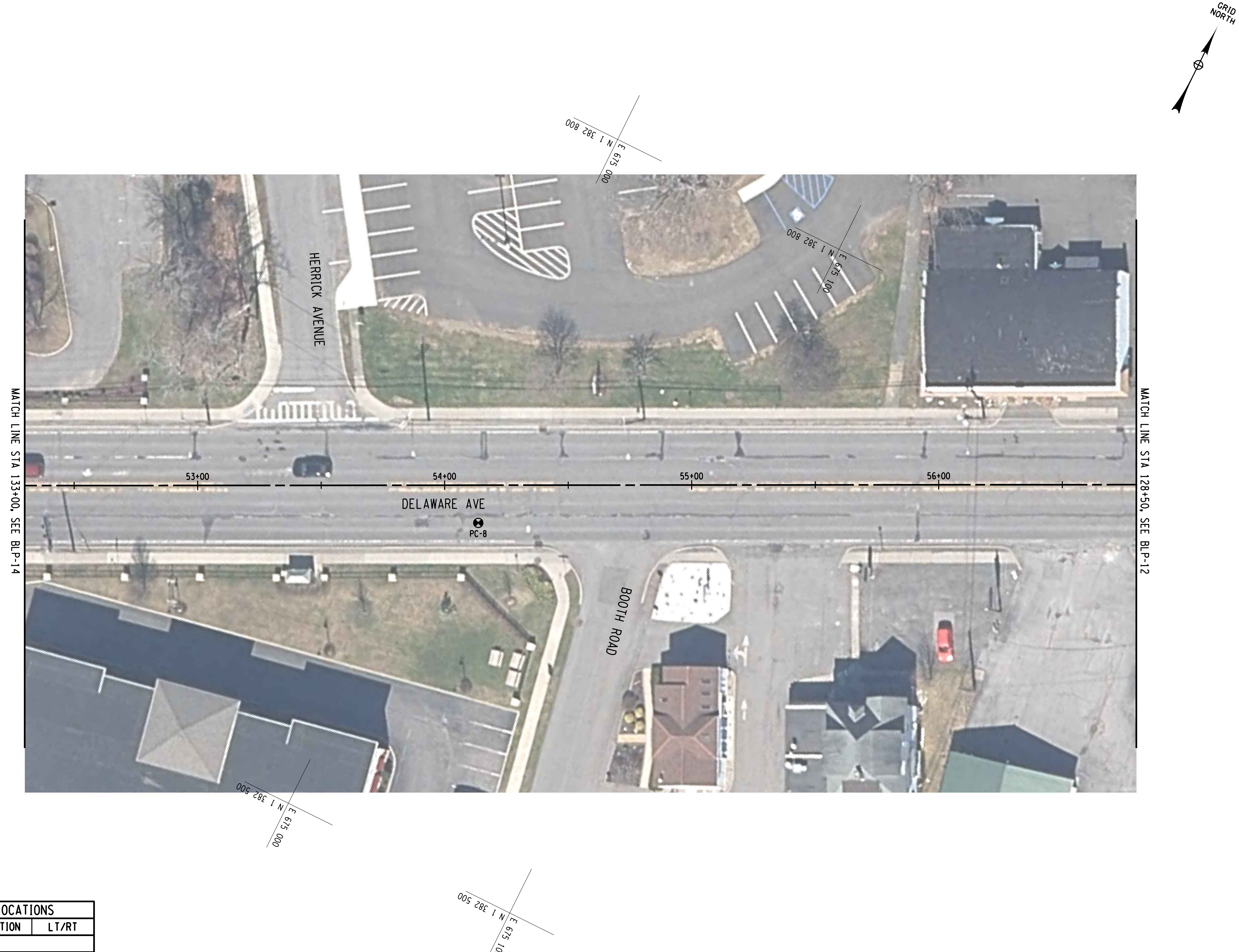
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 4
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX



BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-8	54+13	LT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_5.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

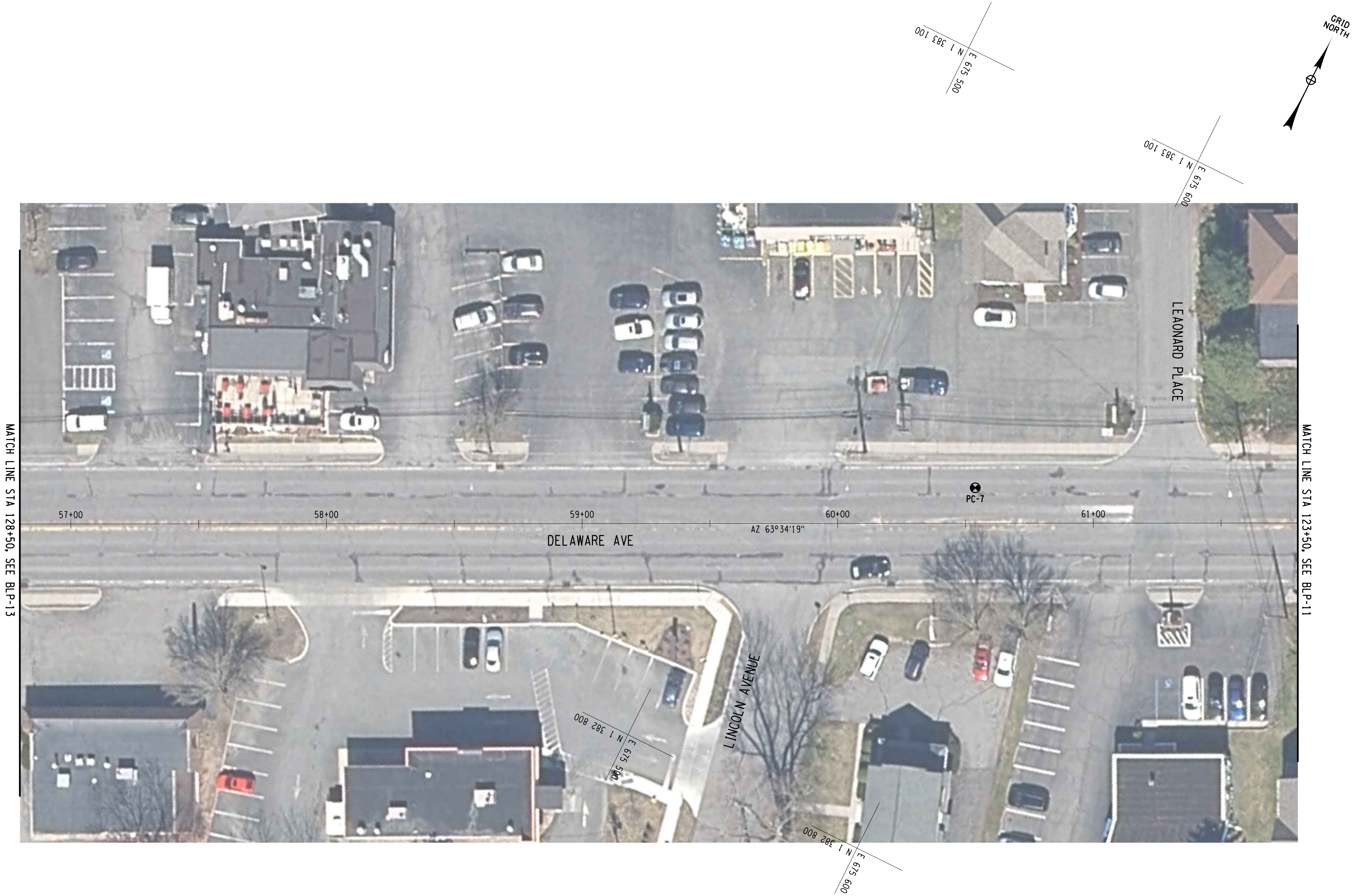
Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 5
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION



BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-7	60+54	RT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**FIG. 6**
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_6.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

Drawing Copyright © 2023

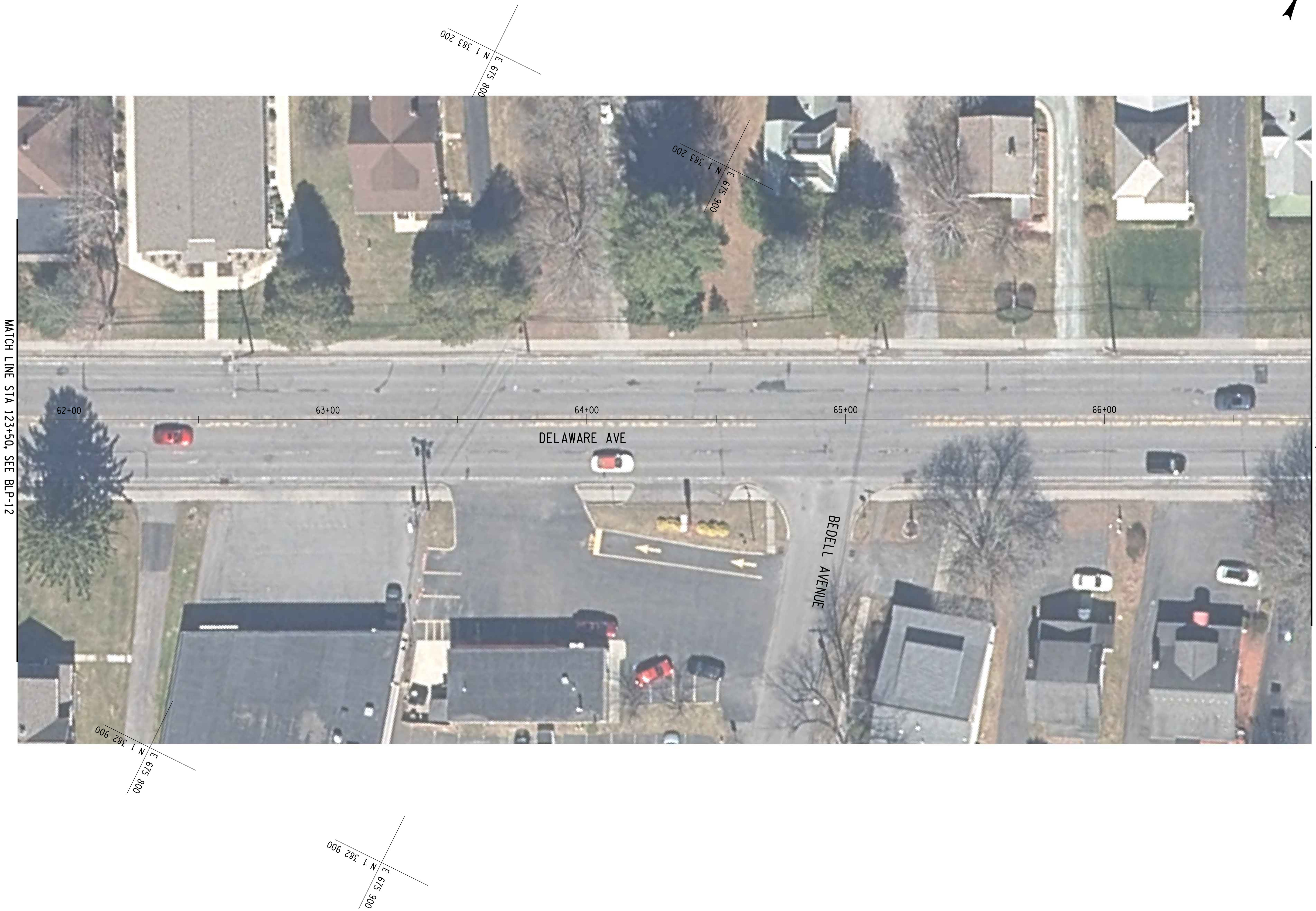
CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

MATCH LINE STA 123+50, SEE BLP-12



MATCH LINE STA 118+50, SEE BLP-10

GRID NORTH

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	
Drawn By: A. DAMES	Scale: AS SHOWN	**FIG. 7**
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX

0 20 40 60 80'
SCALE

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_7.dgn
DATE/TIME = 16-JAN-2024
USER = 3511

BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-6	69+80	LT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_8.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**FIG. 8**
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-5	75+25	LT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_9.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

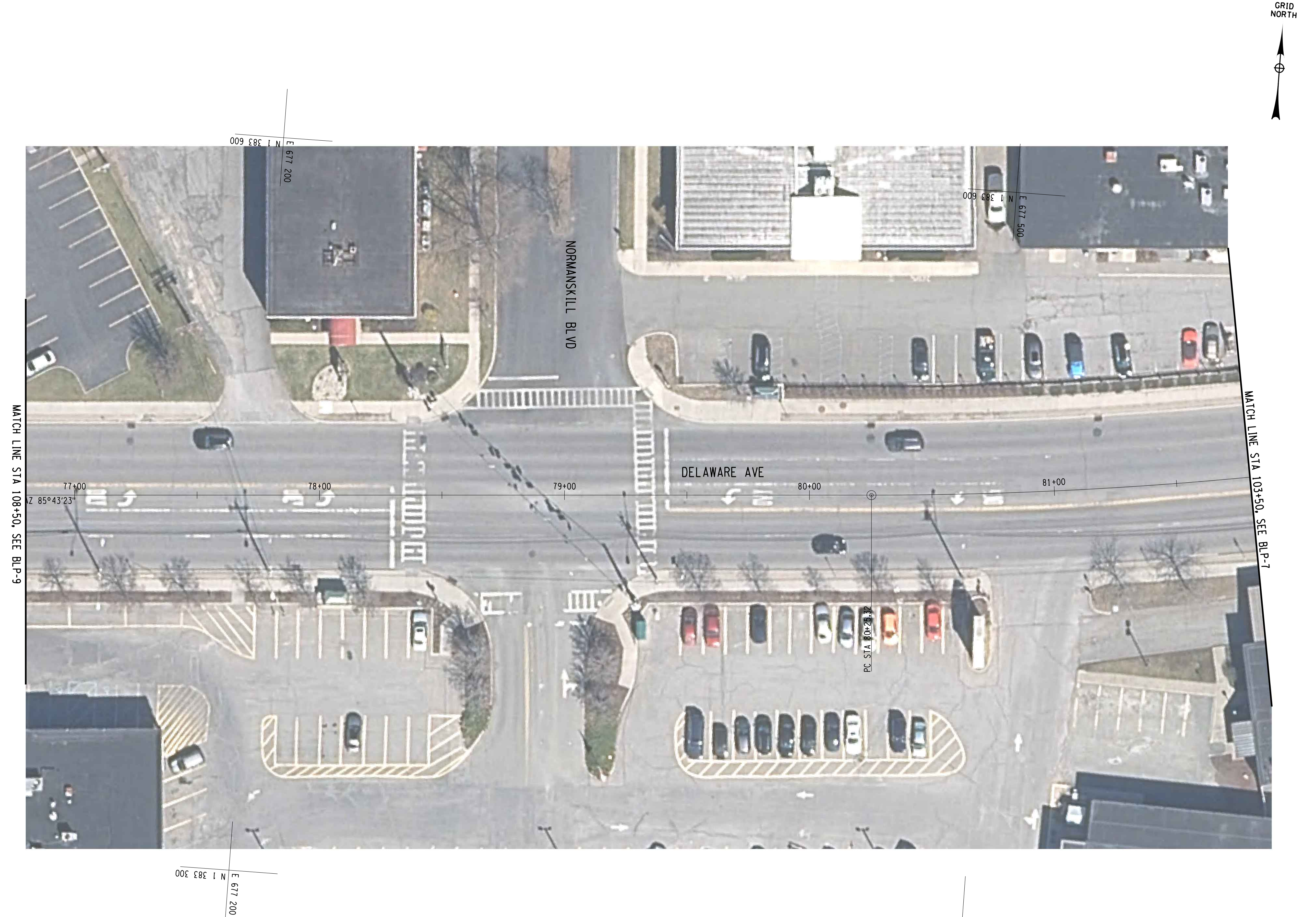
TOWN OF BETHLEHEM N.Y.
1609
FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 9
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX



0 20 40 60 80'

SCALE

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	
Drawn By: A. DAMES	Scale: AS SHOWN	**FIG. 10**
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_10.dgn
DATE/TIME = 16-JAN-2024
USER = 3511

Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

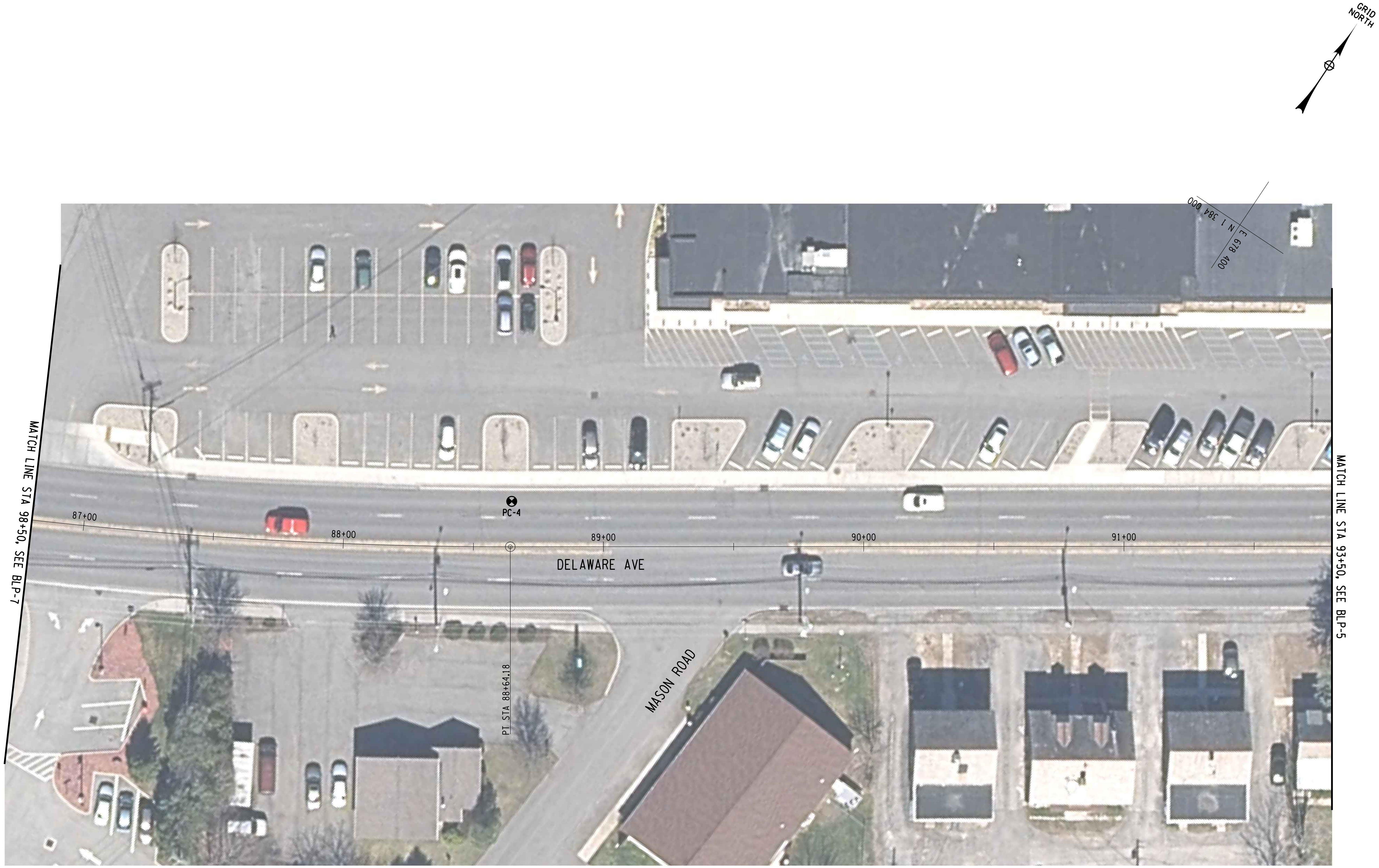
DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 11
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_11.dgn
DATE/TIME = 16-JAN-2024
USER = 3511



BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-4	88+65	RT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 12
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_12.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-3	94+82	RT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_13.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 HENRY HUDSON FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

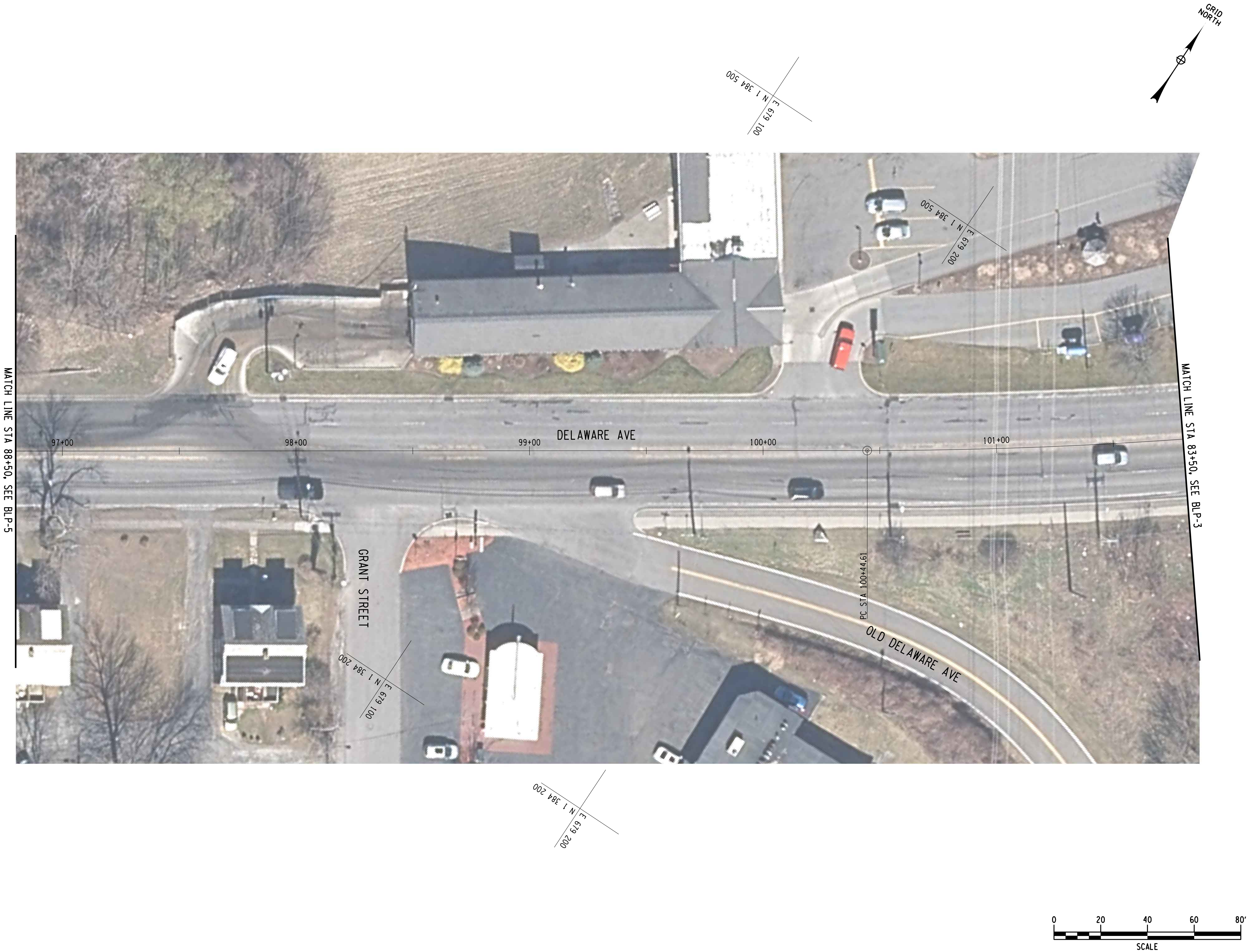
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	FIG. 13
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX



CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

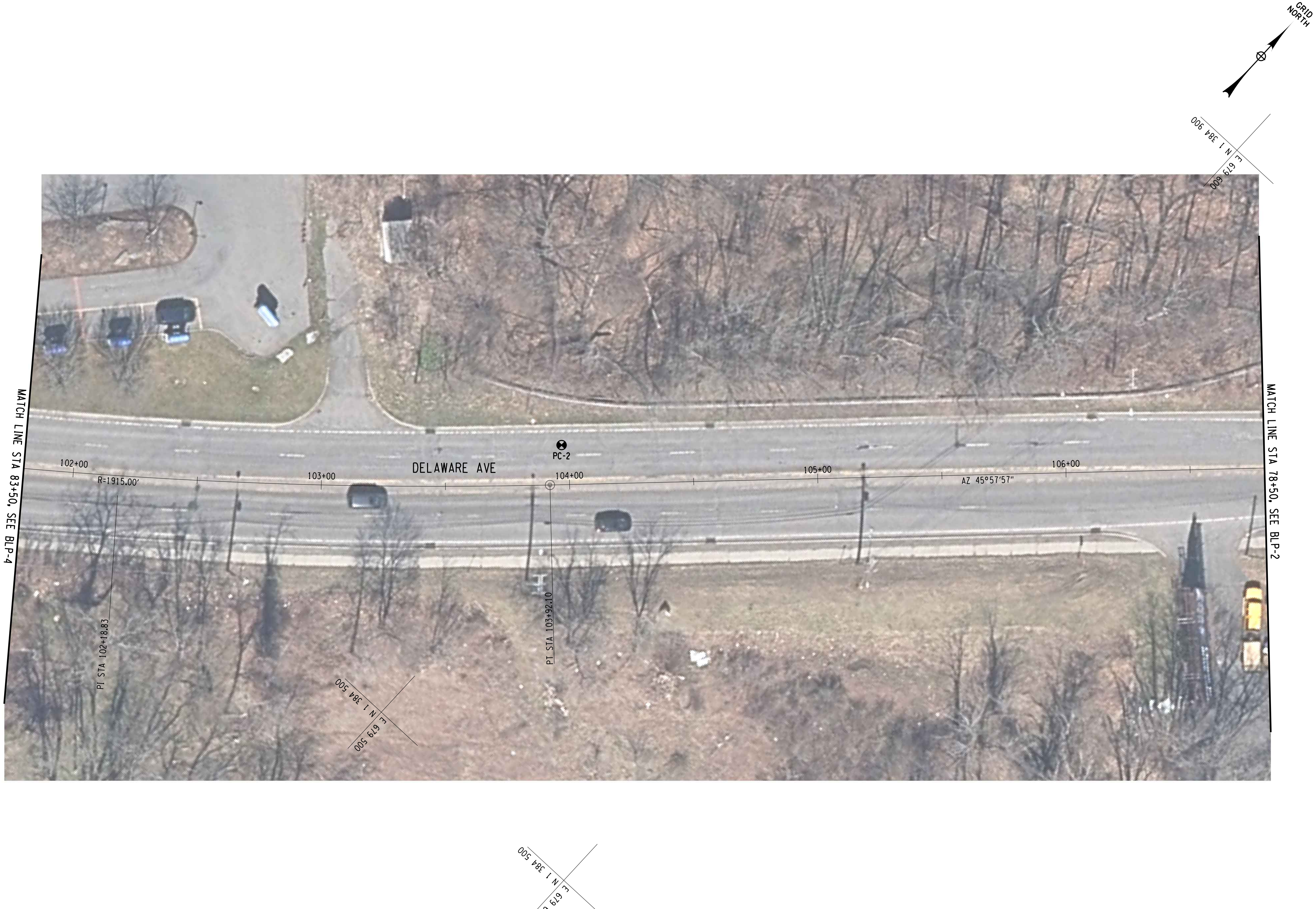
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 14
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 16-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_14.dgn
DATE/TIME = 16-JAN-2024
USER = 3511



BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-2	103+95	RT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_15.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 15
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

BORING LOCATIONS		
BORING #	STATION	LT/RT
DELAWARE AVENUE		
PC-1	109+50	LT
NOTE: ALL LOCATIONS ARE APPROXIMATE		

0 20 40 60 80'
SCALE

FILE NAME = \\cha-llp.com\proj\Projects\ANYK6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_16.dgn
DATE/TIME = 17-JAN-2024
USER = 3511

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	FIG. 16
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 17-JAN-2024	SHEET XX

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

SUBSURFACE EXPLORATION PLAN

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	
Drawn By:	Scale:	**FIG. 17**
A. DAMES	AS SHOWN	
Checked By:	Plot Date:	
J. SHIELDS	16-JAN-2024	SHEET XX

FILE NAME = \\cha-llp.com\proj\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\BoringPlans\081072_cph_blp_fig_17.dgn
DATE/TIME = 16-JAN-2024
USER = 3511

SITE AND EXPLORATION PHOTO LOG

1

Pavement core operations at BL-1, looking northeast

2

Patched pavement core location BL-3, looking north

CHA	**Delaware Avenue Complete Streets** **Bethlehem, NY**
CHA # 81072.3000	November 2023

3

Pavement core operations at BL-4, looking southwest

4

Completed pavement core at BL-5, looking east

5

Pavement core hole at BL-7

6

Traffic control at BL-8, looking northeast

PAVEMENT CORE PHOTO LOG

1

Pavement Core BL-1

2

Pavement Core BL-2

	Delaware Avenue Complete Streets **Bethlehem, NY**
CHA # 81072.3000	November 2023

3

Pavement Core BL-3

4

Pavement Core BL-4

5

Pavement Core BL-5

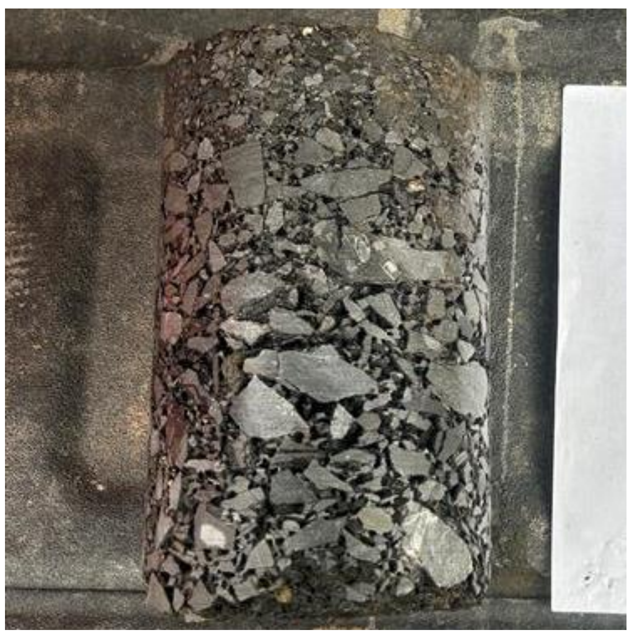
6

Pavement Core BL-6

7

Pavement Core BL-7

8



Pavement Core BL-8

LEGEND TO SUBSURFACE LOGS

LEGEND TO SUBSURFACE LOGS

SAMP./CORE NUMBER	SAMP. ADV(ft) LEN CORE(ft)	RECOVERY (ft)	Blows per 6" on Split Spoon Sampler	"N" VALUE or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	Remarks on Character of Drilling, water return, etc	WATER LEVELS AND/OR WELL DATA
S1	2.0	1.8	2-3-4-5	7				f. SAND, Some Silt, trace f. gravel, brown, loose, moist (SM)	100		
R1	2.0	2.0	N/A	88%				Mica SCHIST, gray, soft, slightly weathered, closely fractured, good RQD			
1	2	3	4	5	6	7	8	9 (10)	11	12	13

Subsurface Logs present material classifications, test data, and observations from subsurface investigations at the subject site as reported by the inspecting geologist or engineer. In some cases, the classifications may be made based on laboratory test data when available. It should be noted that the investigation procedures only recover a small portion of the subsurface materials at the site. Therefore, actual conditions between borings and sampled intervals may differ from those presented on the Subsurface Logs. The information presented on the logs provide a basis for an evaluation of the subsurface conditions and may indicate the need for additional exploration. Any evaluation of the conditions reported on the logs must be performed by Professional Engineers or Geologists.

1. SAMP./CORE NUMBER – Samples are numbered for identification on containers, laboratory reports or in text reports.

2. SAMP.ADV/LEN.CORE – Length of sampler advance or length of coring run measured in feet.

3. RECOVERY – Amount of sample actually recovered after withdrawing sampler or core barrel from bore hole measured in feet.

4. SAMPLE BLOWS/6" – Unless otherwise noted, blow counts represent values obtained by driving a 2.0" (O.D.), 1-3/8" (I.D.) split spoon sampler into the subsurface strata with a 140 pound weight falling 30" as per ASTM International D1586. After an initial penetration of 6" to seat the sampler into undisturbed material, the sampler is then driven an additional 2 or 3 six inch increments. Refusal is defined as a resistance greater than 50 blows per 6" of penetration.

5. "N" Value or RQD % – "N" VALUE – The sum of the second and third sample blow increments is generally termed the Standard Penetration Test (SPT) "N" value. Refusal (R) is defined as a resistance greater than 50 blows for 6 inches of penetration. CORE RQD – Core Rock Quality Designation, RQD, is defined as the summed length of all pieces of core equal to or longer than 4 inches divided by the total length of the coring run. Fresh, irregular breaks distinguishable as being caused by drilling or recovery operations are ignored and the pieces are counted as intact lengths. RQD values are valid only for cores obtained with NX size core barrels.

6. SAMPLE – Graphical presentation of sample type and advance or core run length. See Table 1.

7. DEPTH – Depth as measured from the ground surface in feet.

8. GRAPHICS – Graphical presentation of subsurface materials. See Table 4. Dual soil classification and rock graphics may vary and are not shown on Table 4.

9. DESCRIPTION AND CLASSIFICATION – SOIL – Recovered samples are visually classified in the field by the supervising geologist or engineer unless otherwise noted. Particle size and plasticity classification is based on field observations, and using the Unified Soil Classification System (USCS). See Table 4. USCS symbols are presented in parentheses following the soil description. Where necessary, dual symbols may be used for combinations of soil types. Relative proportions, by weight and/or plasticity, are described in general accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Publication 479, 6-1970. See Table 2. Soil density or consistency description is based on the penetration resistance. See Table 3. Soil moisture description is based on the observed wetness of the soil recovered being moist or wet. Water introduced into the boring during drilling may affect the moisture content of the materials. Other geologic terms may also be used to further describe the subsurface materials. ROCK – Rock core descriptions are based on the inspector's observations and may be examined and described in greater detail by the project engineer or geologist. Terms used in the description of rock core are presented in Table 5.

10. DIVISION LINES – Division lines between deposits are based on field observations and changes in recovered material. Solid lines depict contacts between two deposits of different geologic depositional environment of known elevation. Dashed lines represent estimated elevation of contacts between two deposits of different geologic depositional environment. Dotted lines depict transitions of deposits within the same depositional environment, such as grain size or density.

11. ELEVATION – Elevation of strata changes in feet.

12. REMARKS – Miscellaneous observations.

13. WATER LEVELS & WELL DATA – Hollow water level symbol, if present, represents level at which first saturated sample or water level was encountered. Solid water level symbol, if present, depicts the most probable static water elevation at the time of drilling or as measured in an installed observation well at a later date. Subsurface water conditions are influenced by factors such as precipitation, stratigraphic composition, and drilling/coring methods. Conditions at other times may differ from those described on the logs. For graphical presentation of observation/monitoring well construction, see Table 6. Elevations of changes in construction are noted at the bottom of each section.

File: V:\STANDARDS\GEO\LOG LEGENDS\USCS\LL-ENG-USCS.DWG Saved: 5/15/2017 5:30:22 PM PLotted: 5/16/2017 9:35:24 AM User: Gray, Timmolyn

CHA

LEGEND TO SUBSURFACE LOGS

TABLE 1 TYPICAL SAMPLE TYPES

- SPLIT SPOON (1 3/8" I.D.)
- NX SIZE ROCK CORE
- SHELBY TUBE "UNDISTURBED"
- AUGER SAMPLE

TABLE 2 SAMPLE MATERIAL PROPORTIONS

ADJECTIVE	PERCENTAGE OF SAMPLE
"and"	35% – 50%
"some"	20% – 35%
"little"	10% – 20%
"trace"	< 10%

Standard split spoon samples may not recover particles with any dimension larger than 1 3/8". Therefore, reported gravel percentages may not reflect actual conditions.

TABLE 3 DENSITY/CONSISTENCY

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	Density	Blows/ft.	Consistency
< 5	Very Loose	< 2	Very Soft
5–10	Loose	2–4	Soft
11–30	Med. Compact	5–8	Med. Stiff
31–50	Compact	9–15	Stiff
> 50	Very Compact	16–30	Very Stiff
		> 30	Hard

TABLE 4 USCS CLASSIFICATION, PARTICLE SIZE, & GRAPHICS

MAJOR PARTICLE SIZE DIVISION		USCS SYMBOL	GRAPHIC SYMBOL	GENERAL DESCRIPTION
COARSE GRAINED SOILS	GRAVEL Coarse: 3"–3/4" Fine: 3/4"–#4 Classification based on > 50% being gravel	GW		Well graded gravels, gravel & sand mix.
		GP		Poorly graded gravels, gravel & sand mix.
		GM		Gravel, sand and silt mix.
		GC		Gravel, sand and clay mix.
	SAND Coarse: #4–#10 Med.: #10–#40 Fine: #40–#200 Classification based on > 50% being sand	SW		Well graded sand, sand & gravel mix.
		SP		Poorly graded sand, sand & gravel mix.
		SM		Sand and silt mix.
		SC		Sand and clay mix.
FINE GRAINED SOILS	SILT & CLAY Classification based on > 50% passing #200 sieve.	ML		Inorganic silt, low plasticity.
		CL		Inorganic clay, low plasticity.
		OL		Organic silt/clay, low plasticity.
		MH		Inorganic silt, high plasticity.
		CH		Inorganic clay, high plasticity.
		OH		Organic silt/clay, high plasticity.
ORGANIC SOILS		Pt		Peat and other highly organic soils.
FILL		Fill		Miscellaneous fill materials.

TABLE 5 ROCK CLASSIFICATION TERMS

HARDNESS:

Very Soft	Carves
Soft	Grooves with knife
Med. Hard	Scratched easily with knife
Hard	Scatched with difficulty
Very Hard	Cannot be scratched with knife

WEATHERING:

Fresh	Slight or no staining of fractures, little or no discoloration, few fractures.
Slightly	Fractures stained, discoloration may extend into rock 1", some soil in fractures.
Moderately	Significant portions of rock stained and discolored, soil in fractures, loss of strength.
Highly	Entire rock discolored and dull except quartz grains, severe loss of strength.
Complete	Weathered to a residual soil.

BEDDING:		FRACTURE SPACING:		RQD:	
Massive	> 40"	Massive/V. Wide	> 6'	Excellent	> 90%
Thick	12' – 40"	Thick/Wide	2' – 6'	Good	76% – 90%
Medium	4" – 12"	Med./Med.	8" – 24"	Fair	51% – 75%
Thin	< 4"	Thin/Close	2 1/2" – 8"	Poor	25% – 50%
		V. Thin/V. Close	< 2 1/2"	V. Poor	< 25%

TABLE 6 WELL CONSTRUCTION

- SOLID PVC PIPE
- SCREENED PVC PIPE
- STAINLESS STEEL SCREENED PIPE
- FINE GRAINED WASHED SAND
- WASHED SAND
- BENTONITE PLUG
- AIR ENTRAINED CEMENT
- NATURAL SOIL/ ROCK FILL
- BENTONITE/ CEMENT GROUT

PAVEMENT CORE LOGS

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-1

PROJECT NUMBER: 81072.3000

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0' / DRILLING METHOD: 6" Core Bit / ROD SIZE: N/A
CLIENT: Town of Bethlehem, New York	HAMMER TYPE: N/A / DRILL RIG: Core Machine
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	START: 11/14/2023 9:25:00 AM / FINISH: 11/14/2023 9:40:00 AM
DRILLER: S. Moore / INSPECTOR: A. Bryant	
CHECKED BY: S. Doehla	
COORDS. NORTHING: 1384977.10 EASTING: 679910.87	
SURFACE ELEV: 170.0 (ft; Estimated) DATUM: NAD83 / NAVD88	

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-14-23	9:40 AM	Completion	1.1	N/A	1.2
11-14-23	9:45 AM	Completion	None	N/A	1.2

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								ASPHALT PAVEMENT		Water drained from core hole at completion of coring.	
C-1	1									2-inches top course, 9.5-inches base course.	
						1		**f.c. GRAVEL**, Some f.m.c. Sand, trace silt, gray, wet **(SUBBASE)**	169		
G-1	0.3										
								End of Boring at 1.2 ft		Backfill with cold patch asphalt.	
						2			168		
						3			167		
						4			166		

PROJECT NUMBER: 81072.3000

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-2

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0' / DRILLING METHOD: 6" Core Bit / ROD SIZE: N/A
CLIENT: Town of Bethlehem, New York	HAMMER TYPE: N/A / DRILL RIG: Core Machine
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	START: 11/13/2023 9:20:00 AM / FINISH: 11/13/2023 9:53:00 AM
DRILLER: S. Moore / INSPECTOR: L. Kosciol	
CHECKED BY: S. Doehla	
COORDS. NORTHING: 1384632.47 EASTING: 679476.69	
SURFACE ELEV: 196.0 (ft; Estimated) DATUM: NAD83 / NAVD88	

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
	11-13-23	9:45 AM	During Drilling	None	N/A	1.4
	11-13-23	9:53 AM	Completion	None	N/A	1.4

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	1.1					0–1.1		**ASPHALT PAVEMENT**		Water drained from core hole at completion of coring. 5.5-inches top course, 7-inches base course.	
G-1	0.4					1.1–1.4		**f.m.c. SAND**, little f.c. gravel, trace silt, brown, wet **(SUBBASE)**	195		
						1.4		End of Boring at 1.4 ft		Backfill with cold patch asphalt.	
						2			194		
						3			193		
						4			192		

V:\PROJECTS\ANY\K6\081072.000\06_PROJECT_DATA\FIELD_DATA\BORING LOGS\081072_BORING LOGS.GPJ

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-3

PROJECT NUMBER: 81072.3000

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0'
CLIENT: Town of Bethlehem, New York	DRILLING METHOD: 6" Core Bit
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	ROD SIZE: N/A
DRILLER: S. Moore	INSPECTOR: L. Kosciol
CHECKED BY: S. Doehla	HAMMER TYPE: N/A
COORDS. NORTHING: 1384094.14	EASTING: 678742.94
SURFACE ELEV: 202.0 (ft; Estimated)	DATUM: NAD83 / NAVD88
DRILL RIG: Core Machine	
START: 11/13/2023 10:15:00 AM	FINISH: 11/13/2023 10:45:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-13-23	10:38 AM	During Drilling	0.8	N/A	0.8
11-13-23	10:45 AM	Completion	0.8	N/A	1.2

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.8							**ASPHALT PAVEMENT**		3-inches top course, 7-inches base course.	
G-1	0.4					1		**f.m.c. SAND**, Some f.c. Gravel, trace silt, brown, wet **(SUBBASE)**	201		
								End of Boring at 1.2 ft		Backfill with cold patch asphalt.	
						2			200		
						3			199		
						4			198		

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-4

PROJECT NUMBER: 81072.3000

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0'
	DRILLING METHOD: 6" Core Bit
	ROD SIZE: N/A
CLIENT: Town of Bethlehem, New York	HAMMER TYPE: N/A
	DRILL RIG: Core Machine
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	START: 11/13/2023 11:15:00 AM
	FINISH: 11/13/2023 11:41:00 AM
DRILLER: S. Moore	INSPECTOR: L. Kosciol
CHECKED BY: S. Doehla	
COORDS. NORTHING: 1383756.68	EASTING: 678225.66
SURFACE ELEV: 202.5 (ft; Estimated)	DATUM: NAD83 / NAVD88

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-13-23	11:35 AM	During Drilling	0.8	N/A	0.8
11-13-23	11:41 AM	Completion	0.8	N/A	1.1

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.9							**ASPHALT PAVEMENT**	202	3.5-inches top course, 6.75-inches base course.	
G-1	0.2					1		**f.m.c. SAND**, Some f.c. Gravel, trace silt, brown, wet **(SUBBASE)**			
								End of Boring at 1.1 ft	201	Backfill with cold patch asphalt.	
						2			200		
						3			199		
						4			198		

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-5

PROJECT NUMBER: 81072.3000

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0'
CLIENT: Town of Bethlehem, New York	DRILLING METHOD: 6" Core Bit
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	ROD SIZE: N/A
DRILLER: S. Moore	INSPECTOR: L. Kosciol
CHECKED BY: S. Doehla	HAMMER TYPE: N/A
COORDS. NORTHING: 1383417.47	EASTING: 676952.93
SURFACE ELEV: 206.0 (ft; Estimated)	DATUM: NAD83 / NAVD88
DRILL RIG: Core Machine	
START: 11/13/2023 2:30:00 PM	FINISH: 11/13/2023 3:05:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-13-23	2:58 PM	During Drilling	None	N/A	0.8
11-13-23	3:05 PM	Completion	None	N/A	1.1

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.8							**ASPHALT PAVEMENT**		Water drained from core hole at completion of coring. 2-inches top course, 7-inches base course.	
G-1	0.3					1		**f.c. GRAVEL**, Some f.m.c. Sand, trace silt, brown, moist **(SUBBASE)**	205		
								End of Boring at 1.1 ft		Backfill with cold patch asphalt.	
						2			204		
						3			203		
						4			202		

V:\PROJECTS\ANY\K6\081072.000\06_PROJECT_DATA\FIELD_DATA\BORING LOGS\081072_BORING LOGS.GPJ

PROJECT NUMBER: 81072.3000

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-6

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0'
CLIENT: Town of Bethlehem, New York	DRILLING METHOD: 6" Core Bit
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	ROD SIZE: N/A
DRILLER: S. Moore	HAMMER TYPE: N/A
INSPECTOR: L. Kosciol	DRILL RIG: Core Machine
CHECKED BY: S. Doehla	START: 11/13/2023 1:35:00 PM
COORDS. NORTHING: 1383305.60 EASTING: 676376.61	FINISH: 11/13/2023 2:03:00 PM
SURFACE ELEV: 207.0 (ft; Estimated)	DATUM: NAD83 / NAVD88

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-13-23	2:00 PM	During Drilling	0.9	N/A	0.9
11-13-23	2:03 PM	Completion	1	N/A	1.1

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.9							**ASPHALT PAVEMENT**		3-inches top course, 8-inches base course.	
G-1	0.2					1		**f.m.c. SAND**, Some f.c. Gravel, trace silt, brown, wet **(SUBBASE)**	206		
								End of Boring at 1.1 ft		Backfill with cold patch asphalt.	
						2			205		
						3			204		
						4			203		

V:\PROJECTS\ANY\K6\081072.000\06_PROJECT_DATA\FIELD_DATA\BORING LOGS\081072_BORING LOGS.GPJ

PROJECT NUMBER: 81072.3000

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-7

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0' / DRILLING METHOD: 6" Core Bit / ROD SIZE: N/A
CLIENT: Town of Bethlehem, New York	HAMMER TYPE: N/A / DRILL RIG: Core Machine
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	START: 11/14/2023 10:30:00 AM / FINISH: 11/14/2023 10:40:00 AM
DRILLER: S. Moore / INSPECTOR: A. Bryant	
CHECKED BY: S. Doehla	
COORDS. NORTHING: 1382946.89 EASTING: 675578.79	
SURFACE ELEV: 201.0 (ft; Estimated) DATUM: NAD83 / NAVD88	

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
	11-14-23	10:40 AM	Completion	1	N/A	1.2
	11-14-23	10:45 AM	Completion	None	N/A	1.2

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.9							**ASPHALT PAVEMENT**		Water drained from core hole at completion of coring. 2.5-inches top course, 8-inches base course.	
G-1	0.3					1		**f.c. GRAVEL**, Some f.m.c. Sand, trace silt, brown, wet **(SUBBASE)**	200		
								End of Boring at 1.2 ft		Backfill with cold patch asphalt.	
						2			199		
						3			198		
						4			197		

Delaware Avenue Complete Streets
SUBSURFACE LOG
HOLE NUMBER PC-8

PROJECT NUMBER: 81072.3000

LOCATION: Bethlehem, New York	DRILL FLUID: Water at 0'
CLIENT: Town of Bethlehem, New York	DRILLING METHOD: 6" Core Bit
CONTRACTOR: Atlantic Testing Laboratories, Ltd.	ROD SIZE: N/A
DRILLER: S. Moore	INSPECTOR: L. Kosciol
CHECKED BY: S. Doehla	HAMMER TYPE: N/A
COORDS. NORTHING: 1382635.88	EASTING: 675018.43
SURFACE ELEV: 204.5 (ft; Estimated)	DATUM: NAD83 / NAVD88
DRILL RIG: Core Machine	
START: 11/13/2023 12:40:00 PM	FINISH: 11/13/2023 1:08:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
11-13-23	1:04 PM	During Drilling	0.8	N/A	1
11-13-23	1:08 PM	Completion	0.8	N/A	1

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
C-1	0.8							**ASPHALT PAVEMENT**	204	2-inches top course, 7-inches base course.	
G-1	0.2					1		**f.m.c. SAND**, Some f.c. Gravel, trace silt, brown, wet **(SUBBASE)**			
								End of Boring at 1 ft		Backfill with cold patch asphalt.	
						2			203		
						3			202		
						4			201		
									200		

V:\PROJECTS\ANY\K6\081072.000\06_PROJECT_DATA\FIELD_DATA\BORING LOGS\081072_BORING LOGS.GPJ

Appendix G

Abstract Request Map

T.R.N.	Reputed Owner	Tax Map No.	DWG #	Type of Take	Approx. Area (SF)
1	215 Delaware Ave LLC	86.05-3-18	ARM-6	FEE	278
2	Tyler Russell	86.09-3-7	ARM-6	FEE	107
3	Joseph C Bursey	86.05-3-17	ARM-6, ARM-7	FEE	403
4	210 Delaware Ave LLC	86.09-3-8	ARM-6, ARM-7	FEE	397
5	Elaine Loder Family Trust	86.05-3-16	ARM-7	FEE	354
6	Brady & Giombetti Realty LLC	86.09-3-9.1	ARM-7	FEE	1177
7	CLJB Properties LLC	86.05-5-49	ARM-7	FEE	982
8	Masterson Enterprises LLC	86.10-1-1	ARM-7	FEE	229
9	ARG Partners LLC	86.05-5-48	ARM-7	FEE	283

NOTE:

AREA IS ONLY APPROXIMATE AND TO BE USED BY REAL ESTATE FOR THE SOLE PURPOSE OF DETERMINING THE TYPE OF TITLE DATA REQUIRED.

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

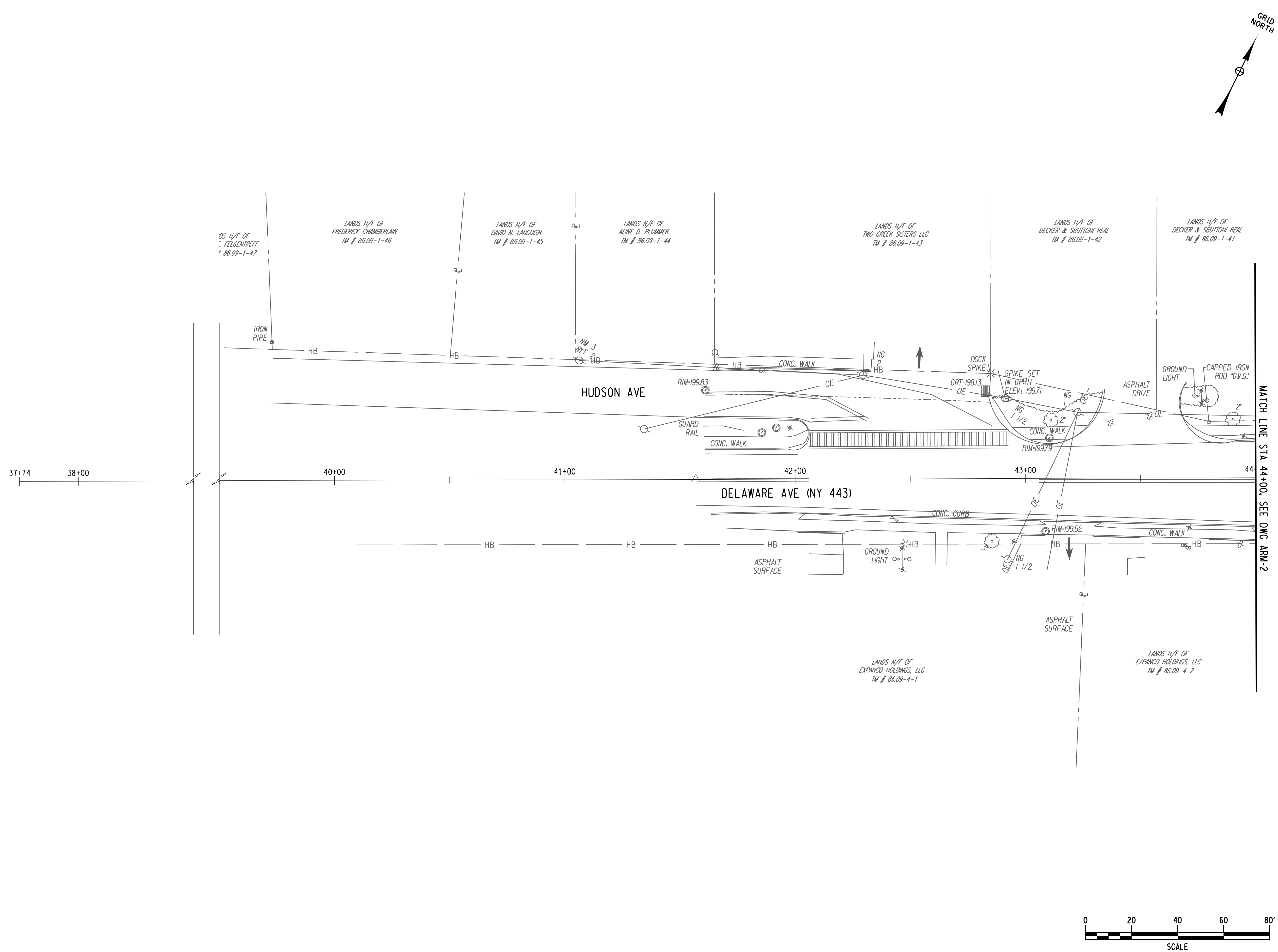
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By: M. WHITE	Project No.: 081072	Drawing No.: TBL-1
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 1

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_tbl_01.dgn
DATE/TIME = 31-OCT-2023
USER = 4066

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm_rev.01.dgn
DATE/TIME : 31-OCT-2023
USER : 4066



Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

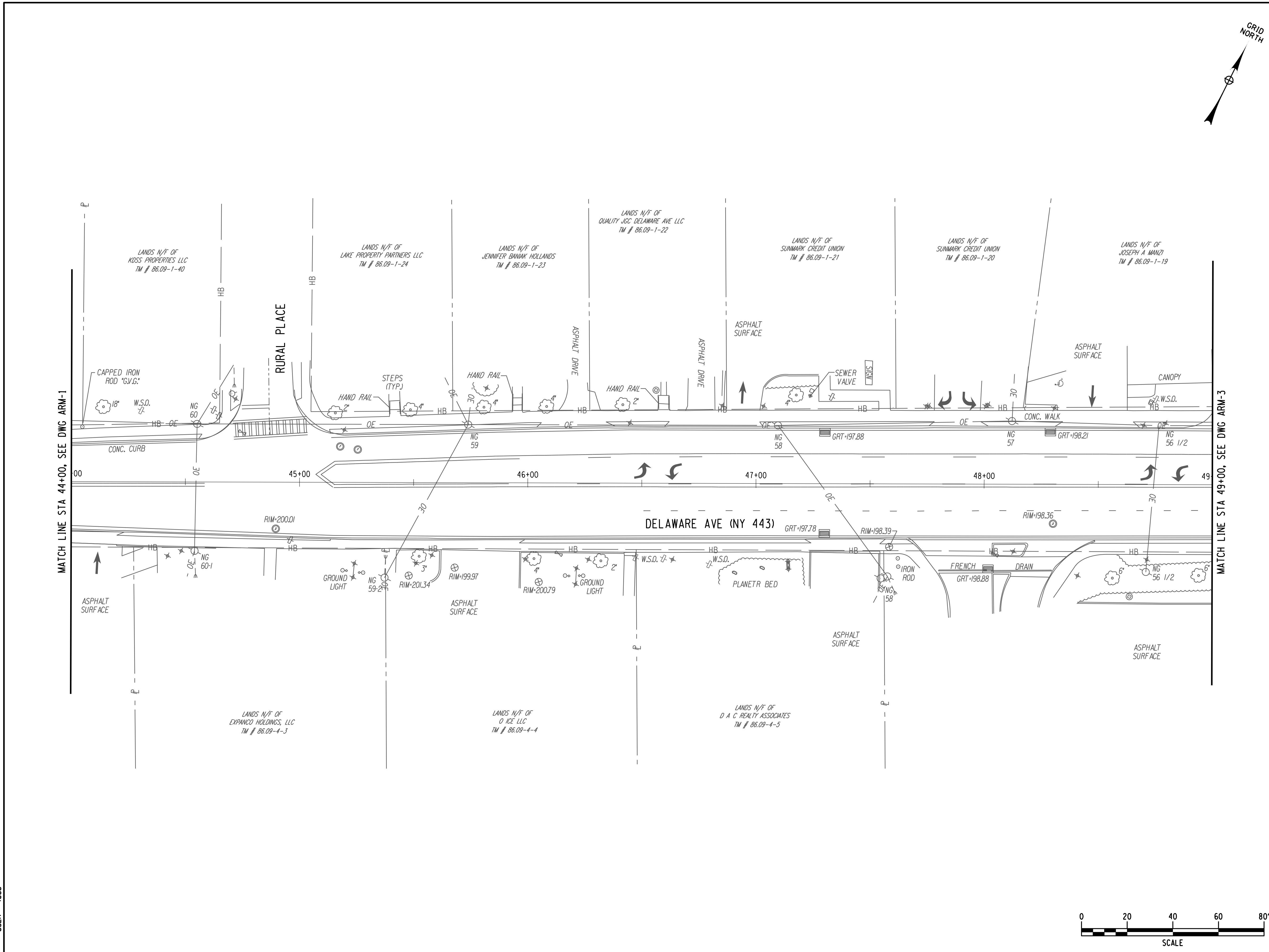
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-1
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 2



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

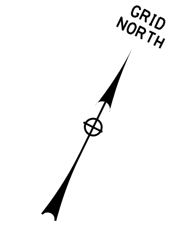
PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

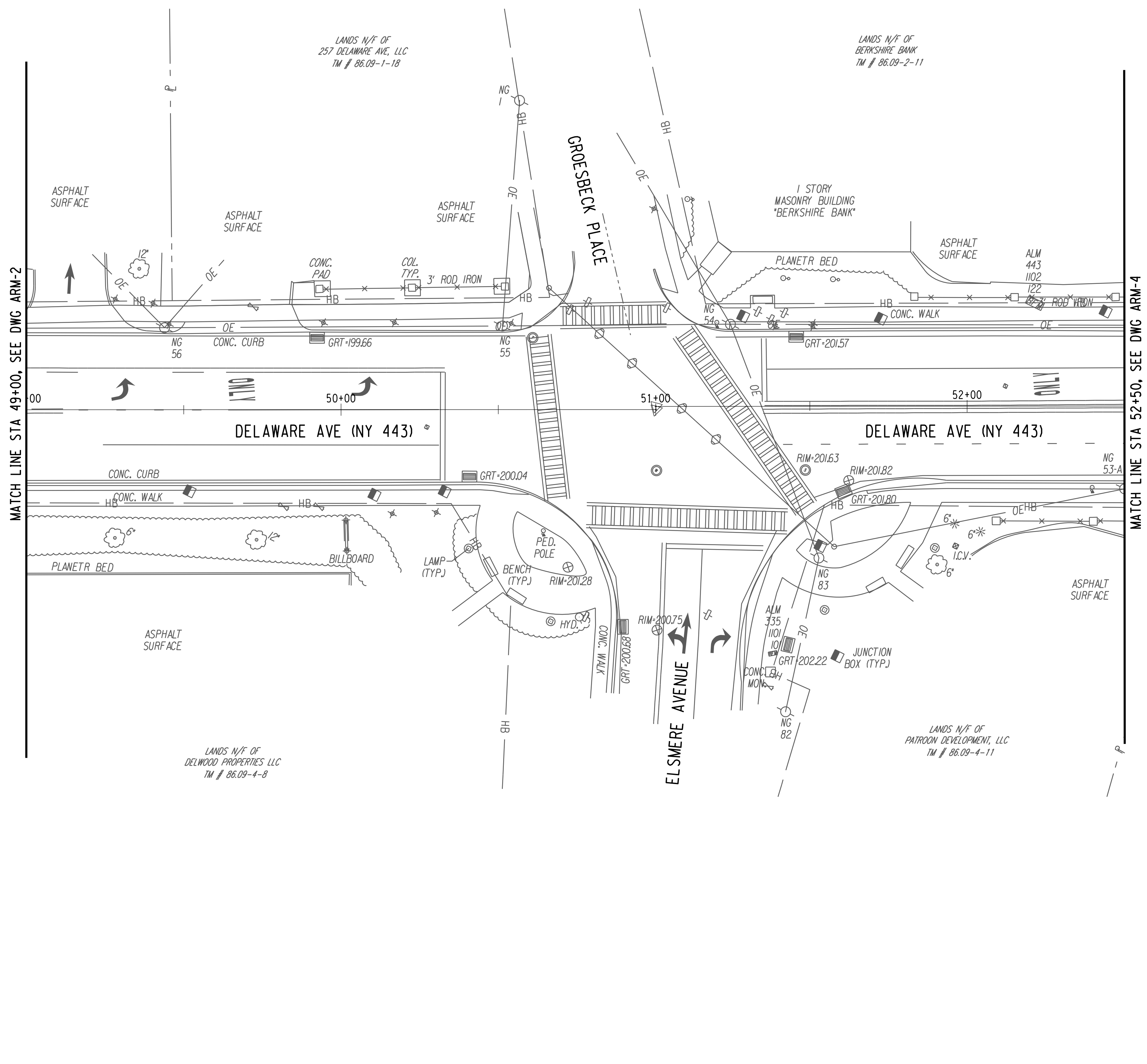
ABSTRACT REQUEST MAP DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-2
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 3

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_02.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_03.dgn
DATE/TIME : 31-OCT-2023
USER : 4066





CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

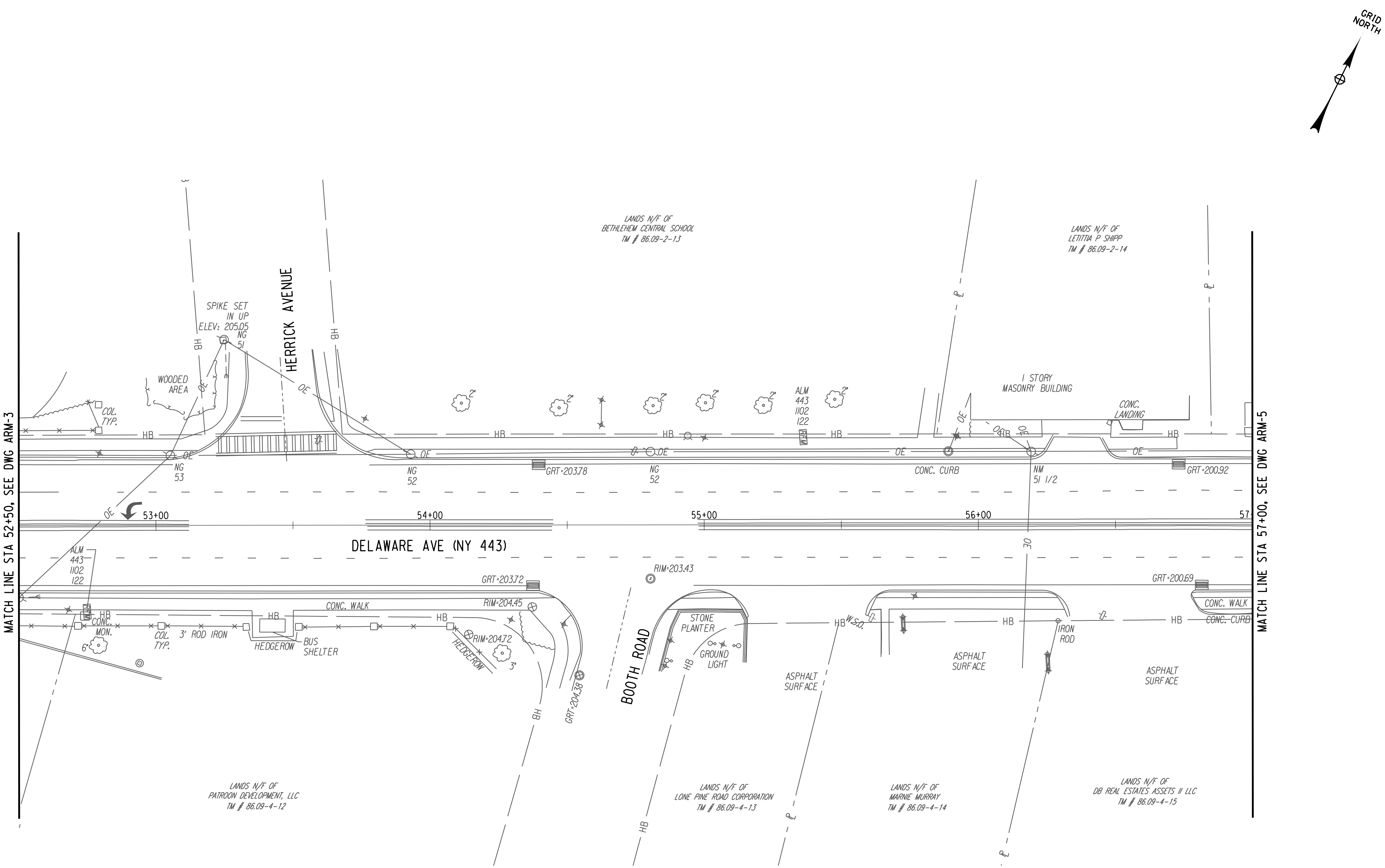
NOT FOR CONSTRUCTION

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-3
Drawn By:	Scale:	
A. DAMES	AS SHOWN	
Checked By:	Plot Date:	
J. SHIELDS	31-OCT-2023	SHEET 4



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

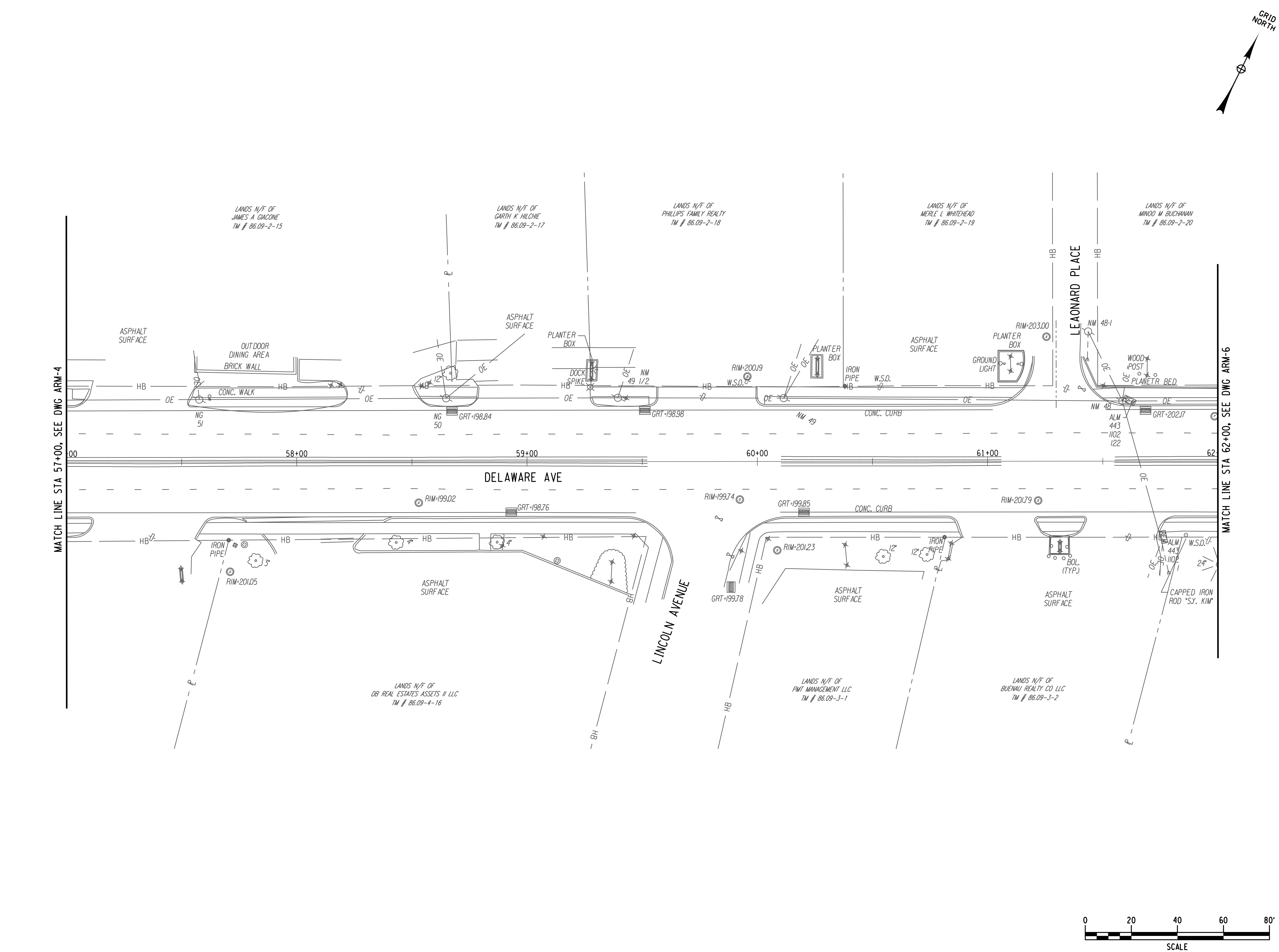
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**ARM-4**
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 5

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm_rev.04.dgn
DATE/TIME : 31-OCT-2023
USER : 4066



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

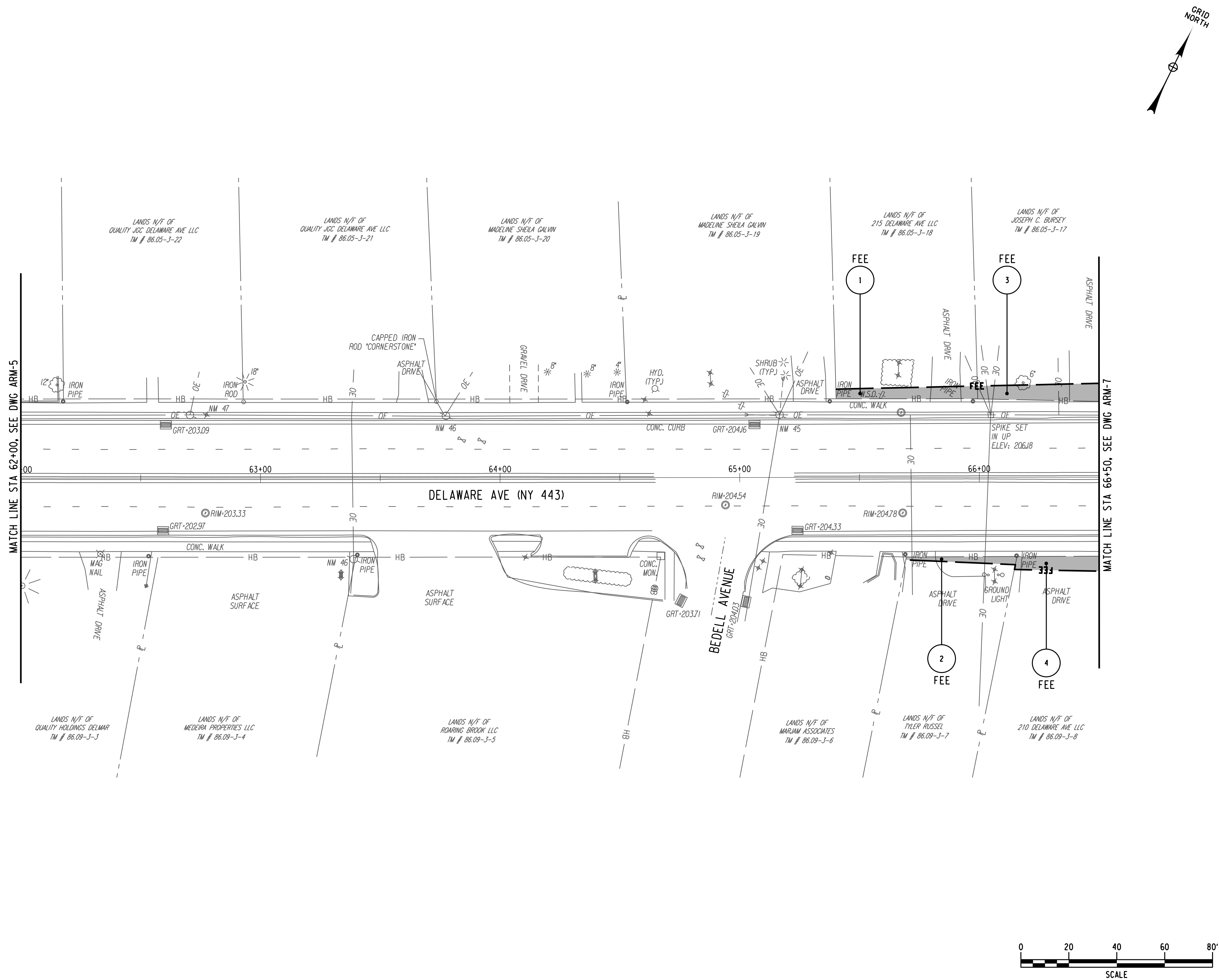
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-5
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 6

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm.rev.05.dgn
DATE/TIME = 31-OCT-2023
USER = 4066



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm_rev.06.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

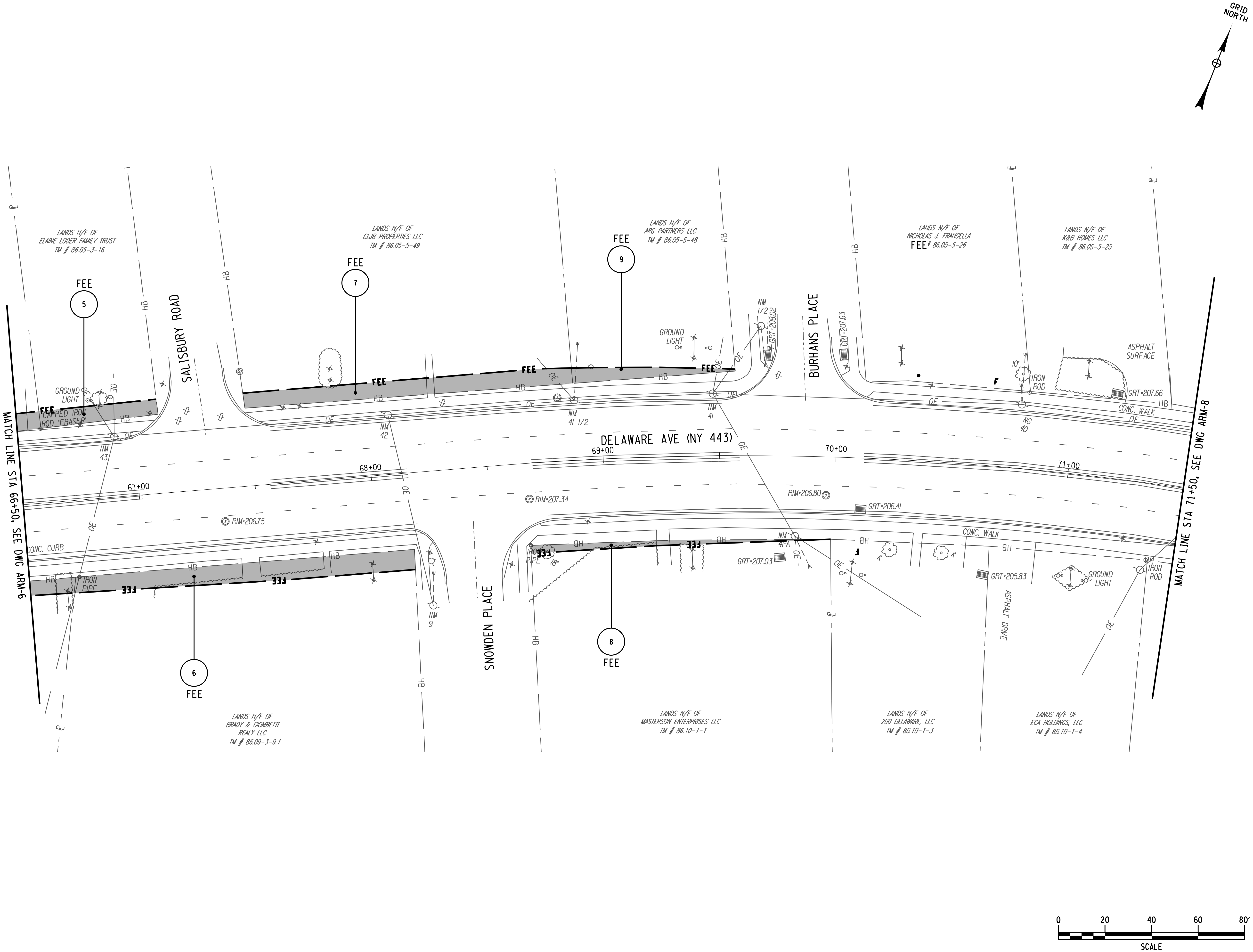
TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-6
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 7



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

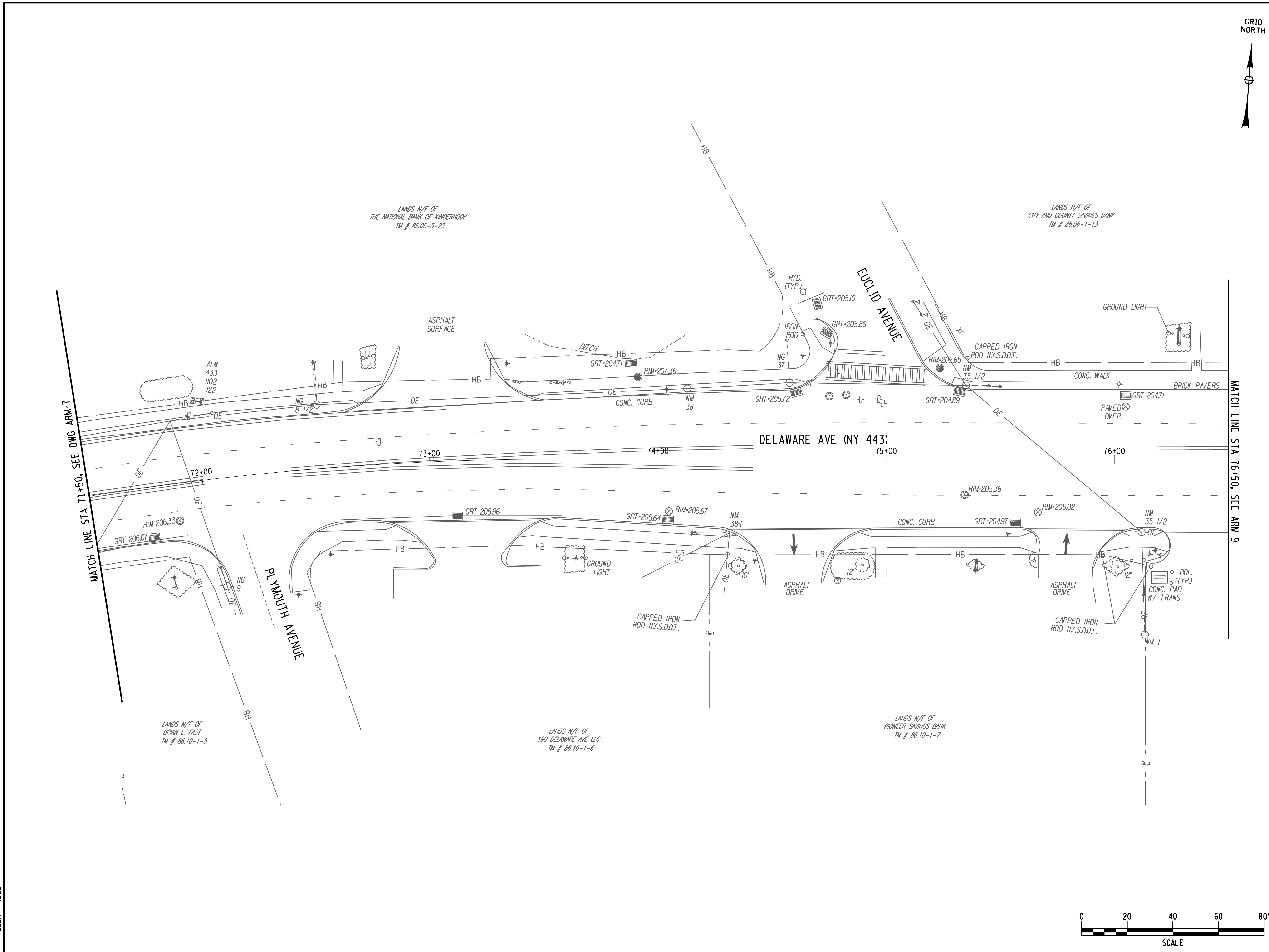
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	**ARM-7**
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 8

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_07.dgn
DATE/TIME : 31-OCT-2023
USER : 4066



FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm.rev.08.dgn
DATE/TIME = 31-OCT-2023
USER = 4066

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

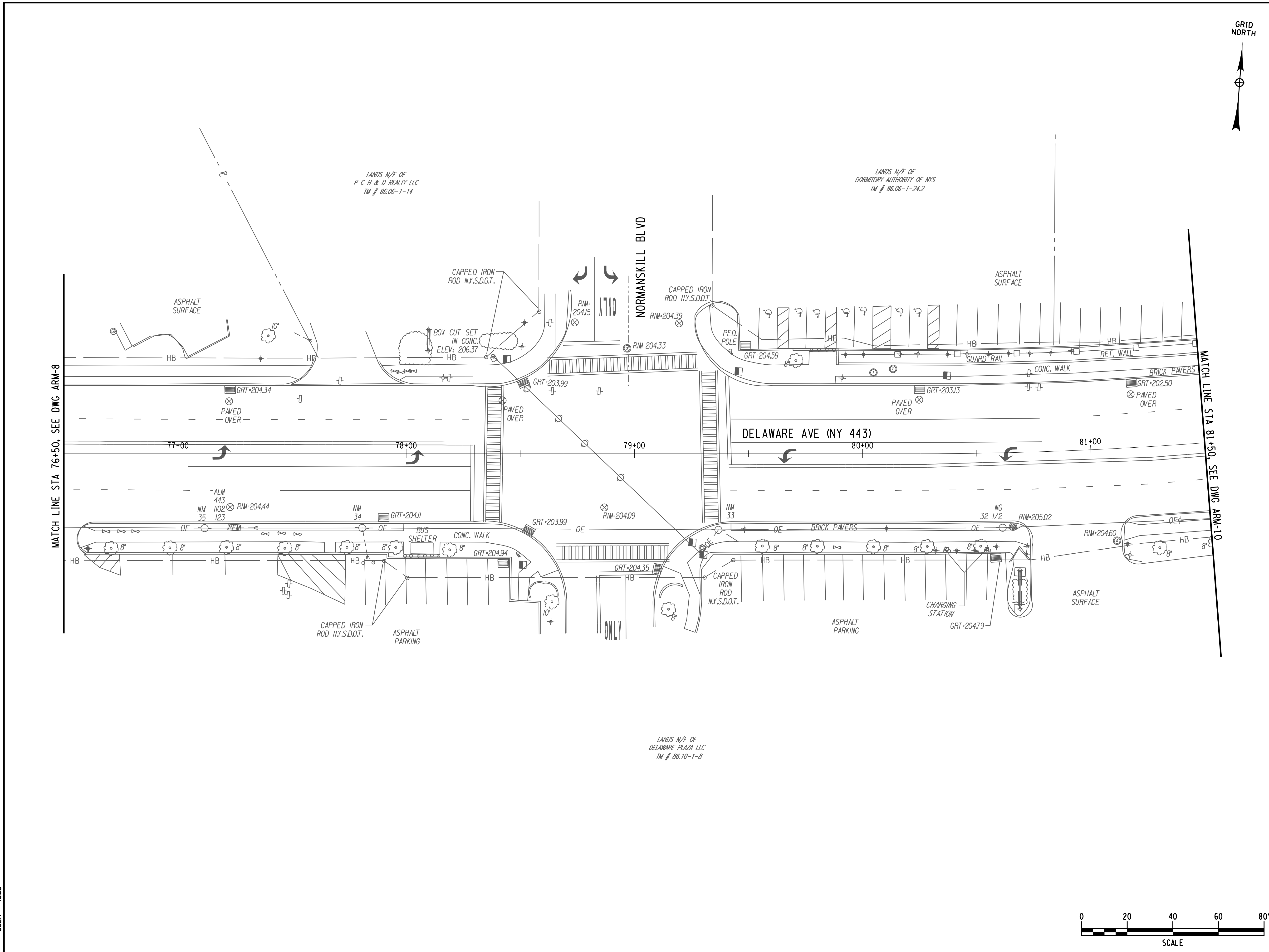
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-8
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 9



FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_09.dgn
DATE/TIME = 31-OCT-2023
USER = 4066

Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

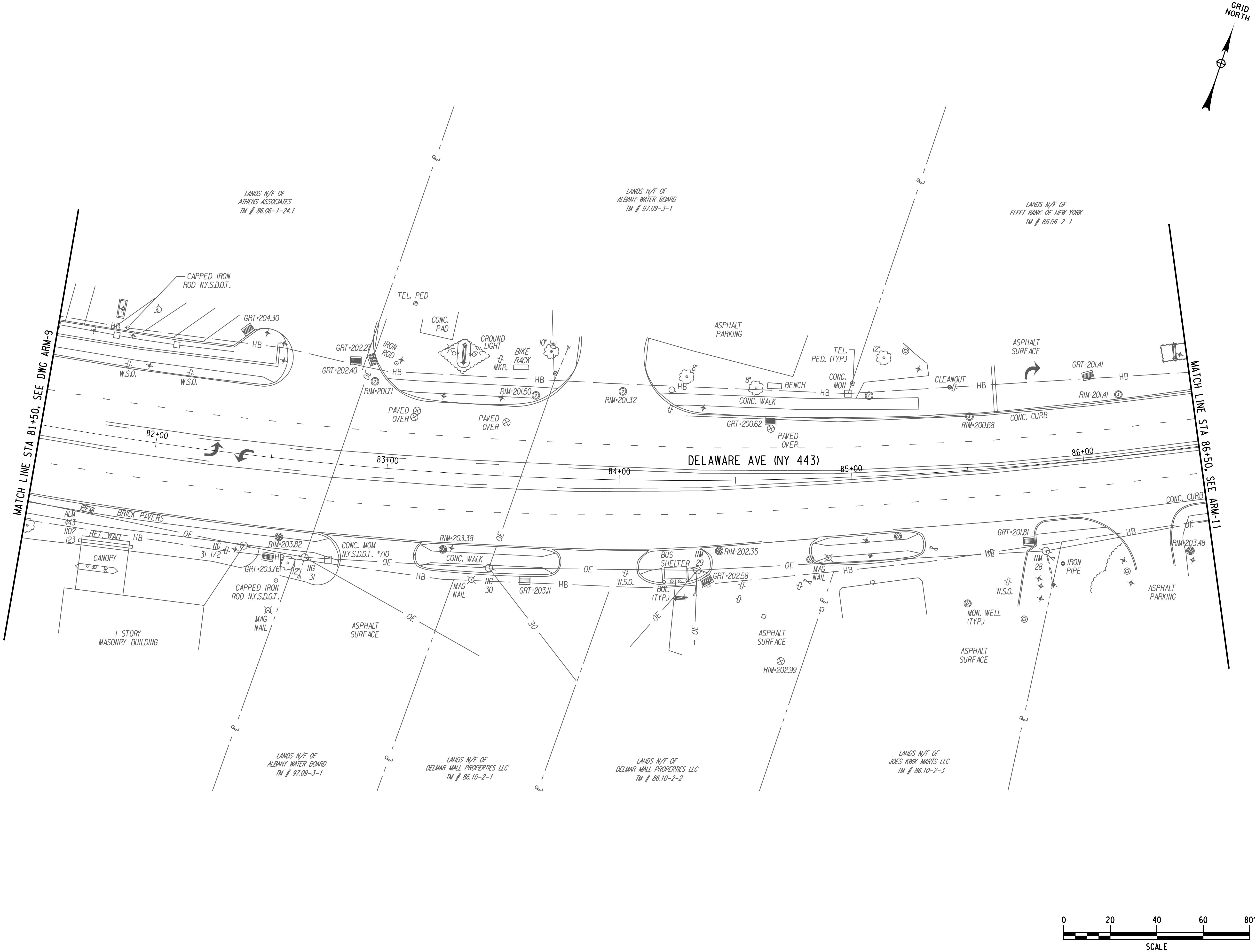
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-9
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 10



FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_10.dgn
DATE/TIME = 31-OCT-2023
USER = 4066

Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

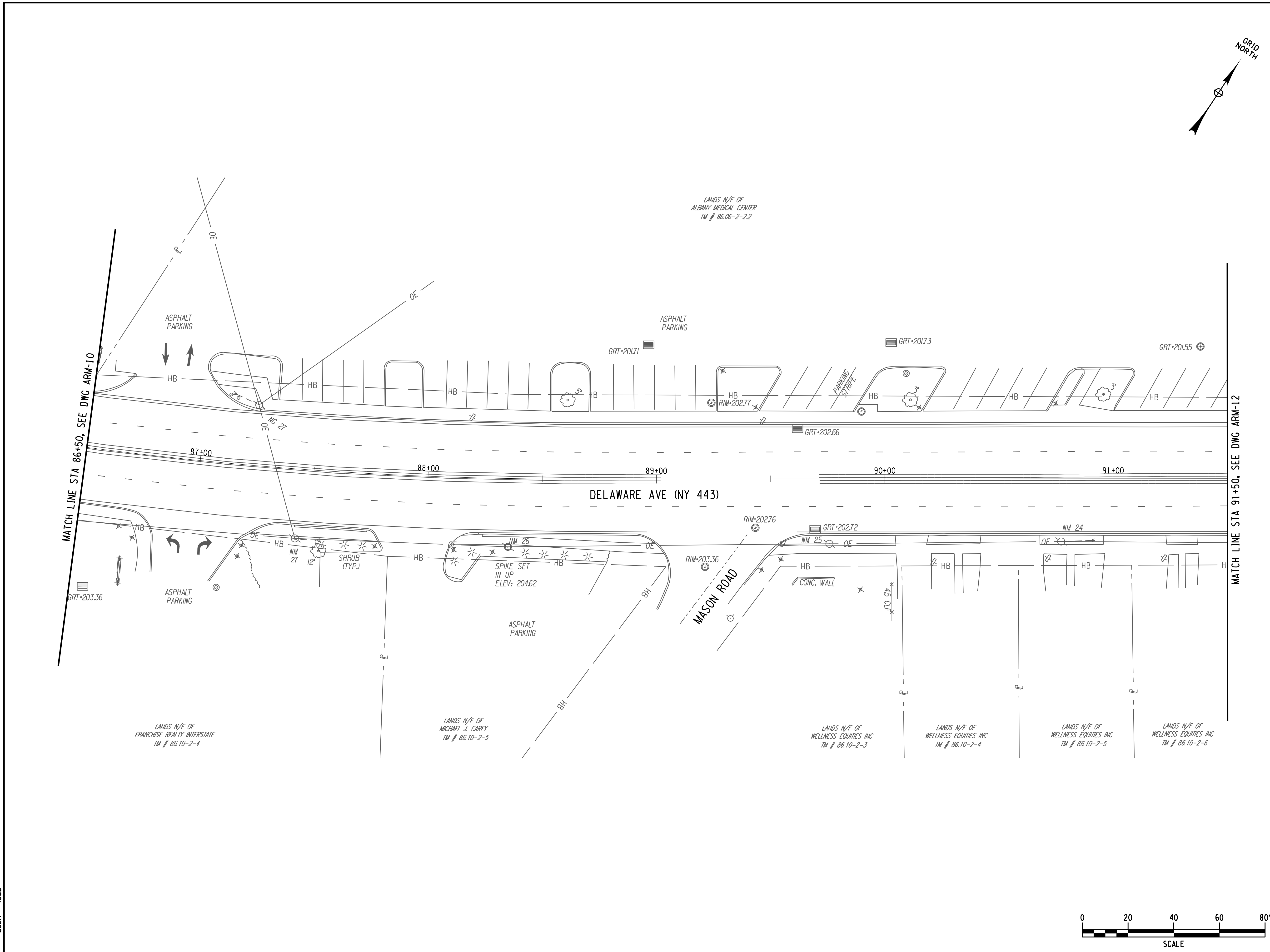
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	**ARM-10**
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 11



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_11.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

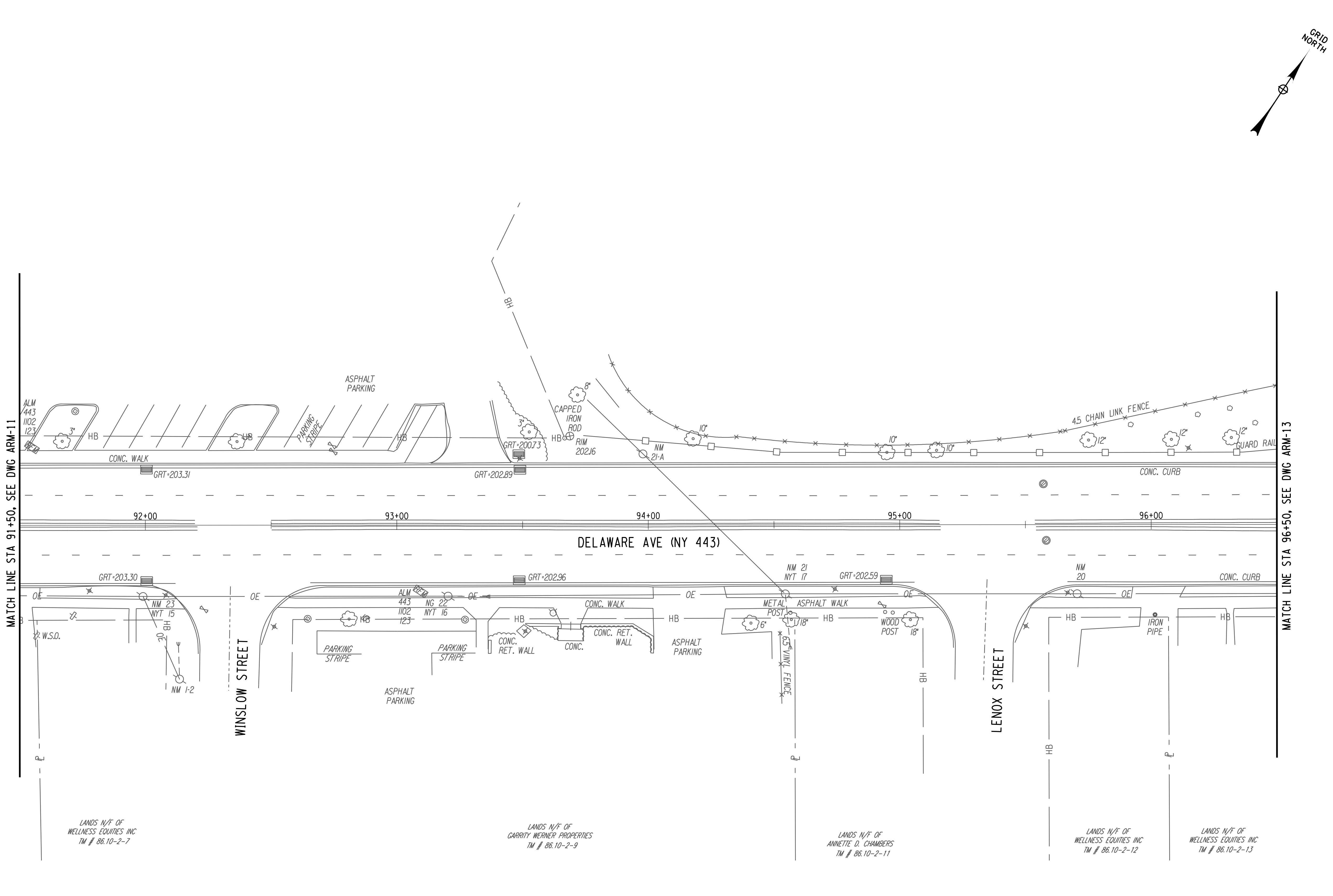
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM,
ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By: M. WHITE	Project No.: 081072	Drawing No.: ARM-11
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 12



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm.rev.12.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

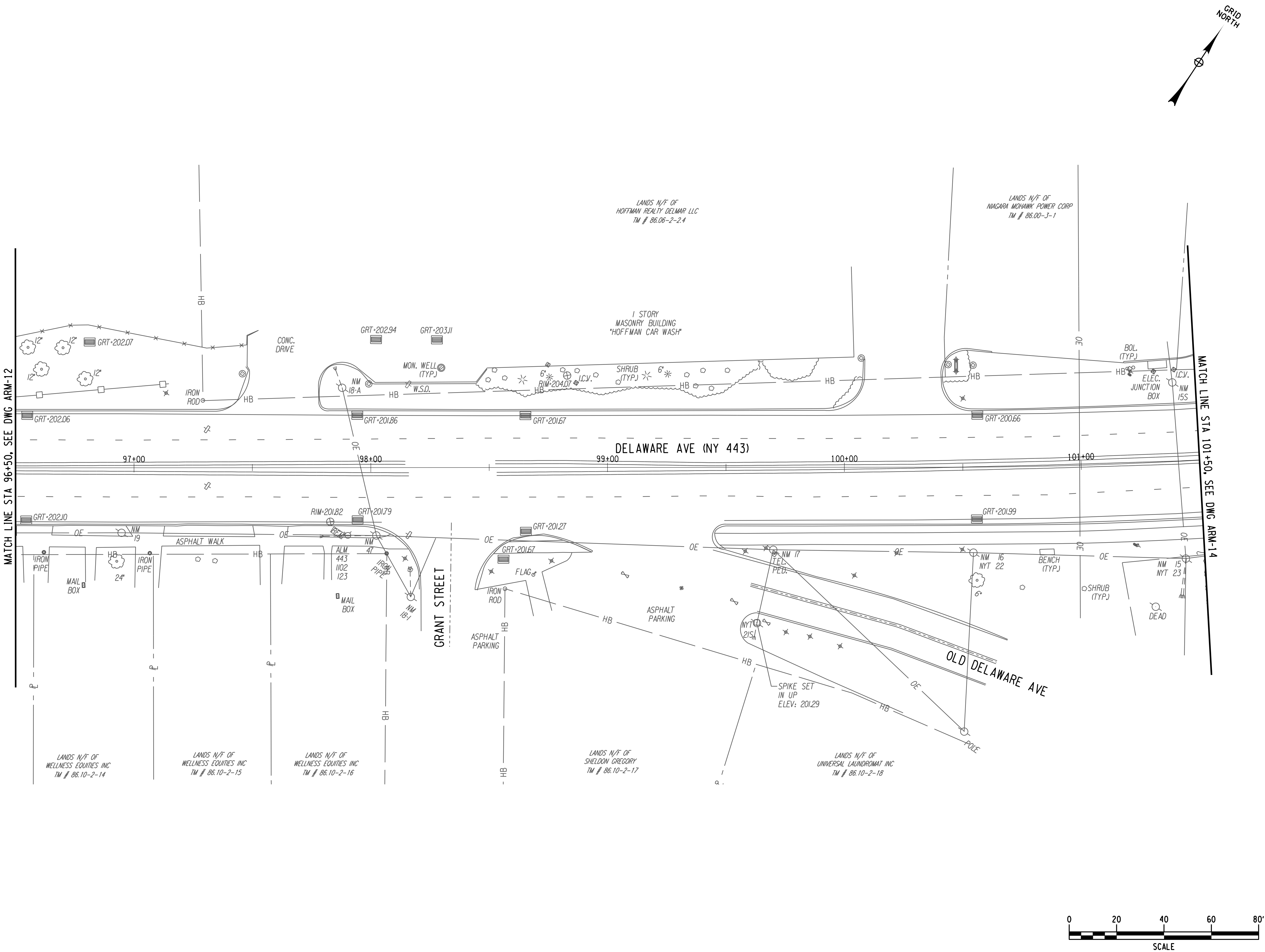
TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	**ARM-12**
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 13



Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

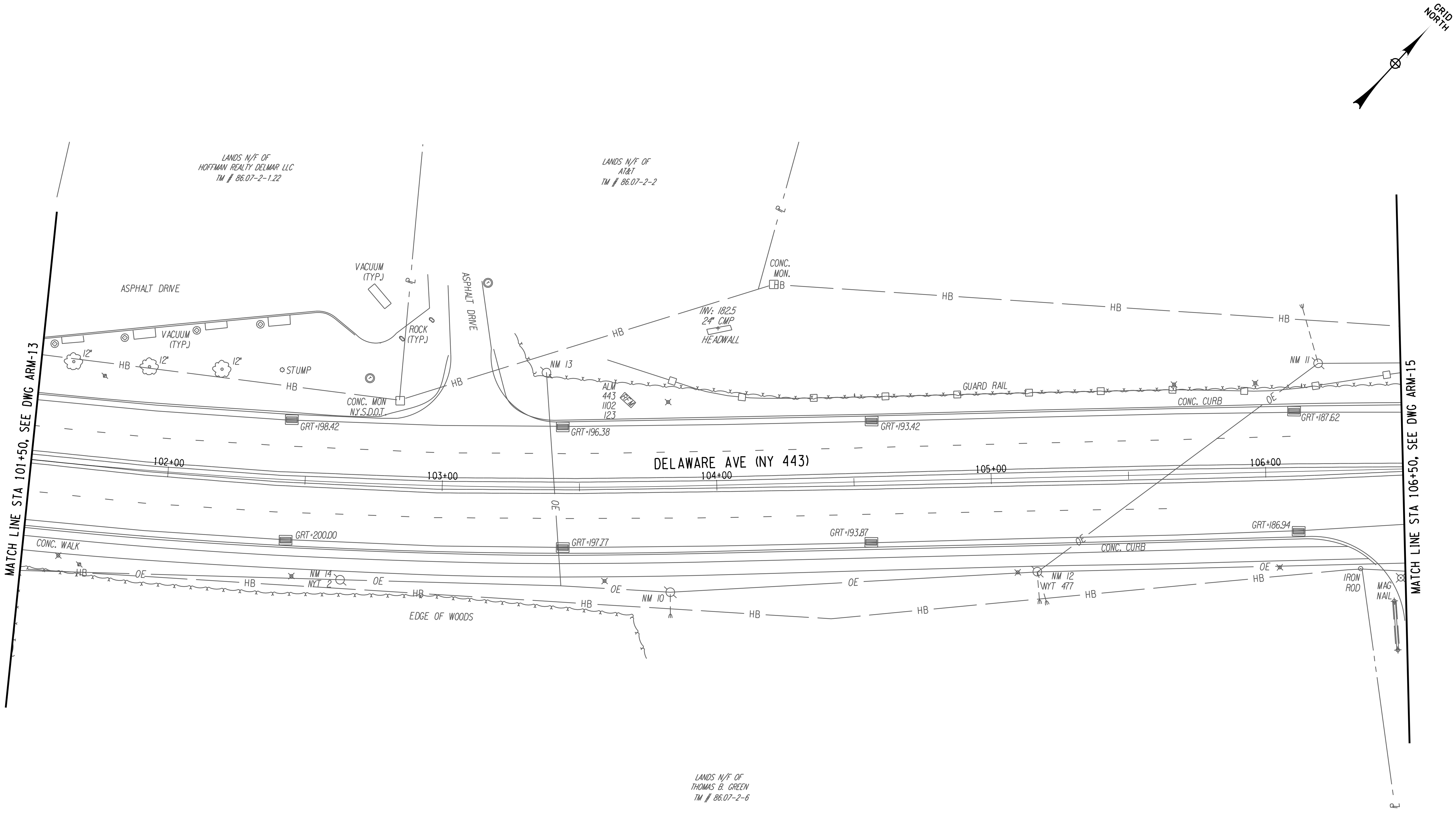
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-13
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 14

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_13.dgn
DATE/TIME : 31-OCT-2023
USER : 4066



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm.rev.14.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

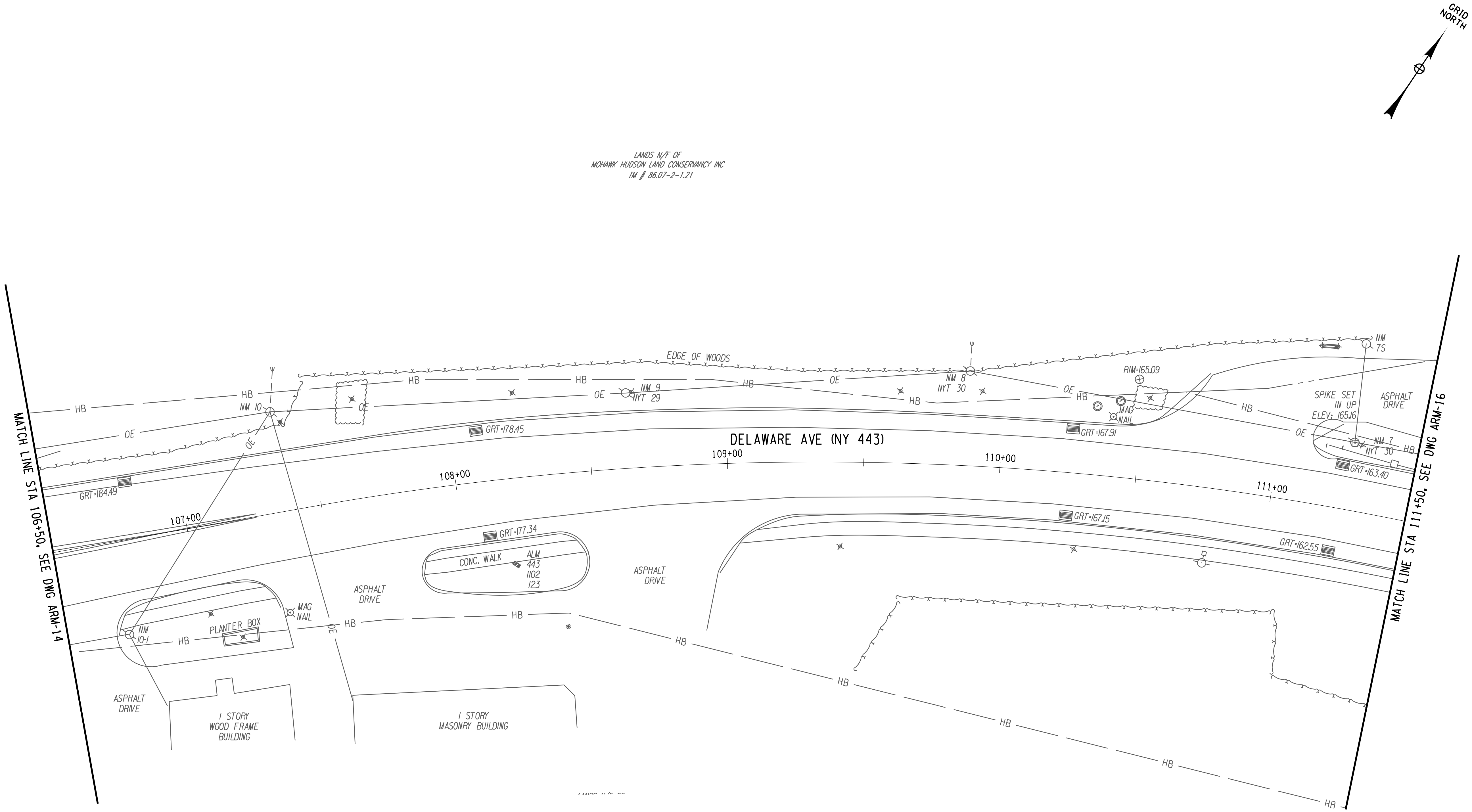
TOWN OF BETHLEHEM N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-14
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 15



0 20 40 60 80'
SCALE

Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

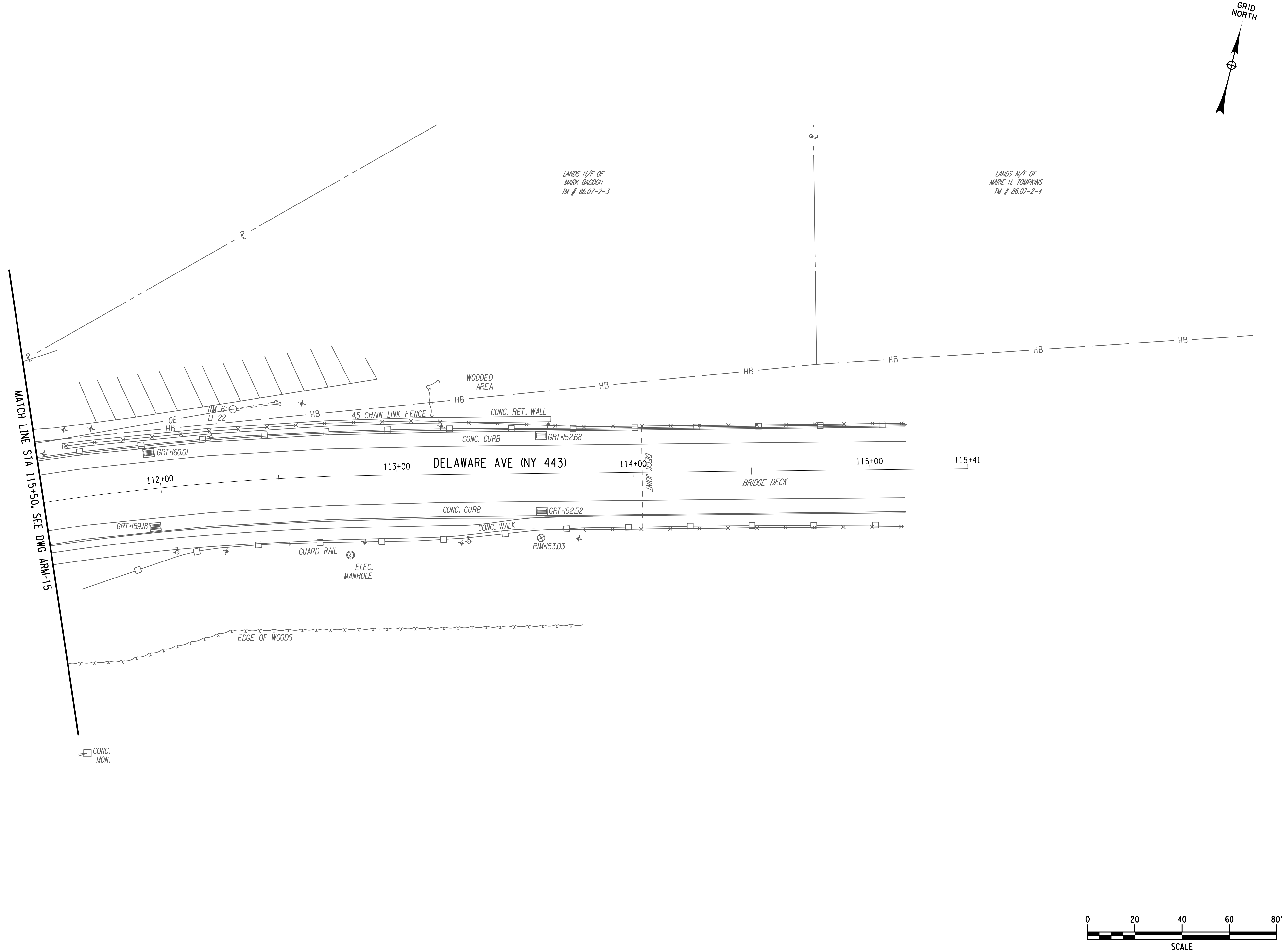
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	ARM-15
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 16

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072_cph_arm_rev_15.dgn
DATE/TIME = 31-OCT-2023
USER = 4066



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\ARM\REV\081072.cph.arm_rev.16.dgn
DATE/TIME : 31-OCT-2023
USER : 4066

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

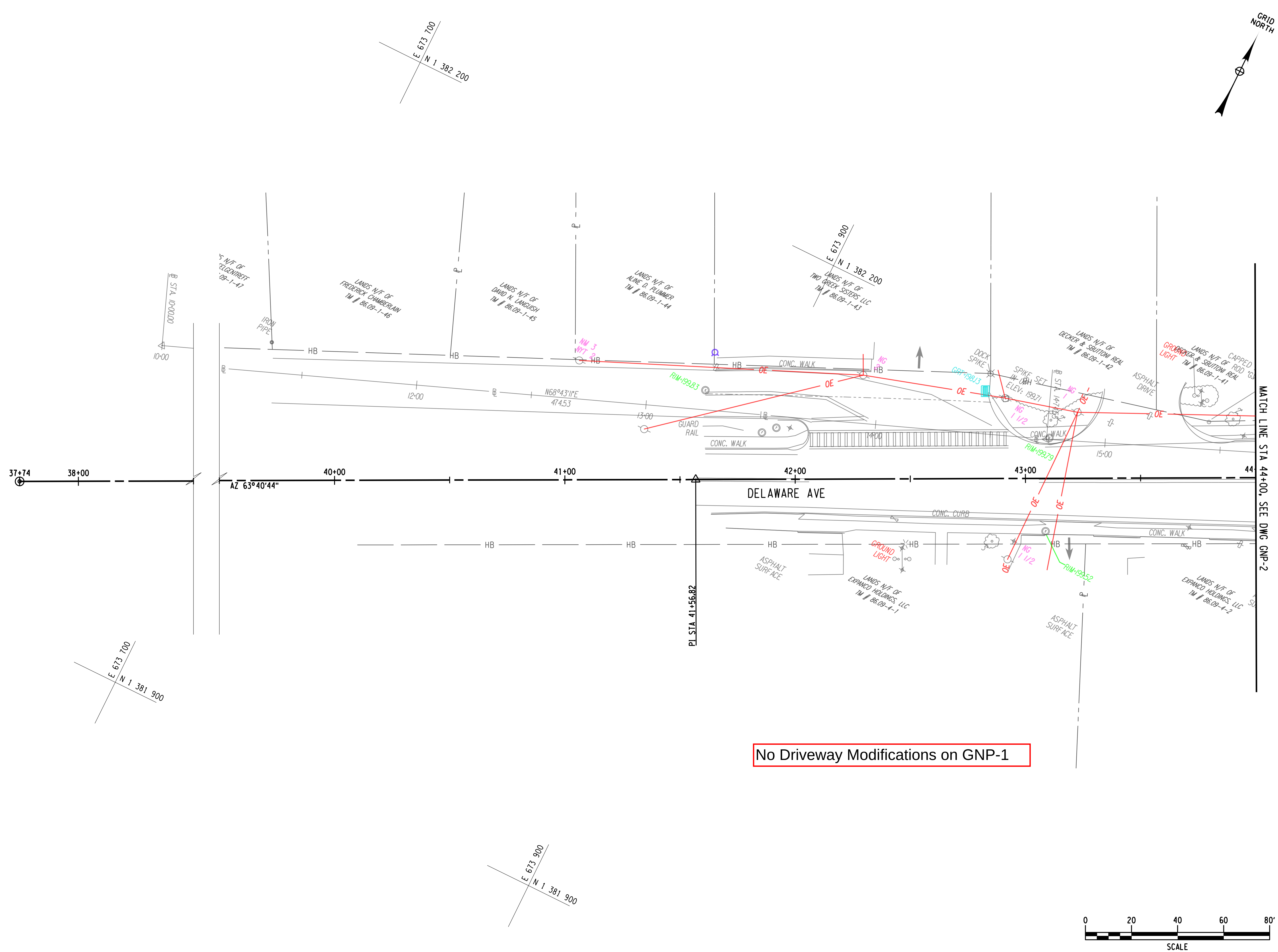
PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

ABSTRACT REQUEST MAP
DELAWARE AVE (NY 443)

Designed By:	Project No.:	Drawing No.:
M. WHITE	081072	ARM-16
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-OCT-2023	SHEET 17

Appendix H

Driveway Modification Plans



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072_cph_gnp_01.dgn
DATE/TIME : 31-JUL-2023
USER : 4066

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. 1609 FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

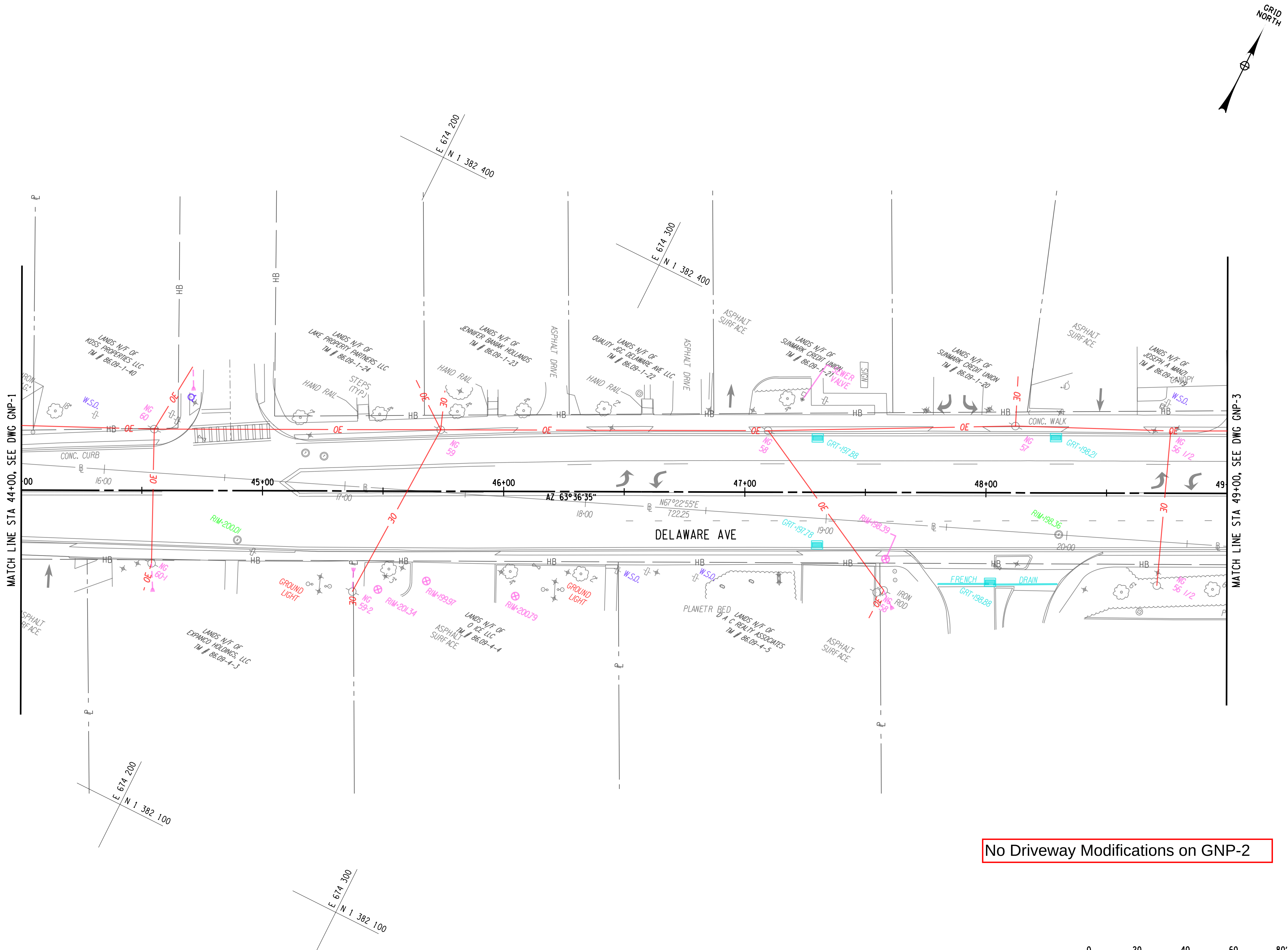
PIN 1761.68

DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-1
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX



No Driveway Modifications on GNP-2

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

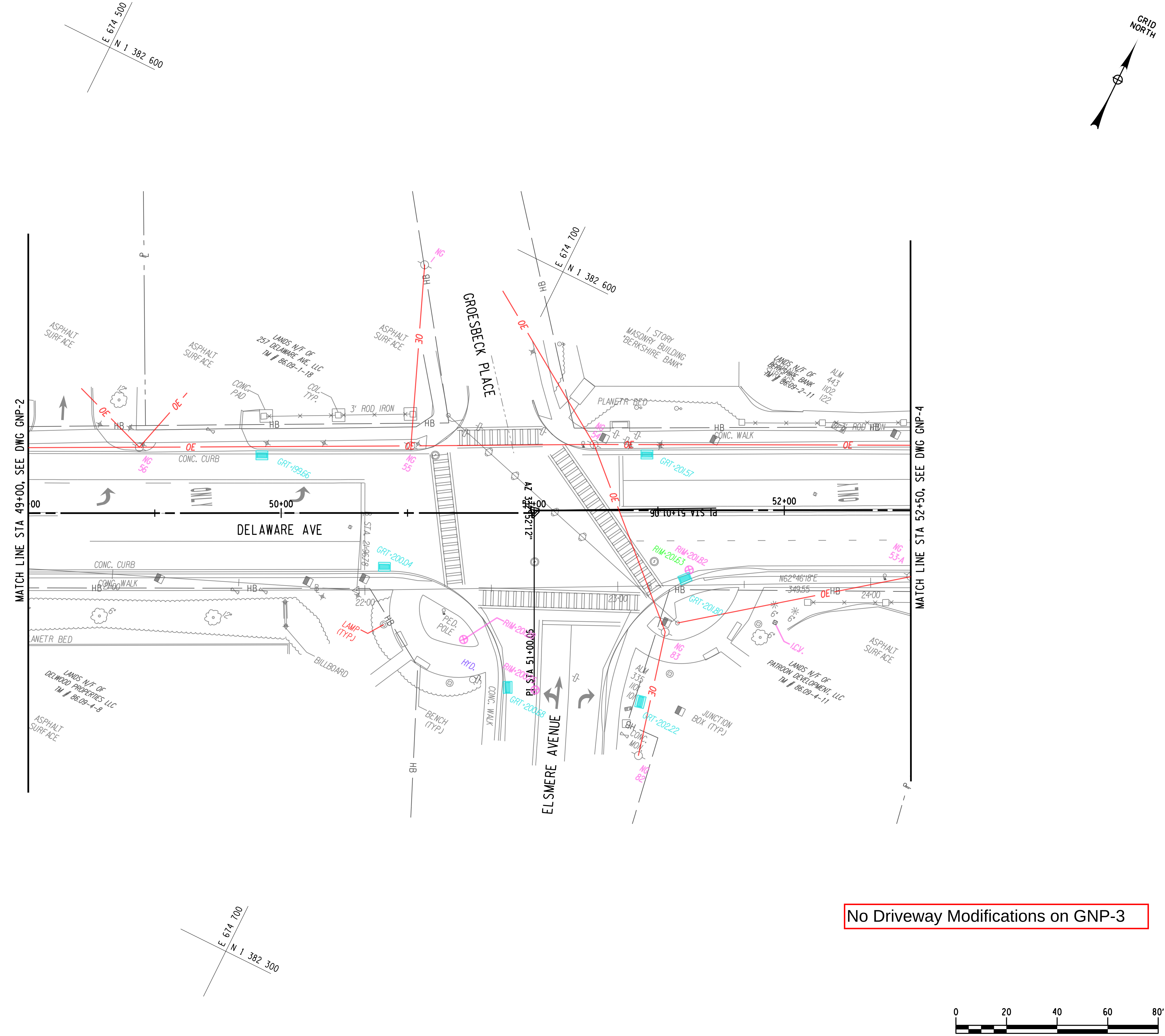
DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**GNP-2**
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-02.dgn
DATE/TIME : 31-JUL-2023
USER : 4066

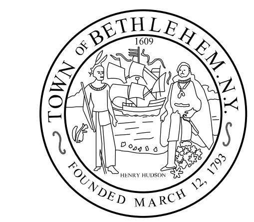


No Driveway Modifications on GNP-3

Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

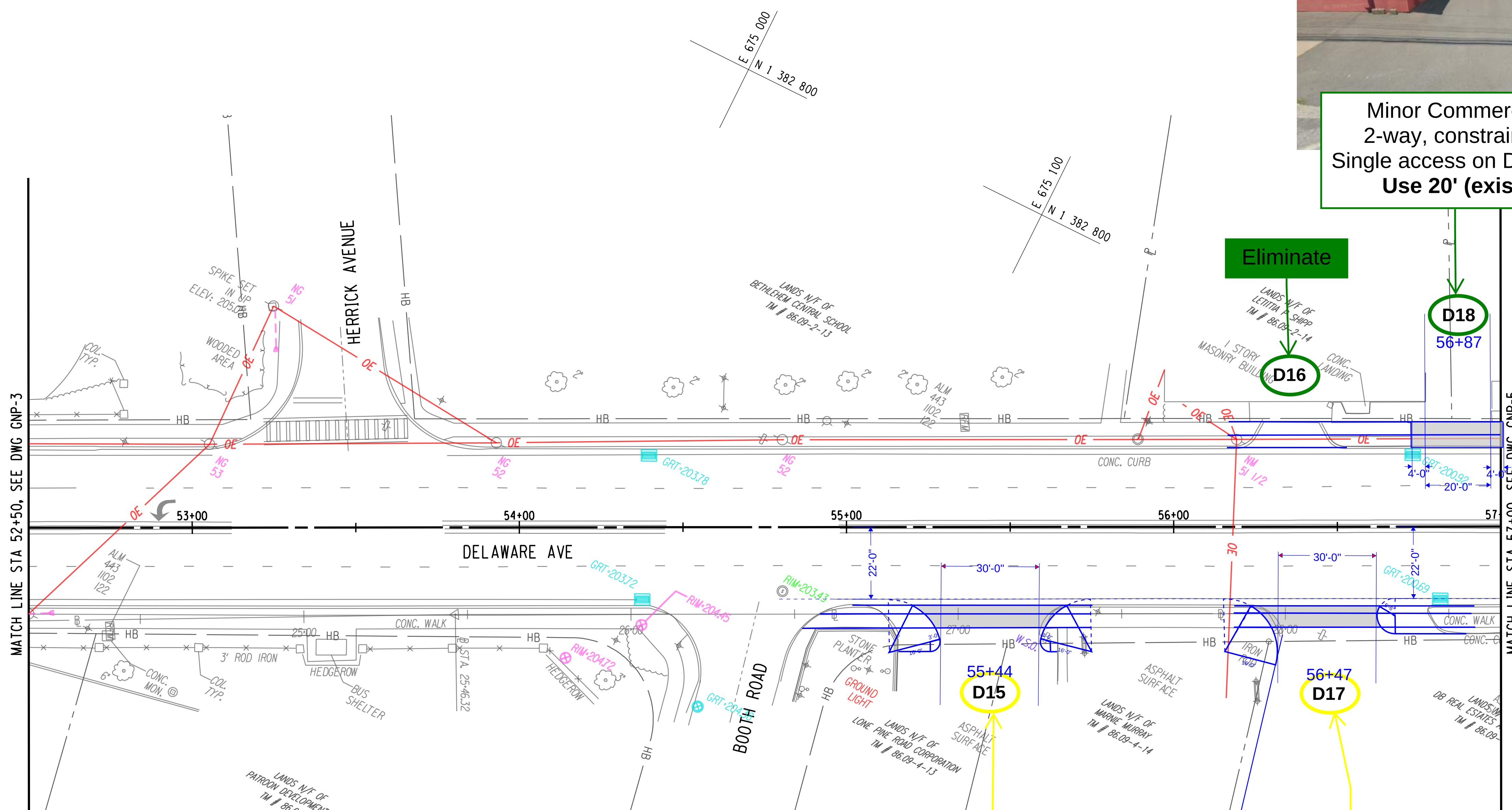
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-3
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072_cph_gnp_03.dgn
DATE/TIME : 31-JUL-2023
USER : 4066



Minor Commercial
2-way, constrained
Single access on Del Ave
Use 20' (exist)

Eliminate

Minor Commercial
2-way
Shared
Single access on Del Ave
Use 30'

Minor Commercial
2-way
Dual access on Del Ave
Use 30' Per Owner

TABLE 1
RECOMMENDED DRIVEWAY WIDTH "W"

DRIVEWAY CLASSIFICATION	PERMISSIBLE RANGE OF WIDTHS (FT.) WITHIN 30 FT. OF TRAVELED WAY FOR ROADS POSTED 40 MPH OR LESS	PERMISSIBLE RANGE OF WIDTHS (FT.) WITHIN 30 FT. OF TRAVELED WAY FOR ROADS POSTED 45 MPH OR MORE
RESIDENTIAL LESS THAN 50 FT. IN LENGTH MEASURED ALONG THE CENTERLINE	9 TO 12	10 TO 24
RESIDENTIAL GREATER THAN 50 FT. IN LENGTH MEASURED ALONG THE CENTERLINE	9 TO 12	10 TO 14
MINOR COMMERCIAL SHARED TWO-WAY DRIVEWAY	22 TO 30	28 TO 35
MINOR COMMERCIAL DIVIDED OR ONE-WAY DRIVEWAY	12 TO 24	12 TO 24
MINOR COMMERCIAL MULTI-LANE DRIVEWAY	12 TO 15 EACH LANE	14 TO 16 EACH LANE

0 20 40 60 80'
SCALE

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072.cph-gnp_04.dgn
DATE/TIME : 31-JUL-2023
USER : 4066

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y. FOUNDED MARCH 12, 1793

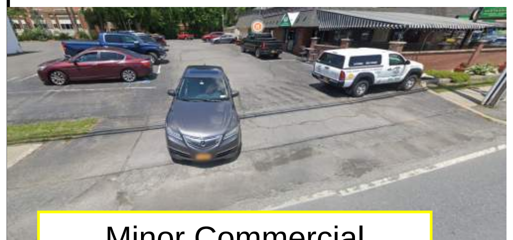
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: **GNP-4**
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

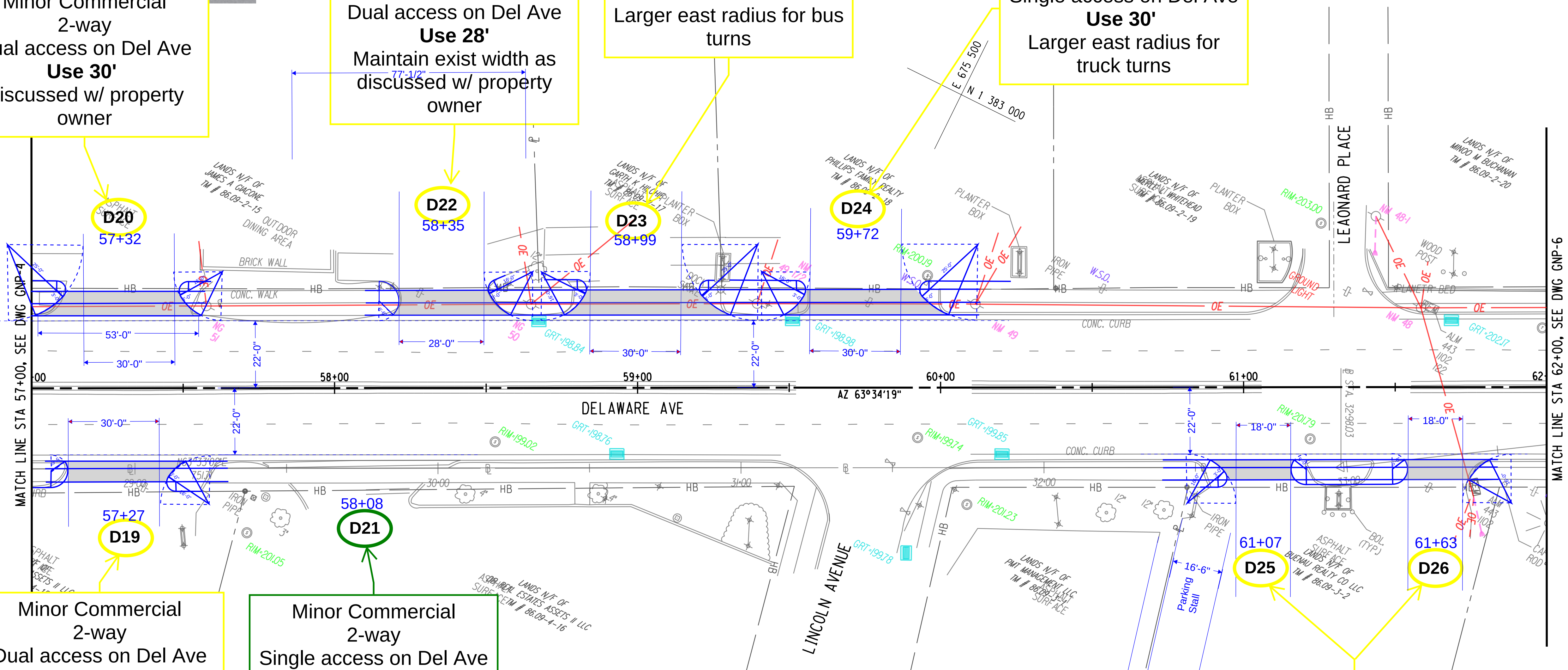


Minor Commercial
2-way
Dual access on Del Ave
Use 30'
Discussed w/ property owner

Minor Commercial
2-way
Dual access on Del Ave
Use 28'
Maintain exist width as discussed w/ property owner

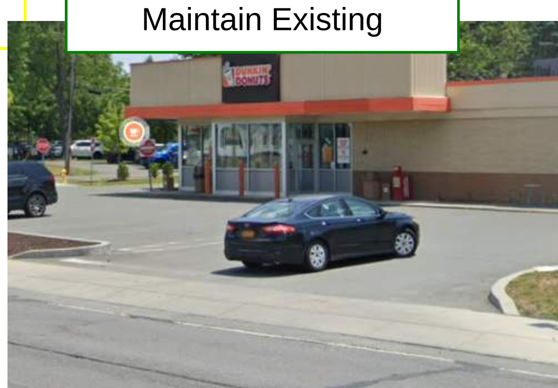
Minor Commercial
2-way
Single access on Del Ave
Use 30'
Larger east radius for bus turns

Minor Commercial
2-way
Single access on Del Ave
Use 30'
Larger east radius for truck turns



Minor Commercial
2-way
Dual access on Del Ave
Use 30' Per Owner

Minor Commercial
2-way
Single access on Del Ave
Maintain Existing



Minor Commercial
2-way
Dual access on Del Ave
Make 2, one-way drives, 18' wide
as discussed w/ property owner

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp_05.dgn
DATE/TIME : 31-JUL-2023
USER : 4086

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y.
FOUNDED MARCH 12, 1793

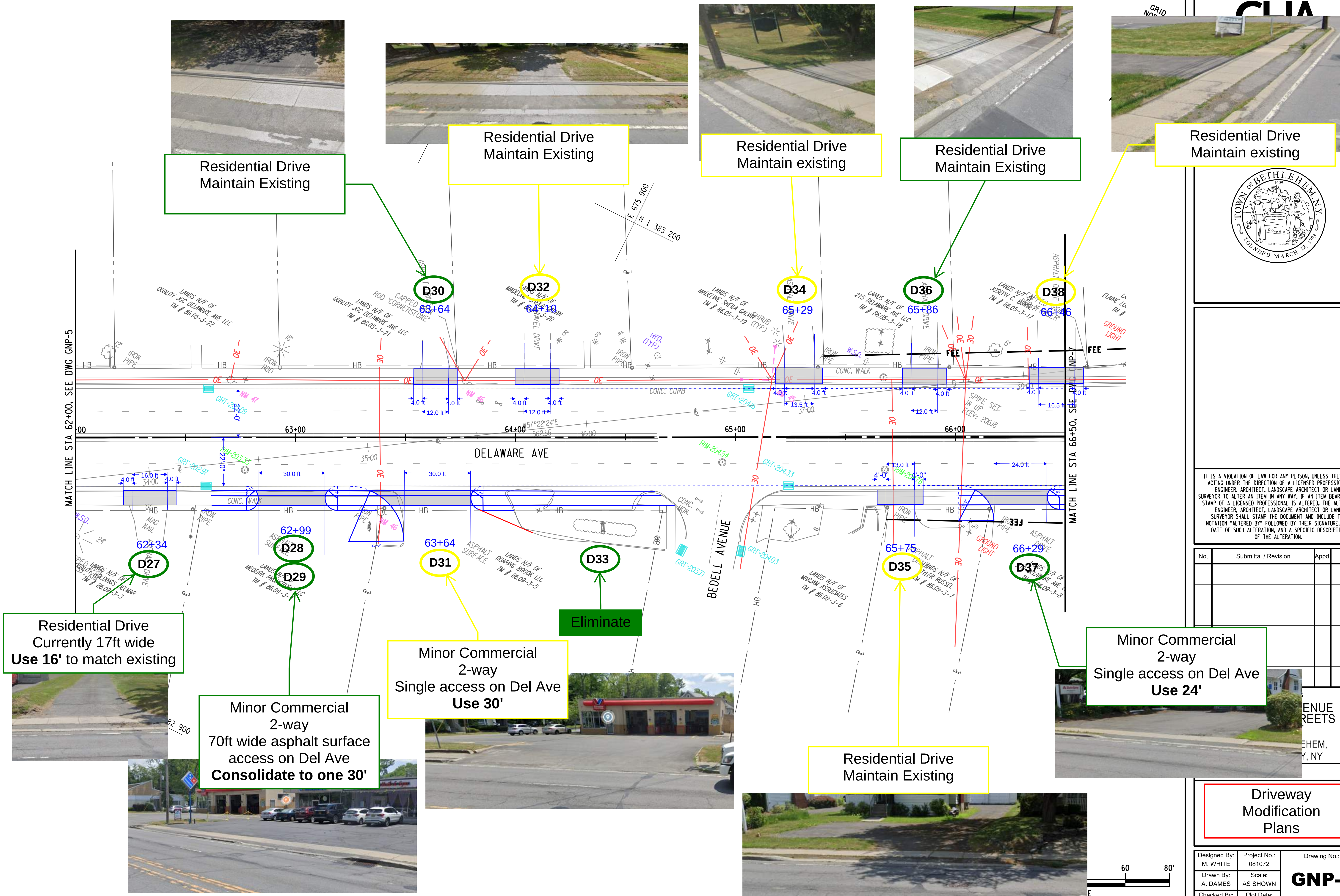
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**GNP-5**
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

SCALE



Drawing Copyright © 2023

TOWN OF BETHLEHEM N.Y.
FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

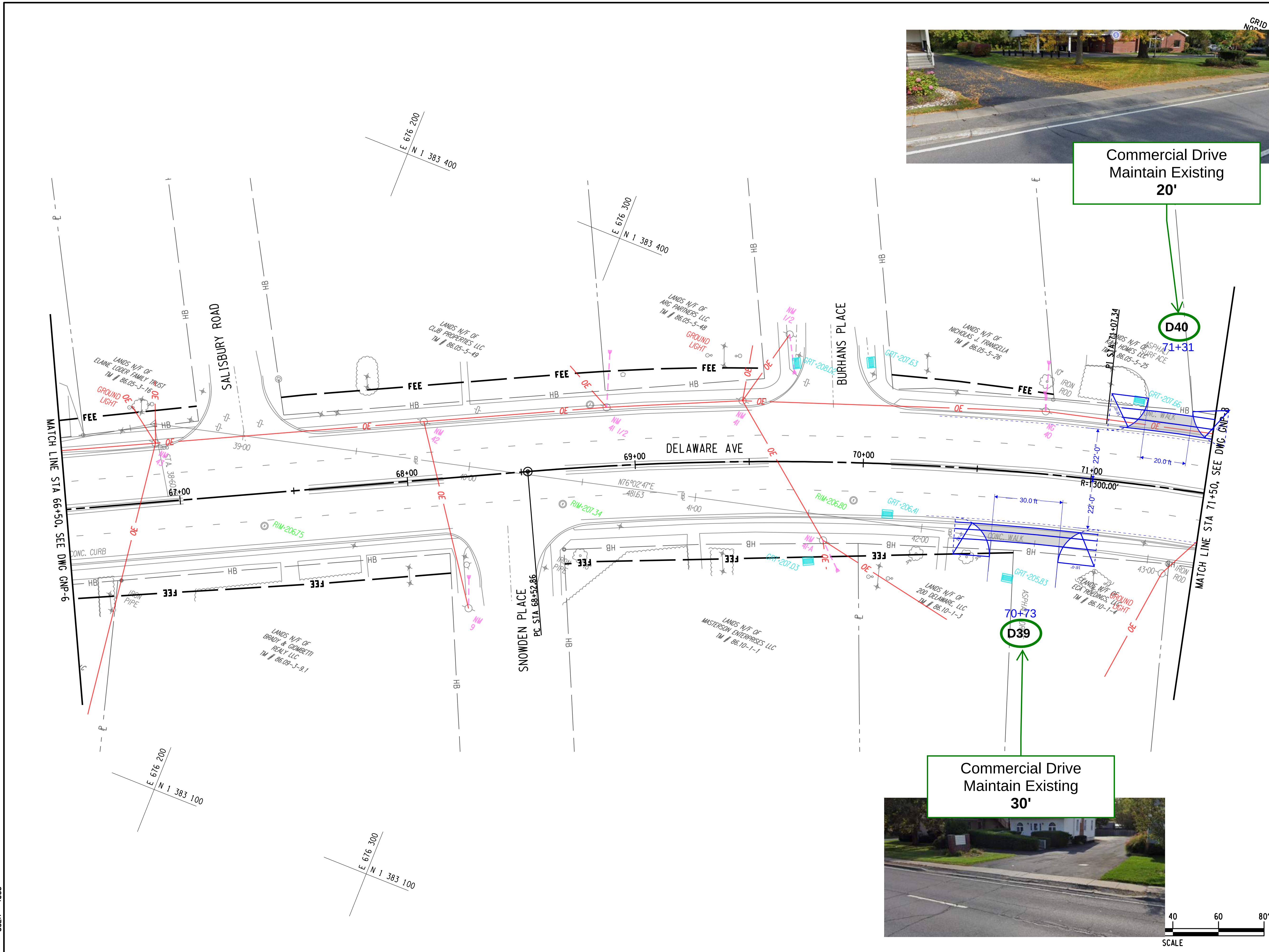
No.	Submittal / Revision	Appd.	Date

ENUE
REETS
EHEM,
Y, NY

Driveway
Modification
Plans

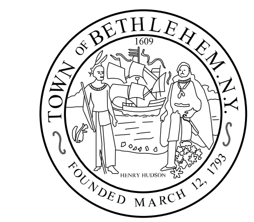
Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	GNP-6
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072_cph_gnp_06.dgn
DATE/TIME = 31-JUL-2023
USER = 4066



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68

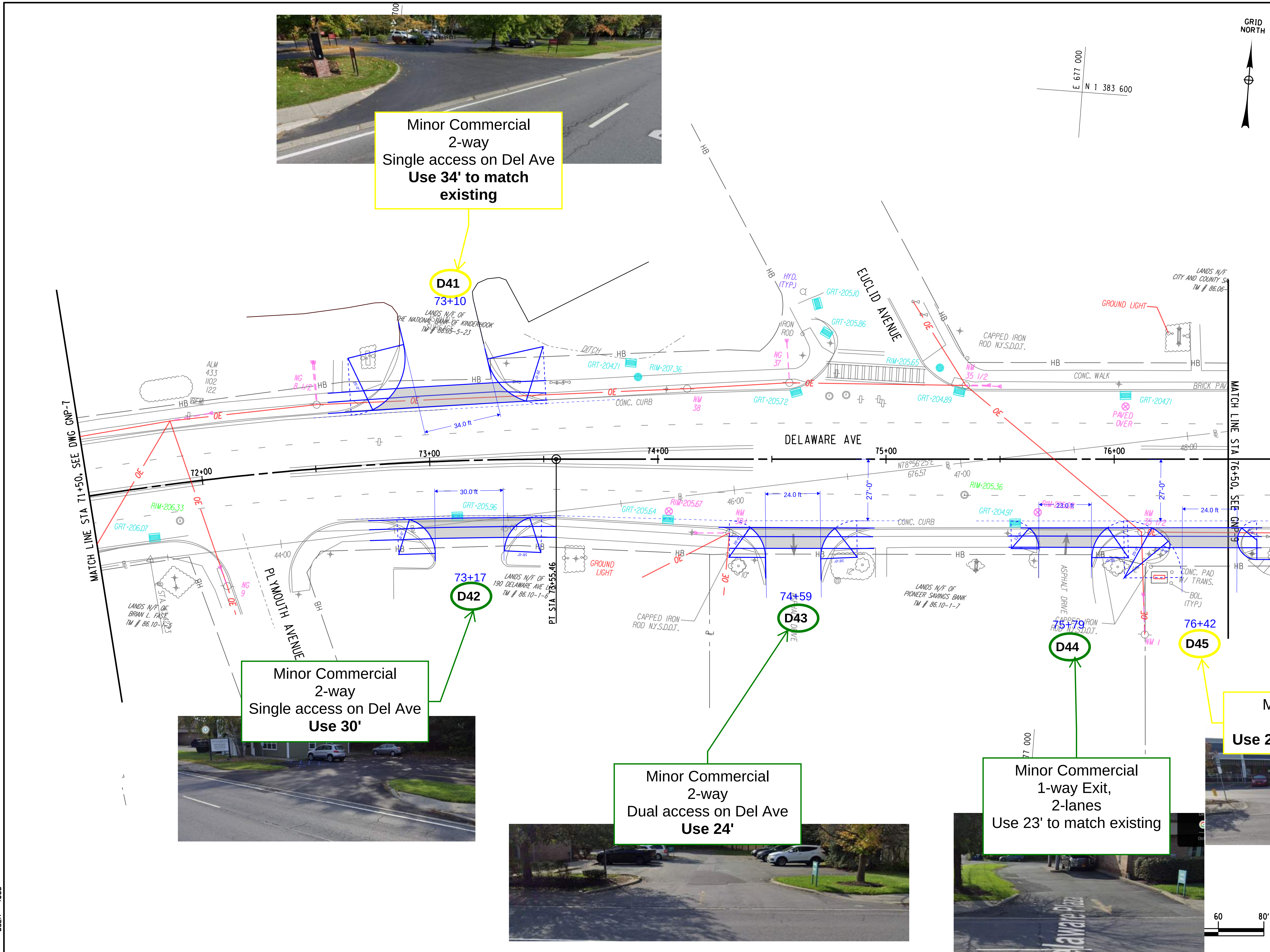
DELAWARE AVENUE COMPLETE STREETS PROJECT

TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-7
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072.cph-gnp_07.dgn
DATE/TIME : 31-JUL-2023
USER : 4066



Drawing Copyright © 2023

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM N.Y.
FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

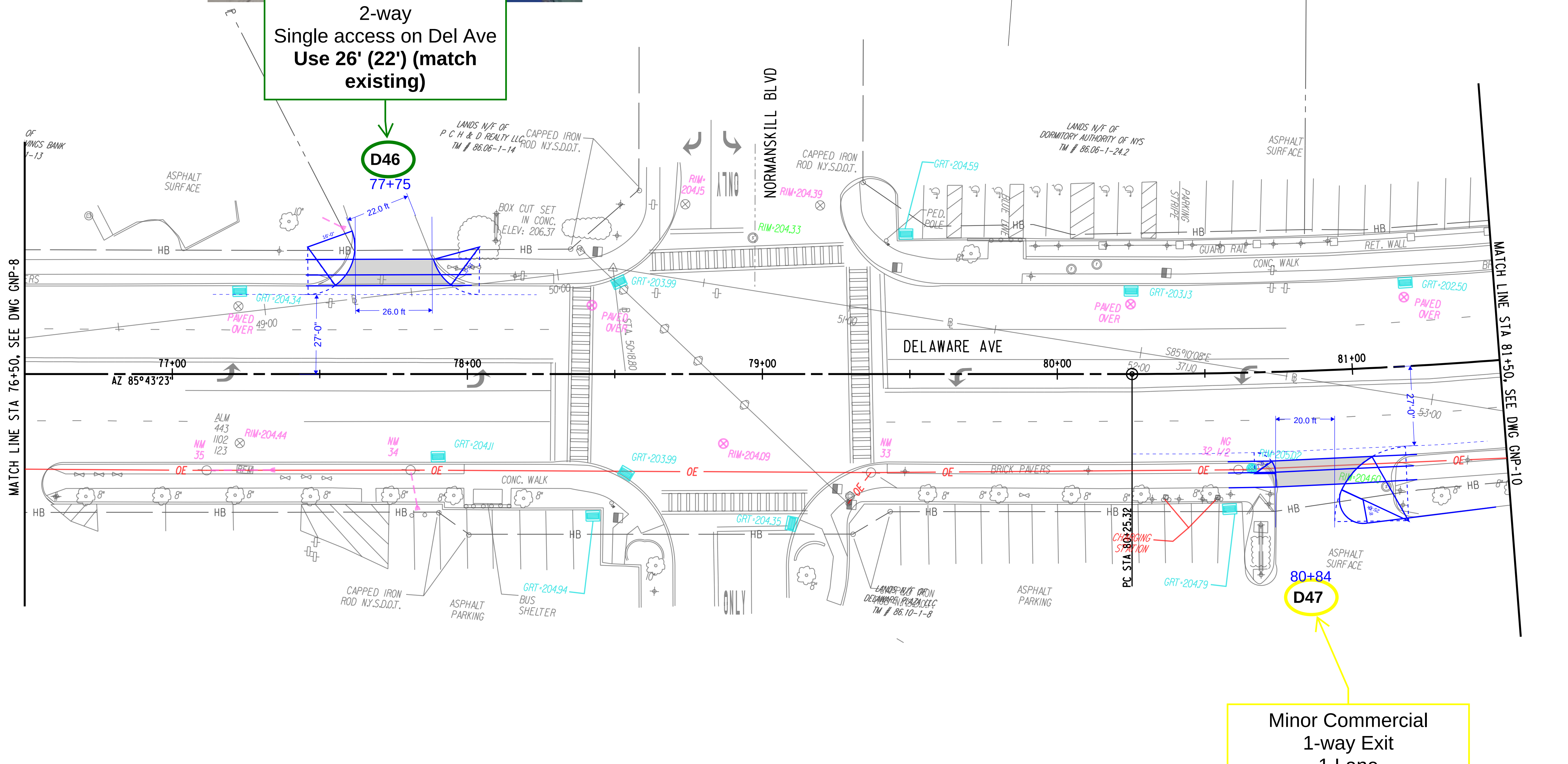
No.	Submittal / Revision	Appd.	Date

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**GNP-8**
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-08.dgn
DATE/TIME : 31-JUL-2023
USER : 4066

Minor Commercial
2-way
Single access on Del Ave
Use 26' (22') (match existing)



Minor Commercial
1-way Exit
1 Lane
Use 16'

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

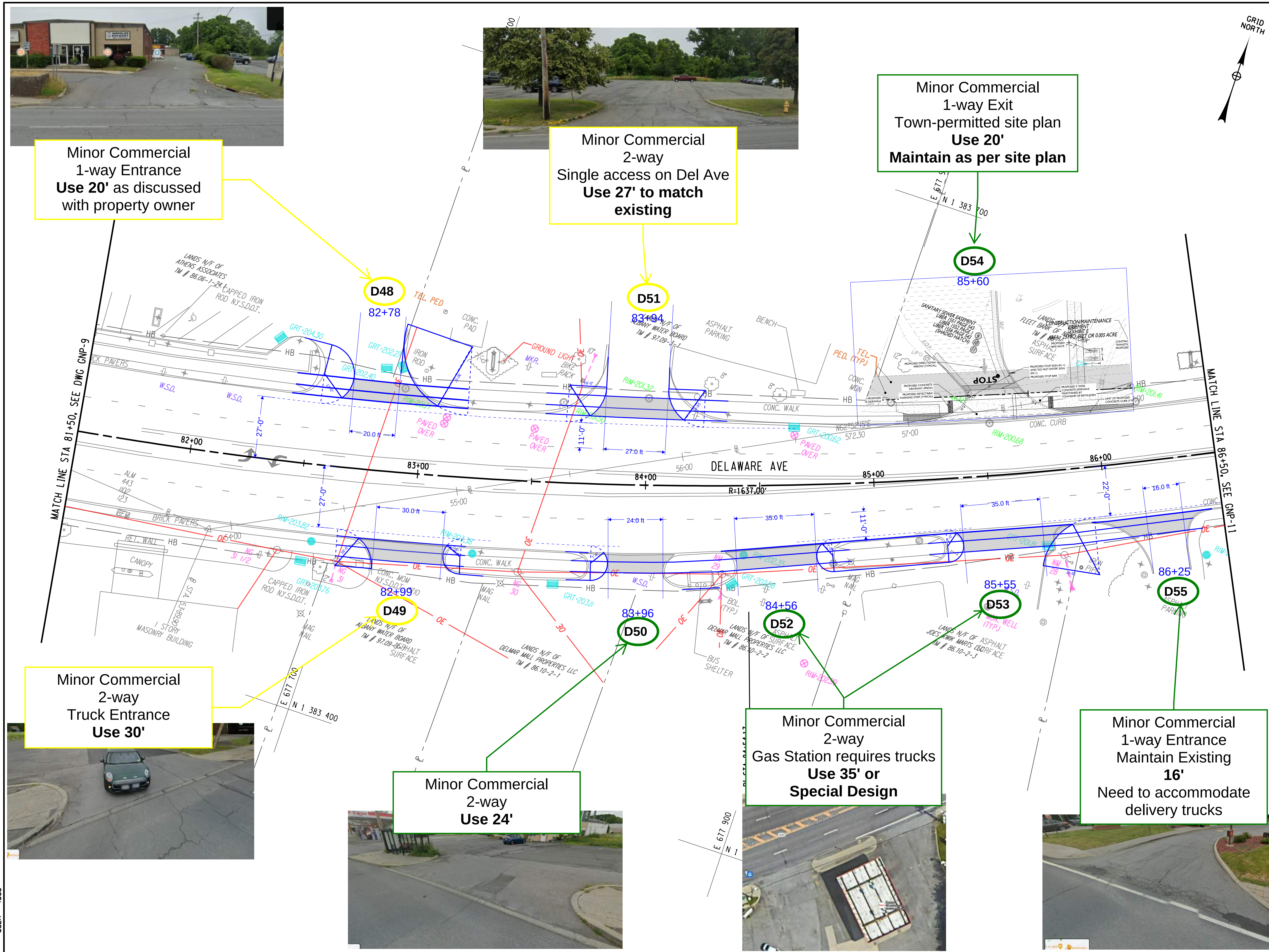
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	GNP-9
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp_09.dgn
DATE/TIME : 31-JUL-2023
USER : 4066



FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-10.dgn
DATE/TIME : 31-JUL-2023
USER : 4066

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

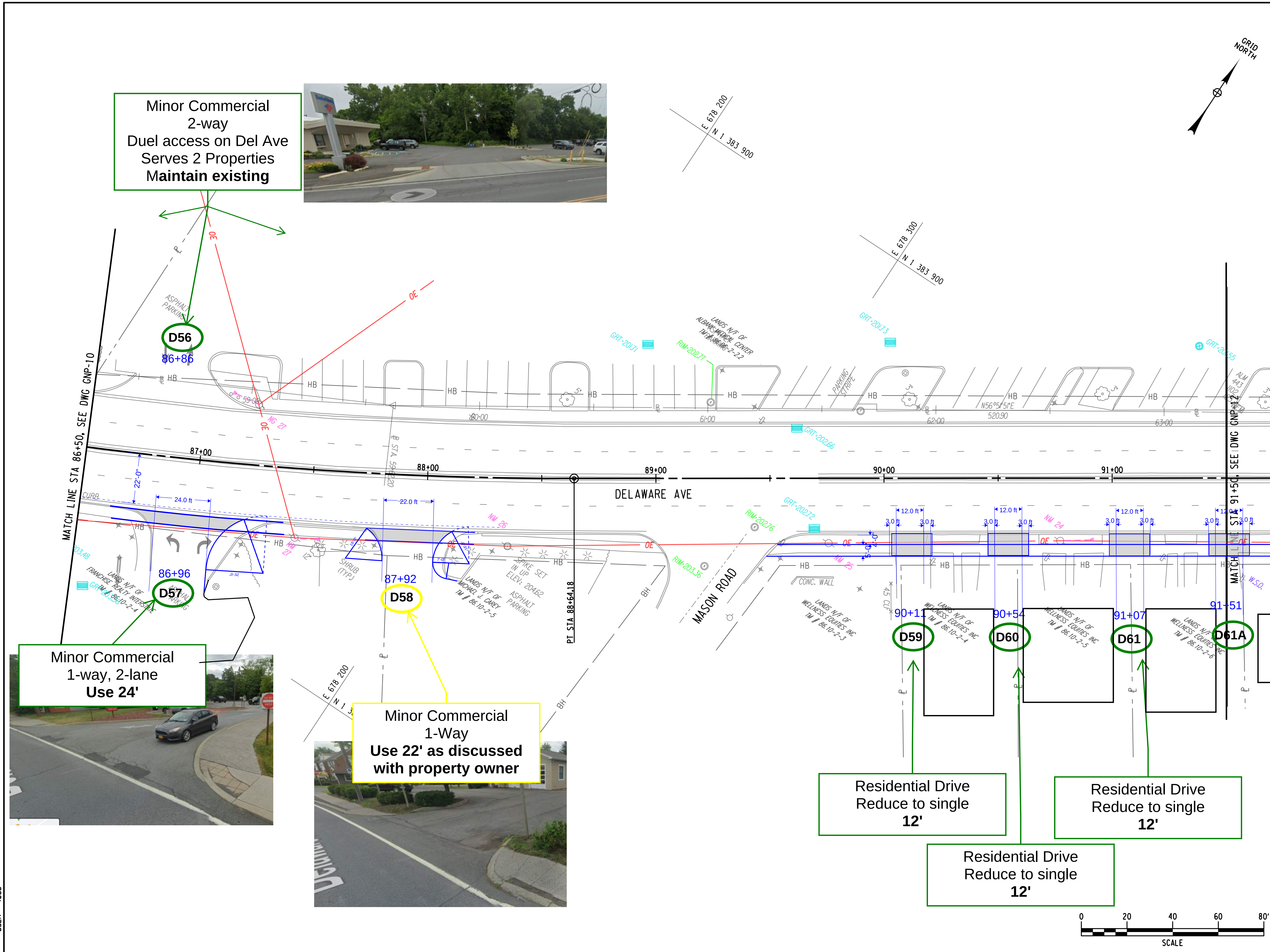
TOWN OF BETHLEHEM N.Y. FOUNDED MARCH 12, 1793

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-10
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX



CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER IN ANY WAY AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

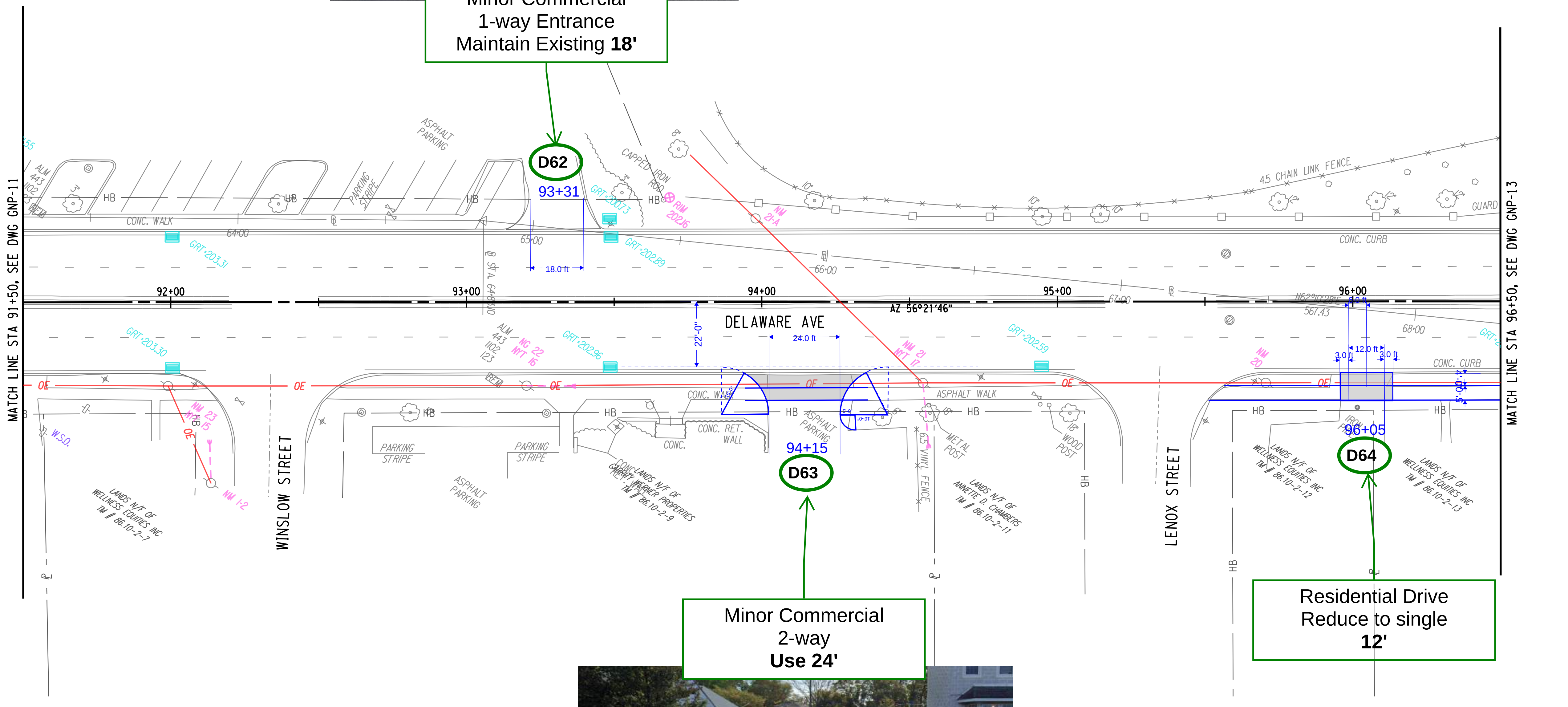
No.	Submittal / Revision	App'd	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-11
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-11.dgn
DATE/TIME = 31-JUL-2023
USER = 4066



Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. FOUNDED MARCH 12, 1793

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

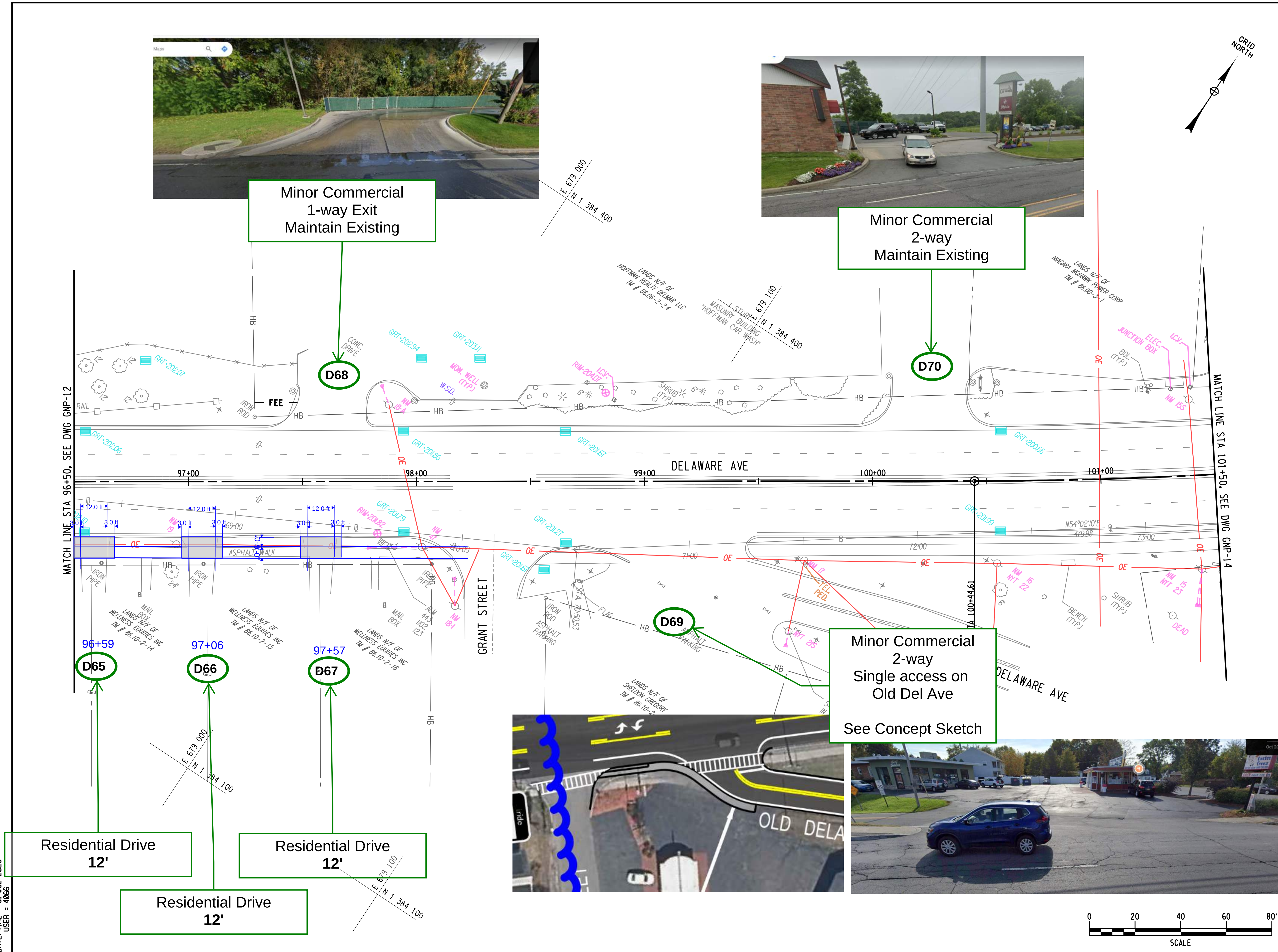
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	GNP-12
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-12.dgn
DATE/TIME : 31-JUL-2023
USER : 4066



Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y.
1609
FOUNDED MARCH 12, 1793

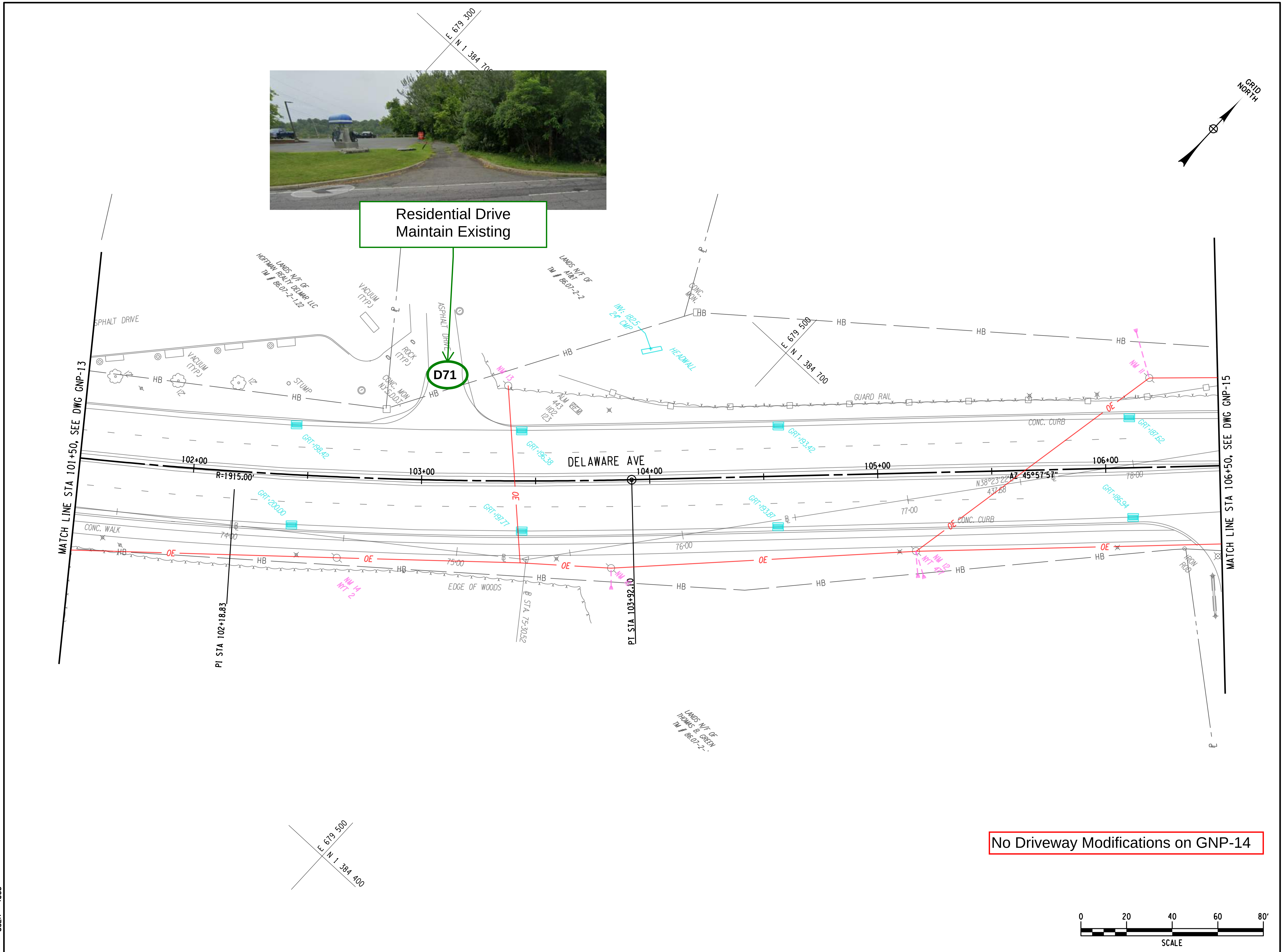
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	GNP-13
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX



CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

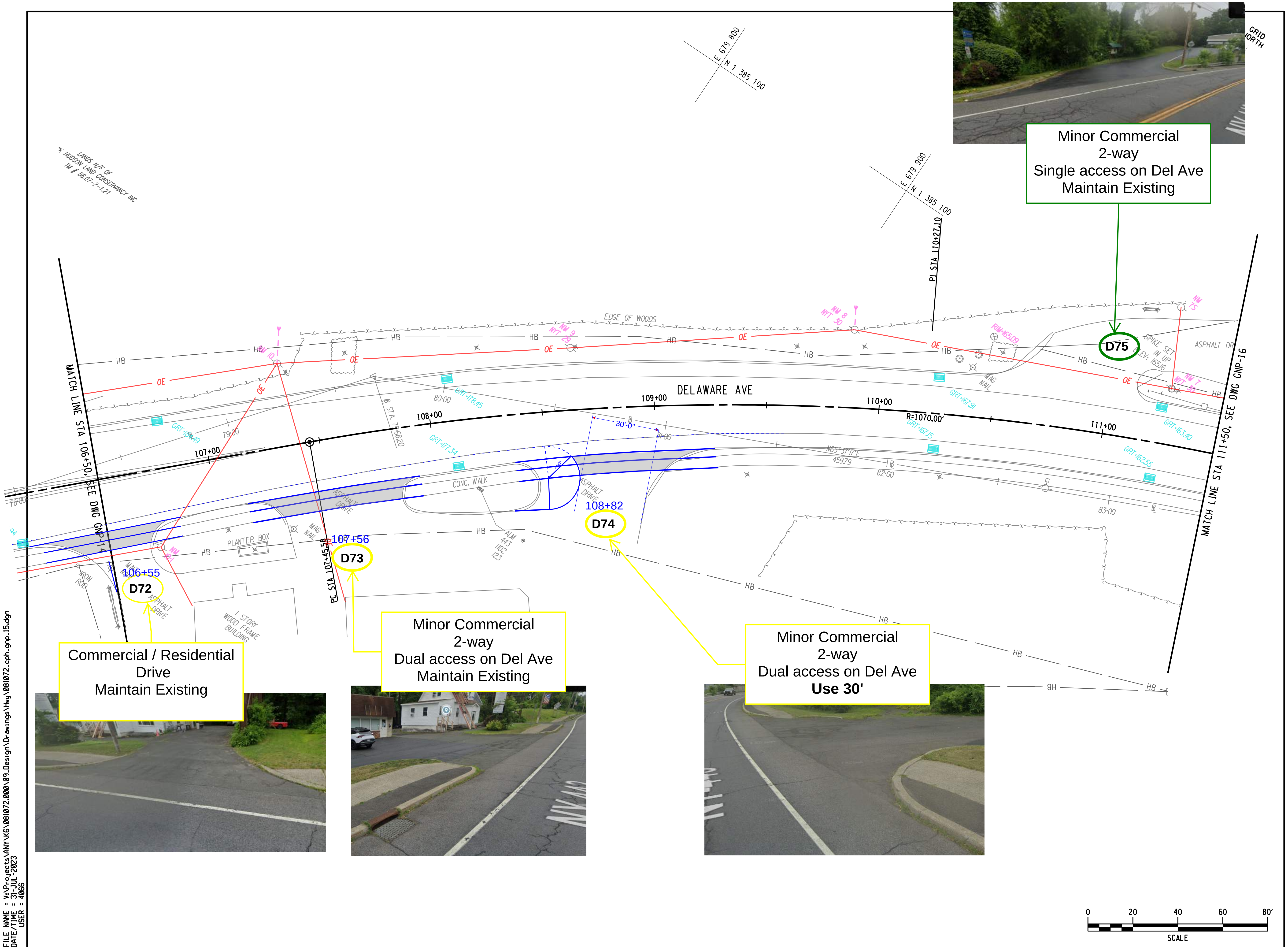
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.: GNP-14
Drawn By: A. DAMES	Scale: AS SHOWN	
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp_14.dgn
DATE/TIME : 31-JUL-2023
USER : 4066



CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

NOT FOR CONSTRUCTION

TOWN OF BETHLEHEM, N.Y. — FOUNDED MARCH 12, 1793

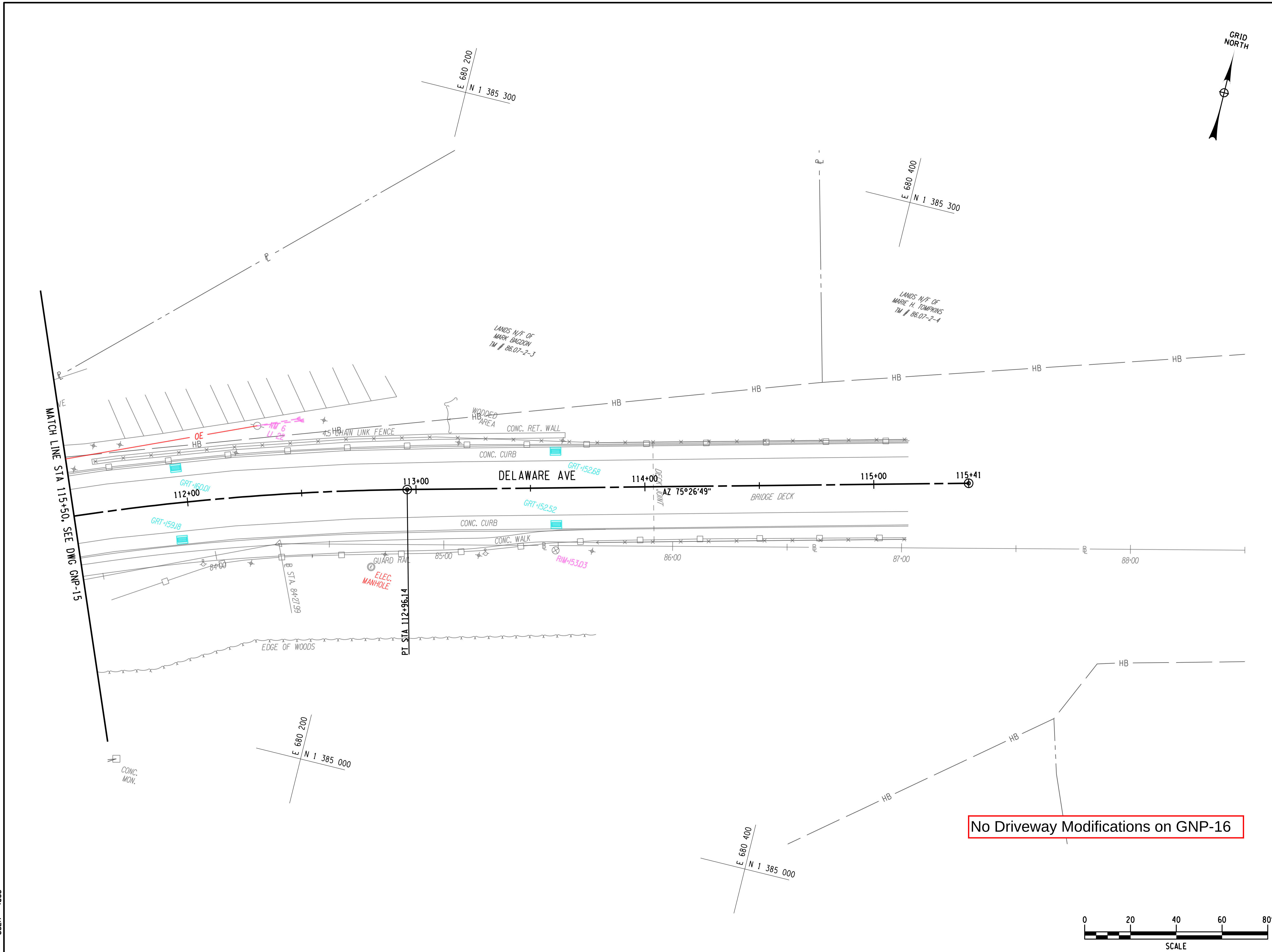
No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	GNP-15
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME : V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp-15.dgn
DATE/TIME : 31-JUL-2023
USER : 4086



Drawing Copyright © 2023

CHA

III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

NOT FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	Submittal / Revision	Appd.	Date

PIN 1761.68
DELAWARE AVENUE COMPLETE STREETS PROJECT
TOWN OF BETHLEHEM, ALBANY COUNTY, NY

Driveway Modification Plans

Designed By: M. WHITE	Project No.: 081072	Drawing No.:
Drawn By: A. DAMES	Scale: AS SHOWN	**GNP-16**
Checked By: J. SHIELDS	Plot Date: 31-JUL-2023	SHEET XX

FILE NAME = V:\Projects\ANY\K6\081072.000\09_Design\Drawings\Hwy\081072-cph-gnp_16.dgn
DATE/TIME = 31-JUL-2023
USER = 4066

Appendix I

Smart Growth Screening Tool

Prepared By: Marissa White

Smart Growth Screening Tool (STEP 1)

NYSDOT & Local Sponsors – Fill out the Smart Growth Screening Tool until the directions indicate to **STOP** for the project type under consideration. For all other projects, complete answering the questions. For any questions, refer to Smart Growth Guidance document.

Title of Proposed Project: Delaware Ave Complete Streets

Location of Project: Town of Bethlehem

Brief Description: Delaware Ave will be milled and repaved and restriped. This project will also include the addition of two midblock crosswalks with median refuge island and ped signals, as well as two gateway feaature (which will also inlcude roadied median refuge areas) on each end of the project. Th eproject also proposes to lower the speed limit to 30 mph throught the corridor. Also, sidewalk will be extended from the Albany Medical Center to the first driveway of Hoffmans Car Wash heading East.

A. Infrastructure:

Addresses SG Law criterion a. –
(To advance projects for the use, maintenance or improvement of existing infrastructure)

1. Does this project use, maintain, or improve existing infrastructure?

Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above – the form has no limitations on the length of your narrative)

Maintenance Projects Only

a. Continue with screening tool for the four (4) types of maintenance projects listed below, as defined in **NYSDOT PDM Exhibit 7-1 and described in 7-4:** https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm

- Shoulder rehabilitation and/or repair;
- Upgrade sign(s) and/or traffic signals;
- Park & ride lot rehabilitation;
- 1R projects that include single course surfacing (inlay or overlay), per Chapter 7 of the NYSDOT Highway Design Manual.

b. For all other maintenance projects, **STOP here.** Attach this document to the programmatic Smart Growth Impact Statement and signed Attestation for Maintenance projects.

For all other projects (other than maintenance), continue with screening tool.

B. Sustainability:

NYSDOT defines Sustainability as follows: A sustainable society manages resources in a way that fulfills the community/social, economic and environmental needs of the present without compromising the needs and opportunities of future generations. A transportation system that supports a sustainable society is one that:

- Allows individual and societal transportation needs to be met in a manner consistent with human and ecosystem health and with equity within and between generations.
- Is safe, affordable, and accessible, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- Protects and preserves the environment by limiting transportation emissions and wastes, minimizes the consumption of resources and enhances the existing environment as practicable.

For more information on the Department's Sustainability strategy, refer to Appendix 1 of the Smart Growth Guidance and the NYSDOT web site, www.dot.ny.gov/programs/greenlites/sustainability

(Addresses SG Law criterion j : to promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement.)

1. Will this project promote sustainability by strengthening existing communities?

   Yes ☒ **No** ☐ **N/A** ☐

2. Will the project reduce greenhouse gas emissions?

   Yes ☐ **No** ☐ **N/A** ☒

   Explain: (use this space to expand on your answers above)

The project strengthens existing communities by including new mid block crossings and extending the sidewalk. This will better connect the neighborhoods on ether side to the commercial area and to eachother.

C. Smart Growth Location:

Plans and investments should preserve our communities by promoting its distinct identity through a local vision created by its citizens.

(Addresses SG Law criteria b and c**:** to advance projects located in municipal centers; to advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan.)

1. Is this project located in a developed area?

   Yes ☒ **No** ☐ **N/A** ☐

2. Is the project located in a municipal center?

   Yes ☒ **No** ☐ **N/A** ☐

3. Will this project foster downtown revitalization?

   Yes ☒ **No** ☐ **N/A** ☐

4. Is this project located in an area designated for concentrated infill development in a municipally approved comprehensive land use plan, waterfront revitalization plan, or Brownfield Opportunity Area plan?

   Yes ☐ **No** ☒ **N/A** ☐

   Explain: (use this space to expand on your answers above)

   This project will foster downtown revitalization by increasing pedestrian access by adding mid-block crossings and extending the sidewalk on the north east side of the project. This will encourage more pedestrian traffic and therefore revitalize the commercial area.

D. Mixed Use Compact Development:

Future planning and development should assure the availability of a range of choices in housing and affordability, employment, education transportation and other essential services to encourage a jobs/housing balance and vibrant community-based workforce.

(Addresses SG Law criteria e and i: to foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income groups; to ensure predictability in building and land use codes.)

1. Will this project foster mixed land uses?

   Yes ☐ **No** ☐ **N/A** ☒

2. Will the project foster brownfield redevelopment?

   Yes ☐ **No** ☐ **N/A** ☒

3. Will this project foster enhancement of beauty in public spaces?

   Yes ☒ **No** ☐ **N/A** ☐

4. Will the project foster a diversity of housing in proximity to places of employment and/or recreation?

   Yes ☐ **No** ☒ **N/A** ☐

5. Will the project foster a diversity of housing in proximity to places of commercial development and/or compact development?

   Yes ☐ **No** ☐ **N/A** ☒

6. Will this project foster integration of all income groups and/or age groups?

   Yes ☐ **No** ☐ **N/A** ☒

7. Will the project ensure predictability in land use codes?

   Yes ☐ **No** ☐ **N/A** ☒

8. Will the project ensure predictability in building codes?

   Yes ☐ **No** ☐ **N/A** ☒

Explain: (use this space to expand on your answers above)

This project includes the addtion of a gateway feature to welcome people to the town of Bethehem. It also includes a raised median with landscaping features at the north east end of the project.

E. Transportation and Access:

NYSDOT recognizes that Smart Growth encourages communities to offer a wide range of transportation options, from walking and biking to transit and automobiles, which increase people's access to jobs, goods, services, and recreation.

(Addresses SG Law criterion f: to provide mobility through transportation choices including improved public transportation and reduced automobile dependency.)

1. Will this project provide public transit?

   Yes ☐ **No** ☒ **N/A** ☐

2. Will this project enable reduced automobile dependency?

   Yes ☒ **No** ☐ **N/A** ☐

3. Will this project improve bicycle and pedestrian facilities (such as shoulder widening to provide for on-road bike lanes, lane striping, crosswalks, new or expanded sidewalks or new/improved pedestrian signals)?

   Yes ☒ **No** ☐ **N/A** ☐

   (Note: Question 3 is an expansion on question 2. The recently passed Complete Streets legislation requires that consideration be given to complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects.)

   Explain: (use this space to expand on your answers above)

   This project includes lengthing the sidewalk to reach the one bus stop that currently has no pedestrian access. Sidewalk ramps will be brought into alignment with current ADA standards. Also, two mid block crossings are being added where there is record of pedestrians crossing the 4 lane highway without any delineation for crossing.

F. Coordinated, Community-Based Planning:

Past experience has shown that early and continuing input in the transportation planning process leads to better decisions and more effective use of limited resources. For information on community based planning efforts, the MPO may be a good resource if the project is located within the MPO planning area.

(Addresses SG Law criteria g and h: to coordinate between state and local government and inter-municipal and regional planning; to participate in community based planning and collaboration.)

1. Has there been participation in community-based planning and collaboration on the project?

Yes ☒ **No** ☐ **N/A** ☐

2. Is the project consistent with local plans?

Yes ☒ **No** ☐ **N/A** ☐

3. Is the project consistent with county, regional, and state plans?

Yes ☒ **No** ☐ **N/A** ☐

4. Has there been coordination between inter-municipal/regional planning and state planning on the project?

Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above)

There has been several meetings with the Bethlehem Town Board and with the public and business owenrs about this project. There have also been numerous dicussions with NYSDOT.

G. Stewardship of Natural and Cultural Resources:

Clean water, clean air and natural open land are essential elements of public health and quality of life for New York State residents, visitors, and future generations. Restoring and protecting natural assets, and open space, promoting energy efficiency, and green building, should be incorporated into all land use and infrastructure planning decisions.

(Addresses SG Law criterion d :To protect, preserve and enhance the State's resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources.)

1. Will the project protect, preserve, and/or enhance agricultural land and/or forests?

Yes ☐ **No** ☐ **N/A** ☒

2. Will the project protect, preserve, and/or enhance surface water and/or groundwater?

Yes ☐ **No** ☐ **N/A** ☒

3. Will the project protect, preserve, and/or enhance air quality?

Yes ☐ **No** ☐ **N/A** ☒

4. Will the project protect, preserve, and/or enhance recreation and/or open space?

Yes ☐ **No** ☐ **N/A** ☒

5. Will the project protect, preserve, and/or enhance scenic areas?

Yes ☐ **No** ☐ **N/A** ☒

6. Will the project protect, preserve, and/or enhance historic and/or archeological resources?

Yes ☒ **No** ☐ **N/A** ☐

Explain: (use this space to expand on your answers above)

The area noted in the archaeology survey will be preserved by the project.

Smart Growth Impact Statement (STEP 2)

NYSDOT: Complete a Smart Growth Impact Statement (SGIS) below using the information from the Screening Tool.

Local Sponsors: The local sponsors are **not** responsible for completing a Smart Growth Impact Statement. Proceed to **Step 3**.

Smart Growth Impact Statement

PIN:

Project Name:

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

➲

➲

➲

➲

➲

➲

This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

Review & Attestation Instructions (STEP 3)

Local Sponsors: Once the Smart Growth Screening Tool is completed, the next step is to submit the project certification statement **(Section A)** to Responsible Local Official for signature. After signing the document, the completed Screening Tool and Certification statement should be sent to NYSDOT for review as noted below.

NYSDOT: For state-let projects, the Screening Tool and SGIS is forwarded to Regional Director/ RPPM/Main Office Program Director or designee for review, and upon approval, the attestation is signed **(Section B.2).** For locally administered projects, the sponsor's submission and certification statement is reviewed by NYSDOT staff, the appropriate box **(Section B.1)** is checked, and the attestation is signed (Section B.2).

A. CERTIFICATION (LOCAL PROJECT)

I HEREBY CERTIFY, to *the best of my knowledge, all of the above to be true and correct.*

Preparer of this document:

Joseph F. Cimino

Signature

03/04/24

Date

Cosultant Project Manager

Title

Joseph F. Cimino P.E.

Printed Name

Responsible Local Official (for local projects):

Signature

03/04/24

Date

Town Planner

Title

Robert Leslie, AICP

Printed Name

B. ATTESTATION (NYSDOT)

1. ***I HEREBY:***

☐ *Concur with the above certification, thereby attesting that this project is in compliance with the State Smart Growth Public Infrastructure Policy Act*

☐ *Concur with the above certification, with the following conditions (information requests, confirming studies, project modifications, etc.):*

(Attach additional sheets as needed)

☐ do not concur with the above certification, thereby deeming this project ineligible to be a recipient of State funding or a subrecipient of Federal funding in accordance with the State Smart Growth Public Infrastructure Policy Act.

2. ***NOW THEREFORE,*** pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act, to the extent practicable, as described in the attached Smart Growth Impact Statement.

NYSDOT Commissioner, Regional Director, MO Program Director,
Regional Planning & Programming Manager (or official designee):

______________________________ ____________

Signature Date

______________________________ ______________________________

Title Printed Name

Appendix J

Environmental Documentation

Appendix J-1

Social Economic and Environmental Resources Checklist (SEERC)

Social, Economic and Environmental Review Checklist

PIN: 1761.68	PROJECT TITLE: Delaware Ave Complete Streets
PROJECT DESCRIPTION / SCOPE / LIMITS: Pavement Rehabilitation and Implementation of Complete Streets and Traffic Calming measures	
MUNICIPALITY(IES):Town of Bethlehem	
COUNTY(IES): Albany	
NEPA CLASSIFICATION: Class II - Cat Ex	
SEQRA TYPE: Statewide SEQRA - 6 NYCRR Part 617 Type II	DATE: 9/13/2024

SOCIAL			
RESOURCE:		APPLICABLE	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
1	Land use change?	No	
2	Occurs in an area with regional/local comprehensive and transportation plans?	Yes	NYS Complete Streets Act (2011) and Town of Bethlehem's Complete Streets Policy (2009); See PSR/FDR Section 3.3.8
3	Occurs in an area with planned future development?	Yes	Limited Commercial – East end of project near Old Delaware Ave
4	Effects to neighborhood character?	Yes	Positive – Safer Ped/Bicycle accommodations and connectivity; See PSR/FDR Section 3.3.8
5	Residential or commercial relocations?	No	
6	Effects to transportation options/patterns? (e.g., transit, walking/pedestrian facilities, bicycling and access to schools, recreational areas, places of worship, health care facilities, effects to emergency services; consider elderly and disabled populations)	Yes	Vehicular traffic calming will benefit pedestrians/bicyclists using transit and sidewalks to access schools, recreational areas, and commercial destinations; See PSR/FDR Section 3.3.8
7	Will the project divide or isolate portions of a community or impact community resources?	No	
8	Occurs within an area containing minority or low income populations per Environmental Justice EO 12898 definitions/guidance *See TEM 4.1.1 App. D*	No	See PSR/FDR Section 3.3.12
9	Occurs on Tribal Nation Lands/Territories (not 'areas of interest' related to Section 106)	No	
ECONOMIC			
RESOURCE:		APPLICABLE	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
10	Effects to local or regional businesses?	Yes	Vehicular traffic calming will benefit pedestrians/bicyclists using transit and sidewalks to access schools, recreational areas, and commercial destinations; See PSR/FDR Section 3.3.9
11	Is the project in a business district?	Yes	Bethlehem Chamber of Commerce; See PSR/FDR Section 3.3.9
11A	Will the project divert traffic away from businesses?	No	
11B	Changes to parking and/or deliveries?	No	
11C	Effects to transportation options to access businesses?	No	
12	Changes in access control?	Yes	Some (31 +/-) driveways will be narrowed and or consolidated according to NYSDOT Standards to minimized ped/vehicle conflict points; See PSR/FDR Section 3.3.11
13	Displacement of occupants or acquisition of dwelling or business?	No	
14	Temporary or permanent right-of-way acquisition?	Yes	9 Strip Acquisitions - See PSR/FDR Section 2.5.2

ENVIRONMENTAL				
RESOURCE:		RESOURCE PRESENT	RESOURCE AFFECTED	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
Water & Land				
15	Wetlands – State: Choose an item. See TEM 4.4.1.11	No	No	
16	Wetlands – Federal EO 11990 may apply See TEM 4.4.1.11	No	No	
17	Surface waterbodies & watercourses – State or Federal See TEM 4.4.1.11	No	No	
18	Wild, Scenic and/or Recreational Rivers – State or Federal See TEM 4.4.3	No	No	
19	Navigable Waters subject to NYS Protection of Water Program (Article 15), Rivers and Harbors Management Act (Section 10), or US Coast Guard See TEM 4.4.1.11	No	No	
20	Coastal Area or Designated Inland Waterway See TEM 4.4.6	No	No	
21	Coastal Special Management Area(s) (Approved/Pending Local Waterfront Revitalization Program Areas, Significant Coastal Fish and Wildlife Habitats, Scenic Areas of Statewide Significance, or areas with Harbor Management Plans) See TEM 4.4.6	No	No	
22	State Coastal Erosion Hazard Area See TEM 4.4.6	No	No	
23	Federal Coastal Barrier Resource System See TEM 4.4.6	No	No	
24	Over sole source, principal, or primary aquifers; or adjacent to drinking water supply source See EPM 4.4	No	No	
25	SPDES/NPDES permit required See Stormwater page	No	No	
26	Change of stormwater drainage patterns/outfalls within an MS4 area See Stormwater page	No	No	
27	Flood zones, floodplains, or floodways – EO 11988 and/or 6 NYCRR 502 See TEM 4.4.5	No	No	
28	Section 408 USACE Civil Works Project or NYS Article 16 Flood Control Lands See TEM 4.4.1.11	No	No	
General Ecology & Wildlife Resources				
29	Federal – Threatened & Endangered Species (ESA Section 7) Tree Cutting Proposed: No See TEM 4.4.9.3	Yes	Yes	The IPac website identified the Northern Long-eared Bat, Triclolored Bat, and Monarch Butterfly species as Fed listed - FHWA concurred w/ NYSDOT "No Effect" Determination
30	State – Threatened & Endangered Species See TEM 4.4.9.3	No	No	
31	NYSDEC mussel waterbody: Choose an item. See TEM 4.4.9.3	No	No	
32	Identified invasive species (EO 13112) See EPM 4.8	No	No	
33	Known breeding habitat or nests present (Migratory Bird Treaty Act)	No	No	

Historic Resources & Parkland *See TEM 4.4.12 and 4.4.13*				
34	Historic and/or cultural resources: Section 106 *See TEM 4.4.12 Appendix G*	Yes	No	See PSR/FDR Section 3.3.7
35	Parks and/or recreational resources	No	No	
35A	Resources w/ LWCF grants (Section 6(f))	No	No	
35B	Section 1010 – City Urban Park and Recreation Recovery Act	No	No	
36	Any Section 4(f) properties (parks, recreation areas, wildlife and waterfowl refuges, historic sites) *See Section 4(f) Policy Paper*	No	No	
Farmlands *See TEM 4.4.15*				
37	Agricultural districts – State	No	No	
38	FPPA soils – Federal	No	No	
Air Quality/Greenhouse Gases (if analysis required check yes) *See EPM 1.1*				
39	Mobile Source Air Toxics (MSAT)	No	No	
40	Mesoscale: Choose an item.	No	No	
41	Microscale/Hot Spot	No	No	
42	Energy and greenhouse gases	No	No	See PSR/FDR Section 3.3.12
Asbestos and Hazardous / Contaminated Materials *See TEM 4.4.19 and 4.4.20*				
43	Asbestos-containing materials (ACMs)	Choose an item.	Choose an item.	
44	Lead-based bridge paint/coatings	No	No	
45	Remediation sites, including National Priority List, Brownfield sites, etc.	No	No	
46	Materials requiring special handling or disposal (e.g., petroleum-based contamination, PCB-contaminated gas mains, treated wood products, polymer concrete slurries, medical/bio wastes, etc.)	No	No	
Other				
47	Noise type per 23 CFR 772/NYSDOT Noise Policy: Choose an item. *See TEM 4.4.18*	No	No	
48	Critical Environmental Areas *See mapper*	No	No	
49	Visual Resources *See PDM Chapter 3.2.2.2*	No	No	
50	Scenic Byways *See Scenic Byway page*	No	No	
51	Wildlife and Waterfowl Refuges	No	No	
Regional Specific Resources				
52	Adirondack or Catskill Parks or NYS Forest Preserve (only Regions 1, 2, 7 8 & 9)	No	No	
53	NYC Watershed (only Regions 1, 8 & 9)	No	No	
54	NYC-owned land (only Regions 1, 8 & 9)	No	No	
55	Regional Plans or Programs	Yes	Yes	This project is in alignment with the Town of Bethlehem-Comprehensive-Plan; (PSR/FDR Section 3.3.8)

PREPARED BY: (Print Name and Title)

CERTIFICATION:
I certify that the information provided above is true and accurate based on my review.

Regional Environmental Unit Supervisor or Main Office Environmental Lead × John L Hallock Jr Date: 12/16/2024

Print Name and Title: John L. Hallock Jr., Environmental Specialist 2

Appendix J-2

Federal Environmental Approvals Worksheet (FEAW)

Federal Environmental Approval Worksheet

PIN: 1761.68	Completed by: S. Hickey	Date Completed: 9/13/24	FUNDING TYPE: Federal
TITLE/PUBLIC DESCRIPTION: Delaware Ave Complete Streets: Pavement rehabilitation and implementation of Complete Streets and traffic calming measures			NEPA CLASS: Class II: CE SEQR TYPE: Type II
LOCALITY (Village, Town, City): Town of Bethlehem	COUNTY: Albany	Action Type: Federal Aid Highway Project	Is this a Reevaluation? **No**

Purpose of this Worksheet:

- Implement the ***P**rogrammatic **A**greement Between the Federal Highway Administration, New York Division (FHWA), and the New York State Department of Transportation (NYSDOT) **R**egarding the Processing of Actions Classified as **C**ategorical **E**xclusions (CEs) for Federal-Aid Highway Projects* (PARCE)**,** executed September 2022.
- Communicate the project National Environmental Policy Act (NEPA) classification and identify whether the FHWA or the NYSDOT (titles identified per Project Development Manual (PDM) Chapter 4, Exhibit 4-2) is making the CE determination.
- Identify any FHWA independent determinations, approvals and/or concurrences required before the CE determination can be made.
- To be included within the Design Approval Document (DAD[1]) in accordance with the documentation requirements in the PARCE.

Categorical Exclusion (CE) - a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency (40 CFR 1508.4). Actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) (23 CFR 771.115(b)).

Instructions:

Initial review of the Federal Environmental Approval Worksheet (FEAW) should occur in scoping or early in Design Phase I to identify potential risks. Complete new review of the FEAW periodically, particularly if project parameters or site condition changes result in potential resource impacts. Completion of the FEAW with signature in Step 4 is required prior to Design Approval. See PDM Chapter 4 for additional details.

Step 1A: Unusual Circumstances Threshold Determination –

Do any, or the potential for any, unusual circumstances exist**:**

- Significant environmental impacts (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Substantial controversy on environmental grounds (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic Preservation Act (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the project (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Residential or non-residential displacements (FHWA-NY Division identified circumstance[2]) **YES**☐ **NO**☒
- Conversion of a road segment from non-tolling to tolling, or the construction of a new highway or bridge with tolling proposed (FHWA-NY Division identified circumstance) **YES**☐ **NO**☒

If yes to any of the above, contact the Main Office Project Liaison (MOPL) (see PDM Exhibit 4-1). Any project which would normally be classified as a CE but could involve unusual circumstances (or even uncertainty) will require consultation with the Office of Environment (OOE) and subsequently with the FHWA to determine if CE classification is still warranted. If, after consultation with the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can be progressed as a CE, **proceed to step 1B.**

If no to all the above, then this project qualifies as a CE; **proceed to step 1B**.

Step 1B: Identification of CE action

Is the project an action listed in 23 CFR 771.117 (c) - (d) (or as identified in FHWA's additional flexibilities memo)? **YES**☒ **NO**☐

If Yes, proceed to step 2.

[1] For FHWA actions not associated with a project (no DAD), include the FEAW in the appropriate documentation for that action.
[2] See additional discussion on FHWA-NY unusual circumstances in the FEAW Instructions document.

If No, contact the MOPL (see PDM Exhibit 4-1). If, after consultation with the OOE and the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can continue as a CE, **proceed to step 2.**

Federal Environmental Approval Worksheet

Project ID Number: 1761.68

Step 2: FHWA environmental actions required prior to CE determination[3]
The Step 2 table identifies certain issues that require: the FHWA to make the CE determination (Column A and 2.4); independent FHWA determinations (2.1); FHWA approvals, compliance, or concurrence (2.2); or notification to the FHWA (2.3). Review ***the FEAW Thresholds document*** to determine how to fill out each column of Step 2.

2.1 Required FHWA Independent environmental determinations	**PARCE threshold exceeded**[4]	**FHWA independent determination/ concurrence required**	**Date Federal determination/ concurrence issued**	**Resource not present, or present but threshold not exceeded**
	A	**B**	**B1**	**C**
Executive Order (EO) 11990 Protection of Wetlands Individual Finding		☐	Date Issued	☒
ESA Section 7 Threatened and Endangered Species	☐	☒	12/04/2024	☐
Section 106 of National Historic Preservation Act	☐	☒	3/18/2024	☐
Section 4(f) (Park, Wildlife Refuge, Historic Sites, and National Wild and Scenic Rivers)	☐	☐	Date Issued	☒
2.2 Other FHWA environmental approvals, compliance and/or concurrence required	**PARCE threshold exceeded**[4]	**Threshold exceeded; FHWA approval, compliance or concurrence required**		**Resource not present, or present but threshold not exceeded**
EO 11988 Floodplains	☐	☐		☒
EO 12898 Environmental Justice	☐	☐		☒
US Army Corps of Engineers Permitting	☐	☐		☒
Section 6(f) Land and Water Conservation Funds	☐	☐		☒
Safe Drinking Water Act Section 1424(e)		☐		☒
Migratory Bird Treaty Act		☐		☒
23 CFR 772 Type I Noise abatement		☐		☒
2.3 Other Environmental Issues requiring FHWA notification	**PARCE threshold exceeded**[4]	**FHWA notification threshold exceeded**		**Resource not present, or present but threshold not exceeded**
National Wild and Scenic Rivers	☐	☐		☒
US Coast Guard Bridge Permit	☐	☐		☒
Known hazardous waste site (only EPA National Priority list)		☐		☒
Project on or affecting Native American Lands		☐		☒
2.4 Other Issues Triggering FHWA Approval of Categorical Exclusion	**PARCE threshold exceeded**[4]			**Resource not present, or present but threshold not exceeded**
Property Acquisition	☐			☒
Major Traffic Disruptions	☐			☒
Changes in Access Control	☐			☒

[3] **This table does not represent all environmental issues and actions to which a project is subject to**. Classification as a CE does not exempt the project from further environmental review. Refer to the PDM Appendix A and The Transportation Environmental Manual (TEM) to determine review requirements**.**
[4] When PARCE threshold is exceeded, the NYSDOT recommends that the project qualifies as a CE and requests the FHWA make the CE determination. Information on PARCE specific thresholds is contained within ***the FEAW Thresholds document.***

Federal Environmental Approval Worksheet

Project ID Number: 1761.68

Step 3: Who makes the NEPA CE Determination?

To identify which party, either the FHWA or the NYSDOT, makes the CE determination in accordance with the PARCE, follow the instructions found in the table below, beginning in Step 3A. This step also identifies which correspondence shell to use to distribute the FEAW and other environmental notifications or approvals.

3	**Determine whether the FHWA or the NYSDOT makes the CE determination and whether additional notifications or approvals are required.**
3A	**Is the project an action listed in 23 CFR 771.117 (c) - (d)** (Answered yes in Step 1B)**?** **YES** ☒ If Yes, **proceed to 3B.** **NO** ☐ If No, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD, the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the Regional Planning and Program Manager (RPPM) to the FHWA directly using **FAHP Shell 4.** • For all other actions, the DAD[5] and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.**
3B	**Are any of the CE Thresholds from the PARCE exceeded** (Are there any checks in Column A of Step 2)**?** **YES** ☐ If Yes, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using FAHP **Shell 4.** • For all other actions, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.** **NO** ☒ If No, **proceed to 3C.**
3C	**Are there outstanding independent environmental approvals or concurrences?** (Are there checks in column B of Step 2.1 without dates in column B1)**?** **YES** ☐ If Yes, then the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using FAHP **Shell 4.** • For all other actions, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.** **NO** ☒ If No, the NYSDOT makes the NEPA CE determination. **Proceed to 3D.**

[5] For non-FAHP actions that do not have a DAD, a detailed description of the action and environmental documentation is sent in lieu of a DAD.

Project ID Number: 1761.68

3D	**Are there** ☐ any circumstances requiring demonstration of applicable EO compliance (any checks in column B of Table 2.2); or ☐ any issues requiring the FHWA environmental notification (any checks in column B of Table 2.3)? ☐ If **either** box is checked, **once all required approvals and concurrences have been secured,** the NYSDOT makes the CE determination, but the information must be forwarded to FHWA for notification or action prior to Design Approval for FAHP (prior to physical construction for ID/IQ, or prior to RD approval for ROW actions) using **FAHP Shell 1** (can also be used for ROW actions), **For ID/IQ, Shell 1 is sent to notify FHWA (and request concurrence if needed). ID/IQ Shell 2 is also used to request RD signature once FHWA response is received).** **Proceed to step 4.** ☒ If **neither** box is checked, **once all required approvals and concurrences have been secured,** the NYSDOT makes the CE determination without notification to the FHWA. The project will use **FAHP Shell 2, ID/IQ Shell 2** or appropriate **ROW transmittal**. **Proceed to step 4.**

Step 4: Summary and Recommendation

- The project location(s) **is** located within an area subject to transportation air quality conformity.
  - **If the project is within such areas, the NEPA process may not be completed until all transportation conformity requirements are met[6].**
  - Transportation conformity requirements **have been met at this time.**
- This project does qualify to be progressed as a Categorical Exclusion.
- The NEPA Determination will be made by NYSDOT
- The Action meets the conditions of the listed CE at 23 CFR 771.117: d(13) "Modernization of a highway - does not meet constraints in paragraph (e) of 23 CFR 771.117." [7]
- All outstanding FHWA environmental approvals will be obtained and are listed here:

- All the conditions of the PARCE are addressed herein (or within the DAD or attachments).

I certify that the information provided above is true and accurate and recommend the project be processed as described above.

Project Manager/Designer (or Responsible Local Official)[8] ✕ Rob Leslie — Date 09/30/2024

Print Name and Title: Rob Leslie - Town Planner

Regional Environmental Unit Supervisor ✕ John L Hallock Jr — Date 12/16/2024

Print Name and Title: John L. Hallock Jr., Environmental Specialist 2

Regional Local Project Liaison (Locally Administered Projects Only) ✕ ______ Date______

Print Name and Title: ______

Changes that may have occurred since the preparation of the FEAW which would create the need to review the FEAW again include but are not limited to triggers for reevaluations described in PDM Appendix 11 or any expansion in location or scope of the action for non-FAHP actions. Based on the review of the previously certified FEAW, if the current scope of the

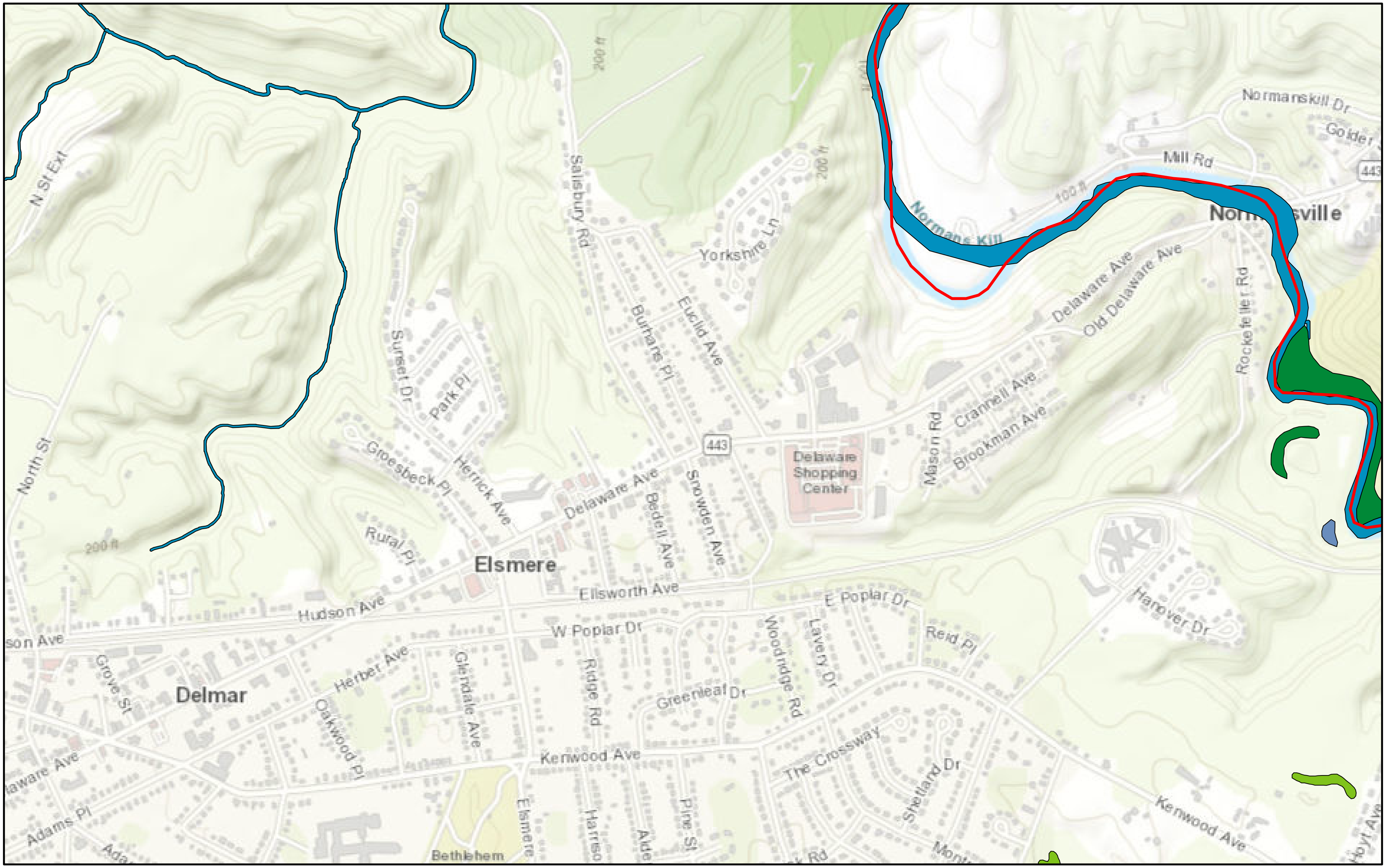
[6] See additional information on conformity *in FEAW_Instructions.doc*
[7] See additional information on identifying (c)26, (c)27 & (c)28 versus d (13) *in FEAW_Instructions.doc*
[8] Or appropriate Permitting/ROW staff for use and occupancy permit or disposal of surplus property

action would change any of the answers to the FEAW and more specifically if any of the determinations within step 2.1 require a new federal determination or concurrence then a new FEAW should be produced and certified.

Appendix J-3

National Wetland Inventory (NWI) Mapped Wetlands

NWI Wetlands



August 8, 2023

1:18,056

0 0.1 0.2 0.4 mi

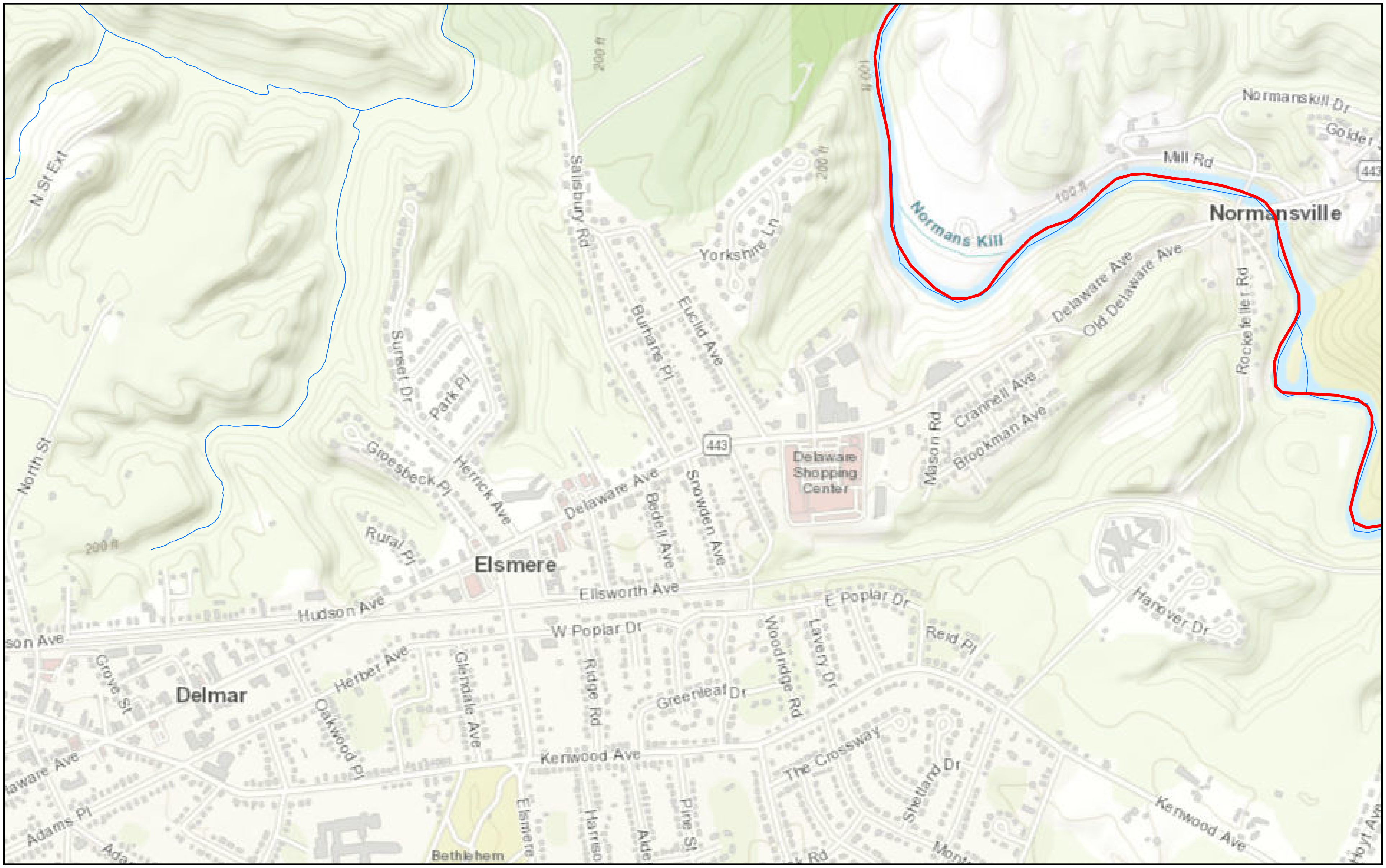
0 0.17 0.35 0.7 km

Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NYS Department of Environmental Conservation

Not a legal document

State Regulated Streams and Wetlands



August 8, 2023

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NYS Department of Environmental Conservation

Not a legal document

Appendix J-4

Information for Planning and Consultation (IPaC)

Section 7 Endangered Species Act (ESA) Transmittal Sheet

USFWS Consistency Letter

FHWA Endangered Species Act Concurrence Memo

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 09/11/2024 16:57:39 UTC
Project Code: 2024-0142714
Project Name: Delaware Ave Complete Streets

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code:	2024-0142714
Project Name:	Delaware Ave Complete Streets
Project Type:	Road/Hwy - Maintenance/Modification
Project Description:	Delaware Ave will be milled and repaved and restriped. This project will also include the addition of two midblock crosswalks with median refuge island and pedestrian signals, as well as two gateway features (which will also include road diet median refuge areas) on each end of the project. New sidewalks will be constructed to complete the current disconnected corridor.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.62937545,-73.80917397620262,14z

Counties: Albany County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: CHA Consulting
Name: Sean Hickey
Address: 100 Chestnut Street
City: Rochester
State: NY
Zip: 14604
Email shickey@chacompanies.com
Phone: 5852700152

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

PIN: 1761.68 **PROJECT NAME:** Delaware Ave Complete Streets **Date:** 8/17/23

Section 7 ESA Process for USFWS Species: ESA Transmittal Sheet

Step 3: Documentation. Please complete the appropriate boxes below and complete the documentation as described.

	ESA Does Not Apply	No Effect, Activity-Based	No Effect	No Effect, No Suitable Habitat [1]	Bat PA IPaC Submittal- MA, NLAA	Individual Submission to USFWS	MA, LAA- Formal Consultation
Northern Long-eared Bat	☐		✔	☐ -	☐	☐	☐
Indiana Bat	✔		☐	☐	☐	☐	☐
Bog Turtle	✔		☐	☐	NA	☐	☐
Mussels	✔		☐	☐	NA	☐	☐
Karner Blue Butterfly	✔		☐	☐	NA	☐	☐
Other (Red Knot, Piping Plover, etc.) List Species:	✔		☐	☐	NA	☐	☐
Documentation Required	The IPaC Official Species List is included in the DAD.	Record the corresponding number of the activity in the box. This sheet and the IPaC Official Species List are included in the DAD.	NYSDOT submits "No Effect" determination to FHWA. FHWA will concur or not concur.	NYSDOT submits "No Effect, No Suitable Habitat" determination to FHWA. Concurrence has been obtained if 7 days pass without correspondence from FHWA. [2]	NYSDOT submits through IPaC w/ Area Engineer included. Concurrence is obtained if 14 days pass without correspondence from USFWS.	NYSDOT submits either BE or BA to FHWA, who submits to USFWS for concurrence.	NYSDOT submits BA to FHWA for Initiation of Formal Consultation with USFWS.
Submission to FHWA Required?	No	No	Yes	Yes [3]	cc: only	Yes	Yes
Submission to USFWS by DOT through IPAC Required?	No	No	No	No	Yes	No	No
Submission to USFWS by FHWA Required?	No	No	No	No	No	Yes	Yes

Instructions: This Summary Sheet is to be included all submissions to FHWA. A submittal package includes all documentation for all species requiring concurrence with a cover letter requesting concurrence, so that FHWA can make one ESA determination. SEE EACH SPECIES-SPECIFIC PACKAGE FOR SPECIFIC DOCUMENTATION REQUIREMENTS FOR SUBMITTALS. Also, FHWA requires documentation of compliance with ESA in the DAD.

When the IPaC Species List includes NLEB but the IPaC Determination Key indicates the project does not intersect an area where bats are likely to occur: [1] If NLEB-IPaC Auto NE: In the NLEB cell, write "IPaC Automatic NE"; [2] If NLEB-IPaC Auto NE: The IPaC Official Species List and No Effect Consistency Letter is included in the DAD; [3] If NLEB-IPaC Auto NE: Submission to FHWA is not required.

Revised 4/20/2023

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 09/12/2024 12:29:19 UTC
Project code: 2024-0142714
Project Name: Delaware Ave Complete Streets

Subject: Consistency letter for the 'Delaware Ave Complete Streets' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated September 12, 2024 to verify that the **Delaware Ave Complete Streets** (Proposed Action) may rely on the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action will have no effect on the endangered Indiana bat (*Myotis sodalis*) or the endangered northern long-eared bat (*Myotis septentrionalis*). If the Proposed Action is not modified, **no consultation is required for these two species.** If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:
If your initial bridge/culvert or structure assessment failed to detect Indiana bats and/or NLEBs use or occupancy, yet later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

Delaware Ave Complete Streets

DESCRIPTION

Delaware Ave will be milled and repaved and restriped. This project will also include the addition of two midblock crosswalks with median refuge island and pedestrian signals, as well as two gateway features (which will also include road diet median refuge areas) on each end of the project. New sidewalks will be constructed to complete the current disconnected corridor.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.62937545,-73.80917397620262,14z

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the endangered Indiana bat and/or the endangered northern long-eared bat. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for these two species.

QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

2. Is the project within the range of the northern long-eared bat[1]?

   [1] See northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/ rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   No
9. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

   No
10. Does the project include slash pile burning?

    No
11. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    No
12. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No
13. Will the project involve the use of **temporary** lighting *during* the active season?

    No
14. Will the project install new or replace existing **permanent** lighting?

    No
15. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    No
16. Will the project raise the road profile **above the tree canopy**?

    No
17. Is the location of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the project action area is not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: CHA
Name: Nicole Frazer
Address: III Winners Circle
City: Albany
State: NY
Zip: 12205
Email nfrazer@chacompanies.com
Phone: 5184538211

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 952
Albany, NY 12207
518-431-4127
NewYork.FHWA@dot.gov

December 4, 2024

In Reply Refer To:
HEA-NY

Ms. Susanna Barricklow-Arvin
Environmental Specialist
NYSDOT - Region 1
50 Wolf Road
Albany, NY 12232

Subject: PIN 1761.68 - Endangered Species Act Updated Determination
Delaware Ave. Compete Streets Project
Town of Bethlehem, Schenectady, Albany County

Dear Ms. Barricklow-Arvin:

We have reviewed documentation dated December 3 regarding consultation under Section 7 of the Endangered Species Act (ESA) for the subject project.

The New York State Department of Transportation (NYSDOT) sought consultation from the United States Fish and Wildlife Service (USFWS) on October 30 through the Information for Planning and Consultation (IPaC) website, which identified the Northern Long-eared Bat, Tricolored Bat, and Monarch Butterfly species as a federally listed, endangered, threatened, or candidate species that has potential habitat within the project area.

The NYSDOT has determined that the proposed undertaking will result in *"No Effect"* on the federally listed Northern Long-eared Bat species. Based on our review of the proposed work, the Federal Highway Administration (FHWA) concurs with the determination that the proposed undertaking will result in *"No Effect"* on the federally listed Northern Long-eared Bat species.

The NYSDOT has determined that the proposed undertaking will result in "*No Effect*" on the Tricolored Bat species. Based on our review of the proposed work, the FHWA concurs with the determination that the proposed undertaking will result in "*No Effect*" on the Tricolored Bat species. No conference with USFWS is required for the proposed Tricolored Bat and obligations under Section 7(a)(4) have been fulfilled.

The monarch butterfly is listed as a candidate species, and it currently does not have any protection under ESA Section 7. Consultation or conference (formal or informal) with USFWS is not required at this time.

If you have any questions, please feel free to contact me at (518) 431-8859.

Sincerely,

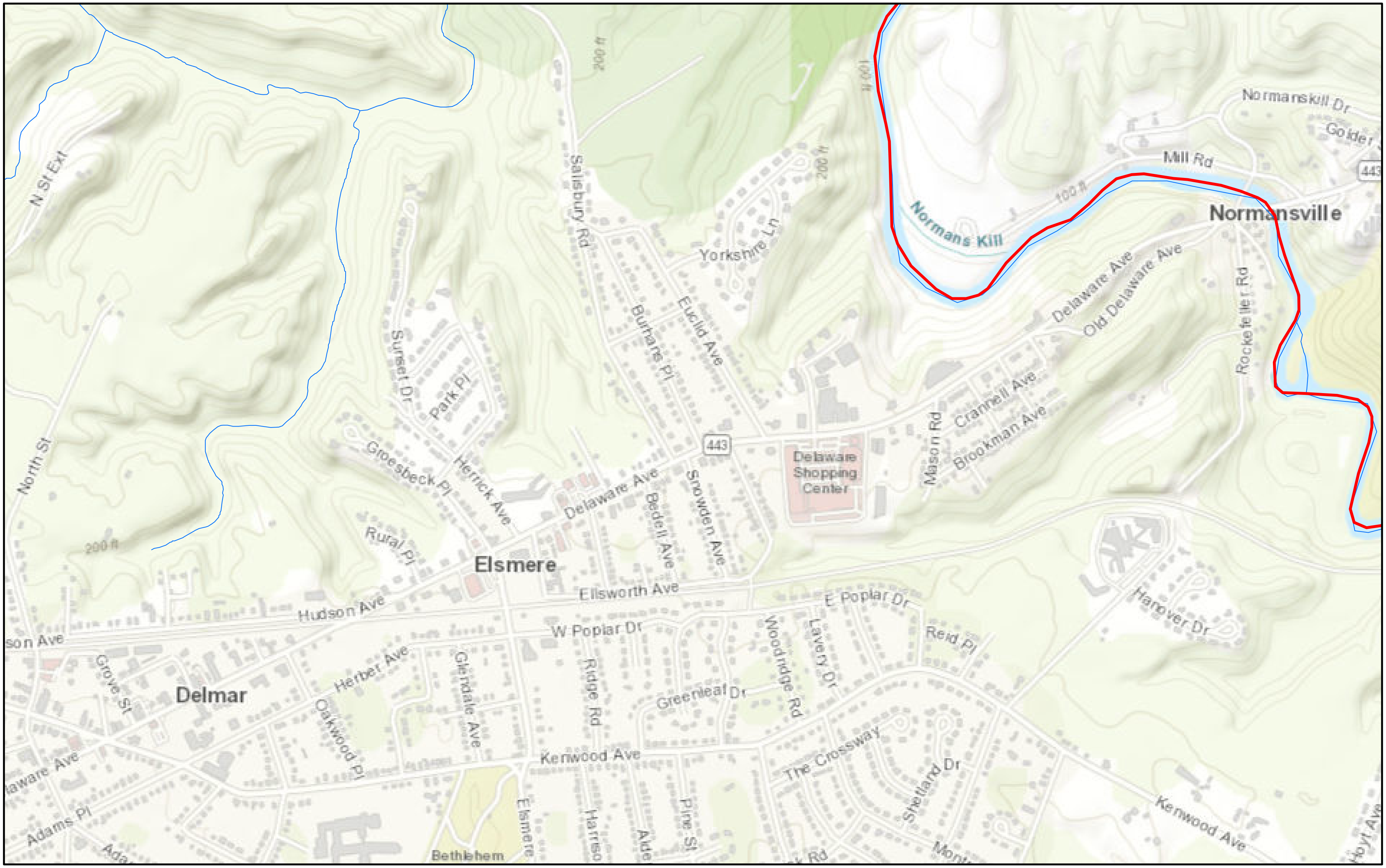
Julia P Trivers
Area Engineer

cc: R. Davies, NY FHWA
J. Hallock, Region 1 NYSDOT
L. Cuneo, Region 1 NYSDOT

Appendix J-5

NYSDEC Environmental Resource Map (ERM)

State Regulated Streams and Wetlands



August 8, 2023

1:18,056

0 0.1 0.2 0.4 mi

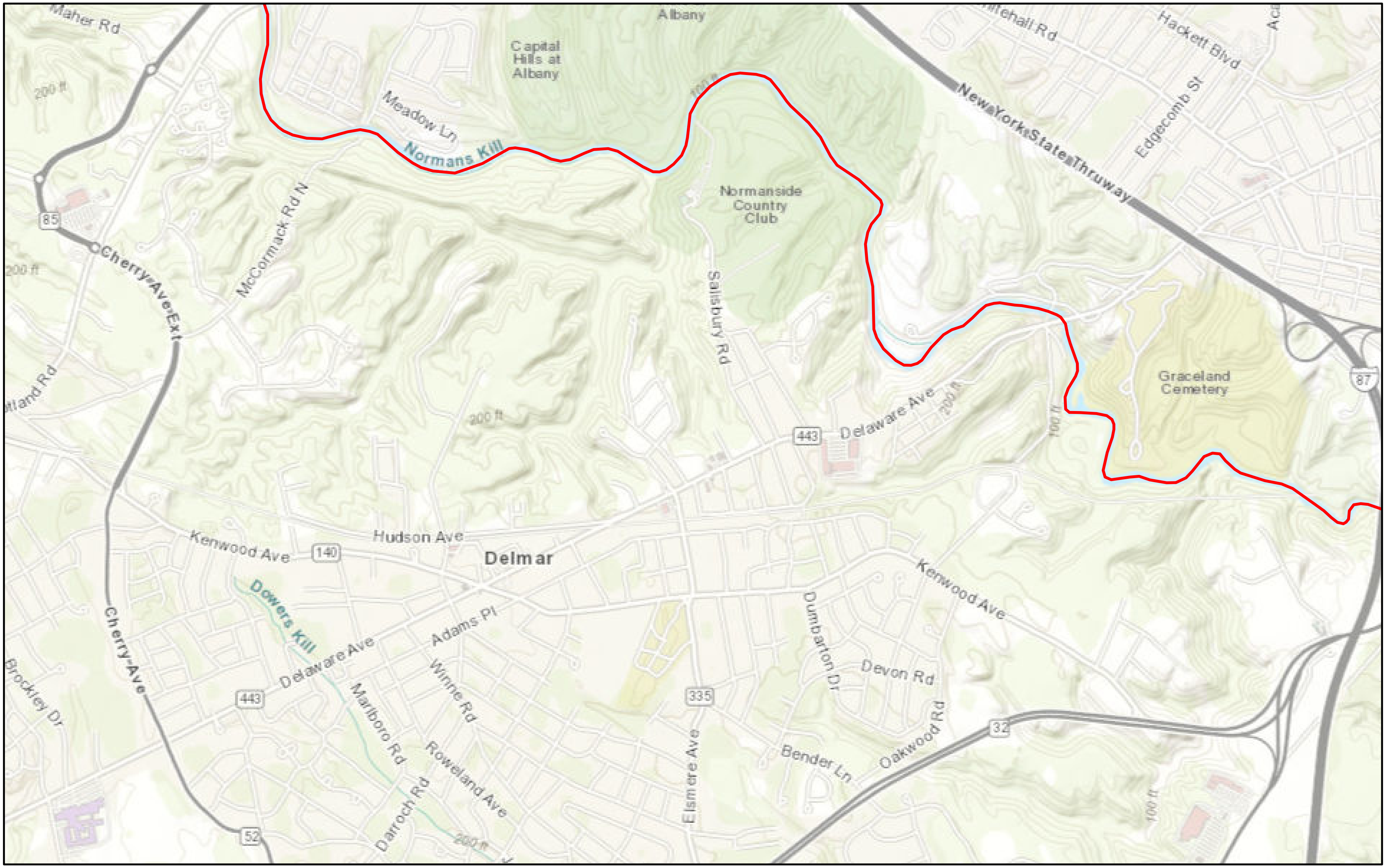
0 0.17 0.35 0.7 km

Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NYS Department of Environmental Conservation

Not a legal document

NYSDEC T & E



August 8, 2023

1:36,112

0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NYS Department of Environmental Conservation

Not a legal document

Appendix J-6

FHWA No Effect Response Memo

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 952
Albany, NY 12207
518-431-4127
NewYork.FHWA@dot.gov

March 18, 2024

In Reply Refer To:
HEA-NY

Mr. Chris Sobik
Cultural Resource Coordinator
NYSDOT Region 1
50 Wolf Road
Albany, NY 12232

Subject: PIN 1761.69 - Section 106 Consultation
Craig Street Pavement and Bridge Rehabilitation
City of Schenectady, Schenectady County

Dear Mr. Sobik:

In response to your March 16 request, for our concurrence that the requirements of 36 Code of Federal Regulations (CFR) Part 800 of the National Historic Preservation Act have been met for this project, we have reviewed the submitted materials.

You have concluded that *"No Historic Properties Affected"* on or eligible for inclusion on the National Register of Historic Places by this undertaking and notified the State Historic Preservation Officer (SHPO), the Saint Regis Mohawk Tribe, and the Stockbridge-Munsee Community Band of Mohican Indians of your finding.

The SHPO offered an opinion on February 26 and concurs with the determination that there will be *"No Historic Properties Affected"* by the proposed undertaking. The Tribal Preservation Officer for the Stockbridge-Munsee Community Band of Mohican Indians responded on February 13 stating that they concurred with NYSDOT's finding and they have no concerns with the project. The Saint Regis Mohawk Tribe did not respond during the 30-day review period; their concurrence is assumed.

We have reviewed the information provided and concluded that this undertaking has *"No Historic Properties Affected"* for properties on or eligible for inclusion on the National Register of Historic Places. The requirements of 36 CFR Part 800 have been met for this project. If you have any questions, please contact me at (518) 431-8859.

Sincerely,

Julia P. Trivers
Area Engineer

cc: T. Thorne, NYSDOT Region 1
S. Higgins, NYSDOT Region 1
L. Cuneo, NYSDOT Region 1
L. Distefano, NYSDOT Region 1
A. Poland, NYSDOT Region 1
R. Davies, NY FHWA