



**CDTC NEW VISIONS 2050**  
**FREIGHT WHITE PAPER**  
**September 2020**

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## Introduction

The Capital Region occupies a strategic location within the Northeastern United States. The region sits at the nexus of two Interstates (I-87 and I-90), several major highways and rail lines, and has a major international airport. The Hudson River, Mohawk River, and Erie Canal intersect in the CDTC region. This location has made the region a transportation crossroads for many industries, which have produced enormous benefits to the many communities throughout the area. However, this position also brings the region a set of challenges associated with various aspects of freight transportation.

Freight moves by five primary modes: truck, rail, water, air, and pipeline. Some trips are by a single mode; others are multimodal and involve transfer at a terminal facility. Globally, shippers and receivers choose modes of transportation based on cost, timeliness, and reliability. Each mode has advantages and disadvantages for the shippers and receivers, as well as for the environment and society. Each mode also has different capacity, reliability, and cost-effectiveness for different types of shipments.

Freight and goods movement in metropolitan regions is complex and does not lend itself to simple fixes. Trucks on area roadways and trains on the region's railroads may pass through the Capital District without stopping, contributing to costs in terms of wear on infrastructure, congestion, emissions, and safety hazards without creating a direct benefit. Other trips that either begin or end at locations in the region provide the goods movement necessary to support local industries that do business beyond CDTC's four counties. These trips include air and maritime cargo. Many truck trips travel entirely within



A multimodal freight movement at the Port of Albany



the Capital District, moving goods from distribution centers to retail establishments, healthcare centers, or educational institutions.

### **CDTC Regional Freight Plan (2016)**

As the entity responsible for both near-term and long-range transportation planning, CDTC chose to undertake a Freight and Goods Movement Study to better understand the role and profile of freight transportation throughout the region. In 2016, the CDTC Policy Board adopted the Regional Freight Plan (“Freight Plan”). The Freight Plan helps guide CDTC and its members to make appropriate investments to support the efficiency and safety of goods movement.

The Freight Plan required a significant amount of funding and resources. There were multiple complex and proprietary data sources accessed and analyzed, along with intensive stakeholder and public outreach processes. For this effort, the Freight Plan’s underlying data and assumptions are relevant and mostly accurate. The purpose of this white paper is not to replace the Freight Plan, but rather to review and update the status keys elements of the plan as part of the New Visions 2050 process.

### **Freight Advisory Committee**

The Freight Advisory Committee (FAC) brings together private freight operators and public freight planners to share information on local freight issues and events to develop a reliable, efficient, safe, and environmentally responsible freight transportation system for the region. The FAC meets quarterly and includes representatives of the freight and logistics industry and public agencies. This includes infrastructure owners, transportation agencies, railroad companies, ports, airports, carriers, shippers, receivers, land developers, local government agencies, and NYSDOT.

The following FAC members participated on the committee during the development of this Freight White Paper:

Brian Stewart, Cambridge Systematics  
Dave Schmitz, Price Chopper  
Jeff Wojtowicz, Rensselaer Polytechnic Institute  
John McCreavy, SMS Rail Lines  
Joseph Stahl, NYS Thruway Authority  
Kate Maynard, Capital District Regional Planning Commission  
Kendra Hems, Trucking Association of New York  
Liz Staubach, Town of Bethlehem  
Louis Esposito, Owner Operator Independent Drivers Association/Town of Princetown  
Mark Landgraff, Citizen  
Robyn Marquis, NYSERDA  
Mike Izdebski, Carver Companies  
Pete Bardunias, Chamber of Southern Saratoga County  
Scott Roth, New York Commercial Real Estate  
Tom O’Connor, Capital Region Chamber  
Tony Vasil, Port of Albany  
David Rosenberg, NYSDOT  
Gautam Mani, Federal Highway Administration New York Division

Maria Chau, Federal Highway Administration New York Division  
Peter Plumeau, EDR Group  
Jacob Beeman, Capital District Transportation Committee  
Glenn Posca, Capital District Transportation Committee  
Michael Franchini, Capital District Transportation Committee  
Chris Bauer, Capital District Transportation Committee

The FAC was asked to examine issues relating to freight and goods movement for the New Visions 2050 update, and to make recommendations for policies and actions. The FAC is not a policy decision-making committee but rather is asked to make recommendations to CDTC's Planning Committee and Policy Board. The content of this document is in large part a result of the contributions of the Freight Advisory Committee. Any errors or omissions are the responsibility of the principal author.

## Freight Planning & Investment Principle

New Visions establishes the region's transportation investment priorities through thoughtful evaluation of transportation and community development needs. As part of the New Visions planning effort, CDTC adopted a series of planning and investment principles. The adopted Freight planning and investment principle is:

***Freight*** - Our freight system is crucial to the economy; it will be efficient and automated and will minimize its impact on communities. CDTC's freight planning efforts will be comprehensive enough to encompass all modes, including air, water, rail, and highway. Maintaining the health and improving the efficiency of freight facilities in the region through public/private partnerships is a high priority. 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.

Many of the other New Visions planning and investment principles bear a direct relation to freight transportation and goods movement, including Infrastructure, Safety and Security, Travel Reliability, Environment, Economic Development, Technology, and Regional Equity.

## Freight Priority Network

The CDTC Freight Priority Network (FPN) provides a logical system of routes that facilitate efficient and safe truck mobility within, to, and from the CDTC region. FPN designation is important because it provides CDTC and its constituent municipalities, counties, and State agencies with guidance on roadway investment, planning, design (e.g., clearances, turning radii), maintenance, pavement, signalization, and access management to help support freight mobility across the region.

The primary function of FPN designation is to bring roads that carry critical freight and goods movements to the forefront in freight-related investment decisions. Further, FPN designation is intended to engage local jurisdictions in operating, maintaining, and designing FPN roads to adhere to these specifications to promote safe/reliable infrastructure and efficient movement. For example,

projects affecting FPN routes receive acknowledgment for being part of the major freight system when planning and programming investments.

CDTC designated the original FPN in the late 1990s based on professional knowledge of regional freight movement patterns and routes. The original FPN simply designated a facility as a freight route, without any further gradation of route type or purpose. The Regional Freight Plan (2016) built on that existing FPN to create specific designation criteria for a hierarchy of three route types:

- **Major Routes** - serve as the backbone of the FPN. These roads, mainly Interstate highways and key regional arterials, are generally designed, operated, and constructed to accommodate significant truck volumes.
- **Minor Routes** - regional/local roadways that provide mobility between major industrial and logistics origins and destinations and the Major Routes.
- **Connectors** - provide access between Major and Minor Routes and individual destinations or small clusters of logistics activities. Connector roads are generally designed and operated to accommodate periodic truck movements to shippers, receivers and/or urban centers.

### **FPN Route Designation Methodology**

During development of the Regional Freight Plan (2016), the project team developed quantitative and qualitative designation criteria for each route type based on (1) an analysis of the available truck count data from NYSDOT, (2) understanding of the National Highway System (NHS) designation requirements, (3) additional example sources of truck route designation, and (4) an understanding of the CDTC regional system in terms of both freight-related transportation and land use.

#### *Truck Count Data*

The NYSDOT Data Traffic Viewer and the NYSDOT Roadway Inventory System (RIS) provides limited vehicle class counts throughout the CDTC area. Vehicle class counts vary by year based on location. Where available, traffic counts informed the selection of FPN routes. Where truck count data was not available, all-class counts and connecting land uses informed the decision to include the route in the FPN.

#### *National Highway System (NHS) Criteria*

Sec. 470.107 of 23 CFR 470A provides the specific criteria for classification in the NHS:

“The National Highway System shall consist of interconnected urban and rural principal arterials and highways (including toll facilities) which serve major population centers, international border crossings, ports, airports, public transportation facilities, other intermodal transportation facilities, and other major travel destinations; meet national defense requirements; and serve interstate and interregional travel. All routes on the Interstate System are a part of the NHS. (2) The NHS shall not exceed 286,983 kilometers (178,250 miles). (3) The NHS shall include the Strategic Highway Corridor Network (STRAHNET) and its highway connectors to major military installations, as designated by the Administrator in consultation with appropriate Federal

agencies and the States. The STRAHNET includes highways which are important to the United States strategic defense policy and which provide defense access, continuity, and emergency capabilities for the movement of personnel, materials, and equipment in both peacetime and wartime. (4) The NHS shall include all high priority corridors identified in section 1105(c) of the ISTEA.”

Table 1 details the criteria for major “intermodal transportation facilities” considered by the NHS.

<b>Table 1: NHS Criteria for Intermodal terminals</b>	
<b>Intermodal Facility</b>	<b>Criteria<sup>1</sup></b>
<b>Airports</b>	100 cargo trucks/day in each direction
<b>Ports</b>	50,000 TEUs/year OR 500,000 tons/year of bulk commodity OR 100 cargo trucks/day in each direction
<b>Truck/Rail</b>	50,000 TEUs/year OR 100 cargo trucks/day in each direction
<b>Pipeline</b>	100 cargo trucks/day in each direction
<b>Other Facilities</b>	<ul style="list-style-type: none"> <li>- Handle +20% of freight volumes in the state</li> <li>- Identified in the Intermodal Management System</li> <li>- Will experience significant expansion/investment</li> <li>- Connecting routes targeted for “investment to address an existing, or anticipated, deficiency as a result of increased traffic.”</li> </ul>

The NHS criteria helped to define the role of connector facilities in the FPN. By creating a groundwork for classifying both roadways and intermodal facilities, these considerations went into the FPN typologies.

### *Criteria from Other US Studies*

FHWA’s “Freight Story 2008” classifies Major Freight Corridors as those with “8,500 trucks per day.” This designation criterion is far too high for CDTC’s purposes because not all major truck routes, specifically interstates, have counts of this magnitude.<sup>2</sup>

LA Metro’s Los Angeles County Strategic Goods Movement Arterial Plan identified that “750 trucks per day or higher appears to be a good indicator of significant truck volume, and 500 trucks per day an indicator of moderate truck volume.” This criterion is more reasonable for the CDTC region; many of the major truck routes identified in or suggested for the FPN have truck counts higher than 750 trucks.<sup>3</sup>

In its 2009 Regional Truck Route Study, the Southeastern Regional Planning and Economic Development District (a Massachusetts MPO) identified specific classification criteria: “vehicle classification count locations where the truck ADT exceeded 400 trucks per day or 5% of total traffic were designated.” 400

<sup>1</sup> Source: <http://www.gpo.gov/fdsys/pkg/CFR-2011-title23-vol1/pdf/CFR-2011-title23-vol1-part470-subpartA-appD.pdf>

<sup>2</sup> Source: <https://ops.fhwa.dot.gov/freight/publications/fhwaop03004/freight.pdf>

<sup>3</sup> Source: [http://media.metro.net/projects\\_studies/call\\_projects/images/15\\_Final\\_Report.pdf](http://media.metro.net/projects_studies/call_projects/images/15_Final_Report.pdf)



trucks per day represents significant truck traffic in more rural areas, which justifies lower-count features that connect to Intermodal Centers.<sup>4</sup>

### *Land Use Connections*

FPN classification criteria consider intermodal facilities for the delineation of connecting routes. The criteria also consider freight-related major facilities such as Distribution Hubs and Manufacturing Centers to ensure that other major and minor routes cover corridors between these facilities and outside of the region. Major Intermodal Centers in the CDTC area include:

- Albany International Airport
- CSX Selkirk Rail Yards
- Norfolk Southern Intermodal Terminal (Mechanicville)
- Port of Albany/Rensselaer
- Port of Coeymans

Further, the following Regional Distribution Hubs and Manufacturing Centers are considered when designating FPN routes:

- Ace and Target Distribution Centers in Wilton
- CP Kenwood Yard in Albany
- CSX Transflo Albany
- General Electric Campus in Schenectady
- Glenville Business and Technology Park
- Golub (Price Chopper/Market 32) Distribution Center in Rotterdam
- Grande Industrial Park in Saratoga Springs
- Green Island Industrial Park
- Hannaford Distribution Center and Amazon Distribution Center (future) in Schodack
- Luther Forest Tech Park/Global Foundries Campus in Malta
- Momentive Performance Materials in Waterford
- Northeast Industrial Park in Guilderland Center
- Rotterdam Industrial Park
- SABIC Innovative Plastics in Selkirk
- SI Group in Schenectady
- Watervliet Arsenal



Cargo handling facility at Albany International Airport

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<sup>4</sup> Source: <http://srpedd.org/manager/external/ckfinder/userfiles/resources/Transportation/Regional%20Truck%20Route%20Study%20final.pdf>

## FPN Route Designation Criteria

Table 2 provides an overview of the FPN route classifications and designation criteria.

**Table 2: Summary of FPN Route Classification Types and Criteria**

FPN Classification	Criteria	Facility Characteristic Requirement
<b>Major</b>	Greater than 4,000 Trucks/Day Greater than 15% Truck Percentage NHS/Interstate classification	Access-Controlled Highways Major Arterials
<b>Minor</b>	Greater than 3,000 AADT Greater than 1,000 Trucks/Day Greater than 10% Truck Percentage Connects to an Intermodal Center LU, Regional Distribution Hub LU, or Manufacturing Center LU If count data is unavailable, >3,000 AADT and LU connection qualifies.	Major Arterials Minor Arterials
<b>Connector</b>	100-1,000 Trucks/Day Greater than 15% Truck Percentage Connects to an Intermodal Center LU	Minor Arterials Collector Routes Local Roads

### Definitions:

- **Facility Types:** Functional Classification is a standard method of characterizing roadways developed by the FHWA. It is a hierarchy of roadway types in a network that describes their function in terms of accommodating through traffic versus providing access to adjacent parcels.
  - Principal Arterial/Interstate or freeway: Complete control of access, provides only for through travel.
  - Principal Arterial/Other: Primarily serve through travel. May provide access to intersection roadways and rarely to adjacent land use.
  - Minor Arterial: Connect to principal arterials, while providing access to adjacent parcels. Typically higher volume roadways with multiple traffic signals.
  - Collectors: Both urban and rural, these roadways act to collect traffic from local streets and move it to minor arterials for travel to destinations. Provide access to adjacent parcels.
  - Local Streets: Provide direct access to all parcels, not for through travel.
- **AADT:** Annual Average Daily Traffic. Traffic count volume is collected for a specified count period, often one week. The daily traffic is averaged and then adjusted with seasonal and other modification factors developed from the overall traffic volume database.

The following subsections provide detailed descriptions of each of the FPN route classifications and designation criteria:

#### *Major FPN Route*

- Access-controlled highways and major arterials designed, constructed, maintained, and operated to accommodate and facilitate the movement of large volumes of both general and truck traffic.
- Limited signalization and/or grade-separated.
- Provides the strategic connections between the Capital Region and other major regions within and outside NYS.
- Major FPN routes are generally Interstates and NHS facilities and owned and operated by NYSDOT or NYS Thruway Authority.
- Routes classified in this category must have over 4,000 trucks per day and over 15% truck traffic based on available truck counts. If no counts are available, Interstate designation qualifies for classification.

#### *Minor FPN Route*

- Routes designed, maintained, and operated to facilitate general mixed traffic, while supporting significant truck movements.
- Provides connections between Major FPN Routes and major trucking activity clusters, forming the core of the inter-regional transportation network.
- Routes classified in this category must be over 1,000 trucks per day and over 15% truck traffic based on available truck count percentages. The facility must also have over 3,000 AADT (all vehicles daily count) and provide a connection to one of the three land use typologies: Intermodal Center, Regional Distribution Hub, or Manufacturing Center. If no counts available, AADT > 3,000 AND Connection to noted land use typologies qualifies for classification.

#### *Connector FPN Route*

- Route is maintained and operated for general mixed traffic but with key intersections and segments managed/operated to facilitate safe and efficient truck movements.
- Provides connections between Minor FPN routes to intermodal freight sites.
- Routes classified in this category must be between 100 and 1,000 trucks per day and over 15% truck traffic based on available truck count percentages AND provide a connection to an Intermodal Center.

Figure 1 illustrates the concepts of the FPN route types.

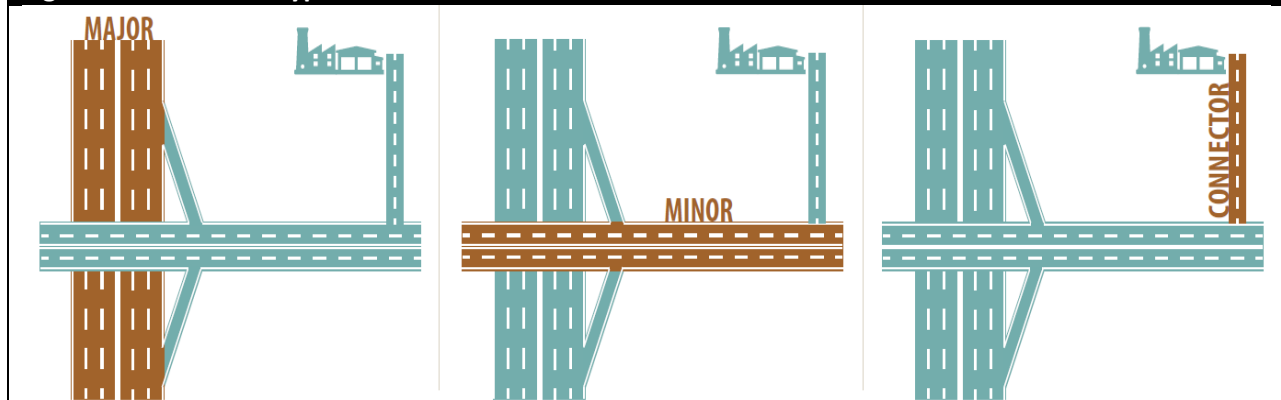
**Figure 1: FPN Route Type Characteristics**


Table 3 provides a summary of the facilities that qualify for CDTC’s FPN including each road’s FPN classification type, regional/interregional connections, nearby facilities, and truck counts where available.

**Table 3: Current Freight Priority Network Routes and Descriptions**

Route Name	FPN Class	Connection	Land Use Typologies Accessed	Daily Truck Count, % Trucks (Count Year)
Interstate 88	Major	West-East Local Access: Central Bridge, Schenectady Greater Access: NY Southern Tier, Central & Western Pennsylvania, US Southeast via I-81	Regional Distribution Hubs	W of I-90: 2970, 21% (2005)
Interstate 90 (Thruway)	Major	West-East Local Access: Amsterdam, Schenectady, Albany, E. Greenbush, Schodack Greater Access: Finger Lakes/Buffalo, NY to West; Springfield/Boston, MA to East	Intermodal Centers Regional Distribution Hubs Manufacturing Centers	No Truck Counts Available
Interstate 890	Major	West-East Local Access: Toll-free Local Alternative to the Thruway	Manufacturing Centers	Schenectady: 1,392, 6% (2009)
Interstate 787	Major	North-South Local Access: Local Alternative for Access to Downtown Albany via I-87 and SR-7	Intermodal Centers	Near Exit 3 Albany: 5,479, 10% (2011) Btw Exits 4 & 5 in Albany: 8,414, 10% (2011) Btw Exits 6 & 7: 7,924, 8% (2017) Btw Exits 8 & 9: 8,041 11% (2016)



**Table 3: Current Freight Priority Network Routes and Descriptions**

Route Name	FPN Class	Connection	Land Use Typologies Accessed	Daily Truck Count, % Trucks (Count Year)
Interstate 87	Major	North-South Local Access: Glens Falls, Saratoga Springs, Ballston Spa, Albany, Colonie, Bethlehem Greater Access: Adirondacks, Plattsburgh, Burlington (VT), Canada to North; New York City, Mid-Atlantic to South	Intermodal Centers Regional Distribution Hubs Manufacturing Centers	Btw Exits 2 & 3: 8,141, 7% (2013) Btw Exits 7 & 8: 8,285, 8% (2015) Btw Exits 11 & 12: 7,451, 10% (2015) Btw Exits 15 & 16: 5,307, 10% (2015) Btw Exits 16 & 17: 5,933, 12% (2007)
US Route 4 (from US 32 in Waterford to NY 67 in Mechanicville)	Minor	North-South Local Access: Connects Troy (NY Route 7) to Mechanicville (NY Route 67)	Intermodal Centers	Waterford: 672, 9% (2016) Halfmoon: 565, 10% (2016)
US Route 7 (from I-890 in Schenectady to CDTC Boundary (E))	Minor	West-East Local Access: Schenectady, Latham, Troy, Pittstown Greater Access: I-87, I-90, Vermont to East	Intermodal Centers Regional Distribution Hubs	Niskayuna: 1,653, 6% (2015) Latham: 1,201, 3% (2017) Btw I-87 & I-787: 2,308, 5% (2017) Brunswick: 1,377, 8% (2014) Pittstown: 947, 12% (2016) Hoosick: 1,020, 10% (2014)
US Route 9	Minor	North-South Local Access: Glens Falls, Wilton, Saratoga Springs, Ballston Spa, Malta, Albany, E Greenbush	Intermodal Centers Regional Distribution Hubs Manufacturing Centers	Schodack: 809, 13% (2017) Rensselaer: 1,547, 6% (2017) Latham: 1,301, 6% (2011) Halfmoon: 1,221, 6% (2016) Clifton Park: 1,092, 7% (2017) Saratoga Springs Outer: 1,936, 10% (2015)
NY Route 5S (from CDTC Boundary (W) to NY 890)	Minor	West-East Local Access: Connects I-90 and I-890 from Schenectady west to Amsterdam, and Central/Western NY	Manufacturing Centers Regional Distribution Hubs	Rotterdam: 545, 13% (2015)

**Table 3: Current Freight Priority Network Routes and Descriptions**

Route Name	FPN Class	Connection	Land Use Typologies Accessed	Daily Truck Count, % Trucks (Count Year)
US Route 20 (from I-88 to I-87 and from I-787 to US 9/20 Split)	Minor	West-East Local Access: Connects Esperance/I-88 through Albany to Nassau/I-90 Greater Access: Central/Western NY, Western Massachusetts	Intermodal Centers Manufacturing Centers	Guilderland: 1,510, 5% (2017) Rensselaer: 1,547, 6% (2017)
Erie Blvd (I-890 to NY 911F), Freemans Bridge Rd/NY 911F (Erie Blvd to NY 50, and NY Route 50 (NY 911F to I-87))	Minor	North-South Local Access: Saratoga Springs, Ballston Spa, Schenectady	Manufacturing Centers Regional Distribution Hubs	Glenville: 925, 5% (2010) Saratoga Springs: 2,295, 8% (2017)
NY Route 67 (CDTC Boundary (W) to US 4)	Minor	West-East Local Access: Amsterdam, Ballston Spa, Mechanicville	Intermodal Centers Regional Distribution Hubs Manufacturing Centers	Milton: 642, 8% (2016) Malta: 1,145, 7% (2014) Stillwater: 458, 11% (2014)
NY Route 146 (From NY 7 in Niskayuna to US 4 Mechanicville)	Minor	North-South/West-East Local Access: Connects Schenectady/ Niskayuna through Rexford to Clifton Park and I-87/US-9	Intermodal Centers	Clifton Park: 521, 3% (2014) Halfmoon: 761, 5% (2016)
NY Route 146 (NY 158 to US 20, Guilderland Loop)	Minor	West-East Local Access: Guilderland and US Route 20	Regional Distribution Hub	Guilderland: 1,097, 9% (2016)
NY Route 158 (NY 146 to US 20, Guilderland Loop)	Minor	West-East Local Access: Guilderland and US Route 20	Regional Distribution Hub	Guilderland: 330, 7% (2015)
NY Route 787/ NY Route 32 (I-787 to US 4)	Minor	North-South Local Access: Connects I-787 to US Route 4 via Green Island and Waterford	Intermodal Centers Manufacturing Centers	Cohoes: 1,462, 5% (2014)
NY Route 912M/NYS Berkshire Connector	Minor	West-East Local Access: Connects NYS Thruway/I-87 to I-90 Greater Access: Massachusetts	Intermodal Centers Regional Distribution Hubs	No Truck Counts Available
Ballard Road (I-87 to US 9)	Minor	West-East Local Access: Connects US 9 to I-87	Regional Distribution Hubs	Wilton: 1,094, 10% (2015)
NY Route 396, NY Route 9W, Maple Ave, and CR 55/Creble Road	Connector	West-East Local Access: Connects Selkirk Rail Yard to I-87	Intermodal Centers	Creble Rd: 345, 14% (2015) NY 396: 485, 24% (2015)
NY 155/CR 155 Albany Shaker Road (from I-87 to NY 7)	Connector	North-South Local Access: NY Route 7 and I-87 Access to Facilities Near Albany International Airport	Intermodal Centers	538, 3% (2015)

**Table 3: Current Freight Priority Network Routes and Descriptions**

Route Name	FPN Class	Connection	Land Use Typologies Accessed	Daily Truck Count, % Trucks (Count Year)
NY Route 155 (Old Wolf Road)	Connector	North-South Local Access: Connects I-87 and Albany International Airport properties. Also provides a non-interstate connection to the east from the Airport.	Intermodal Centers	Colonie: 643, 7% (2014)
Church St, Boat St, and Smith Blvd) (from I-787 to Port of Albany)	Connector	North-South Local Access: From I-787 to the Port of Albany/Rensselaer, CP Kenwood Yard, and surrounding industrial areas	Intermodal Centers	Church St: 1,033, 28% (2017) Boat St: 281, 20% (2016)
Stewart Port Expressway (US 9 & 20 to Port of Rensselaer)	Connector	North-South Local Access: From US-20/US-9 to the Rensselaer side of the Port of Albany	Intermodal Centers	Rensselaer: 1,359, 67% (2015) East Greenbush: 520, 60% (2016)
NY Route 144 (NY 396 to CDTC Boundary (S))	Connector	North-South Local Access: Connects I-87 to Port of Coeymans	Intermodal Centers	Coeymans: 322, 7% (2016)

**New Visions 2050 – Revisions to FPN**

Table 4, below, shows route additions and removals to the Freight Priority Network, for consideration as part of the New Visions 2050 process. These routes were identified since the adoption of the Regional Freight Plan (2016), by the Freight Advisory Committee or in another CDTC or State transportation plan. Maps illustrating the route additions and removals to the Freight Priority Network can be found in the appendix of this document.

**Table 4: Freight Priority Network – Route Revisions and Descriptions**

Route Name	FPN Class	Connection/Rationale	Land Use Typologies Accessed	FPN Status	Daily Truck Count, %Trucks, AADT
<b>Removals</b>					
NY Route 32/S. Pearl St (I-787 to S Port Rd)	Connector	North-South Local Access: Connects I-787 to Port of Albany and CP Kenwood Yard Recommended in S. Pearl St Heavy Vehicle Travel Pattern Study (2018) and other City of Albany initiatives	Intermodal Centers	Remove	S. Pearl St: 1,643, 17% (2017)

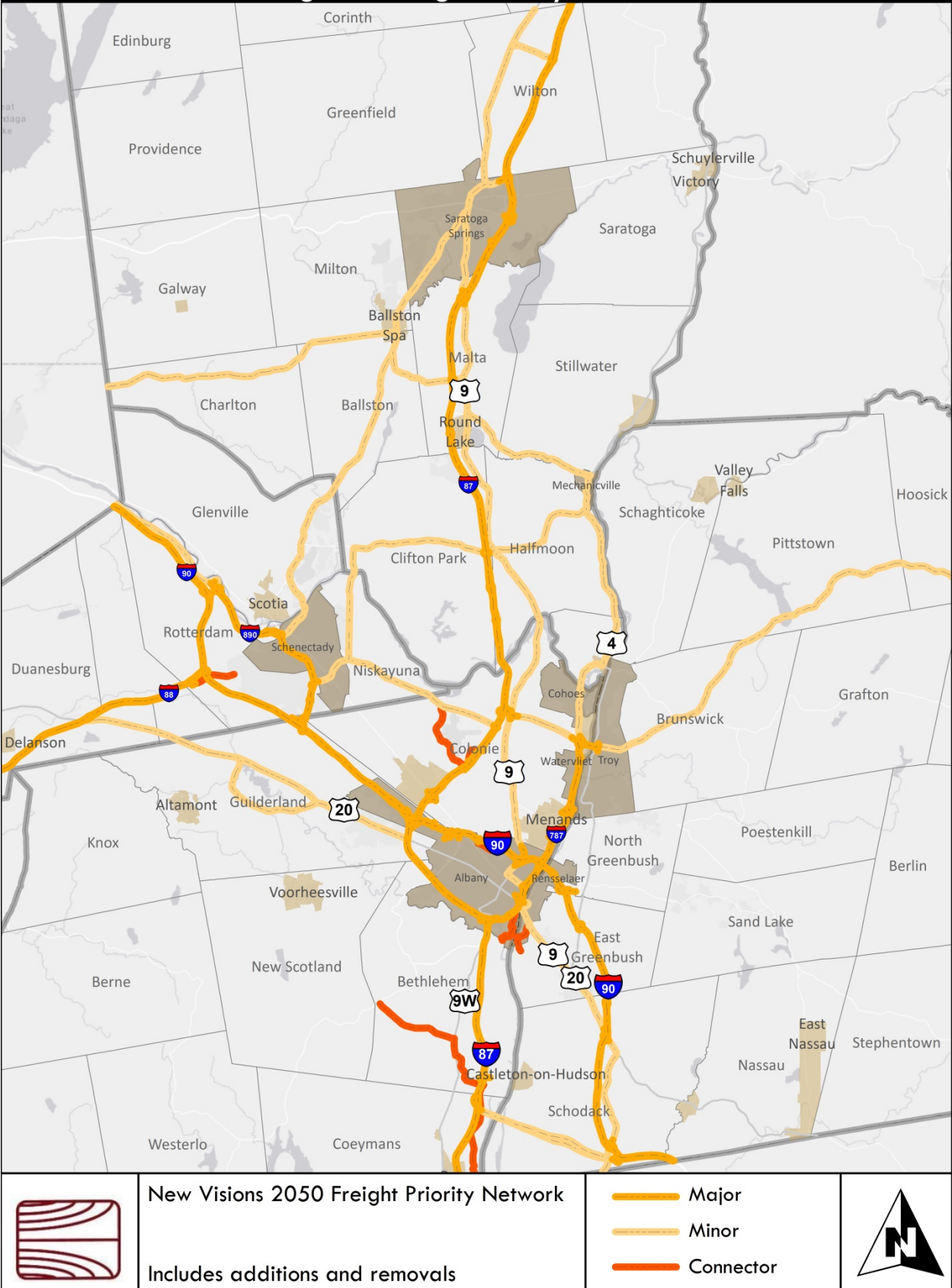
**Table 4: Freight Priority Network – Route Revisions and Descriptions**

Route Name	FPN Class	Connection/Rationale	Land Use Typologies Accessed	FPN Status	Daily Truck Count, %Trucks, AADT
<b>Additions</b>					
S. Port Rd, Normanskill St, Raft St, and Smith Blvd (NY 32 to Port of Albany)	Connector	East-West Local Access: Connects I-787 via US 9W and NY 32 to Port of Albany and CP Kenwood Yard Recommended in S. Pearl St Heavy Vehicle Travel Pattern Study (2018)	Intermodal Centers	Add	No Truck Counts Available
NY Route 7 (I-88 to Rotterdam Industrial Park)	Connector	East-West Local Access: Connects NYST/I-90 and I-88 to Golub Distribution Center and Rotterdam Industrial Park Recommended by Freight Advisory Committee	Intermodal Centers Regional Distribution Hubs	Add	Duanesburg Rd: 1,758, 14% (2015)
Everett Rd (I-90 to Commerce Ave) and Commerce Ave	Connector	East-West Local Access: Connects I-90 to a cluster of industrial land uses Recommended by Freight Advisory Committee	Intermodal Centers Manufacturing Centers	Add	Commerce Ave: 680, 14% (2015)

A map showing the Freight Priority Network, including additions and removals as part of the New Visions 2050 process, can be found on Figure 2.



Figure 2: Freight Priority Network



## **Current and Emerging Issues and Trends**

The following is a list of current and emerging issues and trends affecting the freight industry, for review by the CDTC Freight Advisory Committee. For each issue/trend, a brief description is provided. These issues were identified in CDTC's Regional Freight Plan (2016), or by the CDTC Freight Advisory Committee, by the American Transportation Research Institute (ATRI), and/or in other prominent freight industry publications. The list is not meant to be exhaustive, but rather identify those issues that have the greatest potential impact on the CDTC region for further monitoring.

### **Trucking - Driver shortage**

Growing demand for truck transportation has exacerbated industry capacity constraints as carriers continue to struggle with recruiting and retaining a qualified truck driver workforce. Year after year, older drivers are retiring with fewer younger drivers taking their places. Being a truck driver is difficult - it involves working long hours, driving long distances, being away from home for long periods and less-than-ideal pay. Fewer drivers mean fewer trucks on the road to haul an increasing volume of freight, which, in turn, drives up shipping rates because of the premium placed on securing a truck.

### **Trucking - Driver hours of service restrictions**

The hours a truck driver may spend behind the wheel per day or work per week are an important factor for shippers, carriers, and drivers. Shortening those hours can decrease a truck driver's earnings, and make delivering goods on-time more difficult. By law, drivers are allowed to drive for 11 hours with a mandatory, continuous rest period of 10 hours, daily. In addition, a driver may not drive beyond the 14<sup>th</sup> consecutive hour after coming on duty, following 10 consecutive hours off duty.

### **Trucking - Electronic logging device mandate**

The electronic logging device (ELD) mandate requires all motor carriers to install electronic devices in their trucks that automatically track drivers' hours of service. Before the mandate, drivers kept manual logbooks to track their hours of service, while some of the larger carriers used ELDs. Most smaller carriers have become compliant, but some are having issues with the cost of installing the devices and dislike the automatic tracking of their movements. Regulations such as these are implemented to create safer roads, however, they are also perceived by drivers as an infringement on their personal workspace.

### **Trucking - Truck parking**

With the hours of service restrictions for truck drivers, drivers need to find safe and convenient places to park when they reach their driving limit. The growing scarcity of available truck parking creates a dangerous and costly dilemma for truck drivers who are often forced to drive beyond allowable hours of service rules or park in undesignated and/or unsafe locations.

### **Trucking – Congestion**

Traffic congestion has a large and measurable impact on the cost of goods movement. A truck sitting in traffic represents lost time and money. With carriers expected to meet specified delivery windows, or constructing driver schedules to meet hours of service regulations, a traffic delay could be detrimental.

### **Trucking - Driver distraction**

Distracted driving and its impact on highway safety is a major issue for the trucking industry. The growing use of smartphones has raised the profile of distracted driving as a major public safety issue.

### **Maritime – Increased capacity to east coast ports**

With the completion of the Panama Canal expansion project, more and larger container ships are serving east coast ports. In addition, more carriers are ordering larger container ships, ensuring a continued capacity increase.

### **All modes - Autonomous vehicle technology**

All freight modes have some level of autonomy available for purchase and use.

For the trucking industry, autonomous vehicles could use technological advancements to allow trucks to navigate the roadway system with little or no human interaction. There are currently multiple companies testing automated trucking technology, and several large purchases of semi or fully autonomous trucks have been made by large companies. Broad adoption of this new technology could lead to substantial changes to the freight and logistics industry. There is potential for companies to reduce labor costs, the impacts of the driver shortage, and the impacts of hours-of-service regulations. There is also broad speculation the technology will reduce crashes and increase overall safety, therefore reducing liability exposure.

Higher levels of autonomy have already been implemented in the rail, maritime, and airline industries. Further adoption of these technologies could have additional safety and other operational benefits.

### **All modes - Transportation infrastructure funding**

Poorly maintained transportation infrastructure creates unneeded wear and tear on vehicles, creates additional stress for operators, and negatively impacts industry productivity. There is a well-documented backlog of maintenance projects, exacerbated by increasing scarcity of funding, and lack of new, innovative funding streams. Without more public funding for infrastructure, there will be more incidents, more delays and less profit for companies in the future.

### **All modes - Freight Transportation Resilience**

Adverse events, such as extreme weather, can cause supply chain disruptions, with a potentially profound effect on the regional economy. The transportation resiliency initiatives identified in *New Visions 2050 Environment & Technology* and *Safety & Security* white papers are critical for the continuous and seamless movement of freight in our region. However, the effects of adverse effects are felt even when they occur beyond CDTC's boundaries.

When cargo is delayed or diverted, the public sector must gauge the potential impact of adverse events on the transportation system, economy, and community. The public sector may be called upon to provide the resources necessary for preventive and remedial actions. This could require coordination across jurisdictional boundaries and between transportation providers and their customers.

#### **New technology/trucking – cashless tolling on New York State Thruway System**

The New York State Thruway Authority has announced an initiative to implement cashless tolling for the entire Thruway system. This new technology will potentially decrease delays at toll plazas; however, it will require many of the current tandem lots to be relocated. The proposed new locations of the tandem lots and the circulation patterns to/from the lots are concerning for users.

#### **New technology – on-demand freight apps (Uber Freight, Convoy, etc.)**

Uber Freight launched last spring and is essentially an app for freight that operates like Uber's ride-sharing service. Both Convoy and Amazon have similar apps that target on-demand freight, as well. These apps operate by matching trucking companies with shippers who have freight that needs to move.

#### **New technology/trucking – electric vehicles**

Several major truck manufacturers are developing vehicles with electric drive systems. Tesla's electric semi-truck has a range of 500 miles on one charge, with significant pre-orders from large asset companies. No longer having to pay for diesel fuel or the upkeep of maintaining a combustion engine, while having increased visibility from the streamlined cabin of this truck are alluring factors to many drivers. The lack of charging stations and uncertainty with range are currently barriers to adoption.

#### **New technology – changes in manufacturing**

New production technologies, such as 3D printing, have the potential for great impact on the freight industry. 3D printing may change the production methods of many products, their parts, and/or the raw materials needed in their manufacturing process. 3D printing technology eliminates the mold manufacturing method in favor of a less expensive digital process. More products can be made locally, thereby reducing the distance required to ship the finished goods to the market. Materials with high shipping costs made of most plastic-based materials could be candidates for 3D printing technology. Moving away from the mold form of manufacture could reduce the need to import plastic-based goods from halfway around the world.

#### **New technology – e-commerce and the new retail economy**

More consumers are purchasing goods online, with a noticeable decline in brick-and-mortar retail locations. This has led to a massive increase in package deliveries, and many potential new technologies to facilitate last-mile deliveries, such as drones and autonomous robots. The evolving economy has led to the emergence of large new online retailers, such as Amazon, forcing the retail industry to accommodate customer's delivery expectations.



## Performance Measures

The federal Moving Ahead for Progress in the 21st Century legislation (MAP-21, 2012) introduced the requirement that MPOs and states use a method known as performance-based planning and programming (PBPP). The PBPP intends to have the agencies that invest public monies in transportation improvements continuously evaluate the outcome of those investments. This provides transparency to the public and decision-makers about the efficacy of investments. CDTC understands and appreciates the relationship of freight and goods movement to the overall performance of the region's transportation system, and particularly that of the Freight Priority Network (FPN).

MAP-21 includes seven National Goals that form the basis of PBPP. These include safety, infrastructure, mobility, reliability, and freight and economic development. The freight-related measure is known as the Truck Travel Time Reliability (TTTR) Index, a measurement of travel time reliability on the Interstate System, described further below.

Also, CDTC monitors several other regional freight-related performance measures. Most of the performance measures are linked to the condition and performance of the highway portion of the FPN since that is where CDTC's members can directly invest. These measures are Pavement Condition on the Freight Priority Network (Infrastructure), and Bridge Condition on the Freight Priority Network (Infrastructure).

### Truck Travel Time Reliability (TTTR) Index

CDTC is required by federal law<sup>5</sup> to report the Truck Travel Time Reliability (TTTR) Index for the CDTC region. Through MAP-21, Congress required FHWA to establish measures to assess performance in 12 areas, including freight movement on the Interstate. The measure considers factors that are unique to this industry, such as the use of the system during all hours of the day and the need to consider more extreme impacts on the system in planning for on-time arrivals.

TTTR reporting is divided into five periods: morning peak (6-10 a.m.), midday (10 a.m.-4 p.m.) and afternoon peak (4-8 p.m.) Mondays through Fridays; weekends (6 a.m.-8 p.m.); and overnights for all days (8 p.m.-6 a.m.). The TTTR ratio is generated by dividing the 95<sup>th</sup> percentile time by the normal time (50<sup>th</sup> percentile) for each segment. The TTTR Index is generated by multiplying each segment's largest ratio of the five periods by its length, then dividing the sum of all length-weighted segments by the total length of Interstate.

NYSDOT and CDTC utilize the data from FHWA's National Performance Management Research Data Set (NPMRDS) as the data set includes truck travel times for the full Interstate System.

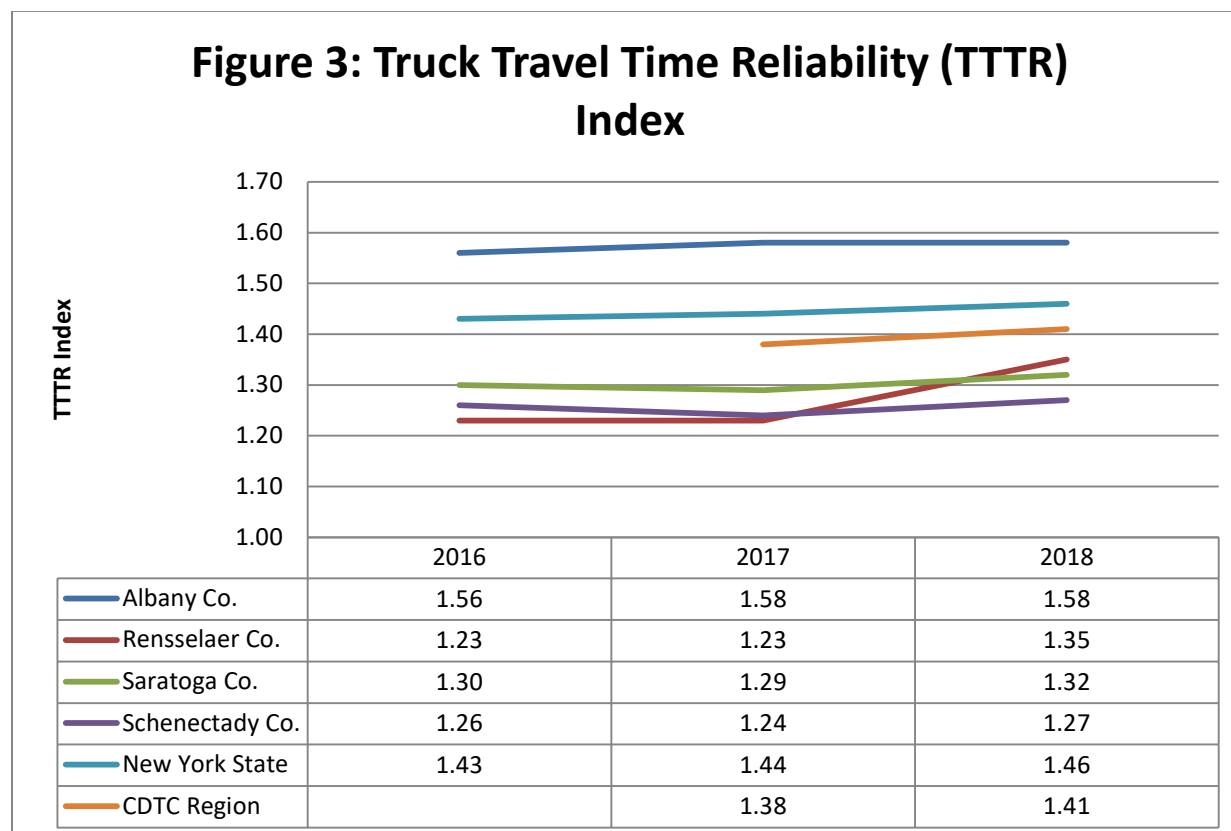
NYSDOT, with consultation from the MPOs, established 2-and 4-year targets in 2018. NYSDOT has the option to adjust 4-year targets in their mid-performance period progress report, due October 1, 2020. CDTC's members decided to support the NYSDOT target. The NYSDOT TTTR baseline and targets are:

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<sup>5</sup> Federal Register [82 FR 5970 (January 18, 2017)]

- 2018 Baseline: 1.38
- 2020 Target: 2.00
- 2022 Target: 2.11

Figure 3, below shows TTTR in the CDTC region from 2016 to 2018, regionally, by county, and statewide.<sup>6</sup> TTTR in the CDTC region is relatively flat.



The following six pages contain maps illustrating the TTTR index on Interstates in the CDTC region:

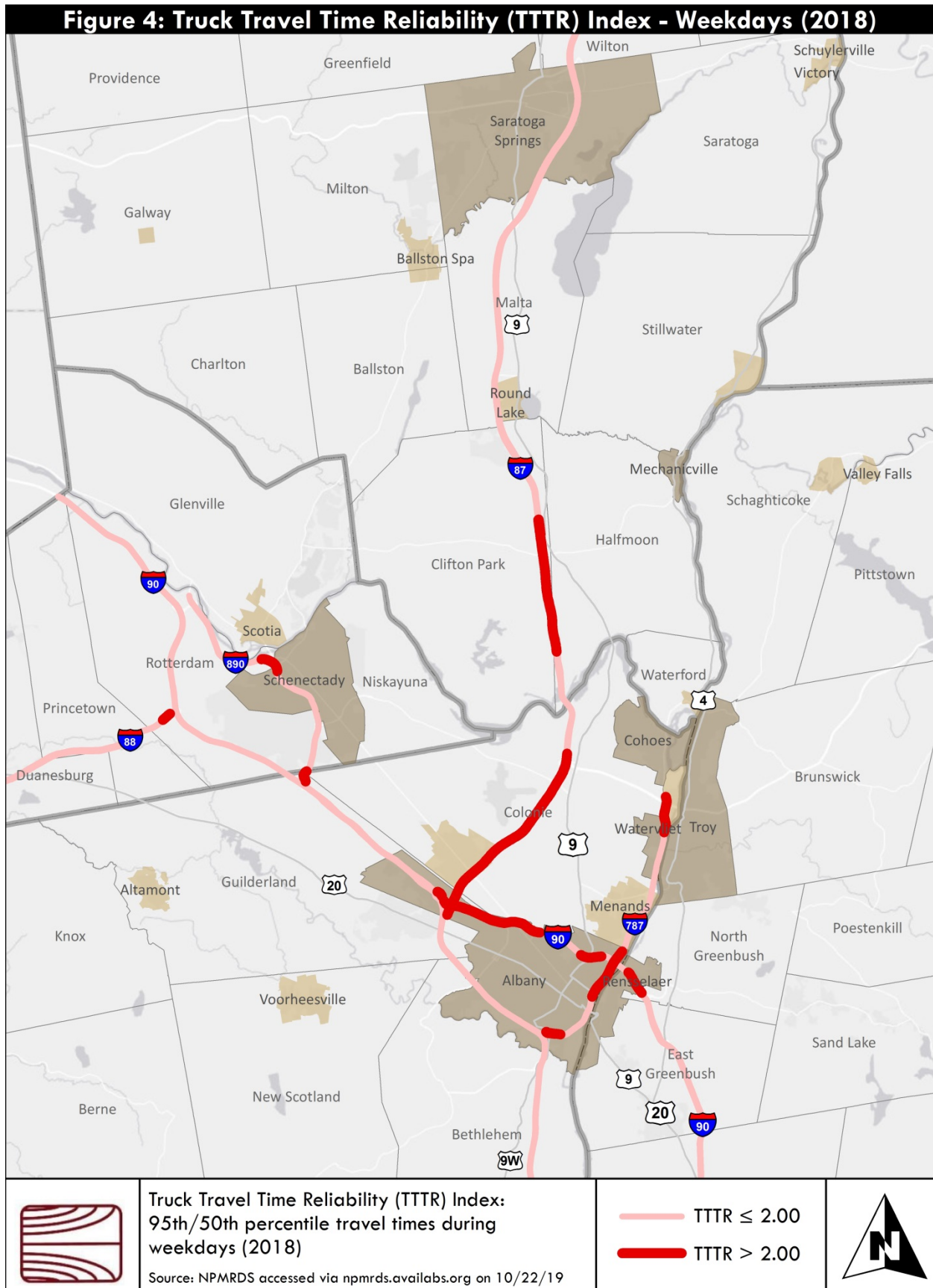
- Figure 4: Truck Travel Time Reliability (TTTR) Index – Weekdays (2018)
- Figure 5: Truck Travel Time Reliability (TTTR) Index – AM Peak (2018)
- Figure 6: Truck Travel Time Reliability (TTTR) Index – Midday (2018)
- Figure 7: Truck Travel Time Reliability (TTTR) Index – PM Peak (2018)
- Figure 8: Truck Travel Time Reliability (TTTR) Index – Overnight (2018)
- Figure 9: Truck Travel Time Reliability (TTTR) Index – Weekends (2018)

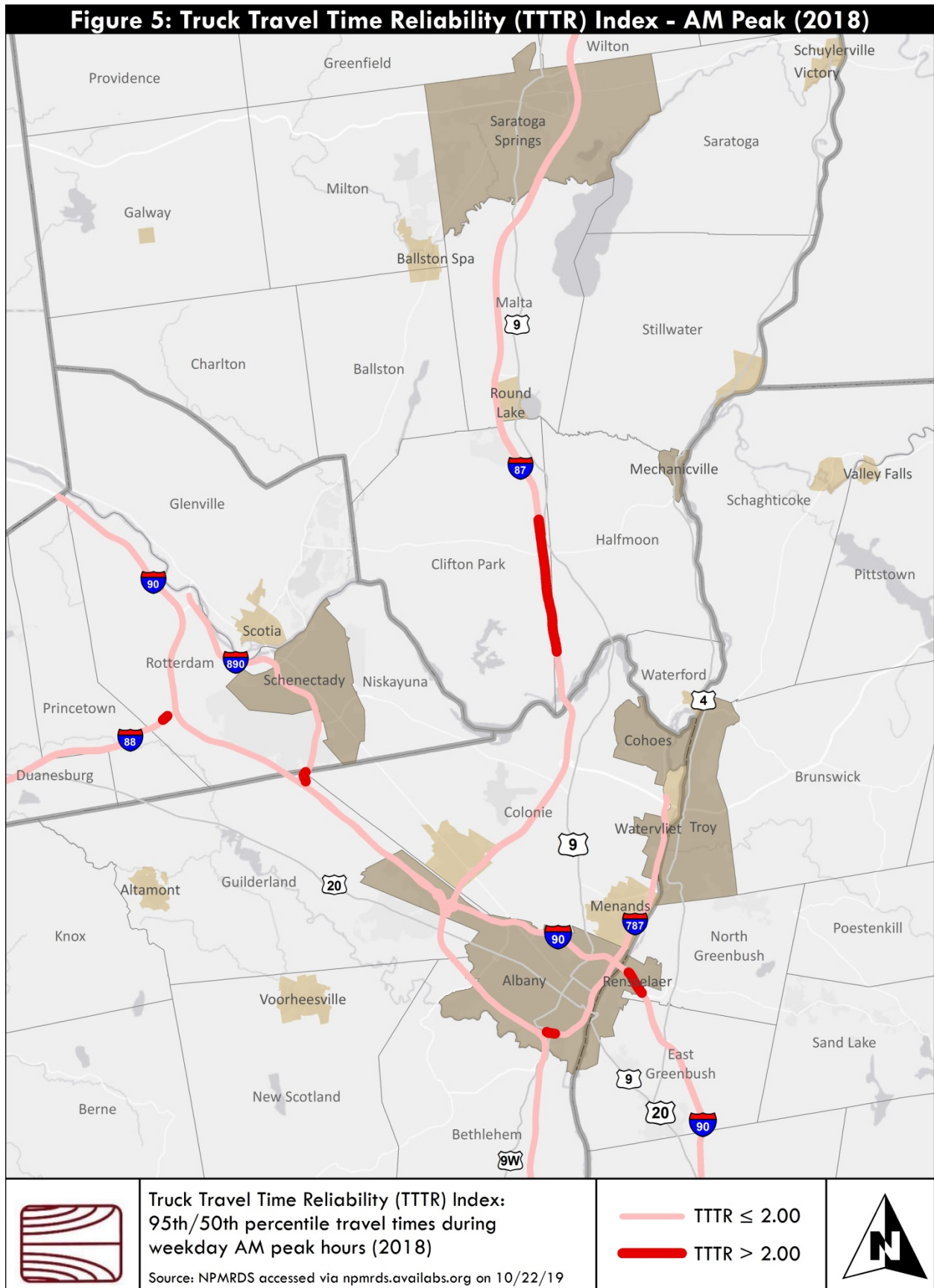
On all maps, the light pink lines show interstates where the TTTR index is greater than or equal to 2.00, the established NYSDOT 2020 TTTR target. The dark red lines represent interstates where the TTTR is greater than 2.00. These interstates currently do not meet the established NYSDOT 2020 TTTR target;

<sup>6</sup> Source: NPMRDS access via [napmrds.availabs.org](http://napmrds.availabs.org) on 11/1/2019

however, TTTR is a regional measure, reported only at the regional level. It is anticipated the NYSDOT targets for 2020 and 2022 will be met without issue.

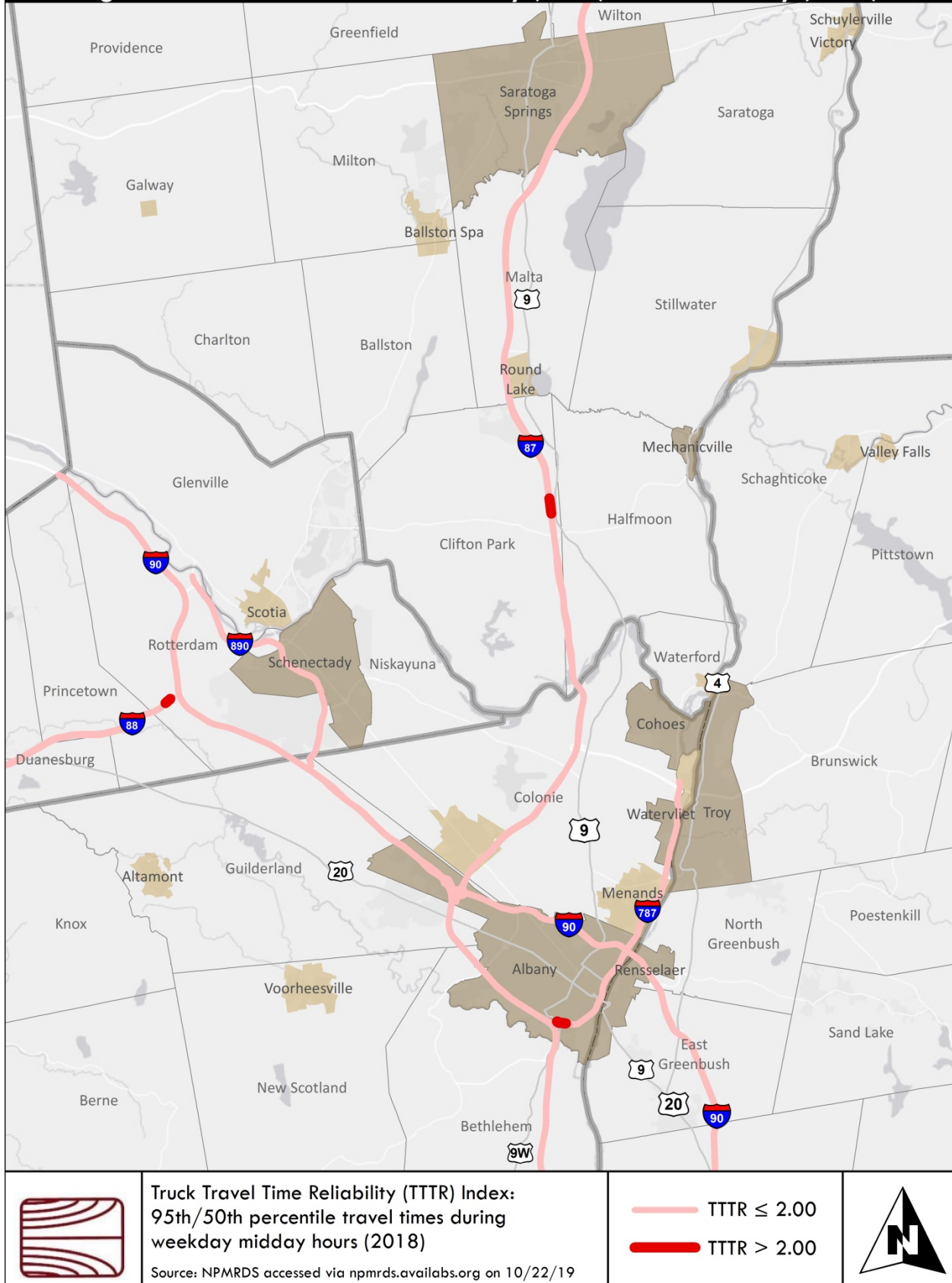
In general, the TTTR index does indicate widespread truck travel time reliability issues. The data supports investments in operational improvements and incident management along I-87/Adirondack Northway, from NYST Exit 24 to Clifton Park; I-90 from NYST Exit 24 to I-787; I-787 from Exit 3 to Exit 5; and at the NYS Thruway toll plazas at Exits 23, 24, 25, and 25A. It is anticipated the NYS Thruway's barrier-free tolling initiative, scheduled to be completed in 2020, will provide a TTTR benefit at the Thruway exits.

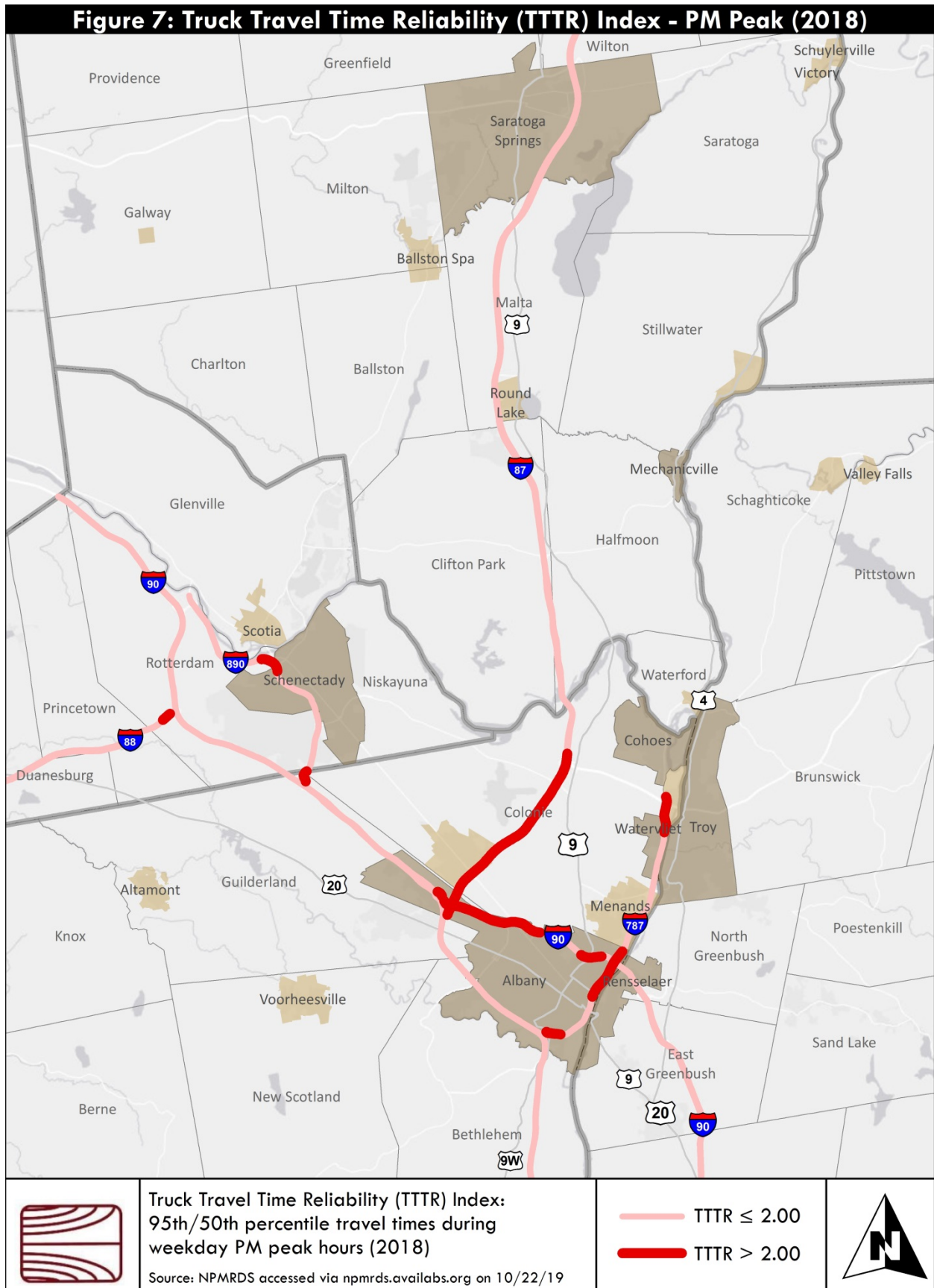




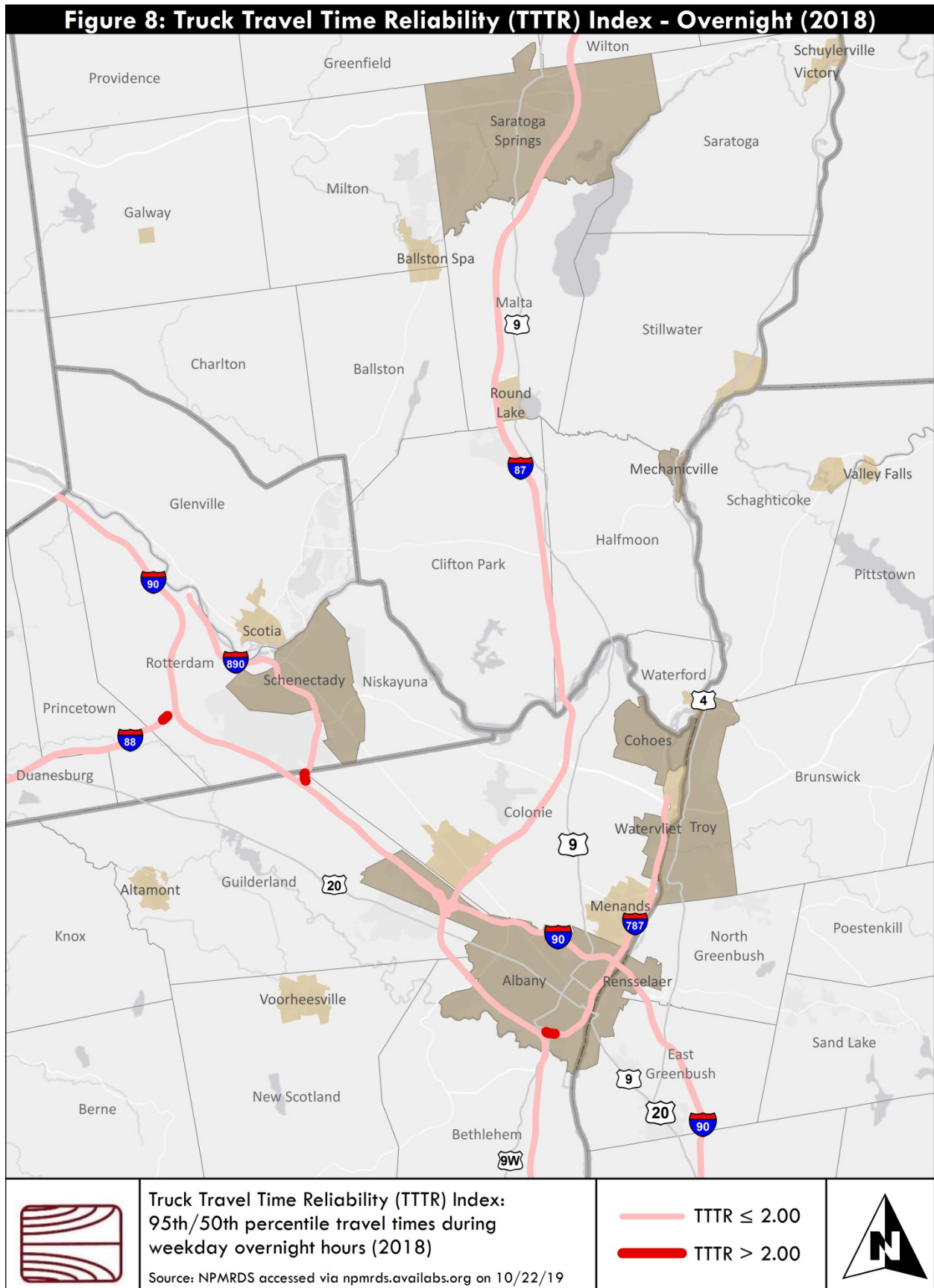


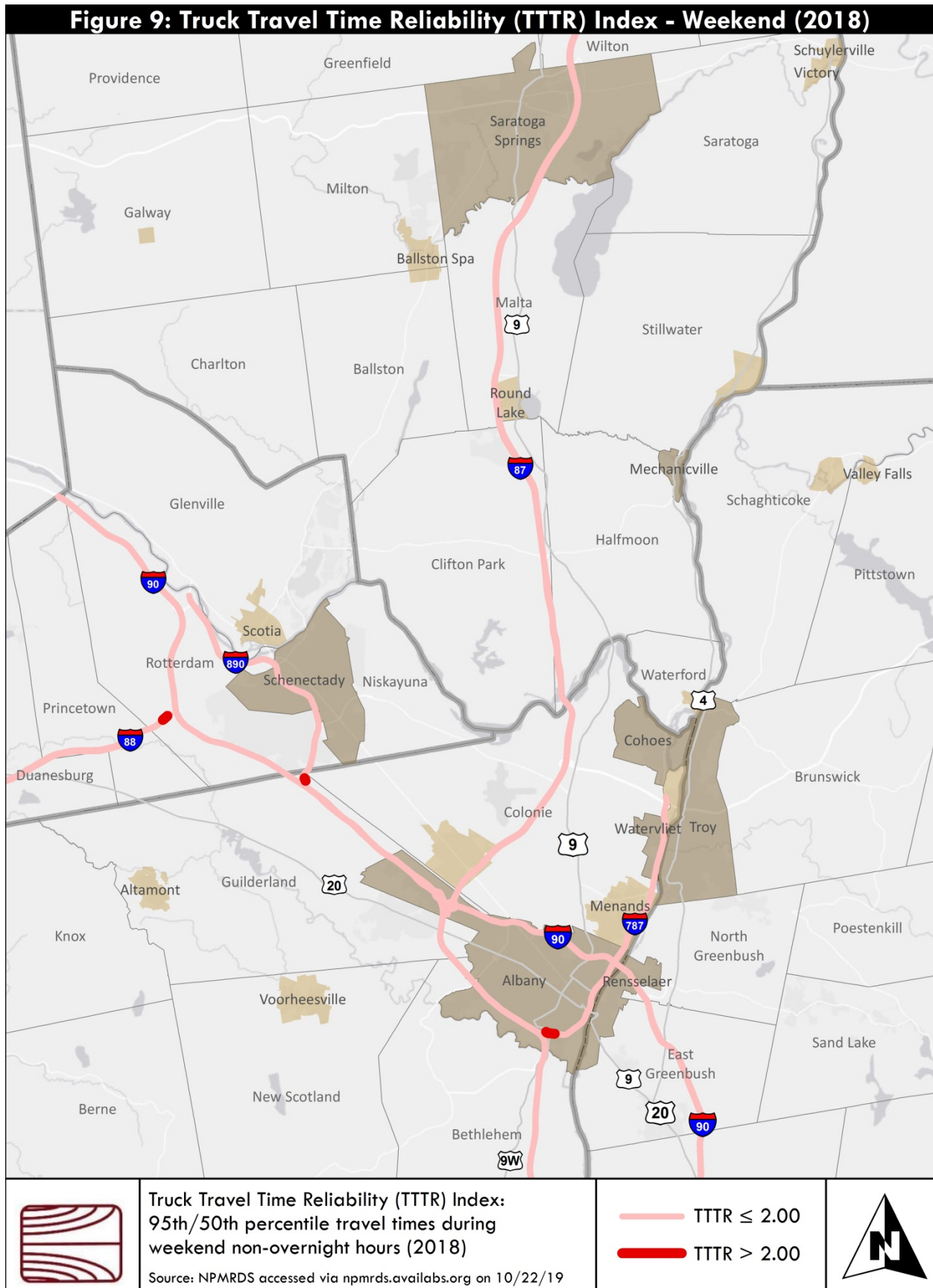
**Figure 6: Truck Travel Time Reliability (TTTR) Index - Midday (2018)**





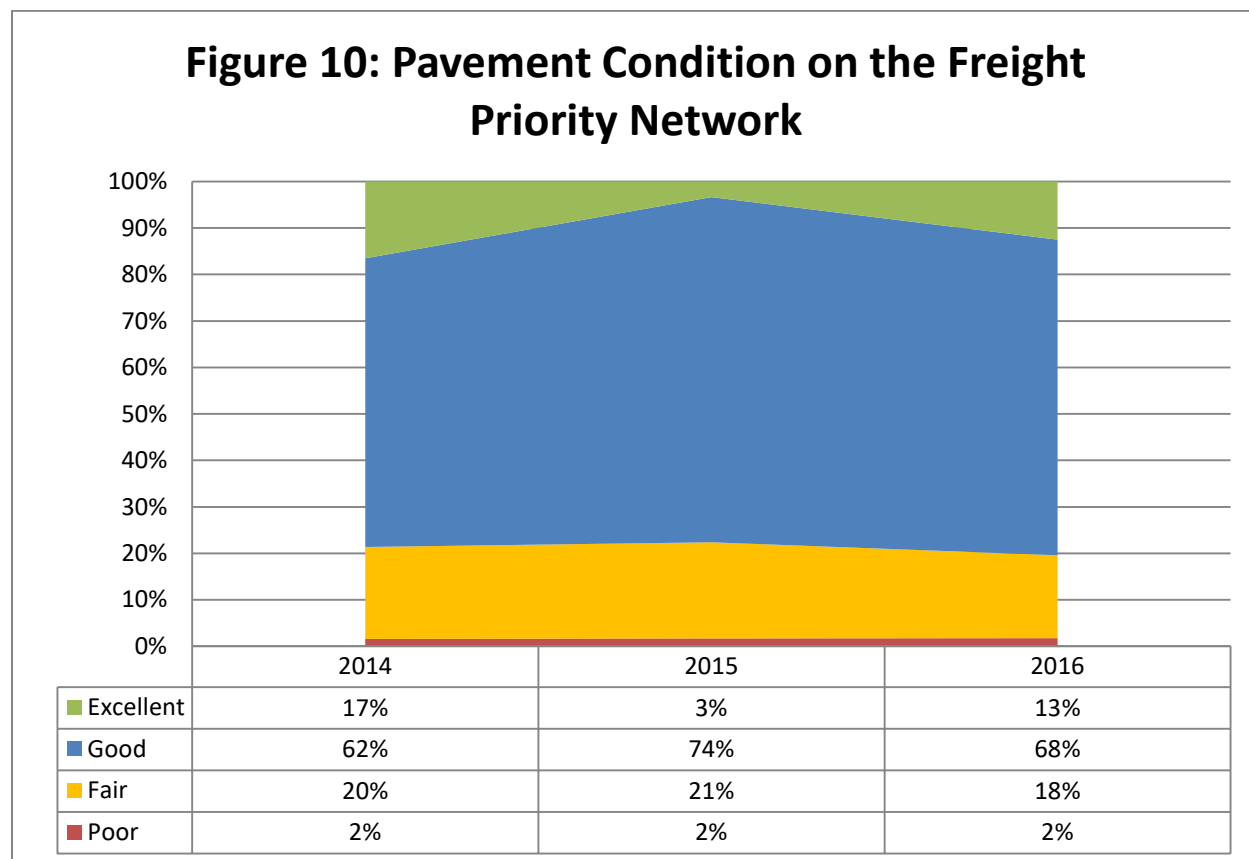






### Pavement Condition on the Freight Priority Network

NYSDOT and CDTC measure and evaluate pavement conditions including surface condition and ride-ability. The scale for rating pavement surface conditions ranges between 1 and 10, in which “1” is the worst pavement condition and “10” is the best. As of 2016, 81% of the CDTC’s pavement centerline miles on the FPN have a rating of “Good” to “Excellent” (greater than or equal to “7” meaning distress symptoms are absent or beginning to show). Only 2% of roads on the FPN fell under the categorization of “Poor.” Figure 10 below summarizes pavement condition surface scores on the FPN roadways from 2014-2016, the latest available data.



### Bridge Condition on the Freight Priority Network

There are several different classification methods for assessing bridge condition. Using data from the National Bridge Inventory database, shown in Table 5 below, the majority of bridges on the FPN (~92%) are in fair or good condition, and about 7.4% had a poor rating, as of 2016.

Table 5: FPN Bridges Federal Measures (NBI Database)						
	2013		2015		2016	
Lowest Bridge Condition Rating	Deck Area	% of Total	Deck Area	% of Total	Deck Area	% of Total
Good Rating $\geq 7$	995,446	19.2%	1,186,387	22.7%	1,145,414	22.0%
Fair Rating = 5,6	3,804,548	73.5%	3,521,529	67.4%	3,675,731	70.6%
Poor Rating $\leq 4$	379,099	7.3%	518,308	9.9%	384,532	7.4%
<b>Total</b>	<b>5,179,093</b>	<b>100%</b>	<b>5,226,224</b>	<b>100%</b>	<b>5,205,677</b>	<b>100%</b>

Using NYSDOT's structurally deficient measures, shown in Table 6, below, about 9% of the FPN's bridges are "poor" (also known as "structurally deficient") as of 2016. The NYSDOT notes: "A poor bridge, when left open to traffic, typically requires posting for weight limits, significant maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies."<sup>7</sup>

Table 6: FPN Bridges Structurally Deficient						
	2013		2015		2016	
	Deck Area	%	Deck Area	%	Deck Area	%
Structurally Deficient	417,341	7.37%	505,558	8.85%	509,275	8.96%
<b>Total</b>	<b>5,681,620</b>		<b>5,681,620</b>		<b>5,681,620</b>	

Federal law requires that all bridges be inspected biennially. Bridge inspection includes a thorough review of numerous structural elements of the substructure, superstructure, and deck. Underwater inspection of bridges over waterways is required every five years to detect scour conditions. The inspection also documents geometric conditions including lane width, approach width and radii, presence of bicycle lanes or sidewalks, and signalization.

Because each bridge is unique in terms of design, construction, materials, age, and maintenance history, caution is recommended in looking at gross bridge statistics. CDTC routinely looks at bridge needs; FPN classification will assist in focusing on truck requirements on the FPN.

## The FAST Act: Freight Provisions

In 2015, Congress passed the FAST Act, which included several freight provisions new to federal transportation legislation.

*"The FAST Act includes a number of provisions focused on ensuring the safe, efficient, and reliable movement of freight. Specifically, the FAST Act:*

*Establishes a National Multimodal Freight Policy that includes national goals to guide decision-making. Requires the Development of a National Freight Strategic Plan to implement the goals*

<sup>7</sup> Source: [https://www.dot.ny.gov/main/bridgedata/repository/NYSBridgeDataNarrative\\_3-13-19.pdf](https://www.dot.ny.gov/main/bridgedata/repository/NYSBridgeDataNarrative_3-13-19.pdf)

*of the new National Multimodal Freight Policy. The National Freight Strategic Plan will address the conditions and performance of the multimodal freight system, identify strategies and best practices to improve intermodal connectivity and performance of the national freight system, and mitigate the impacts of freight movement on communities.*

*Creates a new discretionary freight-focused grant program that will invest \$4.5 billion over 5 years. This new program allows States, Metropolitan Planning Organizations (MPOs), local governments, tribal governments, special purpose districts and public authorities (including port authorities), and other parties to apply for funding to complete projects that improve safety and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.*

*Establishes a National Highway Freight Program. The Act provides \$6.3 billion in formula funds over five years for States to invest in freight projects on the National Highway Freight Network. Up to 10 percent of these funds may be used for intermodal projects.*

*Includes new authorities and requirements to improve project delivery and facilitate innovative finance. The FAST Act includes provisions intended to reduce the time it takes to break ground on new freight transportation projects, including by promoting best contracting practices and innovating financing and funding opportunities and by reducing uncertainty and delays with respect to environmental reviews and permitting.*

*Collects performance measures for leading U.S. maritime ports. The FAST Act requires the Bureau of Transportation Statistics (BTS) to collect and annually report performance measures for the nation's top 25 ports, as measured by three methods (total tonnage, containers, and dry bulk tonnage)."<sup>8</sup>*

For the CDTC region, the discretionary programs and the National Highway Freight Program (NHFP) are potential sources for funding freight projects. NHFP funding must be spent on the Critical Urban Freight Corridor (CUFC) or Critical Rural Freight Corridor (CRFC) networks. The CUFC networks were designated as part of the New York Statewide Freight Transportation Plan (August 2019).<sup>9</sup> There is one CUFC in the CDTC region, on NY Route 67 near the Norfolk Southern Mechanicville Intermodal Facility.

The USDOT has several discretionary grant programs that could be utilized to advance the projects and strategies in the CDTC region. Some potential current discretionary funding sources include the Better Utilizing Investments to Leverage Development (BUILD Transportation Discretionary Grant program), the Infrastructure for Rebuilding America (INFRA) discretionary grant program, and the National Economic Partnerships program.

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<sup>8</sup> Sources: <https://www.govinfo.gov/content/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf> and <https://www.transportation.gov/fastact/freight-factsheet>

<sup>9</sup> Source: [https://www.dot.ny.gov/portal/page/portal/content/delivery/Main-Projects/projects/P11618881-Home/P11618881-repository/NYS%20Freight%20Plan%20Appendices%20September\\_2019.pdf](https://www.dot.ny.gov/portal/page/portal/content/delivery/Main-Projects/projects/P11618881-Home/P11618881-repository/NYS%20Freight%20Plan%20Appendices%20September_2019.pdf)



## New Visions Scenario Planning

Scenario planning plays an important role in the long-range transportation planning process. Scenario planning is a structured way of thinking about an uncertain future by identifying what conditions or events are probable, understanding their likely consequences, and determining how to respond to or benefit from them.

Scenario planning is a process that considers multiple futures for an area based on competing development scenarios. Scenarios contemplated for the area are potential growth strategies for the future. They are not forecasts or predictions but represent an effort to connect land use planning, the needs and desires of the community, and transportation planning. They represent possible futures that might occur based on what already exists, evident trends, or on regional and statewide goals.

The scenario planning process helps the public and stakeholders visualize the interaction of new development, economic vitality, and the surrounding transportation system. Considering the tradeoffs and opportunities between competing development scenarios informs stakeholders and can lead to mutually beneficial outcomes for better linking land use, urban design, and transportation decision-making in the region.

Freight and goods movement players typically respond to market forces and in the past have adapted to changing economic conditions. There are also external forces that drive changes in freight movement such as national policy (ex: tariffs), consumer behavior (ex: 2-hour shipping times), and manufacturing processes (ex: 3D printing). This makes it more difficult to predict the impacts of these scenarios on freight movement.

As part of the New Visions planning process, CDTC has developed four basic future scenarios, and two ‘overlay’ scenarios, described in more detail below. Below each scenario are potential broad impacts on goods movement and freight performance measures.

### Four Basic Scenarios

- A. **Base-Year 2050 Trend:** This scenario uses the population, employment, and land use forecasts that are incorporated in CDTC’s travel demand model, which was used in the LRTP update. In this scenario, the gradual adoption of Connected/Autonomous Vehicle (C/AV) technologies would not change trend land use and development patterns. Mobility as a Service would increase without dramatically changing travel behavior. The adoption of electric vehicles would continue through 2050 at the trend pace predicted by national forecasts.
- **Potential Freight Implications:** In this business-as-usual case freight will likely move in a manner that is consistent with trends observed today, including an increased number of local deliveries and a decreased reliance on brick and mortar stores. This case would likely have a neutral effect on the Truck Travel Time Reliability (TTTR) interstate performance measure, as rapid population and employment growth is not anticipated in the CDTC region.



- B. **Sprawl Development:** This scenario assumes that the adoption of C/AV technologies will encourage development further from urbanized areas. Some commentators suggest this will be the case, as people traveling in C/AVs will view commuting travel time as potentially productive. Private ownership of vehicles would remain similar to current ownership rates, and Mobility as a Service would be limited and concentrated in cities. The result would be increased sprawl development patterns beyond trend. This land use pattern would run counter to the New Visions Plan goals. The provision of transit service would become more challenging. The adoption of electric vehicles would continue through 2050 at the trend pace predicted by national forecasts.
- **Potential Freight Implications:** In this case, it is assumed that population and employment growth and investment will occur in suburban and exurban environments. This disperses the consumers further from their markets, requiring longer trips for deliveries, resulting in increased energy use and emissions. This case would likely have a potentially negative effect (i.e. increase) on the Truck Travel Time Reliability (TTTR) interstate performance measure, as trucks have to travel further from the urban centers to reach their customers.
- C. **Concentrated Development:** This scenario assumes that urban living will be made more attractive through new transportation options like Mobility-as-a-Service (MaaS) and C/AV technologies. In addition, this scenario assumed a high level of urban reinvestment and transit investments that encourage the construction of transit-oriented development in the region's urbanized areas. New paradigms would increase the importance and success of transit. The success of Mobility as a Service and C/AV technologies could lead to reduced private ownership of vehicles. This land use pattern furthers the New Visions Plan development goals. The adoption of electric vehicles would continue through 2050 at the trend pace predicted by national forecasts.
- **Potential Freight Implications:** In this case, it is assumed that population and employment growth and investment are closer to the region's urban centers. This brings consumers closer to their markets, requiring shorter trips for deliveries, resulting in decreased energy use and emissions. This case would likely have a potentially positive effect (i.e. decrease) on the Truck Travel Time Reliability (TTTR) interstate performance measure, as trucks would travel shorter distances to reach their customers.
- D. **Concentrated Development with Pricing:** This scenario uses land use assumptions from the Urban Development Scenario to explore the impacts of increasing household transportation costs. This could result from instituting several pricing options, including a carbon tax, a VMT tax or fee structures to encourage ridesharing in MaaS. Many commentators predict that without the support of fee structures to encourage ridesharing with MaaS, congestion could increase because of increased vehicle miles of travel. The adoption of electric vehicles would continue through 2050 at the trend pace predicted by national forecasts.
- **Potential Freight Implications:** This case is similar to above, but harder to evaluate given the uncertainty of how a charge or tax would be applied. A charge or tax could greatly increase the cost of operations for freight providers, in turn raising costs for goods and

services. Policymakers should carefully consider the implications of a charge of this nature to the freight community. This case has an unknown effect Truck Travel Time Reliability (TTTR) interstate performance measure, as it greatly depends on how it is applied.

### **Two Overlay Scenarios, which could happen in combination with other scenarios**

1. **Optimistic AV:** This scenario assumes that automated vehicles will be well integrated into the land use and transportation system with pricing and policy structures that encourage ridesharing and transit use. Under this scenario, empty self-driving cars on the road will be minimal and vehicle miles of travel will be less than the trend. Increased efficiency of self-driving allows greater real capacity on expressways, and traffic incidents will be rare. The potential safety benefits of AV's will be fully realized.
  - **Potential Freight Implications:** This scenario would have great impacts on how freight providers operate. It would decrease the demand for truck drivers, and perhaps alleviate the current truck driver shortage, hours of service, and safety issues. Likewise, it could result in a loss of some trucking jobs. More rapid adoption of autonomous vehicles would be a paradigm shift for the trucking industry, with numerous potential advantages and disadvantages.
2. **Pessimistic AV:** This scenario assumes that the availability of AV's result in significant increases in vehicle miles of travel due to empty cars circulating or returning to the car owner's home. Increased congestion results from inadequate facilities for AV's dropping off passengers. Transit service declines dramatically.
  - **Potential Freight Implications:** This scenario would have less of an impact on how freight providers currently operate, with similar operating characteristics to today. The trucking issues that currently exist would likely similarly continue in the future.

## **Projects, Programs, Policies, and Studies Recommendations**

The following section provides a recommended set of projects as well as regional programs, policies and studies that will facilitate more reliable, safe, and efficient freight and goods movement through the Capital Region over the next 10-20 years. The data, information, and forecasts provided in the Regional Freight Plan (2016), and stakeholder input, are the foundation of these recommendations.

CDTC strongly recommends that sponsors develop equitable projects. Freight-related projects may have a higher potential for creating or exacerbating equity issues, as freight facilities are often co-located with disadvantaged populations. Likewise, freight facilities often provide employment opportunities, a potential benefit for those residing nearby. For an in-depth discussion of this topic, please see the Freight & Environmental Justice section of this paper.

The recommendations break out into two general categories: (1) Projects; and (2) Programs, Policies, and Studies:

- **Projects** involve construction, reconstruction and/or changes to physical transportation infrastructure. Typically, the State of New York and/or a county or municipality will be the lead for project development and implementation.
- **Programs, Policies, and Studies** are non-capital initiatives that seek to employ regulatory, guidance and/or planning tools to facilitate more cost-effective and efficient use of existing and planned transportation infrastructure. Such initiatives may encompass operations (e.g., speed limits, signal timing), engineering and construction (e.g., intersection geometry, truck route standards), and/or land use and design (e.g., buffer vegetation requirements for residential developers). All levels of government may have some role in each of these, although land use and design is usually controlled at the municipal level.

## **Projects**

### *Early Action Projects*

The following includes a subset of projects that are appropriate for “early action” by CDTC and its members. An Early Action Project typically has an estimated implementation cost of \$1-2 million or less and faces only minimal permitting or right-of-way requirements, meaning the project sponsor should be able to advance the project within 2-5 years from programming in the CDTC Transportation Improvement Program (TIP). Table 7 summarizes these early-action projects.

Table 7: Early Action Project List

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN	Type	Funding	Estimated Implementation Cost	Justification	Status
NS Intermodal Facility Access Improvements	Provide turning lanes at NS Intermodal Facility entrance on NY 67 to support safe and efficient truck movements between I-87 Exit 11 in Malta and the facility.	Saratoga	Mechanicville	Highway & Intermodal	Yes	Capital	F, S, L	\$500,000 - \$1,000,000	NY 67 provides an important connection between the NS Intermodal Facility in Mechanicville and I-87 Exit 11 in Malta and is on the CDTC Freight Priority Network. Projected increased truck volumes along the corridor as a result of recent investments in the intermodal facility make it important to pursue cost-effective improvements in the corridor that facilitate freight mobility as well as general traffic safety and efficiency.	Project funded as part of the New York State Freight Plan (status pending)
Rotterdam Industrial Park Entrance Realignment	Realign and signalize entrance to Rotterdam Industrial Park at NY 7/ Duanesburg Rd. for safer and more efficient truck movements at a major logistics center and improve traffic and non-motorized safety and mobility.	Schenectady	Rotterdam	Highway	Yes	Capital	P3	\$500,000 - \$2,000,000	The industrial park's entrance alignment requires trucks leaving and entering the facility to make awkward and potentially unsafe turning movements to and from NY 7. Realigning the entrance with Frank Road and adding appropriate signalization would improve safety, freight mobility, and overall traffic operations in that vicinity.	Not started
Public Official Training and Model Ordinance Development	Develop a program that educates local public officials, including planning and zoning boards, about freight movement. Create and disseminate model ordinances and regulations for freight-related development.	All	All	All	N/A	Program	F, S, L (UPWP)	TBD	Create a program to educate local planning and zoning boards about the Freight Priority Network, freight typologies, and considerations for efficient, effective, and equitable regional freight movement. Include development of model ordinances and land use design techniques to protect surrounding non-freight land uses and foster a safe, convenient and efficient freight network; and planning tools like incorporating truck movement and parking in site traffic impact studies.	NYSAMPO Freight 101 document developed and disseminated to members; initiated the development of model ordinances, but put on hold due to staff resources; RPI's <i>Initiative Selector Tool for Improving Freight System Performance</i> was presented and made available to members

### Long-Range Projects

The remaining projects will generally require more than five years to implement due to planning, engineering and design, right-of-way and/or permitting requirements. Several of these Long-Range projects also require collaboration among multiple jurisdictions and/or levels of government, which may also require substantial time to achieve. Table 8 includes a summary of these long-range projects.

**Table 8: Long Range Projects**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
NY 67 Modernization	NY 67 improvements to support safe and efficient truck movements between Mechanicville and I-87 Exit 11 in Malta (approx. 5.1 miles) <ul style="list-style-type: none"> <li>• Signalization at NS Intermodal Facility entrance</li> <li>• Turning lanes on NY 67 at major intersections</li> <li>• Improved trucker guidance signage throughout the corridor</li> <li>• Redesign of roundabouts to facilitate safe and efficient truck movements</li> </ul>	Saratoga	Malta, Mechanicville	Highway, Intermodal	Yes	Capital	F, S, L	\$10,000,000	NY 67 provides an important connection between the NS Intermodal Facility in Mechanicville and I-87 Exit 11 in Malta and is on the CDTC Freight Priority Network. Projected increased truck volumes along the corridor as a result of recent investments in the intermodal facility make it important to pursue cost-effective improvements in the corridor that facilitate freight mobility as well as general traffic safety and efficiency.	Not started
Livingston Avenue Bridge	Replace Livingston Avenue Rail Bridge and Walkway across the Hudson River between Albany and Rensselaer	Albany, Rensselaer	Albany, Rensselaer	Rail, Water	n/a	Capital	F, S, L	\$75,000,000	The Livingston Avenue Bridge is a critical link in New York's Empire Corridor passenger rail line that could not easily be replaced by a crossing at a different location. The Bridge is at the end of its service life and does not meet current rail or river navigation needs or standards. Restoration of the original pedestrian walkway is also needed.	Not started

**Table 8: Long Range Projects**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
I-87 Exit 16 Overpass Replacement	Replace I-87 (Northway) Exit 16 overpass to add capacity in each direction to accommodate growing truck traffic in the vicinity	Saratoga	Wilton	Highway	Yes	Capital	F, S	\$10,000,000	Exit 16 provides the primary access connections to both the Ace and Target Distribution Centers. The bridge, constructed in 1962, is one lane in each direction and now has significantly higher traffic volumes given the neighboring Distribution Center activities and several new residential developments. There is also a commuter park-and-ride lot being considered near this interchange. The NY State bridge condition rating is 5.316 (2017)	Not started
I-87 Exit 4 Albany International Airport Access Project	Build a new ramp off Exit 4 to provide direct access to Albany Shaker Road and airport entrance.	Albany	Colonie	Highway, Air	Yes	Capital	F, S	\$33,000,000	With the significant growth in activity at Albany International Airport in recent years, as well as growing commercial activity associated with the Airport, there is an established need to improve access from I-87 to the Airport. The EIS for the overall Exit 4 Access Improvement project, approved by the federal government in 2014, includes improved airport access as a key part of the project's purpose and need statement.	Construction underway; staff recommends removing the project from this list
Freemans Bridge Road Grade Crossing Separation	Grade-Separate Pan Am (ST) Railway Crossing at Freemans Bridge Road.	Schenectady	Glenville	Highway, Rail	Yes	Capital	F, S, P3	\$10,000,000	This grade crossing is on a CDTC Freight Priority Network roadway and is part of NYSDOT's Schenectady County Track Rationalization and Grade Crossing Elimination Project. The crossing needs to facilitate safe and efficient freight mobility. 2011 data shows a total AADT of 11,889, of which 17.4% or 2,066 were trucks. This important and heavily traveled rail line serves Pan Am Railway freight traffic between the CSX interchange at Rotterdam Junction and both the CP line north to Montreal and the NS line east to Mechanicville. Grade-separated intersections substantially increase capacity by eliminating delay caused by the previous intersection or railroad. Further, elevating one portion of a street or rail crossing improves safety by eliminating vehicle, train, and pedestrian conflicts.	Not started



Table 8: Long Range Projects

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Port of Albany Wharf Expansion	Extend Port of Albany wharf by 2000 feet.	Albany	Albany	Water	Yes	Capital	S	\$25,000,000	Need to extend and improve the wharf to provide the Port with additional reliever port space. This project would extend the wharf by 2,000 feet (37%).	Construction underway
Port of Albany Expansion	Acquire 80 acres of industrial zoned waterfront land.	Albany	Bethlehem	Water, Highway	Yes	Capital	S	\$10,000,000	Existing tenants would be able to expand their businesses. Prospective tenants that would benefit from enhanced container trade would benefit from the location. Such businesses include manufacturing, construction and cold chain logistics (refrigerated warehousing).	Property acquisition complete; staff recommends removing the project from this list
Port of Albany Cargo Handling Capacity Upgrade	Construct storage building on Port grounds for heavy lift cargo.	Albany, Rensselaer	Albany, Rensselaer	Water, Highway, Rail	Yes	Capital	S	\$8,000,000	The building would be about 56,000 square feet and leased to private companies. The building would be located alongside rail lines near the wharf on the Hudson River. The storage building would protect heavy lift cargo, like generators, from the elements prior to transfer to ships.	Construction complete; staff recommends removing the project from this list
Port of Coeymans Rail Extension	Extend rail service to the waterside at Port of Coeymans.	Albany	Coeymans	Rail, water	n/a	Capital	P3, S	\$2,000,000	The rail would extend 10,000 feet from the CSX junction at LaFarge cement (easement received). The rail will service port and industrial park and is expected to provide a 25% increase in productivity.	Status unknown as of the date of publication
Port of Albany Dredging	Conduct river dredging at the south side of Port of Albany.	Albany	Albany	Water	Yes	Capital	S	\$1,000,000	Following the upgrades to the wharf, the Port of Albany/Rensselaer will need to dredge the south side of the port for larger vessels and traffic.	Not started
Cargo-Supportive Improvements to Canal System	Identify, prioritize, and fund key investments in NYS Canal System facilities that would support and facilitate cargo movement within, to, from and through the Capital Region, particularly regarding connections with the Great Lakes/Port of Oswego and NY/NJ.	All	Multiple	Water	n/a	Program, Capital	F, S	TBD	The NYS Canal System, particularly the Erie Canal/Mohawk River, is receiving increasing interest in being used for moving various types of cargo, particularly large over-dimension/over-height items and bulk commodities. To support and grow its use for shipping, key facilities such as locks and operating machinery need upgrading to perform reliably, efficiently, and safely.	Status unknown as of the date of publication

**Table 8: Long Range Projects**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Urban Area Hazardous Material Rail Transportation Mitigation	Identify, prioritize and fund safety infrastructure and mitigation strategies where trains carrying hazardous materials (HazMat) travel close to residential neighborhoods and areas.	Regional	Regional	Rail	n/a	Program, Capital	TBD	TBD	Railroads in the Capital Region carry a significant amount of hazardous materials, including crude oil destined for the Port of Albany. Because several of the rail lines that carry these trains run adjacent to residential neighborhoods, some of which contain primarily economically disadvantaged populations, there is a need to identify and install safety devices, such as physical barriers, that help mitigate potential negative impacts to these neighborhoods.	Not started
Container on Barge Service	Provide investments in facilities and operations to support container on barge service between NY/NJ and the Port of Albany.	Albany	Albany	Water	Yes	Operating	F, S, L	TBD	Projected containerized freight volume increases at Port of NY/NJ resulting from Panama Canal expansion strengthen the case for re-starting container on barge service between NY/NJ and Port of Albany. It is important to ensure the Port of Albany can efficiently and cost-effectively accommodate this new traffic. This service would use the federally designated M-87 Marine Highway Connector.	The project currently in planning stages; Port applied for, but was not awarded TIP funding
Maintain a State-of-Good-Repair on FPN Pavement and Bridges	Prioritize the construction/reconstruction of pavements bridges on the FPN to decrease pavements classified as "poor" and bridges classified as "structurally deficient"	All	All	Highway	Yes	Capital	F, S	Varies	About 2% of FPN pavements are classified as poor, causing unnecessary delays and vehicle wear and tear. About 9% of bridges on the FPN bridges are structurally deficient, indicating that these facilities may not be suitable for freight vehicles.	A new project; replaces 'policy' recommendation from Regional Freight Plan (2016)

**Table 8: Long Range Projects**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Port of Albany: "Port Route"	Reconstruct S. Port Rd., Normanskill St., Raft St., Smith Blvd. and Boat St. as a Bypass Route for Heavy Vehicles	Albany	Albany	Highway, Water	Yes	Capital	F, S, L	\$12,000,000 - \$19,000,000	The project was identified in the City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study to address an Environmental Justice issue along S. Pearl St. 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 project would reconstruct the Port Route to a higher construction standard, to accommodate through heavy vehicle traffic.	A new project; was identified in another CDTC study. The functional classification on the roadways was recently changed. The roadways are federal aid eligible.
Castleton Bridge over Hudson River	Construct/Reconstruct the Castleton Bridge over Hudson River	Albany, Rensselaer	Coeymans, Schodack	Rail	n/a	Capital	F, S	Unknown at the time of publication	The bridge is an important east-west railroad link across the Hudson River. The railroad owner is CSX. This project was identified in the New York Statewide Freight Transportation Plan (August 2019), and the CDTC FAC supported addition to CDTC's long-range plan for consistency.	A new project; was identified in the New York Statewide Freight Transportation Plan (August 2019)
Sand Bank Track/Schenectady Main line relocation	Sand Bank Track/Schenectady Main line relocation	Schenectady	Glenville	Rail	n/a	Capital	F, S	Unknown at the time of publication	The project includes relocation and reconstruction of several rail lines. The railroad owner is Canadian Pacific Railway. This project was identified in the New York Statewide Freight Transportation Plan (August 2019), and the CDTC FAC supported addition to CDTC's long-range plan for consistency.	A new project; was identified in the New York Statewide Freight Transportation Plan (August 2019)
Port of Albany Track rehabilitation	Track rehabilitation for heavy lift traffic at the Port of Albany	Albany	Albany	Rail, highway	Yes	Capital	F, S	Unknown at the time of publication	Track rehabilitation for heavy lift traffic at the Port of Albany for transfer of project cargo from boat to rail. The railroad owner is Albany Port Railroad. This project was identified in the New York Statewide Freight Transportation Plan (August 2019), and the CDTC FAC supported addition to CDTC's long-range plan for consistency.	A new project; was identified in the New York Statewide Freight Transportation Plan (August 2019)

**Table 8: Long Range Projects**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Voorheesville Runaround Track construction	Voorheesville Runaround Track to increase switching efficiency	Albany	Guilderland	Rail	n/a	Capital	F, S	Unknown at the time of publication	The project is needed to increase the efficiency of train switching activities at the Northeastern Industrial Park. The railroad owner is SMS Rail Lines. This project was identified in the New York Statewide Freight Transportation Plan (August 2019), and the CDTC FAC supported addition to CDTC's long-range plan for consistency.	A new project; was identified in the New York Statewide Freight Transportation Plan (August 2019)

### *Programs, Policies, and Studies*

The following set of recommendations includes several programs, policies and planning studies that CDTC and/or its member jurisdictions should implement to facilitate and support more efficient, cost-effective and safe freight and goods movement throughout the Capital Region. Table 9 summarizes the programs, projects, and studies list.

**Table 9: Programs, Projects, and Studies List**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Tandem Trailer Lots Relocation and Circulation Monitoring	Research and identify any issues associated with new tandem trailer lot locations at Thruway interchanges	Albany, Rensselaer, Schenectady	Multiple	Highway	Yes	Study, Capital	UPWP	\$200,000	The locations of existing tandem trailer lots, and circulation to/from the lots, are going to be revised as part of barrier-free tolling at Thruway interchanges. Circulation patterns were redesigned as the Thruway transitions to new technologies that allow high-speed passage through toll plazas; however, there was little stakeholder input. As barrier-free tolling is implemented, operational issues will need to be identified and analyzed on an as-needed basis.	Revised to reflect current NYSTA plans
Port Truck Parking Expansion	Identify and implement opportunities to improve truck parking near the northern entrance to the Port of Albany	Albany	Albany	Highway, Water	Yes	Study, Capital	UPWP (P3?)	TBD	Multiple stakeholders state that the Port's truck parking is unsafe and insufficient. The Plaza 23 Truck Stop specifically has a poor reputation among truck drivers. Security improvements at this station could help increase parking demand.	Not started
Truck Stop Restoration	Conduct planning to reopen closed truck stops on I-87 and I-90 corridors that would provide relief to truck parking demand in Capital Region.	Rensselaer, Saratoga	Schodack, Gansevoort	Highway	Yes	Study, Capital	F, S (UPWP)	TBD	Inadequate safe overnight truck parking was documented in both the parking spatial analysis and through stakeholder input. The Schodack Rest Area (I-90W between Exits 11 & 12) has been closed by NYSDOT except for CVO inspections. There may also be private truck stop facilities that are closed but still have viable parking spaces.	Several rest areas have been (or are being) reopened by NYSDOT; Stakeholders still note the lack of available truck parking

Table 9: Programs, Projects, and Studies List

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
FPN Bridge Improvement Prioritization	Prioritize the reconstruction of bridges on the FPN to decrease those classified as "functionally obsolete" or "structurally deficient" in the CDTC Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP).	All	Various	Highway	Yes	Policy	F, S	TBD	About 27% of bridges on the FPN are functionally obsolete, indicating that these facilities may not be suitable for freight vehicles given clearance, weight, and dimensional issues. Another 7% of the FPN bridges are structurally deficient, leaving only 66% of bridges fully equipped for significant truck traffic.	CDTC has integrated FPN status into TIP evaluations; Staff recommends including this as part of capital projects
Interstate Lighting Program	Add lighting infrastructure on I-90, I-87, I-88, and I-787 based on an objective assessment of needs	All	Various	Highway	Yes	Study	F, S (UPWP)	<\$1,000,000	Serious truck-involved crashes have occurred on unlighted FPN roadways. The FHWA Lighting Handbook suggests a Crash Modification Factor of greater than 25% reduction when lighting is installed, especially to achieve uniform conditions. The Handbook also indicates the importance of an engineering study.	Not started
I-787 Rail Relocation Feasibility Study	Coordinate with existing I-787 study to consider removing the existing CP Rail track in downtown Albany that serves the Port of Albany	Albany	Albany, Mechanicville, Watervliet, Cohoes, Bethlehem	Rail	Yes	Study	F, S, L (UPWP)	TBD	Explore the feasibility of removing CP Rail tracks from Mechanicville to the Port of Albany by re-routing trains to the existing tracks or building a second track from Mechanicville to Schenectady to the CSXT Selkirk Yard to the Port of Albany. Coordinate with CDTC I-787 study recommendations. At minimum, the goal of this strategy would be to remove railroad tracks from Downtown Albany to improve both safety and access to the waterfront.	Not started; some stakeholders have indicated this is not a feasible option; staff recommends consideration for removing this project



Table 9: Programs, Projects, and Studies List

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
Capital Region ITS CVO Enhancement	Build on existing Intelligent Transportation System (ITS) infrastructure on interstate Corridors to improve truck driver information and reduce non-recurring and recurring congestion on the FPN	All	Various	Highway	Yes	Program	F, S (UPWP)	TBD	Truck-based freight movement requires both efficiency and reliability to avoid costly delays, meet delivery schedules and conform to driver hours-of-service (HOS) requirements. While the Capital Region has an established ITS infrastructure, freight operations in the area would benefit from enhanced Commercial Vehicle Operation (CVO) applications. These include additional weigh-in-motion (WIM) stations and electronic credentialing (there is currently one WIM test bed site and e-screening location in the Capital Region at Schodack). Incident management protocols should ensure that pre-planned detours can accommodate trucks. Truck drivers rely on both GPS and static signage for directions. GPS for truck routing must be kept up to date with deficient vertical clearance, load postings, and urban truck prohibitions. Static signs to key freight destinations should be reviewed for accuracy.	Not started, however, several aspects included in various similar efforts currently underway as part of other efforts
Local Delivery Optimization	Research and identify policies, procedures and actions municipalities can employ to support and facilitate safe and efficient goods deliveries in dense urban zones.	All	Various	Highway	Some	Study, Program	UPWP, Linkage Program	\$150,000	Past CDTC Linkage Studies have identified goods movement, especially local package and goods deliveries, as a growing challenge in congested urban areas of the Capital Region. This issue will become more challenging as the region's urban centers attract more infill and mixed-use development and people. This project would develop a toolkit of policy, programmatic and capital improvement options municipalities can employ to help better harmonize urban goods movement with overall traffic, pedestrian and bike activity, and general quality of life needs.	Not started; RPI's <i>Initiative Selector Tool for Improving Freight System Performance</i> was presented and made available to members

**Table 9: Programs, Projects, and Studies List**

Project Short Name	Project Description	County	Municipality	Mode(s)	On FPN?	Type	Funding	Estimated Implementation Cost	Justification	Status
CDTC Freight Data Collection Program	Build on existing regional traffic and transportation data collection systems and procedures to include more detailed and multimodal freight data, including data from state facilities (e.g., WIM stations)	All	All	All	Yes	Program	UPWP	TBD	There is a need for CDTC to move toward a more systematic and robust collection of data on freight transportation in the region to support ongoing planning, investment decision-making, and performance monitoring. With the development of a new statewide freight plan by NYSDOT, CDTC has an opportunity to collaborate with the state to improve and expand its ability to collect and employ freight data across all modes.	CDTC has been collecting all publicly available freight data, for example, NPMRDS, classification counts, etc., as it becomes available
NY 7 Freight & Land Use Study (new)	Examine freight movement and operations to, from, and through the corridor, and land use implications.	Schenectady	Princetown, Rotterdam	Highway	Yes	Study	UPWP	\$150,000	NY 7 is an important route for regional freight movement with major facilities, such as the Price Chopper/Market 32 Warehouse and the Rotterdam Industrial Park, located nearby. The corridor is currently experiencing development pressure from freight-intensive land uses. The study will evaluate current and future land use policies and freight circulation along NY 7 from I-88 to the Rotterdam Industrial Park, including the interchanges with I-88 and the New York State Thruway, and NY 337/Burdeck St corridor.	New study; was included in CDTC 2018-20 UPWP; initiated but put on hold due to budget concerns

## Freight & Environmental Justice

Freight movement is an important environmental justice issue in many communities and an area of focus at CDTC. Freight issues are more than just moving goods to, from, and through the region. While freight plays a key role in our economy, CDTC also seeks to mitigate the negative impacts of freight movement on local communities. The public has expressed concerns about freight-related traffic safety, and noise, light, and air pollution. The negative impacts of freight movement are often greater for people living near freight facilities and along freight corridors.

US Department of Transportation guidance offers several environmental justice principles:

*“To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process;*

*To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority or low-income populations; and*

*To prevent the denial of, reduction in or significant delay in the receipt of benefits by minority or low-income populations.”<sup>10</sup>*

CDTC is required by law to consider the environmental justice impacts of federally funded transportation projects. CDTC encourages its members to enact freight policies that balance freight and economic development with their community and environmental impacts. The *Public Official Training and Model Ordinance Development*, a recommended project from this paper, should include best practices for addressing environmental justice issues in regional and local planning.

In addition to encouraging members to consider freight-related environmental justice with new development, CDTC can also play a role in mitigating existing issues. Low income and minority populations often reside near freight facilities and highway corridors, and, therefore, may experience greater negative impacts of freight movement. CDTC can bring together freight and community stakeholders to identify issues and recommend potential solutions. Mitigation measures can range from traditional transportation-related solutions to non-traditional community actions, for example, freight facilities may consider seeking local employees who live in proximity to the facility.

One recent example of an effort of this nature is the City of Albany: S. Pearl St. Heavy Vehicle Travel Pattern Study (CDTC, 2018). 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 in the City of Albany’s South End and to develop potential strategies to mitigate the negative impacts of heavy

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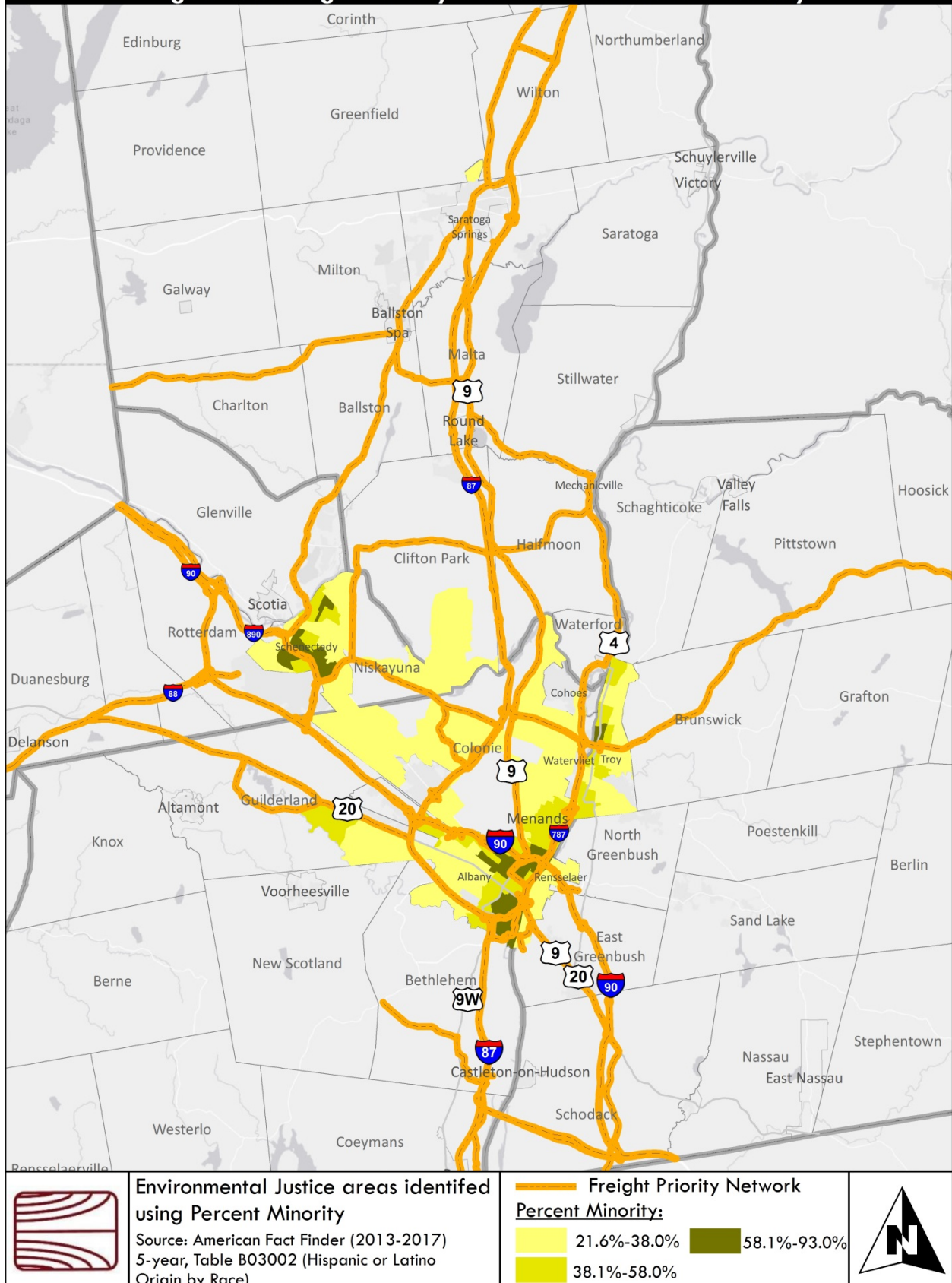
<sup>10</sup> Source: <https://www.transportation.gov/transportation-policy/environmental-justice/environmental-justice-strategy>

vehicles on residents of the study area. Some of the recommendations from the study have been implemented by the City with assistance from CDTC and NYSDOT.

CDTC also considers freight-related environmental justice as part of the candidate Transportation Improvement Program (TIP) funding merit evaluation process. A candidate project is awarded merit points if it removes or substantially improves a freight-related land use compatibility, noise, or safety issue. Likewise, merit points are deducted if a candidate project introduces a freight-related land use incompatibility, such as a substantial increase to the freight traffic load in a residential area, introduction of significant freight traffic noise, air, or light pollution, or other significant freight-related nuisances.

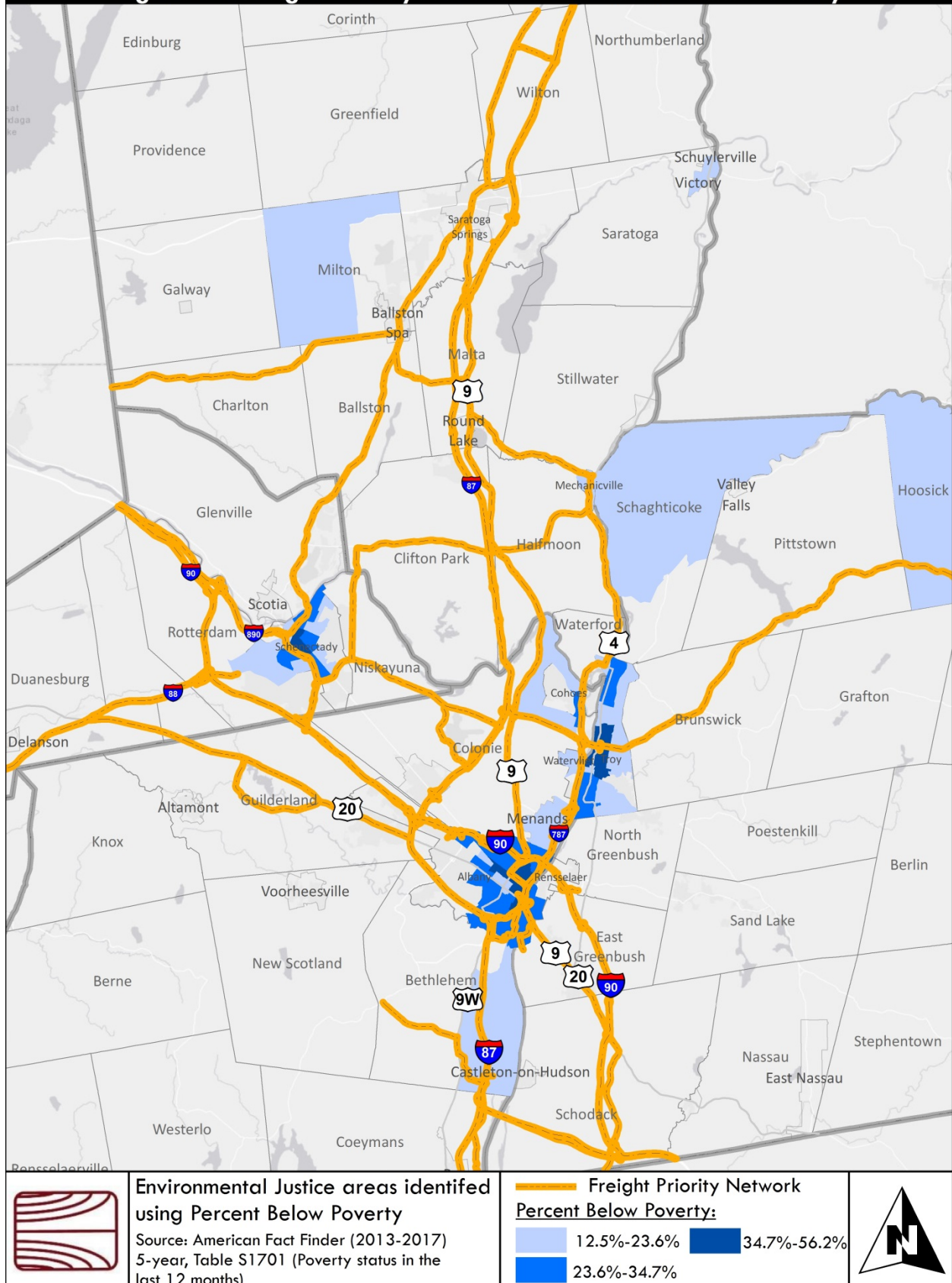
Freight and environmental justice issues often intersect in the CDTC region, illustrated on Figure 11: Freight Priority Network and Percent Minority and Figure 12: Freight Priority Network and Percent Below Poverty, below. On Figure 11 Freight Priority Network and Percent Minority, the areas shown in shades of yellow are census tracts with a percent minority above the regional average, i.e. environmental justice areas. Likewise, on Figure 12 Freight Priority Network and Percent Below Poverty, the areas shown in shades of blue are census tracts with percent below poverty above the regional average, i.e. environmental justice areas. In both cases, the Freight Priority Network often travels near or through these areas. Any freight-related projects in these, either on or off the Freight Priority Network, needs to strongly consider environmental justice impacts.

**Figure 11: Freight Priority Network and Percent Minority**





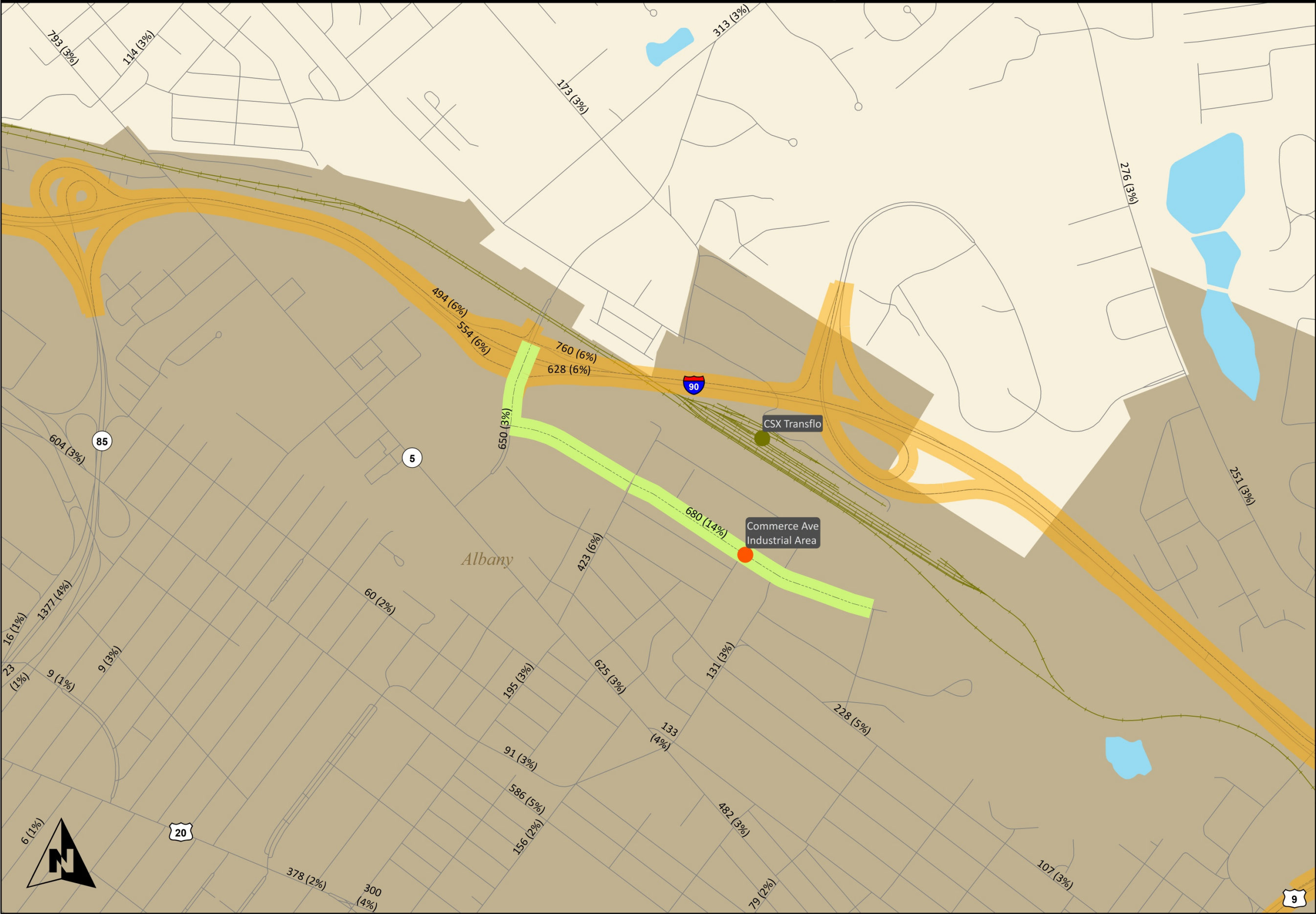
**Figure 12: Freight Priority Network and Percent Below Poverty**





# APPENDIX

# CDTC New Visions 2050 Freight Priority Network Revisions



## Freight Priority Network:

- Current
- Proposed Addition
- Proposed Removal

123 (4%) = F4-F13 Heavy Vehicle AADT (Percent Heavy Vehicles %), 2001 - 2017

Data Source: NYSDOT RIS (2017)

## Freight Facilities:

- Airport
- Distribution Center
- Industrial Park
- Manufacturing
- Mining
- Port
- Rail
- Tech Zone
- Truck Rest Area
- Airport Runways
- Railroad

## New Visions 2050 Revisions:

Add - Everett Rd (I-90 to Commerce Ave) and Commerce Ave

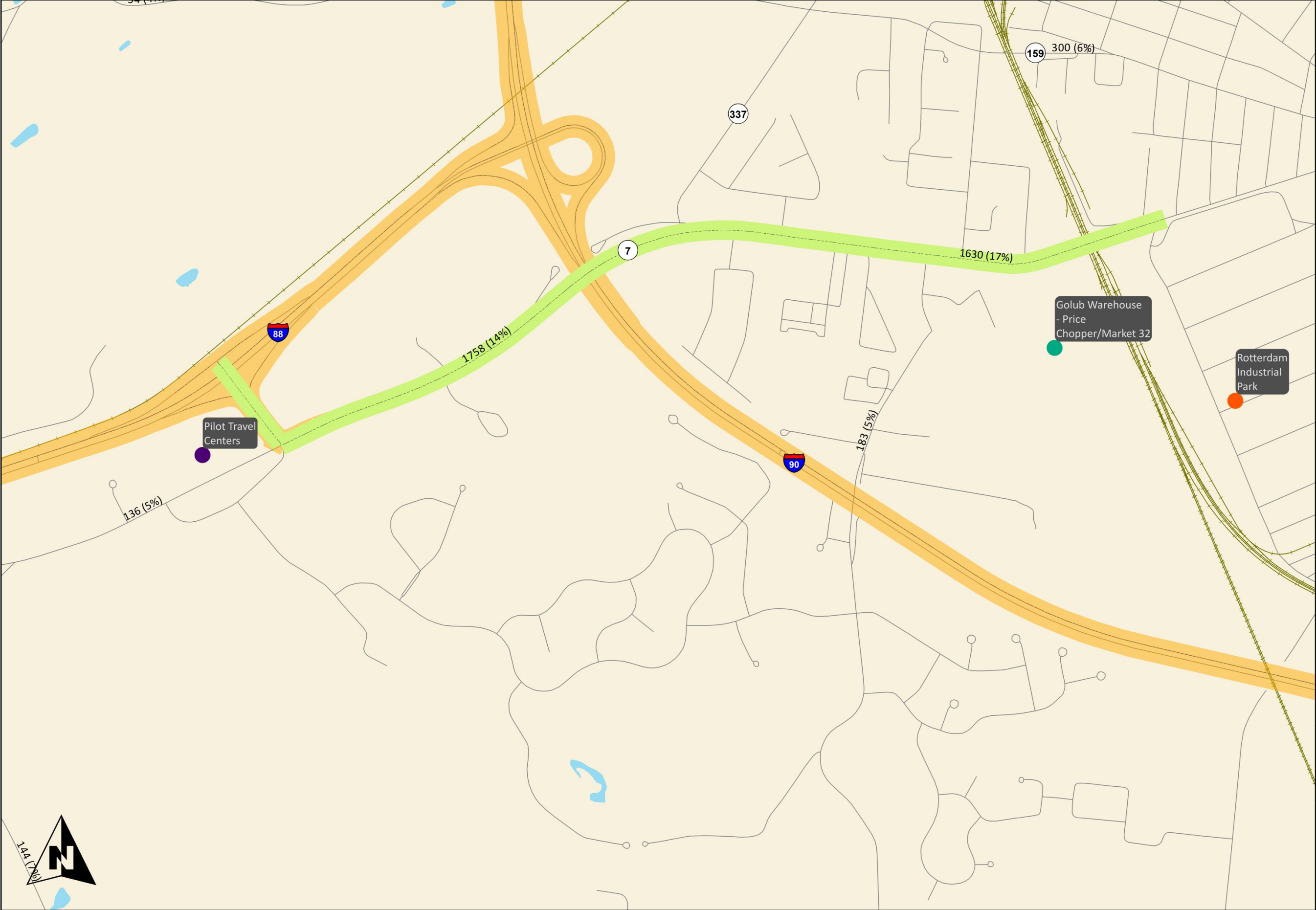
0 0.05 0.1 0.2 Miles  
1 inch = 1,000 feet



Created by: Chris Bauer, CDTC  
Last Updated: 9/4/2020



CDTC New Visions 2050 Freight Priority Network Revisions



Freight Priority Network:

- Current
- Proposed Addition
- Proposed Removal

123 (4%) = F4-F13 Heavy Vehicle AADT (Percent Heavy Vehicles %), 2001 - 2017

Data Source: NYSDOT RIS (2017)

Freight Facilities:

- Airport
- Distribution Center
- Industrial Park
- Manufacturing
- Mining
- Port
- Rail
- Tech Zone
- Truck Rest Area
- Airport Runways
- Railroad

New Visions 2050 Revisions:

Add - NY Route 7 (I-88 to Rotterdam Industrial Park)

0 0.05 0.1 0.2 Miles  
1 inch = 1,000 feet



Created by: Chris Bauer, CDTC  
Last Updated: 9/4/2020



CDTC New Visions 2050 Freight Priority Network Revisions



Freight Priority Network:

- Current
- Proposed Addition
- Proposed Removal

123 (4%) = F4-F13 Heavy Vehicle AADT (Percent Heavy Vehicles %), 2001 - 2017

Data Source: NYSDOT RIS (2017)

Freight Facilities:

- Airport
- Distribution Center
- Industrial Park
- Manufacturing
- Mining
- Port
- Rail
- Tech Zone
- Truck Rest Area
- Airport Runways
- Railroad

New Visions 2050 Revisions:

Remove NY 32/S. Pearl St.  
Add - S. Port Rd., Raft St., Normanskill Rd., Smith Blvd.

0 0.05 0.1 0.2 Miles  
1 inch = 1,000 feet



Created by: Chris Bauer, CDTC  
Last Updated: 9/4/2020