City of Albany:

S. Pearl St. Heavy Vehicle Travel Pattern Study

Title: City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

Date of Report: August 7, 2018

Study Advisory Committee Members:

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Disclaimer:

This report was prepared in cooperation with the City of Albany and the Capital District Transportation Committee. This report was funded in part through a grant from the Federal Highway Administration, U.S. Department of Transportation. The views and opinions of the authors and/or agencies expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation. The report recommendations are conceptual in nature and do not commit NYSDOT or the City of Albany to recommended projects. The concepts presented in this plan may need to be investigated in more detail before any funding commitment is made. Undertaking additional engineering or other follow-up work will be based on funding availability. If implemented as described, many of the aspects of the strategies identified in the S. Pearl St. Heavy Vehicle Travel Pattern Study will have a positive impact on the affected Environmental Justice populations.

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Summary of Key Findings

Ezra Prentice Homes is a 176-unit public residential housing development, operated by the Albany Housing Authority. The property consists of 16 buildings, with 8 buildings located on the east side of S. Pearl St./NY 32 and 8 buildings located on the west side of the road. There are currently 416 tenants living at Ezra Prentice Homes.

The following conclusions were derived from the data collected during the study:

- It is estimated that at least 770 per day (both directions), or 47%, of the heavy vehicles that pass Ezra Prentice Homes, begin and/or end their trip at other locations along S. Pearl St./NY 32 in the study area.
- An estimated 569 per day (both directions), or 34%, of the heavy vehicles that pass Ezra Prentice homes are traveling from and/or to S. Pearl St., north of the study area. These heavy vehicles are traveling into and out of other areas of the City of Albany as part of conducting their business.
- An estimated 279 per day (both directions), or 17%, of the heavy vehicles that pass Ezra Prentice homes are traveling from/to S. Port Rd. This is consistent with data collected in the Port of Albany Truck Traffic Study, which identified 290 daily heavy vehicles to/from S. Port Rd.
- An estimated 625 (81%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate between Ezra Prentice and S. Port Rd.
- As expected, S. Pearl St./NY 32 acts a connector road for heavy vehicles for I-787 (northbound and southbound)
    - For heavy vehicles traveling northbound on S. Pearl St./NY 32, and estimated 512 (66%) go to the I-787 northbound access roadway.
    - For heavy vehicles traveling southbound on S. Pearl Street, and estimated 547 (62%) come from I-787 southbound access roadway/Green St.

This study evaluated the strategies to mitigate the negative effects of heavy vehicle travel on S. Pearl St./NY 32. CDTC recommends implementing the recommended strategies outlined in this report in the following sequence:

1. Strategy A: Encourage Local S. Pearl St./NY 32 Heavy Vehicle Operators to Consider Using Alternate Routes
2. Strategy B: Supportive Programs
3. Strategy C: Restrict Heavy Vehicle Turning Movement Access at the S. Port Rd. & S. Pearl St./NY 32 Intersection
4. Strategy D: Reconstruct S. Port Rd., Normanskill St., Raft St., Smith Blvd. and Boat St. as a Bypass Route for Heavy Vehicles

CDTC recommends implementing, to the extent possible, all of the programs described in Strategy B in conjunction with all other implemented strategies.

This study only considered transportation-related strategies. Other efforts are better suited to specifically assess air quality, land use, and housing strategies. CDTC encourages the City of Albany and the community to consider all viable options for reducing the negative impacts caused by the incompatible land uses along S. Pearl St./NY 32. CDTC also encourages the City of Albany, the Albany Port District Commission, or any other potential project sponsors to collaborate with the Town of Bethlehem as strategies are implemented.

Section 1: Background, Purpose, and Need

Introduction

The Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization (MPO) carrying out federal requirements for cooperative transportation planning and programming within the Albany-Schenectady-Troy and Saratoga Springs metropolitan areas. CDTC, in cooperation with the City of Albany, initiated, managed, and administered the City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study (the "study"). The primary objectives of the City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study were:

1. Research and analyze heavy vehicle travel patterns along S. Pearl St./NY 32.
2. Develop potential strategies to mitigate the negative impacts of heavy vehicles on residents of the study area.

As part of fulfilling federal requirements, CDTC develops and maintains a long-range regional transportation plan, the New Visions 2040 Plan. The New Visions 2040 Plan contains a set of twelve (12) Planning & Investment Principles to guide regional transportation investment decision making. This initiative directly supports two (2) of the Planning & Investment Principles:

1. **Regional Equity** – Transportation investments will address all needs fairly and equally… Investments should meet the needs of all users of the transportation system, in a manner that increases access to transportation or does not disproportionately impact people with disabilities, and minority and low-income populations.[1]
2. **Freight** – Our freight system is crucial to the economy; it will be efficient and automated, and will minimize its impact to communities… CDTC's planning efforts will embrace freight's key contributions to regional prosperity, while also trying to mitigate the negative impacts of all modes of freight movement on local communities.[2]

The study also indirectly supports several other New Visions 2040 Planning & Investment Principles and recommendations.

The study employed a multi-agency collaborative approach, and was guided by a Study Advisory Committee (SAC) with members from the following agencies:

- Capital District Transportation Committee (CDTC) – project lead
- City of Albany – primary stakeholder
- Creighton Manning Engineering (CME) – technical support
- FES Installations, Inc. – contractor, license plate survey and analysis dashboard
- New York State Department of Environmental Conservation (DEC) – air quality sampling, technical support

[1] Source: CDTC New Visions 2040 (Amended March 2016), Executive Summary, p. 7
[2] Source: CDTC New Visions 2040 (Amended March 2016), Executive Summary, p. 11
[3] Source: CDTC New Visions 2040 (Amended March 2016), Executive Summary, p. 11

- New York State Department of Transportation (NYSDOT) Region 1- traffic counts, technical support

The SAC met 4 times over the course of the project – January 23, 2017, April 3, 2017, and July 19, 2017. In addition, there were several other smaller group meetings held on an as needed basis.

Study Area

The Study Area, shown in *Figure 1*, included S. Pearl St./NY 32 in the South End of the City of Albany, from Corning Hill Rd./NY 32 in the south to the I-787 on and off ramps in the north. Adjacent roadways, neighborhoods, and other land uses were part of the analysis.

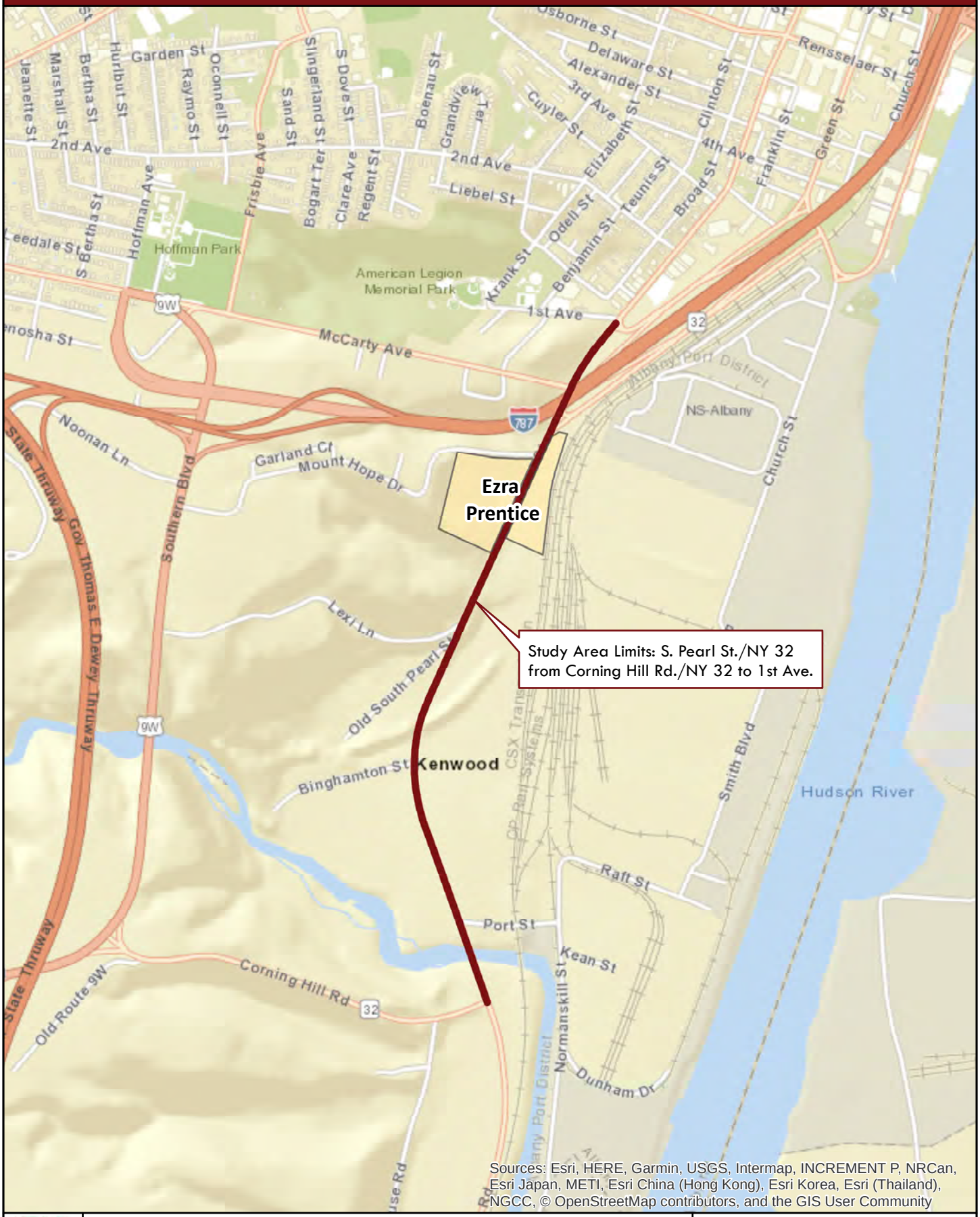
Key Features

The study area has a unique set of features that contribute to the context of the issues. The features, described below, correspond to *Figure 2: Key Features*:

1. Ezra Prentice Homes: a 176-unit public residential housing development, operated by the Albany Housing Authority. The property consists of 16 buildings, with 8 buildings located on the east side of S. Pearl St./NY 32 (also known as the "trackside") and 8 buildings located on the west side of the road (also known as the "hillside"). There are currently 416 tenants living at Ezra Prentice Homes. The public housing property was federalized in the mid-1980s, at which time it was substantially rehabbed. There have been several major renovations since, the latest of which came in 2006.
2. Port of Albany/Kenwood Rail Yard: an active deep-water marine port located along the Hudson River, operated by the Albany Port District Commission. The Albany Port District Commission is a public benefit corporation created by the state of New York to develop and manage the port facility that straddles the cities of Albany and Rensselaer. The facility's footprint consists of wharves on both sides of the Hudson River, approximately 10 acres of storage, and several warehouses. The Kenwood Rail Yard, a railroad switching yard operated by Canadian Pacific (CP) Railway, is located along the western side of the Port property. The Kenwood Rail Yard borders the east side of the Ezra Prentice Homes property.
3. Interstate 787 (I-787): a +/- 6-lane interstate highway that runs from New York State Thruway Exit 23 to the City of Cohoes, with Downtown Albany being a primary destination along the corridor. I-787 crosses S. Pearl St. in the study area, where there is direct access between I-787 and S. Pearl St./NY 32. The speed limit in the study area is 55 mph. I-787 borders the north side of the Ezra Prentice Homes property.
   S. Pearl St./NY 32: a 2-lane state-highway signed roadway operated by the City of Albany. The speed limit at the time of this study was 30 mph[3]. The roadway runs through the middle of the Ezra Prentice Homes property. The corridor provides direct access to the Interstate

[3] On 6/5/17, the Albany Common Council approved a speed limit reduction on S. Pearl St./NY 32 (from Old South Pearl St. to 1st Ave.) from 30 mph to 25 mph. It went into effect 60 days after the Mayor of the City of Albany signed the legislation.

Figure 1: Study Area



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

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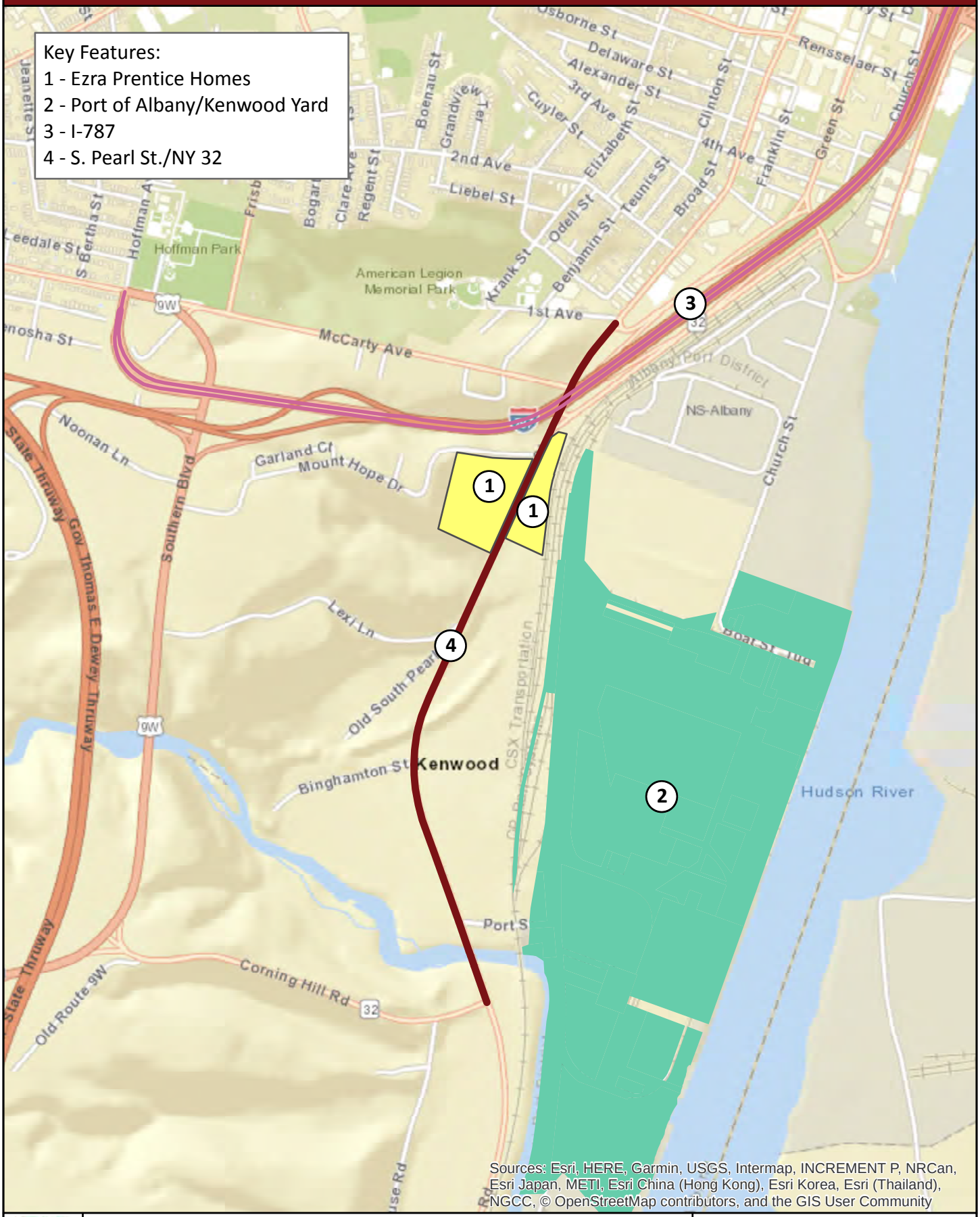
Figure 2: Key Features



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

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system via I-787, and is designated by the NYSDOT as a "Access Highway." [4] An Access Highway is defined as:

> *A highway designated for use by STAA vehicles and 53' trailers. Unlike a Qualifying Highway, these vehicle combinations may not travel off the access highway for any distance.*

Land Use

Current land use is illustrated on *Figure 3: Land Use* and *Figure 4: Selected Land Use*. Most of the land uses along S. Pearl St./NY 32 in the study area are commercial or industrial in nature, with the notable exception being the Ezra Prentice Homes. See *Appendix F* for a list of commercial and industrial properties and businesses along S. Pearl St./NY 32 that have the potential to generate heavy vehicles. The eastern side of the study area, from S. Pearl St./NY 32 to the Hudson River, is dominated by commercial and industrial properties, particularly the Port of Albany and Kenwood Rail Yard. The portion of the study area to the west of S. Pearl St./NY 32 is mostly vacant due to terrain, but features some residential uses. Just north of the study area is the South End of the City of Albany, a dense, traditional residential neighborhood, with a mix of small-scale commercial uses.

The close proximity of residential to commercial and industrial land uses in the study area has created incompatibility issues. Heavy vehicles travel through, to, and from the study area to access industrial and commercial properties, via S. Pearl St./NY 32 and I-787. The impetus for this effort was to understand the travel patterns of the heavy vehicles traversing the study area, and their relationship to local commercial and industrial land uses.

Environmental Justice

Per federal requirements, CDTC undertakes an analysis of Environmental Justice in all planning initiatives to evaluate if transportation concepts and recommendations impact Environmental Justice populations. Impacts may be defined as those that are positive, negative and neutral as described in CDTC's Environmental Justice/Title VI Analysis document, published December 2017[5]. The goal of this analysis is to ensure that both the positive and negative impacts of transportation planning conducted by CDTC and its member agencies are fairly distributed and that defined Environmental Justice populations do not bear disproportionately high and adverse effects.

This goal has been set to:

- Ensure CDTC's compliance with Title VI of the Civil Rights Act of 1964, which states that "no person in the United States shall, on the basis of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance,"

- Assist the United State Department of Transportation's agencies in complying with Executive Order 12898 stating, "Each Federal agency shall make achieving environmental

[4] Source: Official Description of Designated and Qualifying Access Highways, April 2017, p. 9
[5] CDTC's Environmental Justice Analysis document is available at http://www.cdtcmpo.org/plans-and-programs/nondiscrimination

Figure 3: Land Use (2013)

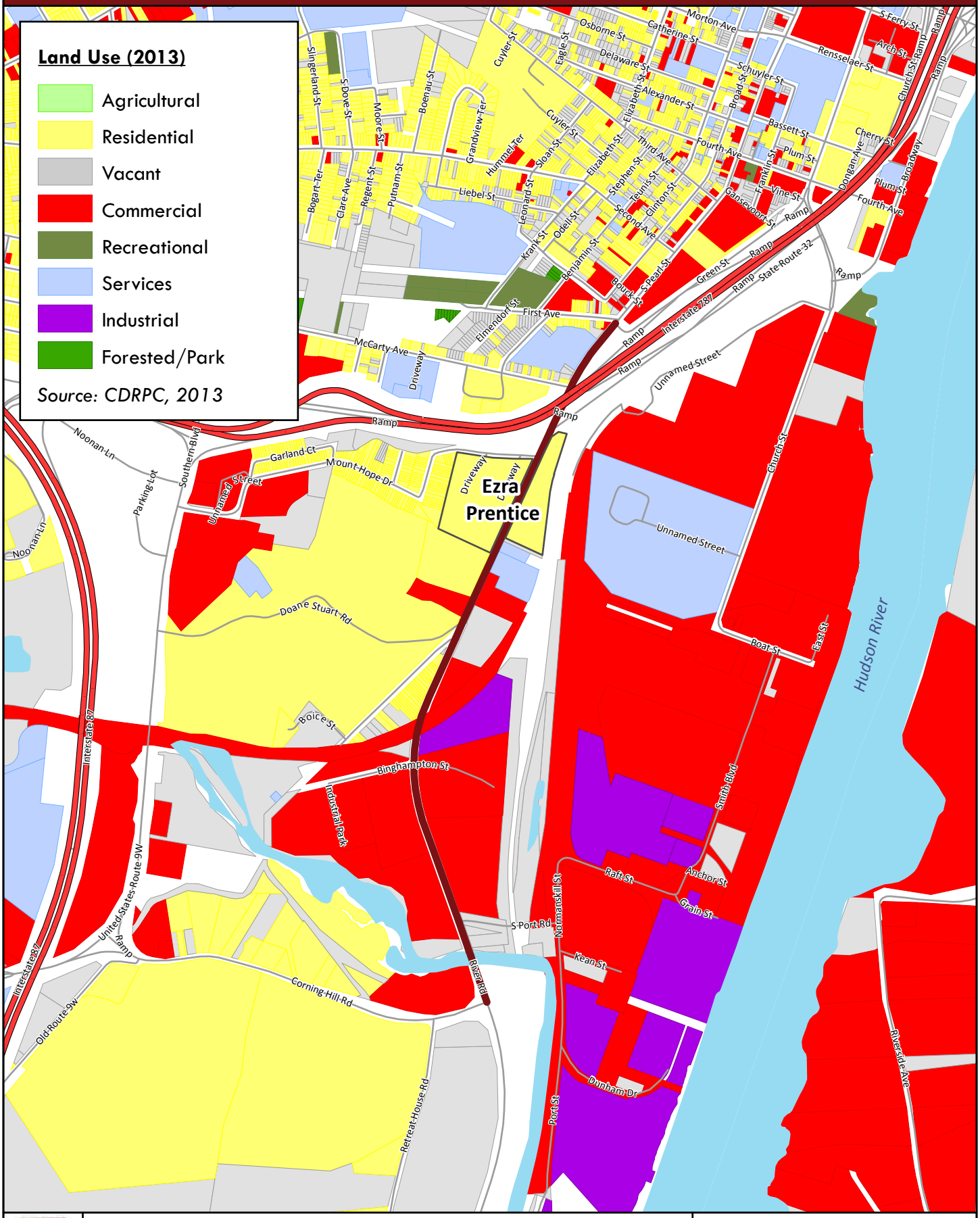

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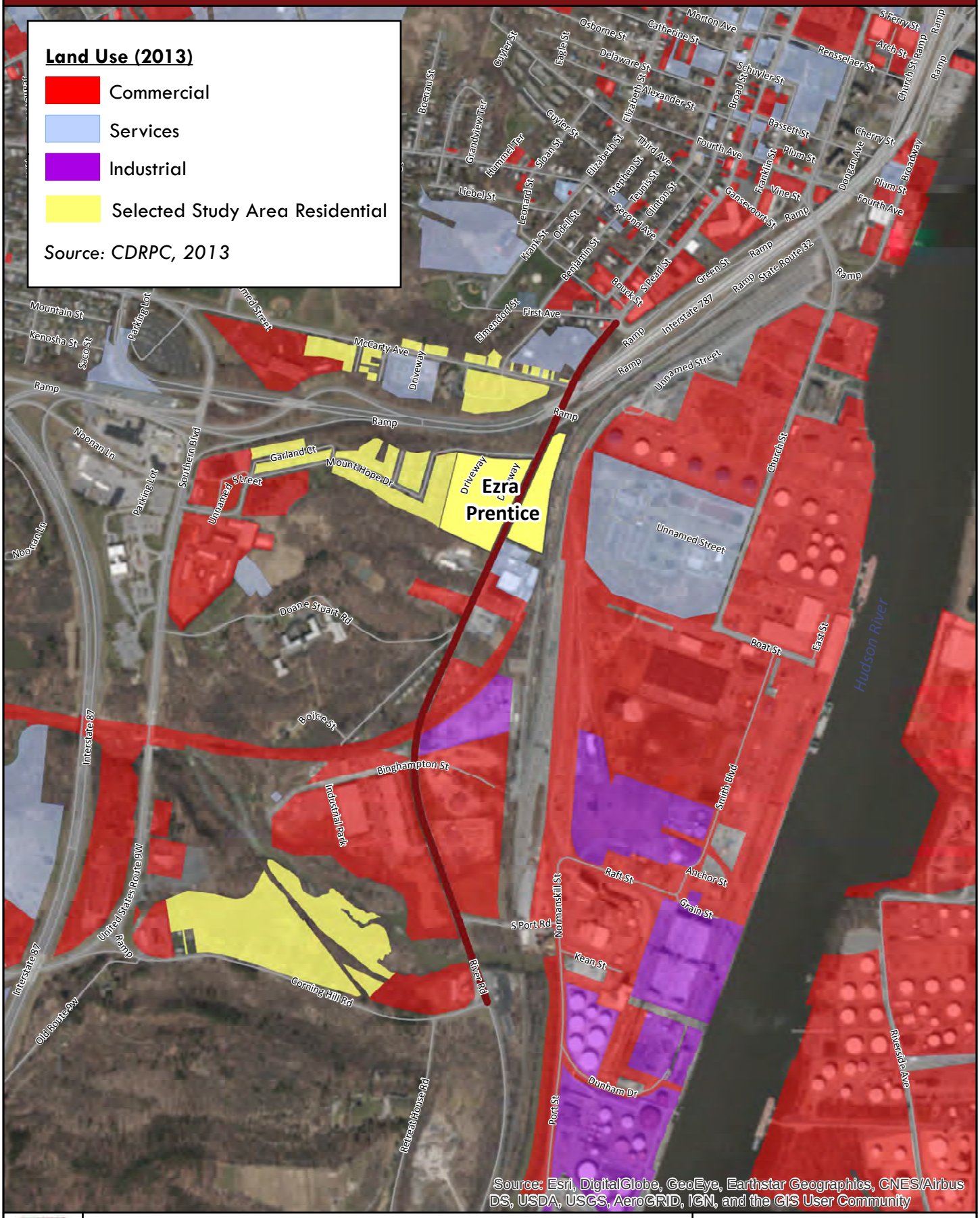
Figure 4: Selected Land Use (2013)



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justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

- Address FTA C 4702.1B TITLE VI Requirements and Guidelines for Federal Transit Administration (FTA) Recipients, which includes requirements for MPOs that are some form of a recipient of FTA, which CDTC is not.

Demographic Data and Analysis

In developing a methodology for analysis, CDTC staff created demographic parameters using data from the 2011-2015 American Community Survey (ACS). Threshold values were assigned at the census tract level to identify geographic areas with populations of minority or low-income persons greater than the regional rate. Tracts with higher than the regional percentage of low-income or minority residents are included as Environmental Justice populations. Minority residents are defined as those who identify themselves as anything but white only, not Hispanic or Latino. Low-income residents are defined as those whose household income falls below the poverty line.

The regional transportation patterns of low-income and minority populations in CDTC's planning area are depicted in Table 1, using the commute to work as a proxy for all travel. The greatest absolute difference between the defined minority and non-minority population is in the Drive Alone and Transit categories: The minority population is 18% less likely to drive alone, 10% more likely to take transit, and is also more likely to walk. The defined low-income population and the non-low-income population follow the same trend, with the low-income population 20% less likely to drive alone, 11% more likely to commute via transit, and 7% more likely to walk.

Table 1: Commute Mode 4-County NY Capital Region

By Race	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
All Workers (16+)	80.5%	7.7%	3.3%	1.2%	3.6%	3.7%
White Alone Not Hispanic or Latino	83.3%	7.1%	1.8%	1.1%	2.9%	3.9%
Minority	**65.4%**	**10.5%**	**11.6%**	**2.1%**	**7.5%**	**2.9%**
By Income	Drive Alone	Carpool	Transit	Other	Walk	Work at Home
At/Above 100% Poverty Level	62.4%	9.7%	13.3%	1.9%	9.2%	3.5%
Below 100% Poverty Level	**82.3%**	**7.6%**	**2.7%**	**1.2%**	**2.7%**	**3.6%**

Data Source: Capital District Regional Planning Commission, from American Community Survey 2014 5-year estimates, tables S0802, B08105H, B08101, B08122, S0801, B08113, and S1811. Other includes taxi, motorcycle, and bicycle.

The S. Pearl St. Heavy Vehicle Travel Pattern Study is included in the Environmental Justice area based on the study area Census Tracts having higher than the regional rate of both minority and low income residents, as illustrated on *Figure 5: Percent Below Poverty* and *Figure 6: Percent Minority*. The primary impetus for the study was concern from the study area's residents and

Figure 5: Percent Below Poverty

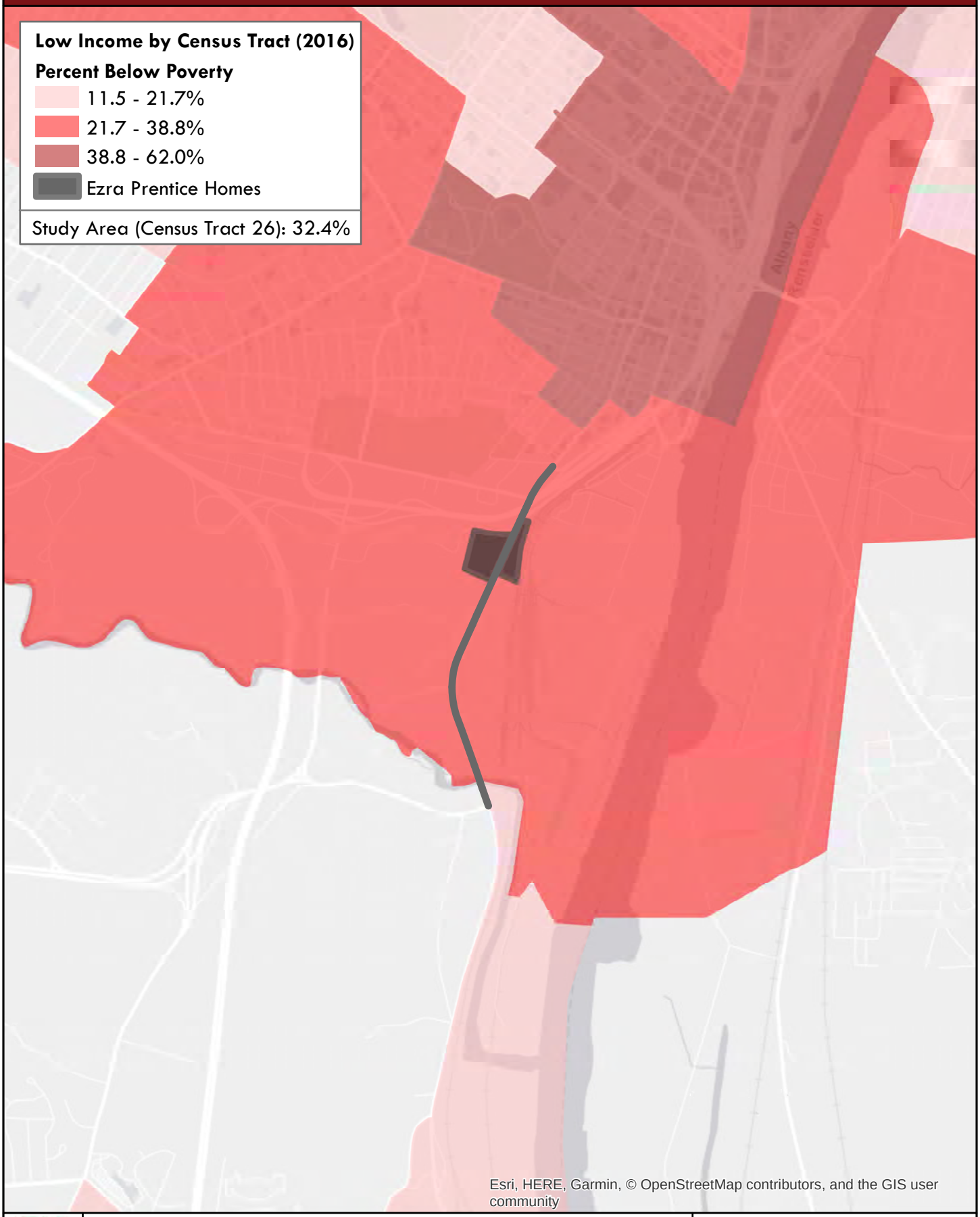

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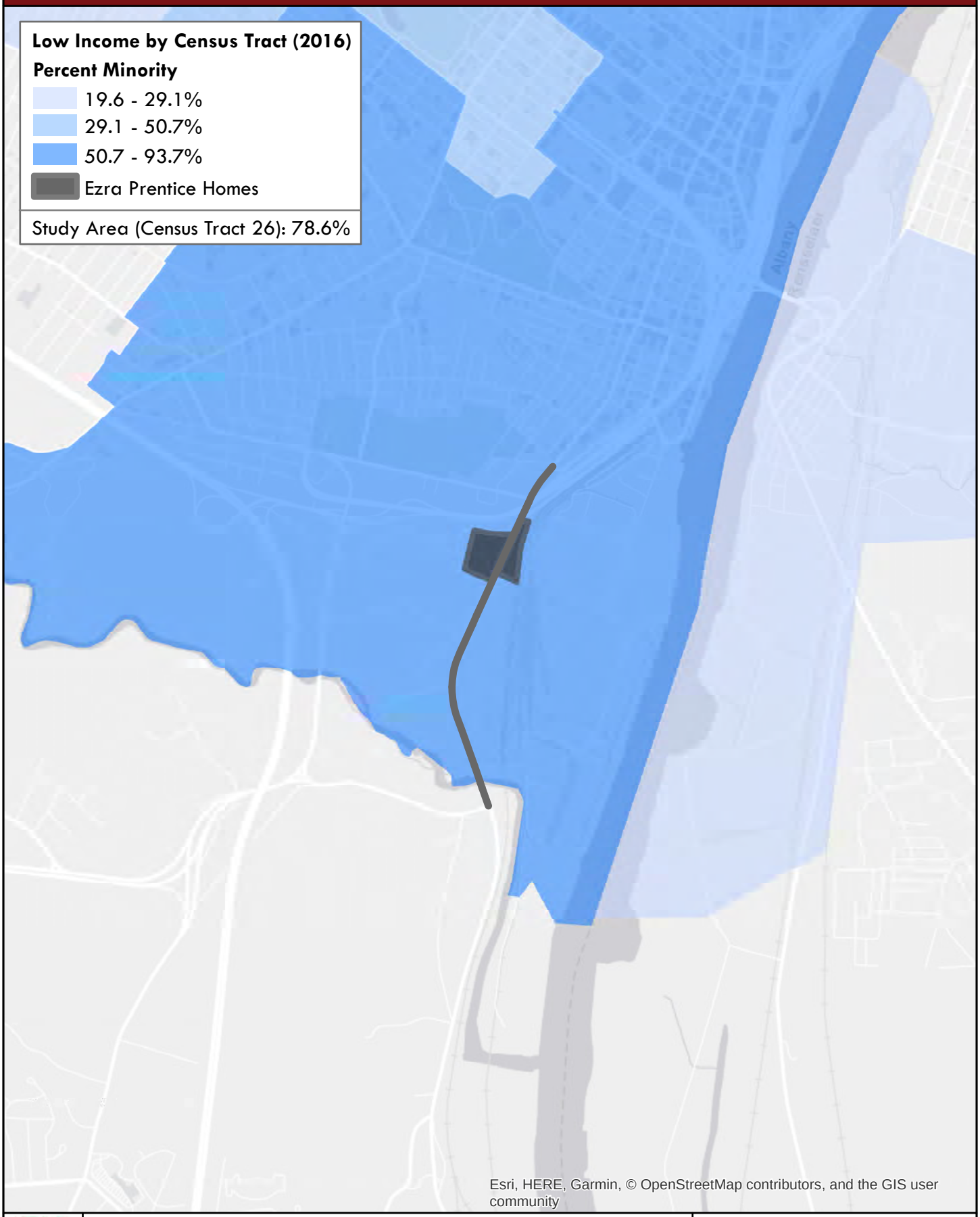
Figure 6: Percent Minority



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elected representatives about the impact that the heavy vehicle traffic was having on air quality, traffic and pedestrian safety, and quality of life. Community members had outlined their concerns and received extensive local news media coverage. Consideration for including the community members in the planning process is described in the next section.

Public and Stakeholder Outreach

Before conducting the study, in early March 2017, CDTC staff met with residents and other attendees at an AVillage meeting held at Ezra Prentice Homes. AVillage is a neighborhood advocacy group in the South End of the City of Albany. The primary agenda item at that meeting was the NY Department of Environmental Conservation's (DEC) South Albany Community Monitoring, a discussion about air quality monitoring at the Port of Albany and on the neighborhood's roadways. Heavy vehicle traffic on S. Pearl St./NY 32 was also discussed. CDTC staff asked the group if they thought that an origin-destination study focused on heavy vehicles using S. Pearl St./NY 32 would be useful. The sentiment was that the information would help the community make defensible requests for traffic or vehicle-related changes that could improve air quality. At this meeting, the group also discussed methods of collecting such data.

Before beginning data collection, CDTC staff attended a DEC Stakeholders meeting on the South Albany Community Monitoring. The late March 2017 meeting was not open to the public, but was attended by local City elected representatives for the neighborhood, as well as the State Assembly members. This provided an opportunity for the elected officials to discuss traffic-related safety and air quality concerns. Discussion at this meeting focused on a desire to reduce the speed limit on S. Pearl St./NY 32.

After designing the study and contracting with FES Installations, Inc. to install the Automatic License Plate Readers (ALPRs), CDTC staff attended another AVillage meeting held at Ezra Prentice Homes in April 2017. Staff discussed the anticipated timeline, the chosen study methodology, and privacy concerns. The attendees expressed concern about vandalism to the ALPRs by people not aware of the study. Attendees recommended placing signs at eye level near the installed ALPRs, explaining that the ALPRs were there to record heavy vehicle travel patterns and not to enforce traffic or other laws.

In April 2017, CDTC staff provided fliers for AVillage members to distribute to all residents within Ezra Prentice Homes before the ALPRs were installed. In addition, as recommended by meeting attendees, staff attached laminated signs to the sidewalk side of utility poles near the installed Automatic License Plate Readers (ALPRs). The signs depicted an ALPR, described the data being collected, how the resulting data would be used, and provided a contact method for questions, as shown in *Figure B-1: License Plate Survey Public Information Poster and Flyer*, found in *Appendix B* of this document. Staff removed the signs the same week the ALPRs were taken down. CDTC staff also attended a community celebration at Ezra Prentice Homes in April 2017, to provide information and answer questions about the study.

After collecting the ALPR data, CDTC staff met with AVillage members and Ezra Prentice Homes tenants on January 10, 2018, to discuss the data collection and analysis processes. Upon

completion of the draft report, staff met again with AVillage members and Ezra Prentice Homes tenants on May 31, 2018 to present the project's outcomes, strategies, and next steps, and get feedback from the community.

A draft report public review and comment period was open from May 31, 2018 to July 2, 2018. The draft report was made available on CDTC's website. Comments were received via email. A summary of the comments received during the comment period and responses can be found in *Appendix H: Public Comments*.

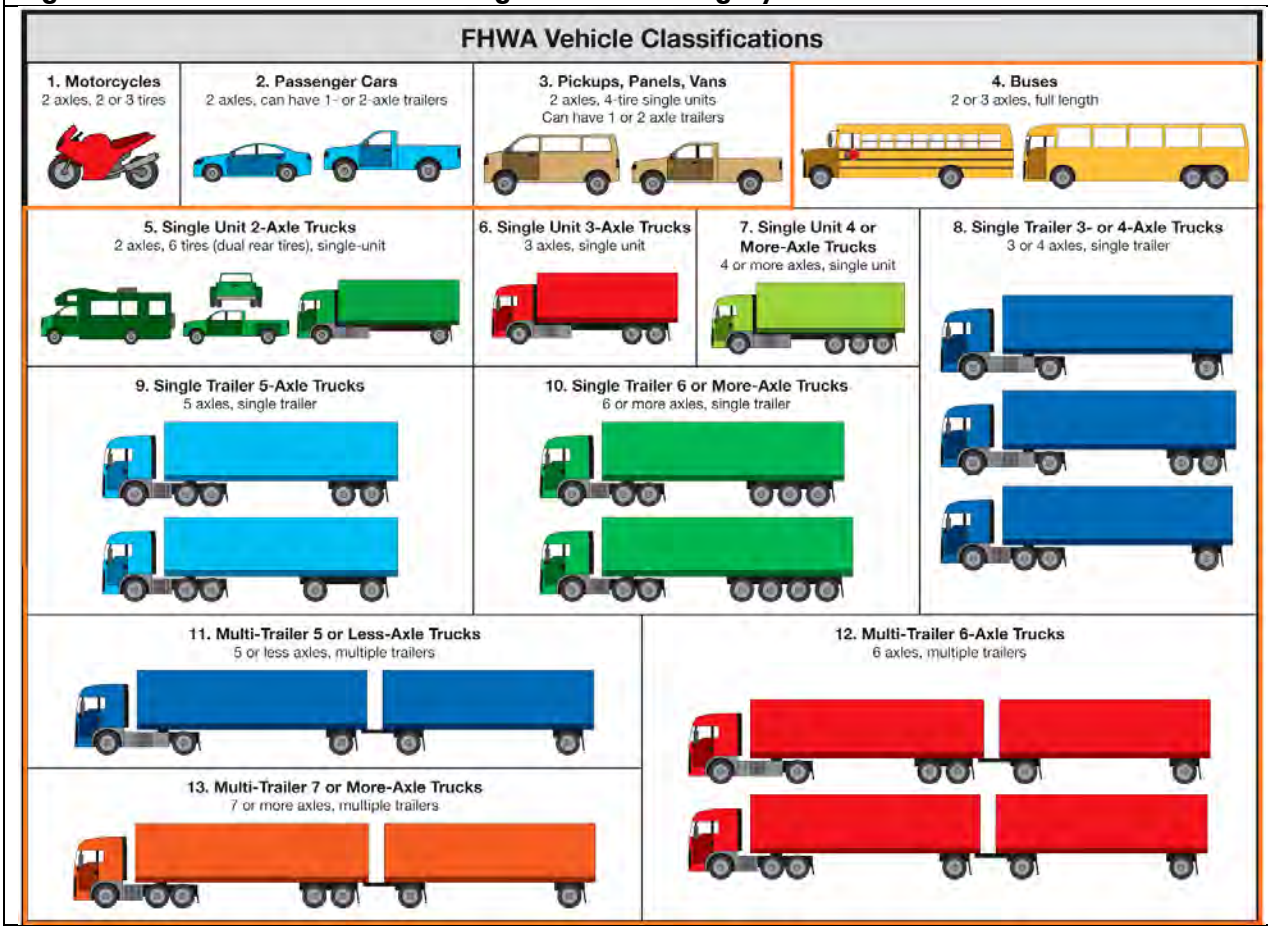
In addition to members of the Ezra Prentice Homes community and general public, CDTC met with other stakeholders and representatives to discuss the project, process, and expected outcomes. CDTC met with the Port of Albany on March 23, 2017, and discussed the project at the May 17, 2017 CDTC Freight Advisory Committee meeting. Staff also informed the Trucking Association of New York (TANY) of the project.

Section 2: Data Collection and Methodology

Defining Heavy Vehicles

There is no one commonly accepted definition of a heavy vehicle. The New York State Department of Transportation (NYSDOT) utilizes the standardized Federal Highway Administration (FHWA) vehicle classification system to define heavy vehicles for their traffic counts. This system uses pneumatic road tubes with electronic equipment and sensors capable of measuring the presence of vehicles, detecting axles, and determining the distance between consecutive axles on the basis of the speed of each vehicle as it passes over the sensors. Vehicles are classified into a class group, F1-F13, as displayed in the *Figure 7: Vehicle Classification Using FHWA 13-Category Scheme*.

Figure 7: Vehicle Classification Using FHWA 13-Category Scheme



Source: FHWA; image source txdot.gov

The NYSDOT traffic counts consider classifications F4-F13 as heavy vehicles. A tractor-trailer is considered one vehicle in the FHWA classification system shown in *Figure 7*. The New York State Department of Motor Vehicles (NYSDMV) registration database does not include number of axles, but does include several other fields that can be used to derive which vehicles are heavy vehicles. Trucks and trailers are registered as separate vehicles, therefore a single combination vehicle,

like a tractor trailer, has the potential to return two NYSDMV records. For this study, CDTC used a common-sense approach to extract heavy vehicles from the dataset using the 'Gross Weight/Number of Seats' and 'Body Type' database fields. The process for deriving the heavy vehicle dataset is described in more detail in the NYSDMV Vehicle Registration Data discussion below.

Previous Planning Efforts

In 2016, the Port of Albany commissioned a Truck Traffic Study to quantify truck traffic in a similar study area, along S. Pearl St./NY 32, to better understand the Port of Albany's contribution to truck traffic in the area.

The Average Annual Daily Traffic (AADT) from the Port study's traffic counts was 12,200 vehicles per day, with 1,713 heavy vehicles (14%). Their counts were taken adjacent to the Ezra Prentice Homes property. They observed 290 of the ~1,700 heavy vehicles were traveling to and from S. Port Rd. past the Ezra Prentice Homes via S. Pearl St./NY 32. For this document, the data from the Port of Albany Truck Traffic Study (2016) will be used for comparative purposes only.

NYSDOT Traffic Counts

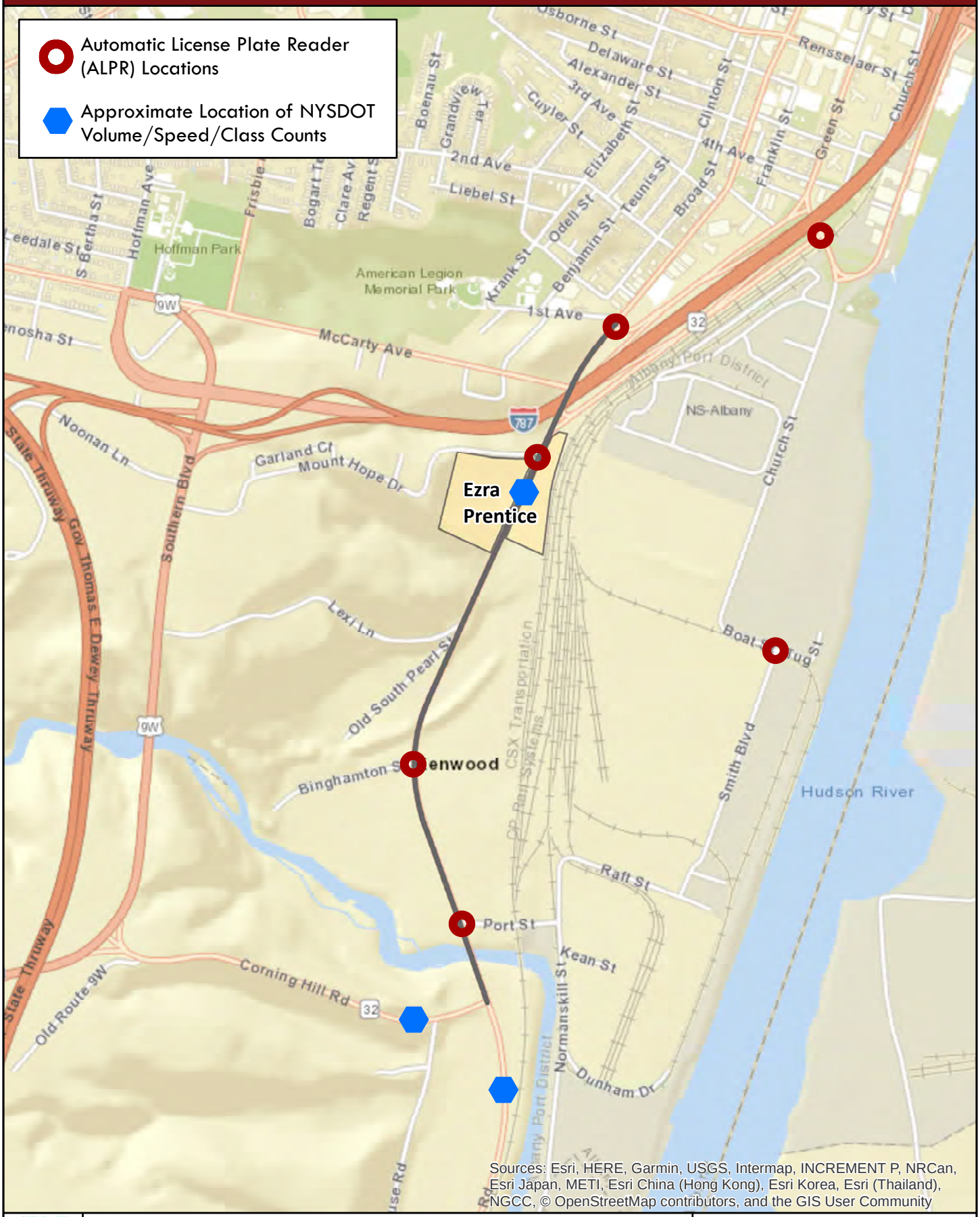
NYSDOT Region 1 performed traffic counts at three (3) locations; one on S. Pearl St./NY 32, at the Ezra Prentice Homes, and two others just outside the study area boundaries. The approximate locations of the NYSDOT traffic counts can be seen on *Figure 8: Automatic License Plate Reader (ALPR) & NYSDOT Count Locations*. The counts were performed using pneumatic road tube traffic counters, and done in accordance to NYSDOT standards[6]. For each count location, NYSDOT provided a Traffic Count Hourly Report, a Speed Count Average Weekday Report, a Daily Classification Count Report, and Classification Count Average Weekday Data Report. The counts were performed between April 28, 2017 and May 4, 2017. The results of NYSDOT's traffic counts are summarized in Table 2, below.

Table 2 displays both Average Vehicles per Day and Average Annual Daily Traffic (AADT). The Average Vehicles per Day is simply the raw, unadjusted number of vehicles that were observed during the count, divided by the number of days in the count. The AADT is an estimate of the average daily traffic along a defined segment of roadway. This value is calculated by factoring the raw counts to adjust for seasonal and other temporal factors to produce the estimate of AADT.

The number of heavy vehicles per day was calculated using the AADT (11,738), multiplied by percent heavy vehicles (14.07%) to yield a daily estimate of 1,652 per day. The number of northbound heavy vehicles per day was calculated using the northbound AADT (5,109), multiplied by northbound percent heavy vehicles (15.07%) to yield a daily estimate of 770 per day. The number of southbound heavy vehicles per day was calculated using the southbound AADT (6,629),

[6] NYSDOT's traffic counts were performed in accordance with the New York State traffic Monitoring Standards for Short Count Data Collection, NYS Department of Transportation Office of Engineering Technical Services Division Highway Data Services Bureau, June 2015

Figure 8: Automatic License Plate Reader (ALPR) & NYSDOT Count Locations



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multiplied by the southbound percent heavy vehicles (13.30%) to yield a daily estimate of 882 per day. These values, 770 (47%) northbound, 882 (53%) southbound, and 1,652 total heavy vehicles per day, were used as the basis of the analysis.

Table 2: Summary of NYSDOT Volume/Speed/Class Counts

Location			
NYSDOT ID	**11_0005_2017**	**11_0106_2017**	**11_0062_2017**
Roadway	**S. Pearl St. (NY 32)**	**Corning Hill Rd. (NY 32)**	**River Rd. (NY 144)**
Limits	from Corning Hill Rd. to I-787	from S. Pearl St. to US 9W	from Corning Hill Rd. to Glenmont Rd.
Average Annual Daily Traffic (AADT)			
Northbound	5,109		3,518
Southbound	6,629		4,289
Eastbound		1,470	
Westbound		2,292	
Total	**11,738**	**3,762**	**7,807**
Average Vehicles/Day (Actual)			
Northbound	5,409		3,744
Southbound	7,025		4,553
Eastbound		1,549	
Westbound		2,430	
Total	**12,434**	**3,979**	**8,297**
% Heavy Vehicles (F4-F13)			
Northbound	15.07%		13.17%
Southbound	13.30%		11.38%
Eastbound		17.95%	
Westbound		15.19%	
Total	**14.07%**	**16.26%**	**12.19%**
Peak Hour			
Northbound	8:00-9:00 AM		8:00-9:00 AM
Southbound	5:00-6:00 PM		6:00-6:00 PM
Eastbound		8:00-9:00 AM	
Westbound		6:00-7:00 PM	
85th Percentile Speed (mph)			
Northbound	33.3		62.4
Southbound	34.6		60.9
Eastbound		46.7	
Westbound		49.3	

The vehicle count and percent heavy vehicle data from the NYSDOT traffic counts is consistent with previous counts, including the counts performed by the Port of Albany for their Truck Traffic Study (2016). The NYSDOT traffic count data was also compared with the license plate survey data, for data validation.

In the meantime, NSYDOT has installed a permanent traffic monitoring station along S. Pearl St. at Ezra Prentice Homes. The data collected from this new traffic monitoring station could be used for further analysis of heavy vehicle travel patterns.

License Plate Survey

A license plate survey was performed to help understand heavy vehicle travel patterns in the study area. The license plate survey data was collected using automatic license plate readers (ALPRs). Data collection and analysis was completed with assistance from a contractor, FES Installations, Inc. The license plate survey was done in accordance with Federal Highway Administration (FHWA) standards[7].

The license plate survey data was collected using 15 ALPRs at 6 locations in the study area. *Figure 8: Automatic License Plate Reader (ALPR) & NYSDOT Count Locations* displays the distribution of ALPR locations in the study area. The locations of the ALPRs were selected in a manner to understand travel patterns to, from, and through the study area. The ALPRs were placed at the 'ends' of the study area, to capture vehicles entering or leaving the study area, and at points throughout the study area to capture where vehicles start or end within the study area.

The ALPR make/model used for this study was the Genetec SharpV Automatic License Plate Recognition Camera. The ALPRs were installed from April 27 to May 11. However, the official week of data collection analyzed for the study was May 1 to May 7. The ALPR captured the license plate and a photo image for each passing vehicle.

This methodology allowed for a much larger data set compared to traditional license plate survey methodology using only manpower. During the installation period, +/- 948,000 ALPR records were collected. The raw data set was edited to include unique records captured between May 1 and May 7, yielding 166,142 unique ALPR records. These ALPR records were sent to the New York State Department of Motor Vehicles (NYSDMV) for matching with registration data.

NYSDMV Registration Data

The purpose of obtaining NYSDMV registration data was to distinguish between different vehicle types. For this study, only heavy vehicles were analyzed. Of the 166,142 ALPR records sent to NYSDMV for registration matching, 47,365 (28.5%) vehicle registration records were returned and 118,777 (71.5%) were unmatched. The NYSDMV only returned vehicle registration records for vehicles registered in New York State, and did not return registration for partial plate captures.

The matched registration dataset was queried to narrow the data to only heavy vehicles, and remove all personal passenger vehicles. The following registration types were removed from the data set:

[7] Source: Travel Time Data Handbook, Federal Highway Administration, Report No. FHWA-PL-98-035, March 1998, Chapter 4

- 'Body types' not consistent with a heavy vehicle including Motorboat, Snowmobile, Four Dour Sedan, Two Door Sedan, Sedan, Convertible, Suburban, Pickup Truck, Motorcycle, Moped, All Terrain Vehicle and Van Truck (Passenger Registration Class only)
- 'Gross Weight/Number of Seats' between 1,000 and 9,999, to only include vehicles 10,000 lbs. or greater, but not exclude buses
- Livery/bus vehicles with a 'Number of Seats' of 15 or less passenger capacity[8]
- Trailers with a 'Gross Weight/Number of Seats' less than 8,000 lbs.

Following removal of irrelevant data, there were 1,790 vehicles and 543 large trailers defined in this study as 'heavy vehicles' to be included in the analysis of heavy vehicle travel patterns.

To better understand the capture rate of the license plate survey, the NYSDOT counts were compared to the ALPR reads and the returned NYSMDV records. This was done at the Ezra Prentice Homes location, where the ALPRs and NYSDOT traffic counts were installed in close proximity. The comparison was only made for days when the ALPRs and NYSDOT traffic counters were both installed and operational. The intent was not to say one set of data validates the other, but rather to compare them for order of magnitude likenesses. Both data sets have their own margins of error, and strengths and weaknesses. The results of the comparison are shown below in Table 3.

Table 3: Comparison of NYSDOT Traffic Counts, ALPR Reads, and NYSDMV Heavy Vehicle Records

Day	Date	NYSDOT Unadjusted Vehicle Count	NYSDOT Heavy Vehicle Class Count (F4-F13)	NYSDOT % Heavy Vehicles	ALPR Reads (Ezra Prentice Homes)	Difference (ALPR - NYSDOT Count)	DMV Records Returned (All)	DMV Returned % of NYSDOT Count	DMV Heavy Vehicle[9] Records Returned	DMV Heavy Vehicle % of NYSDOT Heavy Vehicle
Friday	4/28/17	13,090	1,867	14%	13,908	818				
Saturday	4/29/17	6,968	504	7%	8,359	1,391				
Sunday	4/30/17	5,446	255	5%	6,245	799				
Monday	5/1/17	12,374	1,743	14%	13,763	1,389	7,927	64%	532	31%
Tuesday	5/2/17	11,929	1,688	14%	12,941	1,012	7,471	63%	507	30%
Wednesday	5/3/17	12,899	1,790	14%	14,957	2,058	8,592	67%	581	32%

For all days, the ALPRs had more reads than there were vehicles counted by the NYSDOT counters. This is due to ALPR reading additional alphanumeric items from vehicles that were not license plates, such as an advertisement or phone number printed on the vehicle, or to capturing a front-facing license plate. NYSDMV returned matched vehicle registrations only for license plates

[8] NYSDMV registration data for buses, taxis, and similar people-carrying vehicles does not display a gross weight, but rather a number of seats for passengers.
[9] 'Heavy Vehicle' as defined by CDTC

with an exact match. For all vehicle types approximately 63-67% were able to be identified in the NYSDMV database; for heavy vehicles, 30-32% were identified. One reason for the lower return rate for heavy vehicles is a larger portion of these vehicle types being registered outside of New York State.

NYSDEC Air Quality Monitoring

The study was coordinated with a complementary air quality study conducted by the New York State Department of Environmental Conservation (DEC). DEC used portable instrumentation to measure air quality for multiple sample periods during the deployment of the ALPRs. CDTC supplied some of the ALPR data collected to DEC for use in the air quality study. The intent was to sync the air quality measurements with the CDTC ALPR data to provide DEC with useful insights into the impact of mobile sources on the South End, and potential mitigation strategies.

In the meantime, the DEC has installed a near-roadway fixed air quality monitoring station at Ezra Prentice Homes. DEC's air quality monitoring and analysis is still in progress at the time of this report.

Section 3: Data Analysis

The New York State Department of Motor Vehicles (NYSDMV) registration data and the license plate survey data were used to determine how heavy vehicles moved through, to, and from the study area. CDTC worked first with FES Installations, Inc., and later with the Rensselaer Polytechnic Institute (RPI) to develop software to analyze and view the results of the license plate survey. The software assisted with understanding heavy vehicle travel patterns in the study area by identifying the route taken by the vehicle as it moved through the study area.

As part of the data cleaning process, CDTC removed license plate data which was inaccurate, unable to be matched, or otherwise unreliable. Often the license plate alphanumeric characters were not captured with complete accuracy, or were captured differently by different ALPRs. Data that could not confidently be verified to be the same vehicle was removed from the analysis.

The software was designed to extract more useable information from the dataset then was collected, and allowing the analyst to choose the number of matching alphanumeric license plate characters. CDTC ran dozens of scenarios and chose to use a license plate character match of seven (7) as that provided the most accurate, highest quality dataset. New York State commercial license plates, in general, have seven (7) characters. In other words, if seven (7) out of the seven (7) license plate characters were the same, in any order, the ALPR record was considered a match. The analysis used a seven (7) minute window of time for developing routes.

The matched license plates were aggregated together into a string, to form a route. The analysis considered the locations of the first and last ALPR to record the vehicle when developing the start, or origin, and end, or destination, of each vehicle. Common routes were aggregated together, and assigned to the roadway network. The results of this analysis, and further explanation, can be found in *Appendix* C of this document.

Heavy vehicles passing Ezra Prentice were then extracted from the routes assigned in the previous step. Heavy vehicle traffic passing Ezra Prentice Homes was aggregated, by direction, and are shown on *Figure 9A: Pattern of Northbound Heavy Vehicles*, and *Figure 9B: Pattern of Southbound Heavy Vehicles*. On each figure, a table is included showing the locations the heavy vehicles are traveling from ('From') before they pass Ezra Prentice Home, and the locations they are traveling to ('To') after they pass Ezra Prentice Homes. For each 'From' and 'To' location, a daily estimate ('Daily Est.') and percent (Per.) of heavy vehicles is provided.

The total observations were adjusted to a daily estimate of heavy vehicles, for understanding the daily heavy vehicle travel patterns, and for estimating the daily impacts of the potential mitigation strategies. The Average Annual Daily Traffic (AADT) data collected by NYSDOT and described from *Section 2: Data Collection and Methodology*, was used as the basis of the analysis. Those AADT values (770/47% northbound, 882/53% southbound, and 1,652 total heavy vehicles per day) were used to factor the observed routes to a daily estimate (Daily Est.).

From *Figure 9A: Pattern of Northbound Heavy Vehicles*, the 770 northbound heavy vehicles per day that travelled along S. Pearl St./NY32 used the following travel patterns:

- An estimated 189 (25%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate between Ezra Prentice and Binghamton St., and is shown in yellow on *Figure 9A*.
- An estimated 241 (31%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate between Binghamton St. and S. Port Rd., and is shown in green on *Figure 9A*.
- An estimated 195 (25%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate from S. Port Rd., and is shown in blue on *Figure 9A*.
- An estimated 145 (19%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate from south of the study area, and is shown in purple on *Figure 9A*.
- After they pass Ezra Prentice Homes, an estimated 512 (66%) of the northbound heavy vehicles travel onto the I-787 northbound access road., and is shown in orange on *Figure 9A*.
- After they pass Ezra Prentice Homes, an estimated 258 (34%) of the northbound heavy vehicles continue on S. Pearl St./NY 32, northbound beyond 1st Ave., and is shown in red on *Figure 9A*.

From *Figure 9B: Pattern of Southbound Heavy Vehicles*, the 882 southbound heavy vehicles per day that travelled along S. Pearl St./NY 32 used the following travel patterns:

- An estimated 24 (3%) of the southbound heavy vehicles that pass Ezra Prentice Homes originate from Church St., east of I-787., and is shown in red on *Figure 9B*.
- An estimated 547 (62%) of the southbound heavy vehicles that pass Ezra Prentice Homes originate from the I-787 southbound access roadway/Green St., and is shown in yellow on *Figure 9B*.
- An estimated 311 (35%) of the southbound heavy vehicles that pass Ezra Prentice Homes originate from S. Pearl St., north of the 1st Ave., and is shown in orange on *Figure 9B*.
- After they pass Ezra Prentice Homes, an estimated 340 (39%) of the southbound heavy vehicles travel to destinations between Ezra Prentice Homes and Binghamton St., and is shown in green on *Figure 9B*.
- After they pass Ezra Prentice Homes, an estimated 84 (9%) of the southbound heavy vehicles travel to S. Port Rd., and is shown in blue on *Figure 9B*.
- After they pass Ezra Prentice Homes, an estimated 458 (52%) of the southbound heavy vehicles travel to destinations between Binghamton St. and south of the study area, and is shown in purple on *Figure 9B*.

The following conclusions can be derived from the above data:

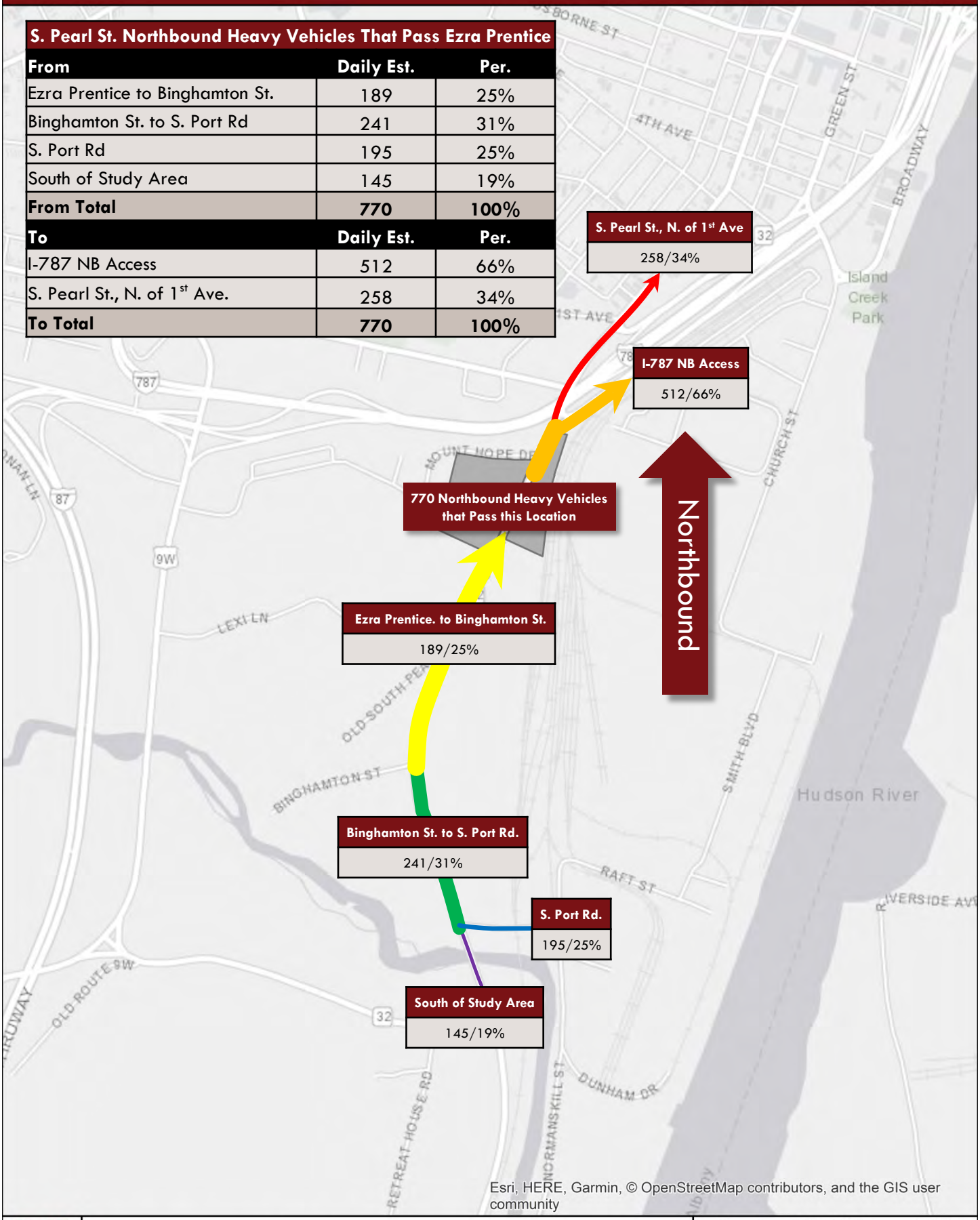
- It is estimated that at least 770 per day (both directions), or 47%, of the heavy vehicles that pass Ezra Prentice Homes, begin and/or end their trip at other locations along S. Pearl St./NY 32 in the study area.
- An estimated 569 per day (both directions), or 34%, of the heavy vehicles that pass Ezra Prentice homes are traveling from and/or to S. Pearl St., north of the study area. These

heavy vehicles are traveling into and out of other areas of the City of Albany as part of conducting their business.

- An estimated 279 per day (both directions), or 17%, of the heavy vehicles that pass Ezra Prentice homes are traveling from/to S. Port Rd. This is consistent with data collected in the Port of Albany Truck Traffic Study, which identified 290 daily heavy vehicles to/from S. Port Rd.
- An estimated 625 (81%) of the northbound heavy vehicles that pass Ezra Prentice Homes originate between Ezra Prentice and S. Port Rd.
- As expected, S. Pearl St./NY 32 acts a connector road for heavy vehicles for I-787 (northbound and southbound)
    - For heavy vehicles traveling northbound on S. Pearl St./NY 32, an estimated 512 (66%) go to the I-787 northbound access roadway.
    - For heavy vehicles traveling southbound on S. Pearl Street, an estimated 547 (62%) come from I-787 southbound access roadway/Green St.

Figure 9A: Pattern of Northbound Heavy Vehicles

S. Pearl St. Northbound Heavy Vehicles That Pass Ezra Prentice		
From	**Daily Est.**	**Per.**
Ezra Prentice to Binghamton St.	189	25%
Binghamton St. to S. Port Rd	241	31%
S. Port Rd	195	25%
South of Study Area	145	19%
From Total	**770**	**100%**
To	**Daily Est.**	**Per.**
I-787 NB Access	512	66%
S. Pearl St., N. of 1st Ave.	258	34%
To Total	**770**	**100%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

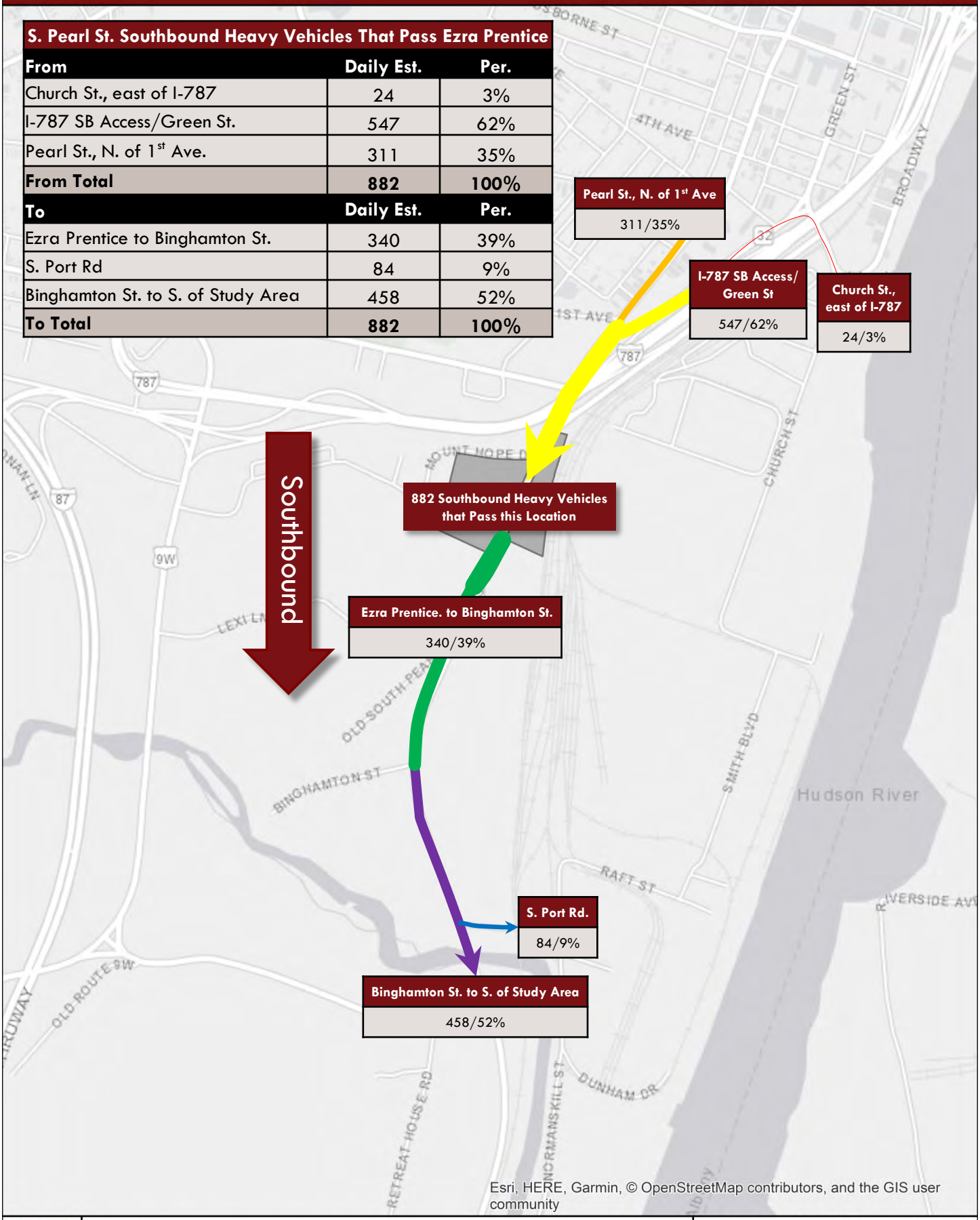
0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: April 16, 2018

Figure 9B: Pattern of Southbound Heavy Vehicles

S. Pearl St. Southbound Heavy Vehicles That Pass Ezra Prentice		
From	**Daily Est.**	**Per.**
Church St., east of I-787	24	3%
I-787 SB Access/Green St.	547	62%
Pearl St., N. of 1st Ave.	311	35%
From Total	**882**	**100%**
To	**Daily Est.**	**Per.**
Ezra Prentice to Binghamton St.	340	39%
S. Port Rd	84	9%
Binghamton St. to S. of Study Area	458	52%
To Total	**882**	**100%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: April 16, 2018

Section 4: Evaluation of Strategies

The following strategies were evaluated to assess their potential to mitigate the negative impacts of heavy vehicle traffic traveling along S. Pearl St./NY 32 through the residential area of Ezra Prentice Homes. This study only considers transportation-related strategies that have the potential to reduce the number of heavy vehicles. Other efforts are better suited to specifically assess air quality, land use, and housing mitigation strategies.

The strategies are divided into two (2) categories; *Evaluated Strategies – Recommended* and *Evaluated Strategies – Not Recommended,* described further below.

Evaluated Strategies – Recommended

The following strategies were evaluated, and are recommended for consideration for further action. Each strategy includes a brief description of the effort, mobility implications, potential benefits, potential drawbacks, responsible parties, and next steps. A summary of the mobility implications for all Strategies can be found on *Table G-1: Summary of Mobility Implications by Alternate Route*, in *Appendix G* of this document.

Some strategies may be more feasible than others, but all reasonable possibilities were considered for the purposes of this planning effort. Options determined to be extremely expensive, or otherwise cost prohibitive, were not considered, for example, completely new bypass roadway alignments or new interstate interchanges.

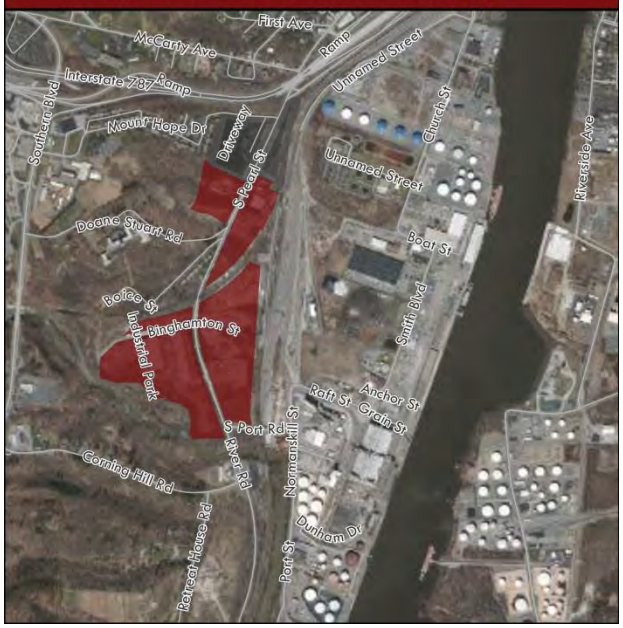
Strategy A: Encourage Local S. Pearl St./NY 32 Heavy Vehicle Operators to Consider Using Alternate Routes

Description: As previously noted, with the exception of the Ezra Prentice Homes, most of the land uses along S. Pearl St./NY 32 between I-787 and Corning Hill Rd./NY 32 are commercial or industrial in nature. Most of these land uses generate some heavy vehicle traffic, and use S. Pearl St./NY 32 to access I-787 and the City of Albany. Approximately 770 (47%) of the heavy vehicles that pass Ezra Prentice Homes are traveling to/from other locations along S. Pearl St./NY 32 in the City of Albany. It is important to note that some of these heavy vehicles, such as school buses, public transit, and para-transit vehicles, provide other significant benefits to the public.

The City of Albany can convey to the commercial and industrial land owners/operators the negative impacts of heavy vehicle traffic on the residents of Ezra Prentice Homes, and encourage them to voluntarily use alternate routes to the extent possible. The City of Albany could also consider developing Road Use Agreements (RUAs) with the existing and any new heavy vehicle operators. RUAs are voluntary, negotiated agreements entered into by a municipality and heavy vehicle intensive businesses that hold the business accountable for the impacts caused by their operations. In this case, the RUAs could also describe the use of alternate routes that avoid S.

Pearl St./NY 32 in the area of Ezra Prentice Homes. RUAs are an opportunity to develop a mutual understanding of the issues described in this document, and foster better relationships between the residents and businesses in the study area.

Figure 10: Location of Strategy A



Mobility Implications: The alternate routes described below are identified by number, and maps of each alternate route with the corresponding number can be found in *Appendix E* of this document.

For heavy vehicles traveling *from* S. Pearl St./NY 32[10]:

(1) Accessing I-787 Northbound, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W., to I-787 Northbound. This routing adds approximately 1.9 miles of distance, 2 minutes of travel time, and 170 ft. of vertical ascent and descent.

(2) Accessing I-787 Southbound/NYS Thruway Exit 23, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Southbound/NYS Thruway Exit 23. This routing shortens the distance by approximately 0.4 miles; differences in travel time and vertical ascent are negligible.

(3) Accessing S. Pearl St., north of 1st Ave., the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St., to Green St, to S. Pearl St. This routing adds approximately 2.6 miles of distance, 4 minutes of travel time, and 170 ft. of vertical ascent and descent.

(4) Accessing Church St. & Broadway, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St. This routing adds approximately 1.8 miles of distance, 2 minutes of travel time, and 170 ft. of vertical ascent and descent.

For heavy vehicles traveling *to* S. Pearl St./NY 32:

(5) Accessing from I-787 Northbound, via NYS Thruway or NY 9W, the likeliest alternate route is Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing shortens the distance by approximately 0.5 miles; differences in travel time and vertical descent are negligible.

(6) Accessing from I-787 Southbound, the likeliest alternate route is to continue on I-787 to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds

[10] For all cases, the distance, travel time, and vertical ascent/descent were calculated using the intersection of Binghamton St. & S. Pearl St./NY 32 as the common starting/ending point.

approximately 2.4 miles of distance, 4 minutes of travel time, and 170 ft. of vertical ascent and descent.

(7) Accessing from S. Pearl St., north of 1st Ave., the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds approximately 3.5 miles of distance, 7 minutes of travel time, and 170 ft. of vertical ascent and descent.

(8) Accessing from Church St. & Broadway, the likeliest alternate is I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds approximately 2.3 miles of distance, 4 minutes of travel time, and 170 ft. of vertical ascent and descent.

Potential Benefits: Precise potential benefits are difficult to calculate because participation would be voluntary, and would range between 0 (none) and 770 (all local) heavy vehicles diverted. Any reduction in the amount of heavy vehicle traffic on S. Pearl St./NY 32 will yield a proportional decrease in the negative impacts due to noise, vibration, air quality, and other quality of life impacts for the residents who live along the roadway.

Potential Drawbacks: Increases in travel time, travel distance, and vertical ascent/descent will have a negative effect on the operational costs of the heavy vehicle operators, and will result in increased fuel consumption, emissions, and vehicle wear-and-tear. Heavy vehicle operators are more likely to accept routing changes that have little or no impact on their costs. In addition, there are twelve (12) residential properties located along the routes that use Corning Hill Rd./NY 32 that may be negatively impacted.

Responsible Party(s): City of Albany

Next Steps:

1. Develop a database of contact information for heavy vehicle generating businesses along S. Pearl St./NY 32. See *Appendix F* for a list of commercial and industrial properties and businesses along S. Pearl St./NY 32 that have the potential to generate heavy vehicles (City of Albany).
2. Contact heavy vehicle generating businesses along S. Pearl St./NY 32 to share results of the study and initiate discussions (City of Albany).
3. Consider developing Road Use Agreements (RUAs) with heavy vehicle intensive businesses (City of Albany).

Strategy B: Supportive Programs

The programs described below are offered as additional potential strategies to mitigate the negative effects of heavy vehicle traffic in the study area. The individual strategies have their own merit, and can be implemented independently of each other and/or with the other strategies described in this section. However, for the other strategies described in this section to have the greatest measures of effectiveness, additional attention to these programs will be required.

B-1 Enforcement

Efforts should be taken to ensure heavy vehicles traveling along S. Pearl St./NY 32 in the study area are in compliance with current laws and regulations. This includes enforcement of illegal or unsafe driver behavior, such as speeding, distracted driving or following too closely, and also compliance with all vehicle-related regulations, such as safety and emissions equipment. Regular, highly-visible enforcement efforts will deter illegal/unsafe driver behavior and equipment violations.

Responsible Party(s): City of Albany

B-2 Education

Information should be provided to industrial/commercial land owners along S. Pearl St./NY 32 in the City of Albany, heavy vehicle operators, and independent heavy vehicle drivers. The information provided could include educational materials about the negative impacts of heavy vehicle travel on the local residents, upcoming heavy vehicle restrictions and/or prohibitions, and potential options for alternate routes.

Responsible Party(s): City of Albany, Albany Port District Commission

B-3 Emissions Reduction

An estimated 770 (47%) of the heavy vehicles that pass Ezra Prentice Homes are traveling to/from other locations along S. Pearl St./NY 32 in the study area. It is important to note that some of these heavy vehicles, such as school buses, public transit, and para-transit vehicles, may provide other significant benefits to the study area. Regardless of which of the strategies are implemented, some heavy vehicles will still need to use S. Pearl St./NY 32 to access their properties, or to serve the area (ex: CDTA buses). To the extent possible, these users should seek opportunities to deploy vehicles with emissions-reducing equipment. This could include alternate fuel vehicles, electric vehicles, hybrid powertrain vehicles, and vehicles equipped with other emission-reduction technologies.

Responsible Party(s): Heavy Vehicle Operators, City of Albany, CDTA

Strategy C: Restrict Turning Movement Access at the S. Port Rd. & S. Pearl St./NY 32 Intersection

Description: This project would prohibit the following turning movements at the S. Port Rd. and S. Pearl St./NY 32 intersection:

- Southbound S. Pearl St./NY 32 left turns onto S. Port Rd. eastbound
- Westbound S. Port Rd. right turns onto S. Pearl St./NY 32 northbound

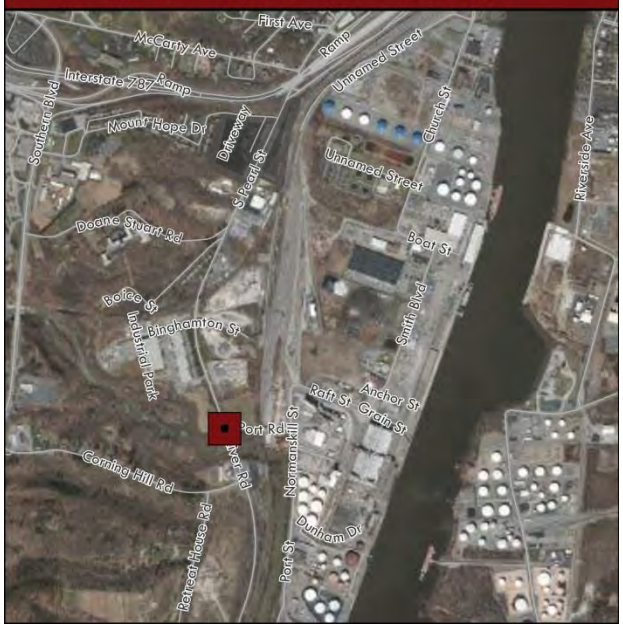
The project on its own does not prohibit or limit the use of S. Pearl St./NY 32 near Ezra Prentice Homes, but rather makes it a less viable alternative for heavy vehicles headed to and from S. Port Rd. The project would also need to install new signs at the S. Port Rd. and S. Pearl St./NY 32 intersection and replace or provide new directional signs to and from I-787, as needed.

An estimated 279 per day (both directions), or 17%, of the heavy vehicles that pass Ezra Prentice homes are traveling from/to S. Port Rd.

Restrictions of this nature will need the support of NYSDOT and FHWA, and to be in compliance with all current local, state and federal regulations.

The planning-level estimated cost to complete this project is $50,000.

Figure 11: Location of Strategy C



Mobility Implications: The likeliest alternate routes that heavy vehicles would use are similar to other strategies, except in this case it only affects vehicles using the S. Pearl St./NY 32 & S. Port Rd intersection. Without enforcement, some heavy vehicles would likely still use S. Pearl St./NY 32 in the area of Ezra Prentice Homes. The alternate routes described below are identified by number, and maps of each alternate route with the corresponding number can be found in *Appendix E* of this document.

For heavy vehicles traveling *from* S. Port Rd.[11]:

(9) Accessing I-787 Northbound, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W., to I-787 Northbound. This routing adds approximately 1.3 miles of distance, 2 minutes of travel time, and 170 ft. of vertical ascent and descent.

(10) Accessing I-787 Southbound/NYS Thruway Exit 23, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Southbound/NYS Thruway Exit 23. This routing shortens the distance by approximately 1.0 miles; 1 minute less in travel time and differences in vertical ascent are negligible.

(11) Accessing S. Pearl St., north of 1st Ave., the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St., to Green St, to S. Pearl St. This routing adds approximately 2.0 miles of distance, 2 minutes of travel time, and 170 ft. of vertical ascent and descent.

(12) Accessing Church St. & Broadway, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St. This routing adds approximately 1.3 miles of distance, 2 minutes of travel time, and 170 ft. of vertical ascent and descent.

For heavy vehicles traveling *to* S. Port Rd.:

(13) Accessing from I-787 Northbound, via NYS Thruway or NY 9W, the likeliest alternate route is Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing

[11] For all cases, the distance, travel time, and vertical ascent/descent were calculated using the intersection of S. Port Rd. & S. Pearl St./NY 32 as the common starting/ending point.

shortens the distance by approximately 1.0 miles; differences in travel time and vertical descent are negligible.

(14) Accessing from I-787 Southbound, the likeliest alternate route is to continue on I-787 to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds approximately 1.9 miles of distance, 3 minutes of travel time, and 170 ft. of vertical ascent and descent.

(15) Accessing from S. Pearl St., north of 1st Ave., the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds approximately 2.9 miles of distance, 6 minutes of travel time, and 170 ft. of vertical ascent and descent.

(16) Accessing from Church St. & Broadway, the likeliest alternate is I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32. This routing adds approximately 1.9 miles of distance, 3 minutes of travel time, and 170 ft. of vertical ascent and descent.

Potential Benefits: If done in conjunction with an enforcement effort, and assuming full compliance, there is the potential to divert approximately 17% (~279) of the heavy vehicles that pass Ezra Prentice per day. Any reduction in the amount of heavy vehicle traffic on S. Pearl St./NY 32 will yield a proportional decrease in the negative impacts due to noise, vibration, air quality, and other quality of life impacts, for the residents who live along the roadway.

Potential Drawbacks: There would still be many heavy vehicles, approximately 83% (~1,373), that would need to use S. Pearl St./NY 32 as a though route, to access their properties, or to service the Ezra Prentice Homes area (ex: CDTA buses).

Increases in travel time, travel distance, and vertical ascent/descent will have a negative effect on the operational costs of the heavy vehicle operators, and will result in increased fuel consumption, emissions, and vehicle wear-and-tear. Heavy vehicle operators are more likely to accept routing changes that have little or no impact on their costs. There are twelve (12) residential properties located along the routes that use Corning Hill Rd./NY 32.

The strategy could be considered in conflict with the designations of S. Pearl St./NY 32 on CDTC's Freight Priority Network and as a NYSDOT Access Highway.

Responsible Party(s): City of Albany, NYSDOT, CDTC

Next Steps:

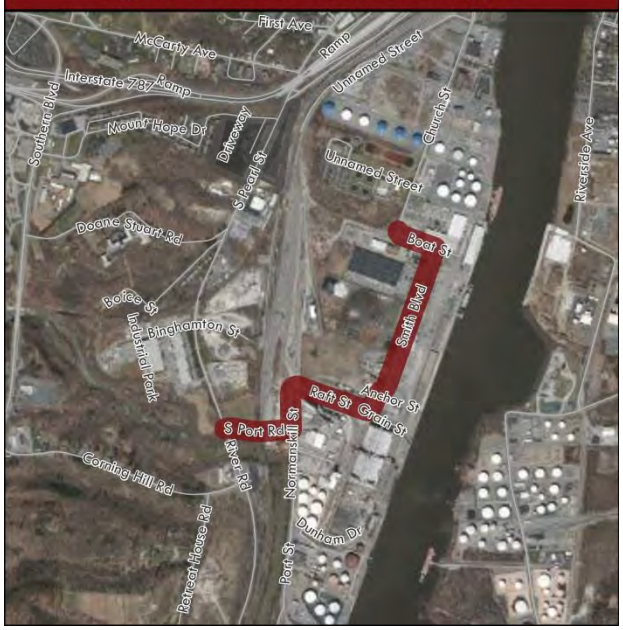
1. Investigate the legal ability to prohibit turning movements at the S. Port Rd. & S. Pearl St./NY 32 intersection (City of Albany, NYSDOT).
2. Discuss operational implications with Port area commercial and industrial land owners/users (City of Albany).
3. If implemented, consider revising NYSDOT Access Highway and CDTC Freight Priority Network designations (City of Albany, FHWA, NYSDOT, CDTC).

Strategy D: Reconstruct S. Port Rd., Normanskill St., Raft St., Smith Blvd. and Boat St. as a Bypass Route for Heavy Vehicles

Description: Currently, there is a street network connecting through the Port of Albany area, via S. Port Rd., Normanskill St., Raft St., Smith Blvd. and Boat St. ("Port Route"). However, it is in a poor state of repair. The pavements are in poor condition, there are multiple railroad crossings, it lacks adequate pavement markings and signage, and there are tight turning radii at several intersections.

The project would reconstruct the Port Route to a higher construction standard, to accommodate through heavy vehicle traffic, including reconstructing the pavement, addressing any stormwater control needs, better controlling and/or consolidating railroad crossings, better directional signage, clear pavement markings, and possible horizontal realignments to address turning radii issues.

Figure 12: Location of Strategy D



The planning-level estimated cost to complete this project is $12.0 mil. to $19.0 mil. The detailed planning-level cost estimate can be found in *Appendix D* of this document.

There are no residences located along the Port Route.

Mobility Implications: The alternate routes described below are identified by number, and maps of each alternate route with the corresponding number can be found in *Appendix E* of this document.

For heavy vehicles traveling *from* S. Pearl St./NY 32[12]:

(17) Accessing I-787 Northbound, the likeliest alternate is the Port Route, to Church St., to Broadway, to Quay St., to I-787 Northbound. This routing adds approximately 0.8 miles of distance, 5 minutes of travel time, and no additional vertical ascent or descent.

(2) Accessing I-787 Southbound/NYS Thruway Exit 23, the likeliest alternate route is described earlier.

(18) Accessing S. Pearl St., north of 1st Ave., the likeliest alternate is the Port Route, to Church St., to Broadway, to Quay St., to I-787 Southbound/Green St., to S. Pearl St. This routing adds approximately 1.6 miles of distance, 6 minutes of travel time, and no additional vertical ascent or descent.

[12] For all cases, the distance, travel time, and vertical ascent/descent were calculated using the intersection of Binghamton St. & S. Pearl St./NY 32 as the common starting/ending point.

(19) Accessing Church St. & Broadway, the likeliest alternate is the Port Route, to Church St. This routing adds approximately 0.8 miles of distance, 3 minutes of travel time, and no additional vertical ascent or descent.

For heavy vehicles traveling *to* S. Pearl St./NY 32:

(5) Accessing from I-787 Northbound, via NYS Thruway or NY 9W, the likeliest alternate route is described earlier.

(20) Accessing from I-787 Southbound, the likeliest alternate route is I-787 Exit 3B, to Broadway, to Church St., to the Port Route, to S. Pearl St./NY 32. This routing adds approximately 0.9 miles of distance, 5 minutes of travel time, and no additional vertical ascent or descent.

(21) Accessing from S. Pearl St., north of 1st Ave., the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to the Port Route, to S. Pearl St./NY 32. This routing adds approximately 1.8 miles of distance, 5 minutes of travel time, and no additional vertical ascent or descent.

(22) Accessing from Church St. & Broadway, the likeliest alternate route is Church St., to the Port Route, to S. Pearl St./NY 32. This routing adds approximately 0.7 miles of distance, 3 minutes of travel time, and no additional vertical ascent or descent.

Potential Benefits: Precise potential benefits are difficult to calculate because participation would be voluntary, and would range between 0 (none) and approximately 66% (~1,090) of heavy vehicles per day. There would still be some local heavy vehicles, approximately 34% (~562), that would need to use S. Pearl St./NY 32 to access their properties or to service the Ezra Prentice Homes area (ex: CDTA buses). Any reduction in the amount of heavy vehicle traffic on S. Pearl St./NY 32 will yield a proportional decrease in the negative impacts due to noise, vibration, air quality, and other quality of life impacts, for the residents who live along the roadway.

Providing an additional, well-marked route(s) to/from the Port of Albany could help out-of-town drivers better navigate the area. Better access to the area could provide a benefit for current and potential new Port tenants.

Potential Drawbacks: Increases in travel time, travel distance, and vertical ascent/descent will have a negative effect on the operational costs of the heavy vehicle operators, and will result in increased fuel consumption, emissions, and vehicle wear-and-tear. Heavy vehicle operators are more likely to accept routing changes that have little or no impact on their costs.

Responsible Party(s): City of Albany, NYSDOT, CDTC, Albany Port District Commission

Next Steps:

1. Determine ownership/operational responsibility of the roadways along the Port Route, and if necessary, transfer ownership/operational responsibility of the roadways from the Albany Port District Commission to the City of Albany (Albany Port District Commission, City of Albany).

2. Initiate the process to designate the roadways along the Port Route as Federal-Aid eligible (CDTC, Albany Port District Commission, City of Albany, NYSDOT).
3. Seek available federal funding to design and construct the Port Route to a higher construction standard to accommodate increased heavy vehicle traffic (City of Albany).
4. If implemented, consider revising NYSDOT Access Highway and CDTC Freight Priority Network designations (City of Albany, FHWA, NYSDOT, CDTC).

Evaluated Strategies – Not Recommended

The following strategies were evaluated, but are not recommended for further action. For each strategy, there is a brief description of the nature of what was evaluated and short explanation of why it is not recommended. Also, options determined to be extremely expensive, or otherwise cost prohibitive, were not considered, for example, completely new bypass roadway alignments or new interstate interchanges.

Prohibit Heavy Vehicles on S. Pearl St./NY 32 from Binghamton St. to I-787 with the Exception of Local Traffic Only

This restriction would prohibit heavy vehicle use of S. Pearl St./NY 32, between Binghamton St. and I-787, with the exception of local traffic only. Typically, this type of restriction is implemented on local roadways where there are only residential land uses, and there is at least one viable alternate route of similar distance.

As stated in New York State Department of Transportation Traffic Safety & Mobility Instruction 17-06, "Under the provisions of the Surface Transportation Assistance Act (STAA) of 1982, national policies that govern truck size and weight were prescribed. The policies required that a National Network for use by commercial STAA vehicles be designated at the Federal level and that the states provide "reasonable access" for such vehicles between the designated primary highways and facilities for food, fuel, repair, and rest and to terminals."

As a result of this federal law and other federal laws and regulations which prohibit states from denying "reasonable access" -

- The section of South Pearl Street/NY 32 between First Avenue and Old South Pearl Street is a "Designated Truck Access Highway."
- The City of Albany and the New York Department of Transportation cannot prohibit heavy vehicles from using S. Pearl St./NY 32.
- The section of South Pearl Street/NY 32 between First Avenue and Old South Pearl Street does not meet the criteria necessary to de-designate a truck access highway.

Close Access to the I-787 Northbound on-ramp and Southbound off-ramp from/ to S. Pearl St./NY 32

This project would permanently close the I-787 Northbound on-ramp and Southbound off-ramp from/to S. Pearl St./NY 32. In this scenario, the I-787 southbound on-ramp from Green St. and the I-787 northbound off-ramp to Church St. would remain intact. South Pearl St./NY 32 in the study area is used by many, including heavy vehicles, to access the Interstate Highway Network via I-787. The project on its own does not prohibit or limit the use of S. Pearl St./NY 32 near Ezra Prentice Homes, but rather makes it a less viable alternative.

Partially closing the exit would have a negative impact on all current users of the ramps, including heavy vehicles and passenger vehicles. Without any further restrictions, many or even most vehicles would still use S. Pearl St./NY 32 to access I-787, further north of the study area. This would lead to additional traffic of all vehicle types in more South End residential areas, also an Environmental Justice area. For these reasons, CDTC does not recommend implementing this strategy.

Recommended Approach

CDTC recommends implementing the strategies outlined above in the following sequence:

1. Strategy A: Encourage Local S. Pearl St./NY 32 Heavy Vehicle Operators to Consider Using Alternate Routes
2. Strategy B: Supportive Programs
3. Strategy C: Restrict Heavy Vehicle Turning Movement Access at the S. Port Rd. & S. Pearl St./NY 32 Intersection
4. Strategy D: Reconstruct S. Port Rd., Normanskill St., Raft St., Smith Blvd. and Boat St. as a Bypass Route for Heavy Vehicles

CDTC recommends implementing, to the extent possible, all of the programs described in Strategy B in conjunction with all other implemented strategies.

As previously described, CDTC does <u>not</u> recommend pursuing:

- Prohibit Heavy Vehicles on S. Pearl St./NY 32 from Binghamton St. to I-787 with the Exception of Local Traffic Only
- Close Access to the I-787 Northbound on-ramp and Southbound off-ramp from/ to S. Pearl St./NY 32

This study only considers transportation-related strategies that have the potential to reduce the number of heavy vehicles. Other efforts are better suited to specifically assess air quality, land use, and housing strategies. CDTC encourages the City of Albany and the community to consider all viable options for reducing the negative impacts caused by the incompatible land uses along S. Pearl St./NY 32. CDTC also encourages the City of Albany, the Albany Port District Commission, or any other potential project sponsors to collaborate with the Town of Bethlehem as strategies are implemented.

Environmental Justice Considerations

CDTC defines plans and projects with a primary or significant focus on reducing the negative impacts of heavy vehicle traffic in environmental justice areas as being "positive." The primary objectives of the S. Pearl St. Heavy Vehicle Travel Pattern Study were to research and analyze heavy vehicle travel patterns along S. Pearl St./NY 32 and to develop recommendations to mitigate the negative impacts of heavy vehicle on residents of the study area. The study area includes neighborhoods with Environmental Justice populations.

The study offers strategies that intend to decrease the number of heavy vehicles traveling on S. Pearl St./NY 32 past Ezra Prentice Homes, which, if implemented as recommended, will provide positive benefits for Environmental Justice populations in the study area. Care should be taken during implementation to ensure no unintended negative impacts. Communication with any affected parties will be critical.

Appendix

Appendix A: Environmental Features Scan

Introduction

Per federal requirements, the Capital District Transportation Committee (CDTC) undertakes an Environmental Features Scan in all initiatives. The Environmental Features Scan identifies the location of environmentally sensitive features, both natural and cultural in relation to project study areas. Although the conceptual planning stage is too early in the transportation planning process to identify specific potential impacts to environmentally sensitive features, the early identification of environmentally sensitive features is an important part of the environmental mitigation process. It should also be noted here that as specific projects advance through the project development process, the applicable National Environmental Policy Act (NEPA) and State Environmental Quality Review Act (SEQRA) regulations requiring potential environmental impact identification, analysis and mitigation will be followed by the implementing agencies as required by federal and state law. CDTC is not an implementing agency.

Data and Analysis

CDTC staff relies on data from several state and federal agencies to maintain an updated map-based inventory of both natural and cultural resources. The following features are mapped and reviewed for their presence within each study area as well as within a quarter mile buffer of the defined study area boundary:

- sole source aquifers
- aquifers
- reservoirs
- water features (streams, lakes, rivers and ponds)
- wetlands
- watersheds
- 100 year flood plains
- rare animal populations
- rare plant populations
- significant ecological sites
- significant ecological communities
- state historic sites
- national historic sites
- national historic register districts
- national historic register properties
- federal parks and lands
- state parks and forests
- state unique areas
- state wildlife management areas
- county forests and preserves
- municipal parks and lands
- land trust sites
- NYS DEC lands
- Adirondack Park
- agricultural districts
- NY Protected Lands
- natural community habitats
- rare plant habitats
- Class I & II soils

Figure A-1: Environmental Features within 0.25 mi. of the Study Area provides an overview of the environmentally sensitive (cultural and natural) features located within the S. Pearl St. Heavy Vehicle Travel Pattern Study Area, as well as within a quarter mile buffer of the study area boundary.

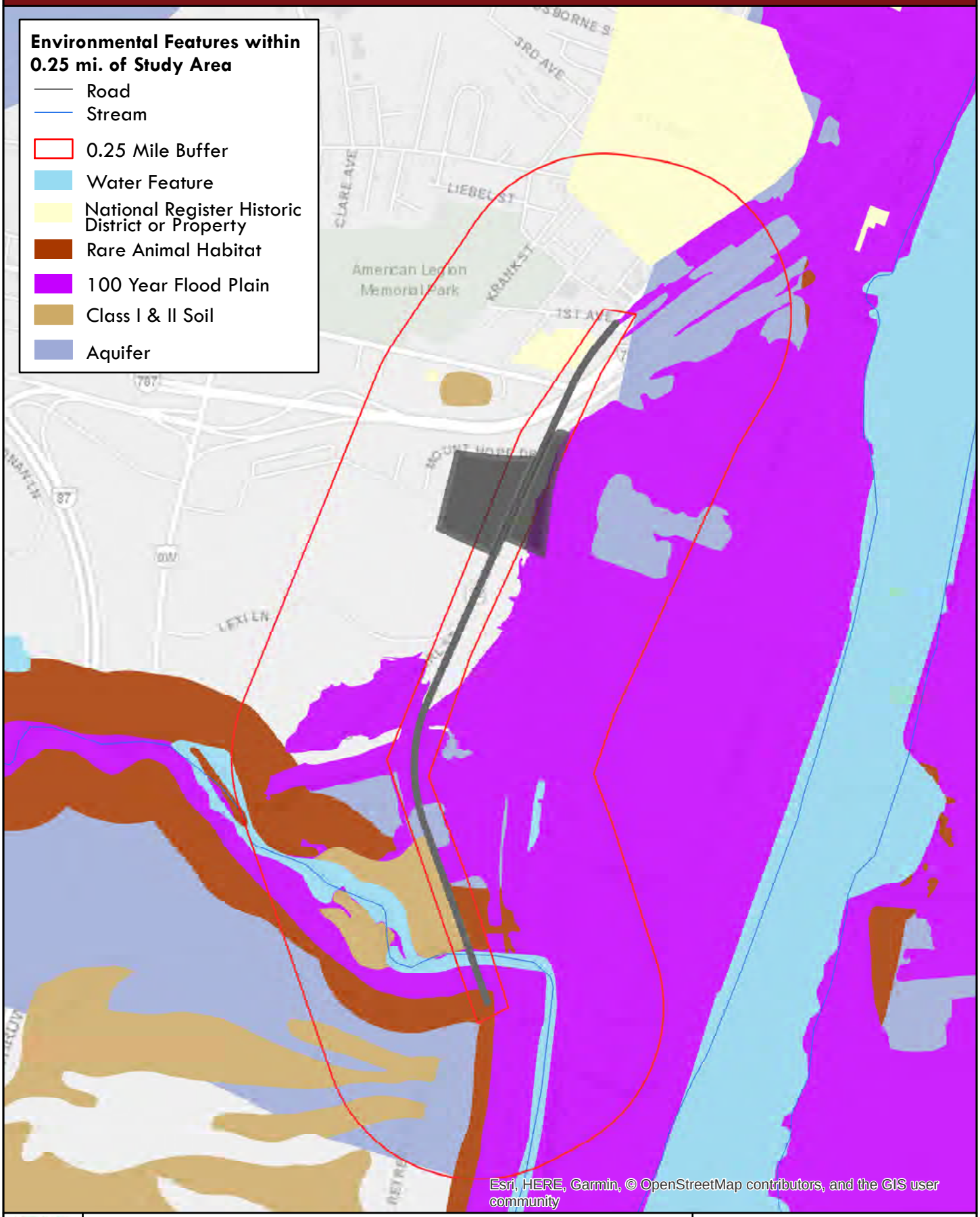
Environmental Features Scan Conclusion

The following environmentally sensitive features have been identified within a quarter mile of study area:

- Water features
- National Register Historic District or Property
- Rare Animal Habitat
- 100 Year Floodplain
- Class I & II Soil
- Aquifer

The S. Pearl St. Heavy Vehicle Travel Pattern Study Area offers strategies that intend to decrease the number of heavy vehicles traveling on S. Pearl St./NY 32 that pass Ezra Prentice Homes. If implemented, the project sponsors should take into account the environmentally sensitive features identified above as they progress the planning and design of any projects.

Figure A-1: Environmental Features within 0.25 mi. of the Study Area



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: April 25, 2018

Appendix B: License Plate Survey Public Information Flyer

Figure B-1: License Plate Survey Public Information Poster and Flyer

Attention Residents:

The City of Albany, the Capital District Transportation Committee (CDTC), the Albany Housing Authority and FES Installations are conducting a truck traffic pattern study in the South Pearl Street corridor.

- The cameras will monitor truck travel in the community to identify air pollution sources in an effort to improve the air quality of the neighborhood.
- The cameras will collect photos of license plates from passing vehicles. They will not collect video. No photos will be available for any public or private use.
- **The cameras and their photos will NOT be used by the police or any other law enforcement agency. They are NOT "Red Light" cameras and are NOT for street surveillance purposes.**
- Only the photos and data on heavy trucks will be collected and analyzed. **No images of passenger vehicles like motorcycles, cars and pickup trucks will be available for any purpose.**
- For further information on the study or to leave comments related to the study contact CDTC at (518) 458-2161.

Below is an example of the cameras being used to study truck traffic in the neighborhood.

Appendix C: Heavy Vehicle Routes Assigned by Origin Location

The methodology for developing and aggregating heavy vehicle travel routes is described below. The matched license plates were aggregated together into a string, to form a route. The analysis considered the locations of the first and last ALPR to record each vehicle when developing the start, or origin, and end, or destination, of each vehicle. Common routes were aggregated together, and assigned to the roadway network. For more information on the data analysis process, see *Section 3: Data Analysis*.

The routes derived are shown on *Figures C-1* to *C-7*, *Percent (%) Heavy Vehicles*. Each figure shows an 'origin' location in the study area. With the data collected, seven (7) 'origin' locations were able to be defined:

1. *Figure C-1: Percent (%) Heavy Vehicles from South of the Study Area*
2. *Figure C-2: Percent (%) Heavy Vehicles from S. Port Rd.*
3. *Figure C-3: Percent (%) Heavy Vehicles from S. Pearl St., between Binghamton St. and S. Port Rd.*
4. *Figure C-4: Percent (%) Heavy Vehicles from S. Pearl St., between 1st Ave. and Binghamton St.*
5. *Figure C-5: Percent (%) Heavy Vehicles from I-787 Southbound Access Rd./Green St.*
6. *Figure C-6: Percent (%) Heavy Vehicles from S. Pearl St., north of 1st Ave.*
7. *Figure C-7: Percent (%) Heavy Vehicles from Church St., east of I-787*

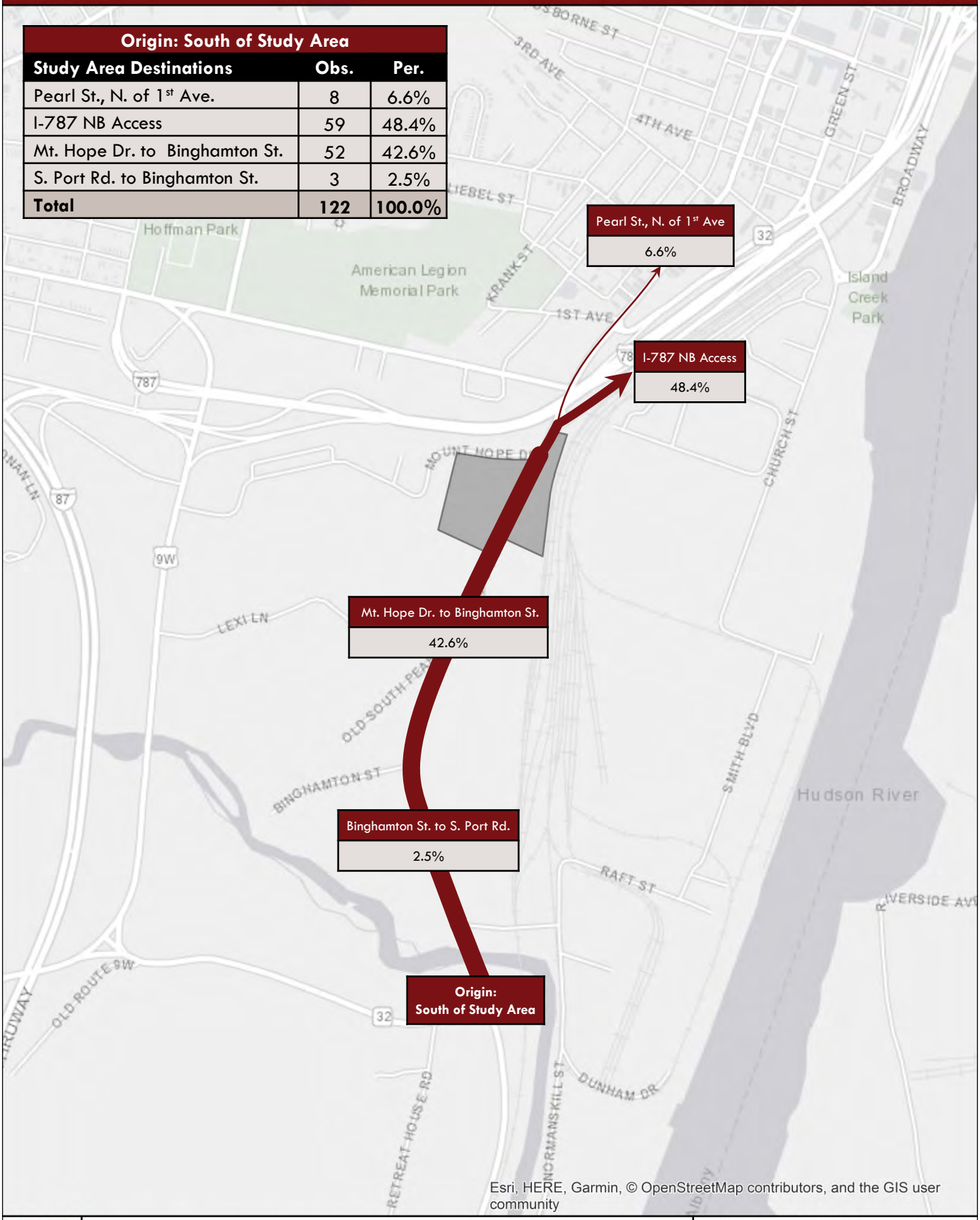
In each figure, 'Destinations' along the S. Pearl St./NY 32 corridor and/or through the study area termini are defined. The number of observations (Obs.) and percent of the total observation (Per.) are provided on a table within each figure. The line thickness shown in the figures is proportional to the percent of heavy vehicles from the origin location traveling along the roadway.

For example, the data from *Figure C-1: Percent (%) Heavy Vehicles from South of the Study Area* can be interpreted as:

- 122 total heavy vehicles were observed entering the study area from the south.
- 2.5% (3) of the 122 observed heavy vehicles ended their trip along S. Pearl St./NY 32 between Binghamton St. and S. Port Rd.
- 42.6% (52) of the 122 observed heavy vehicles ended their trip along S. Pearl St./NY 32 between Mt. Hope Dr. and Binghamton St.
- 48.4% (59) of the 122 observed heavy vehicles continued along S. Pearl St./NY 32, and traveled onto the I-787 northbound access road.
- 6.6% (8) of the 122 observed heavy vehicles continued along S. Pearl St./NY 32, to S. Pearl St. north of the study area.

Figure C-1: Percent (%) Heavy Vehicles from South of the Study Area

Origin: South of Study Area		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave.	8	6.6%
I-787 NB Access	59	48.4%
Mt. Hope Dr. to Binghamton St.	52	42.6%
S. Port Rd. to Binghamton St.	3	2.5%
Total	**122**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

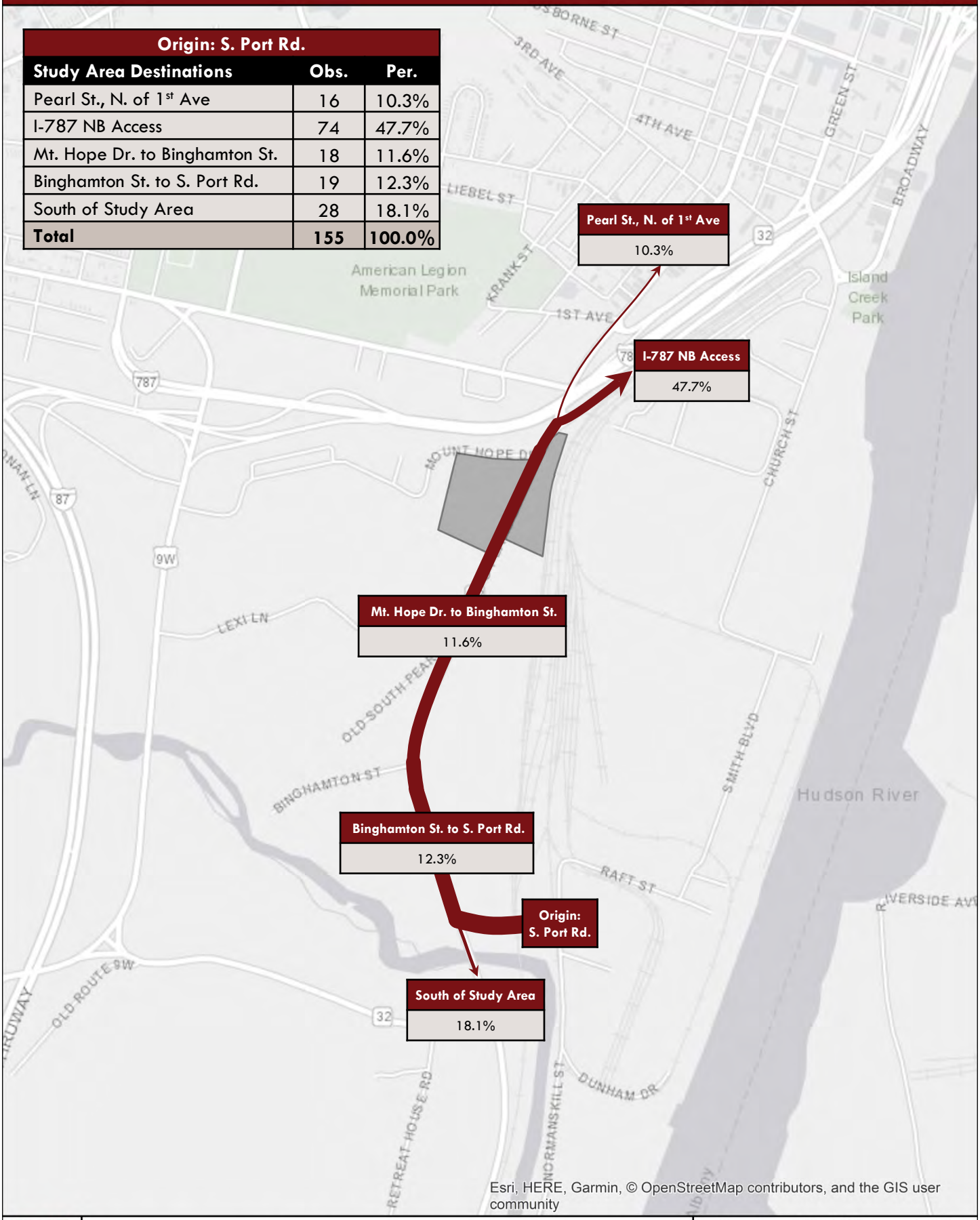
0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-2: Percent (%) Heavy Vehicles from S. Port Rd.

Origin: S. Port Rd.		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave	16	10.3%
I-787 NB Access	74	47.7%
Mt. Hope Dr. to Binghamton St.	18	11.6%
Binghamton St. to S. Port Rd.	19	12.3%
South of Study Area	28	18.1%
Total	**155**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

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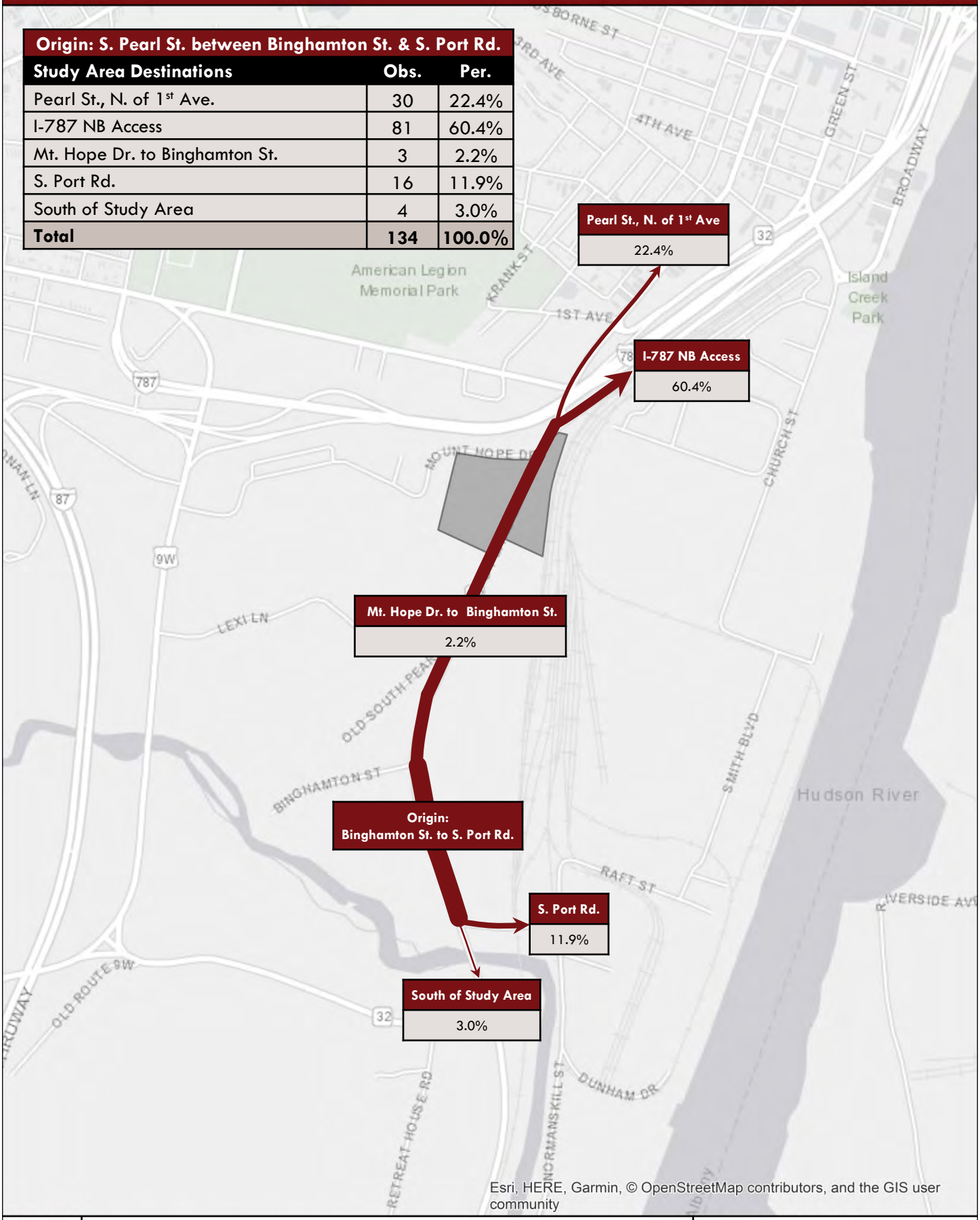
1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-3: Percent (%) Heavy Vehicles from S. Pearl St., between Binghamton St. and S. Port Rd.

Origin: S. Pearl St. between Binghamton St. & S. Port Rd.		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave.	30	22.4%
I-787 NB Access	81	60.4%
Mt. Hope Dr. to Binghamton St.	3	2.2%
S. Port Rd.	16	11.9%
South of Study Area	4	3.0%
Total	**134**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

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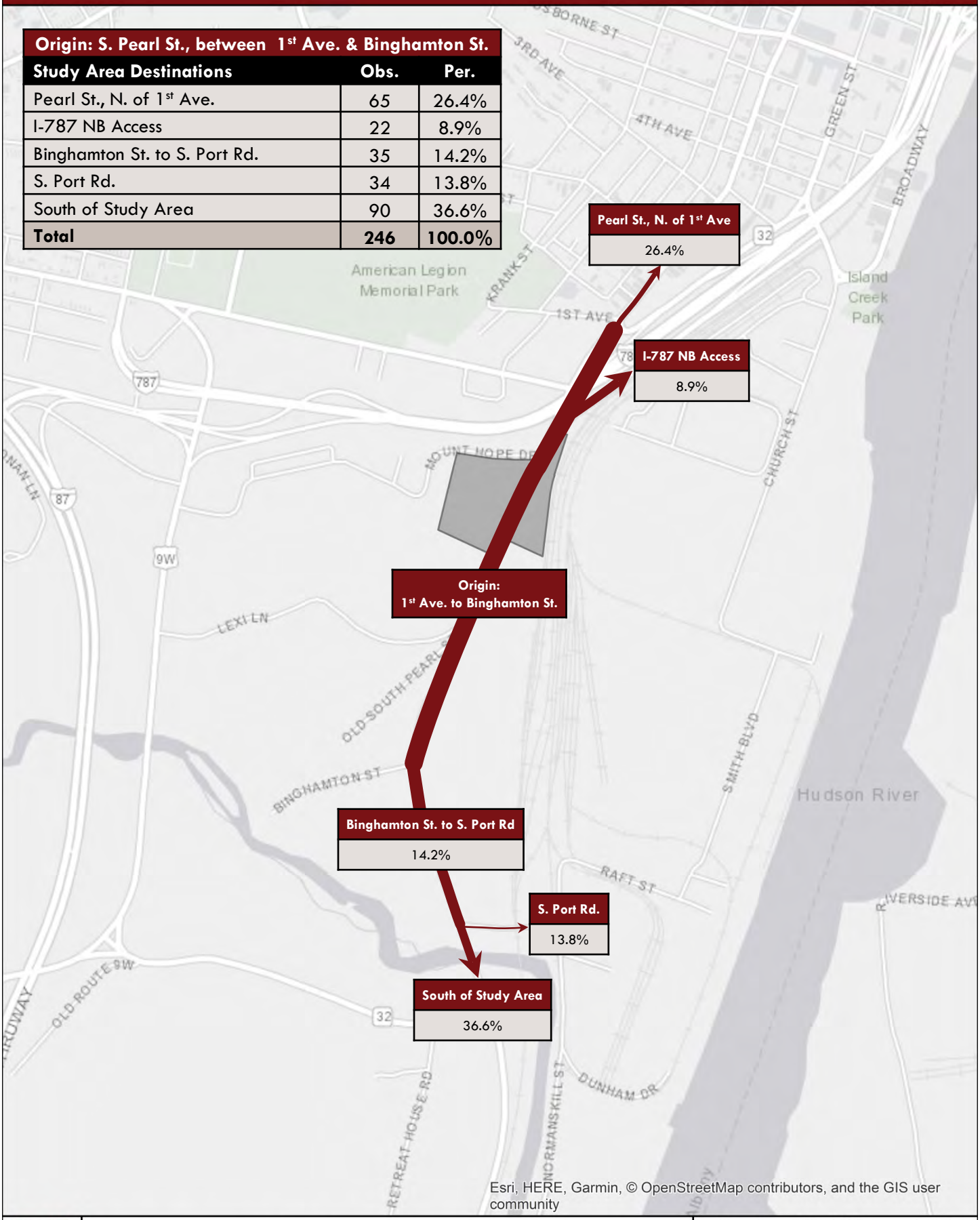
1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-4: Percent (%) Heavy Vehicles from S. Pearl St., between 1st Ave. and Binghamton St.

Origin: S. Pearl St., between 1st Ave. & Binghamton St.		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave.	65	26.4%
I-787 NB Access	22	8.9%
Binghamton St. to S. Port Rd.	35	14.2%
S. Port Rd.	34	13.8%
South of Study Area	90	36.6%
Total	**246**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

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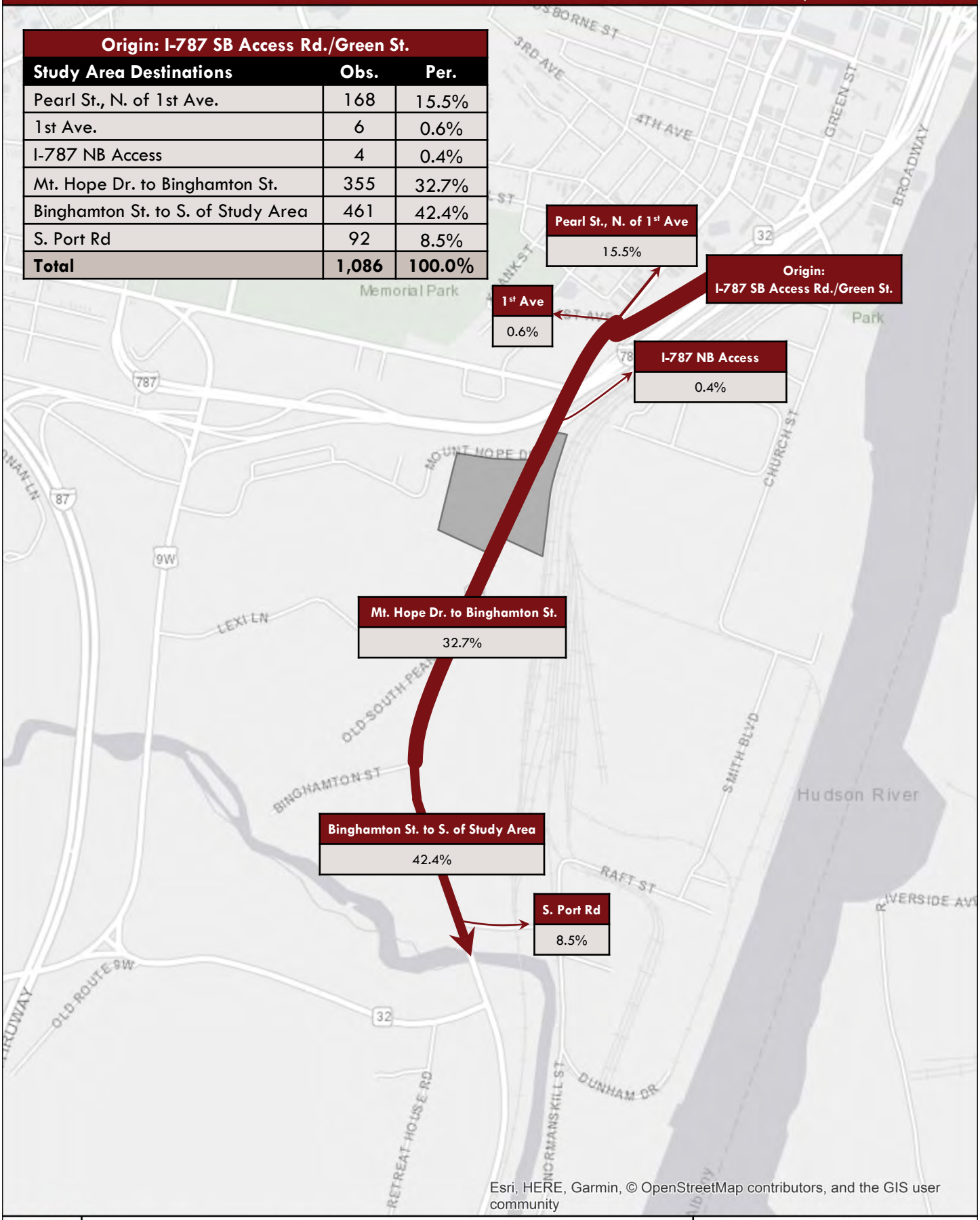
1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-5: Percent (%) Heavy Vehicles from I-787 Southbound Access Rd./Green St.

Origin: I-787 SB Access Rd./Green St.		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave.	168	15.5%
1st Ave.	6	0.6%
I-787 NB Access	4	0.4%
Mt. Hope Dr. to Binghamton St.	355	32.7%
Binghamton St. to S. of Study Area	461	42.4%
S. Port Rd	92	8.5%
Total	**1,086**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

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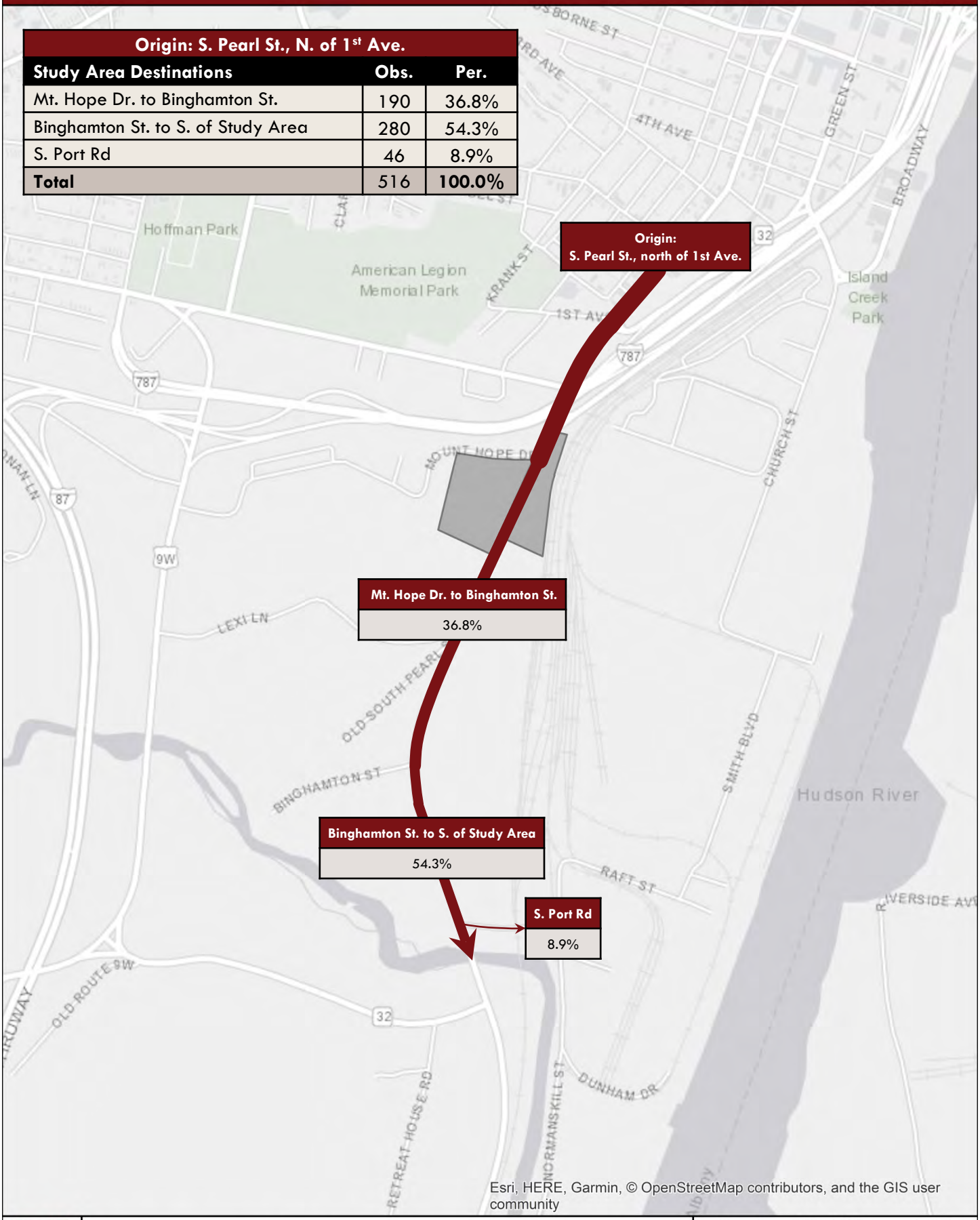
1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-6: Percent (%) Heavy Vehicles from S. Pearl St., north of 1st Ave.

Origin: S. Pearl St., N. of 1st Ave.		
Study Area Destinations	**Obs.**	**Per.**
Mt. Hope Dr. to Binghamton St.	190	36.8%
Binghamton St. to S. of Study Area	280	54.3%
S. Port Rd	46	8.9%
Total	516	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

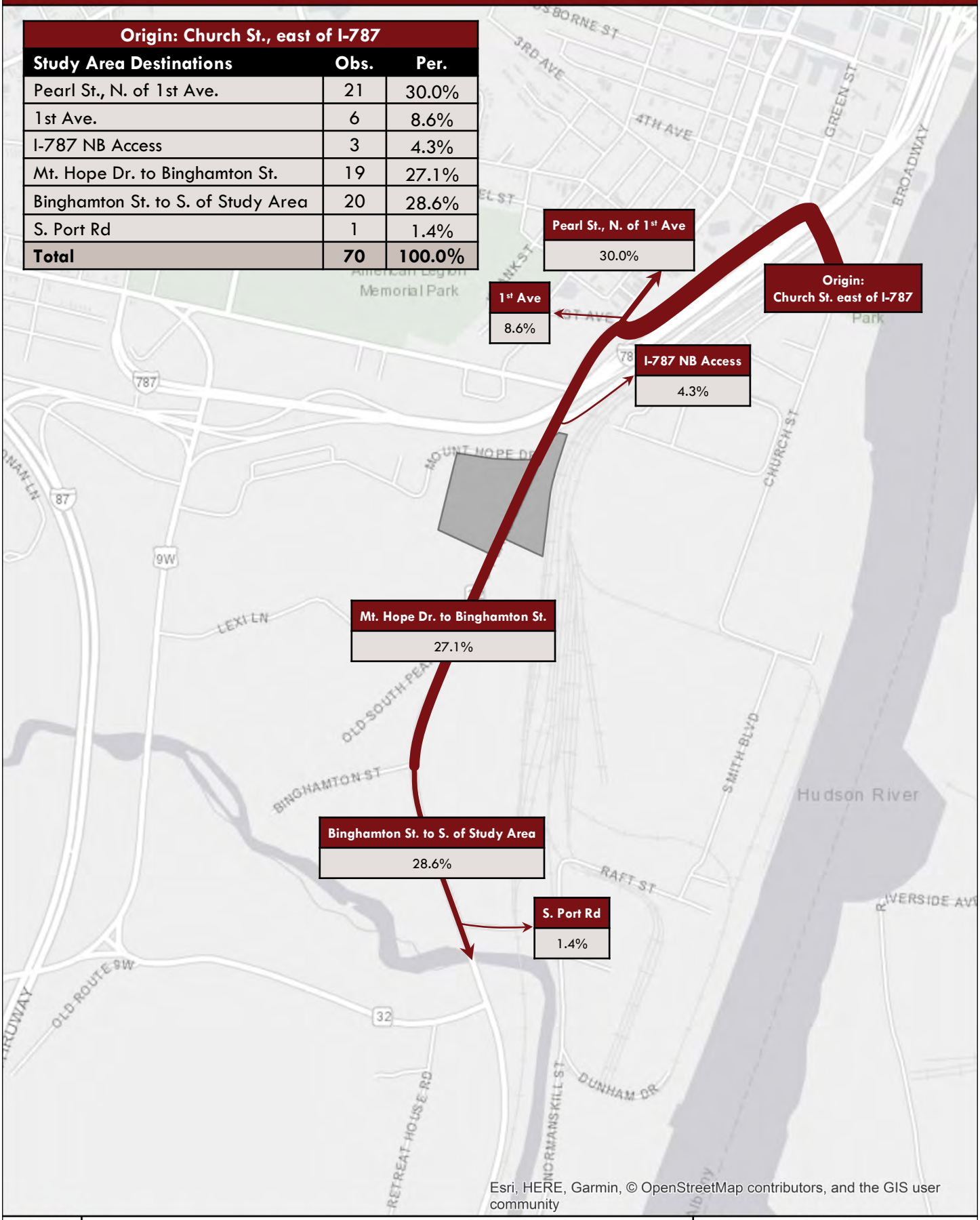
0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: April 16, 2018

Figure C-7: Percent (%) Heavy Vehicles from Church St., east of I-787

Origin: Church St., east of I-787		
Study Area Destinations	**Obs.**	**Per.**
Pearl St., N. of 1st Ave.	21	30.0%
1st Ave.	6	8.6%
I-787 NB Access	3	4.3%
Mt. Hope Dr. to Binghamton St.	19	27.1%
Binghamton St. to S. of Study Area	20	28.6%
S. Port Rd	1	1.4%
Total	**70**	**100.0%**



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

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1 in = 1,500 feet

Date Produced: April 16, 2018

Appendix D: Cost Estimate Detail for Strategy D

DEVELOPING A PLANNING LEVEL COST ESTIMATE FOR IMPROVING THE STREET SYSTEM SERVING THE PORT OF ALBANY

Scope:
Scope calls for improving pavement condition on the following streets:
South Port Road
Normanskill Street
Raft Street
Smith Boulevard
Boat Street
Church Street
Total centerline miles = roughly 1 mile

Project Elements:
Scoping
Design
Mainline
Intersection
Environmental Screening
Cultural Survey
Resiliency Assessment
Construction Inspection

Unit Costs Derived from CDTC and NYSDOT Project Costs, TRB NCHRP Research Reports, Southeastern Wisconsin Regional Planning Commission, and Discussions with Engineering Consultants (2018 $):
Mill & Fill Repaving: $0.356M/LM
Reconstruction: $2.034M/LM
Reconstruction (high strength pavement + 14-foot lanes + 4-foot shoulders): $2.644M/LM
New Construction (high strength pavement): $3.380M/LM
Median Turn Lane: $2.6M/LM
Minor Intersection Work (improving turn radii): $0.100M - $0.250M/intersection
Major Intersection Work (roundabout): $1.8-2.5M/intersection
Railroad Crossing Protection (basic signing/flashing lights only): $0.040-0.150M/ crossing
Railroad Crossing Protection (active warning system): $0.350-0.750M/crossing
Signing (static): $0.100M+
Signing (digital): $0.500M+
Design: 15%
Maintenance and Protection of Traffic: 10%
Inspection: 10%
Contingencies: 30%

Minor Intersection Candidates:
South Port/Normanskill
Raft Street/Smith Boulevard
Boat Street/ Smith Boulevard

Major Intersection Candidates:
South Port Road/South Pearl Street
Church Street/I-787 Ramps

Improvement Alternatives:

A. Mill & Fill – No other treatment/includes contingency, design, inspection: $1.068M
B. Reconstruction – no other treatment: $6.108M
C. Reconstruction – includes high strength pavement, minor intersection work, contingency, design, inspection: $11.312M
D. Reconstruction Item C + Median Lane: $13.9M
E. Reconstruction Item D + major intersection @ S. Pearl and Church: $18.220M

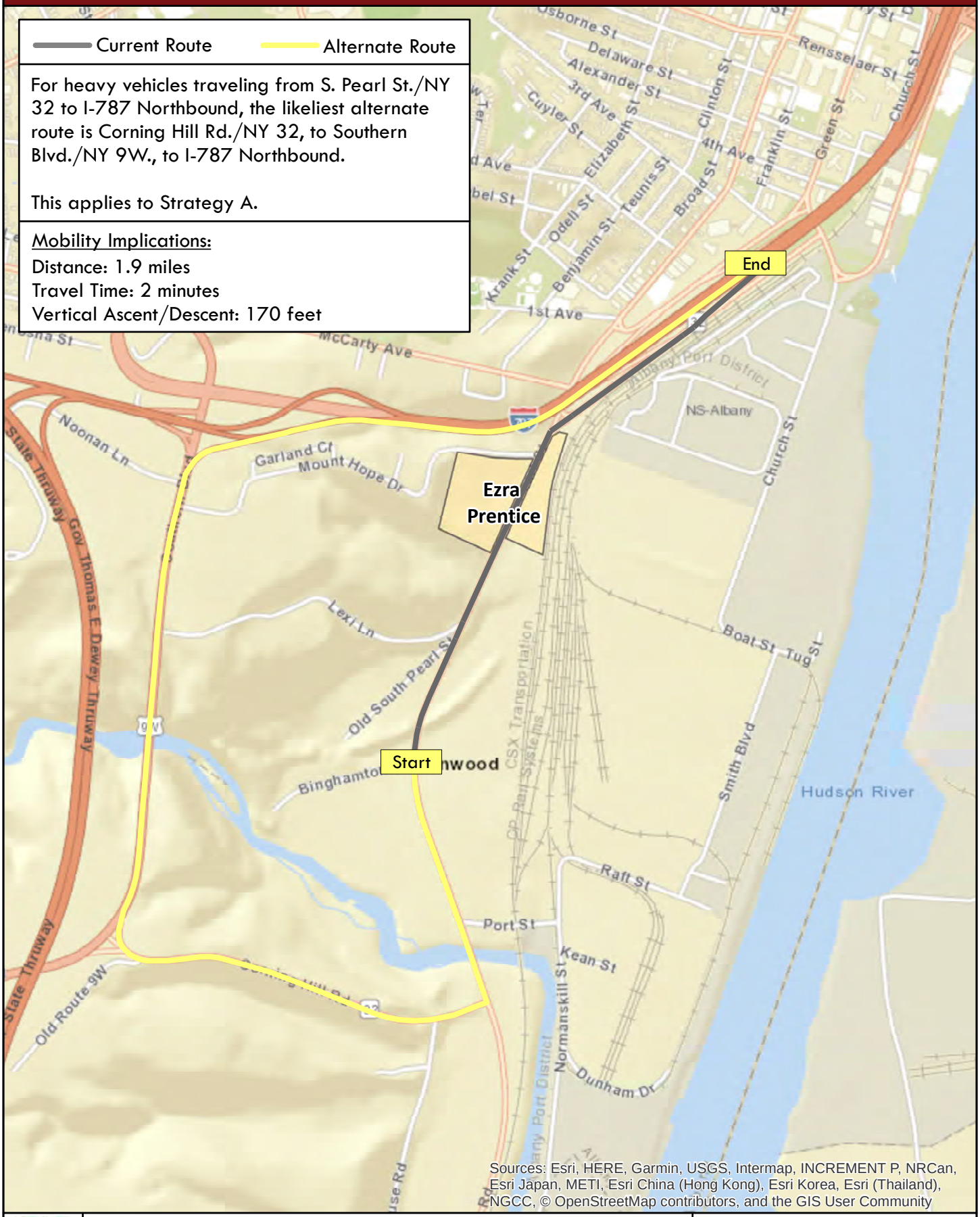
Additional Costs Not Included in the Above Estimates:
Signing (Basic): $0.100M
Signing (Advanced Digital): $0.500M
Rail Crossing Protection (Basic): $0.100M/site
Rail Crossing Protection (Advanced): $0.350M - $0.750M
Environmental/Cultural Assessments: $0.600M - $0.750M
Environmental/Cultural/Climate Mitigation: $UNKNOWN

Notes:
The cost of Alternative D is consistent with the cost developed for the South Troy Roadway Project.

Appendix E: Alternate Routes Identified in Evaluated Strategies

The following series of maps illustrate the alternate routes identified and described in *Section 4: Evaluation of Strategies.*

Alternate Route 1: From S. Pearl St./NY 32 to I-787 Northbound



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

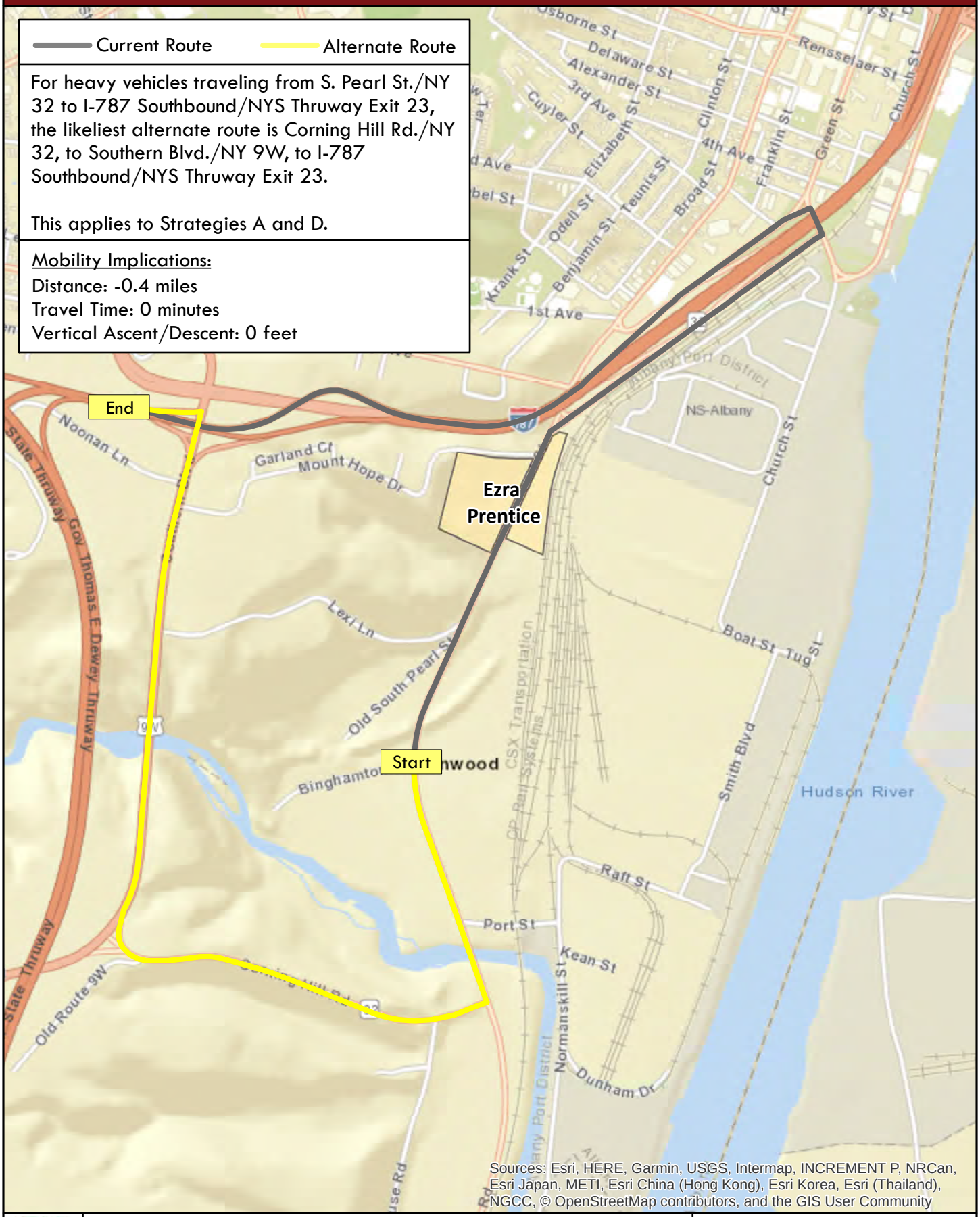
Alternate Route 2: From S. Pearl St./NY 32 to I-787 Southbound

Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St./NY 32 to I-787 Southbound/NYS Thruway Exit 23, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Southbound/NYS Thruway Exit 23.

This applies to Strategies A and D.

Mobility Implications:
Distance: -0.4 miles
Travel Time: 0 minutes
Vertical Ascent/Descent: 0 feet



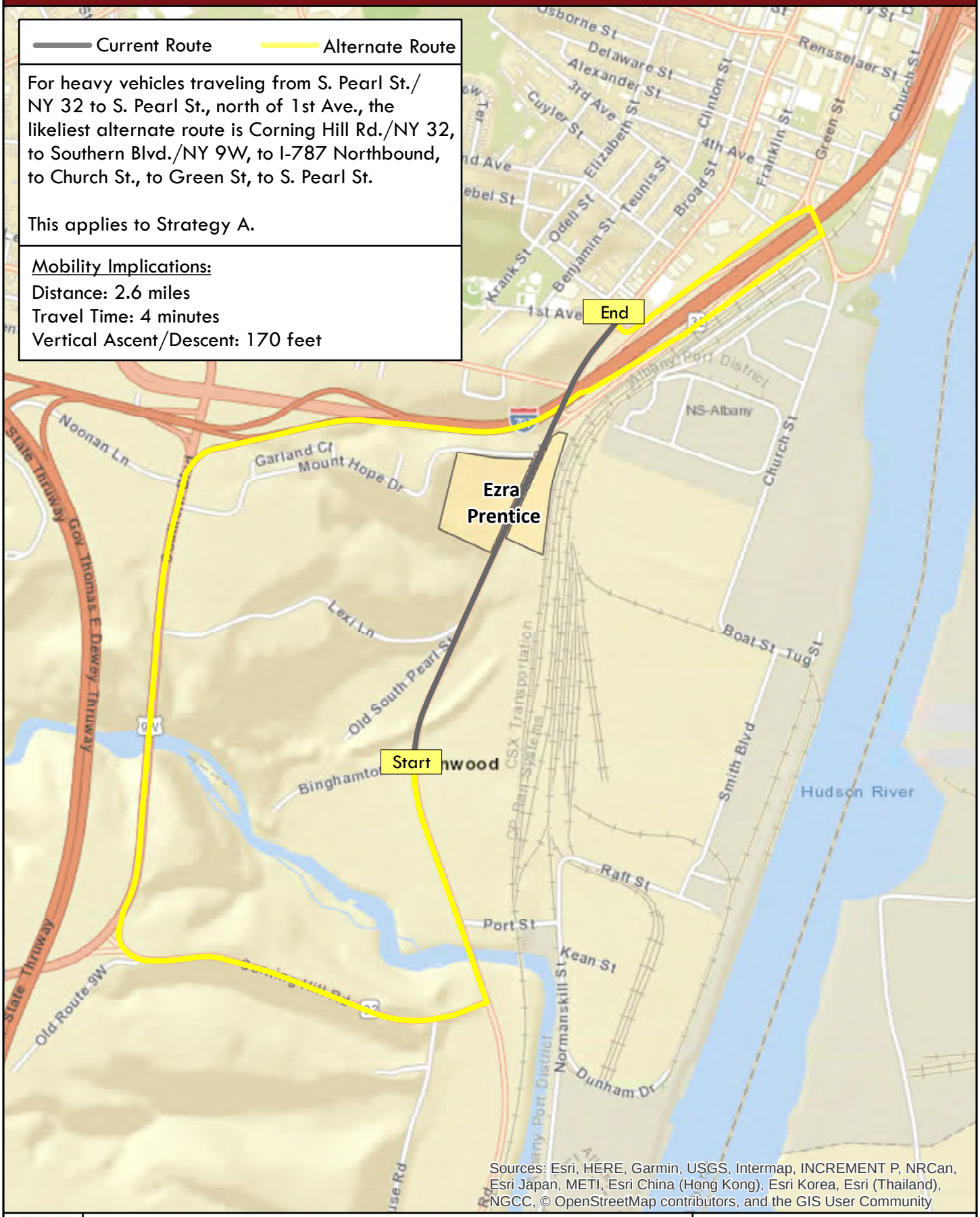
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 3: From S. Pearl St./NY 32 to S. Pearl St., North of 1st Ave.



For heavy vehicles traveling from S. Pearl St./ NY 32 to S. Pearl St., north of 1st Ave., the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St., to Green St, to S. Pearl St.

This applies to Strategy A.

<u>Mobility Implications:</u>

Distance: 2.6 miles
Travel Time: 4 minutes
Vertical Ascent/Descent: 170 feet

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 4: From S. Pearl St./NY 32 to Church St. & Broadway

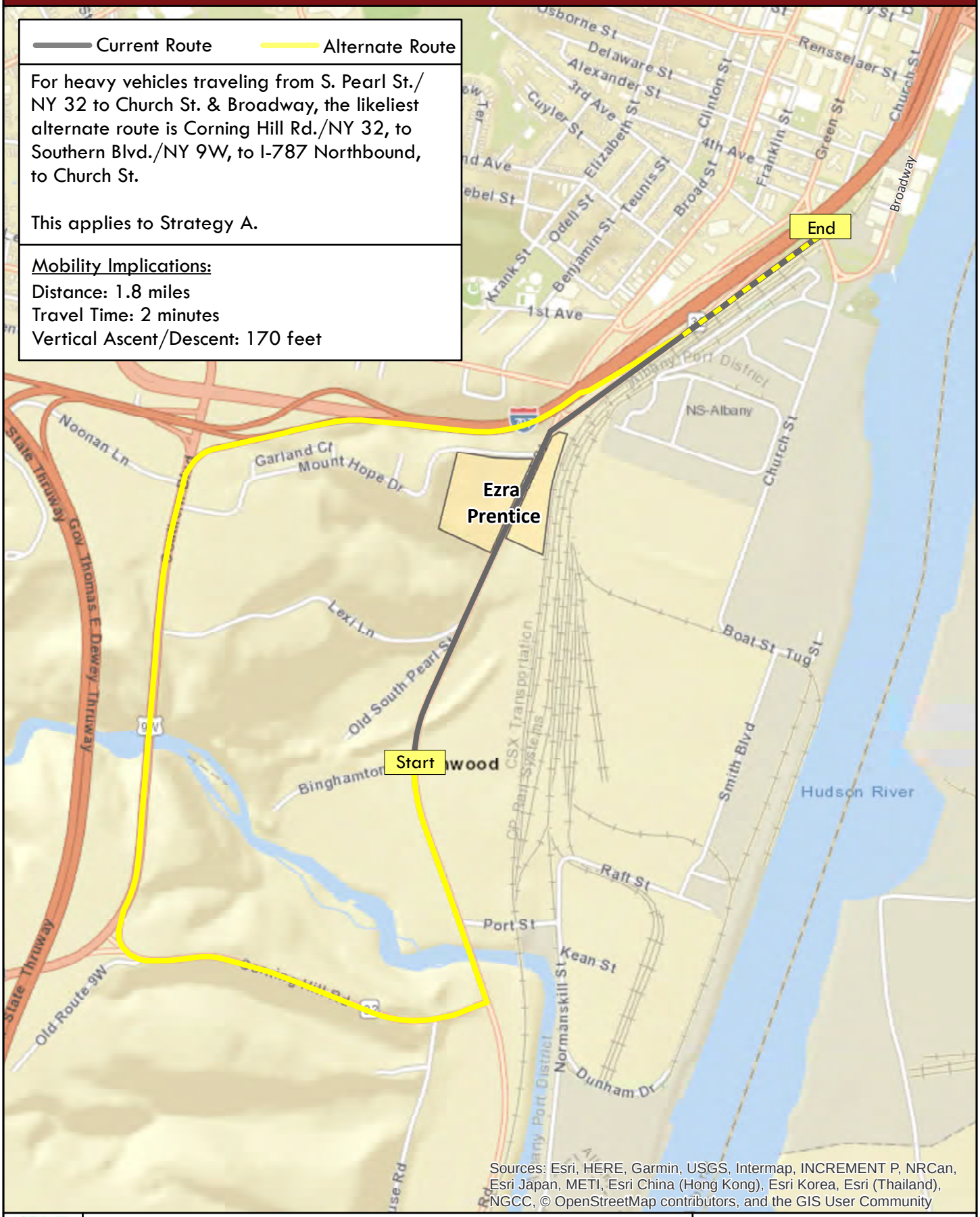
Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St./ NY 32 to Church St. & Broadway, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St.

This applies to Strategy A.

Mobility Implications:

Distance: 1.8 miles
Travel Time: 2 minutes
Vertical Ascent/Descent: 170 feet



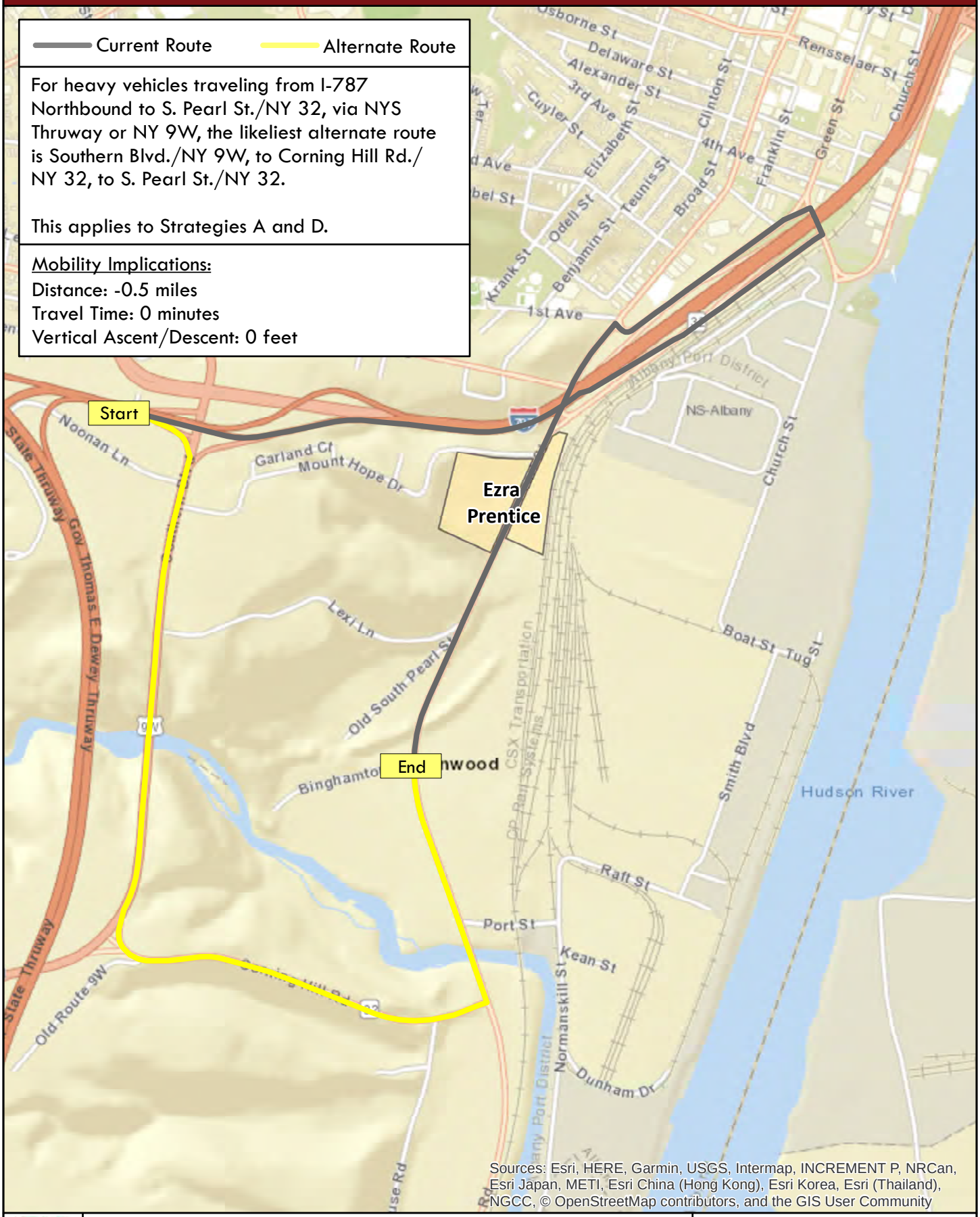
City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 5: From I-787 Northbound to S. Pearl St./NY 32



For heavy vehicles traveling from I-787 Northbound to S. Pearl St./NY 32, via NYS Thruway or NY 9W, the likeliest alternate route is Southern Blvd./NY 9W, to Corning Hill Rd./ NY 32, to S. Pearl St./NY 32.

This applies to Strategies A and D.

<u>Mobility Implications:</u>
Distance: -0.5 miles
Travel Time: 0 minutes
Vertical Ascent/Descent: 0 feet

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 6: From I-787 Southbound to S. Pearl St./NY 32

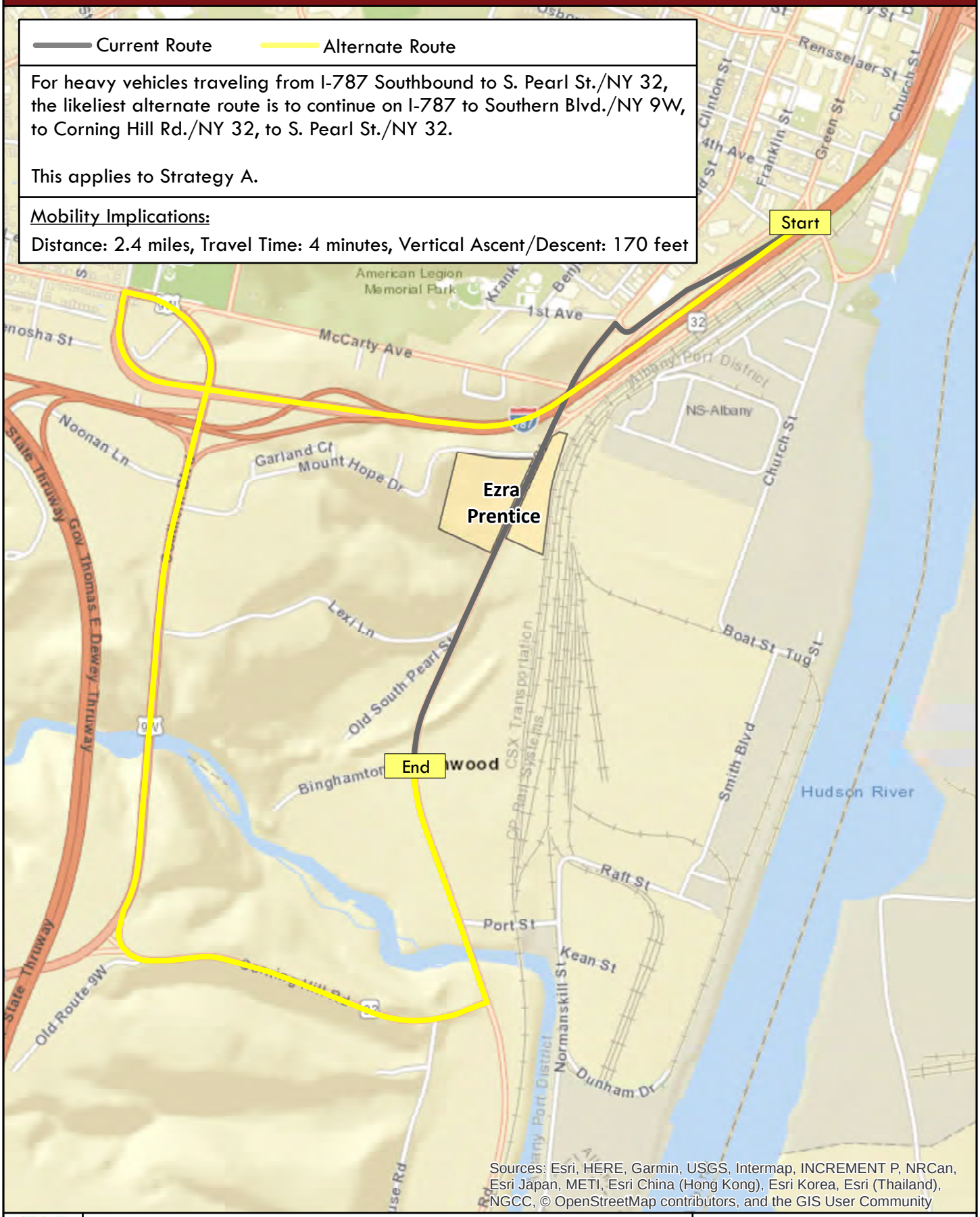
Current Route — Alternate Route

For heavy vehicles traveling from I-787 Southbound to S. Pearl St./NY 32, the likeliest alternate route is to continue on I-787 to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.

This applies to Strategy A.

Mobility Implications:

Distance: 2.4 miles, Travel Time: 4 minutes, Vertical Ascent/Descent: 170 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 7: From S. Pearl St, North of 1st Ave, to S. Pearl St./NY 32

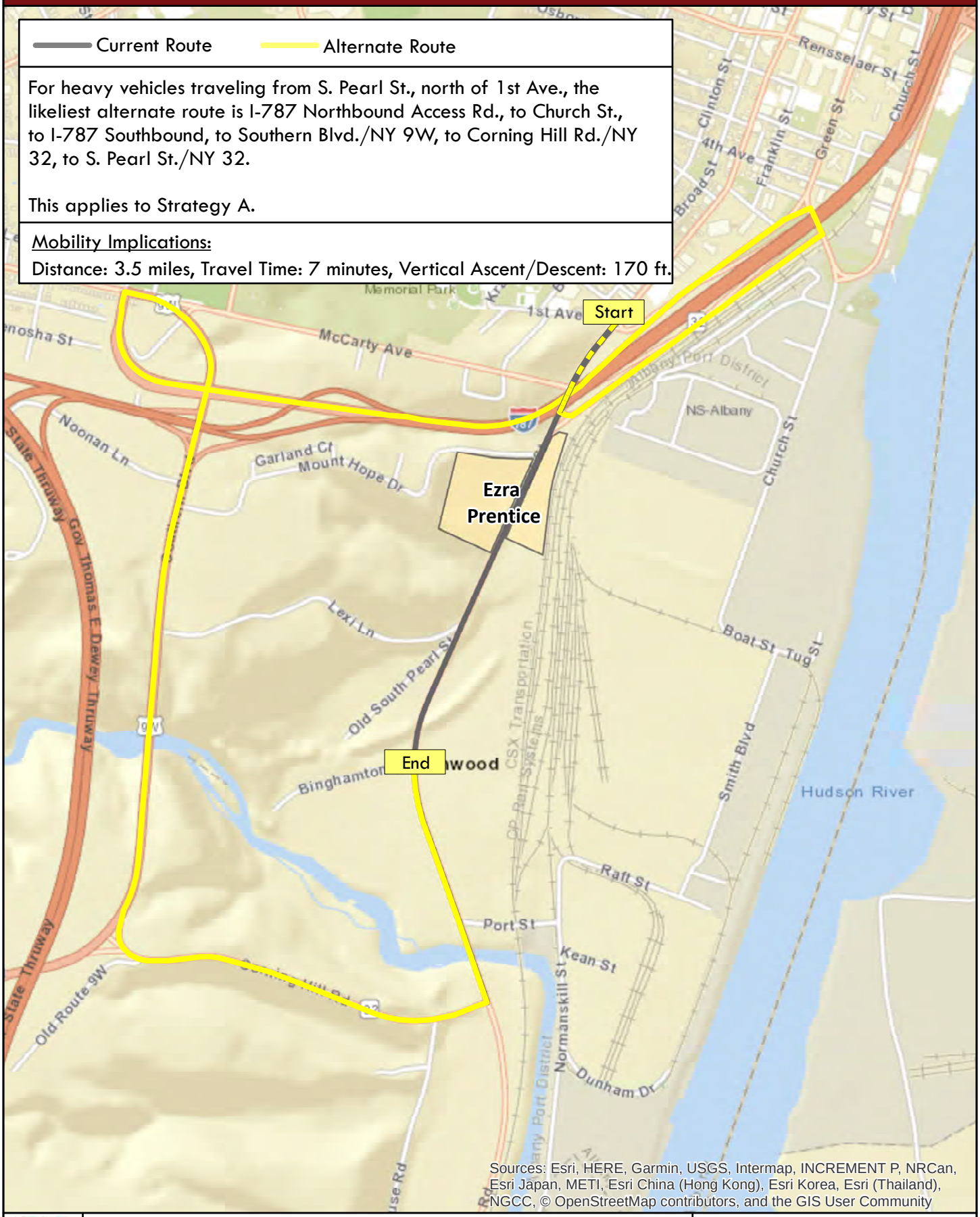
Current Route Alternate Route

For heavy vehicles traveling from S. Pearl St., north of 1st Ave., the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.

This applies to Strategy A.

Mobility Implications:

Distance: 3.5 miles, Travel Time: 7 minutes, Vertical Ascent/Descent: 170 ft.



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 8: From Church St. & Broadway to S. Pearl St./NY 32

Current Route — Alternate Route

For heavy vehicles traveling from Church St.& Broadway, the likeliest alternate is I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.

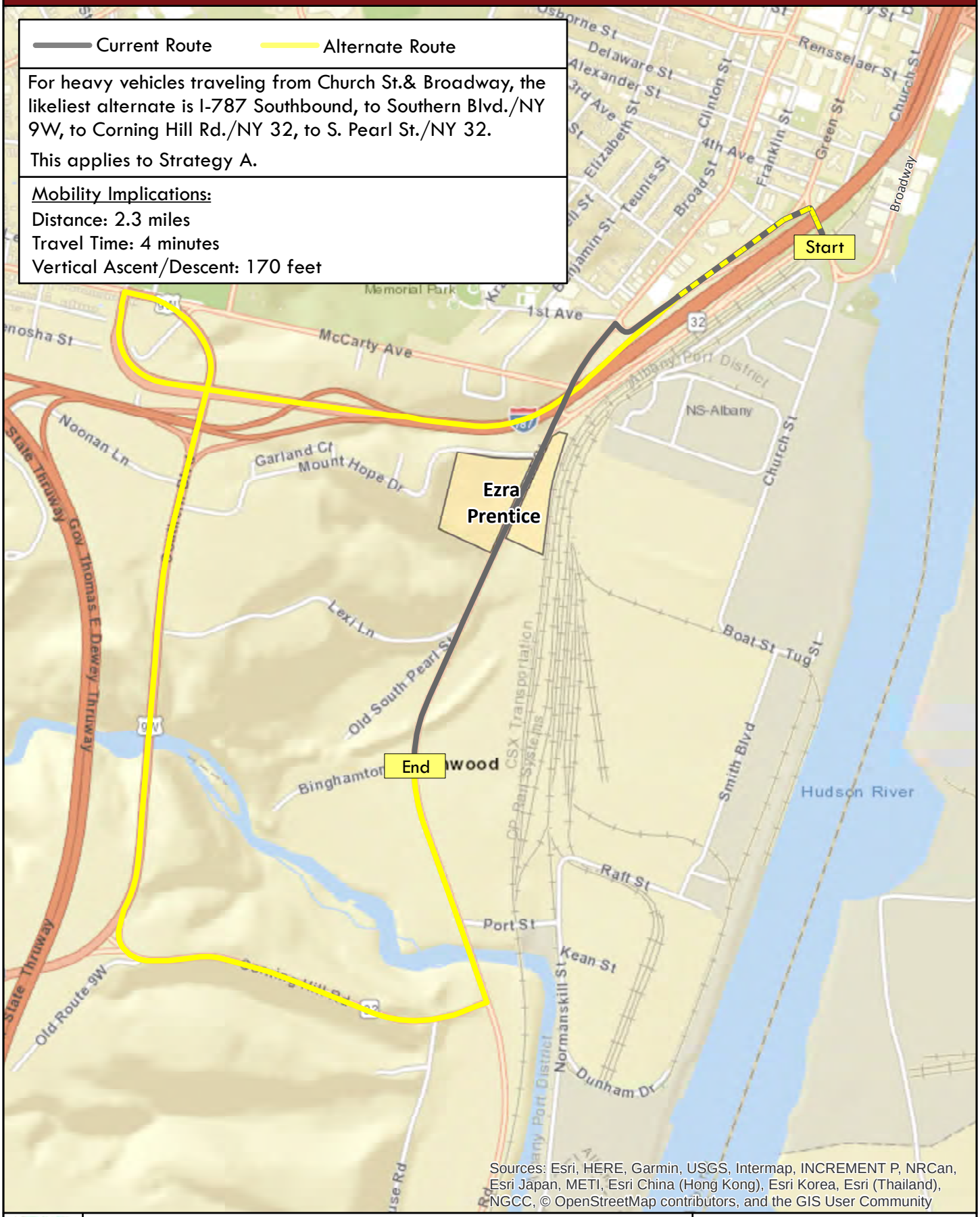
This applies to Strategy A.

Mobility Implications:

Distance: 2.3 miles

Travel Time: 4 minutes

Vertical Ascent/Descent: 170 feet



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

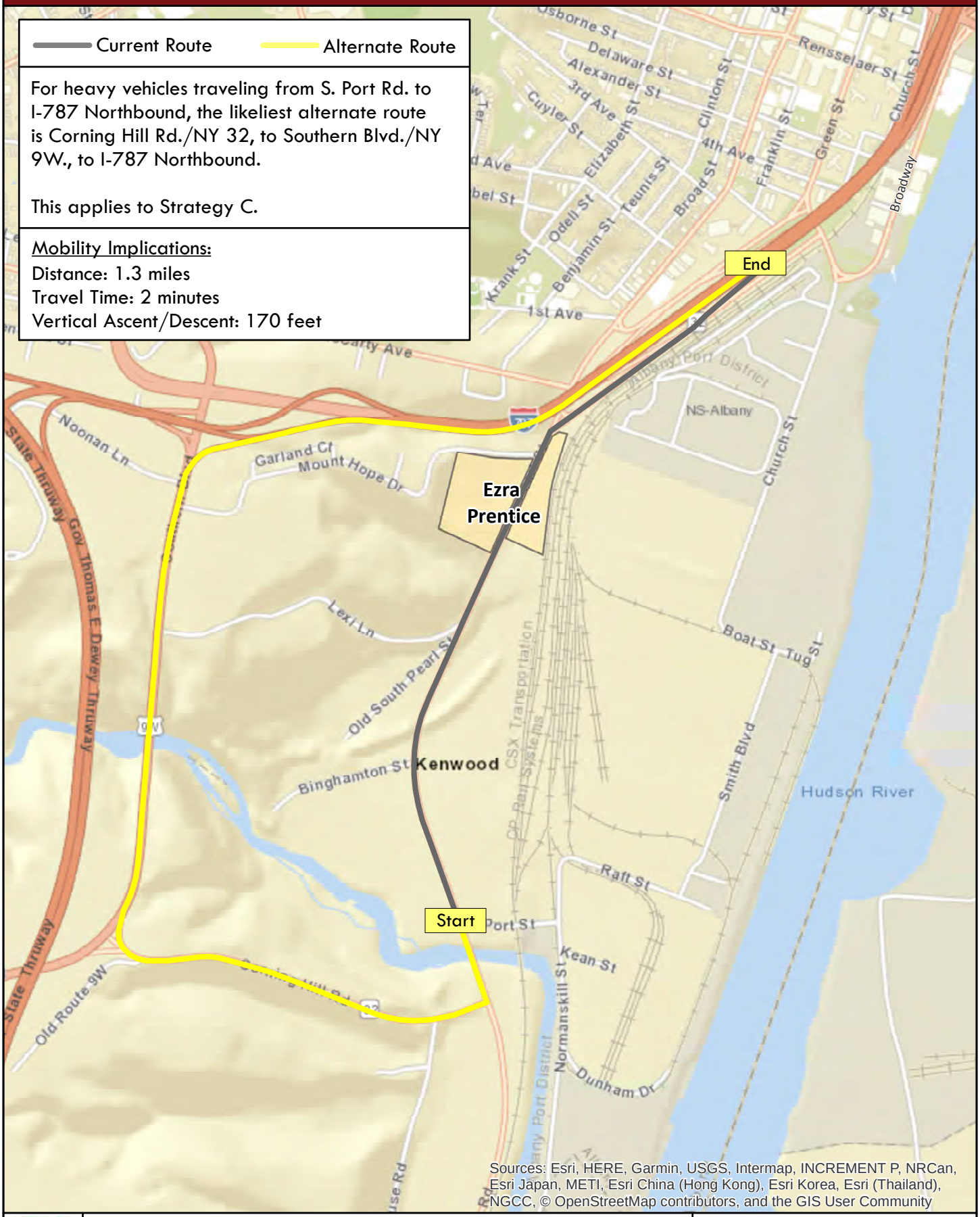
City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 9: From S. Port Rd. to I-787 Northbound



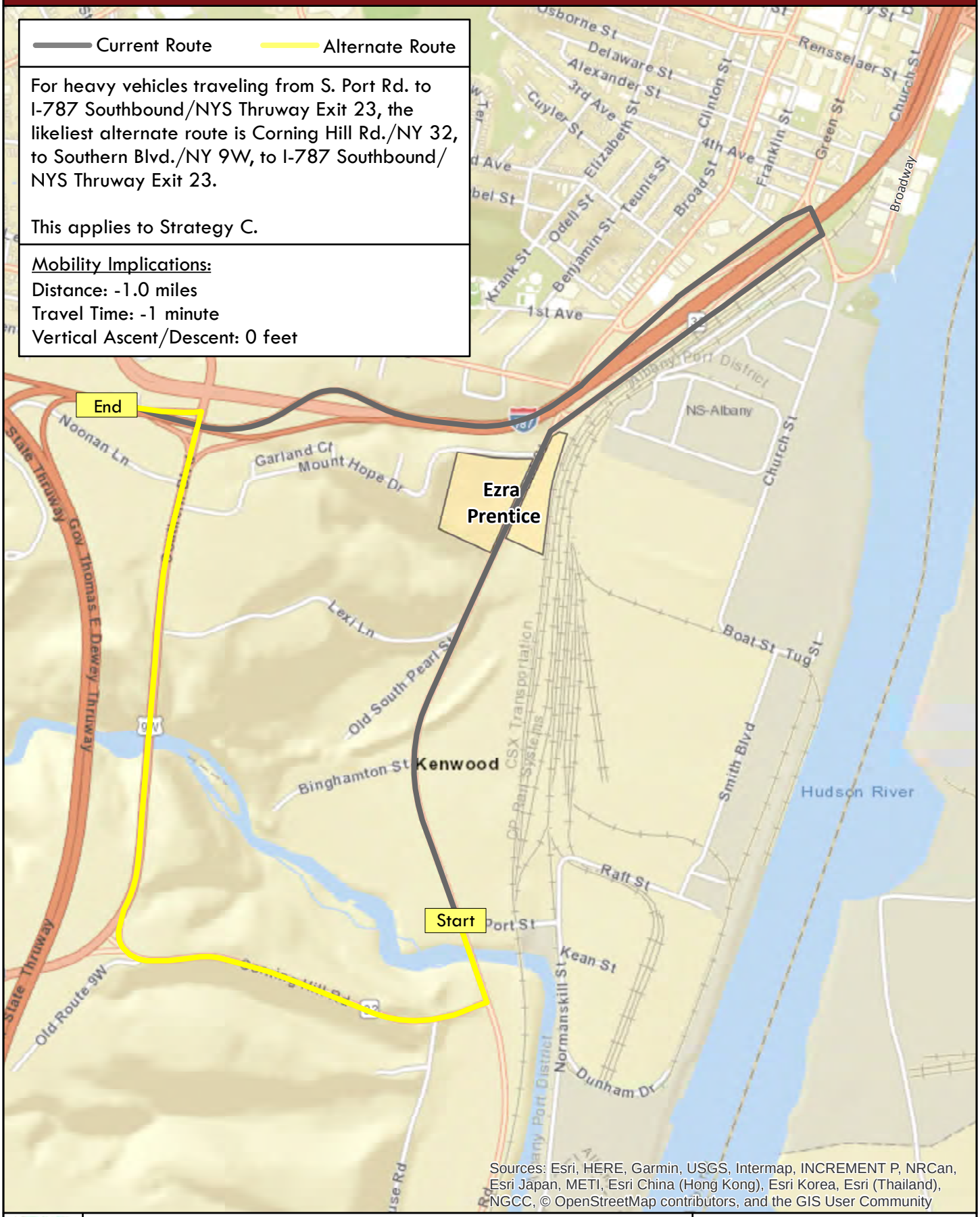
City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 10: From S. Port Rd. to I-787 Southbound



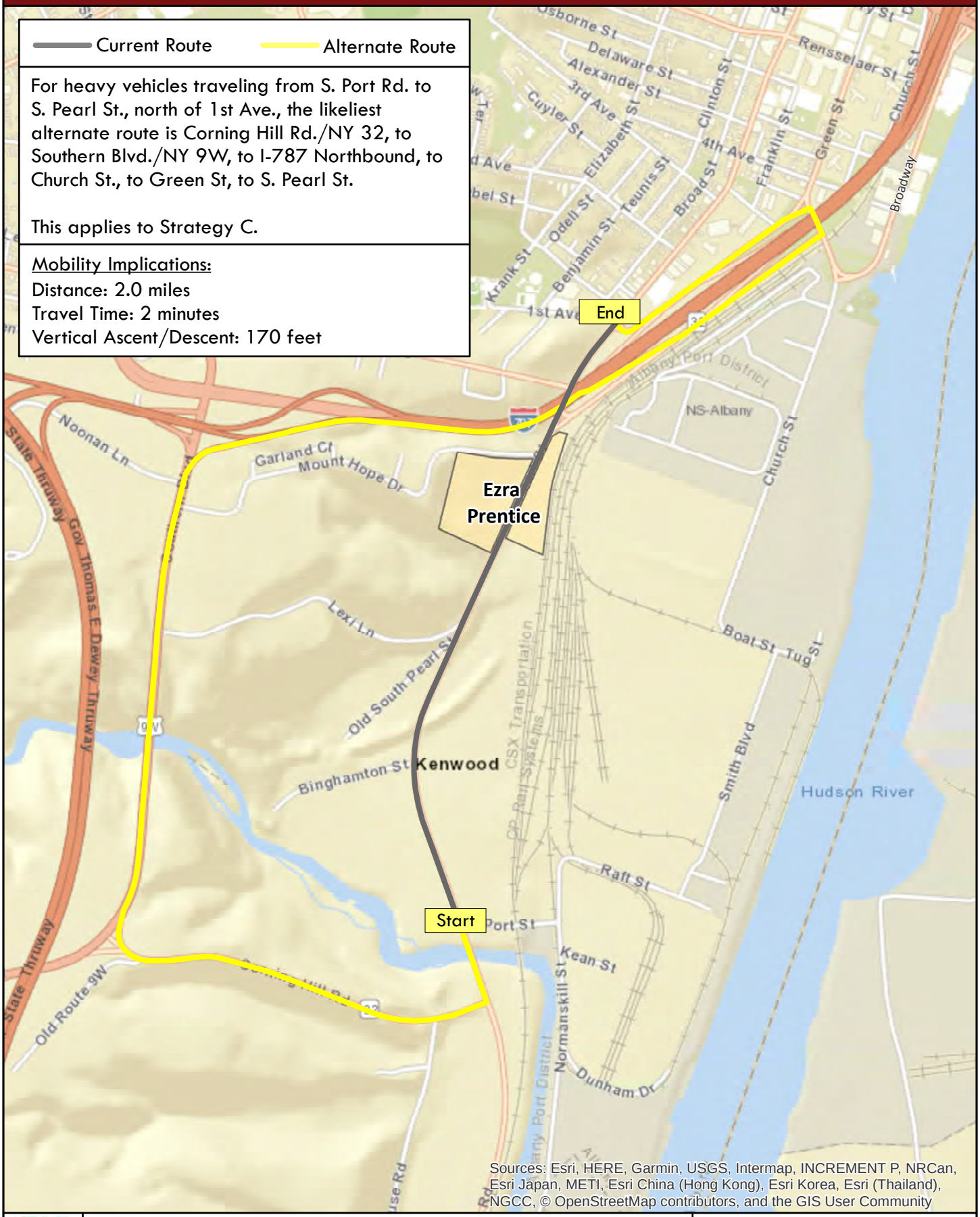
City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

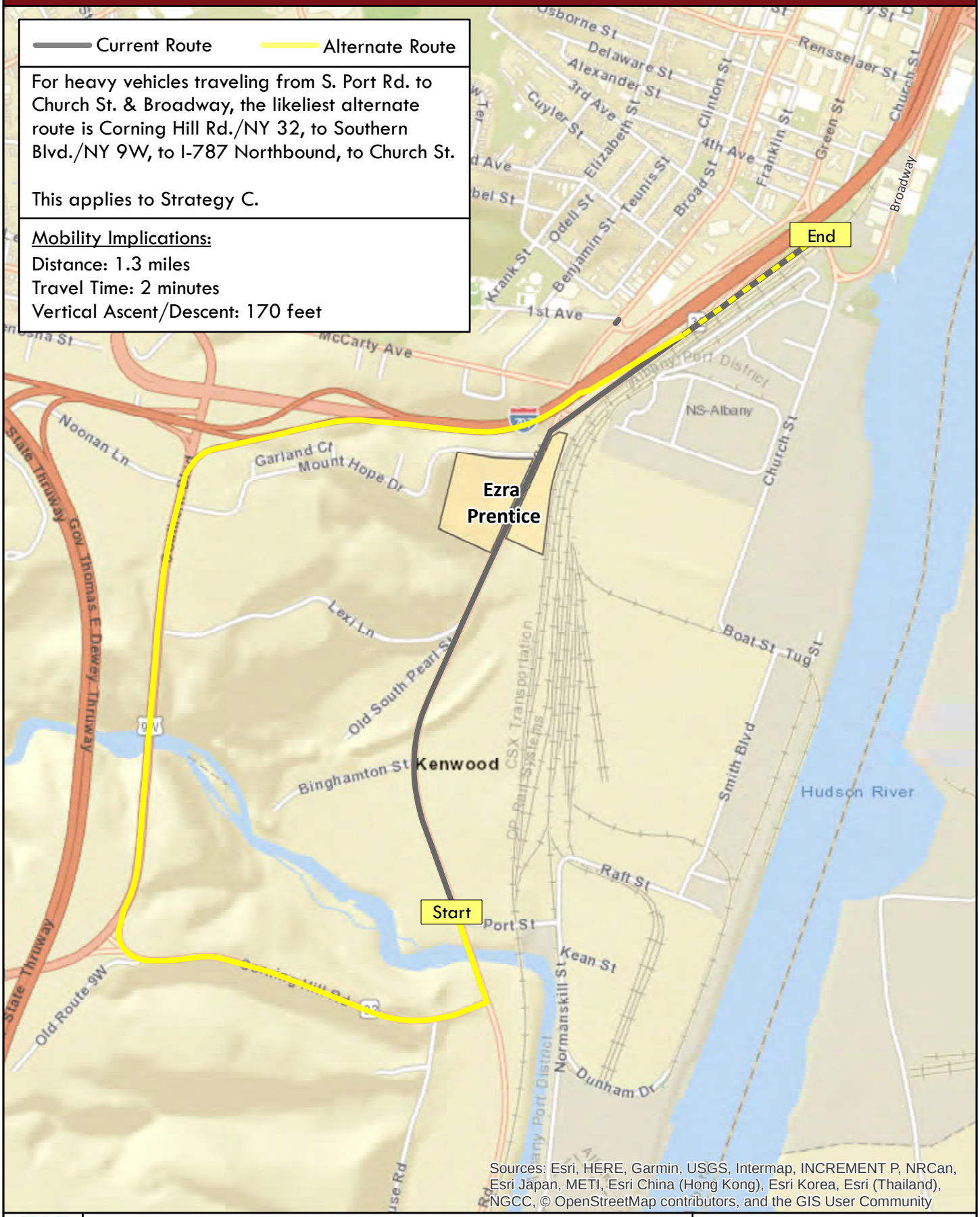
Date Produced: May 7, 2018

Alternate Route 11: From S. Port Rd. to S. Pearl St., North of 1st Ave.



Date Produced: May 7, 2018

Alternate Route 12: From S. Port Rd. to Church St. & Broadway



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Current Route — Alternate Route

For heavy vehicles traveling from S. Port Rd. to Church St. & Broadway, the likeliest alternate route is Corning Hill Rd./NY 32, to Southern Blvd./NY 9W, to I-787 Northbound, to Church St.

This applies to Strategy C.

Mobility Implications:

Distance: 1.3 miles
Travel Time: 2 minutes
Vertical Ascent/Descent: 170 feet

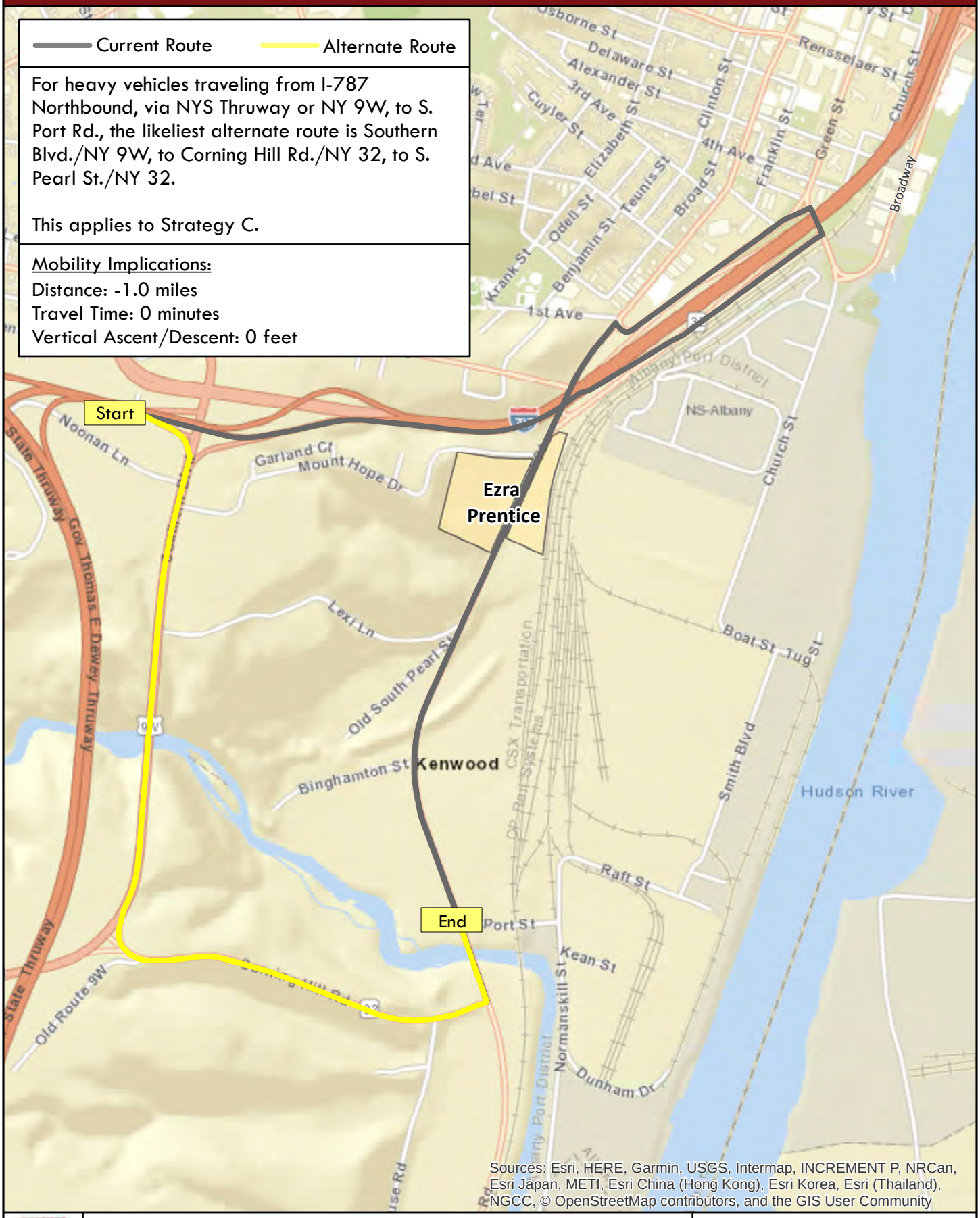
City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 13: From I-787 Northbound to S. Port Rd.



For heavy vehicles traveling from I-787 Northbound, via NYS Thruway or NY 9W, to S. Port Rd., the likeliest alternate route is Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.

This applies to Strategy C.

<u>Mobility Implications:</u>
Distance: -1.0 miles
Travel Time: 0 minutes
Vertical Ascent/Descent: 0 feet

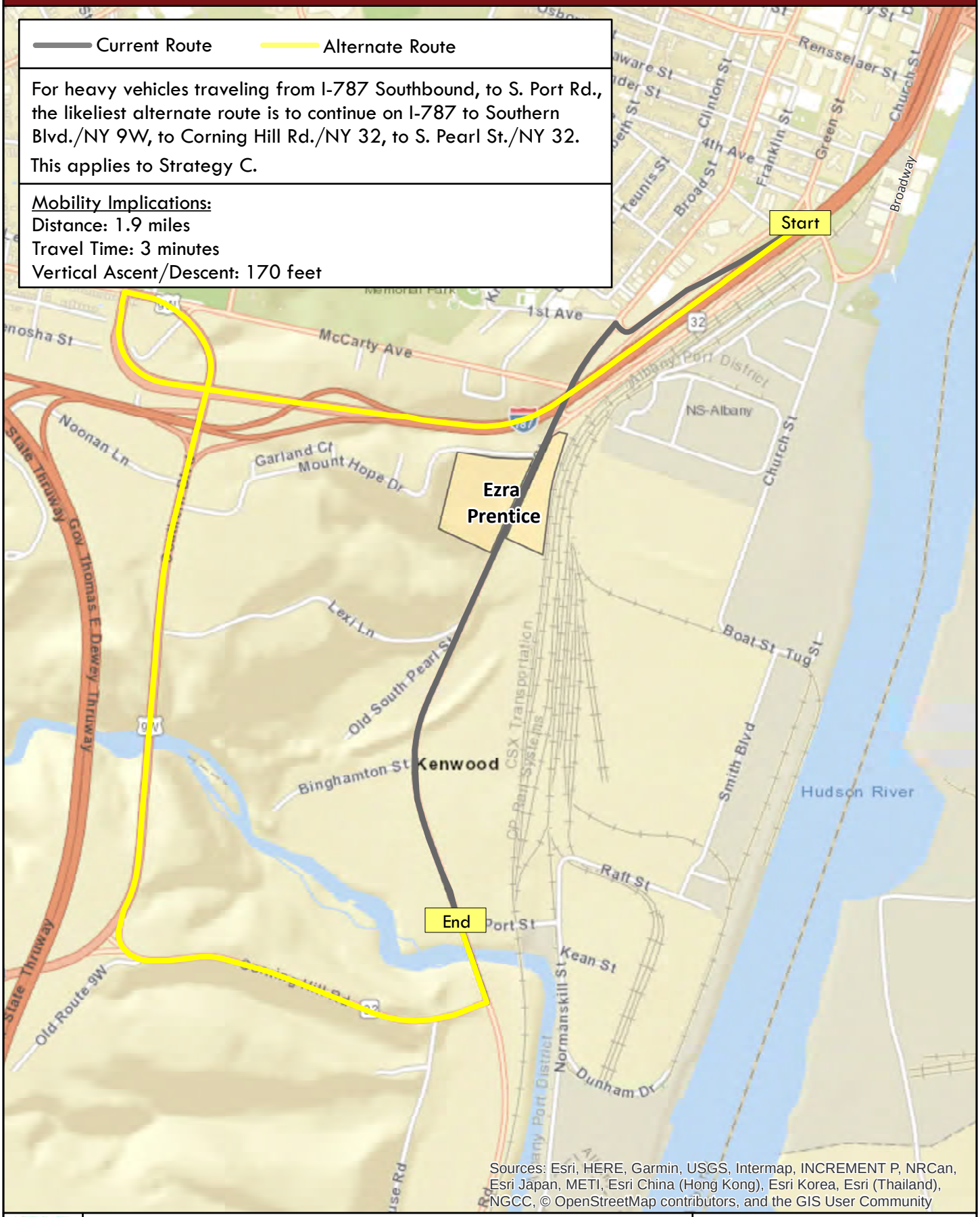
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 14: From I-787 Southbound to S. Port Rd.



For heavy vehicles traveling from I-787 Southbound, to S. Port Rd., the likeliest alternate route is to continue on I-787 to Southern Blvd./NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.

This applies to Strategy C.

<u>Mobility Implications:</u>
Distance: 1.9 miles
Travel Time: 3 minutes
Vertical Ascent/Descent: 170 feet

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

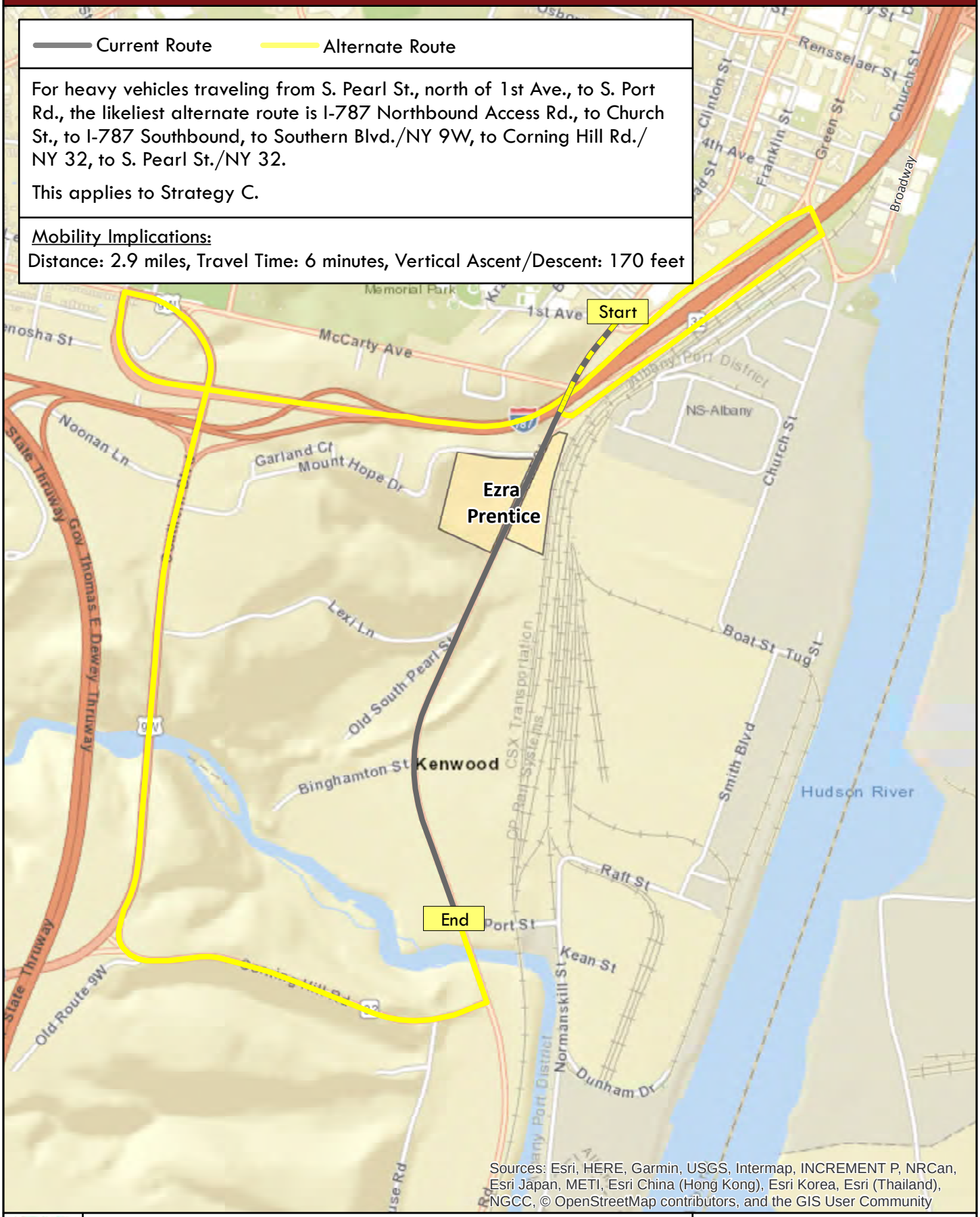
Alternate Route 15: From S. Pearl St., North of 1st Ave., to S. Port Rd.

Current Route Alternate Route

For heavy vehicles traveling from S. Pearl St., north of 1st Ave., to S. Port Rd., the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to I-787 Southbound, to Southern Blvd./NY 9W, to Corning Hill Rd./ NY 32, to S. Pearl St./NY 32.

This applies to Strategy C.

Mobility Implications:
Distance: 2.9 miles, Travel Time: 6 minutes, Vertical Ascent/Descent: 170 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

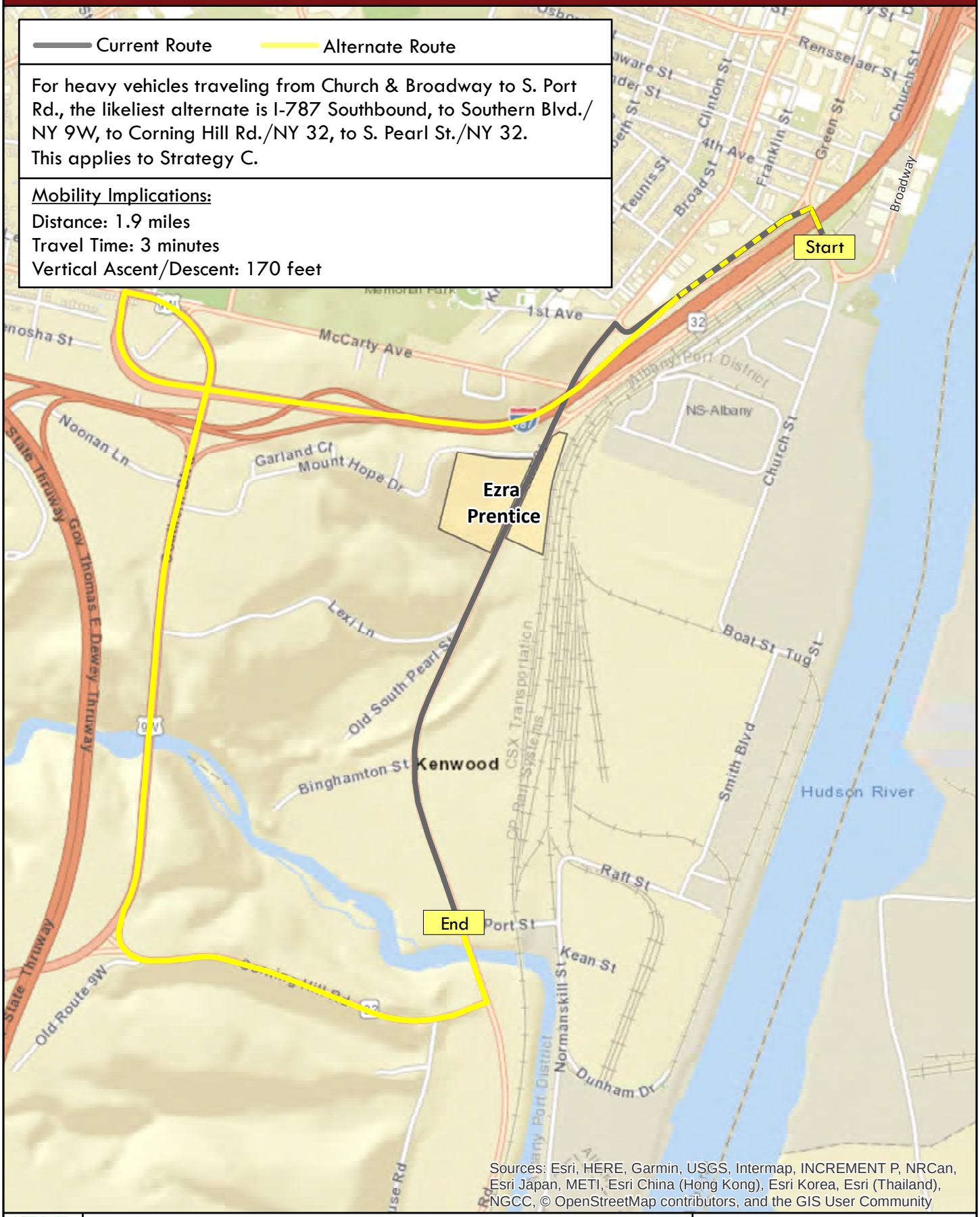
Date Produced: May 7, 2018

Alternate Route 16: From Church St. & Broadway to S. Port Rd.

Current Route — Alternate Route

For heavy vehicles traveling from Church & Broadway to S. Port Rd., the likeliest alternate is I-787 Southbound, to Southern Blvd./ NY 9W, to Corning Hill Rd./NY 32, to S. Pearl St./NY 32.
This applies to Strategy C.

Mobility Implications:
Distance: 1.9 miles
Travel Time: 3 minutes
Vertical Ascent/Descent: 170 feet



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

Alternate Route 17: From S. Pearl St./NY 32 to I-787 Northbound via Port Route

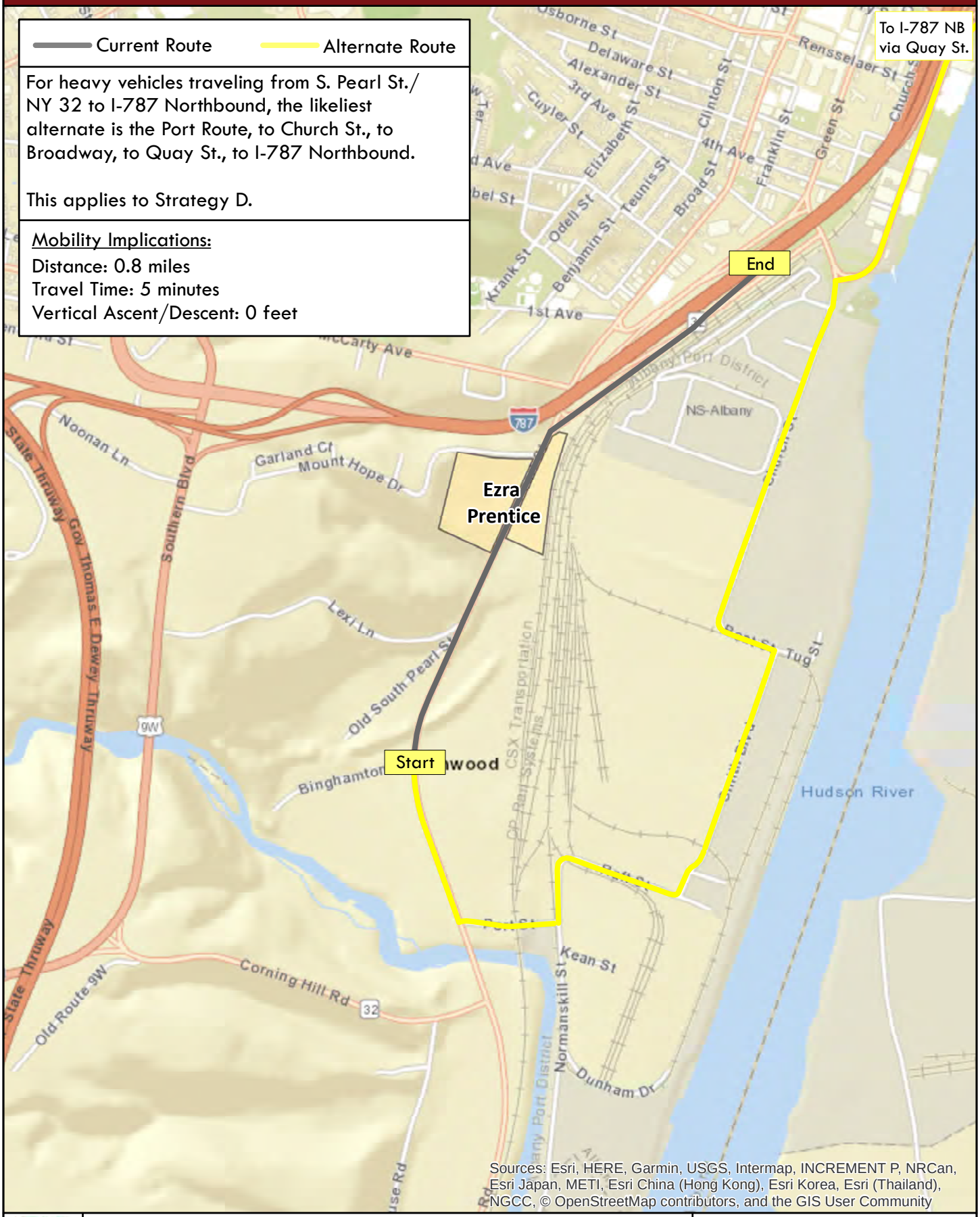
Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St./ NY 32 to I-787 Northbound, the likeliest alternate is the Port Route, to Church St., to Broadway, to Quay St., to I-787 Northbound.

This applies to Strategy D.

Mobility Implications:

Distance: 0.8 miles
Travel Time: 5 minutes
Vertical Ascent/Descent: 0 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet

1 in = 1,500 feet

Date Produced: May 7, 2018

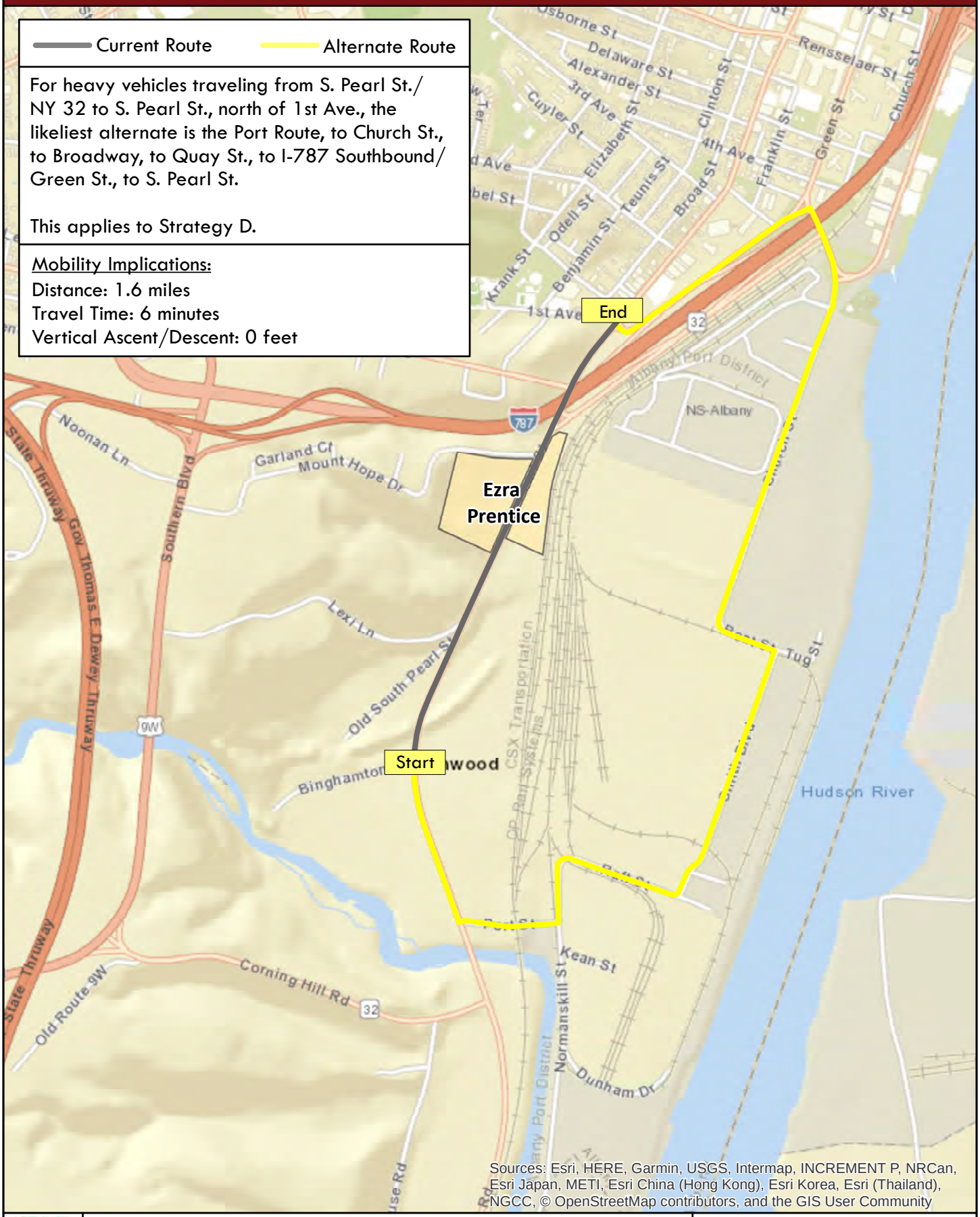
Alternate Route 18: From S. Pearl St./NY 32 to S. Pearl St., N. of 1st Ave., via Port Route

Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St./ NY 32 to S. Pearl St., north of 1st Ave., the likeliest alternate is the Port Route, to Church St., to Broadway, to Quay St., to I-787 Southbound/ Green St., to S. Pearl St.

This applies to Strategy D.

<u>Mobility Implications:</u>
Distance: 1.6 miles
Travel Time: 6 minutes
Vertical Ascent/Descent: 0 feet



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City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

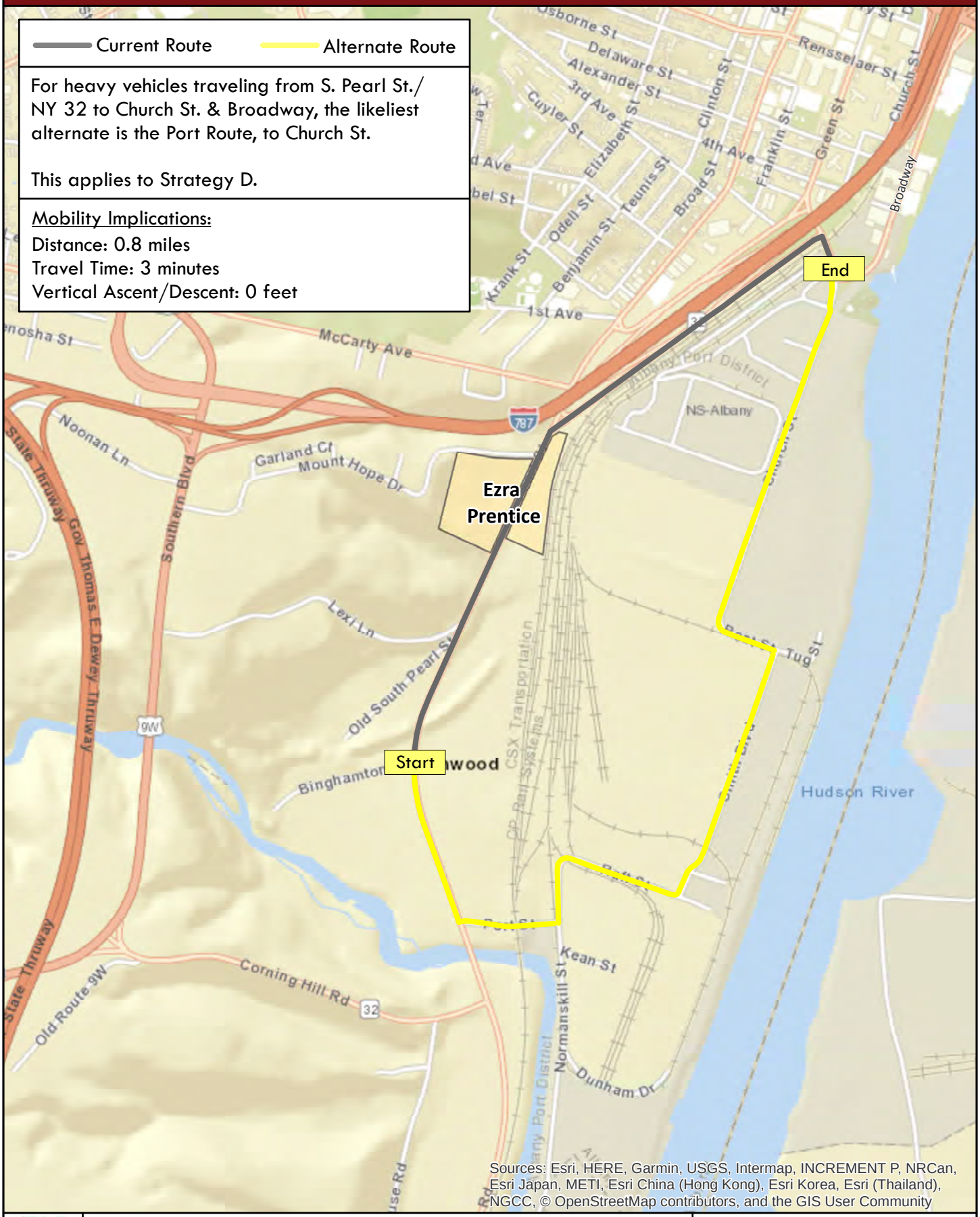
Alternate Route 19: From S. Pearl St./NY 32 to Church St. & Broadway., via Port Route

Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St./ NY 32 to Church St. & Broadway, the likeliest alternate is the Port Route, to Church St.

This applies to Strategy D.

<u>Mobility Implications:</u>
Distance: 0.8 miles
Travel Time: 3 minutes
Vertical Ascent/Descent: 0 feet



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

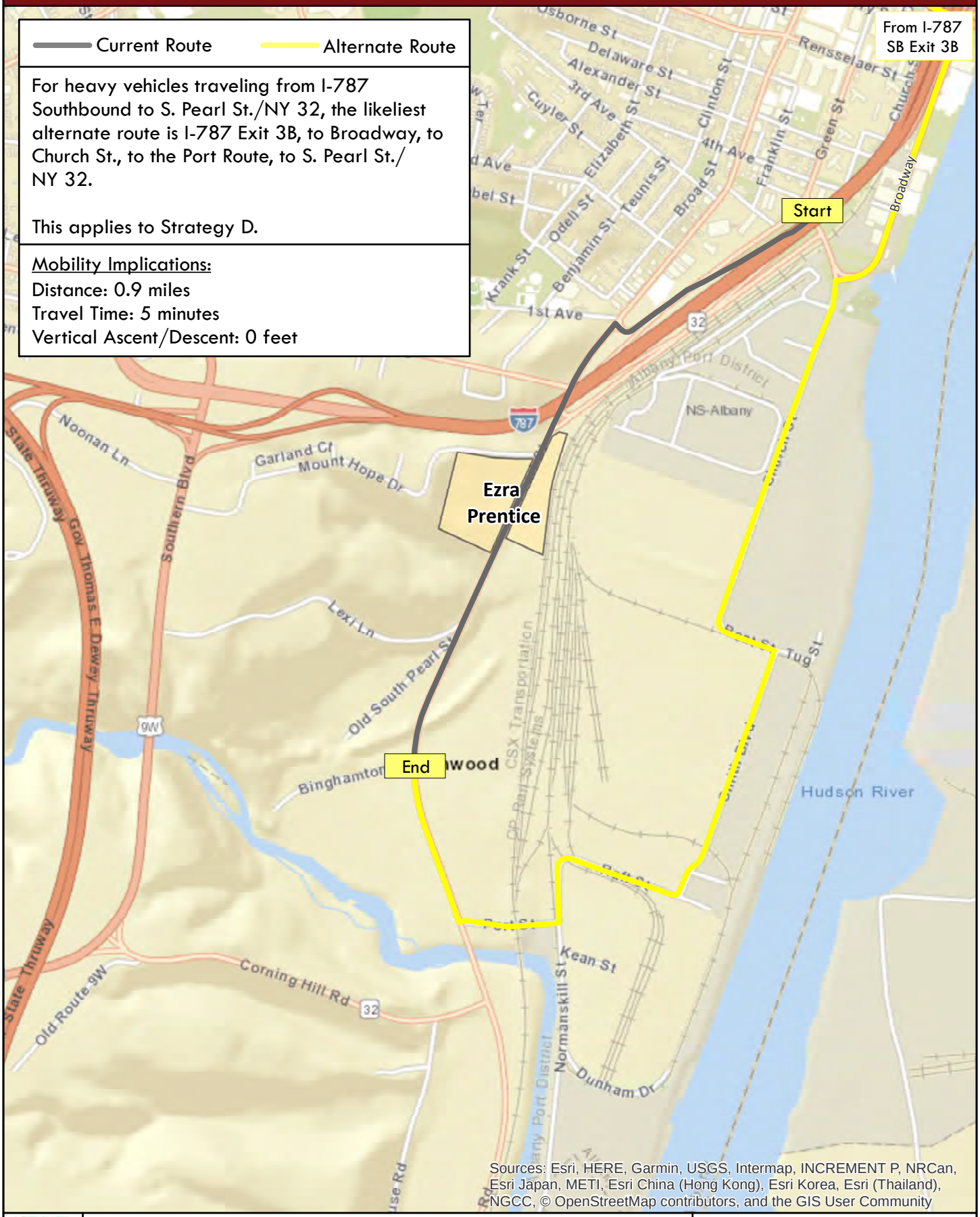
Alternate Route 20: From I-787 Southbound to S. Pearl St./NY 32, via Port Route

Current Route — Alternate Route

For heavy vehicles traveling from I-787 Southbound to S. Pearl St./NY 32, the likeliest alternate route is I-787 Exit 3B, to Broadway, to Church St., to the Port Route, to S. Pearl St./ NY 32.

This applies to Strategy D.

Mobility Implications:
Distance: 0.9 miles
Travel Time: 5 minutes
Vertical Ascent/Descent: 0 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

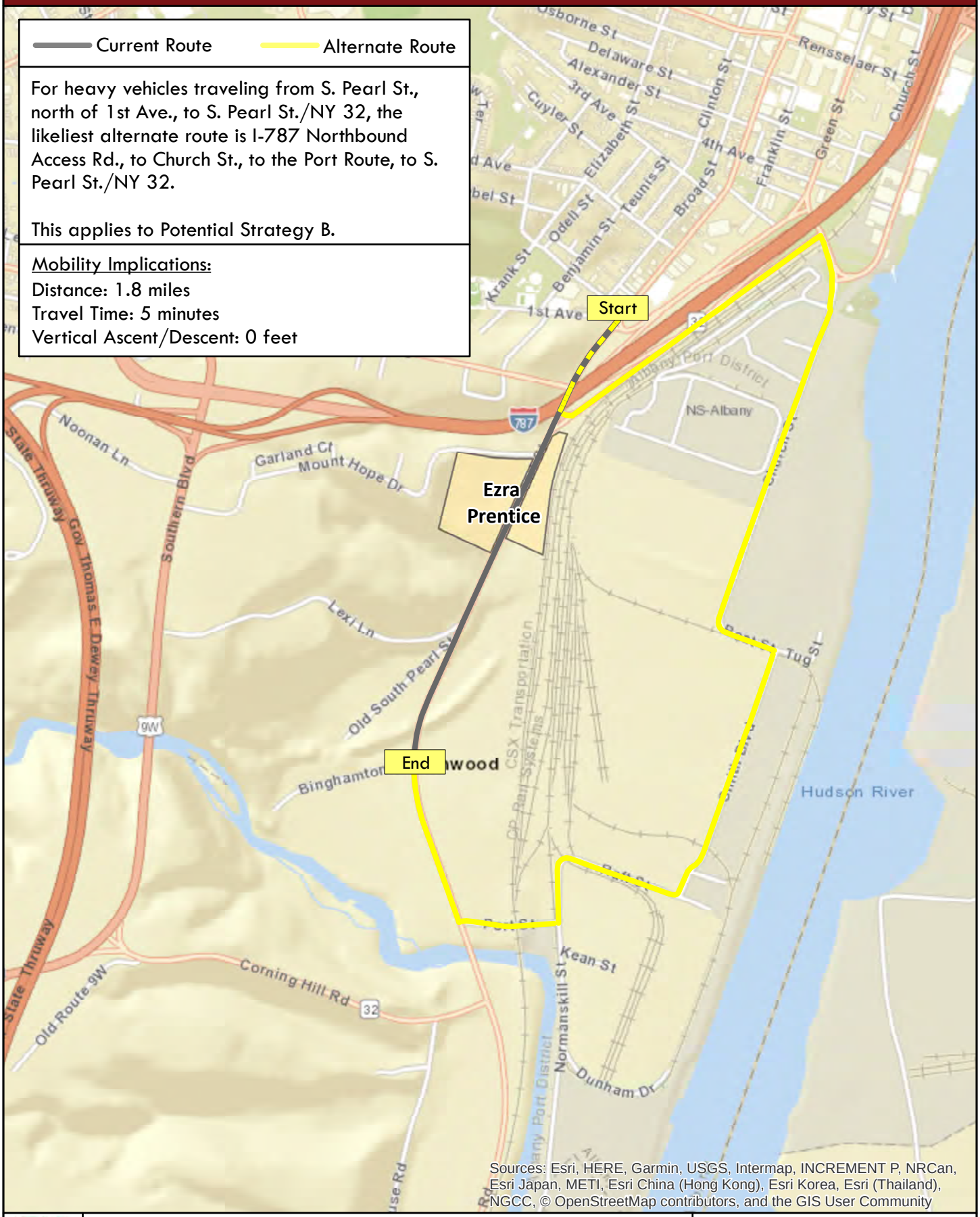
Alternate Route 21: From S. Pearl St., North of 1st Ave., to S. Pearl St./NY 32, via Port Route

Current Route — Alternate Route

For heavy vehicles traveling from S. Pearl St., north of 1st Ave., to S. Pearl St./NY 32, the likeliest alternate route is I-787 Northbound Access Rd., to Church St., to the Port Route, to S. Pearl St./NY 32.

This applies to Potential Strategy B.

<u>Mobility Implications:</u>
Distance: 1.8 miles
Travel Time: 5 minutes
Vertical Ascent/Descent: 0 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

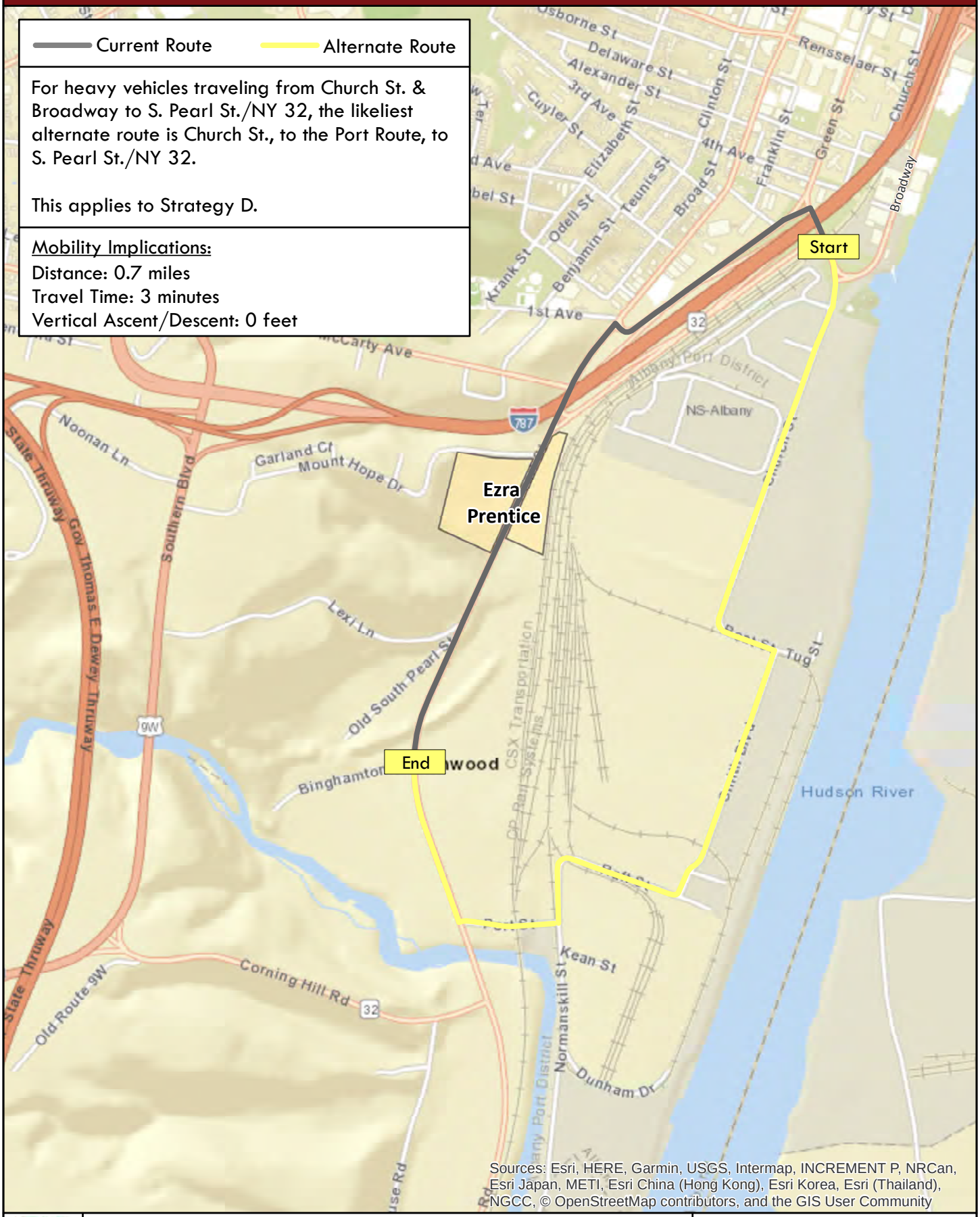
Alternate Route 22: From Church St. & Broadway to S. Pearl St./NY 32, via Port Route

Current Route — Alternate Route

For heavy vehicles traveling from Church St. & Broadway to S. Pearl St./NY 32, the likeliest alternate route is Church St., to the Port Route, to S. Pearl St./NY 32.

This applies to Strategy D.

<u>Mobility Implications:</u>
Distance: 0.7 miles
Travel Time: 3 minutes
Vertical Ascent/Descent: 0 feet



City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study

0 500 1,000 2,000 Feet
1 in = 1,500 feet

Date Produced: May 7, 2018

Appendix F: Commercial and Industrial Businesses Along S. Pearl St./NY 32

The following is a list of commercial and industrial businesses located along S. Pearl St./NY 32, between Ezra Prentice Homes and the Normans Kill, in the City of Albany:

- *Bennett Contracting, 693 S. Pearl St.*
- *Center for Disability Services, 700 S. Pearl St.*
- *Champagne Trucking/Champagne Demolition/Albany Transport, 7 Binghamton St.*
- *Chemical Leaman Tank Lines, 820 S. Pearl St.*
- *Clemente Latham/Callanan Industries, 850 S. Pearl St., Albany, NY 12202*
- *Durham School Services, S. Pearl St./310 Smith Blvd.*
- *Leadpoint Business Services, 865 S. Pearl St.*
- *Masterseal of Albany/Masterseal Sealcoating and Paving/Perfection Roofing, 705 S. Pearl St.*
- *Quala Wash/Quality Carriers, 3 Binghamton St./870 S. Pearl St.*
- *Roberts Towing and Recovery, 722 S. Pearl St.*
- *Waste Connections/Sierra Processing on 865 S. Pearl St.*

Appendix G: Summary of Mobility Implications by Alternate Route

Table G-1: Summary of Mobility Implications by Alternate Route

Alternate Route	Additional Distance (miles)	Additional Travel Time (minutes)	Additional Vertical Ascent/Descent (feet)
1	1.9	2	170
2	-0.4	0	0
3	2.6	4	170
4	1.8	2	170
5	-0.5	0	0
6	2.4	4	170
7	3.5	7	170
8	2.3	4	170
9	1.3	2	170
10	-1.0	-1	0
11	2.0	2	170
12	1.3	2	170
13	-1.0	0	0
14	1.9	3	170
15	2.9	6	170
16	1.9	3	170
17	0.8	5	0
18	1.6	6	0
19	0.8	3	0
20	0.9	5	0
21	1.8	5	0
22	0.7	3	0

Appendix H: Public Comments

A public review and comment period was open from May 31, 2018 to July 2, 2018. The draft report was made available on CDTC's website. Comments were received via the freight@cdtcmpo.org email address.

The following comments were received during the comment period. To protect privacy, names, greetings, addresses and salutations were removed. The comments were not modified in any other way, including grammar and spelling. They are numbered in the order in which they were received. Comments received after the close of the comment period were noted, and addressed where it was deemed appropriate.

Comment #1 Received: June 11, 2018

It's a travesty that anyone let alone an environmental justice community should have to put up with the pollution and danger from all these trucks. They should be rerouted through the Port of Albany. The diesel trucks should be replaced with electric vehicles because climate chaos is upon us.

CDTC Response: Comments noted.

Comment #2 Received: June 11, 2018

I 100% concur XXXX, but with this being a predominantly low income community of color there's no urgency to correct this problem, Dr. King talked about the Urgency of Now!!!

CDTC Response: Comments noted.

Comment #3 Received: June 18, 2018

I am writing to provide comments on *CDTC's City of Albany: South Pearl Street Heavy Vehicle Travel Pattern Study*, specifically the recommended alternatives.

1. I applaud CDTC for seeking ways to address pollution and quality of life concerns for area residents, and for undertaking this study.
2. As part of the Project Area lies in the Town of Bethlehem, and as 16 of the proposed alternative routes would redirect heavy-vehicle traffic through the Town of Bethlehem, I am disappointed that the Town and its residents were not notified of or invited to participate in the study.
3. **The Town of Bethlehem <u>strongly opposes</u> Strategies A and C**. The 16 alternative routes in these strategies all redirect traffic up Corning Hill Road, which is lined with residences. These residents would be forced to live with the additional passage of roughly 300 to 700 heavy vehicles per day, and likely more as the Port of Albany continues to expand. Further, having the heavy vehicles struggle up the hill would create even worse health and quality-of-life impacts from air pollution, noise, and vibration. Also missing from the study are the additional vehicles that would be routed to Corning Hill Road by Strategy C's turn restrictions.

   Although the goal of the study was only to "develop potential strategies to mitigate the negative impacts of heavy vehicles on residents in the study area," we assert that shifting the

problems from one neighborhood to another is not a reasonable solution, especially when there is an approach (Strategy D) that safeguards all residential neighborhoods.

4. **The Town of Bethlehem <u>supports</u> Strategy B *to the extent that it excludes Strategies A and C*.** Enforcement that ensures safer driving, education that showcases the effects of heavy vehicles on residents, and reduced emissions that keep our air more breathable are all laudable actions.
5. **The Town of Bethlehem <u>strongly supports</u> Strategy D,** as this approach would relieve the pollution and quality of life problems for Albany residents without shifting them onto residents in other neighborhoods or nearby municipalities. The Town of Bethlehem would welcome the opportunity to support CDTC's efforts to advance this strategy with the City of Albany.

Thank you for the opportunity to provide comments on the final report. We look forward to working with you on solutions that benefit all residents in the future.

CDTC Response: Comments noted. The responses below address comments #3 to #9:

- The alternative routes in the study were identified as the likeliest routes that might be voluntarily taken if a heavy vehicle operator was avoiding the section of S. Pearl St./NY 32 that bisects Ezra Prentice Homes.
- The number of residences (12) along Corning Hill Rd /NY 32 in the Town of Bethlehem has been noted in the *Section 4: Evaluation of Strategies, Strategies A and C, Potential Drawbacks* narratives.
- The negative impact(s), such as increased fuel consumption, emissions, etc., from increases in travel time, travel distance, and vertical ascent/descent are noted in the *Section 4, Evaluation of Strategies, Strategies A, C,* and *D, Potential Drawbacks* narratives.
- The following statement has been added to the *Summary of Key Findings* and *Section 4: Evaluation of Strategies, Recommended Approach* sections of the report: CDTC also encourages the City of Albany, the Albany Port District Commission, or any other potential project sponsors to collaborate with the Town of Bethlehem as strategies are implemented.

Comment #4 Received: June 24, 2018

I am writing this letter in response to the "CDTC's City of Albany: South Pearl Street Heavy Vehicle Travel Pattern Study". As a resident of XXX Corning Hill Road I am directly affected by the study. I am especially appreciative that our town supervisor David Van Luven notified us of these proposals affecting Corning Hill in Glenmont.

- Every resident who lives in the Ezra Prentice neighborhood had full knowledge when they moved there of the pre-existing conditions of heavy vehicle and train traffic. Traffic lights have been installed and signage alerting drivers to drive slowly are now present. Cross walks have also been installed. The residents now want the heavy vehicle traffic routed somewhere else entirely. Your proposal, instead of really solving the problem, is to shift the problems from one residential neighborhood to another.
- The problem lies with the aged apartments that are located in a place that is not fit for human habitation. Residents have pointed out various health and pollution problems as well as traffic. It is not safe to have apartments located so close to the railroad tracks and the street. The apartments on the railroad side of the street should be vacated and

torn down. At that point there will be reduced need for people to be crossing the road there and if needed the road could even be widened in that area. The remaining apartments on the other side of the street are set away from the road and the traffic issue should be relieved.

- Points to be made against Corning Hill as a solution to the problem are many. For years the residents have been in touch frequently with DOT regarding serious problems that currently exist with the road. Our home has been affected by runoff water from the road and we were told by a rep from DOT that the road needs major work due the current traffic load it receives but there is no money to fix it. The road run off still runs down our land washing away its stability. The road needs to be properly repaved and leveled to correct faulty runoff.
- Our road already receives hundreds of big heavy trucks daily carrying garbage, recycling, paper, metal of all kinds etc. Tractor trailers and various other trucks going down the hill make horrific noise with their Jake Brakes. The exhaust from these vehicles can be sickening. A new school bus transportation company (First Student) opened its facility at the foot of the hill recently and has approximately 100 buses. Each of those buses goes past our home at least 4 times per day.
- Our street is on a hill ergo its name Corning Hill Road. Since it is a hill traffic is affected by the incline which slows large trucks and impatient drivers pass them. We have even seen school buses passed by impatient drivers. During the winter in bad weather vehicles have trouble getting up the hill and have problems safely slowing and controlling their vehicles going down it.
- We have wild life that frequently cross the road and can cause a danger to traffic.

I sincerely hope that the CDTC of Albany with keep in touch with our town supervisor as well as we residents of Corning Hill. There needs to be better communication between the City of Albany and Town of Bethlehem on all such matters that affect both areas.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.

Comment #5 Received: June 26, 2018

I am writing about The CDTC's South Pearl study.

I agree that the traffic issue is part of the quality of life problem on South Pearl street.

I disagree, however on the proposed solution to route more heavy traffic via Corning Hill Road.

Displacing these vehicle doesn't solve the problem, it just moves it to another residential street.

We already have an enormous amount of heavy and very heavy traffic on our street, adding 700 more a day is unreasonable.

You have already re-routed ALL of the recycling trucks that visit the center on lower south pearl.

Even tho the operators are kinda careful to make sure the product stays in the truck, each one drops a little here and a little there.

At the end of each day we go out and pick up things that have "fallen out".

So far this month we have picked up:

an entire week of the times union (City of Albany truck)

2 months of a business cancelled checks (we mailed them back to the business in Schenectady)

a grocery bag of cans and broken bottles (City of Albany truck)

The entire surface parts of the new Tappan Zee Bridge have gone past here in the last 2 years. (8 to 10 oversized loads each day)

All the heavy lift project parts from the Port go past here, since they don't fit under the bike path bridge at old south Pearl.

The school buses from the Picotte Center and First Student go past several times a day to fuel at the Cumberland farms at the top of the hill.

Adding to the congestion and difficulty will be the additional cost and increased pollution to all of these business who will have to detour UP a hill rather than drive directly on level ground.

Adding more traffic will further damage the already weakened and failing road surface. NYS DOT has told us that Corning Hill road needs major repair, but no money is available to do so.

Adding 700 more vehicles will necessitate a stop light at the foot of Corning Hill if people have any hope of getting thru there at rush hours.

That will mean the trucks that now can maintain a little momentum around the corner will have to stop and then grind up the hill at an even slower and traffic clogging pace.

All of this will NOT solve the issues at Ezra Prentice, just move it down the road.

The Railroad issue will still be there

Automobile traffic will still be there

The nearness to the street issue will still be there.

The lack of parking issue will still be there.

The solution that is needed is to demolish the buildings on the East side of South Pearl, find new homes for the residents, and widen the road to allow for safe parking and a bicycle lane.

If you must reroute traffic in an attempt to ameliorate this issue, PLEASE consider a commercial route thru the already industrialized Port, rather than send 700 more trucks a day to an already overburdened street.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.

Comment #6 Received: June 26, 2018

Thank you for sharing your initial, and hopefully, not your final, city of Albany Ezra Prentice Housing traffic relocation solution, with our town leadership.

Quite frankly, the solution you have communicated has been put on the backs of the residents and property owners in the town of Bethlehem. This proposed solution to an emotional safety related traffic issue for the Ezra Prentice neighborhood is totally absurd and affects the quality of life and property values of the residents of Corning Hill Road in the town of Bethlehem. Why should we be affected by or involved in any solution to a traffic problem within the city of Albany? Adding additional passage of approximately 300 to 700 heavy vehicles per day to

our neighborhood will not be accepted with open arms. The city of Albany should be responsible to meet the safety needs and concerns of its' citizens and NOT involve the residents of the Corning Hill neighborhood. We presently cannot enjoy the cool summer evenings with open windows and doors due to the existing heavy vehicle traffic and associated noise levels and diesel fumes. If windows are left open, we can't hear our televisions or other electronic devices over the roar of the tractor trailer "Jake Brake" systems of the vehicles traveling up or down Corning Hill. This situation is commonplace seven days a week. The recent renovation of the Cumberland Farms gas stop and food service center has increased traffic and deliveries to that facility 24 hours a day.

The city should consider the design of a connector road around the growing Port of Albany area to alleviate this emotional safety problem brought to your attention in recent months by the residents of the Ezra Prentice Housing neighborhood. They deserve more permanent and meaningful solutions to their concerns as citizens of Albany.

Corning Hill Road was never designed or built to incur such levels of heavy vehicle traffic nor were our modest homes and associated structures built to withstand such continued vibration and road surface wear and tear. If you doubt the validity of these facts, please feel free to spend an evening at any number of our Corning Hill properties and experience our quality of life first hand.

Your communication to our town leadership is at best, a ridiculous, short sighted solution to an emotional safety problem that faces the CDTC and the City of Albany. Kindly leave the residents of the Town of Bethlehem out of your solution to the Ezra Prentice Housing traffic safety issues. We are certain that you will be confronted by a groundswell of resistance by the residents of Glenmont and specifically Corning Hill Road. You leave us no choice but to totally refute your ridiculous plan to appease the South Pearl St. traffic relocation plan. It is not in the best interest of the families that presently reside on Corning Hill Road. All future plans will be considered as local political elections evolve and future CDTC communications are made public.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.

Comment #7 Received: June 26, 2018

I am writing to you in regards to the Capital District Transportation Committee's (CDTC) exploration of strategies for reducing heavy vehicle traffic thru the Ezra Prentice neighborhood in Albany.

The study is calling for the potential rerouting of heavy vehicle traffic onto Corning Hill Rd (CHR) in Glenmont which will result in deteriorating the current neighborhood by allowing an estimate extra 300-700 trucks PER DAY. That averages out to 1 heavy vehicle every 2-4 minutes during a 24hr period and increases dramatically to every 1-2 minutes if you assume the bulk of the traffic is between 7am – 7pm. This traffic would be traveling past my house, as well as everyone else who lives on CHR. This will definitely contribute to damage to all of the properties by shaking and vibration of the buildings as well as environmental damage to the roads, green spaces and wildlife that cross CHR quite often to enter the fields on the South side of the road.

We have also noticed that over the last several months, an increase of heavy vehicles traveling CHR.

Unfortunately, the folks residing in Ezra Prentice were fully aware of all vehicle and train traffic

when they moved in, and now you are looking to relocate this traffic to another neighborhood and thus cause this new group of families the same problems with health, noise and garbage issues. You are just "hiding" the problem and not finding a valid fix.

Based on its location, I feel that the housing development at Ezra should have never been built there due to the proximity of all of the industrial properties surrounding it. The port of Albany, when refining oil, creates a smell that can reach 9W near the Cumberland Farms. The residents of Ezra are inhaling those fumes and it cannot be healthy for them. These properties should be vacated and removed and that entire area should become an environmentally friendly industrial/commercial only area. This would eliminate health issues, and traffic issues with children playing near such heavily travelled roads.

CHR itself is severely under developed and not properly designed based on the current traffic. It has a very steep downhill grade that forces heavy vehicles to navigate several curves. During the winter this road ices up and becomes a deadly accident waiting to happen. Add 300-700 vehicles to the road and that accident will happen much sooner. I have had several instances with tractor trailers and dump trucks coming down CHR while I am stopped waiting to turn into my driveway and almost being run into by the trucks coming down too fast, and around a somewhat blind curve. The trucks on many occasions have had to lock up their brakes to stop.

The road currently services much more heavy traffic than just a few short years ago and in particular more garbage trucks. These vehicles, we have all noticed, are now losing portions of their loads along CHR and we are finding broken bottles, garbage bags and more along the roadway and in our driveways. Add more vehicles to this and the issues will increase almost 100% based on Table 2 information.

Tractor trailers are also using engine braking, commonly known as Jake-Braking, which makes a very loud exhaust sound and is distracting enough during the day, and nothing short of horrendous and terrifying between the hours of 7pm - 7am when people are trying to wind down, relax and prepare for sleep. I have been awakened by this noise more times than I care to remember after 10pm.

In the CDTC Study, Table 1 references how low-income and minority populations that commute to work via auto or walking. I don't see how this is prevalent. I would venture a guess that most of the vehicle traffic along CHR and near Ezra are by commuters from Bethlehem, Delmar and other points south and west that will not change anytime soon.

Figure 7, Vehicle Classification shows tandem trailers which are not allowed on NYS roads other than designated highway/toll roads, Including them only adds confusion to the reader of this report.

Table 2 shows that 3979 vehicles travel CHR daily. Of those, roughly 645 are heavy vehicles. Your study is suggesting that this will effectively double the amount of heavy vehicles which is not an acceptable solution for a residential neighborhood.

Strategy A *Encourage Local S. Pearl St./NY 32 Heavy Vehicle Operators to Consider Using Alternate Routes*.

The strategy recommends an alternative route being CHR to access 787-North. There is already an alternative access point to 787 North, just Nouth of the Port along the river and the Corning Preserve area. This alternate would alleviate heavy vehicles having to drive past Ezra and would avoid having to traverse CHR in the winter and would eliminate the traffic along this road. **Strategy A as it stands is NOT a viable solution.**

Strategy A also suggests that vehicles from the NYS Thruway to access 787 North would use CHR.

Unless they close the Port exits on 787 (a bad idea), Exit 23 exits onto the beginning of 787-North. It makes no sense to move a vehicle off a highway, to a residential area back to a highway that was already there when they exited the Thruway.

Strategy B without including CHR as a solution is a possibility.

Strategy C seem to force vehicles to CHR, again, not a viable solution. The solution in the report is to send vehicles from the Port to Corning Hill Rd, to 9W to 787 North. Is it just me, or does no one else notice the ridiculousness of this when they can exit the north end of the Port and go along the River and get onto 787 North, without ever having to climb a hill?

Strategy D, it would seem to me that is the best solution if implemented properly and the most appropriate to reduce heavy vehicle traffic interfering with human life and wildlife.

In the long run I believe alternative routes are good, but rerouting from one residential area to another does not make sense, nor is fair to this 'newly affected' community. I would like for you to support Strategy D to the CDTC, the City of Albany and the Port of Albany.

I would like to conclude that I wish the CDTC of Albany maintains an open line of communication with our Town Supervisors and the residents of Ezra and CHR. Better communication between Albany City and the Town of Bethlehem is always a plus and win-win situation.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.

Comment #8 Received: June 27, 2018

I have read your recommendations to reduce some of the traffic on south pearl street. Truck traffic in a residential area is annoying and potentially harmful to residents health. I previously lived in my own home a block south of the apartments so I know first hand what it is like. I can see how looking on a map, finding a nearby road as an alternative route is easy. The problem is in real life the topography doesn't always match the map. You note that you see a 170 ft. change in elevation over a .6 mile street that ends on both sides by cross streets. Did you consider the implications of your 16 alternative routes that convey traffic on Corning Hill Road?

Corning Hill happens to be where I moved to from south pearl st. so I know the area. Both parts of route 32. Corning hill gets it own share of heavy truck traffic. Rarely a week goes by that vehicle(s) are given escorts due to their size. The number of heavy tankard trucks struggling up the steep hill starting at 3am and going into the afternoon. Then the parade of empty trucks barreling down the hill in the afternoon. Because the trucks travel up the hill at 10 -20 mph since they have to start from a dead start straight into the steepest part of the hill, the back up traffic. Traffic that would like to do the posted 45mph speed limit so while the street is double solid yellow lines, passing goes on multiple times a day. All year long. It is a wonder that most of the accidents on the street, which have been very frequent seem to be at the ends of the road.

Winter time is especially challenging. While the state has been on top of plowing and salting the road, usually once an hour both directions, vehicles gets stuck trying to ascend the hill. Private vehicles think nothing of passing truck no matter how slippery and every year I see tractor trailers passing a passenger vehicle across the yellow line. One reason is both sides are lined with ditches so there is no shoulder to pull over onto. And where there isn't a ditch there is 100' of guardrail because of an immediate cliff on side of the road. At this point in the road is a sharp bend although the speed is still 45 and the entrance/ exit of a very popular

Cumberland farms store. Customers who need to get their coffee or now rush off pull in and out as if they have the right of way. The previous fuel station did not get a lot of traffic in and out so a lot less of an issue. Then the issue of the huge increase of heavy truck traffic going north on 787 coming down and negotiating the curve seems a recipe for problems. As well as going down Corning hill and having to stop without sliding across the street into the fuel pumps located conveniently right across the street.

Corning Hill is not a street that I would consider in good condition. The narrowness, the lack of shoulder, no place for the frequent pedestrian traffic, the edge of the road having a cliff , the soil underneath being clay that vibrates my house several times a day. Even my thoughtful placement of items on my shelves doesn't stop things crashing to the floor. A large increase in heavy traffic would exacerbate the problem. The street would fail and then all of the traffic would then fall back onto south pearl instead of the shared traffic it has now. I know Corning hill turns into a traffic jam if either south pearl or southern blvd. has a problem. It seems we need a new road.

The environmental impact on Corning hill would be tremendous. The heavy black soot from the trucks exhaust and the brake and rubber dust would not only cover the people and their property, but the street has wildlife crossing it multiple times a day. It would be impossible to get them to use the crosswalks if any existed. I did not see any environmental studies done on either street. How much pollution would be reduced on south pearl or the increase on Corning and southern. The train traffic seems to be the largest contributor as far as fumes and even noise. I hear the train horns frequently and I am a fair way away as compared to the the Erza resident, especially those on the East side of the street. Since I lived on south pearl myself, I wondered why that side of the street was not condemned and resident relocated to some new apartment is a more residential area maybe in the south end where there is a lot of vacant lots. That would allow the road to be widened along with a bike path for the rail trail.

Thank you for reading this. I am willing to participate in any way I can. I would also propose that the speed limit gets reduce to 35 or some more appropriate speed.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.

Comment #9 Received: June 29, 2018

I have read the report regarding traffic south pearl street past the Erza Prentice apt complex. While half of the complex is away from the road and elevated, the half on the eastern side sandwiched between the road and the rail yard, is a larger concern. The elevated cases of respiratory problems could be partly attributed to the air quality surrounding the apartments and the playground.

Trying to redirect some traffic seems helpful but by creating multiples more pollution in a nearby residential neighborhood as referenced by the 16 possible solutions moving traffic to Corning Hill seems to defeat the idea of improving air quality.

The amount of pollution on corning Hill would be damaging to people as well as the wildlife that travel along the Normanskill from the river up to the hills. There is already almost daily squealing of vehicles attempting to avoid small animals to turkeys to deer. Especially during hunting seasons where house means refuge.

It seems that any solution will take time to implement. It may be naivety but a extremely tall wall replacing the current chainlink fence would give some immediate relief as well as sound

attenuation as you see along so many highways near residential areas, for example the route 7 link between I 787 and the northway. This could be done in the near future as a stopgap.

CDTC Response: Comments noted. The response to this comment can be found under comment #3.