Freight Transportation Profile

Syracuse Metropolitan Planning Area

SMTC

Freight Transportation Profile

Syracuse Metropolitan Planning Area

July 2017

Financial assistance for the preparation of this document was provided, in part, by the U.S. Department of Transportation's Federal Highway and Federal Transit Administrations through the New York State Department of Transportation. The Syracuse Metropolitan Transportation Council (SMTC) is solely responsible for its content.

For further information, contact:
Mario Colone, Program Manager
Syracuse Metropolitan Transportation Council
126 N. Salina Street, 100 Clinton Square, Suite 100
Syracuse, New York 13202
Phone: (315) 422-5716; Fax: (315) 422-7753
www.smtcmpo.org

Table of Contents

Exhibits

Maps

Appendices

This page intentionally left blank.

Introduction and Purpose

Over the past several years there has been an increased interest in freight and goods movement and its relation to metropolitan transportation planning activities as the freight industry plays an integral economic role for our country and region. According to the Federal Highway Administration (FHWA) at the national level in 2015, a total of approximately 18 billion tons of shipments was moved on the national transportation system. In terms of value, the total 2015 weight of shipments was $19.871 trillion dollars. As shown in Exhibit 1, both weight and value of shipments are forecast to increase.

Exhibit 1 – Weight and Value of Shipments by Transportation Mode: 2015 & 2045

	2015		2045	
	Total Weight (millions of tons)	Total Value (billions)	Total Weight (millions of tons)	Total Value (billions)
Truck	11,396	13,181	16,384	24,575
Rail	1,773	787	2,259	1,620
Water	714	488	930	871
Air, air & truck	5	622	18	2,502
Multiple modes & mail	438	2,334	802	5,095
Pipeline	3,358	1,486	4,646	1,867
Other & unknown	33	83	31	325
Total	17,719	18,980	25,070	36,853

Source: Freight Analysis Framework

Federal transportation policy, such as the Moving Ahead for Progress in the 21st Century (MAP-21) signed into law in July 2012, and the Fixing America's Surface Transportation (FAST Act) signed into law in December 2015 specify a) the importance of freight movements to the national economy and b) continues the inclusion of freight and goods movement through various planning factors for Metropolitan Planning Organization (MPO) consideration. The FAST Act introduced for the first time a number of highway freight-related, and multimodal freight provisions. First, the National Highway Freight Program "includes an estimated average of $1.2 billion per year for a new National Highway Freight Program, which is focused on improving the efficient movement of freight on the National Highway Freight Network."[1] Second, the FHWA is required to establish the National Highway Freight Network, to "include the Primary Highway Freight System (PHFS), critical rural and urban freight corridors …, and the portions of the Interstate System not included in the PHFS."[2] The third highway freight-related provision is a freight specific formula program known as FASTLANE (Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies). The FASTLANE program provides "$4.5 billion over five years to provide financial assistance to nationally and regionally significant highway, rail, port, and intermodal freight and highway projects."[3] Like the highway freight-related provisions, there are various multimodal freight provisions as well. These include a National Multimodal Freight Policy, the National Multimodal Freight Network, and the National Freight Strategic Plan. In tandem, "these measures expand the perspective beyond the nation's highway network, bringing rail, maritime, and air into the picture.

The FAST Act also encourages the development of state freight plans and state Freight Advisory Committees, bringing both public and private stakeholders to the decision-making table."[4] At time of writing, the New York State Department of Transportation (NYSDOT) is developing the first ever freight plan for the state. The Syracuse Metropolitan Transportation Council (SMTC) staff through the New York State Association of Metropolitan Planning Organizations has been engaged in the State freight plan development and provided comment and input when requested.

---

[1] https://www.fhwa.dot.gov/fastact/summary.cfm.

[2] Ibid.

[3] Ibid.

[4] Draft New York State Freight Transportation Plan Technical Memorandum 5, Freight System and Economic Context: Existing and Future Conditions, Department of Transportation, pg. 13.

Seven (7) national performance goals are included in the FAST Act. The fifth goal, freight movement and economic vitality states "to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development."[5] The 10 metropolitan transportation planning factors shown in Exhibit 2 below all relate to some degree to the freight economy. Additionally, the MAP-21 and FAST Act surface transportation authorizations created the policy of performance-based planning and programming of which State Departments of Transportation and MPOs must follow. Several national performance measures have been established that focus attention to infrastructure (i.e., roads and bridges) and system performance/freight. The various national performance measures are as follows:

- Percentage of National Highway System (NHS) bridges in "good" or "poor" condition;
- Percentage of Interstate mileage with pavement in "good" or "poor" condition;
- Percentage of non-Interstate NHS mileage with pavement in "good" or "poor" condition;
- Interstate and non-Interstate NHS Travel Time Reliability; and
- Interstate Truck Travel Time Reliability (referred to as Freight Reliability measure).

[5] FAST Act.

Exhibit 2 – Metropolitan Transportation Planning Factors

Factor	Description
Economic Vitality	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
Safety	Increase the safety of the transportation system for motorized and nonmotorized users.
Security	Increase the security of the transportation system for motorized and nonmotorized users.
Accessibility and Mobility	Increase the accessibility and mobility of people and for freight.
Environment	Protect and enhance the environment, promote energy conversation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
Integration and Connectivity	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
System Management and Operations	Promote efficient system management and operation.
Preservation	Emphasize the preservation of the existing transportation system.
Resiliency and Reliability	Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
Travel and Tourism	Enhance travel and tourism.

Source: FAST Act

The purpose of this report is to establish an overview, or "freight profile" of the existing freight transportation system for the SMTC Metropolitan Planning Area

(MPA). This profile, which draws at times from previous agency completed documents[6], will assist the SMTC staff, member agencies, and presumably related freight businesses and stakeholders in the development of plans and programs moving forward in support of not only the federal metropolitan transportation planning policies but also regional activities to ensure continuance of freight mobility and reliability along the area's transportation network. The report is split into four sections:

1. Section 1 provides an overview of the SMTC's transportation system.
2. Section 2 describes commodities carried over and along the freight system and the modes used to carry freight into, out of, and within the Syracuse MPA.
3. Section 3 discusses the various outreach methods and input received from freight professionals in the Syracuse MPA.
4. Section 4 includes a listing of near- and future-term freight capital projects.

Data relative to various modes of transportation (i.e., air, rail, truck) are synthesized throughout this profile. The following datasets and or specific types of information have been utilized in the summary development:

- Heavy Vehicles
    - Percentages on various roadways
    - Commercial vehicle crashes
- Primary Freight Corridors
- Bridges
    - Low-clearance
    - Weight restricted
- Rail Roads
    - Classification
    - Track inventory
    - At-grade crossings
- Freight Generators
    - Identified by primary business activity (i.e., warehouse/distribution, wholesale, manufacturing, etc.)
- Commodity Flows (inbound, outbound, and within)
    - Tonnage and value
    - Key trading partners
    - Mode split.

[6] A variety of freight related materials completed by the SMTC are available on the agency's web site (www.smtcmpo.org). These include the Long Range Transportation Plan, Transportation Atlas, and Bridge & Pavement Condition Management System.

Section 1 – Overview of freight transportation system

This section provides an overview of the various transportation modes that deal with freight and goods movement (i.e., air, rail and truck) in the SMTC MPA. Additionally, quantitative data relative to the transportation system, such as bridge, pavement, and traffic statistics are provided that draw from various sources such as prior SMTC reports, US Census, NYSDOT, and the NYS Department of Labor. Discussion on population and employment characteristics in the area are also provided as an economic "snapshot" of the area. All of the various criteria noted in this section are integral components to the economic conditions and movement of goods in the SMTC area.

SMTC Metropolitan Planning Area

The SMTC MPA consists of a well-established transportation network with interconnections between interstates, highways, State and local (non-State) roadways, airports, railways, and even waterways. Waterways, although present in the planning area, are limited in their use as a means of commercial freight transport in the area. The facilities today, namely the rivers that comprise the "canal system" are primarily for recreational and tourism purposes. Actual use for transporting freight such as over-sized objects not fitting on highway facilities (i.e., large tanks, turbines) is minimal.

The vast majority of facilities (i.e., bridges and roads) were constructed several decades ago and routine maintenance over the years has been the norm to maintain safety for the traveling public. Four (4) interstates are located in the area, with two of the four providing connectivity to other metropolitan areas throughout the country (i.e., Interstate 81 and Interstate 90). These two interstates form the crossroads of Central New York. Interstate 81 is the primary facility through this area with international connections with Canada to the north. The other two interstates, Interstates 481 and 690, tie into this "interstate" system and offer additional passenger and freight paths of travel along limited access facilities.

Population

Following the release of 2010 Census urbanized area data and review by the SMTC, the MPA was revised to include all of Onondaga County plus the Town of Sullivan in Madison County; the Towns of Hastings, Schroeppel, and West Monroe in Oswego County; and the urbanized area of the Town of Granby in Oswego County. This new planning area is shown in Map 1. Based on population estimates from the 2010 Census, the total population of the SMTC area is 504,672. Overwhelmingly, 93% of residents in the SMTC MPA reside in Onondaga County (non-City) and the City of Syracuse, 64% and 29% respectively. Specific to Onondaga County, the County population peaked in 1970 while the City of Syracuse population peaked in 1950. Over the past several years however, population has remained relatively flat with only slight fluctuations in population.

Towns around the City of Syracuse have experienced some growth even as Onondaga County's population has stayed relatively flat. In the most recent decennial interval from 2000 to 2010, the highest growth generally occurred in towns north and northwest of the City. Towns adjacent to the City saw lower levels of growth, or some decline.

Map 1 – SMTC Metropolitan Planning Area

Economy and Employment

As the only city in the planning area, Syracuse is home to numerous education and medical facilities. These facilities are the primary economic engines in Central New York and are generally located in the "University Hill" area of the city. The metropolitan area, principally Onondaga County, is primarily identified as an "eds & meds" community due to the high prevalence of jobs within the education and health care industries. Additionally, the Syracuse central business district has around 27,000 employees[7], making the downtown area another economic engine for the planning area and Central New York. The top five industrial and service-related employers in Onondaga County employing over 27,000 employees are Upstate University Health System, Destiny USA, Syracuse University, St. Joseph's Hospital Health Center, and Wegmans.[8] Other key businesses, based solely on number of employees in the metropolitan area include:

- Onondaga County;
- Syracuse City School District;
- Crouse Hospital;
- Loretto;
- Lockheed Martin;
- National Grid;
- City of Syracuse;
- State of New York;
- Time Warner Cable;
- Roman Catholic Diocese;
- Onondaga Community College;
- Raymour & Flanigan;
- Syracuse VA Medical Center;
- Carrier Corporation; and
- Welch Allyn.

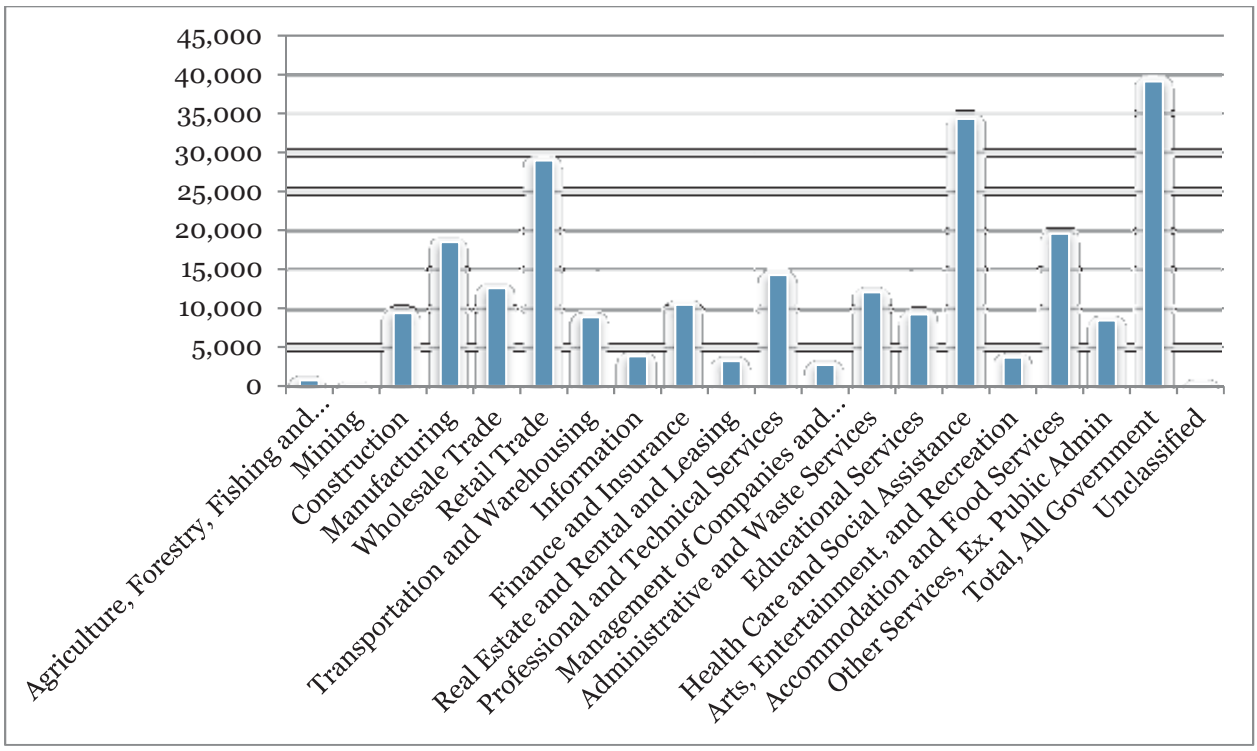
Based on employment figures by industrial sector from the New York State Department of Labor, the largest numbers of employees in Onondaga County (2015) are found within the government (39,116), health care and social assistance (34,326), and retail trade (28,966) industrial sectors (exhibit 3). Collectively, these three industrial sectors accounted for 43% of all employment in Onondaga County.

---

[7] Downtown Committee of Syracuse, Inc.

[8] SMTC Transportation Atlas, pg. 29.

Exhibit 3 – Employment by Industrial Sector, Onondaga County, 2015



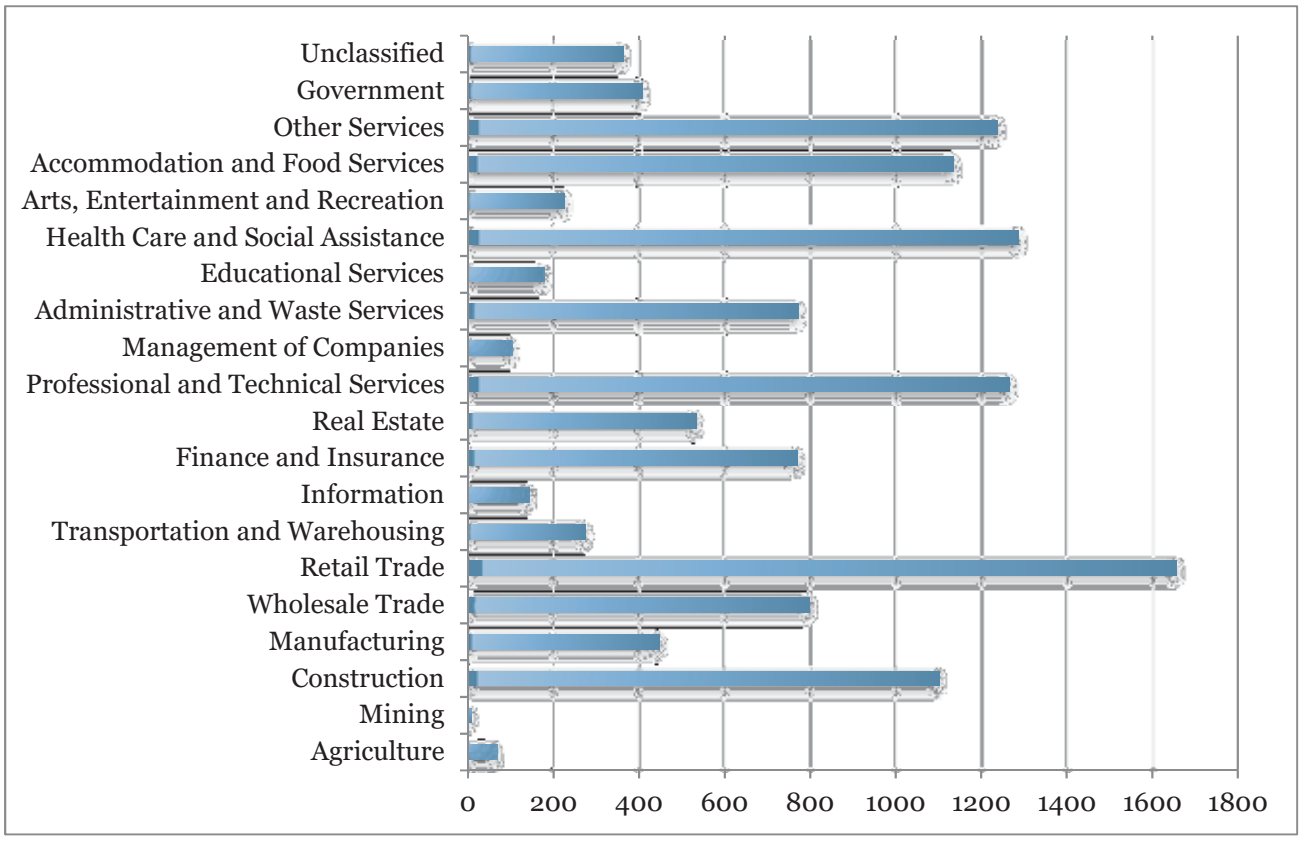
Source: New York State Department of Labor

Additionally, when looking at the number of firms by the various industry sectors for Onondaga County, in 2015, the retail trade sector contained the most number of businesses (1,656). The next four sectors in the top five are health care and social assistance (1,288), professional and technical services (1,265), other services (1,239), and accommodation and food services (1,136), respectively.

Employment and the number of firms for the general freight dependent industries (i.e., construction, manufacturing, retail, transportation/warehousing, and wholesale) follow. The five industries account for 33% of all employees and the number of firms, respectively, in Onondaga County, which makes the freight sector an integral component of the economic condition of the SMTC planning area.

- Construction: 9,353 employment; 1,102 firms
- Manufacturing: 18,489 employment; 448 firms
- Retail: 28,966 employment; 1,656 firms
- Transportation/Warehousing: 8,843 employment; 275 firms
- Wholesale: 12,583 employment; 799.

Exhibit 4 – Number of Firms by Industry in Onondaga County, 2015



Source: New York State Department of Labor

In terms of Gross Domestic Product (GDP) for the Syracuse Metropolitan Statistical Area (MSA), government contributed the most to the local economy with nearly $5.3 billion in 2015. Exhibit 5 lists the top 10 industries by GDP in the Syracuse MSA. The MSA is larger than the Metropolitan Planning Area. The Syracuse MSA consists of Madison, Onondaga, and Oswego counties in their entirety, while the SMTC's MPA covers all of Onondaga County and only portions of Madison and Oswego counties. Comparative to 2011, all industries in the table on the next page, with the exception of utilities (-5%), have seen increases in GDP. For example, the finance and insurance industry increased by nearly 8.1% and the arts, entertainment, recreation, accommodation, and food services super sector increased the most of any industry by 13.7%. Four of the five freight dependent industries are included in the top 10 listing (transportation/warehousing being the exception). The GDP data readily available for all five freight industries comprises nearly one-third (32%) of the area's entire GDP.

Exhibit 5 – Top 10 Industries by GDP, 2015, Syracuse MSA

Industry	2015 GDP ($M)	% Change (2011-2015)
Government	$5,271	9.0%
Finance and insurance	$4,767	8.1%
Education services, health care and social assistance	$3,691	11.2%
Manufacturing	$3,685	11.7%
Professional and business services	$2,986	7.5%
Wholesale trade	$2,366	10.1%
Retail Trade	$2,190	11.4%
Utilities	$1,882	-5.0%
Construction	$1,222	10.4%
Arts, entertainment, recreation, accommodation, and food services	$1,060	13.7%

Source: Bureau of Economic Analysis

Emerging opportunities

The Syracuse MPA and Central New York have begun to establish themselves as leaders in the development of "sense-and-avoid technologies and unmanned air traffic management (UTM) for unmanned aircraft systems (UAS)."[9] The emerging UTM and UAS business sector could be a significant economic opportunity for the area, albeit presumably limited in relationship to freight movements at this time. However, major businesses such as Amazon and UPS have successfully completed tests of delivering packages via drones. On the horizon, another potential growth opportunity for the area with a direct freight implication is within global manufacturing and the development of a logistics hub. "Anticipated new cargo flows at the Port of New York/New Jersey due to the expanded Panama Canal will increase market demand for projects like the Central New York Intermodal Commerce Center

[9] 2017 Economic Forecast Centerstate New York, pg. 24.

(inland port). This project could create benefits for regional manufacturers and agricultural producers by significantly reducing logistics costs."[10] The inland port is identified in the SMTC's 2050 Long Range Transportation Plan (LRTP) as one of four regionally significant projects. As development of UAS and drone technologies increases, and a transportation component is more fully identified, the LRTP will be updated accordingly to support the concept and prioritization, potentially, for implementation. Assisting in the growth and export potential of businesses in the area is a program formed by CenterState CEO called the Central New York International Business Alliance (CNYIBA). The CNYIBA is "committed to demystifying exports, helping businesses successfully construct their export roadmap, and moving regional innovations into the international marketplace."[11] Given the forecasted growth potential associated with the Panama Canal expansion, the CNYIBA is a valuable partner for the numerous "freight" exporters and generators in the SMTC MPA.

[10] Ibid.

[11] http://www.centerstateceo.com/about-us/partners-programs/cnyiba.

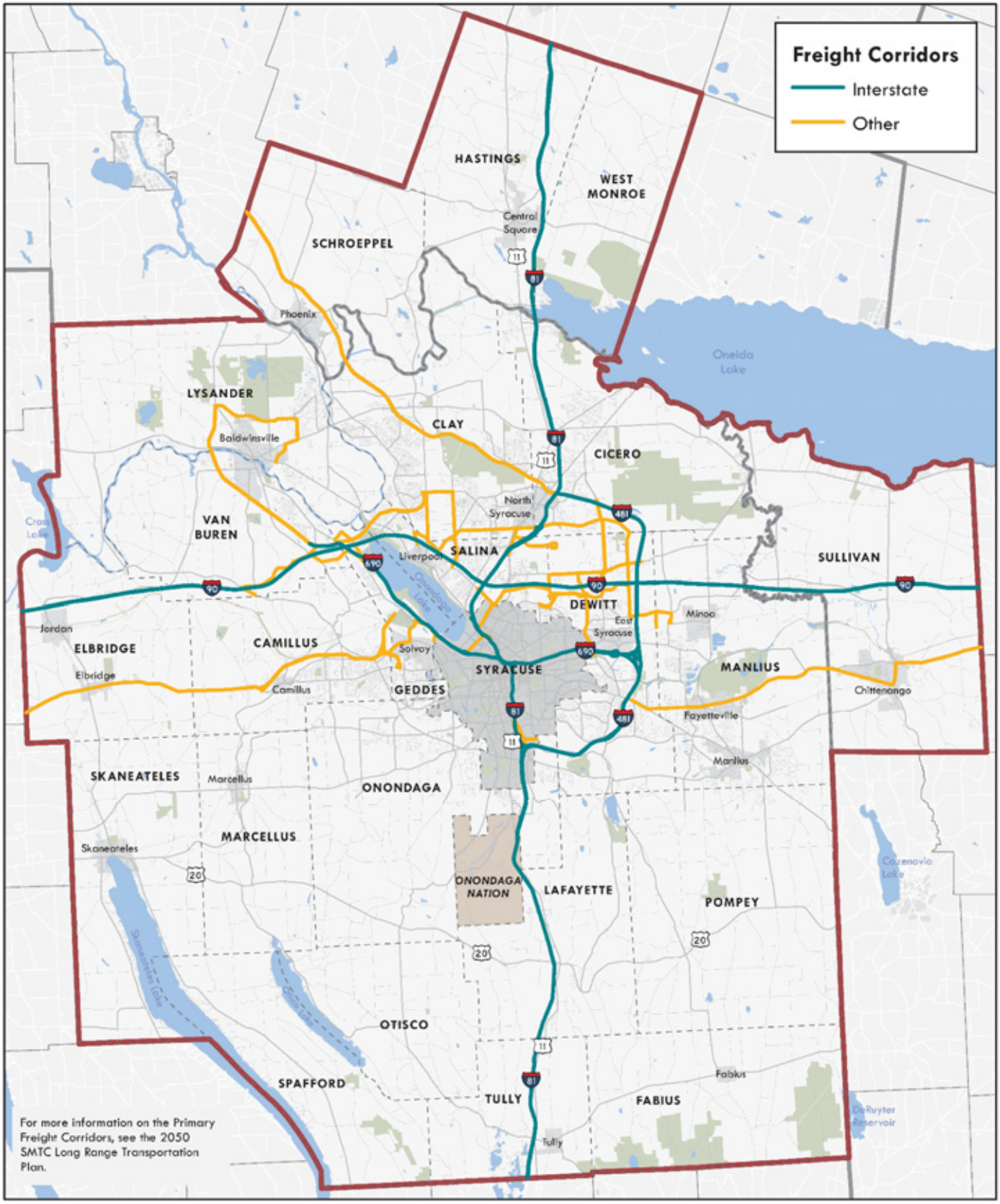
This page intentionally left blank.

Freight corridors and generators

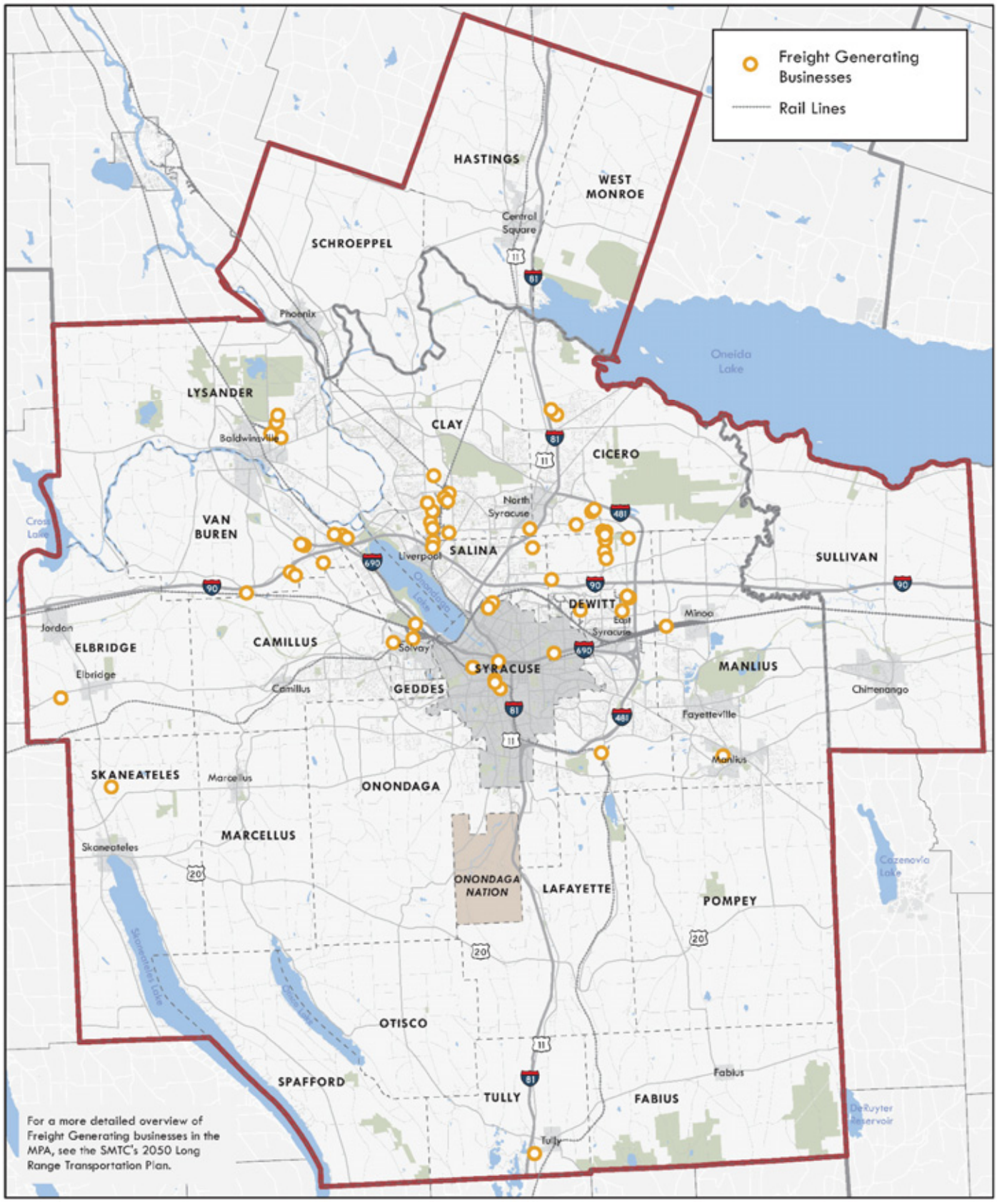
The SMTC's 2050 LRTP contains a map of "primary" freight corridors identified by SMTC staff and member agencies. This map (available on the following page) was developed primarily based on heavy vehicle percentages, inclusion in the NHS, and local knowledge of the transportation system. Additionally, freight generators have been mapped according to business location. The listing of freight generators was developed from a previous SMTC freight planning effort and updated accordingly. Although not inclusive of all businesses that generate freight, the SMTC maintains a list of over 70 businesses[12]. The majority of freight generating businesses, distributed essentially in the northern section of Onondaga County also form several clusters, which have access to the interstate system and other "primary" freight corridors. Several facilities also have direct access to the rail network via rail spurs. The identification of "primary" freight corridors is used in the development and consideration of future capital projects suggested for funding. Similarly, using NAICS codes supplied by InfoGroup, a private firm that bases its data on periodic contacts with employers, significant freight generating industries (i.e., construction, manufacturing, retail, transportation and warehousing, and wholesale trade) are mapped according to total annual sales volume aggregated by zip code. Aggregations of freight-related businesses with significant annual sales are concentrated in the northern half of Onondaga County, as well as the City of Syracuse and its immediate suburbs. Zip codes do not correspond or match up with municipal divisions, but zip codes with the highest annual sales volumes make up significant portions of the Towns of DeWitt, Salina, and Lysander. Additionally, there are high sales volumes in the Towns of Geddes and Cicero, and the city of Syracuse. The sales volumes are much lower in the more rural and residential portions of Onondaga County, as well as the parts of Madison and Oswego Counties that are a part of the SMTC MPA. The Towns of Skaneateles and Spafford appear to fall in the middle of the distribution of annual sales volumes, but the concentration of freight-related business is almost entirely in the Village of Skaneateles and the area immediately surrounding it, and falls off dramatically in the rest of the zip code that spans the two towns.

[12] Please refer to the SMTC's 2050 Long Range Transportation Plan for additional information.

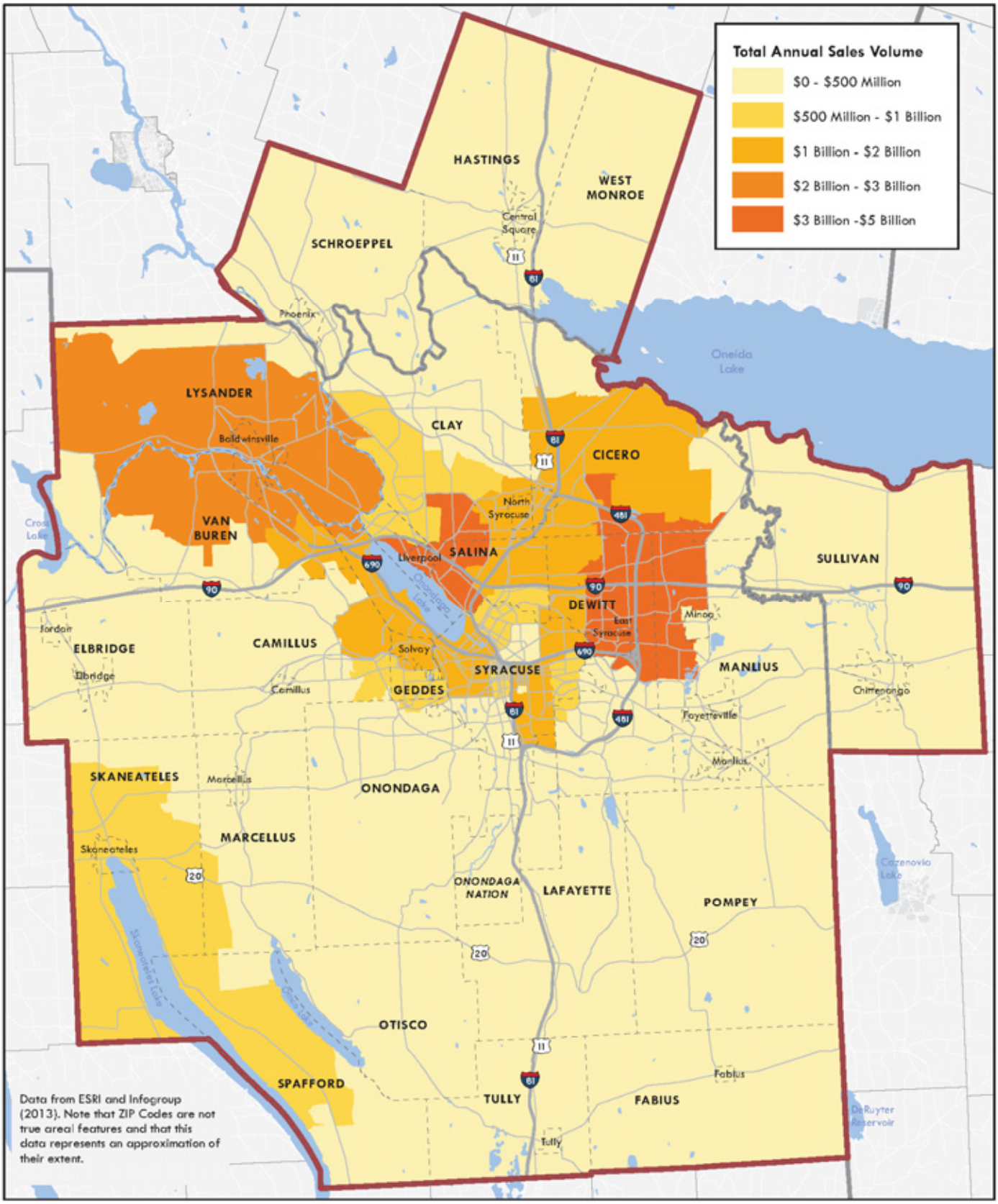
Map 2 – Primary Freight Corridors



Map 3 – Freight Generators



Map 4 – Annual Sales Volume



Infrastructure (bridges and roads)

Bridges

Overall, there are 624 bridges, regardless of owner and type of bridge, in the planning area. Bridges are routinely inspected and NYSDOT documents this information in a statewide bridge inventory. Each element of every bridge span in the state is inspected at least biennially according to NYSDOT, on a scale of 1 to 7. A bridge's "condition rating" is the weighted average of the scores given to its components during inspection. Bridges with a condition rating less than 5.0 are categorized by the NYSDOT as being in a "deficient" state. They are candidates for rehabilitation work, replacement or perhaps closure. "Critically deficient" bridges are those that have one or more critical bridge component rated less than 3.0.

Besides condition ratings, there are several other measures in existence to rate bridges, including several Federal ratings such as whether a bridge is "structurally deficient," "functionally obsolete", or a bridge's "sufficiency rating". These ratings help the Federal government determine whether bridges may be eligible for federal bridge replacement and/or rehabilitation funding.

As part of the SMTC's annual work program, a *Bridge & Pavement Condition Management System* (BPCMS) report is assembled. The BPCMS presents analyses for all 555 public owned bridges (identified as not a railroad, pedestrian or other bridge), and all federal-aid eligible roads throughout the SMTC MPA. According to the March 2017 BPCMS report, 47% of bridges were rated as deficient. Bridge condition data for the SMTC MPA by owner is shown in the table below.

Exhibit 6 – Bridge jurisdiction and ratings, SMTC MPA

		Non-Deficient		Deficient	
Owner	Total Number of Bridges	Number	Percent	Number	Percent
City of Syracuse	30	18	60%	12	40%
Onondaga County	96	67	70%	29	30%
Oswego County	16	9	56%	7	44%
Madison County	19	10	53%	9	47%

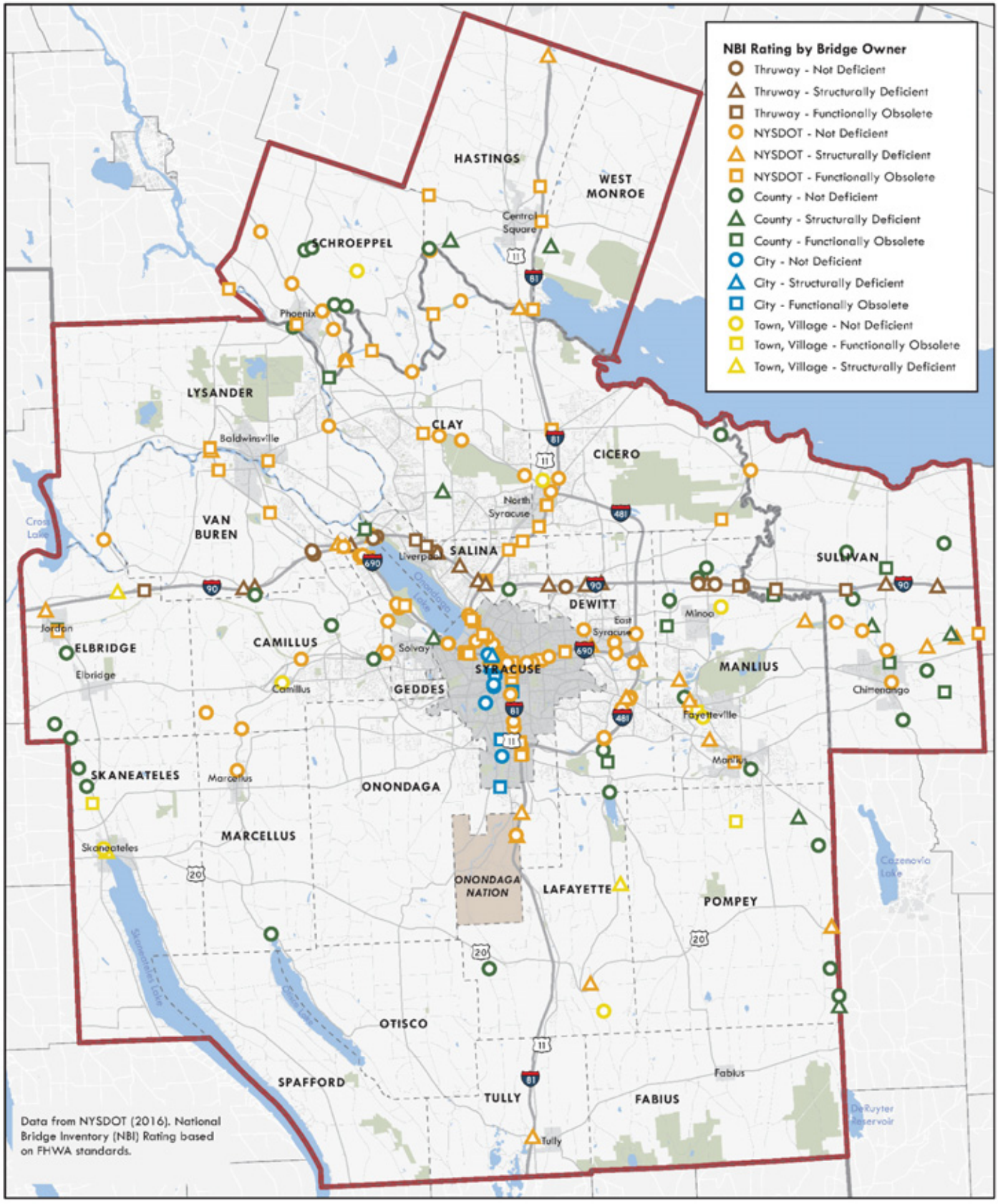
		Non-Deficient		Deficient	
Owner	Total Number of Bridges	Number	Percent	Number	Percent
NYSDOT	318	156	49%	162	51%
NYS Thruway	48	18	38%	30	63%
Towns	20	14	70%	6	30%
Villages	8	2	25%	6	75%
Total	555	294	53%	261	47%

Source: SMTC 2016-2017 Bridge & Pavement Condition Management System via NYSDOT provided data

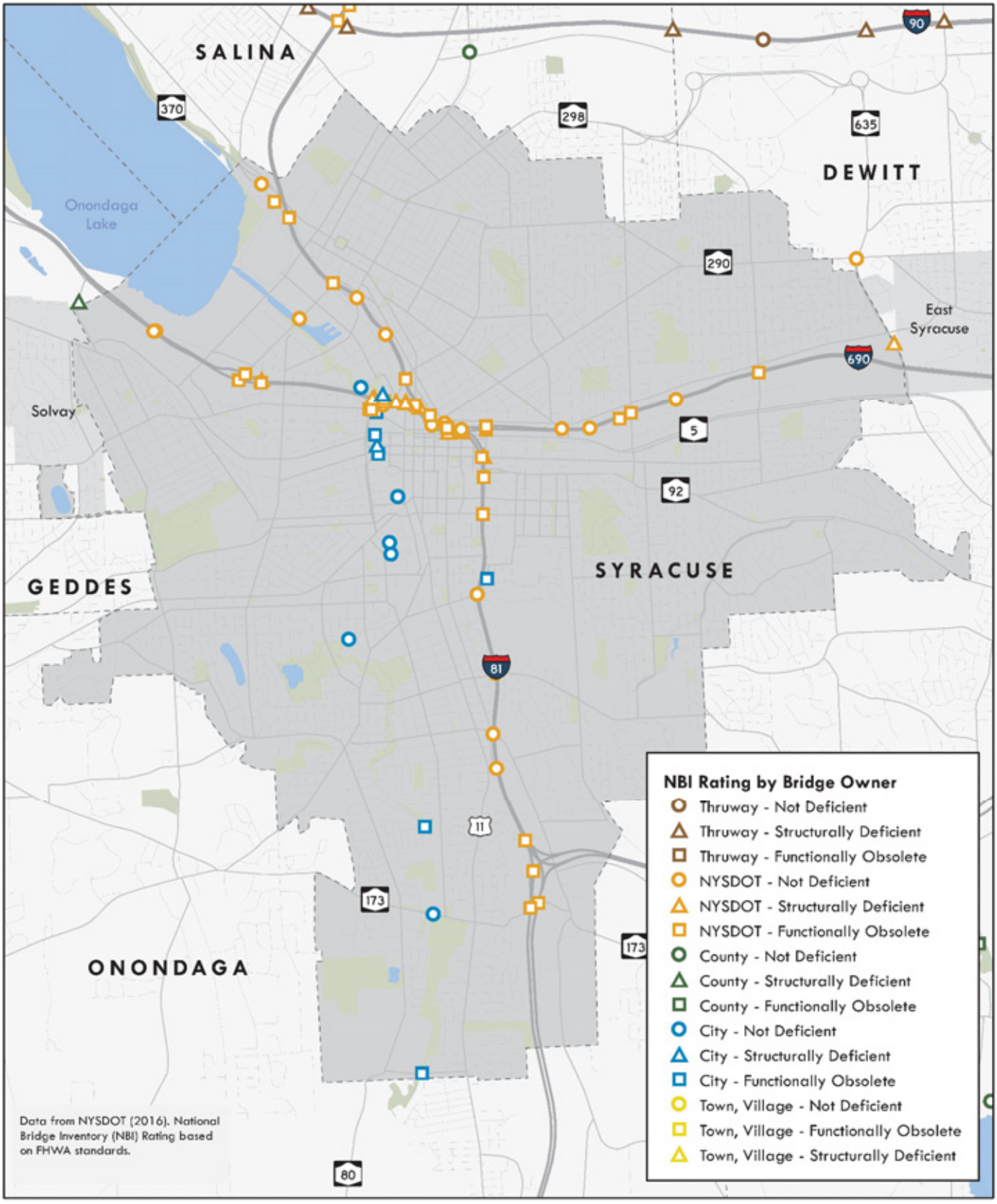
Of the 624 bridges in the SMTC planning area, 36 bridges are under railroad ownership. Seventy-two percent (72%) of the 36 railroad bridges are in the City of Syracuse along track operated by the New York Susquehanna & Western. Please see appendix 2 for a listing of these bridges.

Railroad bridge over Genesee Street
Village of Camillus

Map 5 – Bridge Jurisdiction and Ratings, MPA



Map 6 – Bridge Jurisdiction and Ratings, City of Syracuse



Low clearance

Of the 624 bridges in the SMTC planning area, there are 162 bridges that are considered "low clearance" in some way. Bridges are considered to be low clearance depending on a number of factors, such as the type of feature crossed or the classification of feature crossed. Information about minimum vertical clearances is outlined in the 2014 NYSDOT Bridge Design manual.

A bridge is considered to be low clearance if it is crossing a roadway with a minimum vertical clearance of less than 14 feet, no matter the type of roadway. This type of low clearance bridge is described as "general" in the table below, and there are 67 in the MPA. On the NHS, bridges are supposed to have a minimum vertical clearance of 16 feet, but exemptions exist based on a series of agreements between NYSDOT and FHWA. Not taking into account these exemptions, there are 79 bridges that cross the NHS that are between 14 and 16 feet, and therefore considered low clearance. The minimum required vertical clearance for crossing railroads is 22 feet, and there are 14 bridges in the MPA that are beneath this threshold. Additionally, navigable waterways have variable minimum vertical clearances depending on their location in the state, and there are 2 bridges that cross the NYS Canal System in the MPA that are considered low clearance.

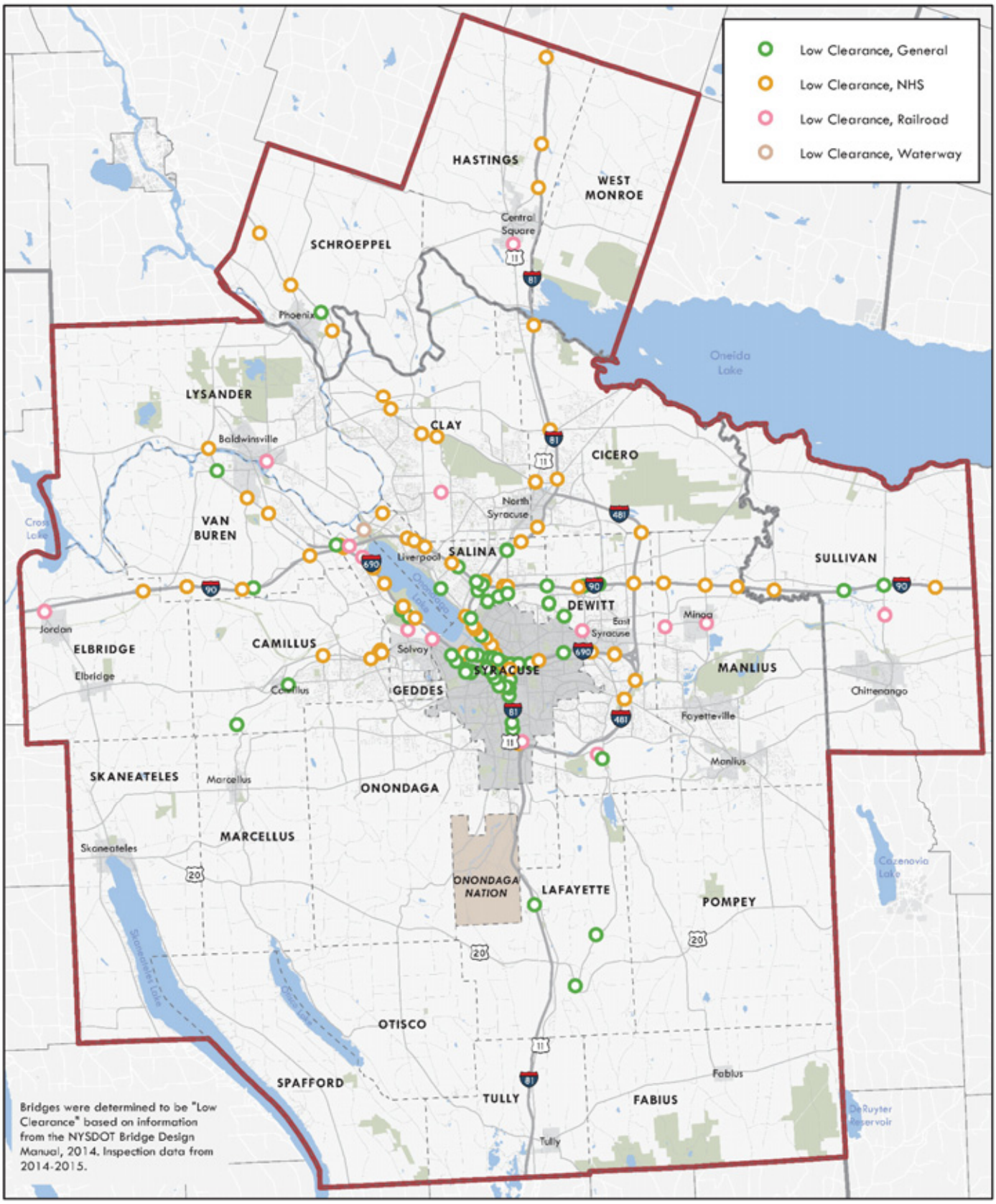
Exhibit 7 – Low-clearance bridges, SMTC MPA

Description	Number	Percent
Low clearance (<14')	67	41%
Low clearance for NHS, including exemptions (<16')	79	49%
Low clearance for railroad (<22')	14	9%
Low clearance for Canal System	2	1%
Total	162	100%

Source: NYSDOT

A table of all low-clearance bridges and their vertical clearance are found in the appendices.

Map 7 – Low Clearance Bridges



Weight restricted

Throughout the SMTC planning area there are 17 bridges that are identified with a weight restriction based on information from NYSDOT.

Of the 17 weight restricted bridges, 7 (41%) are owned by NYSDOT. A complete listing of these bridges and their posted load is in Appendix 1.

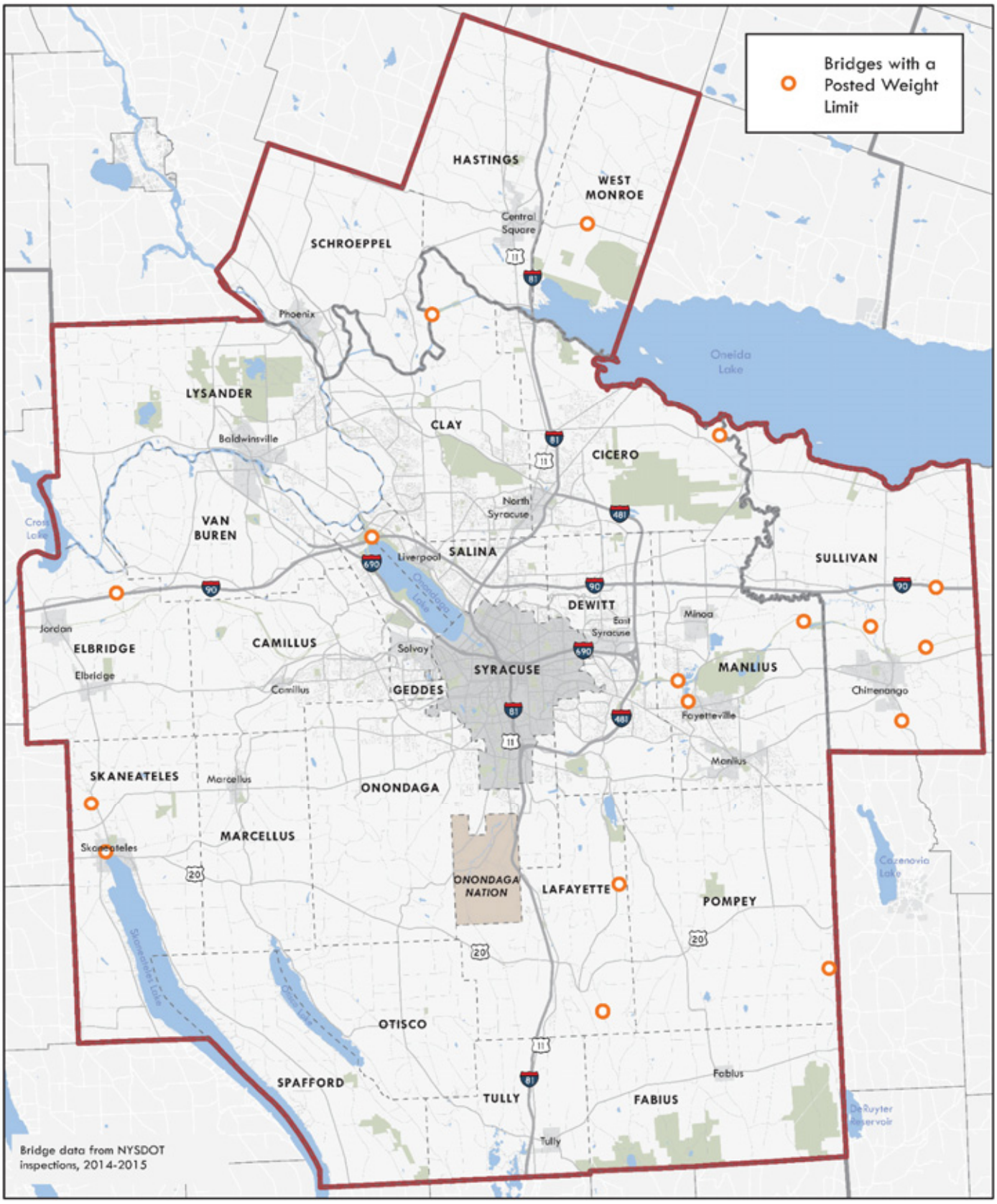
Exhibit 8 - Weight restricted bridges, SMTC MPA

Owner	Number	Percent
Madison County	2	12%
NYSDOT	7	41%
New York State Thruway Authority	1	6%
Onondaga County	2	12%
Towns	3	18%
Village	2	12%
Total	17	100%

Source: NYSDOT

Depending on the proximity of freight origins and/or destinations, low clearance and weight restricted bridges may have a direct impact on facility operations, which may require shippers and carriers to use roads that are not optimal to their operations.

Map 8 – Weight Restricted Bridges



Roads

As mentioned previously, the SMTC's annual BPCMS report inventories bridge and pavement condition ratings. Pavement condition ratings are available for all interstates, US routes, New York State routes, and non-State owned (city, town or village) federal-aid eligible roads. Road mileage in the SMTC area consists of 4,054 centerline miles. Approximately half of all miles are under a "Town" or "Village" jurisdiction. These roadways are not rated unless federal-aid eligible. Overall surface ratings are categorized according to the following:

Rating	Condition Description
1-5 Poor	Distress is frequent and may be severe.
6 Fair	Distress is clearly visible.
7-8 Good	Distress symptoms are beginning to show.
9-10 Excellent	No pavement distress.

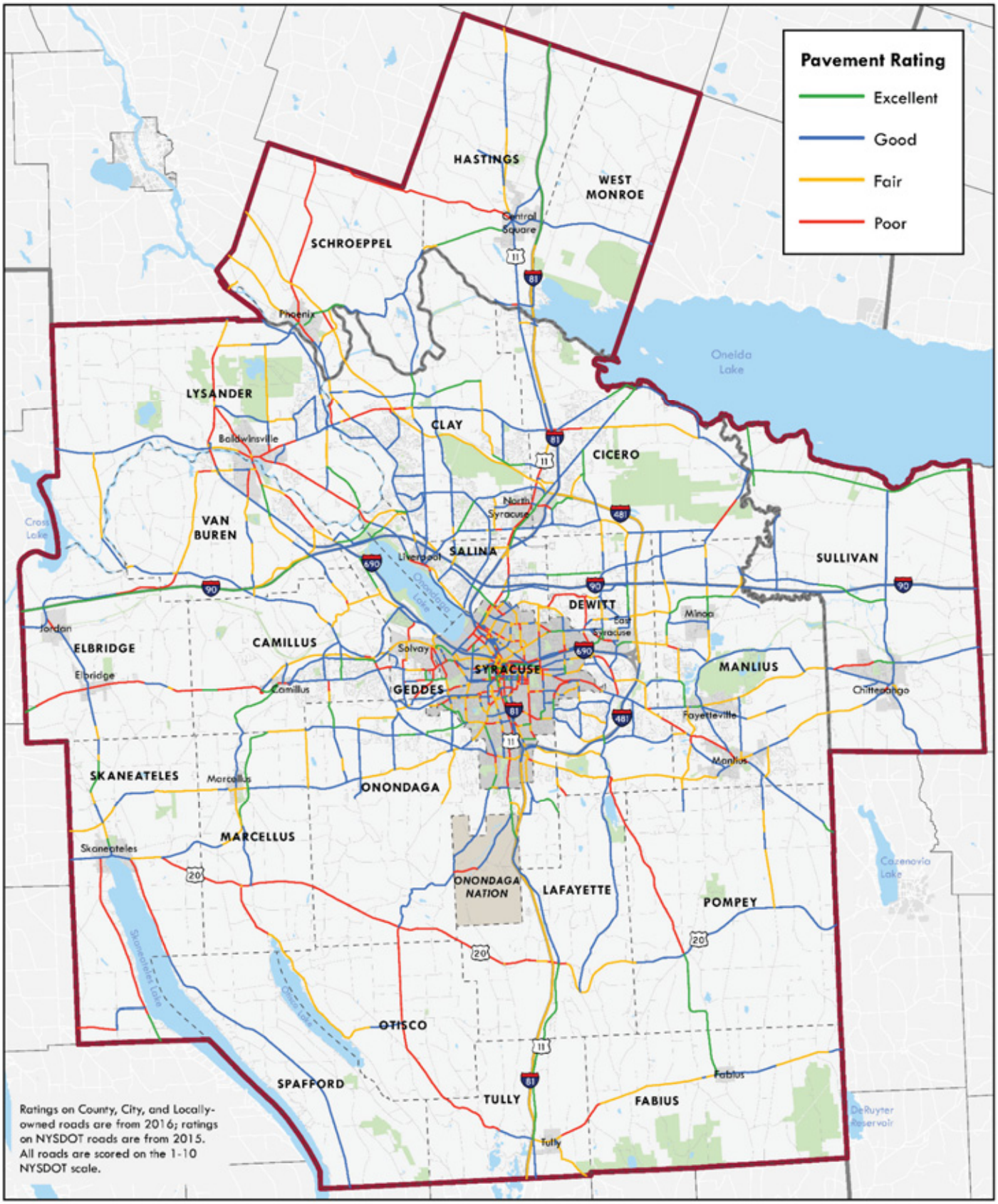
Analysis from the March 2017 BPCMS report shows that of all federal-aid eligible roads, the average rating was 6.8 (Fair). The table below summarizes the pavement condition ratings for all federal-aid eligible rated roads in the SMTC planning area. Pavement conditions throughout the SMTC area are generally in good condition with 83%, representing 809 centerline miles, rated as "fair", "good" or "excellent." The remaining 17% rated as poor are located throughout the area.

Exhibit 9 - Pavement ratings for all FAE rated roads, SMTC MPA

Rating	Centerline Miles	Percent
1-5 Poor	166.9	17%
6 Fair	251.4	26%
7-8 Good	449.4	46%
9-10 Excellent	108.3	11%
Total	976	100%

Source: SMTC 2016-2017 Bridge & Pavement Condition Management System

Map 9 – FAE Pavement Conditions, MPA



Map 10 – FAE Pavement Conditions, City of Syracuse

This page intentionally left blank.

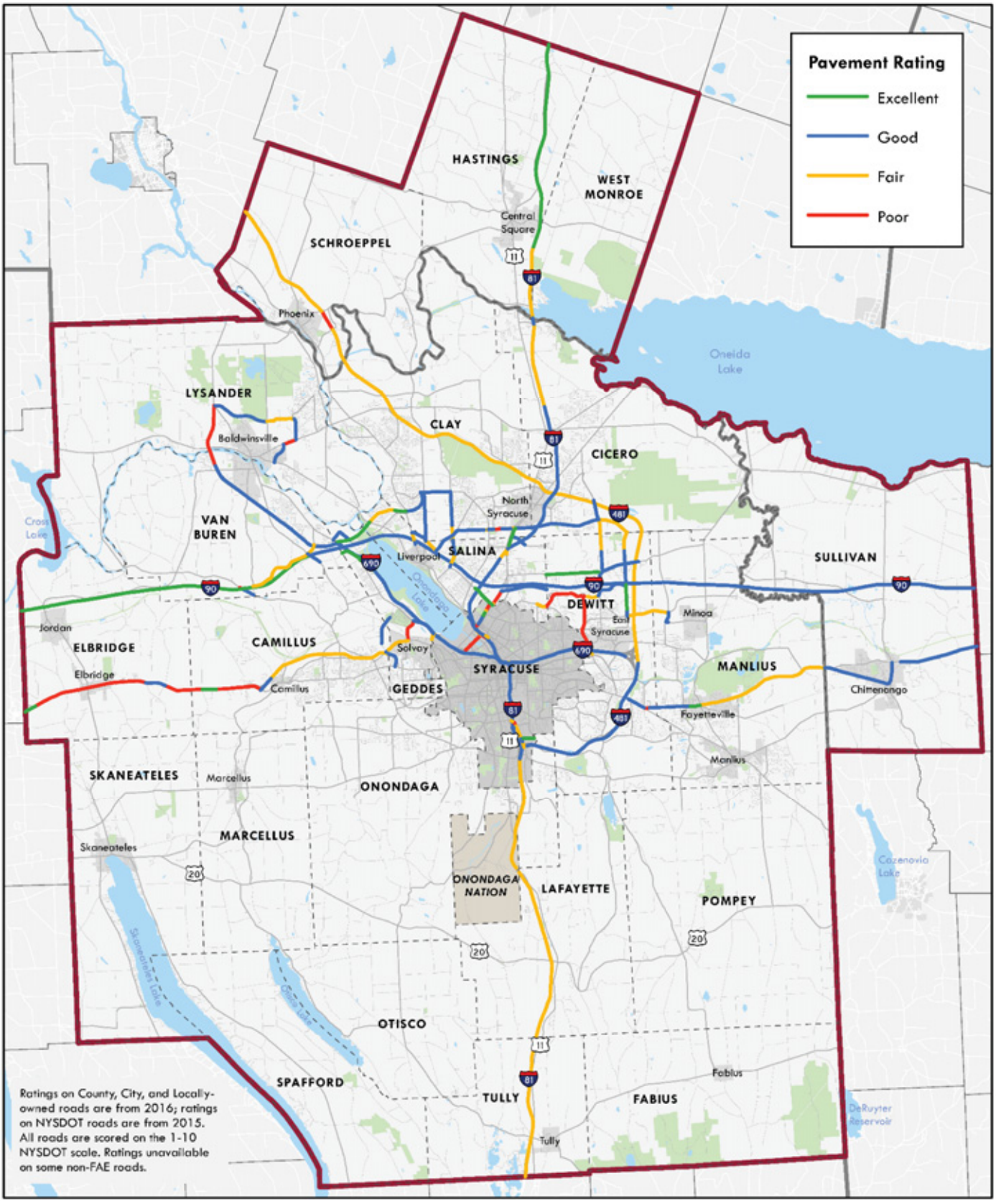
Pavement conditions along the identified primary freight corridors follow the above trend of being largely in decent condition. Of the 262 centerline miles of primary freight corridors, not including ramps, 52% of the facilities are rated as "good" or "excellent."

Exhibit 10 - Pavement ratings for primary freight corridors

Rating	Percent
1-5 Poor	10%
6 Fair	38%
7-8 Good	41%
9-10 Excellent	11%
Total	100%

Interstate 81, Syracuse, NY

Map 11 – Primary Freight Corridor Pavement Conditions



In addition to the primary freight corridors, there are several roads classified by the US Department of Transportation as part of the NHS. The NHS "consists of roadways important to the nation's economy, defense, and mobility."[13] This system of roadways includes interstates, other principal arterials, the Strategic Highway Network, major strategic highway network connectors and, intermodal connectors. Intermodal connectors "provide access between major intermodal facilities and the other four subsystems."[14] Eight roads in Onondaga County are identified as intermodal connectors 1) Kirkville Road (Interstate 481 to Fremont Road); 2) Girden Road (Kirkville Road to the CSX intermodal yard); 3) Fremont Road (Kirkville Road to North Central Avenue), 4) Central Avenue (Fremont Road to CSX intermodal yard), 5) Airport Boulevard (I-81 to terminal), 6) Park Street (Hiawatha Boulevard to Alliance Bank Parkway), 7) Alliance Bank Parkway (Park Street to Regional Transportation Center), and 8) Hiawatha Boulevard (Park Street to I-81). Fremont, Girden, Kirkville, and North Central provide access to the CSX intermodal yard in the Town of Manlius, while Airport Boulevard provides a direct connection from the Syracuse Hancock International Airport to Interstate 81. The grouping of Hiawatha, Park, and Alliance Bank provide access to the William F. Walsh Regional Transportation Center.

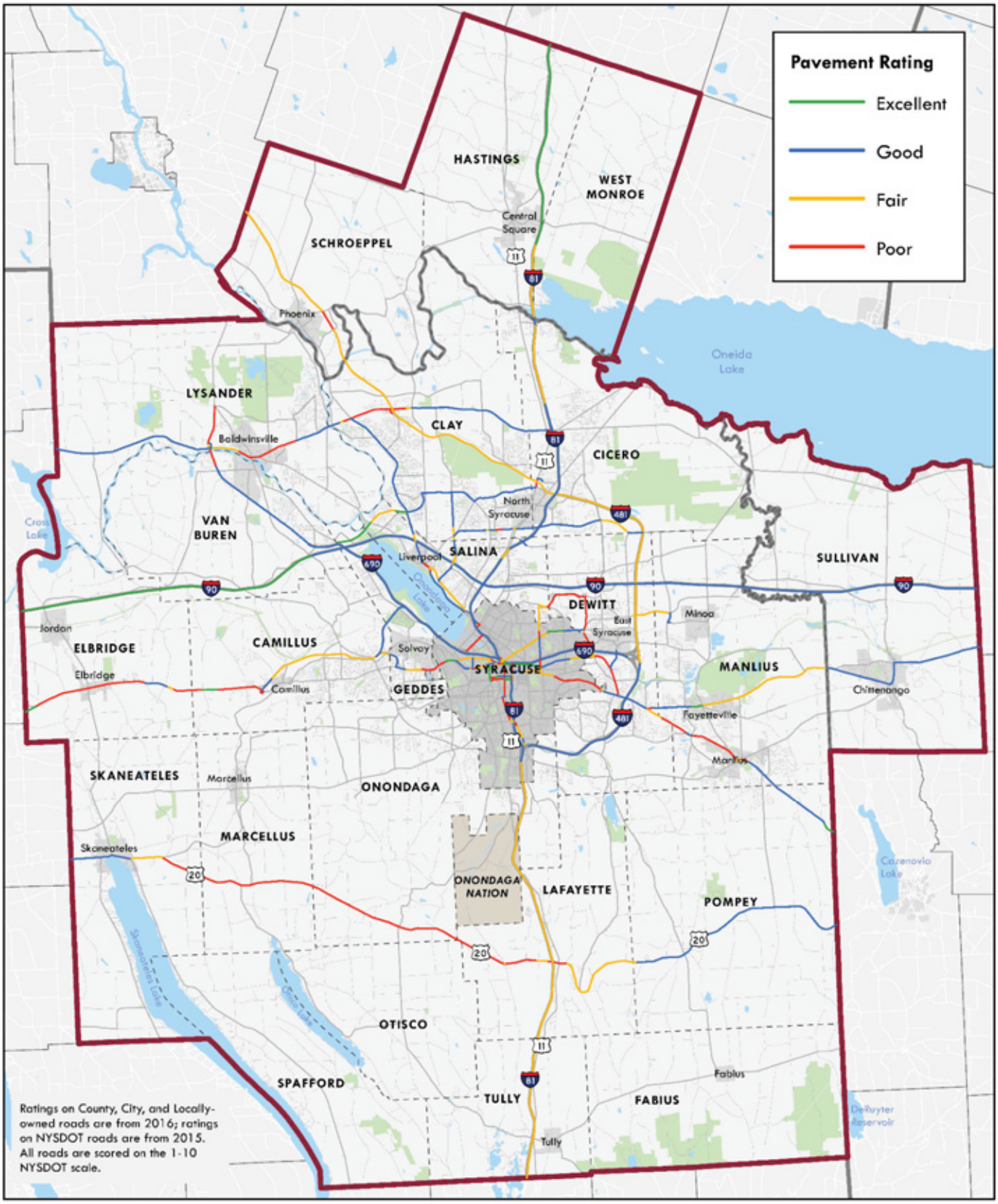
There are approximately 290 centerline miles of NHS facilities in the SMTC MPA. Of these, about 240 miles are owned by the State – either NYSDOT or the NYSTA. Overall, pavement on the NHS is in decent condition; 83% are rated either "Excellent," "Good," or "Fair." The ratings on the NHs reflect the ratings on the entire rated system in the MPA as a whole – both systems have an average rating of 6.8.

The bridge and pavement analyses can assist the SMTC member agencies in identifying bridges or road segments that may require future investment to continue adequate operational conditions for the accessibility and mobility of people and freight.

[13] http://www.fhwa.dot.gov/planning/national_highway_system/.

[14] Ibid.

Map 12 – NHS Pavement Conditions



Modal Inventory

Syracuse Hancock International Airport aerial view
Image source: Syracuse Department of Aviation

Air

In the SMTC MPA there are 4 public use airports. Only one, the Syracuse Hancock International Airport, provides commercial air passenger service. In June 2011, the New York State Assembly approved legislation to create a regional airport authority for the airport. The Syracuse Regional Airport Authority was established to "provide the necessary tools and support to Syracuse Hancock International Airport to maintain and operate the facilities in a safe, secure and efficient manner. The Authority is committed to promoting the growth and success of the Syracuse Hancock International Airport by overseeing fiscal responsibility, regional marketing, and job creation in the aviation industry, and those industries that support aviation."[15]

Syracuse Hancock International Airport has 27 passenger boarding gates and is served by the following carriers: Air Canada, Allegiant, American Airlines, Delta, JetBlue, and United Airlines. Based on data from the Federal Aviation Administration, in 2015, there were 987,732 enplanements at the airport as compared to 987,169 enplanements in 2014. This equates to a slight increase of 0.06% and ranks the airport in the top 100 commercial airports in the country (87th) for the number of enplanements.

Relative to air cargo operations, the airport's web site notes that the air cargo operations are located on 22.5 acres of land. Carriers have ample office, parking, and loading dock space, as well as aircraft apron areas. Air cargo activity includes the handling of air cargo and express and regular mail. A 100,000 square foot cargo building with a parking apron allows direct aircraft access for quick and efficient cargo handling.

Companies that operate at the airport facility include Federal Express, UPS, and Wiggins Airways.[16] Connection to and from the interstate system is provided via Airport Boulevard, a short distance of 1.3 miles from the airport terminal.

---

[15] http://www.syrsraa.com/.

[16] www.syrairport.org/about-us/air-cargo.

In the past five years for which all-cargo data are available, 2015 was the most active year at the Syracuse airport with 165,221 tons of landed weight.[17] From 2011 to 2015, the overall weight increased each year. Comparing the two most recent years, 2015 had a slight increase of 1.30%. The top 3 air cargo destinations from Syracuse are Memphis, Louisville, and Buffalo.

Exhibit 11 – All-Cargo Landed Weight, Syracuse Hancock International Airport, 2011-2015

Year	Landed Weight (tons)
2011	158,278
2012	158,351
2013	162,500
2014	163,094
2015	165,221

Source: Air Carrier Activity Information System

FedEx plane at cargo facility
Image source: Syracuse Department of Aviation

[17] Aircraft Landed Weight is the weight of an aircraft providing scheduled and nonscheduled service of only property in intrastate, interstate, and foreign air transportation.

Rail

Rail operations

There are three railroad operations in the SMTC area; CSX Transportation, New York, Susquehanna & Western, and the Finger Lakes Railway and they each are identified by a different industry classification. Railroads in the United States are classified by two different groups, utilizing different criteria. The Surface Transportation Board classifies railroads by the level of operating revenue. These levels are adjusted annually for inflation. The second entity, the Association of American Railroads, classifies railroads based on mileage and revenue.

Exhibit 12 – Railroad classification by operating revenue

Class I	Class II	Class III
$250M or more	$20M or more	$0-20M

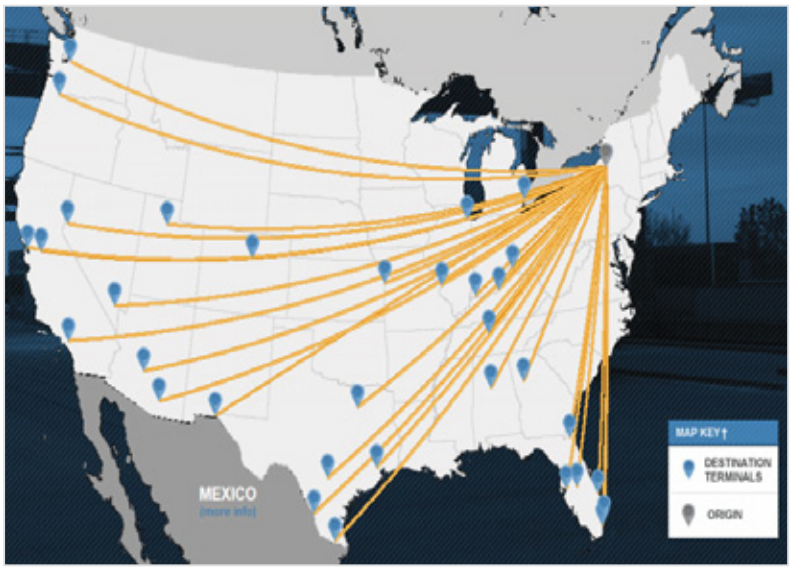
CSX Transportation

Nationally, CSX operates on more than 21,000 miles of track in 23 states, and has access to 70 ports and nationwide transloading and distribution services.[18] In New York State, CSX operates more than 2,500 miles of track, maintaining around 2,000 public and private grade crossings in the state. The company carries a variety of commodities, including consumer products, automobiles, food and agriculture products, coal and chemicals. Products shipped in New York include containerized consumer goods, passenger vehicles and refrigerated food products. [19]

CSX locomotive

[18] www.csx.com.

[19] CSX New York State Fact Sheet, http://www.csx.com/index.cfm/about-csx/company-overview/state-fact-sheets/new-york/.



In the SMTC planning area, CSX is the only Class I freight railroad operating on approximately 240 miles of track. It operates the Chicago Main Line that links Central New York with New York City, New England, and the Midwest. They also operate the Baldwinsville, Fulton, and St. Lawrence Subdivision lines to the north of Syracuse, with the St. Lawrence Subdivision being the gateway to Montreal and Canada. Another significant segment of the CSX operations in the SMTC area is the rail/truck intermodal facility located in the DeWitt rail yard. The DeWitt rail yard is a major intermodal facility serving the Northeast.

New York, Susquehanna & Western (NYS&W)

NYS&W locomotive

The NYS&W is a regional, Class II railroad company operating on over 400 miles of track in New York, New Jersey, and Pennsylvania.[20] Through Onondaga County, NYS&W operates on 31 miles of track. The range of commodities which the company carries for customers in New York State includes feed ingredients, lumber, and other building materials, chemicals and aggregates. The NYS&W trackage in the SMTC area is owned by the Onondaga County Industrial Development Agency and is leased to the railroad. The company serves the Ainsley Superior Warehouse, a 175,000 square foot warehouse/distribution facility located on East Brighton Avenue in Syracuse.[21]

[20] www.nysw.com.

[21] Ibid.

Finger Lakes Railway

The Finger Lakes Railway, a privately owned Class III railroad, operates the shortline between Solvay and Geneva. In Onondaga County, this shortline equals 22 miles of track. The company "operates, markets, and maintains over 154 miles of track in 6 upstate counties including: Onondaga, Cayuga, Seneca, Ontario, Yates, and Schuyler."[22] Commodities hauled include steel, scrap metals, pulpboard, scrap paper, canned goods, sand, chemicals, salt, aggregates, grain, fertilizers, plastic, corn syrup, clay, soda ash, lumber and building materials like shingles, roofing, panel products and pipe.[23] The company serves the Rock Tenn facility in the Village of Solvay.

Finger Lakes Railway locomotive

Rail crossings

There are 229 instances of rail crossings within the MPA. Crossings are categorized by the position of the crossing as either a) at-grade, b) railroad under or c) railroad over. Of the 229 rail crossings, 140 are at-grade, 44 are railroad under and 45 are railroad over[24]. At-grade crossings relate closely to efficient goods movement and the safety of the traveling public as the potential exists for conflicts between trains, motor vehicles, bicyclists and pedestrians.

Exhibit 13 – Rail crossings in MPA

Line	At-Grade	Rail Under	Rail Over	Total
CSX Albany	60	34	12	106
CSX Atlantic	1	0	0	1
CSX Buffalo	2	0	0	2
CSX Central	12	0	0	12
CSX Eastern	14	0	1	15

[22] http://www.fglkrail.com/freight.

[23] Ibid.

[24] NYSDOT rail crossings GIS file.

Line	At-Grade	Rail Under	Rail Over	Total
CSX Northeastern	11	0	0	11
CSX Susquehanna	4	0	0	4
FGLK Albany	3	1	0	4
FGLK Metropolitan	6	2	3	11
FGLK Northeastern	3	0	1	4
FGLK Western	1	0	0	1
NYSW Buffalo	1	0	0	1
NYSW Northern	22	7	28	57
Total	140	44	45	229

Source: NYSDOT

Over the past several years, the NYSDOT Syracuse region office has implemented a railway-highway safety crossing program. Improvements have been made to several at-grade crossings throughout Onondaga County.

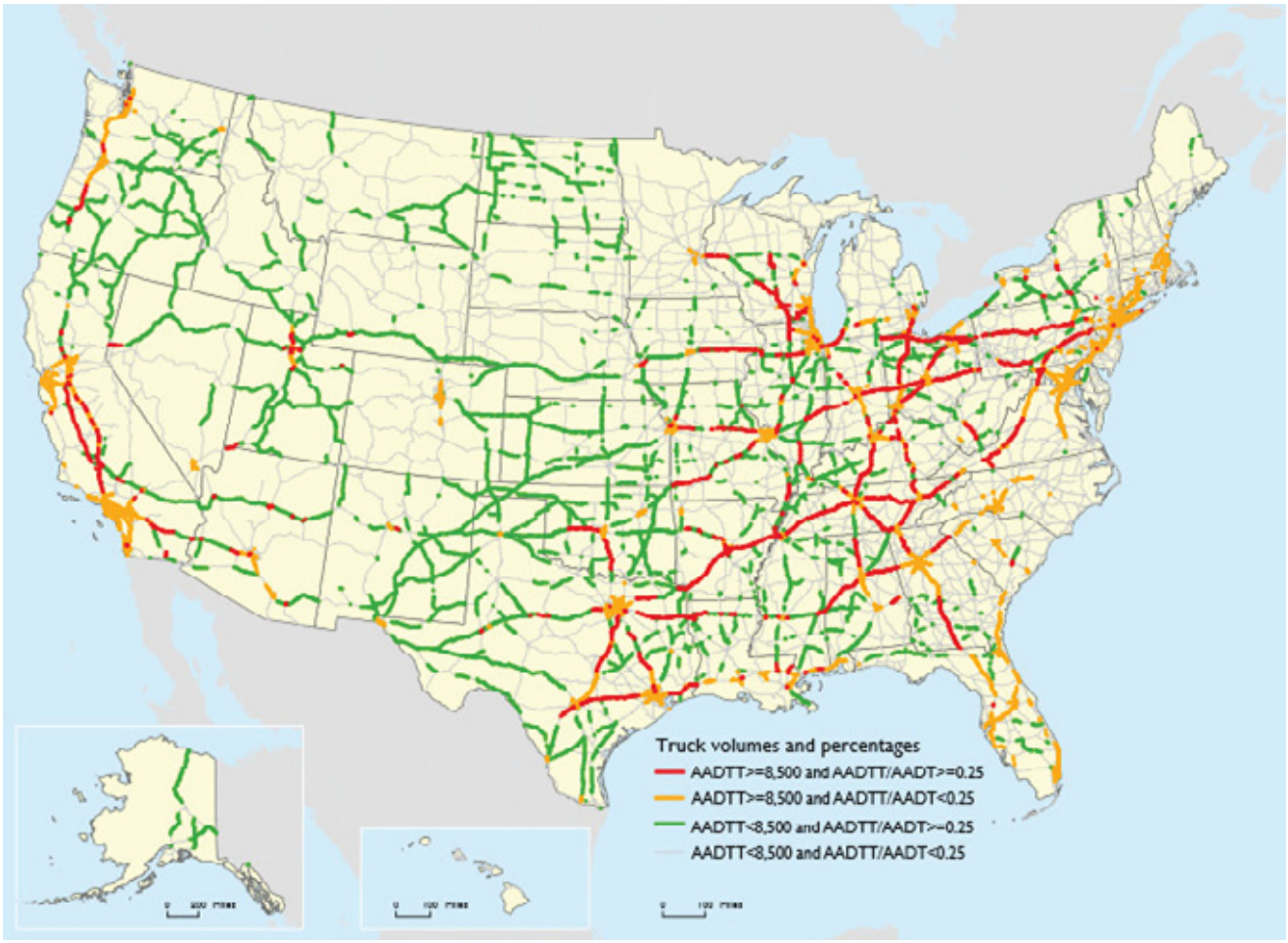
At-grade rail crossing, Milton Ave/Hinsdale Rd, Camillus, NY

Map 13 – Railroads in Operation

Truck

Selected routes carry a significant concentration of trucks. Nearly 14,530 miles of the NHS carry more than 8,500 trucks per day on sections where at least every fourth vehicle is a truck.[25] These major truck routes throughout the country, from 2011, are shown in the exhibit below. Two segments along Interstate 81 are the only facilities in the Syracuse metropolitan area that fall within the 8,500 trucks per day threshold.

Exhibit 14 – Major Truck Routes on the National Highway System, 2011



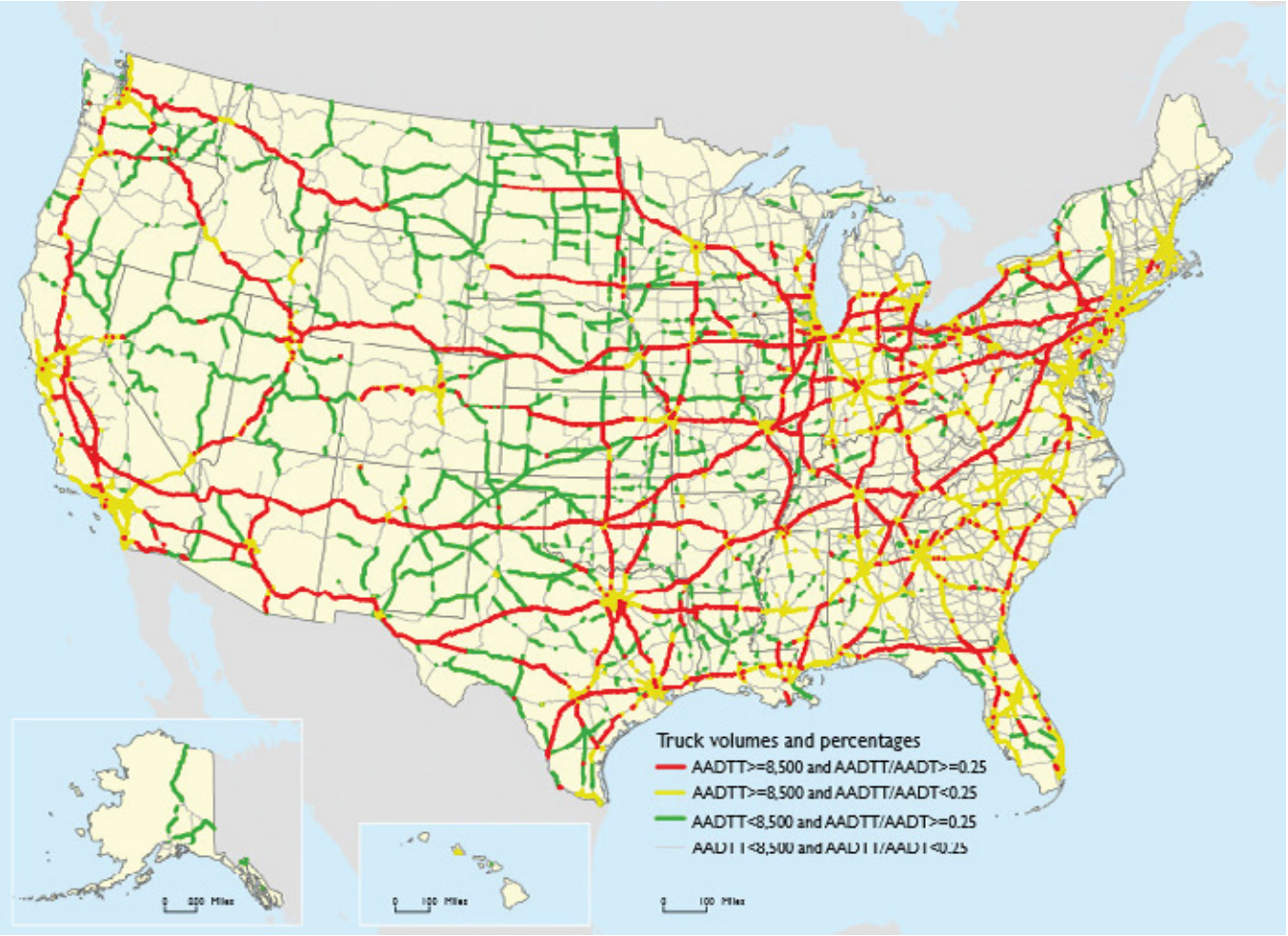
The USDOT projects that NHS segments "with more than 8,500 trucks per day and where at least every fourth vehicle is a truck are forecast to reach 42,000 miles, an increase of more than 175 percent from 2011."[26] These 2040 projections are

[25] Freight Facts and Figures 2015, Office of Freight Management and Operations, pg. 36.

[26] Freight Facts and Figures 2015, Office of Freight Management and Operations, pg. 37.

reflected in the figure below. Unlike the 2011 percentages, all segments of Interstates 81 and 90 are forecast to carry at least 8,500 trucks per day in 2040.

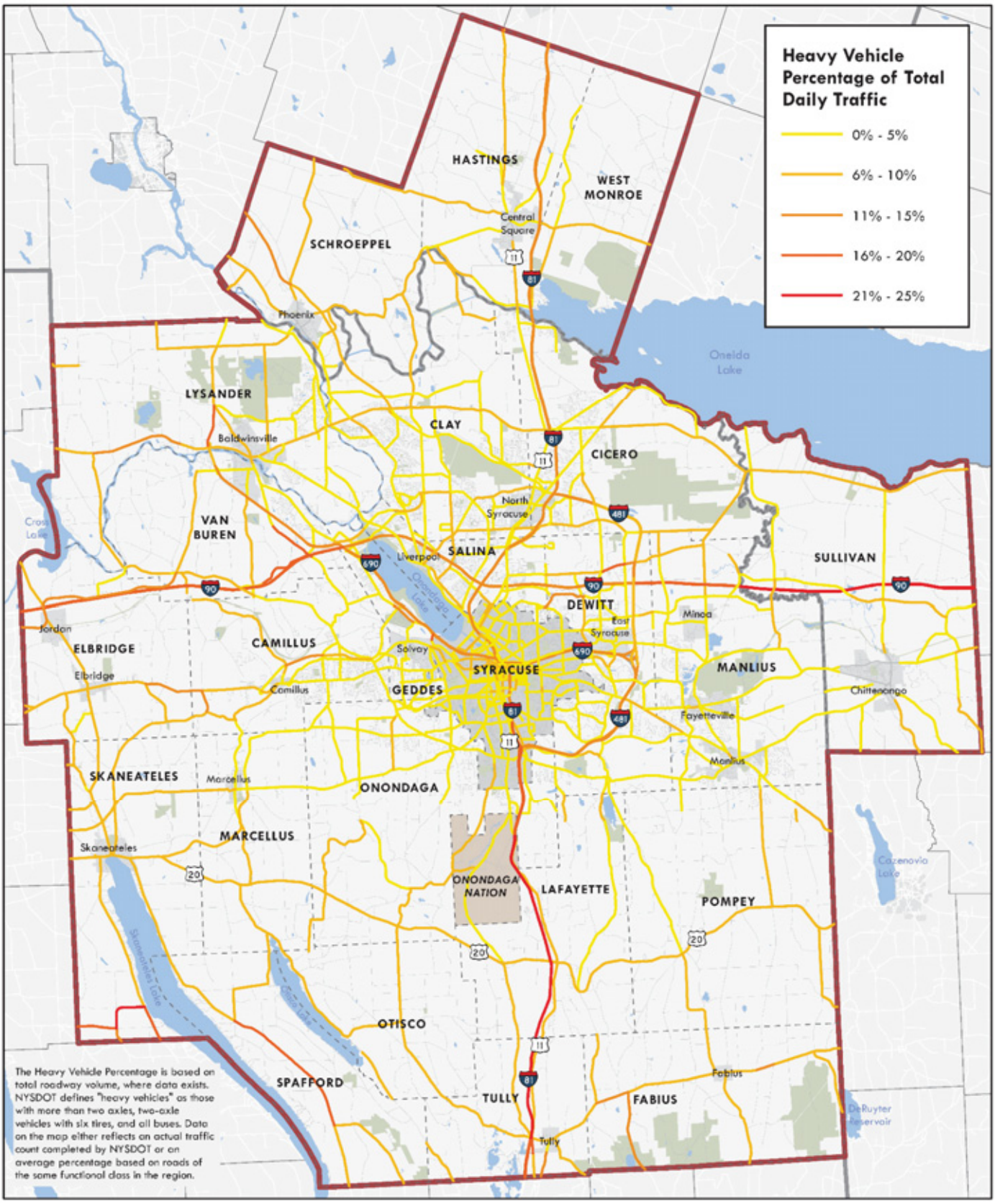
Exhibit 15 – Major Truck Routes on the National Highway System, 2040



As Onondaga County and the City of Syracuse are said to be at the crossroads of Central New York, a fair number of heavy vehicles are found daily on the area's roadways. Relying on classification counts completed by the NYSDOT, the interstate system, as one would presume carries the highest number of heavy vehicles according to the traffic count data. The highest interstate percentages are found on Interstate 81, south of Syracuse, and Interstate 90 through the Town of Sullivan in Madison County. Heavy vehicle percentages on non-interstate facilities typically equate to under 10 percent, with some sporadic locations in the 11-15 percent range. A listing of heavy vehicles percentages by road segment are found in the appendices.

Most of the local interstate system experiences 11 percent to 15 percent heavy vehicle traffic.

Map 14 – Heavy Vehicle Percentages



Commercial vehicle crashes

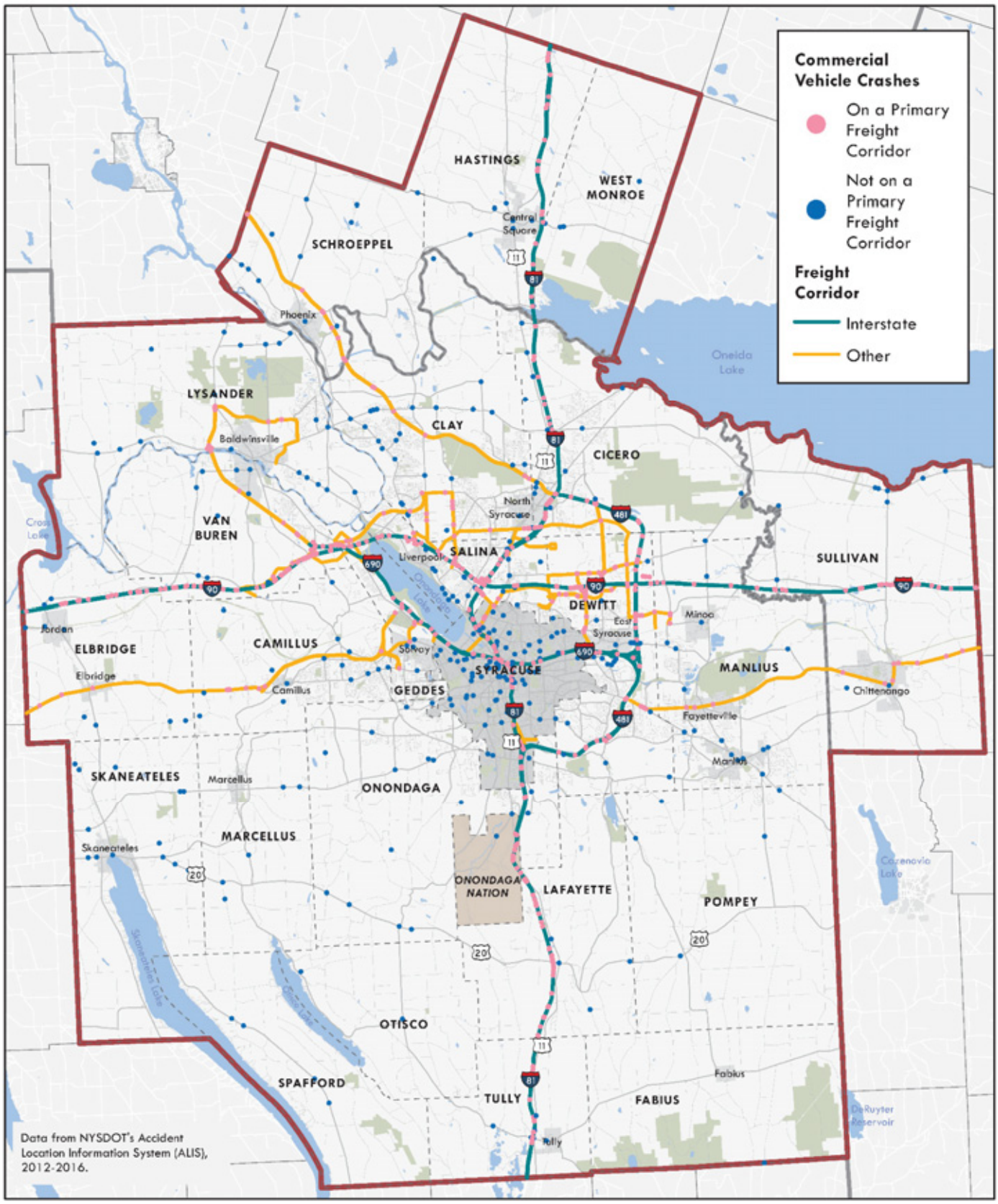
The NYSDOT's Accident Location Information System (ALIS) stores information about the type of collisions that occur on all roads in the state. A map on the following page shows all the commercial vehicle crashes that occurred in the SMTC MPA from 2012-2016. There were a total of 1,008 commercial vehicle crashes during that time period.

Of those 1,008 crashes, 605 (60%) occurred on the SMTC's Primary Freight Corridor Network. The crashes on the Freight Corridors resulted in 317 injuries and 7 fatalities. 153 of the Freight Corridor crashes occurred on the NYS Thruway, and 331 occurred on other State-owned facilities. 121 of these crashes were recorded as occurring at an intersection.

When including crashes that occurred on all roads in the MPA and not just the SMTC's Primary Freight Corridor Network, the 1,008 crashes resulted in 593 injuries and 21 fatalities. 298 crashes were recorded as occurring at an intersection.

Tractor trailer, Morgan Rd, Clay, NY

Map 15 – Commercial Vehicle Crashes



Ports

There are no port facilities in the immediate SMTC planning area; however, there is one less than an hour north in the City of Oswego operated by the Port of Oswego Authority. The Port of Oswego is the first U.S. port of call and deepwater port on the Great Lakes from the St. Lawrence Seaway, and handles more than one million tons of cargo annually. Commodities include aluminum, corn, wheat, soybeans, salt, fertilizer, petroleum products, cement, and more. In 2013, the Port of Oswego Authority was awarded $1.5M from the USDOT's TIGER program to "construct a roadway embedded with heavy rail tracks, connecting the Port's main East Terminal to a six-acre secure, open-storage area to accommodate increased freight traffic."[27] Connections to the SMTC planning area may be made via the highway network (NYS Route 481) or rail (CSX).

Unloading of salt
Image source: Port of Oswego

[27] https://www.transportation.gov/sites/dot.gov/files/docs/TIGER_2013_FactSheets.pdf

This page left blank intentionally.

Section 2 - Commodity flows

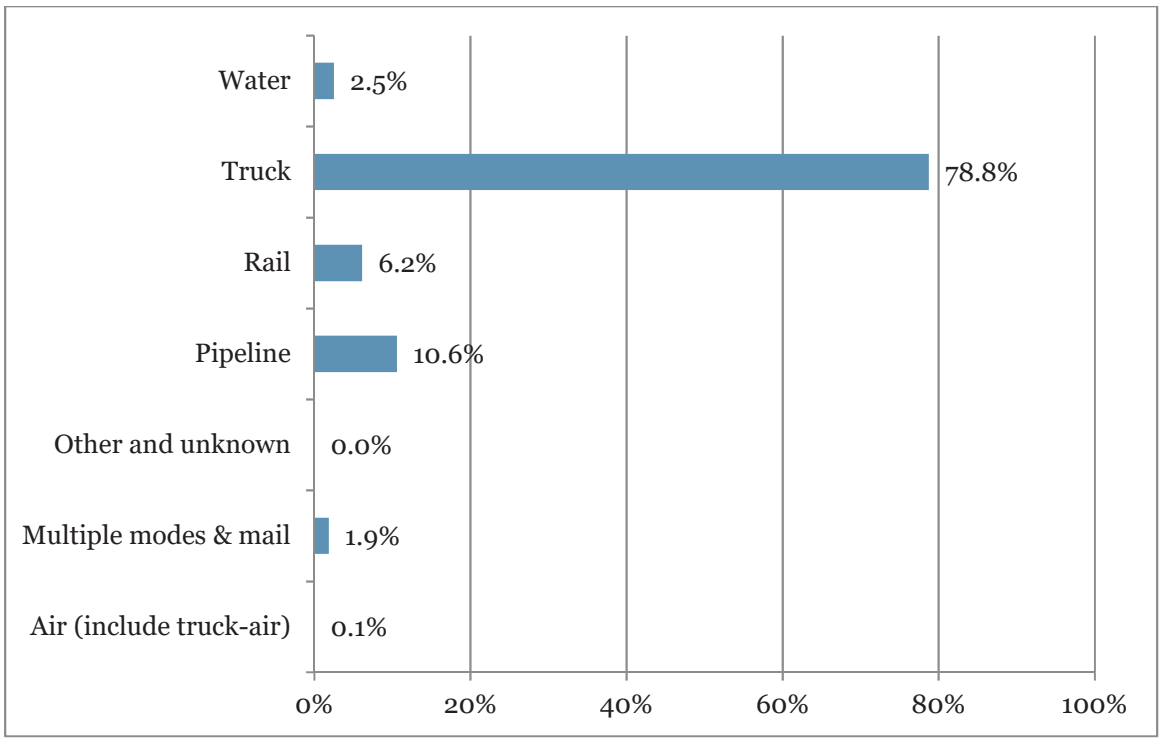
This section provides in-depth information on the types of commodities carried over and along the freight system and the modes used to carry freight into, out of, and within the Syracuse MPA. As Onondaga County comprises the vast majority of the SMTC MPA, data found below relate solely to this county. All county information contained under the Onondaga County subsection is sourced to the IHS/Global Insight TRANSEARCH database via the New York State Department of Transportation. However, a Syracuse Metropolitan Statistical Area subsection is also shown and is sourced to information released from the Brookings Institution in 2013. TRANSEARCH is a proprietary database that "is a unique planning tool that helps strategic transportation planners, transportation providers, and government agencies to analyze current and future freight flows by origin, destination, commodity, and transport mode."[28] The TRANSEARCH data provides the most accurate picture of commodity flow information for Onondaga County and assists in understanding freight impacts on the local/regional economy and potential future needs associated with freight generating businesses. This section begins with an overview of statewide data for contextual purposes.

New York State

Section 1 provided a brief synopsis of freight tonnage and value at the national level for 2015 and 2045. Looking at commodity data moved between domestic origins and destinations, including domestic and foreign shipments specific for New York State, in 2015, the primary mode for transporting freight by far was via truck (79%). The second and third highest percentages are found under pipeline (11%) and rail (6%). FHWA forecasts for mode split in 2045 are relatively similar to 2015 percentages with truck (76%), rail (7%) and pipeline (9%) as the top three modes of transport.

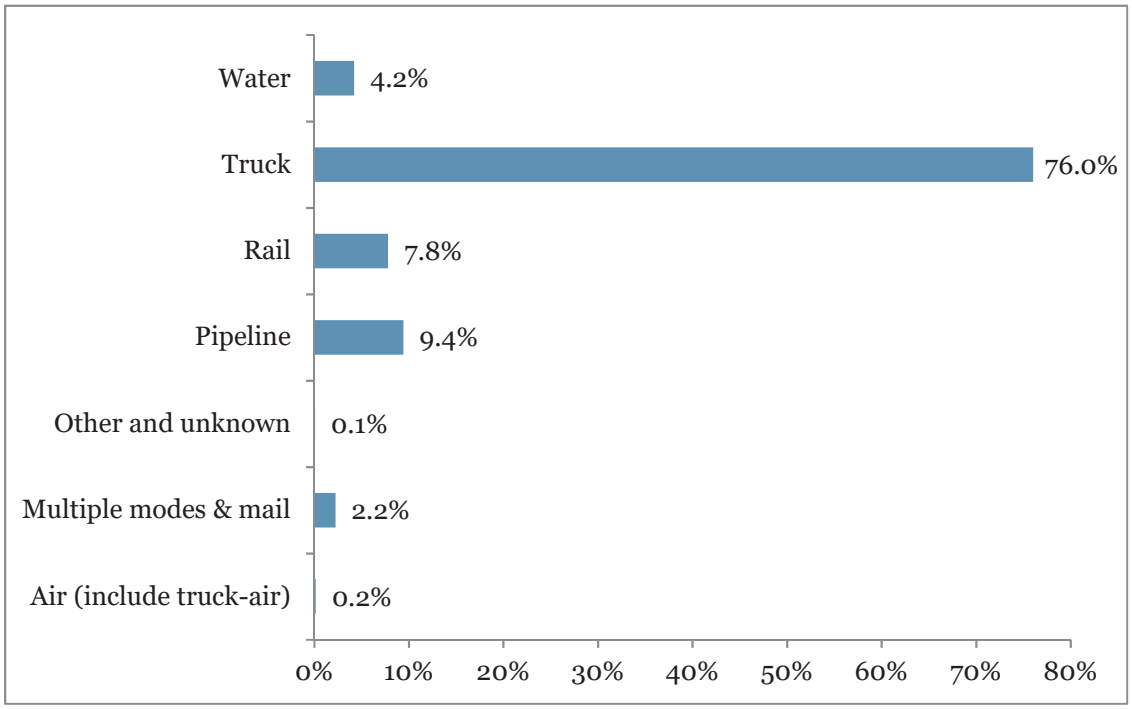
[28] http://www.ihs.com/products/global-insight/industry-analysis/commerce-transport/database.aspx.

Exhibit 16 – Distribution of Tonnage by Mode, New York State, 2015



Source: Freight Analysis Framework

Exhibit 17 – Distribution of Tonnage by Mode, New York State, 2045



Source: Freight Analysis Framework

Exhibit 18 shows by weight the top 5 commodities in New York State for 2015. According to the weight data, coal was the top commodity (15% of cumulative total) moved from, to or within New York State followed next by waste/scrap (9%). When looking at the value of the various commodities (Exhibit 19), the top commodity is machinery (12.4% of cumulative total). None of the top 5 commodities by weight are included in the top five by value.

Exhibit 18 - Top 5 commodities by weight, New York State, 2015

Commodity	Total Weight (thousands)	Percent	Value ($s M)
Coal	89,531.37	15.12%	44,812.63
Waste/Scrap	53,288.95	9.00%	5,148.43
Gravel	51,272.68	8.66%	560.92
Nonmetallic mineral products	31,841.76	5.38%	9,350.48
Other foodstuffs	29,731.51	5.02%	37,579.55

Source: Freight Analysis Framework

Exhibit 19 - Top 5 commodities by value, New York State, 2015

Commodity	Value ($s M)	Percent	Total Weight (thousands)
Machinery	125,937.80	12.40%	10,063.42
Misc. manufactured products	91,432.73	9.00%	4,026.60
Mixed freight	69,060.19	6.80%	19,523.03
Textiles/leather	57,178.87	5.63%	4,443.38
Pharmaceuticals	56,336.84	5.55%	719.15

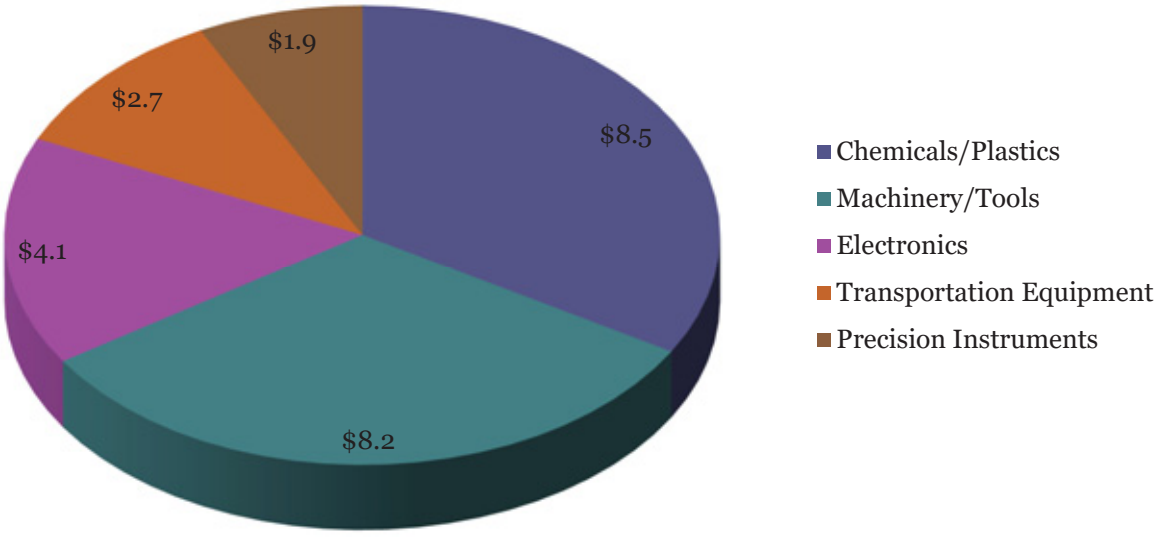
Source: Freight Analysis Framework

Syracuse Metropolitan Statistical Area

In October 2013, Brookings released as part of their Metro Freight research series a commodity profile for various metropolitan areas throughout the nation[29]. The Metro Freight research series assessed goods trade at the metropolitan scale. According to the "Metro-to-Metro: Global and Domestic Goods Trade in Metropolitan America" report, nearly 91% of all trade in the Syracuse metropolitan area is conducted nationally. The remaining percent is traded internationally. Syracuse ranks seventh out of the one-hundred largest metropolitan areas for the share of domestic trade.[30]

The commodity profile for the Syracuse metropolitan area indicates that $54.9 billion is traded; $25.4 billion in advanced industrial products and $29.5 billion in all other goods. Looking at value of commodity, chemicals/plastics and machinery/tools are the highest traded advanced industrial products according to the Brookings documentation (Exhibit 20).

Exhibit 20 – Advanced Industrial Products Traded ($B)



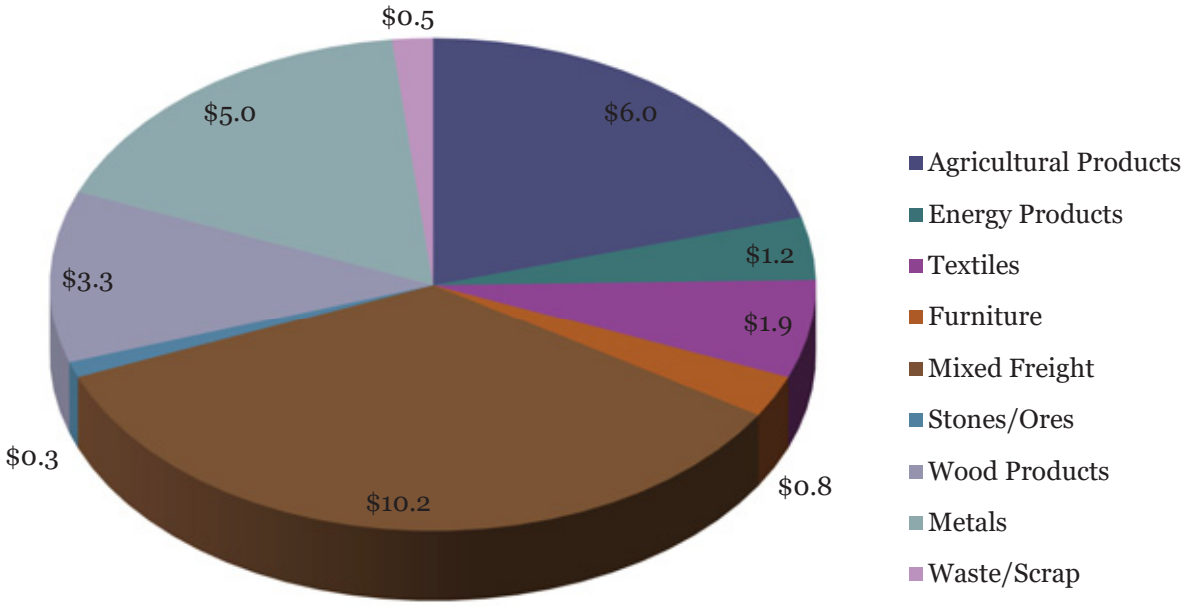
Source: Brookings

[29] http://www.brookings.edu/research/reports/2013/10/22-metro-freight-tomer-kane-puentes?utm_campaign=Metropolitan%2520Policy%2520Program&utm_source=hs_email&utm_medium=email&utm_content=10659024&_hsenc=p2ANqtz--QOjlOV6q58m6uihPwgZTcrk8WfHXaNTHFvMc5929K1vcuDh4sYdE77xLjI9OtwuRlRM_smmtju4LDLRjMm1udBZlzcg&_hsmi=10659024.

[30] Metro-to-Metro: Global and Domestic Goods Trade in Metropolitan America, pg.11.

For non-advanced industry-related commodities, or all other products (Exhibit 21), mixed freight that is valued at $10.2 billion, comprises 35% of all other products traded in our area. The Syracuse metropolitan area was calculated to have a $6.2 billion surplus in the mixed freight commodity, which ranks eleventh out of the one-hundred largest metropolitan areas for the largest surpluses in non-advanced industry related commodities.[31]

Exhibit 21 - Other Goods Traded ($B)



Source: Brookings

Also, Brookings published an additional analysis into freight flows in October 2014 that analyzes domestic and international trading relationships between regions. One of the key findings is that metropolitan areas typically trade more goods with each other when they are located close together.[32] The Syracuse metropolitan area, when looking at trading partners for "all commodities" in Exhibit 22, deals primarily with other metropolitan areas, and non-metropolitan areas within New York State. Of the estimated $54.911 billion in value of goods traded for both imports and exports, $22.785 billion (41%) is within the state. The top five commodities by top five trading partners with the Syracuse area are listed in Exhibit 23. Mixed freight is the number

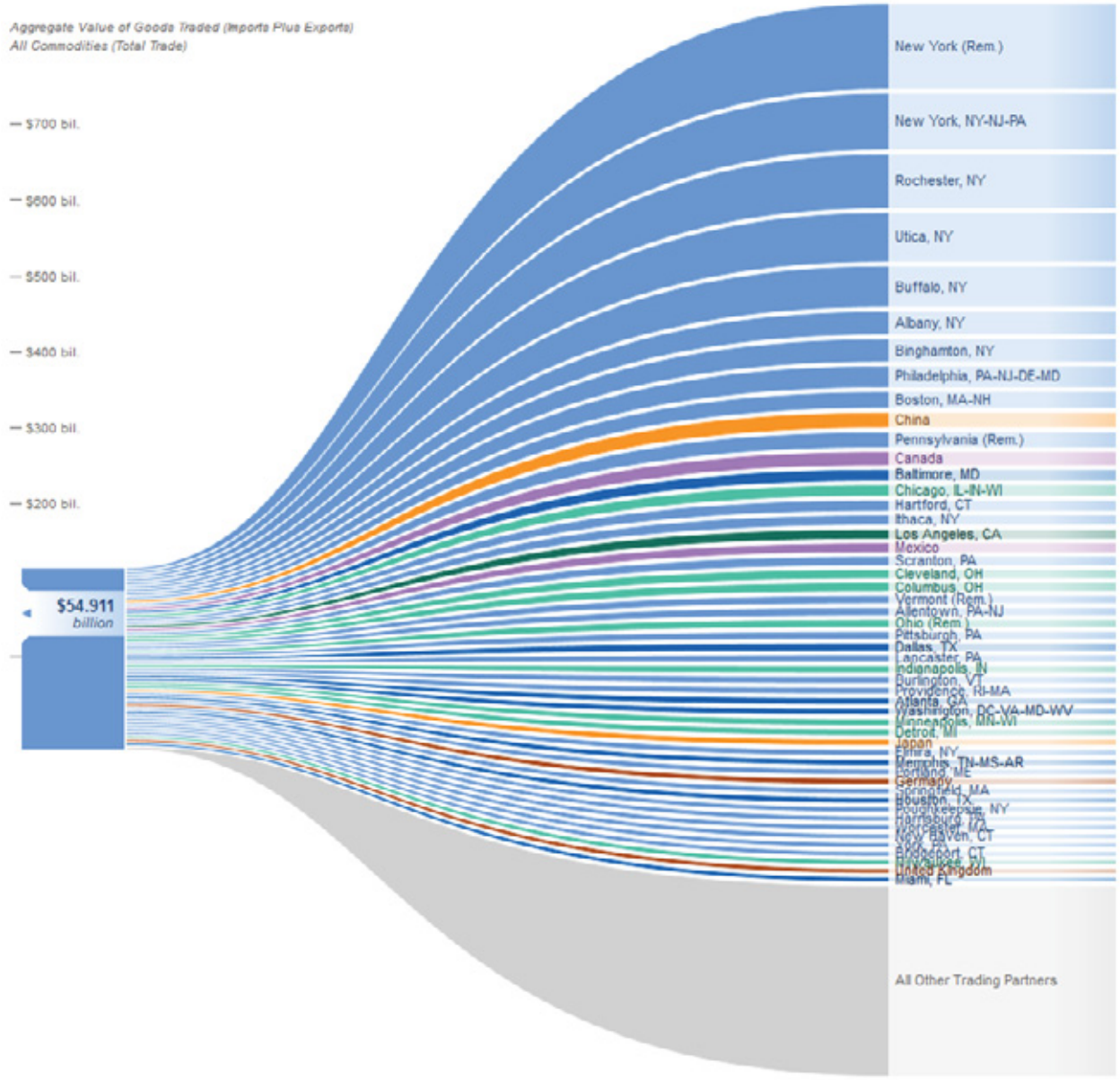
[31] Ibid, pg. 18.

[32] Mapping Freight: The Highly Concentrated Nature of Goods Trade in the United States, pg.1.

one commodity with over $10 billion in goods traded of all trading partners. This commodity accounts for 19% of all goods traded for the Syracuse metropolitan area. The remaining four commodities in order of value are:

- Agricultural products;
- Pharmaceuticals;
- Metal; and
- Tools/Manufacturing products.

Exhibit 22 – Trade of all Commodities between Syracuse and its Largest Trading Partners[33]



[33] Source: Brookings (http://www.brookings.edu/research/reports2/2014/11/06-mapping-freight-tomer-kane).

This page left blank intentionally.

Exhibit 23 – Top 5 Commodities Traded by Trading Partner[34]

Commodity	Trading Partner	Value
Mixed Freight	New York City	$1.598B
	Rochester	$1.110B
	Buffalo	$996.1M
	New York (rem.)	$839.9M
	Utica	$830.3M
	Subtotal:	$5.374B
Agricultural Products	New York (rem.)	$1.308B
	Utica	$436.6M
	Rochester	$424.9M
	New York City	$329.5M
	Albany	$223.7M
	Subtotal:	$2.723B
Pharmaceuticals	Rochester	$578M
	Buffalo	$544M
	New York City	$520M
	New York (rem.)	$497.1M
	Baltimore, MD	$420.2M
	Subtotal:	$2.559B

[34] Although "All Other Trading Partners" may comprise one of the top five slots, they have been removed from the list.

Commodity	Trading Partner	Value
Metals	New York (rem.)	$332.5M
	Buffalo	$325.4M
	Cleveland, OH	$260.5M
	Burlington, VT	$246.8M
	Utica	$245.7M
	Subtotal:	$1.411B
Tools/Manufacturing Products	Utica	$292.5M
	New York (rem.)	$283.5M
	Rochester	$282.5M
	New York City	$238.9M
	Buffalo	$173.6M
	Subtotal:	$1.271B

Source: Brookings

Onondaga County

Please note that the various regions outlined in the following Onondaga County sub-section were assigned by the SMTC staff and may not match precisely with other reporting. For example, the Buffalo region has been identified with the counties of Erie and Niagara for summary purposes in this report. However, this same region is identified by three counties (Erie, Niagara, and Cattaraugus) from the federal Freight Analysis Framework documentation. In many instances, the four largest metropolitan areas in the state (i.e., Albany, Buffalo, New York City, and Rochester) are comprised of the counties within which a respective Metropolitan Planning Organization considers part of their planning jurisdiction. SMTC staff created infographics that summarize tonnage and value of the available TRANSEARCH data by direction of movement, mode of transport, and commodity. These visuals are included below for reference.

Inbound Freight, Tonnage

In 2012, approximately 13.5 million tons of freight was inbound to Onondaga County. Of this total, 41% of all freight tonnage destined for Onondaga County originated within New York State (5.5 million tons). Excluding the "Rest of NY" category, of the four largest metropolitan areas in the state, the Buffalo area ranked the highest based on inbound tonnage (approximately 855,000 tons) followed by the Rochester, Albany and New York City areas. Outside of New York State, the Northeast states transported the most freight tonnage to Onondaga County (over 3.6 million tons).

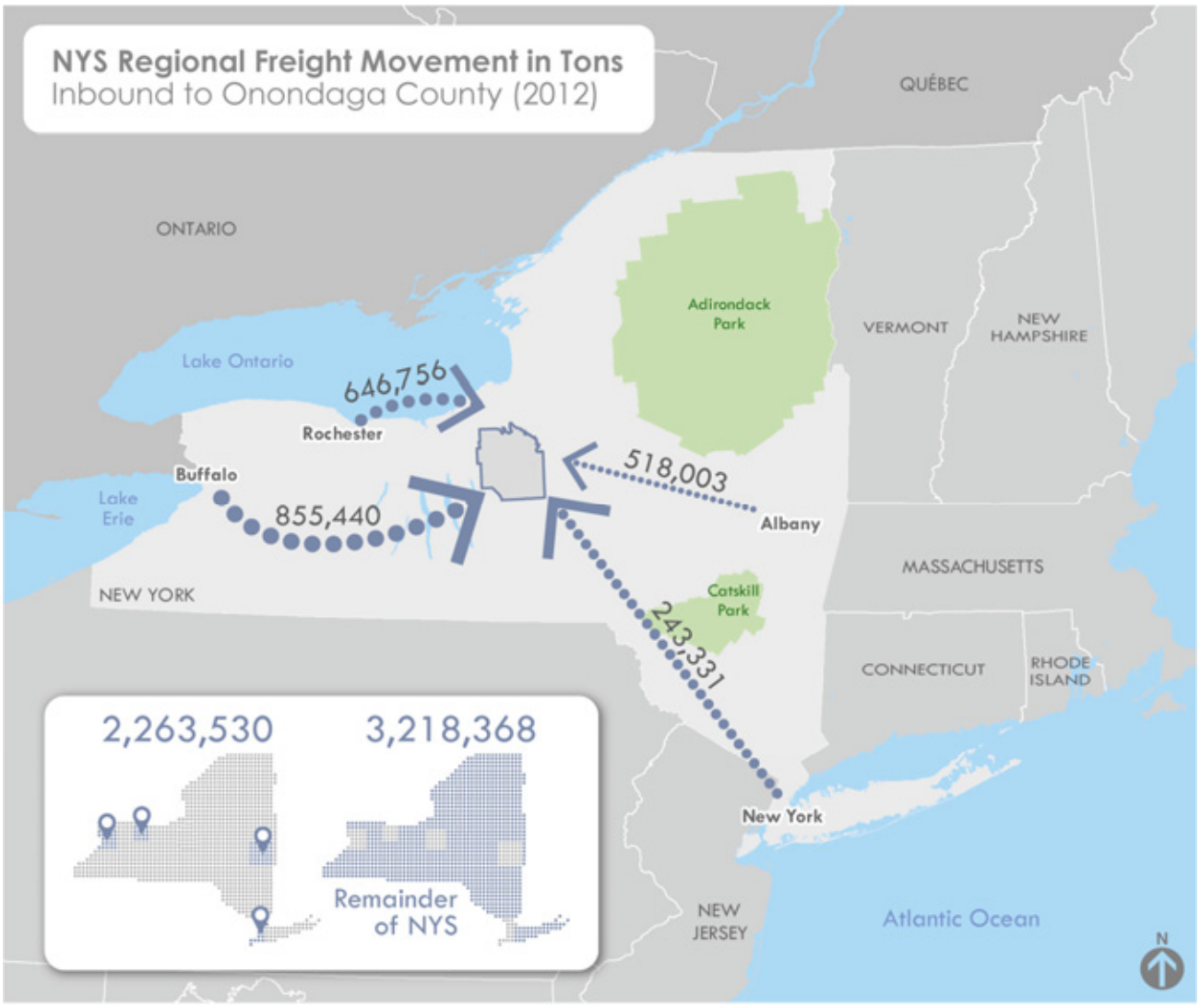
The most prevalent mode of transportation utilized for the distribution of freight was via truck at 90% or nearly 12 million tons. The remaining 10% was accounted for under rail.

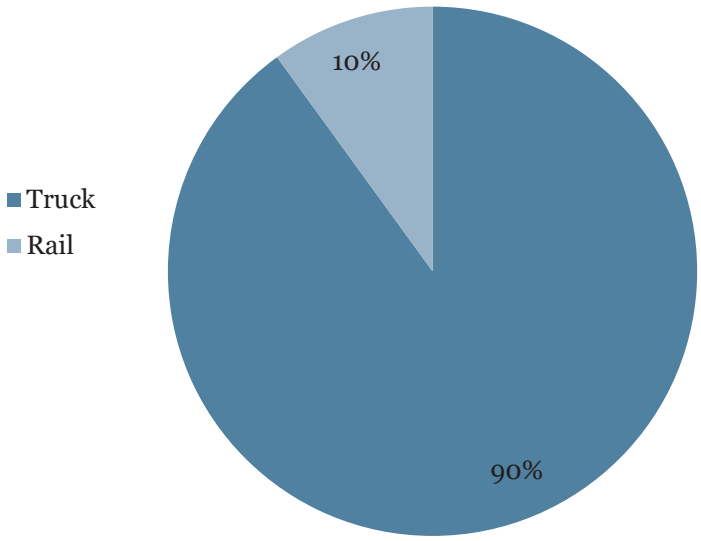
Exhibit 24 - Inbound Onondaga County tonnage by region and mode, 2012

Region	Truck Tons	Air Tons	Other Tons	Rail Tons	Total Tons
Albany	515,052	2,951	0	0	518,003
Buffalo	834,331	3,228	0	17,880	855,440
NYC	242,966	365	0	0	243,331
Rochester	646,638	118	0	0	646,756
Rest of NY	3,218,237	131	0	0	3,218,368
Northeast	3,415,938	3,164	0	203,282	3,622,384
South	1,477,265	5,281	0	298,860	1,781,406
Midwest	1,460,297	3,178	0	721,307	2,184,781
West	124,577	4,860	0	87,600	217,037
Canada	175,394	6	6	0	175,406
Mexico	26,209	0.00	0.00	0.00	26,209
	12,136,903	23,282	6.00	1,328,929	13,489,119

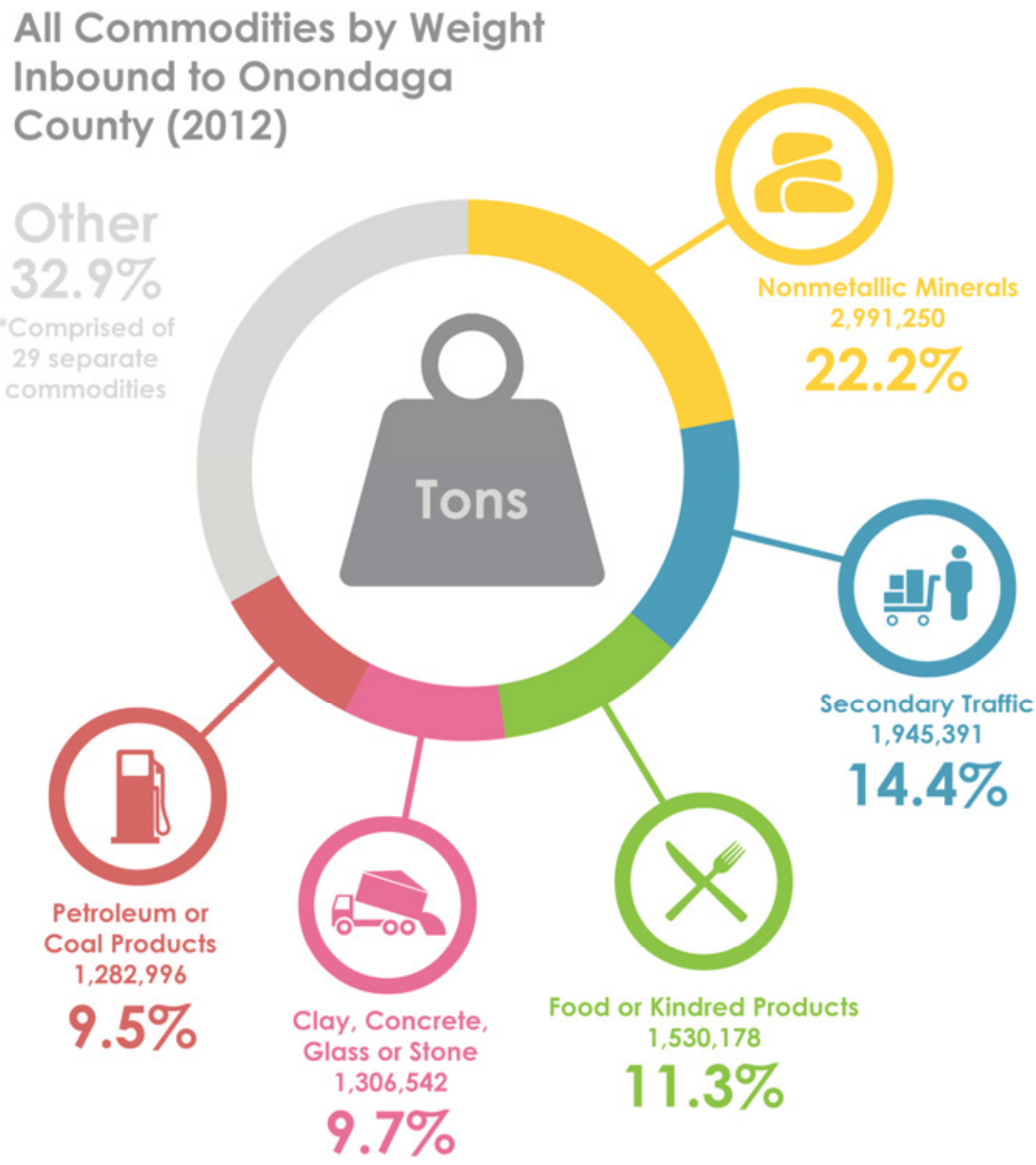
Source: IHS/Global Insight TRANSEARCH


Regional Freight Movement in Tons
Inbound to Onondaga County (2012)
CANADA
175,406
NORTH EAST
3,622,384
LAKE SUPERIOR
LAKE HURON
LAKE MICHIGAN
LAKE ONTARIO
LAKE ERIE
Syracuse
217,037
2184,781
26,209
1,781,406
WEST
MIDWEST
SOUTH
ATLANTIC OCEAN
GULF OF MEXICO
MEXICO
N





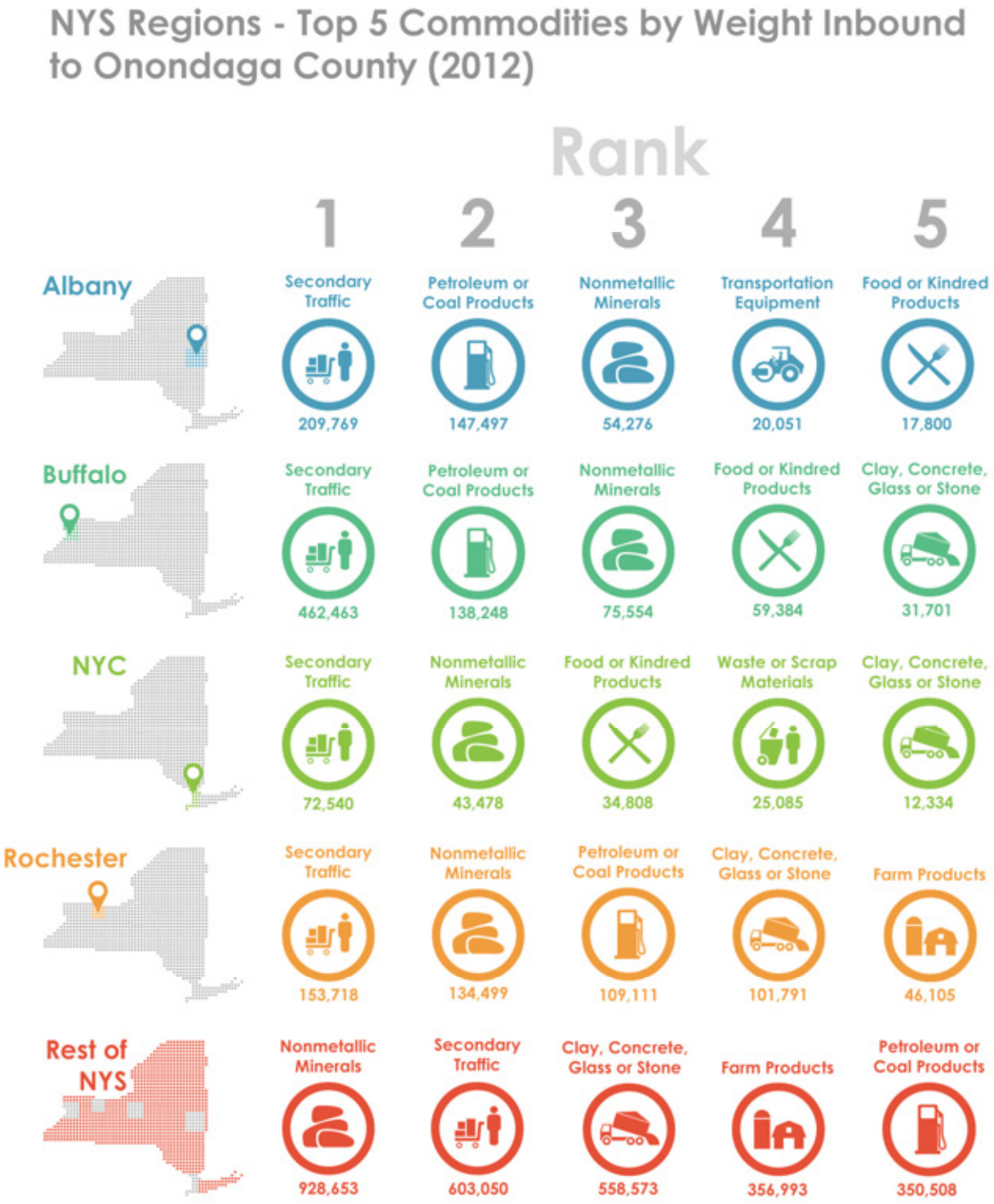
Source: IHS/Global Insight TRANSEARCH



The top 5 commodities inbound to Onondaga County (2012) by tonnage are:

- Nonmetallic Minerals (3M tons);
- Secondary Traffic (1.9M tons);
- Food or Kindred Products (1.5M tons);
- Clay, Concrete, Glass or Stone (1.3 M tons); and
- Petroleum or Coal Products (1.3 M tons).

When looking at commodity data in terms of tonnage inbound to Onondaga County for the various New York State regions summarized in this document, there are only 8 commodities distributed among a regions' top 5. Generally, Secondary Traffic, Nonmetallic Minerals, and Petroleum or Coal Products round out an area's top 3 commodities by weight.



2040 tonnage forecast information follows quite closely with the 2012 figures. Truck is projected as the most predominant mode of transporting freight to Onondaga County (89%). In terms of projected freight tonnage in 2040, there is an estimated 26% increase in the amount of freight, which in total tonnage for 2040 equates to 17 million tons. Four commodities that comprise the top 5 from the 2040 projections are the same as those from 2012. A fifth commodity, Farm Products, replaces Petroleum or Coal Products. In order of tonnage, the top 5 2040 commodities are:

- Nonmetallic Minerals (3.6M tons),
- Secondary Traffic (2.9M tons),
- Clay, Concrete, Glass or Stone (2.2M tons),
- Food or Kindred Products (1.8M tons), and
- Farm Products (922K tons).

Outbound Freight, Tonnage

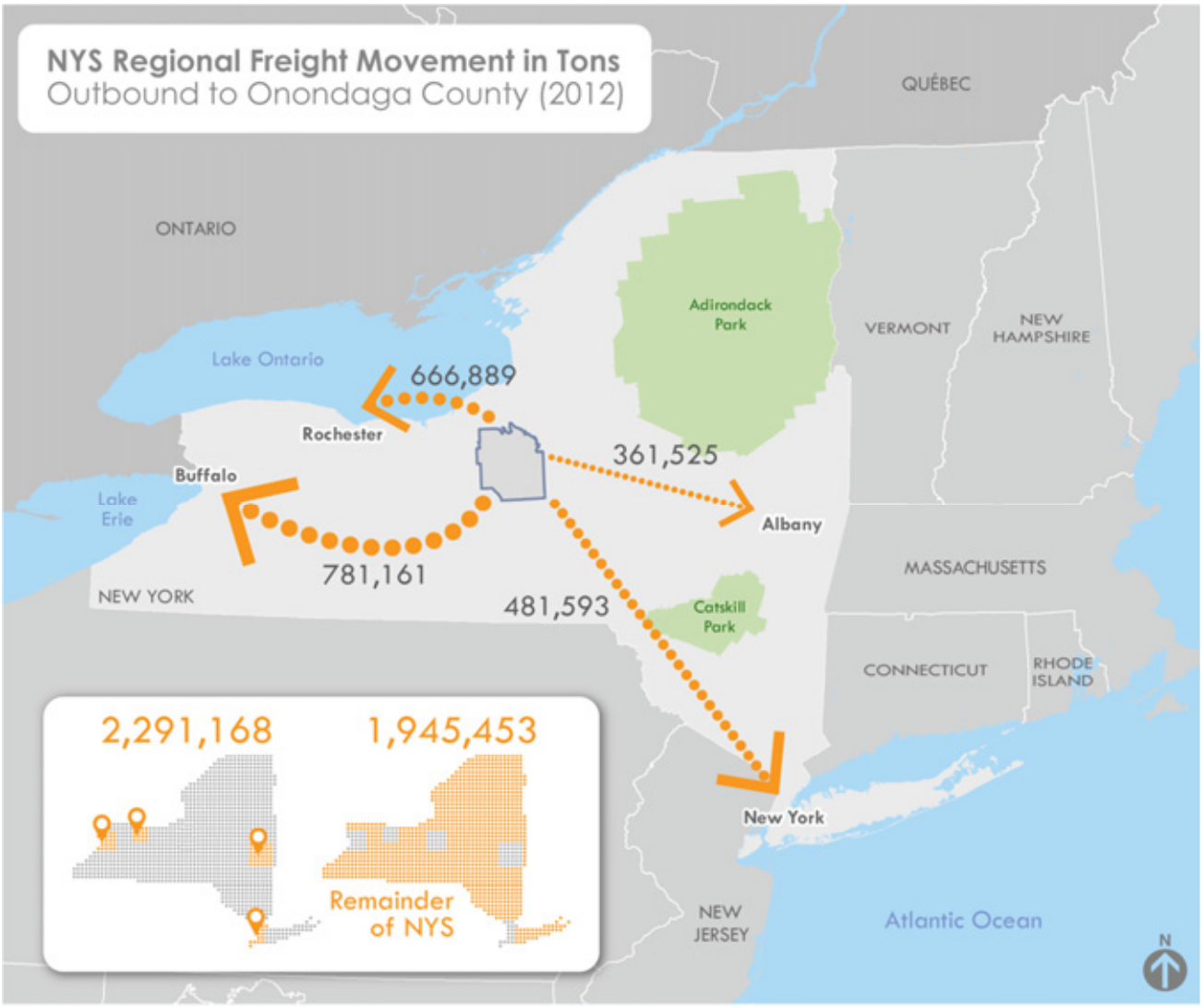
Freight tonnage is also depicted by outbound movements (Exhibit 25). According to 2012 data, nearly 10.5 million tons of freight originated in Onondaga County. Of this amount, 41% of all freight tonnage that originated in Onondaga County had a destination within New York State (4.2 million tons). Similar to inbound tonnage discussed above, when the "Rest of NY" category is removed, of the four largest metropolitan areas in the state, Buffalo ranked the highest based on outbound tonnage (approximately 781,000 tons) followed by Rochester, New York City and Albany areas. Outside of New York State, the Northeast states received the most outbound freight from Onondaga County (approximately 2.9 million tons). The predominant mode of transportation utilized for the distribution of freight was via truck at 85%. The remaining 15% was carried via rail.

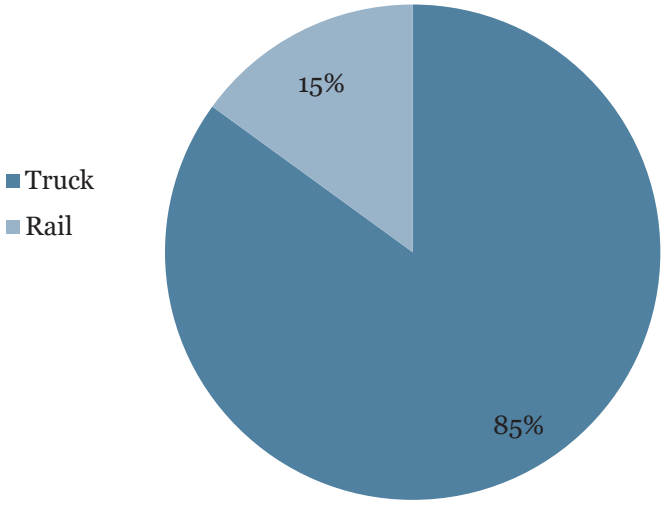
Exhibit 25 - Outbound Onondaga County tonnage by region and mode, 2012

Region	Truck Tons	Air Tons	Other Tons	Rail Tons	Total Tons
Albany	361,505	20	0	0	361,525
Buffalo	749,778	3,624	0	27,760	781,161
NYC	458,838	435	0	22,320	481,593
Rochester	666,863	26	0	0	666,889
Rest of NY	1,849,896	397	0	95,160	1,945,453
Northeast	2,592,353	4,284	0	300,240	2,904,877
South	1,126,095	6,220	0	120,480	1,252,794
Midwest	949,079	2,744	0	955,680	1,907,503
West	43,016	5,505	0	15,880	64,401
Canada	68,091	3	68	13,000	81,162
Mexico	13,635	0	25	0	13,660
	8,879,148	23,256	93	1,558,520	10,461,018

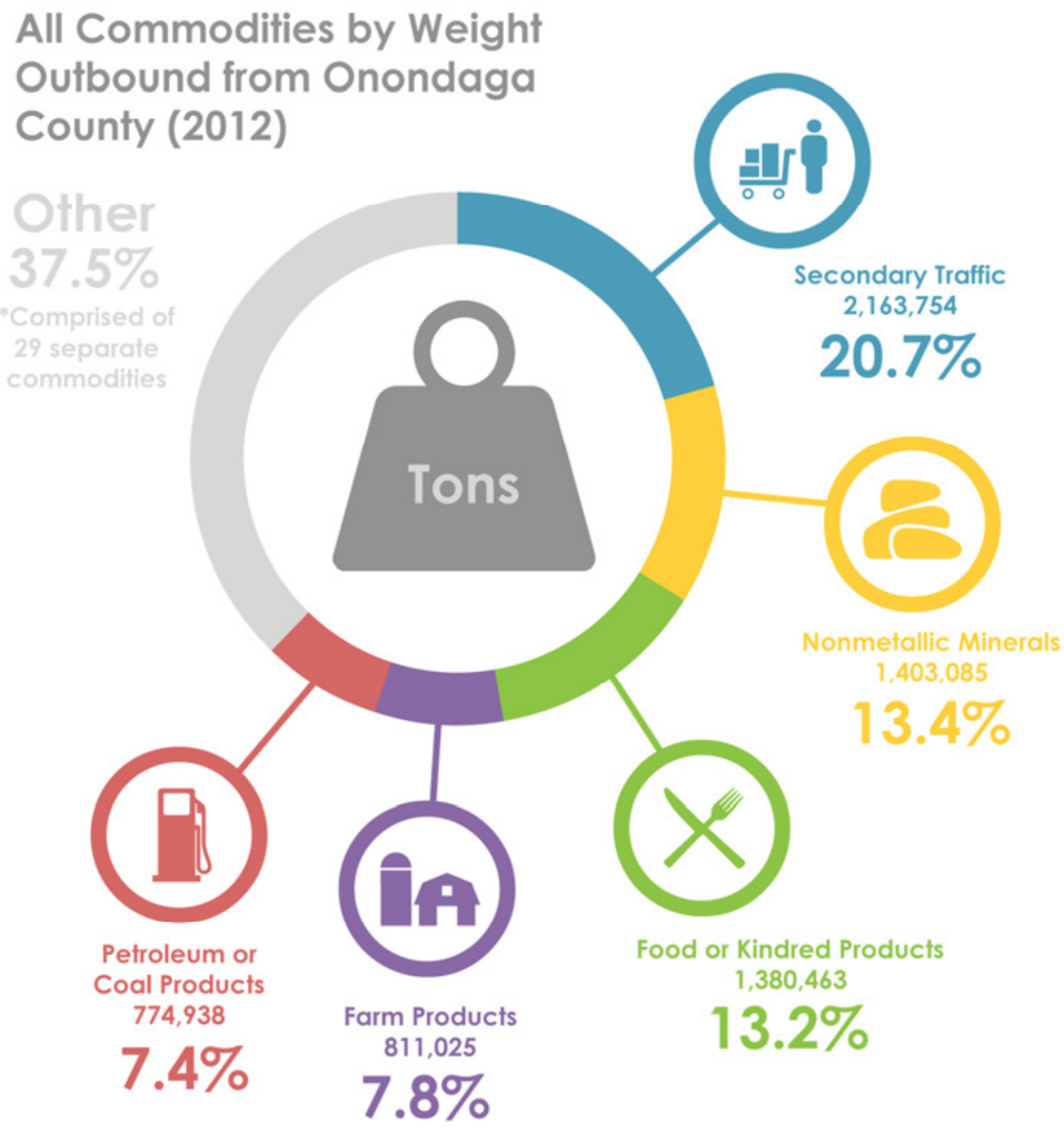
Source: IHS/Global Insight TRANSEARCH


Regional Freight Movement in Tons
Outbound from Onondaga County (2012)
CANADA
81,162
NORTH EAST
2,904,877
LAKE SUPERIOR
LAKE HURON
LAKE MICHIGAN
LAKE ONTARIO
Syracuse
LAKE ERIE
64,401
1,907,503
13,660
1,252,794
WEST
MIDWEST
SOUTH
ATLANTIC OCEAN
GULF OF MEXICO
MEXICO
N





Source: IHS/Global Insight TRANSEARCH



The top 5 commodities outbound from Onondaga County (2012) by tonnage include:

- Secondary Traffic (2.2 M tons);
- Nonmetallic Minerals (1.4 M tons);
- Food or Kindred Products (1.4 M tons);
- Farm Products (811 K tons); and
- Petroleum or Coal Products (775 K tons).

Similar to the top 5 commodities inbound, the outbound commodities of Secondary Traffic, Nonmetallic Minerals, and Petroleum or Coal Products are the most prevalent between the individual regions for transported tonnage.

In terms of estimated mode of transport in 2040, truck equates for 76% of all movements by tonnage, which is a 9% decrease when compared to 2012 figures. The remaining 24% is accounted for by rail (a 9% increase from 2012). Overall, tonnage is projected to increase 9% to approximately 11.4 million tons. The top 5 commodities from Onondaga County in 2040 are projected to be:

- Secondary Traffic (2.4M tons),
- Farm Products (1.4M tons),
- Shipping Containers (1.2M tons),
- Food or Kindred Products (1.1M tons), and
- Waste or Scrap Materials (952K tons).

Inbound Freight, Value

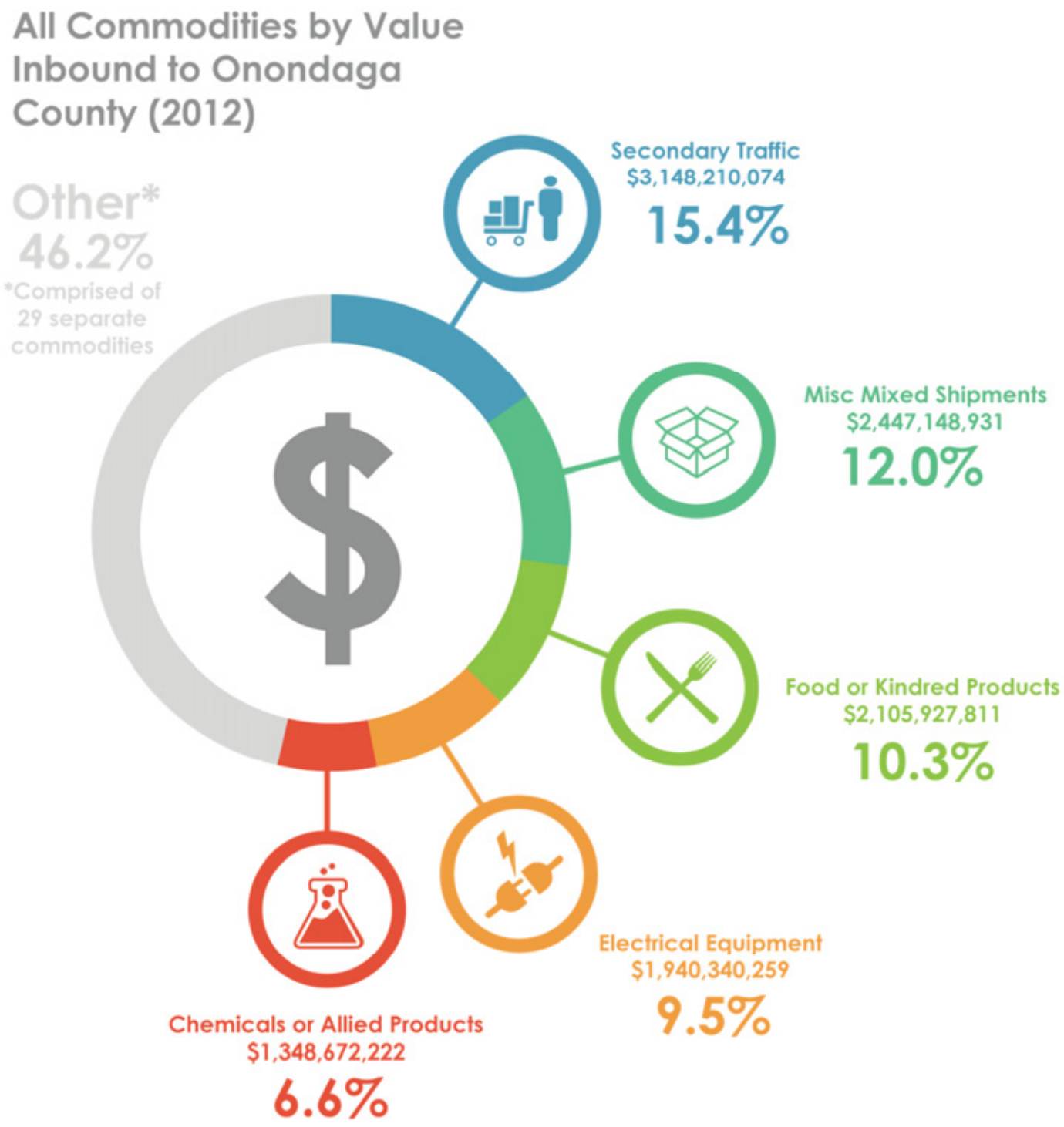
Another useful measure when examining freight data is by "value." According to 2012 TRANSEARCH data, the value of inbound freight to Onondaga County was approximately $20.4 billon.

Of the various geographic categories listed in Exhibit 26, the Northeast ranked the highest by value transported at $4.853 billion (24%). The second and third ranked locations were Midwest and South states, respectively. The Buffalo region is a key trading partner by value of freight at just over $1.3 billion. By mode, freight moved by truck was the principal mode of transportation (78%).

Exhibit 26 - Inbound Onondaga County tonnage by value, by mode, 2012

Region	Truck ($M)	Air ($M)	Other ($M)	Rail ($M)	Total ($M)
Albany	$787.24	$169.06	$0.00	$0.00	$956.3
Buffalo	$1,128.83	$184.97	$0.00	$20.99	$1,334.79
NYC	$416.37	$85.56	$0.00	$0.00	$501.93
Rochester	$658.50	$6.75	$0.00	$0.00	$665.25
Rest of NY	$2,130.56	$10.81	$0.00	$0.00	$2,141.37
Northeast	$4,348.16	$372.43	$0.00	$132.55	$4,853.14
South	$2,694.63	$390.29	$0.00	$298.13	$3,383.05
Midwest	$2,660.59	$226.49	$0.00	$1,911.50	$4,798.58
West	$515.93	$424.80	$0.00	$293.93	$1,234.66
Canada	$386.78	$3.34	$0.08	$0.00	$390.20
Mexico	$129.39	$0.00	$0.20	$0.00	$129.59
	$15,856.97	$1,874.49	$0.28	$2,657.10	$20,388.84

Source: IHS/Global Insight TRANSEARCH

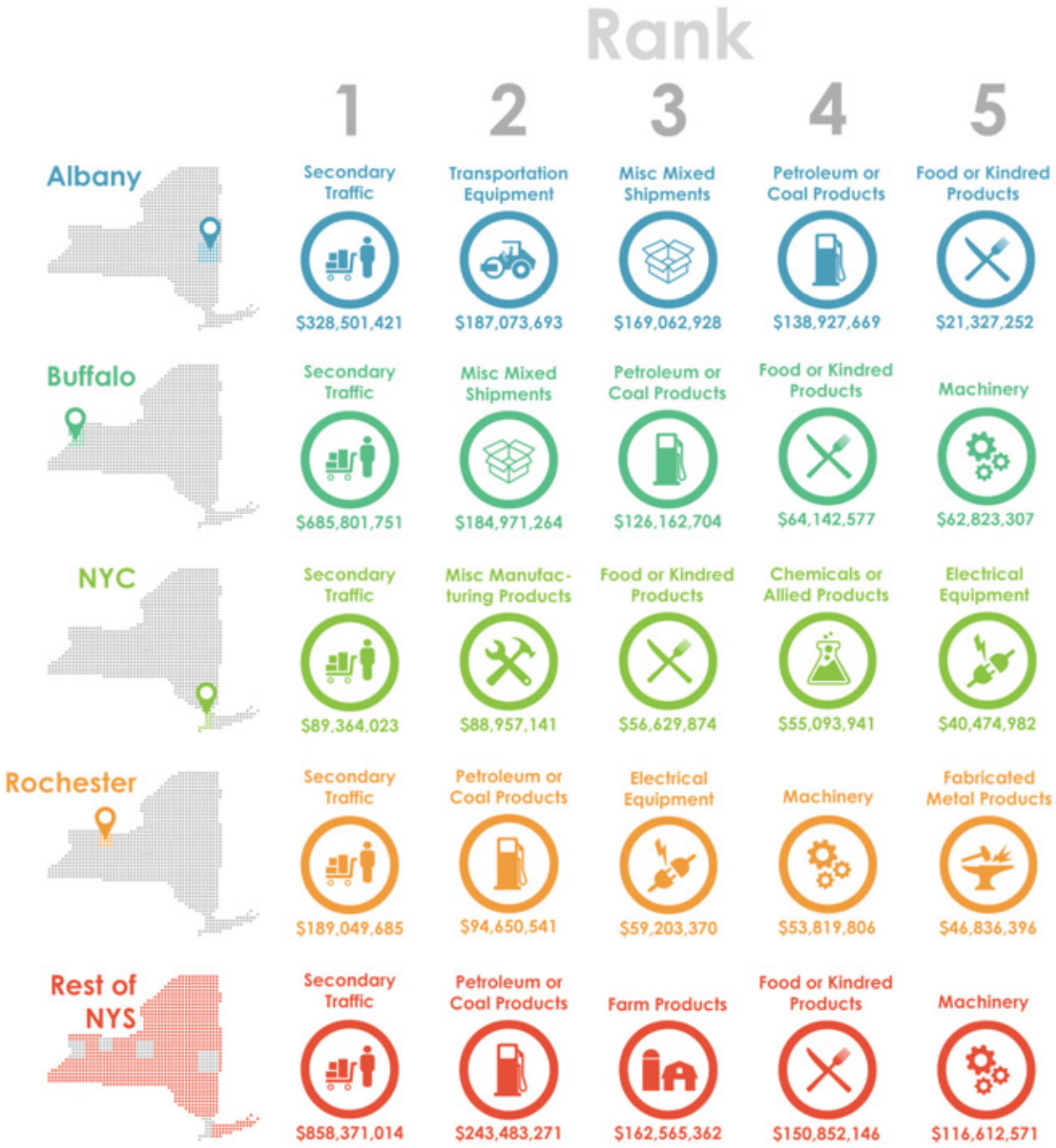


The top 5 commodities inbound to Onondaga County (2012) in order of value are:

- Secondary Traffic ($3.148B);
- Miscellaneous Mixed Shipments ($2.447M);
- Food or Kindred Products ($2.106B);
- Electrical Equipment ($1.940B); and
- Chemicals or Allied Products ($1.349B).

Buffalo's first ranked commodity inbound to Onondaga County in terms of value, Secondary Traffic, is nearly double that of Albany's and only 20% less than the value of Secondary Traffic from "Rest of NYS"; again, showing the interconnected trade relationship Onondaga County has with the Buffalo metropolitan region.

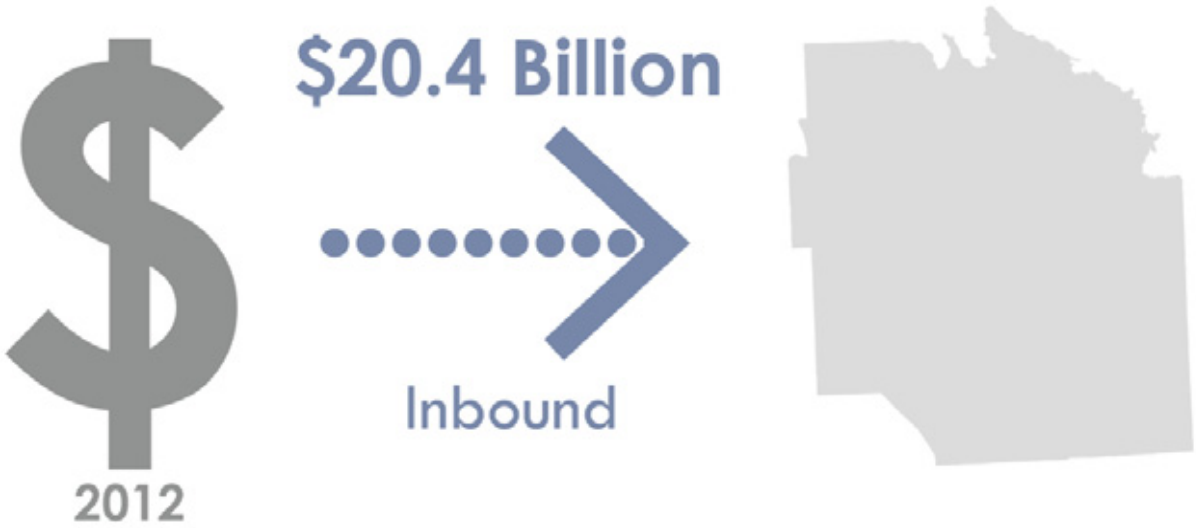
NYS Regions - Top 5 Commodities by Value Inbound to Onondaga County (2012)



2040 TRANSEARCH projections show that $31.2 billion of freight will be transported to Onondaga County or, an increase of 53% from 2012. By mode, the value of freight moved by truck was the primary mode of transportation at 77%. Rail moved 12% of freight by value, while air transport filled out the remaining 11%. The top 5 commodities in terms of value for 2040 include:

- Secondary Traffic ($5.4B),
- Electrical Equipment ($3.6B),
- Miscellaneous Mixed Shipments ($3.6B),
- Machinery ($3.0B), and
- Food or Kindred Products ($2.5B).

The value of Machinery sees a 127% increase from its 2012 value ($1.3B).



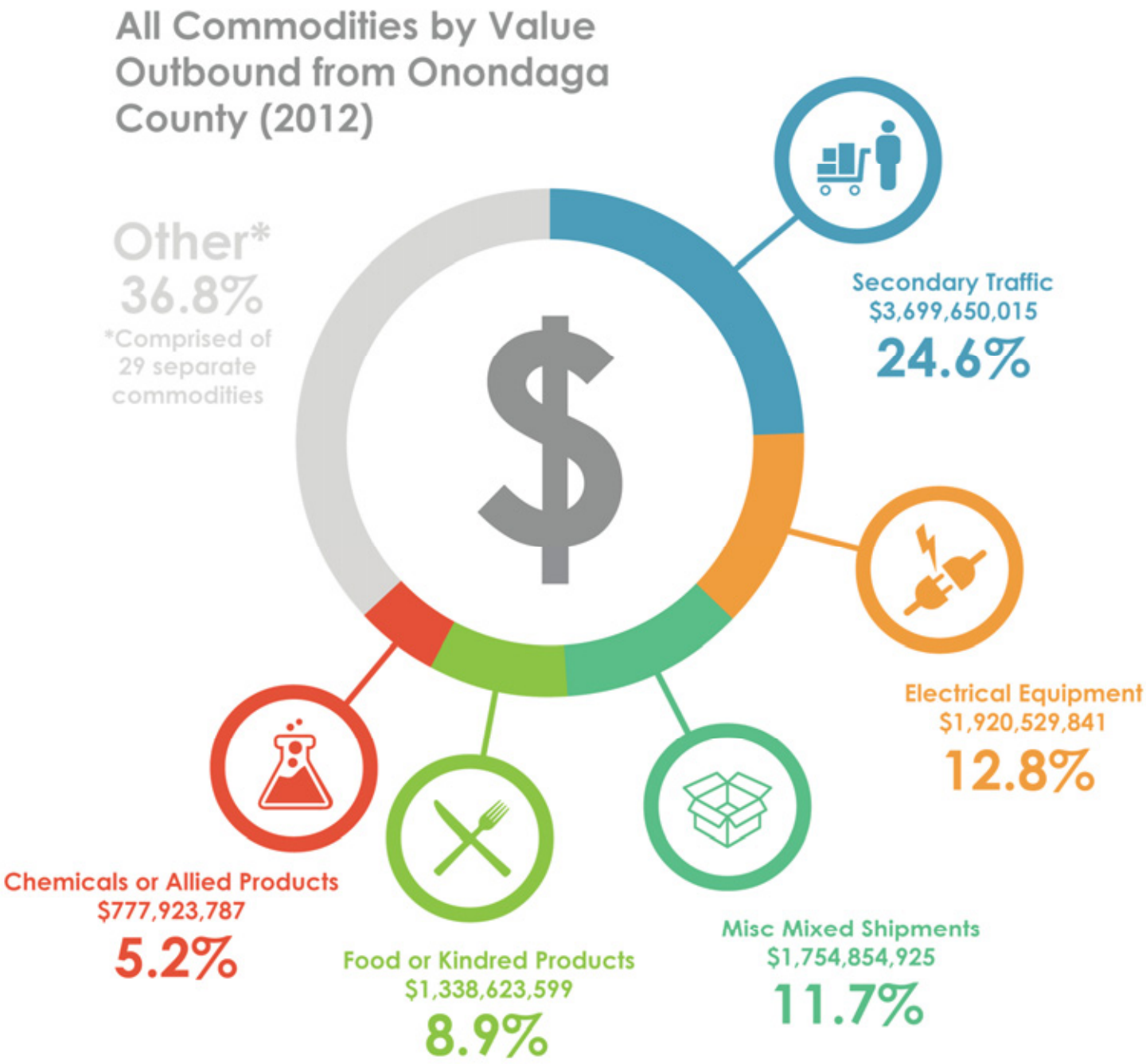
Outbound Freight, Value

For outbound freight value (Exhibit 27), approximately $15 billion was moved from Onondaga County in 2012 with 22% going to the Northeast states. In terms of percentage of value, the Midwest ranked second with 21% while the South states, "Rest of NY" and the Buffalo metropolitan area filled out the top five, respectively. Movement by truck carried nearly three quarters of freight by value with the remaining filled out by rail and air (13% each).

Exhibit 27 - Outbound Onondaga County tonnage by value, by mode, 2012

Region	Truck ($M)	Air ($M)	Other ($M)	Rail ($M)	Total ($M)
Albany	$433.27	$1.12	$0.00	$0.00	$434.39
Buffalo	$1,195.36	$207.23	$0.00	$13.70	$1,416.29
NYC	$571.26	$37.90	$0.00	$15.85	$625.01
Rochester	$731.94	$1.49	$0.00	$0.00	$733.43
Rest of NY	$1,705.51	$24.57	$0.00	$6.82	$1,736.90
Northeast	$2,671.19	$354.10	$0.00	$223.49	$3,248.78
South	$1,790.14	$550.74	$0.00	$371.18	$2,712.06
Midwest	$1,497.35	$288.24	$0.00	$1,296.69	$3,082.28
West	$117.26	$473.47	$0.00	$65.03	$655.76
Canada	$281.83	$0.25	$0.11	$6.52	$288.71
Mexico	$94.89	$0.00	$0.12	$0.00	$95.01
	$11,090.00	$1,939.11	$0.23	$1,999.28	$15,028.62

Source: IHS/Global Insight TRANSEARCH

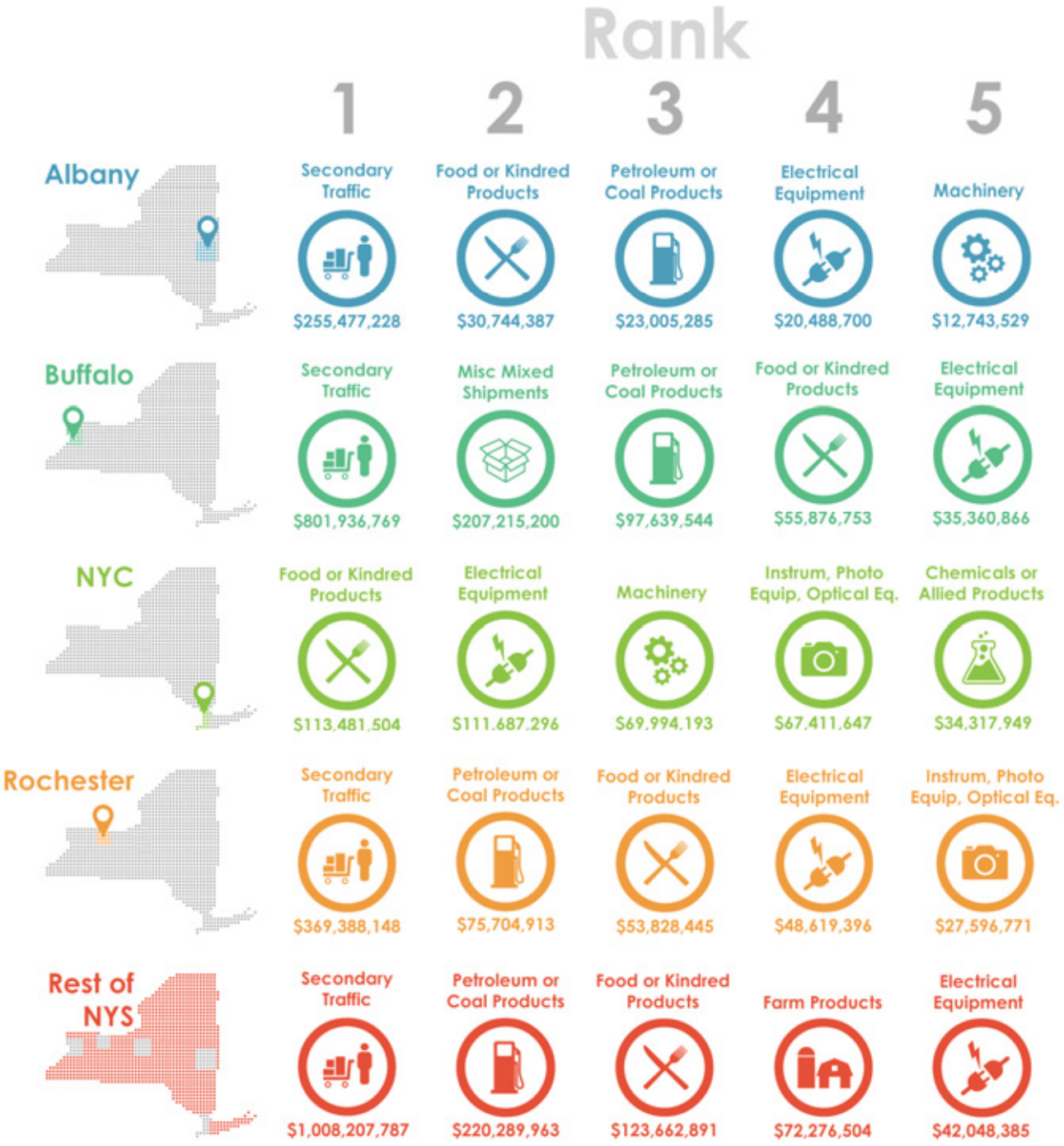


The top 5 commodities outbound from Onondaga County (2012) in order of value are:

- Secondary Traffic ($3.699B)
- Electrical Equipment ($1.921B);
- Miscellaneous Mixed Traffic ($1.755B);
- Food or Kindred Products ($1.339B); and
- Chemicals or Allied Products ($778M).

Secondary traffic is the top ranked commodity for 4 of the 5 areas noted below. Again, the Buffalo metropolitan area sees the most freight, in terms of value, from Onondaga County when compared to the other "metropolitan" areas (Rest of NYS excluded). The five NYS regions include 9 commodities spread between the top 5.

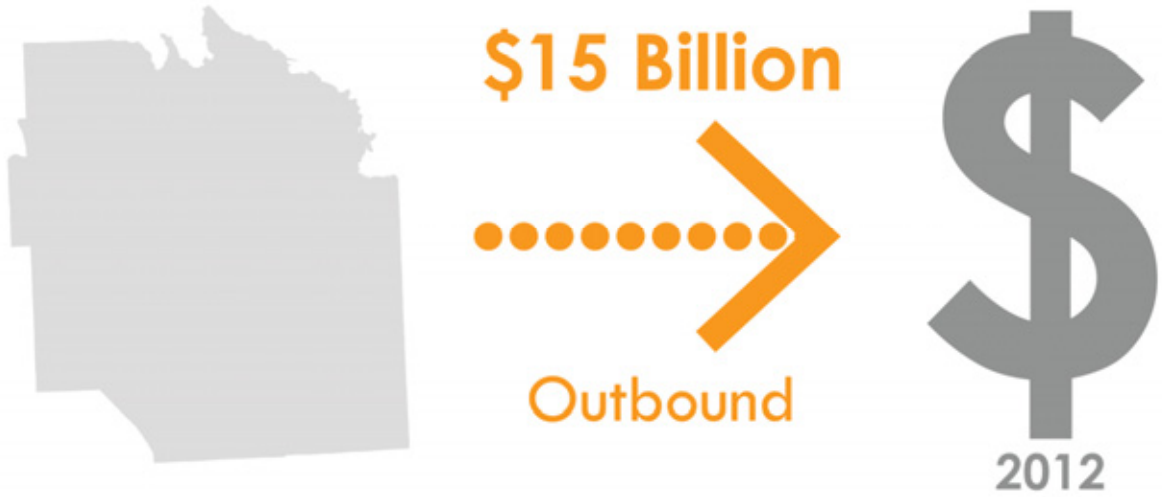
NYS Regions - Top 5 Commodities by Value Outbound from Onondaga County (2012)



The 2040 TRANSEARCH projection for freight moved out of Onondaga County is valued at $23.5 billion, a 53% increase from 2012. By mode, the value of freight moved by truck was the primary mode of transportation at 74%. The remaining 26% is split between air and rail modes (13% and 13%, respectively). The top 5 commodities in terms of value for 2040 include:

- Electrical Equipment ($5.1B),
- Secondary Traffic ($4.5B),
- Machinery ($2.70B),
- Miscellaneous Mixed Shipments ($2.4B), and
- Primary Metal Products ($1.3B).

The value of Machinery increases fourfold from its 2012 value ($658M).



Within Freight, Tonnage and Value

In addition to inbound and outbound freight flows, freight that originates in Onondaga County also stays in, and is distributed in, the county. For the freight profile purposes, this is termed as "within" or "internal" freight movement. Based on TRANSEARCH data, a total of approximately 957,000 tons of freight all moved by truck occurred in 2012. In terms of value, the 957,000 tons was about $3.2 billion.

The top 5 commodities moved within Onondaga County (2012) in order of value are:

- Secondary Traffic ($3.016B)
- Petroleum or Coal Products ($34.556M)
- Electrical Equipment ($25.950M);
- Food or Kindred Products ($25.110M); and
- Instruments, Photo Equipment, Optical Equipment ($19.007M).

The 2040 TRANSEARCH tonnage and value estimates for freight moved within Onondaga County, all via truck, equate to 1.2 million tons (25% increase from 2012) and $5.2 billion (63% increase from 2012). The top 5 commodities in terms of value for 2040 include Secondary Traffic ($4.9B), Electrical Equipment ($69.1M), Machinery ($58M), Fabricated Metal Products ($27.7M), and Instruments, Photo Equipment, Optical Equipment ($26.7M). The value of Machinery sees a 308% increase from its 2012 value ($658K).

When looking at commodities strictly by tonnage and not inclusive of value, there are two commodities that are included in both lists (2012 and 2040); Secondary Traffic and Clay, Concrete, Glass or Stone. The following are the top 5 commodities by tonnage moved within Onondaga County in 2012 and 2040.

2012

- Secondary Traffic
- Clay, Concrete, Glass or Stone
- Petroleum or Coal Products
- Nonmetallic Minerals
- Food or Kindred Products

2040

- Secondary Traffic
- Clay, Concrete, Glass or Stone
- Farm Products
- Waste or Scrap Materials
- Primary Metal Products

As described in the previous summaries, freight tonnage and value transported by truck in all "directions" is the prevailing mode of transport both in 2012 and the 2040 forecasts. In terms of general trading partners, the TRANSEARCH data follows the Brookings' conclusion that freight essentially moves between metropolitan areas. The key trading partner for Onondaga County in terms of both inbound and outbound freight is the Buffalo metropolitan area. 2012 and 2040 forecasts for all commodities by direction, mode of transport, tonnage, and value are found in Appendix 3.

	Ton					
	Inbound		Outbound		Internal	
Mode	2012	2040	2012	2040	2012	2040
Other	6.12	29.75	93.18	290.43	0.00	0.00
Plane	23,281.53	43,701.52	23,256.24	31,040.62	0.00	0.00
Rail	1,328,929.00	1,882,397.90	1,558,520.00	2,682,594.85	0.00	0.00
Truck	12,136,902.57	15,133,584.55	8,879,148.11	8,727,073.20	957,108.25	1,232,734.71
Total	**13,489,119.22**	**17,059,713.72**	**10,461,017.53**	**11,440,999.10**	**957,108.25**	**1,232,734.71**
	Value					
	Inbound		Outbound		Internal	
Mode	2012	2040	2012	2040	2012	2040
Other	$277,016.22	$812,960.96	$223,486.22	$760,106.59	$0.00	$0.00
Plane	$1,874,493,127.91	$3,483,190,414.47	$1,939,118,676.69	$3,067,454,580.05	$0.00	$0.00
Rail	$2,657,095,740.19	$3,790,625,775.85	$1,999,279,151.77	$3,095,057,642.68	$0.00	$0.00
Truck	$15,856,971,602.94	$23,886,811,556.30	$11,089,998,775.68	$17,293,853,710.35	$3,221,480,433.81	$5,178,651,300.30
Total	**$20,388,837,487.26**	**$31,161,440,707.58**	**$15,028,620,090.36**	**$23,457,126,039.67**	**$3,221,480,433.81**	**$5,178,651,300.30**

Source: IHS/Global Insight TRANSEARCH

Section 3 – Outreach and stakeholder engagement

Freight Questionnaire

In early 2013, the SMTC developed a freight questionnaire targeted specifically to the freight community with the intention of gaining a greater understanding of perceived concerns or issues with the transportation system. The questionnaire sought to obtain information on where freight users encountered highway-related issues such as limited sightlines, congestion, clearances, turning radii, access issues to rail facilities, ramp designs, and any other highway-related restrictions.

The initial outreach did not provide a sufficient number of responses for the SMTC to draw any comprehensive conclusions. However, when asked what travel routes are used, the limited number of responses point to the interstate system. Subsequently, additional outreach through assistance of the Trucking Association of New York (at the time known as the New York State Motor Truck Association [NYSMTA]) occurred. A description of the SMTC's freight questionnaire was contained in the March 21, 2014, "Friday Final" NYSMTA newsletter. The newsletter was distributed statewide via hardcopy and electronically. Similar to the initial 2013 outreach, few responses were received. A copy of the questionnaire instrument is found in the appendices along with complete summary statistics. Looking ahead, additional forms of outreach may be undertaken such as direct communication with various businesses and partnering with a member agency to re-distribute an updated questionnaire. Overall, the following percentages and takeaways can be gleaned based strictly on the responses received, albeit a low number of respondents.

In general, twenty questions were asked. When asked what issues may exist along a travel route and where, respondents noted the Interstate 81/Interstate 690 interchange; the NYS Fairgrounds area and city streets during rush hour. When asked if these routes are their desired ones, one-hundred percent responded with 'yes.' Noting that there are perceived issues along the desired routes, seventy-five percent

of respondents identified that they are able to travel at the posted speed along those routes.

The Interstate 81 and Interstate 690 interchange has been under study by the NYSDOT in the Syracuse area for several years. From 2008 to 2013, NYSDOT, in collaboration with the SMTC, completed The I-81 Challenge, a significant planning effort focused on identifying plausible improvements to the elevated (i.e., viaduct) Interstate 81 through the City of Syracuse and its surroundings. The NYSDOT is currently in the NEPA process for the subject project and has narrowed alternatives down, potentially, to 3 options (not including a no-build alternative): rebuild the viaduct; construct a community grid; or build a tunnel. A draft Environmental Impact Statement is scheduled for release in the coming months. Whichever option is selected will make needed functional improvements to the interchange thereby alleviating concerns brought forward by several questionnaire respondents. A related heavy vehicle issue noted throughout the Interstate 81 planning and NEPA processes is that heavy vehicles could adversely be impacted should the community grid option be the selected alternative. Under this alternative, the existing Interstate 481 would be re-designated as Interstate 81. Interstate 81 through movements (northbound and southbound) would add an additional 3.7 miles each trip. Additionally, community members and freight industry representatives are concerned with the potential for increased trucks traveling through rural communities with destinations west of Syracuse. Recommendations specific to this routing concern are not included in this freight profile; however, additional examination of the heavy vehicle situation could be accounted for through the NYSDOT's Interstate 81 NEPA process.

Freight Roundtable

The Syracuse area was fortunate to hold one of 25 freight roundtables with the FHWA Administrator in May 2016. The SMTC, in conjunction with NYSDOT, CenterState CEO, and the Central New York Regional Economic Development Council, hosted the "Federal Highway Administration's Beyond Traffic 2045 Administrator's Roundtable on the Freight Economy." The FHWA held regional, policy-specific roundtables with state and local transportation representatives, the business community, safety and environmental advocates, and freight stakeholders. According to FHWA, the roundtables were a platform to discuss national, state, and local freight economic opportunities and impacts, including elements of national and state freight plans and related performance measures. The Syracuse meeting, attended by over 50 representatives, offered an opportunity to share ideas, insights and experiences to improve freight movement nationally and in the Syracuse region. Based on the freight stakeholders' input, the local and regional freight system operates well with limited

bottleneck locations on the interstate system, adequate speeds, and relative ease of movement along first mile/last mile connections. Although it is generally accepted that the Syracuse metropolitan area has limited locations of congestion, short commute times, acceptable travel speeds on all roadways for both commercial and passenger vehicles, particularly on the interstate system and other limited access highways, it is noted that the area's infrastructure is in need of significant investment.

FHWA Freight Roundtable, Syracuse, NY

Section 4 – Freight related capital projects

Taking into consideration the valuable insight and suggestions brought forward during the 2016 "Freight Roundtable" and subsequent communications with stakeholders and member agencies, the principal freight related project that is suggested for an outcome is the NYSDOT's effort regarding Interstate 81 in the City of Syracuse, followed by the creation of an inland port. As described in the previous section, both of these projects are identified in the SMTC's 2050 LRTP as regionally significant projects. However, there are several other bridge and pavement projects, many currently programmed on the 2017-2020 Statewide Transportation Improvement Program, which will have tangible benefits to the movement of freight in the Syracuse planning area, Central New York and beyond once construction is complete. The projects are located on facilities on the nationally recognized Primary Highway Freight System (Interstate 81) and/or the SMTC's identified "primary freight corridors."

Near-term projects

- Rt 635 bridge over I690 & Rt 635 bridge over CSX, City of Syracuse
  - Replace deficient bridges on interstate system. Project will include element specific repairs (bearings, etc.)
- Taft Rd bridge over I81, Town of Cicero
  - Element specific repairs to deficient bridge (joints, bearings, and bridge rails)
- I81 MBC, Cortland County line to US 20, Towns of Tully & LaFayette
  - Preventative maintenance to extend service life of pavement.
- Airport Rd bridges over I81, Town of Salina
  - Structure is over 50 years old and a number of elements are showing moderate to serious deterioration, and deck needs to be replaced
- I81 MBC, US 20 to Rt 173, Towns of LaFayette, Onondaga & City of Syracuse
  - Preventative maintenance to extend service life of pavement.
- I690 over CSX, Town of Geddes

    - Element specific repairs to deficient bridge (joints, bearings, pedestals and piers)
- I690 over Bridge St, Town of DeWitt
    - General bridge repairs, corrective highway maintenance, state of good repair
- I81 MBC, Rt 31 to Rt 49, Towns of Cicero, Hastings & West Monroe
    - Keep the pavement in good condition with a 1-course overlay. Address identified roadside appurtenance and safety needs as appropriate.
- Rt 481 MBC, Onondaga County line to Fulton, Towns of Schroeppel & Granby
    - Preventative maintenance to extend service life of pavement.
- W Taft Rd Paving, Buckley to South Bay, Town of Clay
    - Overlay or inlay with 2-course of pavement. Minor drainage, roadside obstacle, guiderail, signage, and striping improvements will be made as part of this project.
- W Taft Rd Paving, Burr to Hollywood, Town of Clay
    - Overlay or inlay with 1-course of pavement. Minor drainage, roadside obstacle, guiderail, signage and striping improvements will be made as part of the project.
- Old Liverpool Rd, Electronics Pkwy to Buckley Rd, Town of Salina
    - Address deteriorating pavement along Old Liverpool Road between Electronics Pkwy and Buckley Rd in need of treatment.
- E Taft Rd Paving, Northern Blvd to Fremont, Town of Cicero
    - Overlay or inlay with 2-courses of pavement. Drainage, roadside obstacle, guiderail, signage, and striping improvements will be made as part of this project.

Long-term projects

As for longer-term projects beyond Interstate 81 construction and a possible inland port facility in Onondaga County, there are ancillary activities of which the NYSDOT is considering along several segments of the interstate system in Onondaga County and the Route 298 (Bear St) bridge over Onondaga Creek in the City of Syracuse. There are many bridges and sections of pavement located on the SMTC's "primary freight corridors" that would be candidates for rehabilitation, replacement or reconstruction given their current condition. However, as capital dollars are constrained at all levels of government, maintenance activities will be deferred. An outcome of such deferral is that conditions of these facilities will continue to degrade. Therefore, it is recommended that these already identified corridors be prioritized during future capital improvement updates. Locations include, but are not limited to:

- Northern Blvd, NY 298 to Interstate 481, Town of DeWitt; and
- West Entry Rd, Willett Pkwy to Sixty Rd, Town of Lysander.

At this time, there are no other site specific improvements (i.e., bridge, road, intersection, or rail-crossing) that staff has been made aware of for suggested future improvements due to geometric constraints, capacity concerns, bottlenecks or safety concerns.

Appendix 1 – Bridge tables

Railroad Owned Bridges

BIN	CARRIED	CROSSED
4433010	CONRAIL	ERIE BARGE CANAL
4433060	CONRAIL	NYS BARGE CANAL
4433100	CSX TRANSPRTATION	TERMINAL CHANNEL
7008471	NY SUSQUEHANNA& W	11 X
7008472	NY SUSQUEHANNA& W	11 X
7008500	CSX TRANSPRTATION	11 11 33033004
7015780	NY SUSQUEHANNA& W	20 20 33081202
7039290	FINGER LAKES	174 174 33011132
7045190	CSX TRANSPRTATION	298 298 33012013
7027340	CSX TRANSPRTATION	370 57 33012011
7027400	CSX TRANSPRTATION	370 57 33012012
7049810	CSX TRANSPRTATION	LEMOYNE AVE-CR219
7049990	NY SUSQUEHANNA& W	WEST ST ARTERIAL
7312580	NY SUSQUEHANNA &W	EAGER ROAD CR 232
7700340	NY SUSQUEHANNA& W	5 5 33082012
7706350	NY SUSQUEHANNA& W	E BRIGHTON AVE
7706360	NY SUSQUEHANNA& W	EAST COLVIN ST
7706370	NY SUSQUEHANNA& W	RENWICK AVENUE
7706380	NY SUSQUEHANNA& W	BURT STREET
7706390	NY SUSQUEHANNA& W	S MCBRIDE STREET
7706400	NY SUSQUEHANNA& W	OAKWOOD AVENUE
7706410	NY SUSQUEHANNA& W	MONTGOMERY STREET
7706420	NY SUSQUEHANNA& W	S SALINA STREET
7706430	NY SUSQUEHANNA& W	CLINTON STREET
7706440	NY SUSQUEHANNA& W	W ADAMS STREET
7706450	NY SUSQUEHANNA& W	W ONONDAGA ST
7706470	NY SUSQUEHANNA& W	RAILROAD YARD RD
7706480	NY SUSQUEHANNA& W	W FAYETTE STREET
7706491	NY SUSQUEHANNA& W	S GEDDES STREET
7706492	NY SUSQUEHANNA& W	S GEDDES STREET
7706493	NY SUSQUEHANNA& W	S GEDDES STREET
7706500	NY SUSQUEHANNA& W	W GENESEE STREET
7706510	NY SUSQUEHANNA& W	W HIAWATHA BLVD
7706520	CSX TRANSPRTATION	7TH N ST-CO RD 45
7714261	NY SUS & W SIDING	WEST FAYETTE ST
7714262	NY SUS & W SIDING	WEST FAYETTE ST
7715560	CSX RAILROAD	N MIDLER AVE

Source: NYSDOT Bridge Inventory

Low Clearance Bridges

BIN	Carried	Crossed	Primary Owner	Vertical Clearance	Description
1002070	5 X	WEST ST ARTERIAL	NYSDOT	14.5	Low Clearance, NHS
1002131	481I481I33012045	5 5 33083022	NYSDOT	14.25	Low Clearance, NHS
1002132	481I481I33012045	5 5 33083022	NYSDOT	14.08	Low Clearance, NHS
1008489	81I 81I33032050	NORTH SALINA ST	NYSDOT	13.92	Low Clearance, General
1008520	11 1133033008	90IX	NYS Thruway Authority	14.83	Low Clearance, NHS
1008550	11 11 34041024	CSX TRANSPRTATION	NYSDOT	21.67	Low Clearance, RR
1031480	81I 81I33031102	WEBB ROAD	NYSDOT	12.5	Low Clearance, General
1031510	EAST GLEN AVENUE	81I 81I33032015	NYSDOT	14.33	Low Clearance, NHS
1031529	81I 81I33032021	E CALTHROP AVENUE	NYSDOT	13.5	Low Clearance, General
1031539	81I 81I33032024	EAST BRIGHTON AVE	NYSDOT	13.92	Low Clearance, General
1031559	81I 81I33032033	Martin Luther King East	NYSDOT	12.92	Low Clearance, General
1031569	81I 81I33032033	EAST ADAMS STREET	NYSDOT	13.58	Low Clearance, General
1031570	BUTTERNUT STREET	81I 81I33032053	NYSDOT	14.83	Low Clearance, NHS
1031580	SPENCER STREET	81I 81I33032055	NYSDOT	15	Low Clearance, NHS
1031590	COURT STREET	81I 81I33032058	NYSDOT	14.75	Low Clearance, NHS
1031600	298 298 33011008	81I 81I33032060	NYSDOT	13.83	Low Clearance, General
1031610	HIAWATHA BLVD	81I 81I33032163	NYSDOT	14.33	Low Clearance, NHS
1031620	FRM 81I-HIA BLVD	81I 81I33032066	NYSDOT	14.58	Low Clearance, NHS
1031640	SEVENTH NORTH ST.	81I 81I33033009	NYSDOT	13.75	Low Clearance, General
1031659	81I 81I33033012	90IX	NYSDOT	14	Low Clearance, NHS
1031660	RAMP TO I81NB&I90	81I 81I33033013	NYSDOT	14.33	Low Clearance, NHS
1031671	81I 81I33033025	11 11 33033021	NYSDOT	13.83	Low Clearance, General
1031672	81I 81I33033025	11 11 33033022	NYSDOT	13.83	Low Clearance, General
1031681	AIRPORT ROAD (WB)	81I 81I33033033	NYSDOT	14.33	Low Clearance, NHS
1031682	AIRPORT ROAD (EB)	81I 81I33033033	NYSDOT	14.5	Low Clearance, NHS
1031690	TAFT ROAD	81I 81I33033041	NYSDOT	14	Low Clearance, NHS
1031720	SOUTH BAY RD	81I 81I33033062	NYSDOT	15.75	Low Clearance, NHS
1031740	BARTELL ROAD	81I 81I33033120	NYSDOT	15.83	Low Clearance, NHS
1031780	COUNTY ROAD 12	81I 81I34041046	NYSDOT	15.75	Low Clearance, NHS
1031790	COUNTY ROAD 32	81I 81I34041063	NYSDOT	15.92	Low Clearance, NHS
1031810	County Road 38	81I 81I34041096	NYSDOT	15.83	Low Clearance, NHS
1021870	31 31 33091014	CSX RR / AMTRAK	NYSDOT	21.75	Low Clearance, RR
1021961	81I 81I33033080	31 31 33011251	NYSDOT	14.25	Low Clearance, NHS
1021962	81I 81I33033080	31 31 33011251	NYSDOT	14.5	Low Clearance, NHS
1026099	690I690I33014014	90IX	NYSDOT	14	Low Clearance, NHS
1044900	290 290 33012002	CSX TRANS/AMTRAK	NYSDOT	21.08	Low Clearance, RR
1045170	297 297 33011019	CSX TRANS/ AMTRAK	NYSDOT	21.58	Low Clearance, RR
1045210	298 298 33012038	90IX	NYS Thruway Authority	13.83	Low Clearance, General
1053691	690 690I33011061	31 31 33091116	NYSDOT	13.92	Low Clearance, General
1053711	690 690 33031066	370 370 33031058	NYSDOT	14.08	Low Clearance, NHS
105384A	81I 81I33032043	ERIE BOULEVARD	NYSDOT	13.92	Low Clearance, General
1053860	81I 81I33032042	NORTH TOWNSEND ST	NYSDOT	13.92	Low Clearance, General
1053881	81I 81I33032047	N STATE STREET	NYSDOT	14.08	Low Clearance, NHS
1053882	81I 81I33032047	N STATE STREET	NYSDOT	14.33	Low Clearance, NHS
1053931	690I690I33012011	BEAR ST EXTENSION	NYSDOT	14.17	Low Clearance, NHS
1053932	690I690I33012011	BEAR ST EXTENSION	NYSDOT	14	Low Clearance, NHS
1053969	690I690I33012017	VAN RENSSELAER ST	NYSDOT	13.75	Low Clearance, General
1046850	370 370 33031080	CSX TRANSPRTATION	NYSDOT	19	Low Clearance, RR
1049529	690I690I33011002	CSX TRANSPRTATION	NYSDOT	21.08	Low Clearance, RR
1049550	PEDESTRIAN WALK	690I690I33011008	NYSDOT	14.42	Low Clearance, NHS
1049560	PEDESTRIAN WALK	690I690I33011015	NYSDOT	14.58	Low Clearance, NHS
1049580	RAMP R	ACCESS TO PARKING	NYSDOT	13.92	Low Clearance, General
1049600	RAMP N	STATE FAIR PARKNG	NYSDOT	13.92	Low Clearance, General
1049830	LEMOYNE AVE CR219	90IX	NYS Thruway Authority	15.08	Low Clearance, NHS
1050001	930B930B33011010	WEST GENESEE ST	NYSDOT	13.75	Low Clearance, General
1050002	930B930B33011010	WEST GENESEE ST	NYSDOT	12.75	Low Clearance, General
1050759	690I690I33012015	NO. GEDDES STREET	NYSDOT	13.92	Low Clearance, General
1050780	RAMP BB	690I690I133012021	NYSDOT	13.83	Low Clearance, General

BIN	Carried	Crossed	Primary Owner	Vertical Clearance	Description
1050790	RAMP DD	690I690I33032020	NYSDOT	13.83	Low Clearance, General
1050851	690I690I33012023	N.FRANKLIN STREET	NYSDOT	13.58	Low Clearance, General
1050852	690I690I33012023	N.FRANKLIN STREET	NYSDOT	12.83	Low Clearance, General
1050950	690I690I33012026	NORTH STATE STREET	NYSDOT	13.83	Low Clearance, General
105100A	690I690I33012027	N STATE ST- US 11	NYSDOT	14.42	Low Clearance, NHS
1051063	RAMP 'O' TO I690E	CATHERINE STREET	NYSDOT	12.75	Low Clearance, General
1051092	690I690I33012033	CROUSE AVENUE	NYSDOT	13.83	Low Clearance, General
1051139	690I690I33012037	BEECH STREET	NYSDOT	13.75	Low Clearance, General
1051149	690I690I33012040	TEALL AVENUE	NYSDOT	14.08	Low Clearance, NHS
1051160	S. MIDLER AVENUE	690I690I33012050	NYSDOT	13.75	Low Clearance, General
1061701	481 481 33011008	11 11 33033050	NYSDOT	14.92	Low Clearance, NHS
1061702	481 481 33011008	11 11 33033050	NYSDOT	14.33	Low Clearance, NHS
1061731	690I690I33004012	JN GLN RMP E-CR81	NYSDOT	14.58	Low Clearance, NHS
1061760	31 31 33091190	481 481 33011069	NYSDOT	14.08	Low Clearance, NHS
1061770	MORGAN ROAD	481 481 33011055	NYSDOT	14.17	Low Clearance, NHS
1061780	HENRY CLAY BLVD	481 481 33011049	NYSDOT	14.42	Low Clearance, NHS
1061790	690 X	JOHN GLENN RAMP F	NYSDOT	13.92	Low Clearance, General
1061810	VAN BUREN RD	690 690 33011034	NYSDOT	14.17	Low Clearance, NHS
1061820	CANTON ST	690 690 33011040	NYSDOT	14.08	Low Clearance, NHS
1064590	81I 81I33032042	I81NB	NYSDOT	14.08	Low Clearance, NHS
1064640	VERPLANK ROAD	481 481 33011075	NYSDOT	14.58	Low Clearance, NHS
1064650	KINNE ROAD	481I481I33012053	NYSDOT	15.92	Low Clearance, NHS
1064689	635 635 33101002	690I690I33013000	NYSDOT	14.42	Low Clearance, NHS
1064691	690I690I33013008	BRIDGE STREET	NYSDOT	14.33	Low Clearance, NHS
1064692	690I690I33013008	BRIDGE STREET	NYSDOT	14.33	Low Clearance, NHS
1064700	DURHAM ROAD	481 481 34021012	NYSDOT	14.25	Low Clearance, NHS
1064711	481 481 34021020	PHOENIX RD - CR12	NYSDOT	13.75	Low Clearance, General
1064720	264 264 34011015	481 481 34021035	NYSDOT	14.33	Low Clearance, NHS
1064730	BANKRUPT ROAD	481 481 34021058	NYSDOT	14.5	Low Clearance, NHS
1071350	FRM81I TO HIA BLVD	RAMP AB	NYSDOT	14.75	Low Clearance, NHS
1072581	481I481I33012107	TAFT ROAD CR 18	NYSDOT	14.25	Low Clearance, NHS
1072582	481I481I33012107	TAFT ROAD CR 18	NYSDOT	15.67	Low Clearance, NHS
1093310	695 695 33011019	690I690I33011018	NYSDOT	14.92	Low Clearance, NHS
1093370	PED RAMP-FRGRNDS	690IX	NYSDOT	14.83	Low Clearance, NHS
1093390	S.H. 5 ON RAMP	ROADWAY A	NYSDOT	14.17	Low Clearance, NHS
1093400	ROADWAY C	ROADWAY A	NYSDOT	14.25	Low Clearance, NHS
1093410	ROADWAY C	ROADWAY BD	NYSDOT	14.42	Low Clearance, NHS
1093460	BENNETT ROAD	5 5 33081317	NYSDOT	14.67	Low Clearance, NHS
1093480	173 173 33011092	5 5 33091336	NYSDOT	14.33	Low Clearance, NHS
1093681	481I481I33012088	90IX	NYSDOT	15.75	Low Clearance, NHS
1095510	690I690I33012024	81I 81I33032049	NYSDOT	13.83	Low Clearance, General
2208610	EAST BRIGHTON AVE	NY S & W/ONTRACK	City	20.92	Low Clearance, RR
2266610	PED/BIKE PATH	90IX	County	13.92	Low Clearance, General
3070780	LAKEPORT ROAD	CSX TRANS/ AMTRAK	County	21.75	Low Clearance, RR
3207920	ELMCRESTSCHOOLPED	J.GLENNBLVDEBCR81	County	14.67	Low Clearance, NHS
3312680	SYRACUSE-DEWITT R	NY SUSQUEHANNA& W	County	20.75	Low Clearance, RR
3312840	BUCKLEY ROAD	CSX TRANSPRTATION	County	21.58	Low Clearance, RR
3312890	COSTELLO PARKWAY	CSX TRANS/AMTRAK	County	21.58	Low Clearance, RR
3358210	FREMONT RD	CSX RR / AMTRAK	County	17.08	Low Clearance, RR
3358220	WILLIS AVENUE	CSX TRANS/ AMTRAK	County	19.58	Low Clearance, RR
5510030	N MANLIUS RD CR11	90IX	NYS Thruway Authority	14.42	Low Clearance, NHS
5510050	CR54 MINOA-SHEPPS	90IX	NYS Thruway Authority	14.17	Low Clearance, NHS
5510070	FREMONT RD CR 136	90IX	NYS Thruway Authority	14.67	Low Clearance, NHS
5510090	EXIT 35 RAMP	90IX	NYS Thruway Authority	13.92	Low Clearance, General
5510100	THOMPSON RD CR 13	90IX	NYS Thruway Authority	14.25	Low Clearance, NHS
5510120	CR 70 TOWNLINE RD	90IX	NYS Thruway Authority	13.92	Low Clearance, General
5510140	EXIT 36 RAMP	90 IX	NYS Thruway Authority	13.83	Low Clearance, General
5510160	EXIT 37 RAMP	90IX	NYS Thruway Authority	13.83	Low Clearance, General
5510190	MORGAN RD CR 47	90IX	NYS Thruway Authority	14.42	Low Clearance, NHS
5510200	EXIT 38 RAMP	90IX	NYS Thruway Authority	14.08	Low Clearance, NHS
5510229	90IX	CSX TRANSPORTATIO	NYS Thruway Authority	21.42	Low Clearance, RR

BIN	Carried	Crossed	Primary Owner	Vertical Clearance	Description
5510240	VAN BUREN RD CR 1	90IX	NYS Thruway Authority	14.67	Low Clearance, NHS
5510250	CANTON STREET	90IX	NYS Thruway Authority	13.83	Low Clearance, General
5510260	BENNETTS COR RD C	90IX	NYS Thruway Authority	14.58	Low Clearance, NHS
4433071	CR-81 JOHN GLENN	ONON LAKE OUTLET	County	11.92	Low Clearance, Waterway
4433072	CR-81 JOHN GLENN	ONON LAKE OUTLET	County	11.92	Low Clearance, Waterway
5027410	CR57 OSWEGO ST	90IX	NYS Thruway Authority	14.33	Low Clearance, NHS
5039140	WARNERS RD.	90IX	NYS Thruway Authority	14.08	Low Clearance, NHS
5313210	LAIRD ROAD	90IX	NYS Thruway Authority	14.92	Low Clearance, NHS
5512730	BRIDGEPORT-KIRKVI	90IX	NYS Thruway Authority	14	Low Clearance, NHS
5512740	FYLER RD CR 6	90IX	NYS Thruway Authority	13.92	Low Clearance, General
5512750	LAKEPORT RD CR 3	90IX	NYS Thruway Authority	13.92	Low Clearance, General
5512770	GEE RD	90IX	NYS Thruway Authority	14	Low Clearance, NHS
7002050	FINGER LAKES	GENESSEE STREET	Village	12.67	Low Clearance, General
7008471	NY SUSQUEHANNA& W	11 X	Railroad	14.08	Low Clearance, NHS
7008472	NY SUSQUEHANNA& W	11 X	Railroad	14.08	Low Clearance, NHS
7008500	CSX TRANSPRTATION	11 11 33033004	Railroad	12.75	Low Clearance, General
7015780	NY SUSQUEHANNA& W	20 20 33081202	Railroad	13.75	Low Clearance, General
7039290	FINGER LAKES	174 174 33011132	Railroad	13.92	Low Clearance, General
7045190	CSX TRANSPRTATION	298 298 33012013	Railroad	13.92	Low Clearance, General
7027340	CSX TRANSPRTATION	370 57 33012011	Railroad	12.25	Low Clearance, General
7027400	CSX TRANSPRTATION	370 57 33012012	Railroad	10.75	Low Clearance, General
5521279	90IX	ELECT PKWY CR 148	NYS Thruway Authority	14.08	Low Clearance, NHS
7049810	CSX TRANSPRTATION	LEMOYNE AVE-CR219	Railroad	13.83	Low Clearance, General
7049990	NY SUSQUEHANNA& W	WEST ST ARTERIAL	Railroad	14	Low Clearance, NHS
7312580	NY SUSQUEHANNA &W	EAGER ROAD CR 232	Railroad	11	Low Clearance, General
7312900	ALLIED CHEMICAL	CO RD 6-NORTH ST	Private - Industrial	11	Low Clearance, General
7700340	NY SUSQUEHANNA& W	5 5 33082012	Railroad	12.5	Low Clearance, General
7706380	NY SUSQUEHANNA& W	BURT STREET	Railroad	13.92	Low Clearance, General
7706390	NY SUSQUEHANNA& W	S MCBRIDE STREET	Railroad	12.67	Low Clearance, General
7706400	NY SUSQUEHANNA& W	OAKWOOD AVENUE	Railroad	13.75	Low Clearance, General
7706420	NY SUSQUEHANNA& W	S SALINA STREET	Railroad	13.83	Low Clearance, General
7706450	NY SUSQUEHANNA& W	W ONONDAGA ST	Railroad	13.25	Low Clearance, General
7706470	NY SUSQUEHANNA& W	RAILROAD YARD RD	Railroad	13.75	Low Clearance, General
7706480	NY SUSQUEHANNA& W	W FAYETTE STREET	Railroad	13.83	Low Clearance, General
7706491	NY SUSQUEHANNA& W	S GEDDES STREET	Railroad	12.5	Low Clearance, General
7706492	NY SUSQUEHANNA& W	S GEDDES STREET	Railroad	12.5	Low Clearance, General
7706493	NY SUSQUEHANNA& W	S GEDDES STREET	Railroad	12.5	Low Clearance, General
7706500	NY SUSQUEHANNA& W	W GENESEE STREET	Railroad	12.08	Low Clearance, General
7706510	NY SUSQUEHANNA& W	W HIAWATHA BLVD	Railroad	13.83	Low Clearance, General
7706520	CSX TRANSPRTATION	7TH N ST-CO RD 45	Railroad	13.5	Low Clearance, General
7714261	NY SUS & W SIDING	WEST FAYETTE ST	Railroad	12.83	Low Clearance, General
7714262	NY SUS & W SIDING	WEST FAYETTE ST	Railroad	13.92	Low Clearance, General
7715560	CSX RAILROAD	N MIDLER AVE	Railroad	10	Low Clearance, General

Source: NYSDOT Bridge Inventory. A bridge is considered to be low clearance if it is crossing a roadway with a minimum vertical clearance of less than 14 feet, no matter the type of roadway. This type of low clearance bridge is described as “general” in the table. On the NHS, bridges are supposed to have a minimum vertical clearance of 16 feet, but exemptions exist based on a series of agreements between NYSDOT and FHWA. The table does not take into account these exemptions. The minimum required vertical clearance for crossing railroads is 22 feet. Additionally, navigable waterways have variable minimum vertical clearances depending on their location in the state.

Weight Restricted Bridges

BIN	Carried	Crossed	Primary Owner	Posted Load (Tons)	Type of Restriction
1026190	49 49 34012171	BIG BAY CREEK	NYSDOT	Not Posted	No Trucks with R Permits
2208000	SHANTZ ROAD	CARPENTER BROOK	Town	15	Posted Weight Limit
2257710	Kelley Street	Skaneateles Creek	Village	5	Posted Weight Limit
2257720	CLARK HOLLOW ROAD	CASCADE CREEK	Town	20	Posted Weight Limit
2263800	CROW HILL ROAD	SKANEATELES CREEK	Town	3	Posted Weight Limit
2309090	DYKE ROAD	CHITTENANGO CREEK	County	25	Posted Weight Limit
2309130	MCGRAW ROAD	CHITTENANGO CREEK	County	12	Posted Weight Limit
3207960	TUTTLE ROAD	TUTTLE BROOK	County	22	Posted Weight Limit
3208100	WALLBERGER ROAD	BUTTERNUT CREEK	Village	3	Posted Weight Limit
3208190	TRACY ROAD	LIMESTONE CREEK	County	15	Posted Weight Limit
4424060	CANASERAGA ROAD	OLD ERIE CANAL	NYSDOT	20	Posted Weight Limit
4433030	BLACK CREEK ROAD	ERIE CANAL CUT	NYSDOT	Not Posted	No Trucks with R Permits
4433080	LONG BRANCH ROAD	ONON LAKE OUTLET	NYSDOT	10	Posted Weight Limit
4433180	RIVER ROADWAY	TRB LIMESTONE CRK	NYSDOT	Not Posted	No Trucks with R Permits
4433190	N BURDICK STREET	OLD ERIE CANAL	NYSDOT	15	Posted Weight Limit
4433240	N POOLS BROOK RD	ERIE CANAL PARK	NYSDOT	Not Posted	No Trucks with R Permits
5512770	GEE RD	90IX	NYS Thruway Authority	22	Posted Weight Limit

Source: NYSDOT Bridge Manual

Appendix 2 – Heavy vehicle percentages

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
24_0003	NY 5	NY 173	Start 5/13 OLAP	Chittenango	6.0	2016
24_0010	NY 5	Chittenango Vill Line	CR 23 Quarry Rd	Sullivan	4.7	2015
24_0016	NY 173	Onon/Madison Co Line	CR 17 East Lake Rd	Sullivan	4.3	2013
24_0017	NY 5	Onon/Madison Co Line	Tuscarora Rd	Sullivan	2.1	2013
24_0031	NY 31	COUNTY LN	KIRKVILLE RD	Sullivan	5.2	2015
24_0052	NY 5	Lakeport Rd	Chittenango Vill Line	Chittenango	3.5	2012
24_0118	NY 5	Start 5/13 OLAP	Lakeport Rd	Chittenango	6.5	2016
24_0119	NY 5	Tuscarora Rd	NY 173	Chittenango	4.0	2012
24_0121	NY 13	CR 26 Bingley	Chittenango S Vill Line	Sullivan	5.8	2014
24_0162	NY 173	CR 17 East Lake Rd	NY 5 End NY 173	Sullivan	5.1	2016
24_0163	NY 13	Chittenango S Vill Line	Start 5/13 OLAP	Chittenango	3.3	2012
24_1001	Flyer Rd	Bridgeport Kirk Rd	Lakeport Rd	Sullivan	4.1	2014
24_6035	Harsh Rd	NY 13	Canaseraga Rd	Sullivan	4.0	2013
24_6036	Creek Rd	NY 5	Osborne Rd	Sullivan	4.4	2010
24_6038	Olmstead Rd	NY 13	Dyke Rd	Sullivan	7.1	2014
24_6042	Tuscarora Rd	GENESEE ST	Murray DR	Chittenango	2.9	2013
24_6044	Bolivar Rd	Mcgraw	CR 6 Flyer Rd	Sullivan	6.0	2016
24_6046	Tag Rd	FLY RD	Gee rd	Sullivan	8.5	2016
24_6047	Black Creek	CR 6	NY 31	Sullivan	5.6	2010
24_6052	Lakeport Rd	Clay Hill Rd	New Boston Rd	Sullivan	8.9	2016
24_6090	Bridgeport Kirk	County Line Rd	Fyler Rd	Sullivan	5.1	2014
24_6091	New Boston St	Canaseraga Rd	Village Line	Sullivan	4.2	2012
24_6092	Lakeport Rd	New Boston Rd	NY 31	Sullivan	3.9	2014
24_6115	Lakeport Rd	Towpath Rd	Boatyard Rd	Chittenango	5.9	2011
24_6124	Bolivar Rd	Tuscarora Rd	McGraw Rd	Sullivan	3.0	2016
24_7013	New Boston St	Lakeport Rd	TOWN LINE	Sullivan	4.0	2010
24_8002	FYLER RD	ONONDAGA CO LN	BRDGPORT KIRK RD	Sullivan	5.2	2016
24_8003	CHESTNUT RDG RD	BRDGPRT/KIRKVILLE RD	LAKEPORT RD	Sullivan	4.0	2014
24_8004	NEW BOSTON RD	Lakeport Rd	Canaseraga Rd	Sullivan	7.1	2011
24_8078	COTTONS RD	QUARRY RD	OXBOW RD	Sullivan	4.5	2014
24_8103	QUARRY RD	COTTONS RD	NY 5	Sullivan	2.2	2011
24_8105	QUARRY RD	Sullivan TL	Ingalls Corners Rd	Sullivan	8.9	2013
24_8106	Perryville rd	Chittenango VL	Dwyer Rd	Sullivan	2.0	2014
24_8115	SALT SPRINGS RD	County line	Village line	Sullivan	3.0	2011
24_8116	E Lake Rd	Peth Rd	NY 173	Sullivan	4.6	2013
24_8154	BRIDGEPORT KIRKVILLE	FYLER RD	PECK RD	Sullivan	2.6	2012
33_0002	APULIA STATION	APULIA RD	START NY 91 OLAP APULIA	Fabius	7.9	2016
33_0004	NY 41	COLDBROOK RD	NY 174 BORODINO	Spafford	18.2	2011
33_0005	NY 174	NY 41	ROSE HILL RD	Spafford	8.0	2011
33_0016	I-81	COUNTY LN	JCT NY 80	Tully	18.9	2014
33_0018	NY 173	SPLIT ROCK	START 173/175 OLAP	Onondaga	2.1	2015
33_0019	NY 297	NY 173	STATE FAIR BLVD	Geddes	3.8	2016
33_0020	NY 175	END 174 OLAP MARCELLUS	BUSSEY RD	Marcellus	3.3	2014
33_0023	NY 321	HALFWAY RD	FORWARD RD	Elbridge	6.2	2015
33_0024	NY 5	HALFWAY RD	NY 321 JCT BENNETS CRN	Elbridge	6.3	2016
33_0027	NY 298	SCHEPPS COR RD	NY 31 END 298	Cicero	6.3	2016
33_0028	NY 298	FREMONT RD	SCHEPPS COR RD	Manlius	6.5	2014
33_0029	NY 290	SYRACUSE E CITY LN	NY 635 THOMPSON RD	DeWitt	1.4	2016
33_0032	NORTH SALINA ST	NY 298	NY 370	Syracuse	3.5	2014
33_0034	NY 370	John Glen Blvd	Old route 57/Rt 931G	Salina	2.9	2014
33_0036	NY 290	BRIDGE ST	FREMONT RD	East Syracuse	2.2	2015
33_0037	VALLEY DR	NY 173	CHAFFEE ST	Syracuse	4.3	2014
33_0044	NY 5	CAYUGA CO LN	E BRUTUS ST RD	Elbridge	5.7	2016
33_0045	NY 5	NY 290	MADISON CO LN	Manlius	4.9	2015
33_0046	South Salina St	NY 175 KENNEDY ST	E RAYNOR AVE	Syracuse	3.5	2014
33_0048	US 11	ACC I-81 BARTELL RD	OSWEGO CO LN	Cicero	4.3	2016
33_0049	NY 31	CAYUGA CO LN	NY 317 JORDAN	Elbridge	11.7	2016
33_0050	NY 38A	CAYUGA CO LN	NY 359	Skaneateles	12.7	2010
33_0052	NY 48	LAMSON RD	OSWEGO CO LN	Lysander	5.0	2015
33_0053	NY 92	POMPEY CNTR RD	ORAN DELPHI RD	Pompey	4.8	2015
33_0054	I-81	JCT US 11	ACC I-481	Syracuse	16.1	2014
33_0058	NY 370	RIVER RD COLD SPRINGS	JOHN GLENN BLVD	Salina	3.2	2015
33_0065	I-690	ACC TEALL AVE UNDER	JCT MIDLER AVE OVER	Syracuse	5.6	2013
33_0066	US 20	NY 175 LEE MULROY RD	START 174 OLAP	Skaneateles	12.6	2010
33_0071	NY 31	END 690 OLAP	START 370 OLAP	Lysander	7.5	2016
33_0072	I-481	ACC NY 5 & 92	ACC I-690	DeWitt	9.4	2013
33_0084	NY 173	THOMPSON RD	NY 5 ACC WB	Camillus	3.7	2015
33_0087	I-481	ACC I-81	ACC JAMESVILLE RD	Onondaga	12.5	2013
33_0091	NY 298	KINNE ST	NORTHERN BLVD	DeWitt	8.0	2016
33_0092	NY 298	NORTHERN BLVD	FLY RD COLLAMER	DeWitt	12.1	2016
33_0093	NY 298	JCT I-481	FREMONT RD	DeWitt	4.9	2016

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_0096	NY 5	HIGHBRIDGE RD	SALT SPRINGS RD	Fayetteville	3.3	2016
33_0100	NY 481	US 11	NY 31	Cicero	4.8	2015
33_0101	NY 481	NY 31	OSWEGO CO LN	Clay	7.7	2010
33_0104	I-690	SYRACUSE E CITY LN NY 635	NY 290	East Syracuse	8.2	2013
33_0107	NY 38A	NY 359	CAYUGA CO LN 2ND TIME	Skaneateles	18.6	2010
33_0108	NY 359	NY 38A	NY 41A MANDANA END 359	Skaneateles	26.3	2010
33_0110	NY 173	SYRACUSE W CITY LN	NY 80 VALLEY DR	Syracuse	2.3	2016
33_0112	US 20	END 174 OLAP	NY 80	Onondaga	10.0	2015
33_0114	US 20	NY 11A CARDIFF	ACC I-81	LaFayette	5.8	2015
33_0115	NY 31	NY 298 BRIDGEPORT	MADISON CO LN	Cicero	5.3	2015
33_0117	US 20	US 11 LAFAYETTE	APULIA RD	LaFayette	6.1	2016
33_0118	US 11	ACC I-81 NB ON RAMP	US 20	Tully	5.2	2016
33_0122	Arterial Rd	Teall Ave	Jct NY 298	Salina	4.6	2016
33_0123	NY 281	LAKE AVE	NY 80 END 281	Tully	14.6	2016
33_0124	US 11	LAKE ST TULLY S VILLAGE LN	START 80 OLAP TULLY	Tully	6.1	2016
33_0132	US 20	NY 91 POMPEY	MADISON CL ON	Pompey	6.6	2015
33_0136	NY 5	NY 317 ELBRIDGE	CROSSET RD	Elbridge	5.1	2016
33_0137	NY 5	CROSSET RD	HALFWAY RD	Elbridge	5.1	2016
33_0142	US 20	NY 41A	NY 321 SKANEATELES	Skaneateles	7.0	2014
33_0146	US 20	START 174 OLAP	END 174 OLAP	Marcellus	9.5	2014
33_0147	NY 175	BUSSEY RD	Start Rt 173 OLAP	Onondaga	3.7	2014
33_0148	NY 174	END NY 175 OLAP	W MAIN ST	Marcellus	5.3	2015
33_0149	NY 174	W MAIN ST	RT 931F	Marcellus	3.3	2016
33_0150	FORWARD RD	BENNETTS CORNER RD	END AT NY 174	Camillus	3.1	2016
33_0153	NY 173	NY 5 ACC WB	NY 297	Camillus	2.4	2013
33_0156	JORDAN RD	NY 5 ELBRIDGE	WHITING RD	Elbridge	6.5	2016
33_0161	NY 317	WHITING RD	MAIN ST	Jordan	8.0	2015
33_0162	NY 173	BRIGHTON AVE	SYRACUSE E CITY LN	Syracuse	3.6	2010
33_0163	US 11	ACC I-81	NY 175 KENNEDY ST	Syracuse	3.6	2016
33_0165	NY 80	HITCHINS RD	CEDARVALE RD	Onondaga	5.7	2010
33_0168	US 11	NY 173	ACC I-81	Syracuse	2.6	2015
33_0169	NY 175	NY 80	US 11 END 175	Syracuse	2.4	2014
33_0171	NY 173	SYRACUSE E CITY LN	NY 91 JAMESVILLE	Onondaga	3.2	2016
33_0176	NY 290	FREMONT RD	NY 257	Manlius	2.6	2015
33_0178	NY 5	NY 257	DUGUID RD	Fayetteville	4.2	2014
33_0179	NY 257	NY 92	NY 5	Manlius	4.0	2015
33_0180	NY 173	NY 91 JAMESVILLE	SWEET RD	DeWitt	2.9	2015
33_0181	NY 173	SWEET RD	START 92 OLAP MANLIUS	Manlius	2.9	2016
33_0183	NY 92	END 173 OLAP	POMPEY CTR RD	Manlius	3.9	2015
33_0184	NY 92	ORAN DELPHI RD	MADISON CO LN	Pompey	7.7	2011
33_0185	NY 173	END 92 OLAP MANLIUS	MADISON CO LN	Manlius	4.3	2015
33_0186	NY 290	GREEN LK STATE PK RD	NY 5 END 290	Manlius	3.2	2014
33_0187	NY 5	DUGUID RD	NY 290 MYCENAE	Manlius	3.8	2015
33_0188	NY 290	NY 257	Green LK State Pk Rd	Manlius	3.2	2014
33_0189	NY 173	GENESEE ST FAIRMOUNT	SPLIT ROCK	Camillus	2.2	2014
33_0190	NY 290	UPTON ST	BRIDGE ST	East Syracuse	3.6	2014
33_0192	NY 370	PLAINVILLE RD	DUNHAM RD	Lysander	6.8	2016
33_0194	WARNERS RD	NY 31	CANTON ST WARNERS	Van Buren	11.1	2014
33_0195	NY 31	NY 173	START 690 OLAP	Van Buren	6.4	2015
33_0200	NY 31	NY 48	END 370 OLAP	Baldwinsville	3.2	2016
33_0201	NY 48	JCT NY 690	LAMSON RD	Lysander	6.8	2015
33_0203	NY 370	END NY 31 OLAP	RIVER RD COLD SPRINGS	Lysander	4.1	2014
33_0206	NY 173	CANTON ST	THOMPSON RD	Van Buren	5.5	2014
33_0207	GENANT DR	GENANT DR @ BEAR ST	W COURT ST @ GENANT DR	Syracuse	7.3	2010
33_0208	NY 174	START NY 175 OLAP	END NY 175 OLAP	Marcellus	6.7	2016
33_0212	NY 370	DUNHAM RD	NY 690	Lysander	5.7	2016
33_0213	US 11	SYRACUSE N CITY LN	LEMOYNE AVE	Salina	2.1	2016
33_0219	W MANLIUS ST	E SYRACUSE W VILLAGE LINE	UPTON ST	East Syracuse	3.9	2015
33_0221	PARK ST	SYRACUSE N CITY LN	US 11 END 370	Syracuse	3.1	2016
33_0222	NY 370	OLD RT 57	SYRACUSE N CITY LN	Liverpool	1.6	2010
33_0223	US 11	NY 370	SYRACUSE N CITY LN	Syracuse	6.2	2014
33_0225	US 11	JCT I-81	TAFT RD	Salina	1.9	2014
33_0227	NY 31	EUCLID MORGAN RD	US 11 CICERO	Clay	4.5	2016
33_0228	US 11	CAUGHDENOY RD	NY 31 CICERO	Cicero	2.1	2016
33_0238	NY 92	WOODCHUCK HILL RD	NY 257 MANLIUS	Manlius	3.6	2014
33_0240	VALLEY DR	NY 175 (South Ave	NY 173 (W. Seneca Tpk.)	Manlius	4.2	2014
33_0244	I-481	NY 298 Under	NORTHERN BLVD (UNDER)	Cicero	8.2	2015
33_0247	CIRCLE DR	US 11 E CIRCLE DR	END AT START CIRCLE DR	Cicero	2.7	2015
33_0249	W ENTRY RD	WEST ENTRY RD	SIXTY RD	Lysander	8.6	2016
33_0250	HENCLE BLVD	SIXTY RD	NY 690 & 48 END 631	Lysander	21.7	2016
33_0254	BALDWINSVILLE BYP	NY 370	START NY 31 OLAP	Baldwinsville	4.8	2014

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_0374	NY 257	NY 5 FAYETTEVILLE	NY 290 END 257	Manlius	4.4	2016
33_0375	NY 174	RT 931F	GENESEE ST CAMILLUS	Camillus	5.4	2015
33_0378	NY 41	NY 174 BORODINO	US 20 SKANEATELES END	Spafford	9.5	2016
33_0381	US 20	NY 80	NY 11A CARDIFF	Onondaga	7.8	2015
33_0383	NY 91	US 20 S OF POMPEY	NY 173 JAMESVILLE END RT 91	Pompey	4.0	2015
33_0384	US 20	APULIA RD	NY 91 POMPEY	LaFayette	9.4	2016
33_0386	ERIE BLVD	US 11	SYRACUSE E CITY LN RT 635	Syracuse	1.8	2016
33_0389	W. Genesee St.	N. West St.	S. Salina St	Syracuse	2.1	2016
33_0563	NY 41A	ONONDAGA CO LN	NY 359 MANDANA	Skaneateles	18.6	2010
33_0564	NY 41A	NY 359 MANDANA	US 20 SKANEATELES END 41A	Skaneateles	8.1	2010
33_0592	NY 298	RT 930M	NY 635 ACC I-90	DeWitt	9.9	2016
33_0595	NY 298	US 11 N SALINA ST	SYRACUSE N CITY LN	Syracuse	4.4	2010
33_0597	NY 175	US 20	START 174 OLAP MARCELLUS	Skaneateles	3.8	2016
33_0904	BRIDGE ST	NY 5	JCT I-690	DeWitt	1.7	2016
33_0906	STATE FAIR BLVD	NY 297	RAMP FROM 690 SB	Geddes	10.1	2016
33_0908	WEST ST	JCT ONONDAGA AVE	NY 5 W/CONN	Syracuse	3.1	2016
33_0913	RT 936A	JCT US 11	AIRPORT BLVD	Salina	13.4	2016
33_0914	RT 936A	AIRPORT BLVD	JCT EAST TAFT RD	Cicero	7.5	2010
33_0915	RT 936B	US 11	EAST TAFT RD	Onondaga	3.3	2016
33_0916	RT 936B	EAST TAFT RD	AIRPORT BLVD	Clay	8.6	2015
33_0918	RT 936D	SYRACUSE E CITY LN	JCT RT 930P	East Syracuse	3.3	2016
33_0920	W KENNEDY ST	SOUTH AVE	S SALINA ST	Syracuse	2.0	2014
33_0921	PARK ST	Farmers Market PL	US 11 end 370	Syracuse	2.5	2014
33_1001	THOMPSON RD	BOURDAGE RD	ISLE RD	Cicero	2.9	2014
33_1002	LAFAYETTE RD	EAST BRIGHTON	CITY LINE	Syracuse	3.6	2011
33_1003	CAUGHDENOY RD	CICERO/CLAY TL	DAVIS RD	Clay	2.2	2014
33_1006	DUGUID RD	NY 5	MANLIUS VIL LN	Manlius	1.2	2015
33_1007	ROCK CUT RD	EAST BRIGHTON	CITY LN	Syracuse	16.3	2016
33_1009	OAK ST	LODI ST	GRANT BLVD	Syracuse	2.4	2015
33_1010	GLENWOOD AVE	SOUTH GEDDES ST	VELASKO RD	Syracuse	1.0	2014
33_1011	W WATER ST	SOUTH WARREN ST	ALMOND ST	Syracuse	1.7	2015
33_1012	BRICKYARD RD	BEG OF SAMPLE	VAN BUREN RD	Van Buren	17.2	2015
33_1013	LONG BRANCH RD	SALINA TOWN LN	OLD RT 57	Clay	6.0	2014
33_1014	MILTON AVE	KNOWELL RD	NY 173	Camillus	2.4	2015
33_1016	DOWNER ST RD	NY 690	W BALDWINS V/L	Van Buren	2.1	2015
33_1017	BELLEVUE AVE	WINKWORTH PKWY	HUNTINGTON RD	Syracuse	2.8	2011
33_1019	KINNE RD -W-E	THOMPSON RD	CEDAR BAY	DeWitt	0.9	2014
33_1020	E WASHINGTON ST	S SALINA ST	ALMOND ST	Syracuse	7.3	2015
33_1021	BROAD ST	WESTCOTT ST	NOTTINGHAM RD	Syracuse	2.2	2015
33_1022	SOUTH AVE	CORTLAND AVE	WEST ONONDAGA	Syracuse	4.0	2014
33_1023	SWEET RD	POMPEY TN LN	NY 173	Manlius	3.0	2015
33_1024	GLENWOOD AVE	CRADOCK ST	SOUTH GEDDES ST	Syracuse	2.8	2014
33_1025	LAFAYETTE RD	SYRACUSE CITY LN	DAVE TILDEN RD	Onondaga	2.8	2016
33_1026	MONTGOMERY ST	MADISON ST	E ADAMS ST	Syracuse	2.9	2016
33_1028	W ONONDAGA ST	HOEFLER ST	VELASKO RD	Syracuse	2.6	2014
33_1030	FRANKLIN PARK DR	KINNE ST	KIRKVILLE RD	DeWitt	2.6	2015
33_1031	DORWIN AVE	S SALINA ST	VALLEY DR	Syracuse	3.0	2014
33_1032	WESTCOTT ST	CLARKE ST	LENNOX AVE	Syracuse	4.4	2016
33_1034	MEADOWBROOK DR	BUCKINGHAM AVE	WESTCOTT ST	Syracuse	3.2	2015
33_1035	WADSWORTH ST	CADILLAC ST	LEMOYNE AVE	Syracuse	1.2	2014
33_1036	W FAYETTE ST	S SALINA ST	S FRANKLIN ST	Syracuse	6.0	2010
33_1037	CAUGHDENOY RD	NY 31	LAWTON RD	Clay	4.0	2015
33_1039	LONG BRANCH RD	BEG OF SAMPLE	CLAY TOWN LN	Salina	3.0	2014
33_1040	LAFAYETTE RD	ONONDAGA TOWN LN	DAVE TILDEN RD	Onondaga	1.7	2016
33_1041	WOODCHUCK HILL RD	NY 92	DEWITT TOWN LN	Manlius	2.3	2014
33_1043	GROVE RD	NEW CASTLE RD	CHERRY RD	Geddes	2.4	2015
33_1045	SOUTH AVE	WEST KENNEDY ST	HOVEY ST	Syracuse	2.3	2016
33_1046	WESTCOTT ST	EUCLID AVE	BROAD ST	Syracuse	3.3	2014
33_1101	E TAFT RD	FLY RD	I-481	Cicero	4.7	2014
33_1112	JOHN GLENN BLVD	GEDDES TOWN LN	SALINA TOWN LN	Geddes	3.7	2016
33_1114	OSWEGO ST	TULIP ST	N VILL LN	Liverpool	1.7	2016
33_1117	OLD LIVERPOOL RD	E VILL LN	ELECTRONICS PKWY	Salina	5.9	2016
33_1127	COLUMBUS AVE	E GENESEE ST	ERIE BLVD E	Syracuse	3.0	2016
33_1128	E BRIGHTON AVE	S SALINA ST	481 RAMPS	Syracuse	3.3	2016
33_1129	E BRIGHTON AVE	THURBER ST	481 RAMPS	Syracuse	6.6	2010
33_1130	E BRIGHTON AVE	481 RAMP	ROCK CUT RD	Syracuse	2.6	2016
33_1131	E CASTLE ST	S SALINA ST	S STATE ST	Syracuse	3.2	2016
33_1133	GIFFORD ST	WEST ST ART	E ONONDAGA ST	Syracuse	2.4	2016
33_1134	HARRISON ST	S SALINA ST	ALMOND ST	Syracuse	2.6	2016
33_1136	ERIE BLVD E	SALINA ST	OSWEGO BLVD	Syracuse	2.9	2010
33_1138	TEALL AVE	ERIE BLVD E	JAMES ST	Syracuse	3.9	2010

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_1139	TEALL AVE	JAMES ST	GRANT BLVD	Syracuse	2.9	2014
33_1150	NORTH GEDDES ST	W GENESEE ST	ERIE WEST BLVD	Syracuse	2.3	2016
33_1151	SUNSET AVE	BEAR ST	COURT ST	Syracuse	4.0	2014
33_1200	HAMILTON RD SP	CHURCH ST	HAMILTON RD	Cicero	3.3	2015
33_1201	KREISCHER RD S	CR 19	CR 20	Cicero	4.0	2015
33_1202	BLACKBERRY RD	OSWEGO RD	HUCKLEBERRY LA	Clay	2.2	2015
33_1207	SALISBURY RD	CHERRY RD	CITY LINE	Geddes	3.8	2016
33_1209	SIXTY RD	NY 31	VILLAGE LINE	Baldwinsville	3.2	2015
33_1216	CHESTNUT ST	NORTH MAIN ST	BELMORE DR	North Syracuse	3.8	2016
33_1219	HAMILTON RD	CHURCH ST	CHURCH PKWY	North Syracuse	1.4	2016
33_1221	MILTON AVE	BRIDGE ST	VILLAGE LINE	Solvay	3.4	2016
33_1225	HATHERLEIGH DR	NORTH TERRY RD	SOLVAY V/L	Geddes	3.1	2014
33_2003	BALDWINSVILLE	BRICKYARD RD	CONNORS RD	Van Buren	3.4	2016
33_2006	WOODCHUCK HILL	JAMESVILLE RD	THORNTREE HL D	DeWitt	3.6	2016
33_2010	HARRIS RD SN	NY 175	SPLITROCK RD	Onondaga	2.4	2016
33_2011	VINEGAR HILL RD	CR 22	JORDAN RD	Skaneateles	8.4	2015
33_2014	SOUTH BAY RD	NY 31	LAKESHORE RD	Cicero	6.7	2010
33_2019	MORGAN RD	CLAY TOWN LN	BUCKLEY RD	Clay	5.8	2016
33_2022	FACTORY AVE	US 11	DEWITT TOWN LN	Salina	7.7	2016
33_2023	TROOP K RD	SWEET RD	NY 173	Manlius	1.0	2016
33_2024	CAUGHDENOY RD	DAVIS RD	BEG HPMS (N OF NOVARA LN)	Clay	2.9	2014
33_2026	NOTTINGHAM RD	JAMESVILLE RD	LEWISTON DR	DeWitt	2.3	2016
33_2031	SWEET RD	NY 173	TROOP K RD	Manlius	5.4	2016
33_2035	LYNDON DR	E GENESEE ST	CEDAR BAY RD	DeWitt	0.7	2016
33_2039	FLY RD	NY 298	CICERO TN LN	DeWitt	2.9	2016
33_2042	PECK HILL RD S	TECUMSEH RD	NOTTINGHAM RD	DeWitt	1.5	2010
33_2046	RANDALL RD	JAMESVILLE RD	TECUMSEH RD	DeWitt	2.7	2016
33_2049	QUINTARD RD	PECK HILL RD	JAMESVILLE RD	DeWitt	2.2	2016
33_2052	TECUMSEH RD	Nottingham RD	RANDALL RD	DeWitt	3.1	2010
33_2055	BUTTERNUT ST	N MCBRIDE ST	BUTTERNUT CIR	Syracuse	2.7	2016
33_2058	SOUTH GEDDES ST	GLENWOOD AVE	GRAND AVE	Syracuse	3.1	2015
33_2059	CANTON ST	DOWNER ST	VILLAGE LINE	Baldwinsville	1.9	2014
33_2066	KIRKVILLE RD	SCHEPPS CRNRS RD	CR 115	Manlius	4.9	2014
33_2070	CEDAR BAY RD	N BURDICK ST	DEWITT TOWN LN	Manlius	0.5	2016
33_2071	CHARLES AVE	MILTON AVE	W GENESEE ST	Solvay	1.7	2015
33_2074	KASSON RD	NY 175	W GENESEE ST	Onondaga	2.5	2015
33_2077	E WATER ST	ALMOND ST	ERIE BLVD	Syracuse	7.1	2010
33_2079	E FAYETTE ST	S WARREN ST	S STATE ST	Syracuse	2.6	2015
33_2080	HINSDALE RD	CR 98	MILTON AVE	Camillus	2.3	2016
33_2083	SALISBURY RD	AVERY AVE	CITY LN	Syracuse	2.1	2015
33_2086	KASSON RD	NY 175	CR 40	Onondaga	3.3	2011
33_2090	S SALINA ST	ERIE BLVD	ADAMS ST	Syracuse	5.7	2016
33_2092	Solar St	Harborside Dr	Plum St	Syracuse	2.9	2015
33_2095	COMMERCE BLVD	MORGAN RD	VINE ST	Salina	7.8	2016
33_2098	ALLEN RD	W TAFT RD	BEAR RD	Clay	2.2	2016
33_2101	BURNET AVE	MANLIUS ST	INTO CITY	DeWitt	2.2	2016
33_2108	POND ST	LODI ST	GRANT BLVD	Syracuse	3.4	2014
33_2112	WALNUT AVE	WAVERLY AVE	E GENESEE ST	Syracuse	2.8	2015
33_2123	E COLVIN ST	COMSTOCK AVE	NOTTINGHAM RD	Syracuse	2.6	2016
33_2125	WILLIS AVE	CITY LN	MILTON AVE	Syracuse	1.8	2016
33_2126	IRVING AVE	VAN BUREN ST	E ADAMS ST	Syracuse	5.9	2014
33_2127	KINNE ST	JAMES ST	KIRKVILLE RD	DeWitt	3.1	2016
33_2214	BISHOP HILL RD	US 20	MASTERS RD	Marcellus	12.9	2015
33_2234	DRAKES LANDING	NY 31	WILLETT PKWY	Lysander	1.7	2016
33_3203	I-481 EXIT 6	I-90 INT 34A (OFF)	I-481 SB (ON)	DeWitt	10.3	2016
33_3205	I-81 EXIT 25A	I-81 NB (OFF)	I-90 EXIT 36	Salina	22.3	2016
33_4000	AINSLEY DR	EAST BRIGHTON	GAME RD	Syracuse	5.5	2016
33_4001	Avery AVE	GRAND AVE	TOMPKINS ST	Syracuse	1.4	2014
33_4003	BELLEVUE AVE	WINKWORTH PARK	VELASKO Rd	Syracuse	1.3	2016
33_4005	BELLEVUE AVE	SOUTH GEDDES ST	ONONDAGA AVE	Syracuse	2.0	2016
33_4007	BUCKINGHAM AVE	COLVIN ST	MEADOWBROOK DR	Syracuse	3.5	2016
33_4009	BURNET AVE	LODI ST	TEALL AVE	Syracuse	3.5	2015
33_4010	BURNET AVE	TEALL AVE	S MIDLER AVE	Syracuse	4.9	2010
33_4011	BURNET AVE	S MIDLER AVE	THOMPSON RD	Syracuse	3.2	2016
33_4012	BURT ST	SOUTH SALINA ST	SOUTH STATE ST	Syracuse	4.5	2010
33_4013	BURT ST	SOUTH STATE ST	RENWICK AVE	Syracuse	1.5	2016
33_4020	Comstock Ave	EAST COLVIN ST	JAMESVILLE AVE	Syracuse	2.7	2014
33_4022	CORTLAND AVE	MIDLAND AVE	BURR ST	Syracuse	5.9	2015
33_4025	EAST ADAMS ST	ALMOND ST	IRVING AVE	Syracuse	2.1	2016
33_4029	EAST CASTLE ST	SOUTH STATE ST	RENWICK AVE	Syracuse	4.6	2010
33_4030	EAST COLVIN ST	SOUTH SALINA S	SOUTH STATE ST	Syracuse	4.1	2016

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_4034	EAST FAYETTE ST	ALMOND ST	TEALL AVE	Syracuse	5.3	2010
33_4037	EAST HIAWATHA B	GRANT BLVD	SEVENTH NORTH	Syracuse	8.1	2015
33_4039	EAST WATER ST	SOUTH SALINA S	SOUTH WARREN S	Syracuse	1.9	2016
33_4040	ERIE BLVD W	MILTON AVE	HIAWATHA BLVD W	Syracuse	4.3	2010
33_4043	EUCLID AVE	MEADOWBROOK DR	CRAWFORD AVE	Syracuse	2.2	2016
33_4045	GLENWOOD AVE	VELASKO RD	BELLEVUE AVE	Syracuse	2.6	2014
33_4048	GRANT BLVD	WOLF ST	COURT ST	Syracuse	6.0	2016
33_4050	GRANT BLVD	BUTTERNUT ST	TEALL AVE	Syracuse	7.1	2016
33_4051	GRANT BLVD	TEALL AVE	EASTWOOD DR	Syracuse	2.7	2010
33_4055	HARRISON ST	IRVING AVE	UNIVERSITY AVE	Syracuse	1.4	2016
33_4059	JAMESVILLE AVE	COMSTOCK AVE	AINSLEY DR	Syracuse	4.8	2015
33_4061	KIMBER RD	EUCLID AVE	MEADOWBROOK DR	Syracuse	3.1	2016
33_4063	LODI ST	ERIE BLVD	BURNET AVE	Syracuse	4.1	2015
33_4065	LODI ST	JAMES ST	BUTTERNUT ST	Syracuse	2.6	2016
33_4066	LODI ST	N STATE ST	COURT ST	Syracuse	3.4	2016
33_4067	MEADOWBROOK DR	DAKOTA ST	EUCLID AVE	Syracuse	2.4	2014
33_4069	MILTON AVE	CITY LINE	GENESEE ST	Syracuse	5.6	2015
33_4072	MONTGOMERY ST	EAST FAYETTE ST	MADISON ST	Syracuse	3.2	2010
33_4076	NORTH GEDDES ST	VAN RENSSELAER ST	PULASKI ST	Syracuse	2.6	2016
33_4079	NORTH SALINA ST	NY 5	I-81	Syracuse	1.7	2016
33_4082	NORTH STATE ST	SUNSET AVE	LODI ST	Syracuse	3.0	2015
33_4084	ONONDAGA BLVD	WEST ONONDAGA	BELLEVUE AVE	Syracuse	2.4	2014
33_4086	ORCHARD RD	WEST GENESEE ST	SALISBURY RD	Syracuse	1.0	2014
33_4089	PEARL ST	NORTH SALINA S	HICKORY ST	Syracuse	1.5	2015
33_4093	SEELEY RD	SALT SPRINGS RD	ERIE BLVD	Syracuse	2.5	2015
33_4097	SOUTH CROUSE AVE	WAVERLY AVE	E GENESEE ST	Syracuse	5.0	2014
33_4100	SOUTH MCBRIDE ST	ERIE BLVD	EAST FAYETTE ST	Syracuse	0.9	2016
33_4103	SOUTH STATE ST	SOUTH STATE ST	E BRIGHTON AVE	Syracuse	3.1	2015
33_4107	SOUTH WARREN ST	EAST FAYETTE ST	HARRISON ST	Syracuse	1.6	2015
33_4108	SOUTH WARREN ST	HARRISON ST	EAST ADAMS ST	Syracuse	5.5	2010
33_4110	SPENCER ST	W HIAWATHA BLVD	BEAR ST	Syracuse	9.3	2014
33_4112	STATE FAIR BLVD	W GENESEE ST	W HIAWATHA BLVD	Syracuse	5.7	2014
33_4115	TALLMAN ST	MIDLAND AVE	WEST ONONDAGA	Syracuse	4.9	2015
33_4118	UNIVERSITY AVE	WAVERLY AVE	HARRISON ST	Syracuse	2.9	2015
33_4120	VAN BUREN ST	DEAD END	IRVING AVE	Syracuse	4.3	2014
33_4125	WEST BRIGHTON AVE	MIDLAND AVE	HOPE AVE	Syracuse	1.6	2016
33_4127	WEST COLVIN ST	SOUTH SALINA ST	MIDLAND AVE	Syracuse	2.4	2015
33_4132	WEST ONONDAGA ST	MIDLAND AVE	DELAWARE ST	Syracuse	1.6	2016
33_4133	WEST ONONDAGA ST	DELAWARE ST	GEDDES ST	Syracuse	2.4	2010
33_4134	WEST ONONDAGA ST	GEDDES ST	Hoefler St	Syracuse	3.3	2014
33_4136	WESTCOTT ST	EAST GENESEE ST	CLARKE ST	Syracuse	4.5	2016
33_6009	AIRPORT RD EB	AIRPORT RD EB OVER I-81	.6 MI NE JCT RTS I-81 + 11	Salina	3.3	2015
33_6012	MUD MILL RD	WEAVER RD	US 11	Cicero	6.3	2016
33_6013	BARTELL RD	BARTELL RD	US 11	Cicero	4.4	2014
33_6018	HENRY CLAY BLVD	WATERHOUSE RD	NY 31	Clay	4.4	2015
33_6020	VAN BUREN RD	3.5 MI NW JCT NY 690 + 90	VAN BUREN RD OVER 690	Van Buren	4.4	2015
33_6022	VER PLANK	GASKIN RD	MORGAN RD	Clay	2.7	2015
33_6027	BENNETT RD	MILTON AVE	NYS 5 RAMP	Camillus	3.2	2015
33_6036	FENNELL RD	1.1 MI N N END SKAN LAKE	FENNELL RD OVER SKAN CRK	Skaneateles	3.5	2016
33_6043	W BRIGHTON ST	.6 MI SW COLVIN & SALINA	W BRIGHTON AVE OVER ONON CRK	Syracuse	2.2	2015
33_6048	MIDLAND AVE	EAST ONONDAGA	SENECA TPKE	Syracuse	4.5	2015
33_6050	TALLMAN ST	ONEIDA ST	MIDLAND AVE	Syracuse	4.5	2015
33_6057	WEST FAYETTE ST	S FRANKLIN ST	WEST ST ART SB	Syracuse	1.8	2016
33_6058	W WASHINGTON	.7 MI SW JCT 81 + 690	W WASHINTON ST OVER OND CRK	Syracuse	12.7	2015
33_6063	W KIRKPATRICK ST	N GEDDES ST	N CLINTON ST	Syracuse	3.9	2015
33_6066	BURNET AVE	VILLAGE LINE	MANLIUS ST	East Syracuse	3.9	2015
33_6067	ELIZABETH ST	EAST ST	CORPORATION LI	Skaneateles	1.1	2015
33_6068	KELLEY ST	FENNELL ST	HANNUM ST	Skaneateles	2.2	2016
33_6071	FRANKLIN ST	SPRING ST	S MANLIUS ST	Fayetteville	25.1	2016
33_6078	NEWPORT RD	IN CAMILLUS	CAMIL-WARNER RD OVER 9 MI CR	Camillus	3.0	2014
33_6079	JORDAN BALDWIN	.5 MI SE CROSS L. SENECA RD	CR 84 JOR-BAL OVER CARP BRK	Elbridge	5.6	2016
33_6080	ORAN DELPHI RD	US 20	INDIAN HILL	Pompey	8.6	2016
33_6095	WHETSTONE RD	NY 92	POMPEY TOWN LN	Manlius	1.1	2016
33_6104	APULIA RD	US 20	URBAN BOUNDRY	LaFayette	4.6	2016
33_6112	POMPEY CENTER	1 MI E OF MANLIUS	CR 10 OVER LIMESTONE CRK	Manlius	4.5	2015
33_6113	WATERVALE RD	US 20	POMPEY TN LN	Pompey	2.6	2016
33_6114	BROADFIELD RD	CR 145	CR10	Pompey	3.9	2016
33_6115	JAMESVILLE TOLL	JAMESVILLE RD	CR 103	DeWitt	7.3	2015
33_6116	KIRKVILLE RD	ROBERTS RD	MANLIUS TN LINE	DeWitt	5.0	2014
33_6117	KIRKVILLE RD	FREMONT RD	SCHEPPS CORS RD	Manlius	3.9	2015
33_6119	SCHEPPS CRNRS RD	0.9 MI S SCHEPPS CRNRS RD	OVER BUTTERNUT CRK	Manlius	5.0	2016

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_6120	FREMONT RD	CR 136	NY 298	Manlius	4.3	2015
33_6122	FLYER RD	N MANLIUS RD	COUNTY LN	Syracuse	4.3	2014
33_6123	PECK RD	NY 298	N MANLIUS RD	Manlius	6.0	2015
33_6124	TOWN LINE RD	NY 298	MOLLOY RD	DeWitt	6.4	2016
33_6125	LAKE SHORE RD	MURRAY DR	NY 31	Cicero	2.1	2015
33_6126	VER PLANK	MORGAN RD	CR 49	Clay	3.0	2014
33_6127	OAK ORCHARD RD	MORGAN RD	CAUGHDENOY RD	Clay	4.0	2016
33_6130	MINOA RD	2.8 M N MANLIUS	OVER LIMESTONE CRK	Manlius	5.2	2016
33_6131	CASTELLO PKWY	HULBERT AVE	MINOA VILLAGE LINE	Minoa	4.7	2015
33_6132	JAMESVILLE RD	NORTH ST	I-481	DeWitt	4.0	2014
33_6133	BENSON RD	NY 38A	NY 41A	Skaneateles	7.0	2016
33_6134	HAMILTON RD	JORDAN RD	NY 5	Elbridge	7.6	2015
33_6135	WEST DEAD CRK RD	3 MI W OF B'VILLE	WEST DEAD CRK RD	Van Buren	5.2	2016
33_6137	TULLY FARMS RD	NICHOLS RD	US 20	LaFayette	4.4	2015
33_6148	OLD SENECA TNPK	1.3 MI NORTH OF SKANEATELES	OVER SKANEATELES CRK	Skaneateles	6.4	2014
33_6149	JORDAN RD	SHELDON RD	BRITCHER RD	Skaneateles	9.4	2016
33_6150	JORDAN RD	BRITCHER RD	STUMP RD	Skaneateles	8.2	2015
33_6152	PERU RD	2.7 MILE EAST OF JORDAN	CR 60 OVER CARP BRK	Elbridge	4.7	2016
33_6154	AIRPORT RD	2.2 MI SSE OF INT 39	CR 100/106 OVER CONRAIL	Camillus	3.4	2014
33_6155	PLAINVILLE RD	CR 84	TOWN LINE	Elbridge	6.8	2015
33_6156	FREMONT RD	1.5 MI NE JCT I-481 & 290	FREMONT RD	Manlius	5.6	2015
33_6157	WILLIS AVE	VILLAGE LINE	CR 80	Geddes	16.4	2015
33_6159	LIMESTONE PLAZA	NY 5	BROOKLEA DR	Fayetteville	2.6	2014
33_6161	WARNERS RD	CR 272	NY 31	Van Buren	3.7	2015
33_6163	LAMSON RD	PENDERGAST RD	TOWN LINE	Lysander	4.8	2014
33_6168	OLD ROUTE 57	NY 31	OSWEGO COUNTY LINE	Clay	2.8	2015
33_6171	MORGAN RD	2.7 MI E JCT 481 & BARGE CN	MORGAN RD	Clay	3.6	2016
33_6175	LONG BRANCH RD	SALINA TL	BEG SAMPLE	Salina	0.5	2015
33_6178	RIVER RD	NY 31	TOWN LINE	Elbridge	5.4	2016
33_6188	FLY RD	KIRKVILLE RD	NY 298	DeWitt	4.6	2015
33_6194	TULIP ST	OLD RT 57	I-90	Liverpool	3.6	2014
33_6197	N MANLIUS RD	0.1 MI W JCT I-90	N MANLIUS RD OVER I-90	Manlius	3.0	2014
33_6200	VAN BUREN RD	CR216 HERMAN RD	CONNORS RD	Van Buren	18.7	2015
33_6202	RAMP - I-81 SB (ON)	OLD LIVERPOOL RD	I-81 SB (ON)	Salina	5.8	2016
33_6203	RAMP	I-81 SB ON RAMP; VIADUCT	RAMP OVER JACKSON ST	Syracuse	1.8	2016
33_6204	RAMP336204	I-81 NB	ADAMS ST	Syracuse	1.4	2016
33_6205	Harrison St to I81 NB	ALMOND ST	I-81 NB (on)	Onondaga	1.8	2016
33_6214	I-690 EXIT 11	MRG RMPS FRM I-690 WB (OFF)	RT930B WEST ST ART (ON)	Syracuse	2.9	2016
33_6215	RAMP 6214	OFF RAMP- I-690 EB TO NY 5	RAMP 6214 OVER I-690	Syracuse	2.8	2016
33_6216	I-690 WB RAMP	OVER ONON CRK	RT 930B SB	Syracuse	2.2	2016
33_6217	I-690 EXIT 11	DVG RMPS FRM RT930B NB	I-690 EB (ON)	Syracuse	1.7	2016
33_6219	N McBRIDE ST to I690 EB	MCBRIDE ST	I-690 EB (ON)	Syracuse	1.8	2016
33_6223	I-81 EXIT 16A	I-481 SB	I-81 SB	Syracuse	13.5	2016
33_6225	I-481 EXIT 2	JAMESVILLE RD	I-481 SB (ON)	DeWitt	10.8	2016
33_6226	I-481 EXIT 2	I-481 NB (OFF)	JAMESVILLE RD	DeWitt	11.1	2016
33_6227	NB ON RAMP	1.5 mi S JCT I-81 & I-90	Ramp V	Syracuse	6.1	2016
33_6230	RT936E	N END OF RT936E	DVG RMPS TO CR137 & BUCKLEY	Syracuse	2.4	2016
33_6235	RAMP COUNT	.3 MI E INTRCH 39 OVER 690	FROM NY 48 TO I-690	Van Buren	4.5	2016
33_6248	I-481 EXIT 4	I-690 EB (OFF)	I-481 NB (ON)	DeWitt	5.5	2016
33_6250	RAMP 6250	ON RAMP JCT I-481 + 5	RAMP 6250 OVER BUTTERNUT CRK	DeWitt	2.8	2016
33_6302	LAIRD RD	PERU RD	NY 31	Elbridge	3.0	2016
33_7006	KNOWELL RD	MILTON AVE	RICHLEE DR/NORTHWAY	Camillus	1.3	2014
33_7010	VINEGAR HILL RD	STUMP RD	GORHAM RD	Elbridge	11.2	2016
33_7011	HAMILTON RD	JORDAN RD	MASTERS RD	Elbridge	8.2	2015
33_7018	FARRELL RD	JOHN GLENN BLVD	STATE FAIR BLVD	Lysander	12.9	2016
33_7022	SMOKEY HOLLOW	HENCLE BLVD	KELLOGG RD	Lysander	1.2	2014
33_7032	HARTWELL AVE	KIRKVILLE RD	DAUSHMAN ST	DeWitt	5.1	2015
33_7033	KIRKVILLE RD	KIRKVILLE RD	FLY RD	DeWitt	4.0	2015
33_7038	7TH NORTH ST	TERMINAL RD	HIAWATHA BLVD	Syracuse	7.7	2015
33_7041	SOULE RD	OLD RT 57	ACC NY 481 SB	Clay	2.1	2016
33_7047	VINE ST	COMMERCE BLVD	HENRY CLAY BLVD	Salina	3.5	2016
33_7048	WETZEL RD	HENRY CLAY BLVD	MORGAN RD	Clay	4.0	2016
33_7049	HENRY CLAY BLVD	WETZEL RD	WATERHOUSE RD	Camillus	2.5	2014
33_7052	CAUGHDENOY RD	NY 31	VERPLANK RD	Clay	7.4	2016
33_7061	SIXTY RD	THREE RIVERS	LAWSON RD	Lysander	8.4	2014
33_7062	OLD COURT ST	RIDDINGS RD	BAKER ST	DeWitt	9.8	2016
33_7064	GROVE ST	VILLAGE LINE	DOUGLAS ST	Tully	3.4	2016
33_7070	APULIA RD	COUNTY PARK	DEWITT TOWN LN	LaFayette	7.2	2016
33_8001	APULIA RD	BAMERICK RD	NY 173	DeWitt	3.5	2016
33_8002	KIMBER RD	RANDALL RD	SYRACUSE CITY LINE	DeWitt	2.1	2016
33_8005	THOMPSON RD	S BAY RD	NY 31	Cicero	4.3	2010

Source: NYSDOT

Heavy Vehicle Percentages

RC_Station	Road Name	From	To	Municipality	Heavy Vehicle %	Year
33_8006	LAKE SHORE RD	CR123	CR208	Cicero	4.2	2015
33_8008	JORDAN RD	VILLAGE LN	SHELDON RD	Skaneateles	6.6	2016
33_8009	RIVER RD	OLD SR 31	CR 189	Lysander	2.8	2016
33_8010	SPLIT ROCK RD	NY 173	CR240	Onondaga	4.3	2010
33_8011	GRAND AVE	CR240	SYRACUSE CITY LINE	Onondaga	4.3	2014
33_8013	HOWLETT HILL RD	CR 243	CPL WELCH RD	Camillus	4.5	2015
33_8015	MAIN ST MARCELLUS	VILLAGE LINE	NY 174	Marcellus	3.4	2015
33_8018	BUCKLEY RD	HOPKINS RD	TAFT RD	Salina	1.7	2016
33_8019	KIRKVILLE RD	I-481	ROBERTS RD	DeWitt	5.1	2016
33_8021	MINOA RD	MINOA VIL LN	KIRKVILLE RD	Manlius	4.6	2016
33_8023	TERRY RD	CR 39	ONONDAGA TL	Onondaga	2.4	2016
33_8024	STATE FAIR BLVD	VAN VLECK RD	CR106 ARMSTRONG RD	Geddes	4.2	2016
33_8027	NORTHERN BLVD	I-481	ISLAND RD	Cicero	9.1	2010
33_8028	NORTHERN BLVD	NORTHERN BLVD	RUNNING RIDGE	Cicero	16.8	2016
33_8029	SOUTH ST	NY 175	VILLAGE LINE	Marcellus	5.0	2016
33_8031	KINNE ST	KIRKVILLE RD	NY 298	DeWitt	4.7	2016
33_8033	AIRPORT RD	WARNERS RD	NINEMILE CR	Camillus	4.6	2016
33_8037	HIGHBRIDGE RD	NY 92	VILLAGE LINE S	Manlius	1.7	2016
33_8038	HOWLETT HILL RD	CR 39	NY 173	Onondaga	1.4	2016
33_8040	BRICKYARD RD	NY 173	BEG OF SAMPLE	Van Buren	11.3	2016
33_8041	HENRY CLAY BLVD	BUCKLEY RD	WETZEL RD	Clay	4.5	2016
33_8043	JORDAN RD	CR142	NY 5	Elbridge	12.0	2010
33_8044	LAKE SHORE RD	NY 31	ONTARIO AVE	Cicero	3.0	2016
33_8045	MAKYES RD	YENNY RD	NY 175	Onondaga	2.5	2016
33_8047	VELASKO RD	NY 173	CITY LINE	Onondaga	1.9	2015
33_8048	OLD SENECA TKP	JORDAN RD	NY 321	Skaneateles	8.8	2016
33_8050	GRAHAM RD	SENTINEL HEIGHTS	LAFAYETTE RD	Onondaga	3.2	2015
33_8052	EXETER ST	NY 635	KINNE ST	DeWitt	7.1	2016
33_8053	PENDERGAST RD	COUNTY LINE	RIVER RD	Lysander	3.2	2016
33_8056	SYRACUSE SOUTH	THOMPSON RD	NY 31	Cicero	3.6	2016
33_8057	LEMOYNE AVE	BOULEVARD ST	US 11	Salina	2.9	2016
33_8062	BUCKLEY RD	TAFT RD	BEAR RD	Clay	2.1	2016
33_8064	KIRKVILLE RD SPUR	KIRKVILLE RD	KIRKVILLE RD	Manlius	0.0	2015
33_8067	BELLEVUE AVE SP	ONONDAGA BLVD	BELLEVUE AVE	Onondaga	3.3	2015
33_8068	NOTTINGHAM RD	Old Stone House	CR 7	DeWitt	5.2	2015
34_0023	NY 481	ACC CR 57A	NY 264	Schroeppel	8.0	2010
34_0027	NY 481	Onon/Oswego Co Line	CR 57A Over	Schroeppel	6.5	2015
34_0256	S. Main St	Oswego Co Line	NY 49	Hastings	8.3	2014
34_0257	US 11	NY 49	CR 4	Hastings	4.0	2016
34_0280	NY 264	NY 481	NY 49 Suttons Cor	Schroeppel	5.0	2016
34_0281	NY 264	CR 57 PHOENIX	NY 481	Phoenix	8.3	2016
34_0316	I-81	NY 49	NY 69	Hastings	13.3	2013
34_0575	EAST AVE	US 11	I-81	Hastings	5.7	2016
34_0576	NY 49	CR 33	US 11	Hastings	6.9	2016
34_2002	MAIN ST	CR 57A	NY 264 VOLNEY ST	Phoenix	5.0	2010
34_6027	SUTTON RD	PETER SCOTT RD	KLINE RD	Schroeppel	3.4	2016
34_6097	PENNELLVILLE RD	NY 264	SWAMP RD	Schroeppel	5.1	2016
34_6099	PENNELLVILLE RD	SWAMP RD	NY 49	Schroeppel	2.9	2016
34_6105	PHOENIX RD	HASTINGS TOWN LN	NY 49	Hastings	2.4	2015
34_6106	CR 32	BAUM RD	DEPOT RD	West Monroe	6.7	2015
34_6111	CR 37	CR 12	GILDNER RD	Hastings	5.2	2016
34_6140	CR 33	ONONDAGA COUNTY	CR 12	Schroeppel	4.3	2016
34_6143	BIDDLECUM RD	VOLNEY T/L	GODFREY RD	Schroeppel	5.8	2016
34_6148	RIVER RD	GILDNER RD	WEST MONROE TOWN LN	Hastings	4.6	2016
34_7022	DUNHAM RD	CR 57	HUNTLEY RD	Schroeppel	5.4	2016
34_8003	CR 4	PANGBORN RD	US 11	Hastings	4.9	2010
34_8016	CR 57A	HILLTOP DR	CR 12	Schroeppel	6.8	2016
34_8017	MAIN ST	NY 264	BRANDYBROOK LN	Phoenix	4.9	2016

Source: NYSDOT

Appendix 3 - Commodity data by direction

2012 Tons

Commodity	Inbound	Outbound	Internal	Total	% Total
Apparel or Related Products	29,235.0	6,181.5	36.5	35,453.0	0.1%
Chemicals or Allied Products	321,966.7	79,873.0	1,450.2	403,290.0	1.6%
Clay, Concrete,Glass or Stone	1,306,541.8	657,031.1	110,516.3	2,074,089.2	8.3%
Coal	147,202.0	0.0	0.0	147,202.0	0.6%
Crude Petroleum or Natural Gas	2,251.1	0.0	0.0	2,251.1	0.0%
Electrical Equipment	124,762.7	143,541.1	2,497.7	270,801.4	1.1%
Fabricated Metal Products	236,965.4	114,241.3	3,497.9	354,704.6	1.4%
Farm Products	921,867.0	811,025.3	13,468.6	1,746,360.8	7.0%
Food or Kindred Products	1,530,177.8	1,380,462.9	24,265.2	2,934,905.8	11.8%
Forest Products	4,167.0	37.5	0.0	4,204.5	0.0%
Fresh Fish or Marine Products	7,881.2	0.0	0.0	7,881.2	0.0%
Furniture or Fixtures	57,027.6	50,022.4	1,285.0	108,335.0	0.4%
Instrum, Photo Equip, Optical Eq	30,806.4	36,130.1	886.7	67,823.2	0.3%
Leather or Leather Products	3,828.3	0.0	0.0	3,828.3	0.0%
Lumber or Wood Products	655,441.4	142,887.7	4,088.4	802,417.5	3.2%
Machinery	136,638.3	62,436.2	2,061.7	201,136.3	0.8%
Mail or Contract Traffic	0.3	1,178.4	0.0	1,178.7	0.0%
Metallic Ores	1,434.6	34.8	0.0	1,469.5	0.0%
Misc Freight Shipments	0.0	8,498.2	0.0	8,498.2	0.0%
Misc Manufacturing Products	50,953.8	13,380.4	448.7	64,783.0	0.3%
Misc Mixed Shipments	382,323.5	256,241.7	0.0	638,565.2	2.6%
Nonmetallic Minerals	2,991,250.2	1,403,085.1	41,623.9	4,435,959.2	17.8%
Ordnance or Accessories	1,359.0	60.7	0.0	1,419.8	0.0%
Petroleum or Coal Products	1,282,995.8	774,938.3	42,904.2	2,100,838.3	8.4%
Primary Metal Products	263,186.5	353,389.8	4,275.2	620,851.5	2.5%
Printed Matter	94,099.7	33,293.2	1,377.4	128,770.3	0.5%
Pulp, Paper or Allied Products	273,595.6	513,259.6	2,326.0	789,181.2	3.2%
Rubber or Misc Plastics	151,283.5	109,251.2	988.8	261,523.5	1.0%
Secondary Traffic	1,945,391.1	2,163,754.3	687,920.0	4,797,065.4	19.3%
Shipping Containers	9,760.0	639,440.0	0.0	649,200.0	2.6%
Small Packaged Freight Shipments	11,473.9	10,994.5	0.0	22,468.3	0.1%
Textile Mill Products	16,695.1	1,240.5	41.6	17,977.2	0.1%
Tobacco Products	7,150.6	480.7	66.4	7,697.8	0.0%
Transportation Equipment	156,682.4	29,263.0	474.4	186,419.7	0.7%
Waste or Scrap Materials	332,723.9	665,362.9	10,607.6	1,008,694.4	4.0%
Total	**13,489,119.2**	**10,461,017.5**	**957,108.2**	**24,907,245.0**	

2012 Value

Commodity	Inbound	Outbound	Internal	Total	% Total
Apparel or Related Products	$263,411,053	$28,906,536	$133,684	$292,451,272	0.8%
Chemicals or Allied Products	$1,348,672,222	$777,923,787	$13,970,053	$2,140,566,062	5.5%
Clay, Concrete,Glass or Stone	$269,549,046	$93,054,083	$9,841,817	$372,444,946	1.0%
Coal	$5,753,011	$0	$0	$5,753,011	0.0%
Crude Petroleum or Natural Gas	$1,258,986	$0	$0	$1,258,986	0.0%
Electrical Equipment	$1,940,340,259	$1,920,529,841	$25,949,767	$3,886,819,866	10.1%
Fabricated Metal Products	$855,403,959	$373,027,462	$12,122,352	$1,240,553,773	3.2%
Farm Products	$495,504,524	$324,225,441	$5,865,585	$825,595,549	2.1%
Food or Kindred Products	$2,105,927,811	$1,338,623,599	$25,109,540	$3,469,660,951	9.0%
Forest Products	$8,107,224	$353	$0	$8,107,576	0.0%
Fresh Fish or Marine Products	$53,985,946	$0	$0	$53,985,946	0.1%
Furniture or Fixtures	$247,436,551	$192,560,306	$5,139,021	$445,135,878	1.2%
Instrum, Photo Equip, Optical Eq	$590,180,262	$649,972,389	$19,006,677	$1,259,159,328	3.3%
Leather or Leather Products	$64,434,016	$0	$0	$64,434,016	0.2%
Lumber or Wood Products	$310,034,243	$122,483,620	$4,080,832	$436,598,695	1.1%
Machinery	$1,341,260,343	$658,467,192	$17,722,693	$2,017,450,228	5.2%
Mail or Contract Traffic	$763	$3,211,333	$0	$3,212,096	0.0%
Metallic Ores	$2,467,103	$16,647	$0	$2,483,749	0.0%
Misc Freight Shipments	$0	$136,821	$0	$136,821	0.0%
Misc Manufacturing Products	$491,736,957	$342,093,954	$1,876,420	$835,707,331	2.2%
Misc Mixed Shipments	$2,447,148,931	$1,754,854,925	$0	$4,202,003,856	10.9%
Nonmetallic Minerals	$29,676,323	$10,777,943	$319,471	$40,773,737	0.1%
Ordnance or Accessories	$33,239,139	$1,446,259	$0	$34,685,399	0.1%
Petroleum or Coal Products	$910,857,507	$473,087,674	$34,555,844	$1,418,501,025	3.7%
Primary Metal Products	$565,427,709	$663,775,238	$7,602,734	$1,236,805,681	3.2%
Printed Matter	$352,603,092	$122,797,295	$6,635,186	$482,035,573	1.2%
Pulp, Paper or Allied Products	$389,774,506	$556,129,043	$3,439,415	$949,342,963	2.5%
Rubber or Misc Plastics	$633,909,159	$420,562,110	$3,711,483	$1,058,182,752	2.7%
Secondary Traffic	$3,148,210,074	$3,699,650,015	$3,015,719,465	$9,863,579,554	25.5%
Shipping Containers	$0	$0	$0	$0	0.0%
Small Packaged Freight Shipment	$0	$0	$0	$0	0.0%
Textile Mill Products	$90,998,107	$7,519,240	$197,996	$98,715,343	0.3%
Tobacco Products	$117,757,076	$8,485,905	$1,173,068	$127,416,048	0.3%
Transportation Equipment	$1,181,494,212	$302,572,862	$4,210,596	$1,488,277,670	3.9%
Waste or Scrap Materials	$92,277,375	$181,728,215	$3,096,739	$277,102,329	0.7%
Total	**$20,388,837,488**	**$15,028,620,090**	**$3,221,480,434**	**$38,638,938,012**	

2040 Tons

Commodity	Inbound	Outbound	Internal	Total	% Total
Apparel or Related Products	43,820.90	7,491.54	116.02	51,428.5	0.2%
Chemicals or Allied Products	434,694.57	89,108.89	1,052.52	524,856.0	1.8%
Clay, Concrete,Glass or Stone	2,240,424.41	692,406.51	87,793.37	3,020,624.3	10.2%
Coal	108,213.08	0.0	0.0	108,213.1	0.4%
Crude Petroleum or Natural Gas	2,571.06	0.0	0.0	2,571.1	0.0%
Electrical Equipment	237,165.90	425,263.22	6,502.96	668,932.1	2.2%
Fabricated Metal Products	339,141.31	313,553.82	7,876.02	660,571.1	2.2%
Farm Products	921,688.92	1,432,773.22	14,657.89	2,369,120.0	8.0%
Food or Kindred Products	1,789,944.09	1,103,708.92	12,212.61	2,905,865.6	9.8%
Forest Products	5,840.53	65.79	0.0	5,906.3	0.0%
Fresh Fish or Marine Products	7,807.40	0.0	0.0	7,807.4	0.0%
Furniture or Fixtures	91,379.09	19,111.63	224.31	110,715.0	0.4%
Instrum, Photo Equip, Optical Eq	62,115.20	25,010.32	600.07	87,725.6	0.3%
Leather or Leather Products	3,080.62	0.0	0.0	3,080.6	0.0%
Lumber or Wood Products	598,180.46	184,025.53	3,341.04	785,547.0	2.6%
Machinery	299,554.28	250,328.87	6,646.77	556,529.9	1.9%
Mail or Contract Traffic	0.20	3,664.64	0.0	3,664.8	0.0%
Metallic Ores	1,054.69	84.61	0.0	1,139.3	0.0%
Misc Freight Shipments	0.0	30,752.24	0.0	30,752.2	0.1%
Misc Manufacturing Products	99,240.04	28,897.31	627.48	128,764.8	0.4%
Misc Mixed Shipments	560,755.62	398,942.22	0.0	959,697.8	3.2%
Nonmetallic Minerals	3,673,922.91	347,641.14	7,659.53	4,029,223.6	13.6%
Ordnance or Accessories	4,356.99	392.70	0.0	4,749.7	0.0%
Petroleum or Coal Products	791,395.39	34,732.39	895.98	827,023.8	2.8%
Primary Metal Products	521,897.34	672,086.02	13,337.06	1,207,320.4	4.1%
Printed Matter	75,053.86	23,784.26	913.49	99,751.6	0.3%
Pulp, Paper or Allied Products	308,387.74	598,523.83	1,871.98	908,783.5	3.1%
Rubber or Misc Plastics	247,234.24	171,578.33	1,254.83	420,067.4	1.4%
Secondary Traffic	2,901,283.80	2,377,876.08	1,050,820.87	6,329,980.7	21.3%
Shipping Containers	18,243.73	1,220,922.45	0.0	1,239,166.2	4.2%
Small Packaged Freight Shipments	23,461.27	10,772.53	0.0	34,233.8	0.1%
Textile Mill Products	22,577.36	587.14	6.09	23,170.6	0.1%
Tobacco Products	1,412.37	126.29	11.94	1,550.6	0.0%
Transportation Equipment	149,628.17	25,093.65	18.13	174,740.0	0.6%
Waste or Scrap Materials	474,186.18	951,693.01	14,293.74	1,440,172.9	4.8%
Total	**17,059,713.7**	**11,440,999.1**	**1,232,734.7**	**29,733,447.5**	

2040 Value

Commodity	Inbound	Outbound	Internal	Total	% Total
Apparel or Related Products	$440,808,816	$34,442,920	$424,808	$475,676,543	0.8%
Chemicals or Allied Products	$1,881,709,292	$698,494,846	$8,910,599	$2,589,114,737	4.3%
Clay, Concrete,Glass or Stone	$415,470,533	$103,486,679	$7,910,114	$526,867,326	0.9%
Coal	$4,229,229	$0	$0	$4,229,229	0.0%
Crude Petroleum or Natural Gas	$1,437,907	$0	$0	$1,437,907	0.0%
Electrical Equipment	$3,595,373,983	$5,071,245,648	$69,144,888	$8,735,764,519	14.6%
Fabricated Metal Products	$1,263,423,142	$1,044,426,587	$27,705,772	$2,335,555,501	3.9%
Farm Products	$484,785,701	$577,560,085	$5,964,459	$1,068,310,246	1.8%
Food or Kindred Products	$2,466,309,250	$1,184,778,226	$14,433,600	$3,665,521,076	6.1%
Forest Products	$11,510,595	$619	$0	$11,511,213	0.0%
Fresh Fish or Marine Products	$53,276,084	$0	$0	$53,276,084	0.1%
Furniture or Fixtures	$393,021,611	$81,436,819	$898,190	$475,356,620	0.8%
Instrum, Photo Equip, Optical Eq	$1,415,197,494	$881,644,157	$26,657,943	$2,323,499,593	3.9%
Leather or Leather Products	$57,349,183	$0	$0	$57,349,183	0.1%
Lumber or Wood Products	$290,021,620	$129,321,226	$2,281,942	$421,624,788	0.7%
Machinery	$3,040,042,714	$2,690,430,730	$58,034,148	$5,788,507,593	9.7%
Mail or Contract Traffic	$553	$9,986,755	$0	$9,987,308	0.0%
Metallic Ores	$1,844,004	$40,131	$0	$1,884,135	0.0%
Misc Freight Shipments	$0	$268,977	$0	$268,977	0.0%
Misc Manufacturing Products	$1,003,573,101	$731,193,830	$2,557,760	$1,737,324,691	2.9%
Misc Mixed Shipments	$3,587,231,175	$2,397,979,934	$0	$5,985,211,109	10.0%
Nonmetallic Minerals	$36,882,916	$2,836,361	$58,887	$39,778,163	0.1%
Ordnance or Accessories	$105,671,535	$9,294,684	$0	$114,966,219	0.2%
Petroleum or Coal Products	$576,015,380	$17,774,255	$664,459	$594,454,094	1.0%
Primary Metal Products	$1,187,303,140	$1,283,284,549	$24,702,292	$2,495,289,982	4.2%
Printed Matter	$327,040,166	$102,266,486	$4,732,370	$434,039,022	0.7%
Pulp, Paper or Allied Products	$458,975,035	$653,653,934	$2,957,985	$1,115,586,955	1.9%
Rubber or Misc Plastics	$1,034,513,715	$668,591,975	$4,707,357	$1,707,813,047	2.9%
Secondary Traffic	$5,444,788,423	$4,522,055,234	$4,911,453,449	$14,878,297,106	24.9%
Shipping Containers	$0	$0	$0	$0	0.0%
Small Packaged Freight Shipmen	$0	$0	$0	$0	0.0%
Textile Mill Products	$115,069,330	$5,052,854	$28,982	$120,151,166	0.2%
Tobacco Products	$22,753,292	$2,227,603	$210,903	$25,191,798	0.0%
Transportation Equipment	$1,321,228,326	$307,199,801	$160,974	$1,628,589,102	2.7%
Waste or Scrap Materials	$124,583,463	$246,150,136	$4,049,420	$374,783,019	0.6%
Total	**$31,161,440,708**	**$23,457,126,040**	**$5,178,651,300**	**$59,797,218,048**	

Appendix 4 – Freight questionnaire

Exit this survey

Syracuse Metropolitan Transportation Council

Freight Questionnaire

Please tell us where you encounter highway-related issues such as limited sightlines, congestion, clearances, turning radii, access issues to rail facilities, ramp designs, and any other highway-related restrictions within the Syracuse metropolitan planning area (see map).

Please contact Mario Colone at mcolone@smtcmpo.org or Mike Alexander at malexander@smtcmpo.org, or call 315.422.5716, for more information.

1. Please provide some information about yourself.

Company Name	
Business Type (e.g. Distribution, Logistics, Manufacturing, Warehousing)	
Your Name	
Your Title/Occupation	
Telephone Number	
E-mail Address	

2. Is your company a:

- Shipper
- Carrier
- Receiver
- Other (please specify)

3. What are your travel route(s)? (e.g. I-690 east to I-81 south, exit 18)

4. What issues exist along your travel route(s), and where do they exist?

5. Are these your desired route(s)?

- Yes
- No

6. If you answered no to the last question, what issues prevent you from using your desired route? (e.g. low bridge, weight limitations, etc.) Please be specific and give location information as appropriate.

7. Along your route(s), are you able to travel at the posted speed?

- Yes
- No

8. If you answered no to the last question, what is/are the reason(s) why you are not able to travel at the posted speed? Please be specific and give locations as appropriate.

9. What time of day do most deliveries occur?

10. What days of the week do most deliveries occur?

11. What time of the year do most deliveries occur?

12. Do you send or receive shipments by rail?

- Send
- Receive
- Both send and receive
- Not applicable

13. What rail yard(s), distribution center(s), or warehouse(s) do you use?

14. Please select which railroads you use.

- CSX
- NYS&W
- FGLK

Not applicable

15. Do you encounter issues accessing any of these facilities (from questions 13 and 14)? If so, what issues and where?

16. Do you export goods and/or services?

Yes

No

17. If/when a container distribution facility is constructed adjacent to the CSX intermodal yard, do you anticipate using the facility for import and/or export opportunities?

Yes - both import and export

Yes - import only

Yes - export only

No

18. Would you, or another company representative, be interested in receiving freight-related materials or participating in future freight conversations and/or activities in the SMTC area?

Yes

No

19. If you answered yes to the last question, are you interested in:

Receiving materials/mailings

Participating in conversations and/or activities

20. Any final concerns or comments you would like to add?

Done

Appendix 4 - Freight Questionnaire

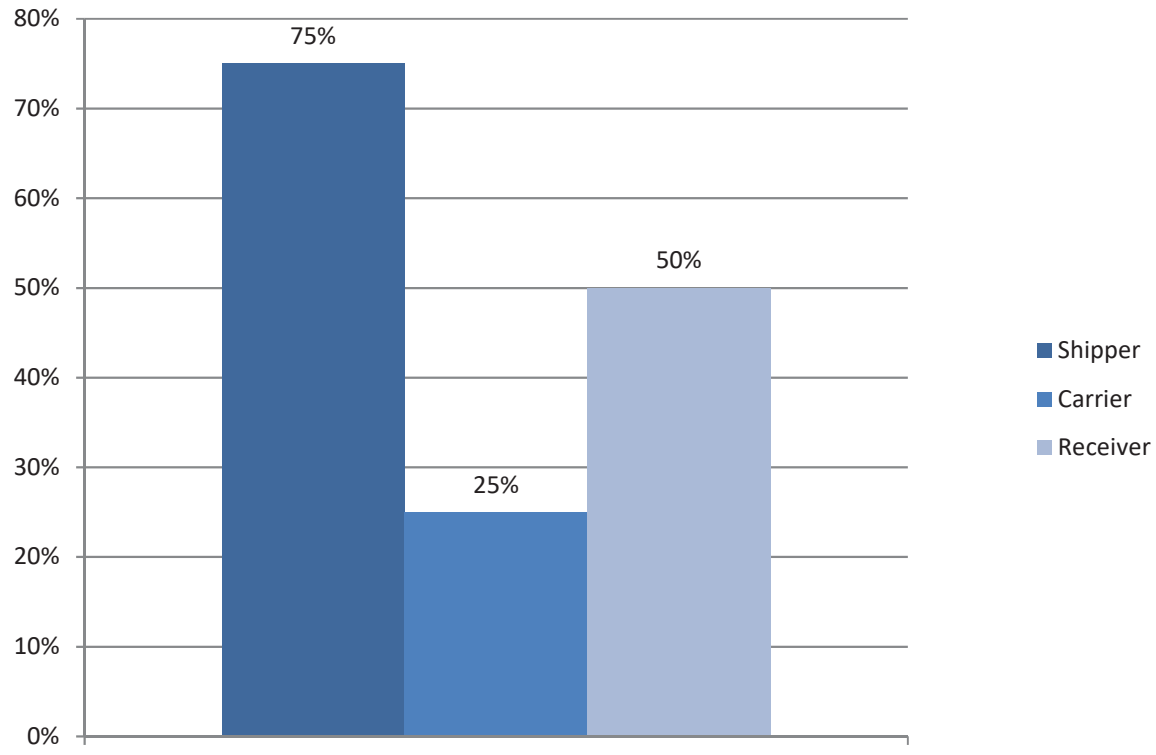
Question 1a: Company name

- FM Sales and Distribution
- T.J Sheehan Distribution
- Anaren Microwave Inc
- Terpening Trucking Co In

Question 1b: Business type

- Warehouse/distribution for L & JG Stickley Inc
- Distribution
- Electronics manufacturing
- Bulk petroleum hauler

Question 2: Is your company a…



Question 3: What are your travel routes?

- Local delivery trucks entire Syracuse area as we are doing home deliveries. Over the road deliveries utilize I-690 east and west to/from I-81 and 481 north and south to I-81 or I-90. Several trucks will run weekly Rt 173S to Canastota to pick up I-90
- All roads / local delivery....stores, bars, clubs, gas stations & restaurants
- We use common carriers (UPS, FED-X) to ship and receive. 690, 81, 481 are usual main roads to access our plant.
- 690E to 81S to points south; 81S from north country through the city to points south; 81N through the city; 81N to 690W.

Question 4: What issues exist along your travel route(s), and where do they exist?

- No real noted concerns
- We use all exits & ramps except for Onondaga Parkway
- Congestion at 690/81 interchange, congestion at Fairgrounds
- Congestion through the city on all routes during "rush hour"

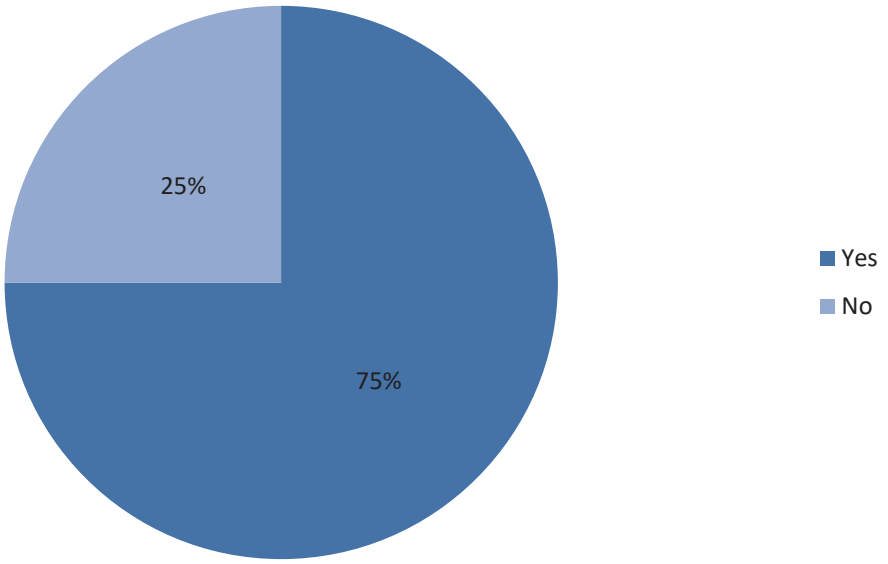
Question 5: Are these your desired routes?

All respondents indicated that “Yes”, the routes they identified were their desired ones.

Question 6: If you answered no to the last question, what issues prevent you from using your desired route? (e.g. low bridge, weight limitations, etc.) Please be specific and give location information as appropriate.

No responses received.

Question 7: Along your route(s), are you able to travel at the posted speed?



Question 8: If you answered no to the last question, what is/are the reason(s) why you are not able to travel at the posted speed? Please be specific and give locations as appropriate.

- During high-traffic times, the 81/690 interchange area, in any direction, can be very slow.

Question 9: What time of day do most deliveries occur?

- 7am -6pm
- 6:00 am - 4:00 pm
- 10am-noon
- We operate 24/7. Small percentage of our deliveries are in the city area, but 75% go through the area to get wherever we are going

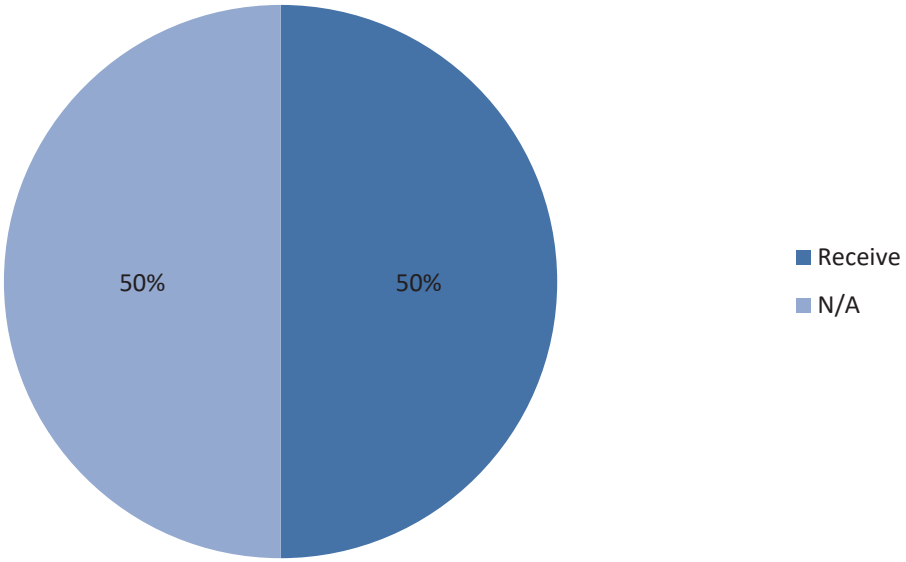
Question 10: What days of the week do most deliveries occur?

Monday through Friday are the days when most deliveries occur according to respondents.

Question 11: What time of the year do most deliveries occur?

Deliveries occur year round.

Question 12: Do you send or receive shipments by rail?



Question 13: What rail yard(s), distribution center(s), or warehouse(s) do you use?

Of the 2 responses, both noted the CSX yard in East Syracuse.

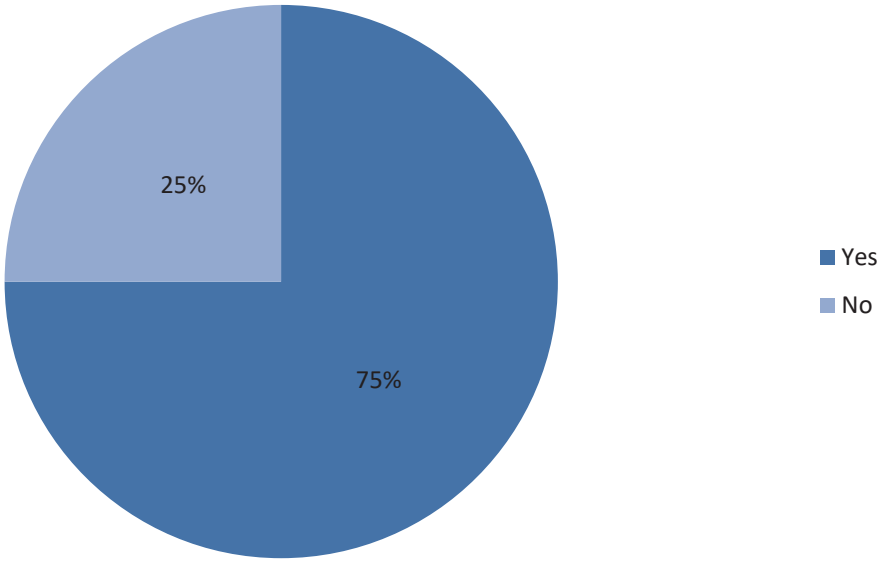
Question 14: Please select which railroads you use.

Options available	Response percent
CSX	33%
NYS&W	0%
FGLK	0%
Not applicable	67%

Question 15: Do you encounter issues accessing any of these facilities (from questions 13 and 14)? If so, what issues and where?

- There is difficult turn caused by a very tight curbing - from bridge st, over the bridge into e syr, then turn right onto e manlius st

Question 16: Do you export goods and/or services?



Question 17: If/when a container distribution facility is constructed adjacent to the CSX intermodal yard, do you anticipate using the facility for import and/or export opportunities?

Options available	Response percent
Yes – both import & export	0%
Yes – import only	50%
Yes – export only	0%
No	50%

Question 18: Would you, or another company representative, be interested in receiving freight-related materials or participating in future freight conversations and/or activities in the SMTC area?

All responses indicated "Yes."

Question 19: If you answered yes to the last question, are you interested in:

Options available	Response percent
Receiving materials/mailings	67%
Participating in conversations and/or activities	67%

Question 20: Any final concerns or comments you would like to add?

- Our company delivers beer off of tractor trailers. One of our biggest challenges daily is delivering when parked cars are blocking the delivery areas especially on the University & Downtown
- Quality of roads and bridges needs to continue to be a priority.
- No solution is going to make EVERYBODY happy! But, that poor old 81 bridge needs some sort of solution. More of an issue (to my mind) is concern over making "room enough" to make the whole 81/690 interchange compliant with current Interstate codes, should the choice be bridge replacement rather than re-routing 81 around the city via the existing 481 path.