CHAPTER 4

EXISTING CONDITIONS AND NEEDS

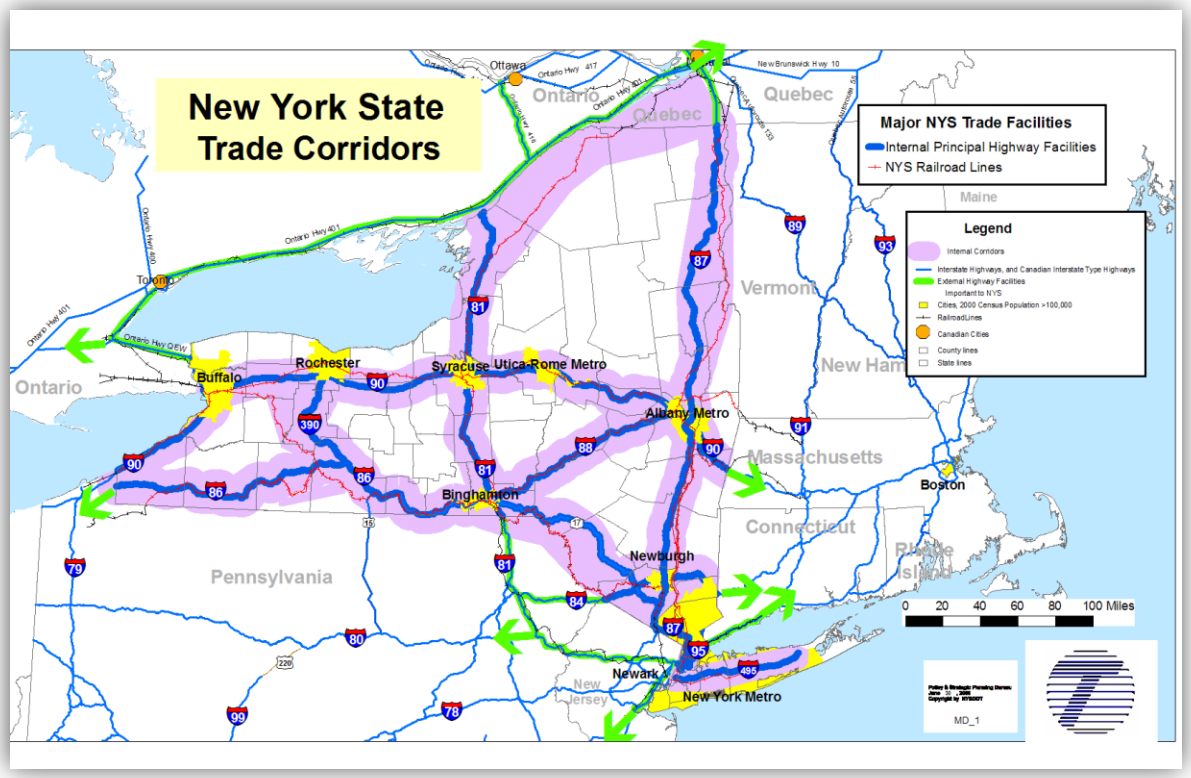
EXISTING CONDITIONS AND NEEDS

A comprehensive understanding of current transportation system conditions is essential to the transportation planning process. Understanding the current system allows one to recognize the system's strengths, its needs and deficiencies, and properly plan and prioritize future improvements. This chapter begins with the concept of corridor planning and the important corridors within the Ulster County region. It also presents the current transportation system conditions and needs beginning with roads and bridges, followed by bicycle and pedestrian, public transit, freight and aviation modes, and concludes with a discussion on transportation security.

Statewide and Regional Corridors

NYSDOT created a framework for defining and selecting trade, intercity passenger, tourism and commuter corridors in New York State. NYSDOT defines a trade corridor as a multimodal transportation system which supports the movement of high volume and/or high value goods, commodities and services to, from, within and through the State (see Figure 4-1). The primary focus is on multimodal connections between and among major New York State urban area economic centers and the international trade centers of New York City, Toronto and Montreal. An intercity passenger travel corridor carries

Figure 4-1: New York State Trade Corridors



business and personal travel primarily between urban areas. It also supports travel to other major interstate urban areas. A tourism corridor supports a high volume of tourists, originating from both inside and outside New York State, and generally operates between major tourist gateways, urban areas and major tourist centers or attractions. A commuter corridor supports recurring travel of varying lengths and durations from centers of residency to centers of employment. Commuter corridors are characterized by heavy demand at peak travel times and the availability of alternative modes of travel. Figure 4-2 and Table 4-1 identify regionally significant corridors Ulster County.

Figure 4-2: Regionally Significant Trade Corridors

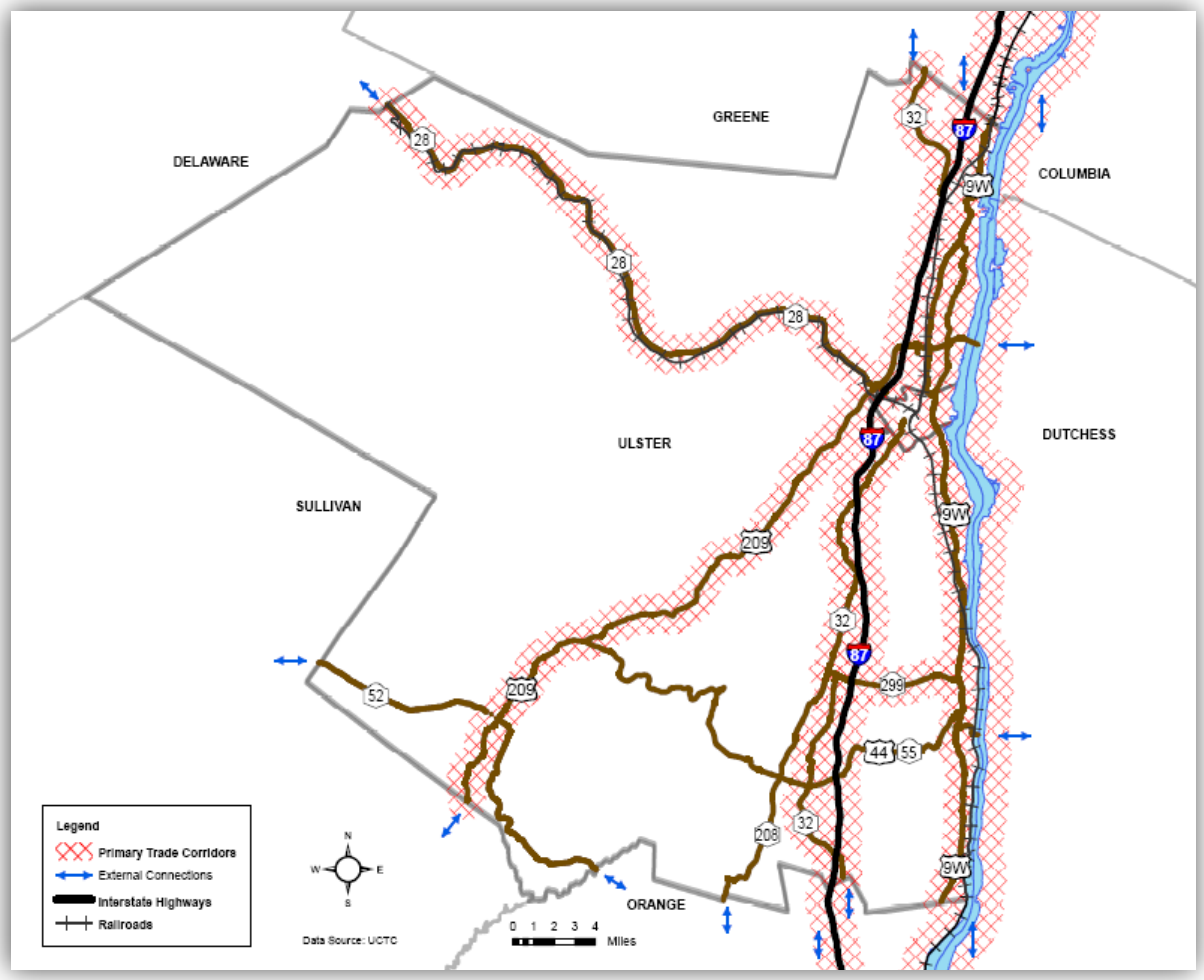


Table 4-1: Regionally Significant Corridors by Primary Function

Corridor	Geographic Area	Primary Function
I-87 NYS Thruway	North/South: Albany to New York City via Hudson River Corridor	Trade, Tourism, Commuter, Intercity Passenger
CSX Railroad	North/South: Albany to New York City via Hudson River Corridor	Trade
US 9W	North/South: Albany to New York City via Hudson River Corridor	Trade, Tourism, Commuter, Intercity Passenger
US 209/SR 199	Southwest/Northeast: Dutchess County, NY to Port Jervis, PA via Kingston and Ellenville	Trade, Tourism, Commuter
SR 28	East/West: Kingston to Oneonta via the Catskill Mountains	Trade, Tourism, Commuter
SR 299	East/West: Gardiner to Highland	Trade, Tourism, Commuter
SR 44/55	East/West: Sullivan County to Poughkeepsie via Napanoch, Gardiner, Plattekill and Highland	Commuter, Tourism
SR 32	North/South: Albany to Harriman, NY via Saugerties, Kingston, New Paltz, and Modena	Commuter, Tourism, Trade
SR 52	East/West: Sullivan County to Newburgh, NY via Ellenville and Shawangunk	Commuter, Tourism
SR 208	North/South: New Paltz to Monroe, NY via Gardiner and Wallkill	Commuter, Tourism
Hudson River	North/South: Albany to New York City via Kingston and Highland	Trade, Tourism

Roads and Bridges

The local highway, bridge and traffic network has evolved over time with the basic purpose of providing a means to accommodate local travel demand. The development of the system has been dependent upon local conditions as well as available technologies. To a large degree, the development of, and access to, available transportation facilities and/or services established the foundation of the region's urban and industrial development. Over the past decade, the emphasis in Ulster County has been maintaining existing infrastructure and enhancing bicycle and pedestrian facilities.

An adequate, reliable, and well preserved highway and bridge system is an important goal for the region. Through a series of public input meetings, it is evident that local residents, businesses, and community leaders recognize and understand the role of highways and bridges in the region. They are aware that the function of these facilities is dynamic in nature, fluctuating with population and associated development patterns, roadway capacity and changes in technologies. Their understanding of the system's historical background allows them to consider the safety and efficiency of the existing network and the needs for future development. They are very much aware of the network's economic impact on the region and respect the need to maintain quality and reliability, because the network has provided a means for personal transportation as well as a means to move goods from farm to market and from market to other regions both nationally and internationally.

Highway Network Overview

The highway system that services Ulster County is characteristic of small metropolitan areas throughout the United States. While there is a moderate quantity of interstate highways and limited access expressways, Ulster County is largely served by medium- and small-scale roadways. Over the past five years, the UCTC approved revisions and updates to the *UCTC Functional Classification System Map* to reflect the changing needs of roadways as a result of changing area land uses. Federal approval of those functional classification system changes is pending. The *UCTC Functional Classification System Map* provides the basis of engineering and policy analyses and is shown in Figure 4-3.

Responsibility for the operation of roadway facilities (e.g. repair, maintenance, upkeep) is distributed among agencies within town, village, city, county and state governments. For these agencies, the distribution of the roadway network by functional classification and location, urban or rural, is utilized as a basis for resource allocation. Functional Classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary then to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network.

Table 4-2 shows the total roadway mileage in Ulster County. The table shows that the majority (64.2%) of Ulster County roadway mileage is rural. Approximately 20% of the Ulster County roadway network is eligible to receive federal aid.

Table 4-2: Total Roadway Mileage by Functional Classification

Functional Classification	Total Miles	Rural		Urban	
		Miles	% Rural	Miles	% Urban
Interstate	40.54	9.08	22.4%	31.46	77.6%
Expressways	4.24	0	0.0%	4.24	100.0%
Principal Arterials	81.98	35.64	43.5%	46.34	56.5%
Minor Arterials	133.03	58.81	44.2%	74.22	55.8%
Major Collectors	202.05	66.44	32.9%	135.61	67.1%
Minor Collectors	208.36	208.36	100.0%	0.00	0.0%
Local Road	1641.27	1107.54	67.5%	533.73	32.5%
Total	**2311.47**	**1485.87**	**64.3%**	**825.60**	**35.7%**

Source: NYSDOT. Rural Minor Collectors and Local Roads are not eligible to receive Federal aid.

While quantity of infrastructure is a good indicator of how easy it is to get from one point to another, it is important to know the quality of the roadways to determine if the network is safe, comfortable and reliable. These characteristics may be a matter of preference for local drivers but they can be critical to trucks carrying fragile goods, and a matter of life

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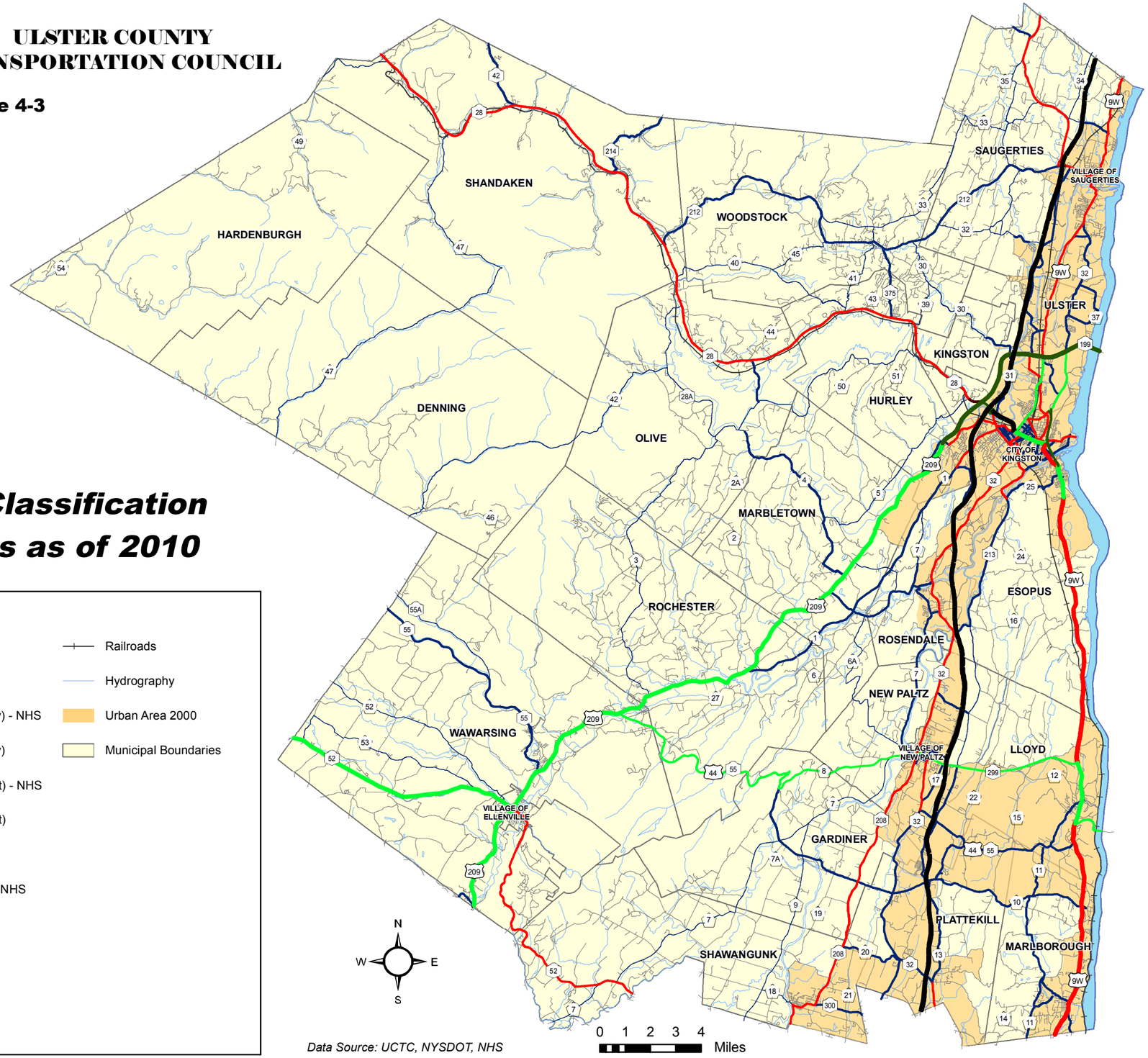
Figure 4-3

Functional Classification of Roadways as of 2010

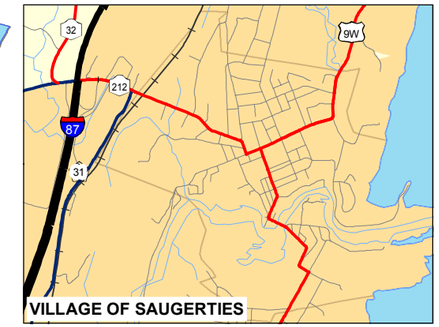


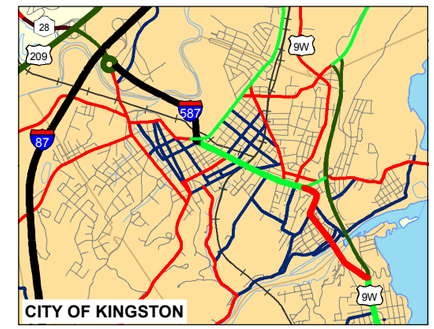
Data Source: UCTC, NYSDOT, NHS

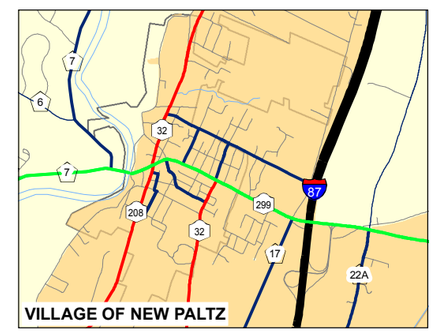
Legend

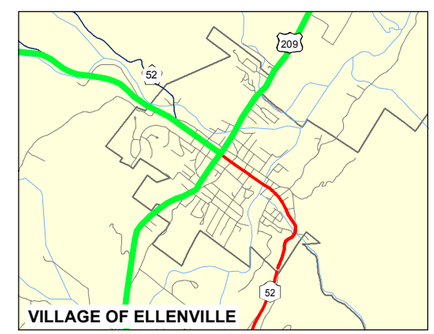
Functional Classifications

- Interstate - NHS
- Principal Arterial (Expressway) - NHS
- Principal Arterial (Expressway)
- Principal Arterial (Other Street) - NHS
- Principal Arterial (Other Street)
- Minor Arterial (Expressway)
- Minor Arterial (Other Street) - NHS
- Minor Arterial (Other Street)
- Major Collector
- Minor Collector
- Local Roads
- Railroads
- Hydrography
- Urban Area 2000
- Municipal Boundaries









and death for bicyclists who are more sensitive to roadway conditions. For these reasons, periodic visual inspections are made and each part of the roadway network is scored on a scale of 1 to 10 in which a score of 5 or lower is indicative of poor condition, 6 or 7 is fair or good, and 8 and higher indicates excellent condition. Poor condition generally means the facility requires large-scale rehabilitation or even reconstruction while roadways in fair or good condition need only minor repairs.

Table 4-3 summarizes current roadway pavement conditions for federal aid eligible roads in Ulster County. A total of 461.84 miles of roadways in Ulster County is eligible to receive federal aid. A majority of this federal aid mileage is located within urbanized areas. According to the pavement conditions inventory, there is approximately 2.6% or 12.2 miles of the federal aid system having poor pavement condition ratings, indicating distress symptoms are frequent and may be severe. Approximately 97.4% or 449.64 miles of the federal aid system in Ulster County has a rating of fair to good, meaning distress symptoms are beginning to show or are clearly visible. Pavement condition is rated on a scale between 1 and 10 where "1" is the worst pavement condition and "10" is the best. The average pavement condition rating for all federal aid eligible roads in Ulster County is 7.17.

Table 4-3: Current Pavement Conditions for Federal Aid Roads

Functional Classification	Total Miles	Centerline Miles		% Poor (≤ 5)		% Fair to Good (≥ 6)		Average Rating
		Rural	Urban	Rural	Urban	Rural	Urban	
Interstate	40.54	9.08	31.46	0.00%	0.00%	100.00%	100.00%	**7.92**
Expressways	4.24	0.00	4.24	N/A	0.00%	N/A	100.00%	**7.52**
Principal Arterials	81.98	35.64	46.34	2.30%	0.86%	97.70%	99.14%	**6.89**
Minor Arterials	133.03	58.81	74.22	1.70%	2.93%	98.30%	97.07%	**6.77**
Major Collectors	202.05	66.44	135.61	3.61%	3.98%	96.39%	96.02%	**6.76**
Total	**461.84**	**169.97**	**291.87**					

Source: NYSDOT, Ulster County DPW, City of Kingston, Village and Town of New Paltz

While pavement condition ratings are routinely collected and compiled for State highways by NYSDOT, similar data is not systematically collected for local roads. UCTC staff consulted with the Ulster County Department of Public Works, City of Kingston Engineering Department and other local municipalities to obtain estimates on current pavement conditions.

Bridge Network Overview

According to NYSDOT's bridge inventory, a total of three hundred sixty-six (366) public bridges with at least 20 foot spans exist on the Ulster County roadway network. One hundred forty-two (142) of the bridges are owned by State agencies and two hundred twenty-four (224) bridges are owned by the County and other local governments. An inventory of Ulster County bridges by roadway functional classification is shown in Table 4-4.

Table 4-4: Bridge Totals by Functional Classification

Functional Classification	State			Local			
	Rural	Urban	Subtotal	Rural	Urban	Subtotal	Total
Interstate	4	11	15	0	0	0	**15**
Expressway	0	9	9	0	0	0	**9**
Principal Arterials	11	20	31	0	1	1	**32**
Minor Arterials	19	17	36	0	0	0	**36**
Collectors	32	12	44	45	7	52	**96**
Local	4	3	7	155	16	171	**178**
Total	**70**	**72**	**142**	**200**	**24**	**224**	**366**

Source: NYSDOT, Includes NYS Thruway Bridges

As deteriorating pavement conditions can undermine driving comfort, reliability and safety, deficiencies on the bridge network can also be problematic. NYSDOT inspects all public bridges on at least a two year cycle. Bridges that require immediate attention are flagged and the owner is required to address the flag in a timely manner or the bridge may be load posted or closed by NYSDOT. A deficient bridge is not necessarily an unsafe structure and weight restrictions may be imposed to limit the type of traffic (e.g. heavy trucks) that would cause further damage. However, closing a bridge or imposing certain weight restrictions can cause significant inconvenience, especially in parts of the county where detours or alternate routes are not readily available. Table 4-5 summarizes currently deficient bridges in Ulster County by State and local jurisdiction. Figure 4-4 identifies the location of all public bridges in Ulster County according to their current state of repair.

Table 4-5: Currently Deficient Bridges

Urban	State			Local		
	Deficient	Total Bridges	% Deficient	Deficient	Total Bridges	% Deficient
Interstate	1	11	9%	0	0	N/A
Expressway	0	9	0%	0	0	N/A
Principal Arterials	1	20	5%	1	1	100%
Minor Arterials	4	17	24%	0	0	N/A
Collectors	4	12	33%	5	7	71%
Local	0	3	0%	4	16	25%
Total	**10**	**72**	**14%**	**10**	**24**	**42%**
Rural	**State**			**Local**		
	Deficient	**Total Bridges**	**% Deficient**	**Deficient**	**Total Bridges**	**% Deficient**
Interstate	2	4	50%	0	0	N/A
Expressway	0	0	N/A	0	0	N/A
Principal Arterials	1	11	9%	0	0	N/A
Minor Arterials	1	19	5%	0	0	N/A
Collectors	5	32	16%	10	45	22%
Local	0	4	0%	19	155	12%
Total	**9**	**70**	**13%**	**29**	**200**	**15%**

Source: NYSDOT; Includes "R" posted bridges.

As Table 4-5 illustrates, 58 or 15.8% of all Ulster County bridges are structurally deficient. Of this total, 19 deficient bridges are owned by the State and 39 deficient bridges are owed by the County and local governments. Regionally significant Ulster County bridge improvement needs include the City of Kingston Wurts Street Suspension Bridge, the Denning Road Bridge over Neversink, and the Town of Shandaken Route 28 Bridge over Esopus Creek.

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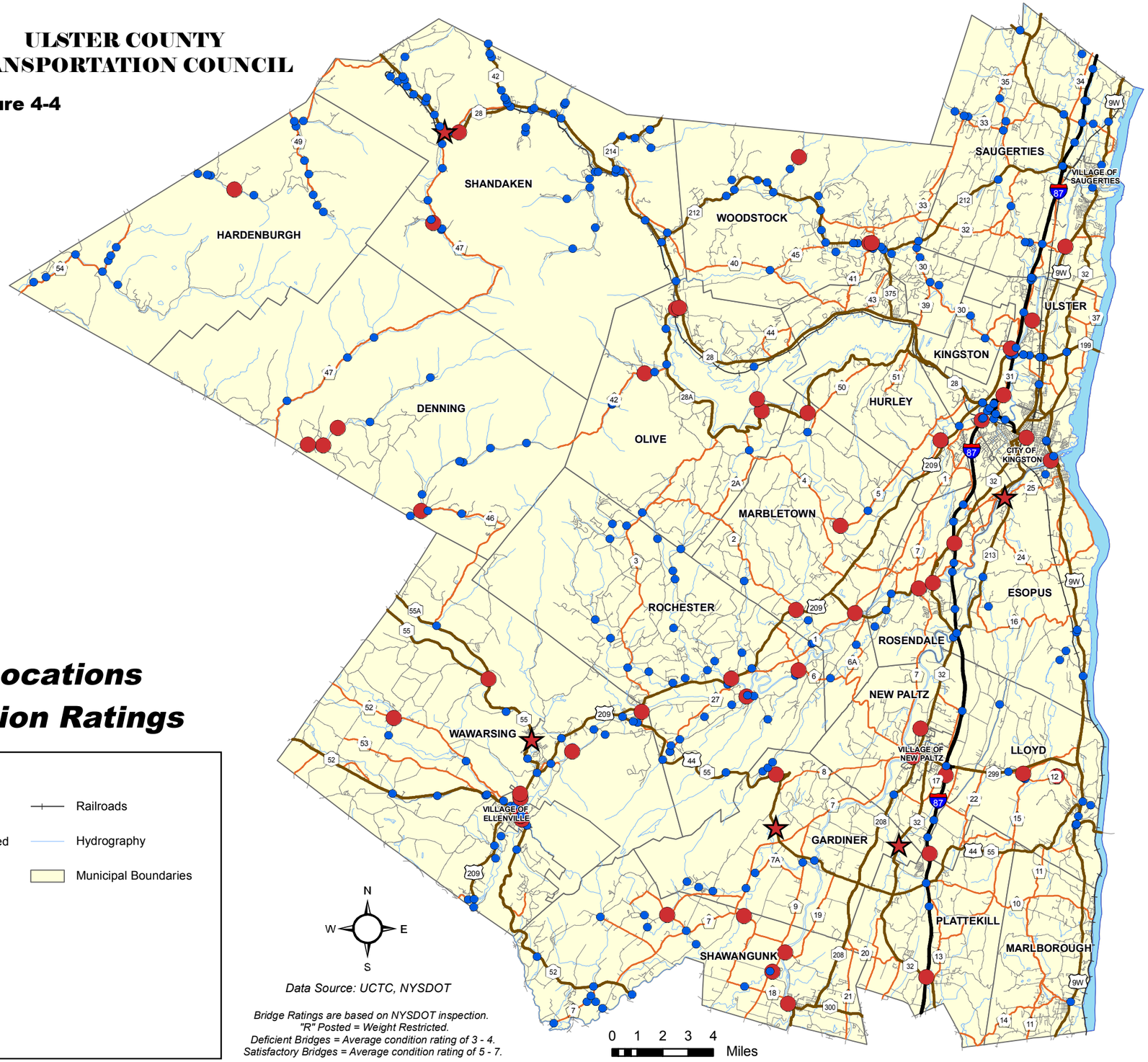
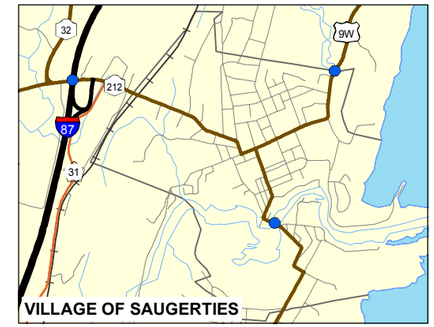
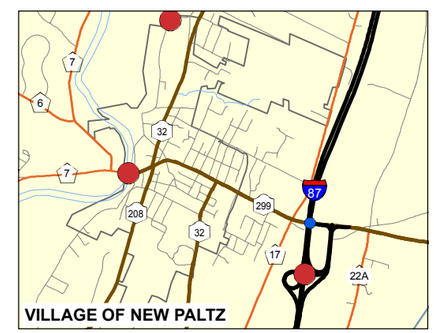
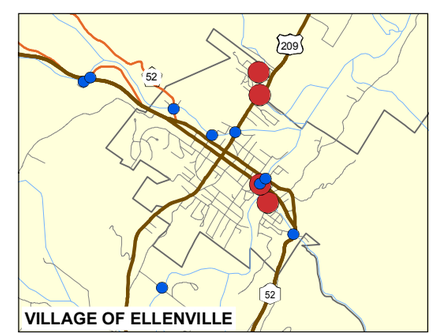
Figure 4-4

Bridge Locations and Condition Ratings









Legend

Bridges
- Deficient and "R" Posted
- Deficient
- Satisfactory

Roads
- Interstate
- State
- County
- Local

- Railroads
- Hydrography
- Municipal Boundaries

Data Source: UCTC, NYSDOT

Bridge Ratings are based on NYSDOT inspection.
"R" Posted = Weight Restricted.
Deficient Bridges = Average condition rating of 3 - 4.
Satisfactory Bridges = Average condition rating of 5 - 7.

Traffic Network Overview

Ulster County is served by a network of roadways ranging from interstate expressways to local town and village streets. Recent traffic volume counts and network analyses show that, for the most part, there is little traffic congestion in Ulster County and travel within the region occurs without excessive delay. However, there are isolated areas where intersections or roadway segments experience moderate to severe recurring delays. One such area is the Route 28 Corridor in the Town of Ulster at the roundabout area. Traffic congestion in this area is caused by the confluence of State Routes 28, 209, Interstate 587, and the NYS Thruway. Other areas experiencing recurring traffic delays in Ulster County include the Kingston Broadway Corridor, Kingston Uptown Stockade District, Route 9W in the Towns of Ulster and Marlborough, Route 299 in New Paltz and Lloyd, and the Mid Hudson Bridge. NYSDOT currently has funding programmed in 2016 to extend Frank Sottile Boulevard North to connect to Route 199. It is believed this improvement will help reduce traffic congestion on the Route 9W Corridor in the Town of Ulster.

In addition to recurring traffic congestion, several areas in Ulster County experience moderate to severe nonrecurring traffic congestion. Nonrecurring congestion is congestion caused by nonrecurring events such as crashes, disabled vehicles, blocked railroad crossings, work zones, adverse weather events, and planned special events. Areas in Ulster County experiencing significant nonrecurring congestion include the NYS Thruway and the West Shore Railroad Corridor area in Kingston. Nonrecurring congestion can occur anywhere at anytime and is difficult to measure or predict.

Figure 4-5 shows existing traffic congestion in 2010. This data was obtained from the UCTC's travel demand forecast model, which computes current and future roadway volume-to-capacity (V/C) ratios using various data inputs such as household, employment, posted speeds, roadway functional classification and the physical characteristics of the roadways. Figure 4-6 is a forecast of congestion in 2035 if no improvements were added to the existing transportation system. Figure 4-7 shows 2035 congestion with targeted congestion mitigation improvements implemented.

The term Level of Service (LOS) is often used to measure congestion and delays on the roadway system. LOS implies a qualitative measure of traffic flow at an intersection. It is dependent upon vehicle delay and vehicle queue lengths at the approaches. Specifically, LOS criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period. LOS is most commonly used to analyze intersections, but the concept has also been applied to highways, transit and water supply. The transportation LOS system uses the letters A through F, with "A" being best and "F" being worst. The Highway Capacity Manual and the American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets list the following levels of service: A= Free flow; B=Reasonably free flow; C=Stable flow; D=Approaching unstable flow; E=Unstable flow; and F=Forced or breakdown flow. Table 4-6 summarizes LOS delay criteria for signalized and unsignalized intersections.

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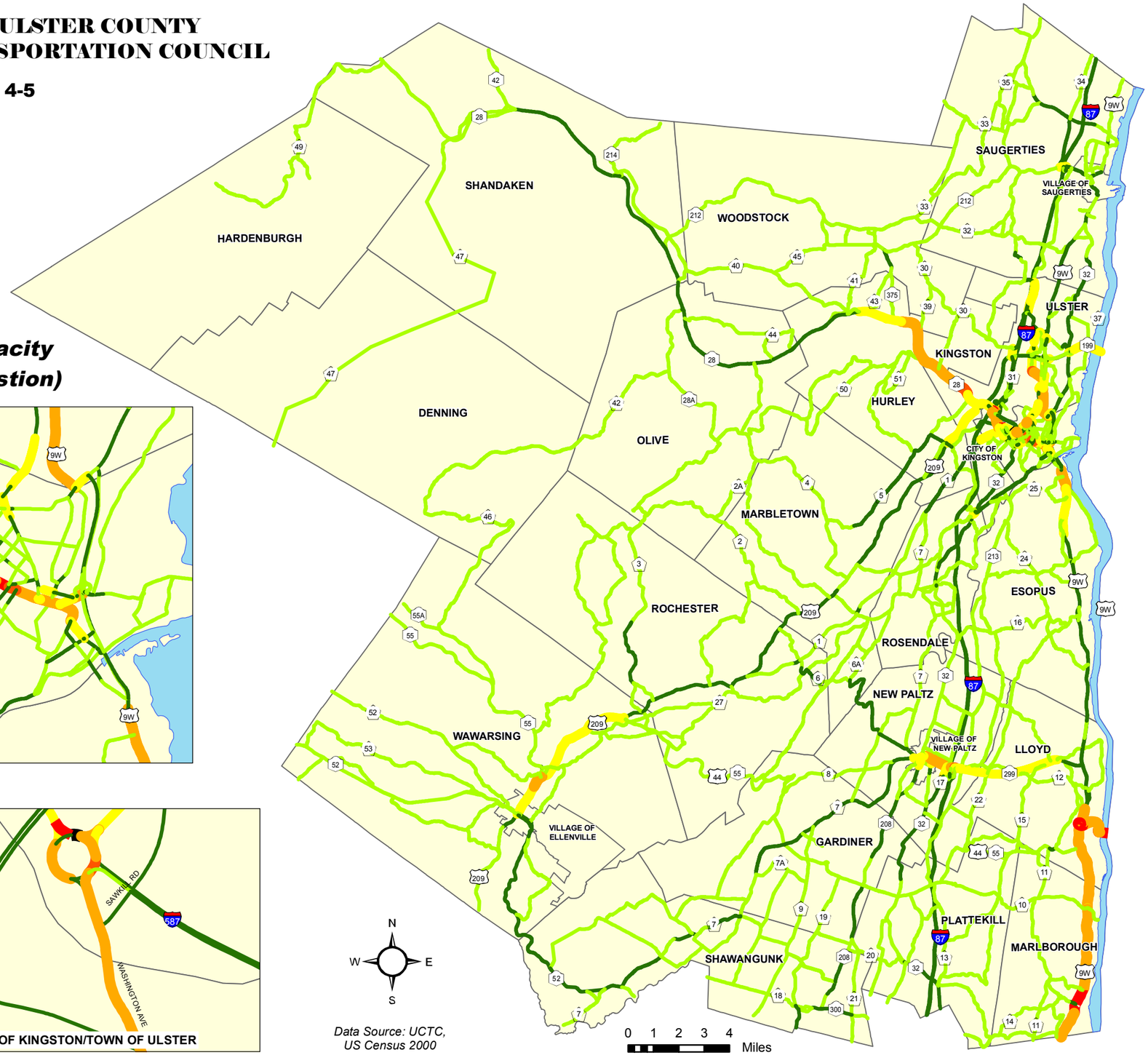
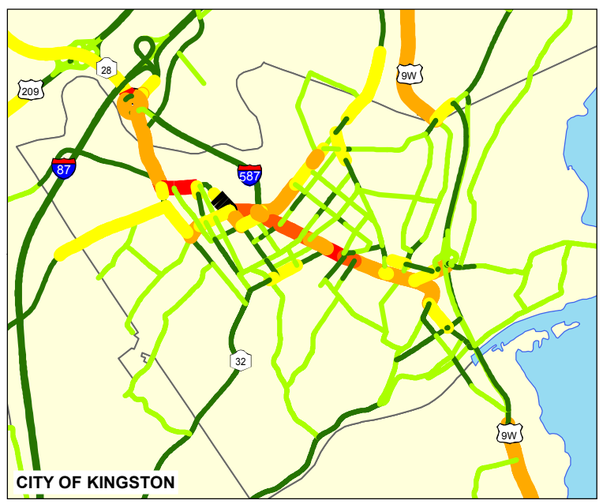
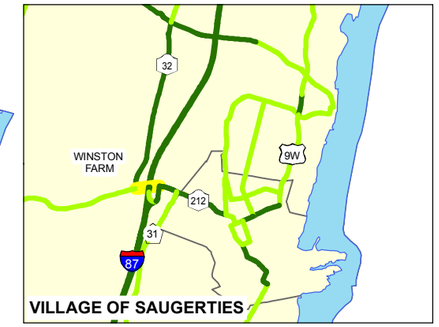
Figure 4-5

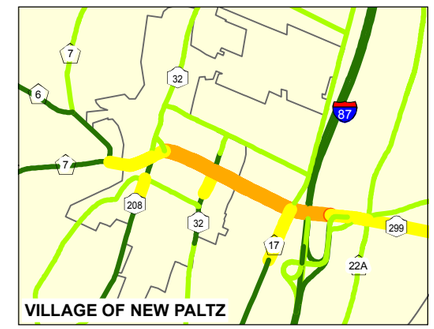
Year 2010 Existing Volume/Capacity (A measure of congestion)



Data Source: UCTC, US Census 2000



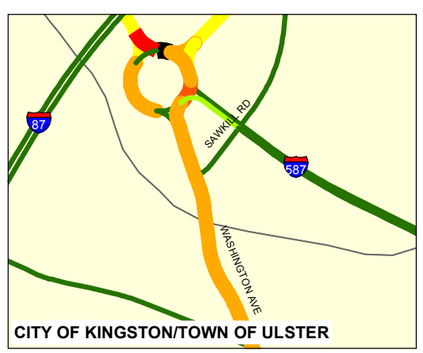




Legend

Volume/Capacity Ratio

- 1.5001 - 1.7600
- 1.2501 - 1.5000
- 1.0001 - 1.2500
- 0.7501 - 1.0000
- 0.5001 - 0.7500
- 0.2501 - 0.5000
- 0.0000 - 0.2500



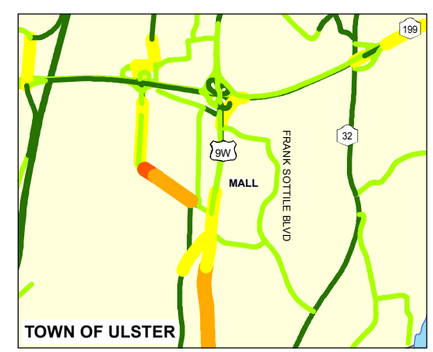


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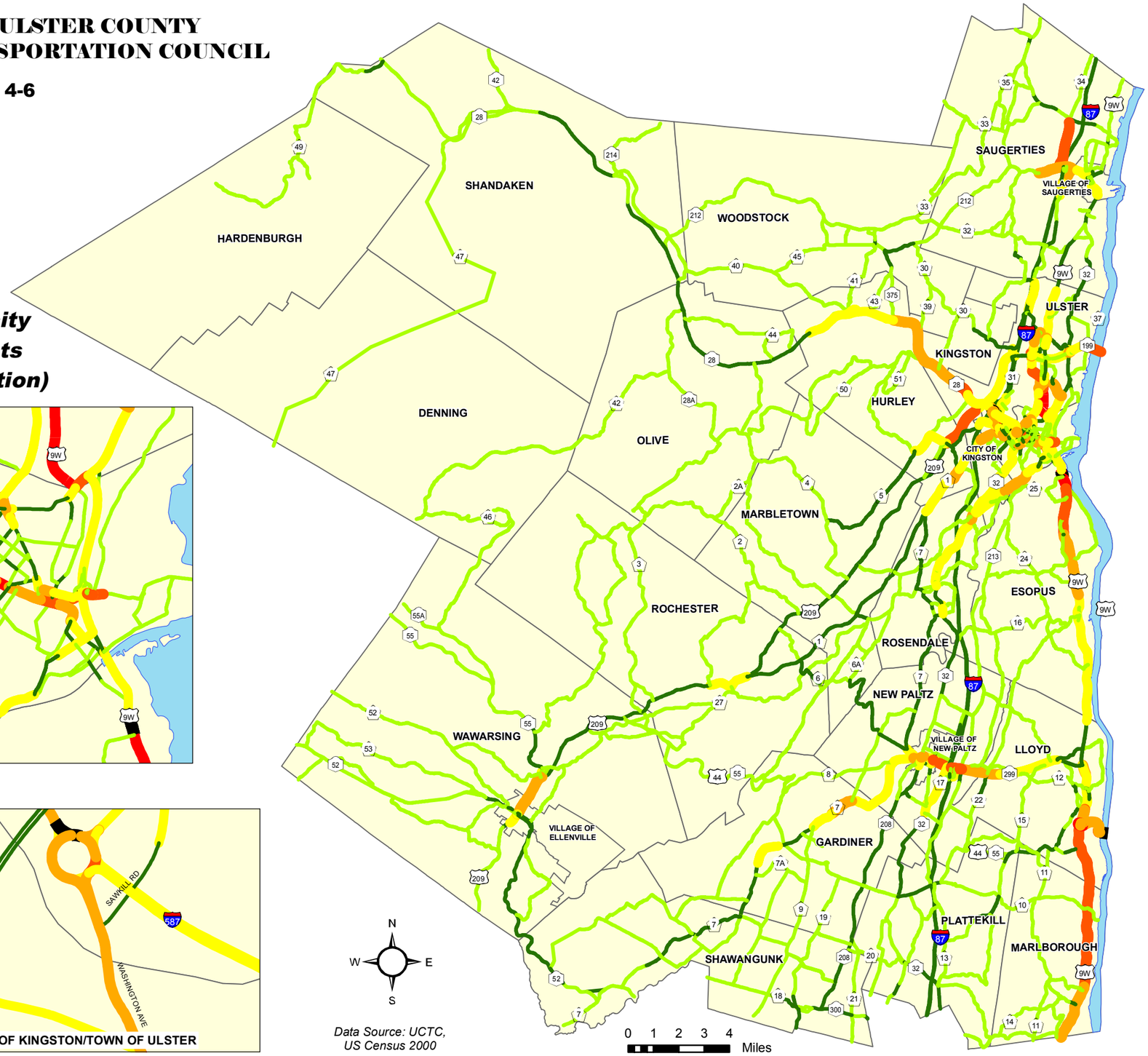
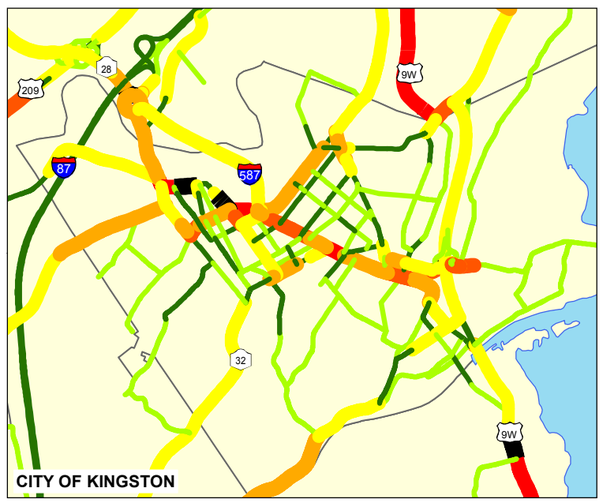
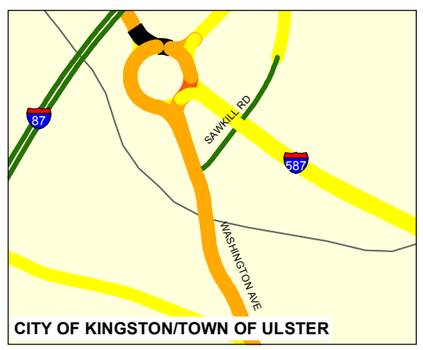
Figure 4-6

Year 2035 Future Volume/Capacity Without Improvements (A measure of congestion)



Data Source: UCTC, US Census 2000

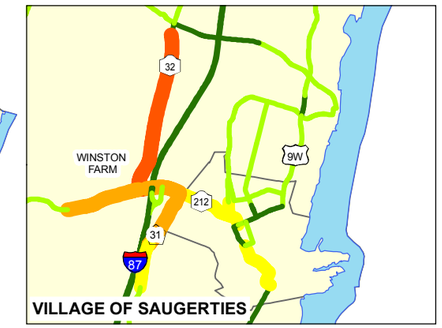


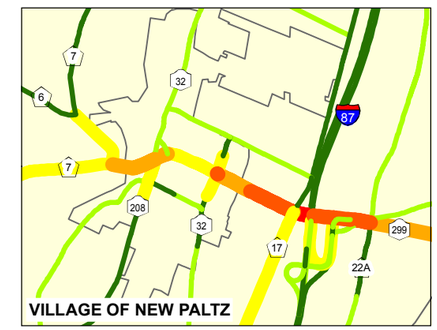


Legend

Volume/Capacity Ratio

- 1.5001 - 1.8500
- 1.2501 - 1.5000
- 1.0001 - 1.2500
- 0.7501 - 1.0000
- 0.5001 - 0.7500
- 0.2501 - 0.5000
- 0.0000 - 0.2500





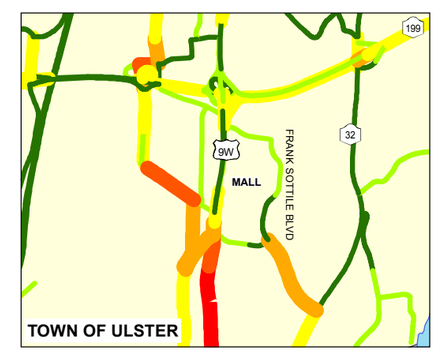


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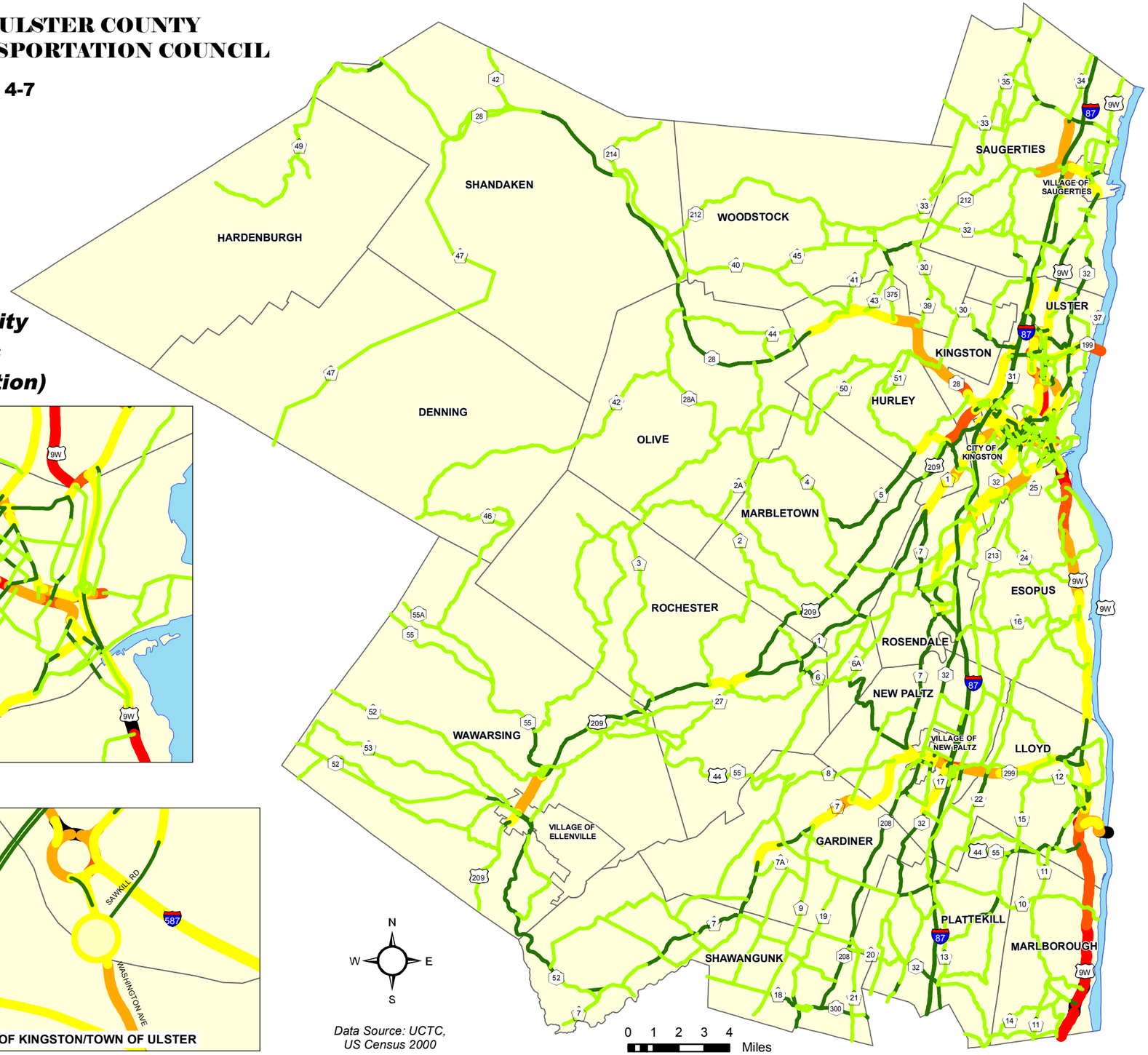
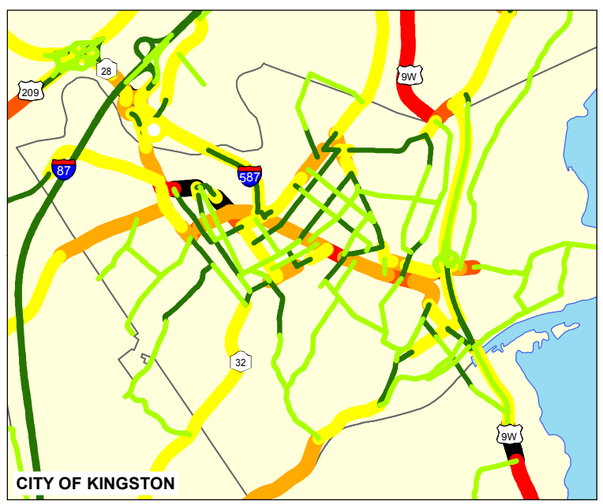
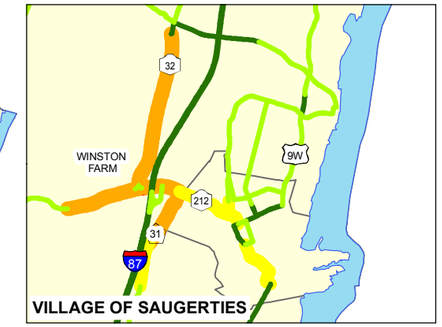
Figure 4-7

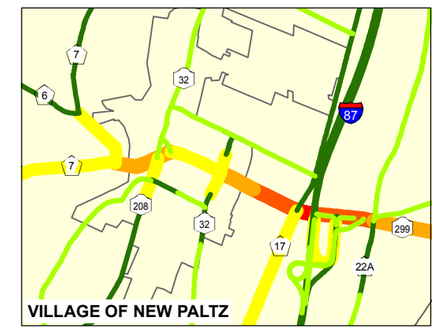
Year 2035 Future Volume/Capacity With Improvements (A measure of congestion)

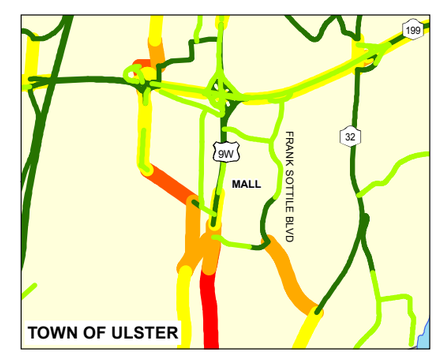


Data Source: UCTC, US Census 2000









Legend

Volume/Capacity Ratio

- 1.5001 - 1.8500
- 1.2501 - 1.5000
- 1.0001 - 1.2500
- 0.75001- 1.0000
- 0.50001 - 0.7500
- 0.2501- 0.5000
- 0.0000 - 0.2500

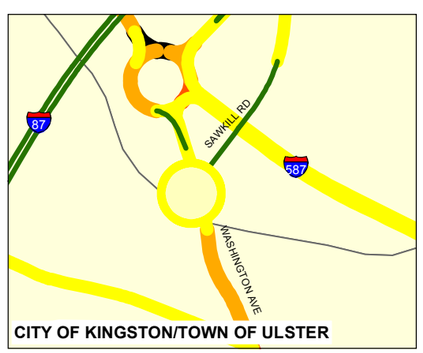


Table 4-6: Level of Service (LOS) Criteria for Signalized and Unsignalized Intersections

		--Unsignalized--	--Signalized--
LOS	Characteristics	Total Delay (sec/veh)	Total Delay (sec/veh)
A	Little or no delay	≤ 10.0	≤ 10.0
B	Short delays	10.1-15.0	10.1-20.0
C	Average delays	15.1-25.0	20.1-35.0
D	Long delays	25.1-35.0	35.1-55.0
E	Very long delays	35.1-50.0	55.1-80.0
F	Extreme delays	> 50.0	> 80.0

Approximately 500 vehicles per hour per lane produce stable free flow on a typical non-expressway highway. As this volume increases, vehicular congestion increases and level of service (LOS) decreases. Stable flow on expressways without decreases in travel speeds indicates that 1,300 vehicles per hour per lane is an acceptable flow on a typical expressway. As with non-expressway highways there are many factors that influence this number such as lane widths, number and spacing of interchanges, etc. A review of the UCTC's 2010 network volumes indicates most federal aid highways in the region are operating within a consistent, non-congested state, therefore, affording reliable travel for motorists.

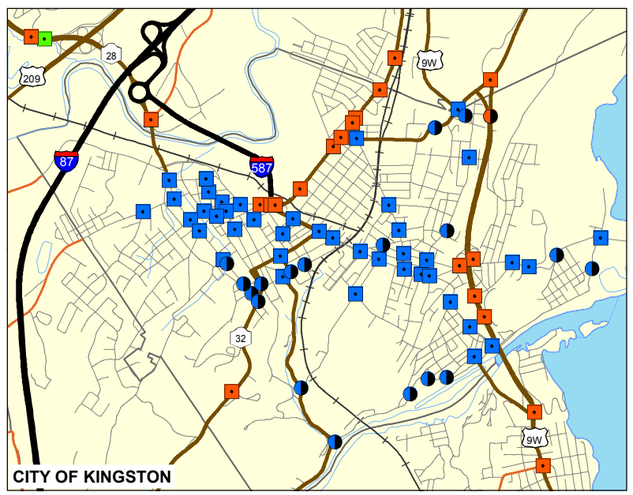
The New York State Department of Transportation (NYSDOT) added several new traffic signals in Ulster County over the past five years. New signals were added at the intersection of State Routes 32 and 199 in the Town of Ulster and at the intersection of State Route 32 and South Putt Corners and Jansen Roads in the Town of New Paltz. Figure 4-8 shows the location of traffic signals by ownership in Ulster County. A total of 230 traffic signals are located on the Ulster County traffic network. NYSDOT owns and maintains the majority of the traffic signals (151 or 65%). The City of Kingston owns and maintains the second largest number of traffic signals in Ulster County (60 or 26%).

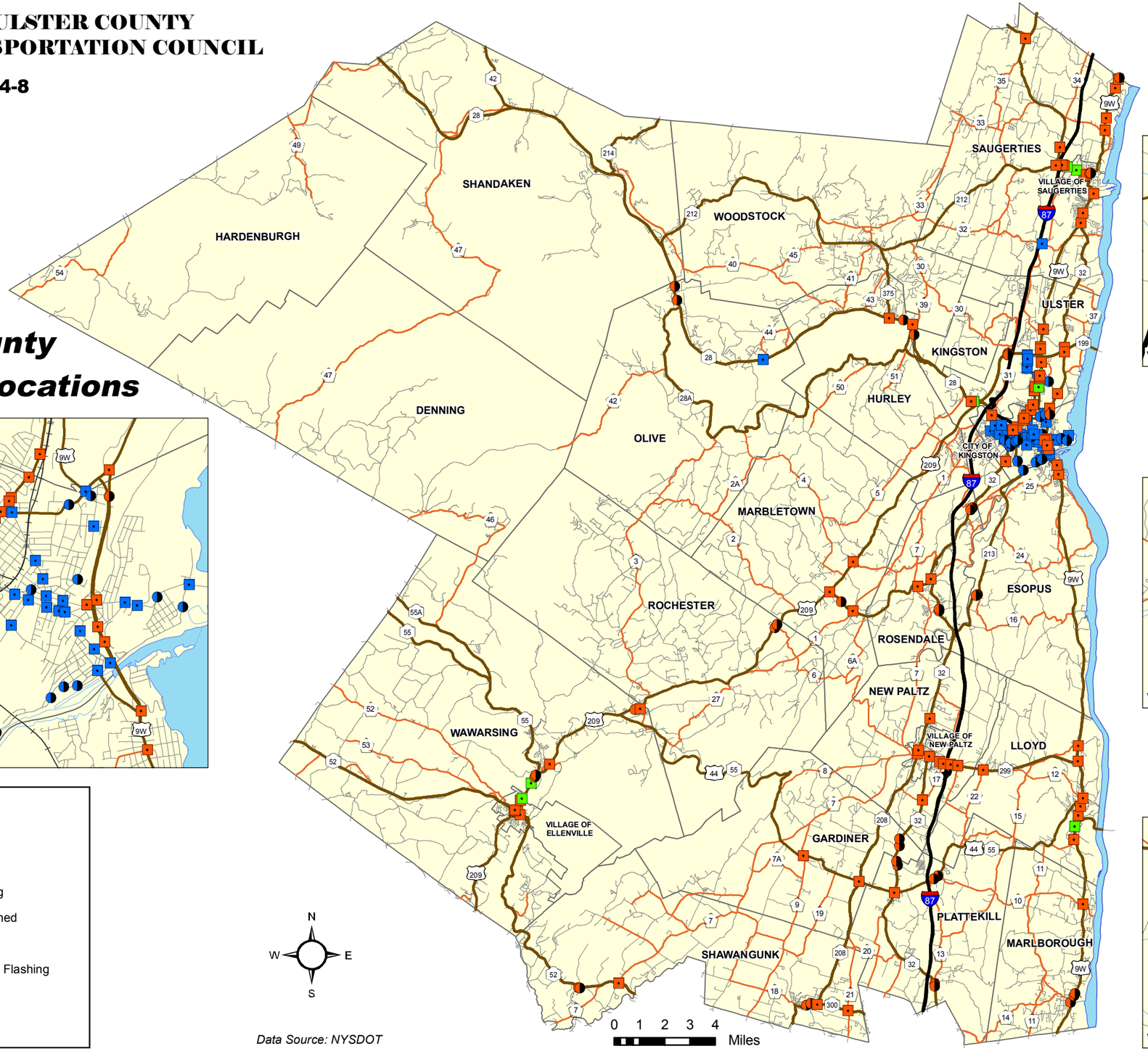
Overall, NYSDOT and locally owned traffic signals in Ulster County operate at acceptable levels of service (C or better) with several exceptions. In the City of Kingston, the intersections of Clinton at Albany Avenue, Clinton Avenue at Westbrook Lane/Main Street, and I-587 at Albany Avenue are particularly problematic and operate with very long delays at peak travel times. NYSDOT plans to improve the intersection of I-587 at Albany Avenue in 2016 to address design, capacity and safety issues. In the Village of New Paltz, the Route 299 Corridor from South Ohioville Road to State Route 32/208 is currently problematic with nearly every intersection operating at LOS E or F. NYSDOT plans to make improvements to this corridor in 2016 to address capacity and safety issues as documented in the *New Paltz Transportation and Land Use Plan* completed in 2006.

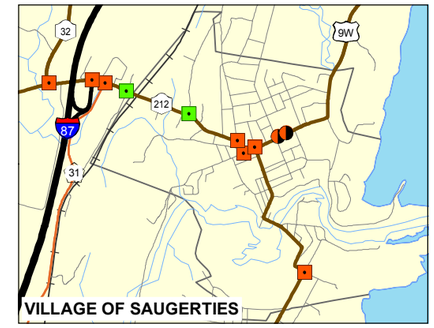
ULSTER COUNTY TRANSPORTATION COUNCIL

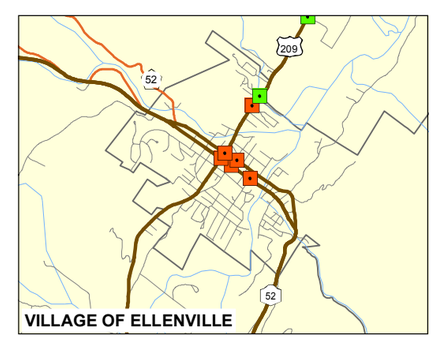
Figure 4-8

Ulster County Traffic Signal Locations









Legend

Traffic Signal Locations

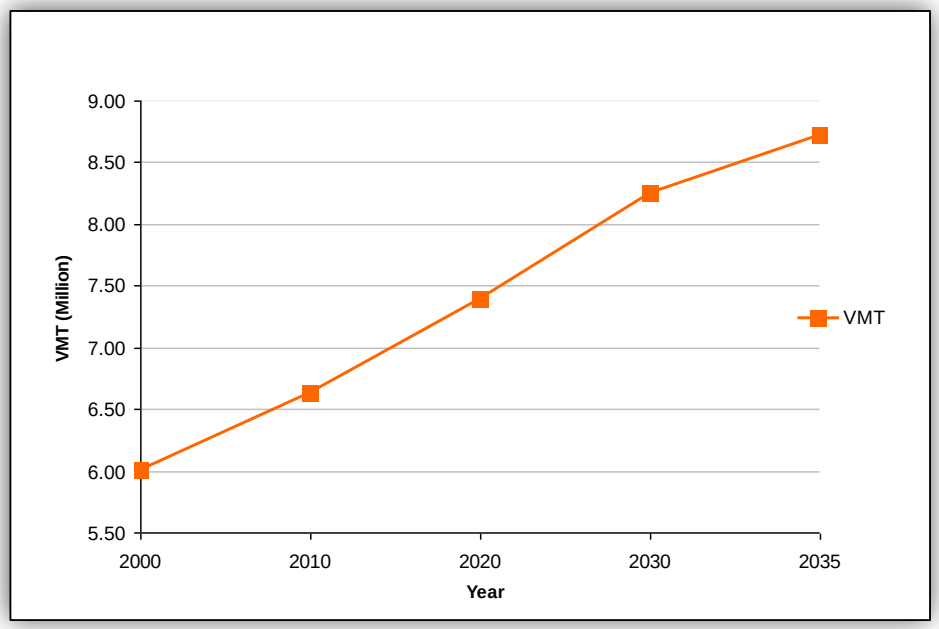
- NYSDOT Maintained
- NYSDOT Maintained - Flashing
- Fire House - NYSDOT Maintained
- Local Municipality Maintained
- Local Municipality Maintained - Flashing
- Private - NYSDOT Maintained
- Private - Permittee Maintained

Data Source: NYSDOT

In the Town of Marlborough, the intersection of US 9W at King Street in the Halmlet of Marlboro is currently problematic with an LOS of "F" at peak travel times. NYSDOT is planning to make improvements in 2015 to this intersection area to address delays and safety issues documented in the *Marlboro Hamlet Area Transportation Plan of 2008*.

Figure 4-9 illustrates historical and projected total daily vehicle miles traveled (VMT) in Ulster County. As shown in Figure 4-8, the total number of VMT on freeways/ expressways, arterial roads and local roads is expected to increase 1.1% per year over the next twenty-five years. This increase in VMT is due to projected increases in population, trade and tourism.

Figure 4-9: Total Daily Vehicle Miles Traveled (VMT)



Source: NYSDOT and Ulster County Planning Department

The impact of these projections on the traffic network will depend upon where growth occurs. Recent commercial development in the Town of Ulster is causing growth in traffic and some operational and safety problems, especially at intersections. While most locations are operating at acceptable levels of service today, this could change based on development activities. Approximately 1,700 housing units are planned for development along the Hudson River waterfront in the City of Kingston/Town of Ulster area which could significantly impact the regional roadway system.

System Management and Operations

Systems Management and Operations (SMO) in the context of regional transportation refers to a regionally integrated approach that continuously strives to optimize the performance of the multimodal transportation system. This is accomplished through multi-modal, cross-jurisdictional systems, services, and projects. These systems, services, and projects are designed to preserve capacity and improve safety, security, and

reliability of the transportation system. Implementation of SMO programs helps to accommodate the safe and efficient movement of people and vehicles within the transportation system. The full spectrum of transportation technology applications, known as Intelligent Transportation Systems, now forms the basis for all of these programs.

Intelligent Transportation Systems

Intelligent Transportation Systems, or ITS, involve the application of advanced sensors, computers, electronics and communication technologies in an integrated manner, along with effective management strategies, to increase the safety, security, and efficiency of the surface transportation system. The most important component of all these technologically advanced systems is the highly skilled people that help operate them in an integrated manner. The realization of full benefits from strategic investments in ITS solutions also require the commitment, support and resources for skilled personnel essential for managing and operating these complex systems at local and state agencies.

The UCTC has been actively involved in the promotion and facilitation of ITS technologies and strategies for both highway and public transit operators. ITS initiatives implemented in Ulster County in recent years include the EZ Pass electronic toll payment system, higher speed EZ Pass toll booth access at NYS Thruway toll plazas, increased number of NYS Bridge and Thruway Authority toll gates to increase vehicle throughput and reduce delays, changeable message signs erected on the NYS Thruway and US 9W, the installation of pedestrian countdown crosswalk timers throughout Ulster County, the implementation of *Trips 1-2-3* and *511 New York*, which are regional traffic and public transportation information systems, the implementation of Ulster County Area Transit's (UCAT) automatic vehicle location (AVL) system and advanced scheduling software, and NYSDOT's deployment of the Hudson Valley Transportation Management Center located in Hawthorne, New York.

Roads, Bridges and Traffic Needs

Local municipalities need to develop systematic processes for monitoring and reporting pavement conditions and to establish pavement preventative maintenance programs on the UCTC's Transportation Improvement Program (TIP). There is a need to rehabilitate the City of Kingston Wurts Street Suspension Bridge, Denning Road Bridge over Neversink and the City of Kingston Greenkill Avenue Bridge over Broadway. There is a need for a City of Kingston Flatbush Avenue at West Shore Railroad Corridor intersection grade separation facility. There is a need to connect Town of Ulster's Frank Sottile Boulevard with State Route 199. Local municipalities need to develop traffic signal inventory and maintenance programs and ensure improvements are programmed on the UCTC's TIP. The City of Kingston is in need of traffic signal equipment improvements and upgrades throughout the Stockade area. There is a need to perform corridor transportation studies for Route 299 and Route 209 to address capacity and safety issues. There is a need to invest more resources toward ITS technologies, especially at or near the West Shore Railroad Corridor.

Bicycle and Pedestrian

The UCTC completed a countywide Non-motorized Transportation Plan (NMTP) in 2008. The NMTP builds on existing resources and expands opportunities for healthy, sustainable transportation infrastructure and recreational tourism development. The NMTP connects schools, work and recreational destinations to help support a sustainable future for Ulster County. The NMTP concludes with the identification of ten prioritized strategies and projects for future implementation.

A demand model was used to quantify usage of existing and potential non-motorized transportation facilities. The purpose of the model is to provide an overview of the demand and benefits for bicycling, walking and trails in Ulster County. As with all models, the results show a range that can vary based on a number of assumptions and available data. The model used for this study incorporated information from existing publications as well as data from the U.S. Census. All data assumptions and sources are noted in the tables following each section of the analysis.

Year 2005 Census Data also show the percentage of people walking and bicycling to work in selected Ulster County Communities. Walking (4.8%) and bicycling (.8%) account for a combined 5.6% of commuter travel in Kingston, for example. Although more detailed data are not available, it important to note that walking and bicycling trips are often for social, school, errands, recreation and other types of trips that are not included in the Census journey-to-work data.

The Ulster County bicycle demand model consists of several variables including commuting patterns of working adults, and predicted travel behaviors of area college students and school children. For modeling purposes, the study area included all residents within Ulster County in the Year 2000. The information was ultimately aggregated to estimate the total existing demand for bicycle facilities in the County.

Table 4-7 identifies the variables used in the model. Data regarding the existing labor force (including number of workers and percentage of bicycle commuters) was obtained from the 2000 Census. In addition to people commuting to the workplace via bicycle, the model also incorporates a portion of the labor force working from home. Specifically, it was assumed that about half of those working from home would make at least one walking or bicycling trip during the workday. The 2000 Census was also used to estimate the number of children in Ulster County. This figure was combined with data from National Safe Routes to School surveys to estimate the proportion of children riding bicycles to and from school. College students constitute a third variable in the model due to the presence of SUNY-New Paltz and Ulster County Community College. Data from the Federal Highway Administration regarding bicycle mode share in university communities was used to estimate the number of students bicycling to and from these campuses. Finally, data regarding non-commute trips was obtained from the 2001 National Household Transportation Survey to estimate bicycle trips not associated with traveling to and from school or work.

Table 4-7: U.S. Census Transportation Planning Package Data

SELECTED CHARACTERISTICS BY MODE TO WORK IN ULSTER COUNTY						
Selected Characteristics (Universe: All Workers)	1990		2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
Workers 16 years or over	**66,863**	**100**	**64,730**	**100**	**-2,133**	**-3.2**
Sex						
Male	36,303	54.3	32,645	50.4	-3,658	-10.1
Female	30,560	45.7	32,085	49.6	1,525	5.0
Mode to work						
Drove alone	50,106	74.9	49,345	76.2	-761	-1.5
2-person carpool	7,163	10.7	5,480	8.5	-1,683	-23.5
3-or-more-person carpool	1,213	1.8	1,435	2.2	222	18.3
Bus or trolley bus	558	0.8	570	0.9	12	2.2
All other transit[1]	66	0.1	139	0.2	73	110.6
Bicycle or walked	4,066	6.1	3,120	4.8	-946	-23.3
Taxicab, motorcycle, or other mode	764	1.1	685	1.1	-79	-10.3
Worked at home	2,927	4.4	3,950	6.1	1,023	35.0

Source: http://ctpp.transportation.org/part2/36111.htm

Table 4-8 summarizes estimated existing daily bicycle trips in Ulster County. The table indicates that over 22,516 trips are made on a daily basis. Most bicycle commuting trips are made by college students as well as persons making trips while working from home. The fewest trips are made by commuters traveling to and from a workplace away from home. The model also shows that non-commuting trips comprise the vast majority of existing bicycle demand.

Bicycle and Pedestrian Demand

Existing demand for pedestrian facilities was estimated using a model similar to the bicycle demand model. The study area boundaries, variables and methodology for estimating pedestrian demand also generally reflect those used in the bicycle demand model. However this model included an additional variable to address transit access. Specifically, the model included pedestrian trips to and from public transit stops. Transit currently accounts for about 2 percent of commute trips in Ulster County, and the analysis assumed that about 75 percent of transit users would walk to and from transit stops. Estimating the pedestrian mode share of college students incorporated walking mode share data from other universities.

Table 4-8: Estimate of Existing Daily Bicycling Activity

Variable	Figure	Calculations
Employed Adults, 16 Years and Older		
a. Study Area Population [(1)]	177,749	
b. Employed Persons [(2)]	81,726	
c. Bicycle Commute Mode Share [(2)]	0.2%	
d. Bicycle Commuters	163	(b*c)
e. Work-at-Home Percentage [(2)]	4.8%	
f. Work-at-Home Bicycle Commuters [(3)]	1,961	[(b*e)/2]
School Children		
g. Population, ages 6-14 [(4)]	22,513	
h. Estimated School Bicycle Commute Mode Share [(5)]	2%	
i. School Bicycle Commuters	450	(g*h)
College Students		
j. Full-Time College Students [(6)]	8,861	
k. Bicycle Commute Mode Share [(7)]	5%	
l. College Bicycle Commuters	443	(j*k)
Work and School Commute Trips Sub-Total		
m. Daily Bicycle Commuters Sub-Total	3,018	(d+f+i+l)
n. Daily Bicycle Commute Trips Sub-Total	6,036	(m*2)
Other Utilitarian and Discretionary Trips		
o. Ratio of "Other" Trips in Relation to Commute Trips [(8)]	2.73	ratio
p. Estimated Non-Commute Trips	16,479	(n*o)
Total Estimated Daily Bicycle Trips	**22,516**	**(n+p)**

Notes: Census data collected from 2000 U.S. Census for Ulster County. 2000 U.S. Census, STF3, P1. 2000 U.S. Census, STF3, P30. Assumes 50% of population working at home makes at least 1 daily bicycle trip. 2000 U.S. Census, STF3, P8. Estimated share of school children who commute by bicycle, as of 2000 (source: National Safe Routes to School Surveys, 2003). Fall 2004 full-time enrollment (Westchester Comm. College); and Fall 2004 "credit" enrollment (SUNY-Ulster/Ulster Comm. College). Review of bicycle commute mode share in 7 university communities (source: National Bicycling & Walking Study, FHWA, Case Study #1, 1995). 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

Table 4-9 summarizes estimated existing daily walking trips in Ulster County. The table indicates that nearly 70,000 trips are made on a daily basis. Most commute trips on foot are made by people walking to and from a workplace away from home, while college students make the fewest walking trips. The model also shows that non-commuting trips comprise the vast majority of existing pedestrian demand.

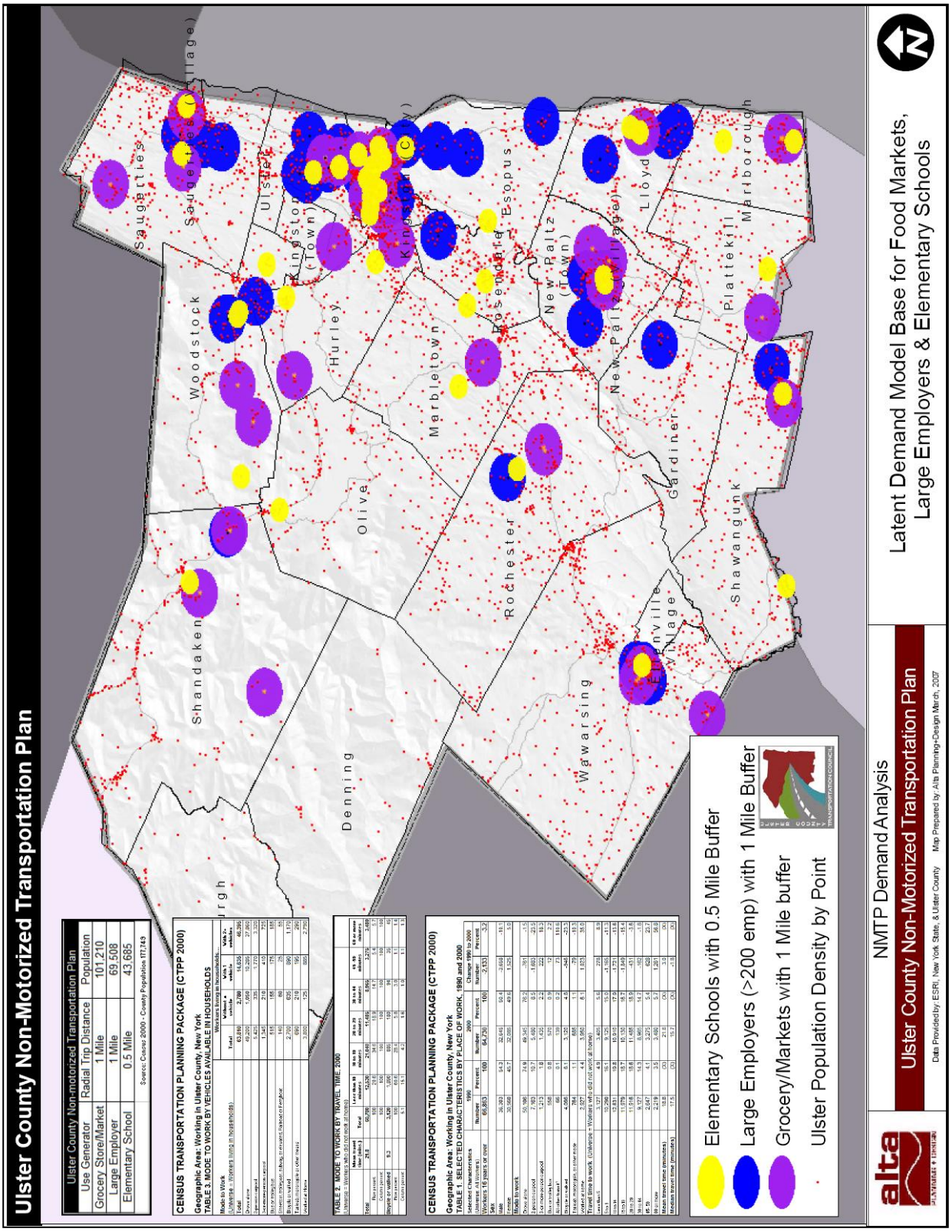
Table 4-9: Estimate of Existing Daily Pedestrian Activity

Variable	Figure	Calculations
Employed Adults, 16 Years and Older		
a. Study Area Population [(1)]	177,749	
b. Employed Persons [(2)]	81,726	
c. Pedestrian Commute Mode Share [(2)]	3.8%	
d. Pedestrian Commuters	3,106	(b*c)
e. Work-at-Home Percentage [(2)]	4.8%	
f. Work-at-Home Pedestrian Commuters [(3)]	1,961	[(b*e)/2]
g. Transit Commute Mode Share [(2)]	2.2%	
h. Transit Pedestrian Commuters [(4)]	1,348	[(b*g)*0.75]
School Children		
i. Population, ages 6-14 [(5)]	22,513	
j. Estimated School Pedestrian Commute Share [(6)]	11%	
k. School Pedestrian Commuters	2,476	(i*j)
College Students		
l. Full-Time College Students [(7)]	8,861	
m. Pedestrian Commute Mode Share [(8)]	5%	
n. College Pedestrian Commuters	443	(l*m)
Work and School Commute Trips Sub-Total		
o. Daily Pedestrian Commuters Sub-Total	9,335	(d+f+h+k+n)
p. Daily Pedestrian Commute Trips Sub-Total	18,670	(o*2)
Other Utilitarian and Discretionary Trips		
q. Ratio of "Other" Trips in Relation to Commute Trips [(9)]	2.73	ratio
r. Estimated Non-Commute Trips	50,969	(p*q)
Total Estimated Daily Pedestrian Trips	**69,639**	**(p+r)**

Notes: Census data collected from 2000 U.S. Census for Ulster County. 2000 U.S. Census, STF3, P1., 2000 U.S. Census, STF3, P30. Assumes 50% of population working at home makes at least 1 daily walking trip. Assumes 75% of transit riders access transit by foot. 2000 U.S. Census, STF3, P8. Estimated share of school children who commute on foot, as of 2000 (source: National Safe Routes to School Surveys, 2003). Fall 2004 full-time enrollment (Westchester Comm. College); and Fall 2004 "credit" enrollment (SUNY-Ulster/Ulster Comm. College). Based on walking mode share from other universities. 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

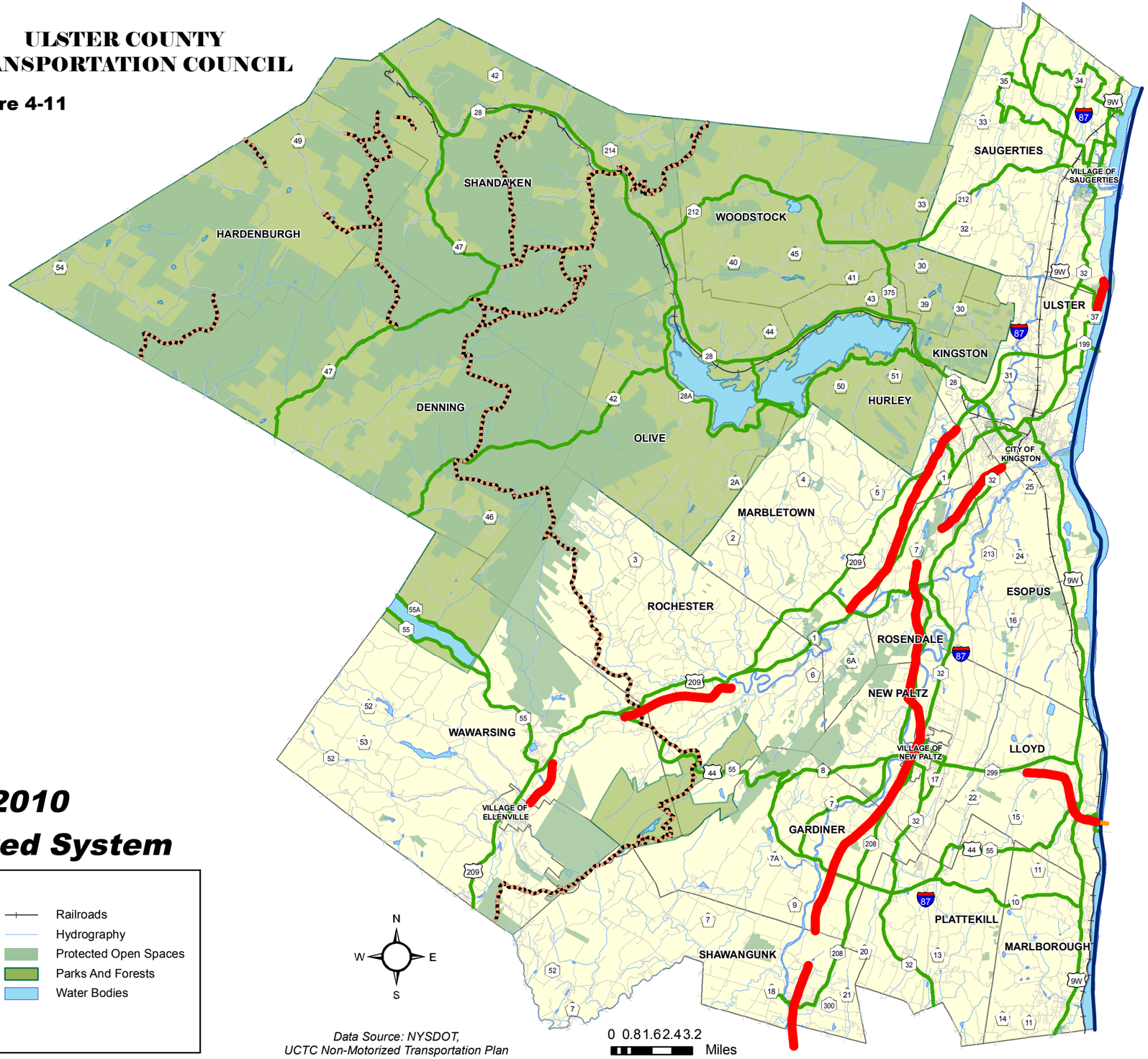
In addition to the existing demand, geographic information systems (GIS) data was used to identify areas with potential latent demand. Bicycling and walking distances were illustrated on maps to show areas where the potential exists for improved non-motorized travel. Schools, worksites and grocery stores were identified as symbolic trip generators. Figure 4-10 shows land use densities within half mile walking distance and two mile walking distance areas around these generators. Utilizing data and digitized information from existing plans and projects, Figure 4-11 illustrates existing regionally significant non-motorized facility types, including single track trails, water trails, and shared use paths. Figure 4-12 illustrates the future Ulster County NMTP with a seamless regional trails network.

Figure 4-10: Non-motorized Transportation Demand Analysis

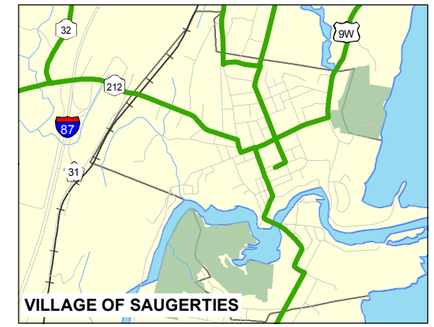


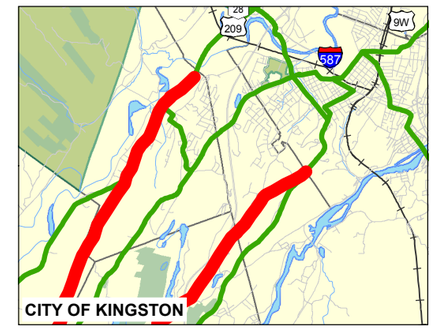
ULSTER COUNTY TRANSPORTATION COUNCIL

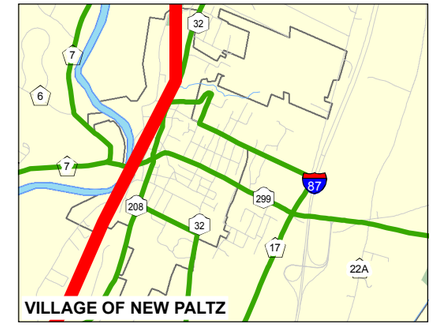
Figure 4-11

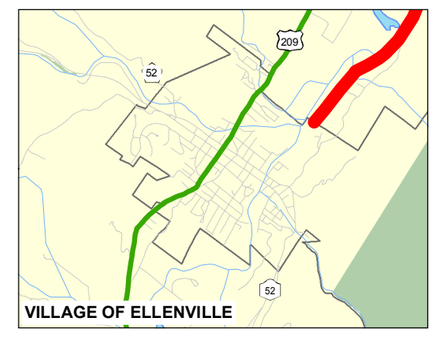


Data Source: NYSDOT, UCTC Non-Motorized Transportation Plan









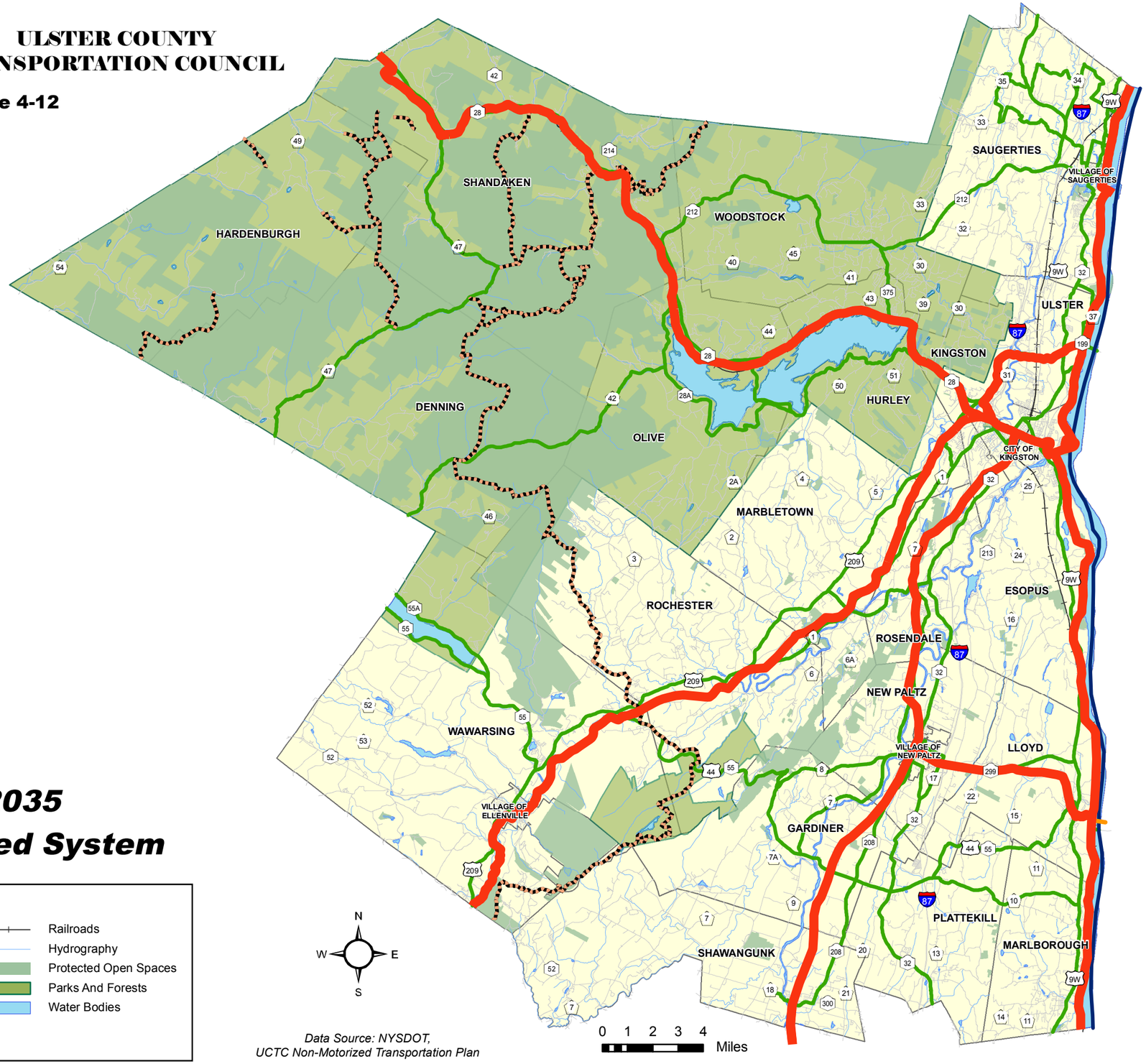
Year 2010
Non Motorized System

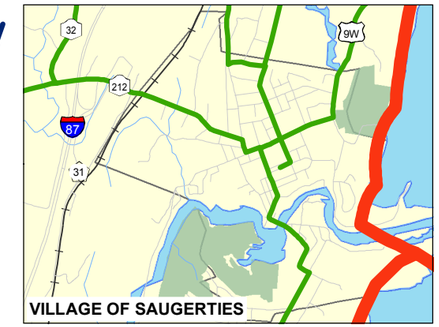
Legend

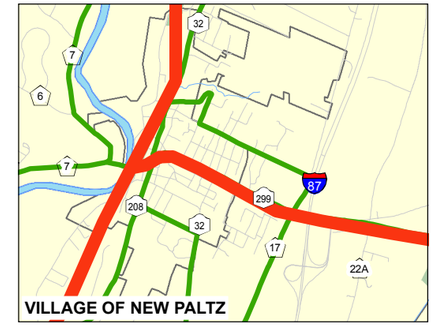
- Existing Multi Use Trail
- Foot Trails Only
- Walkway Over Hudson
- Hudson River Water Trail
- Bike Routes
- Roads
- Railroads
- Hydrography
- Protected Open Spaces
- Parks And Forests
- Water Bodies

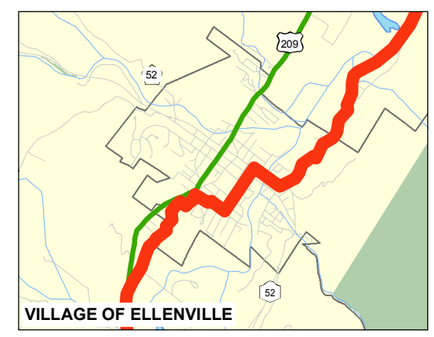
ULSTER COUNTY TRANSPORTATION COUNCIL

Figure 4-12









Year 2035
Non Motorized System

Legend

- Future Multi Use Trail
- Foot Trails Only
- Walkway Over Hudson
- Hudson River Water Trail
- Bike Routes
- Roads
- Railroads
- Hydrography
- Protected Open Spaces
- Parks And Forests
- Water Bodies

Data Source: NYSDOT, UCTC Non-Motorized Transportation Plan

The most significant bicycle/pedestrian improvement implemented over the past five years is the recently completed *Walkway Over the Hudson State Historic Park* on the Poughkeepsie-Highland Railroad Bridge over the Hudson River. The 1.25 mile bridge connects the City of Poughkeepsie, Dutchess County, and the Town of Lloyd, Ulster County. The bridge is north of the New York State Bridge Authority's Franklin D. Roosevelt (Mid Hudson) Bridge. The project extends inland, on both the east and west sides of the bridge, approximately 200 ft from the abutments. The east and west termini connect to railroad right of way that is currently being converted, under separate project initiatives, to pedestrian and bicycle trails that link up to the regional trail network.

Bicycle and Pedestrian Needs

The Ulster County regional trail network, as shown in Figure 4-10, is fragmented whereby trails abruptly end/begin at various locations. There is a need to continue local and regional efforts to link regional trail segments to achieve a seamless non-motorized transportation network. There is a need to implement the recommendations of the UCTC's *Non-motorized Transportation Plan* completed in 2008. There is a need to implement Americans with Disability Act (ADA) project improvements countywide.

Public Transit

Several transit operators provide public transportation services throughout Ulster County and in adjacent counties (see Figure 4-13). Public transportation service in Ulster County can be categorized as either being a "transit" service or being a "commuter/intercity" service, although sometimes it is difficult to make exact distinctions. The transit operators tend to provide service within Ulster County or to immediately adjacent areas, whereas the commuter/intercity operators tend to provide service either connecting Ulster County with a relatively distant location (e.g., Kerhonkson with New York City) or passing through Ulster County while connecting two other places (e.g., New York City with Albany).

There are four operators providing fixed route transit services in Ulster County. These include Kingston CitiBus, Ulster County Area Transit (UCAT), Mulligan Bus Lines (which was formerly known as Arrow Bus Lines) and Laidlaw Transit. Three commuter/intercity service operators in Ulster County include: Adirondack/Pine Hill Trailways, Coach USA - Short Line and Sharmash Bus - Monroe Bus Corporation.

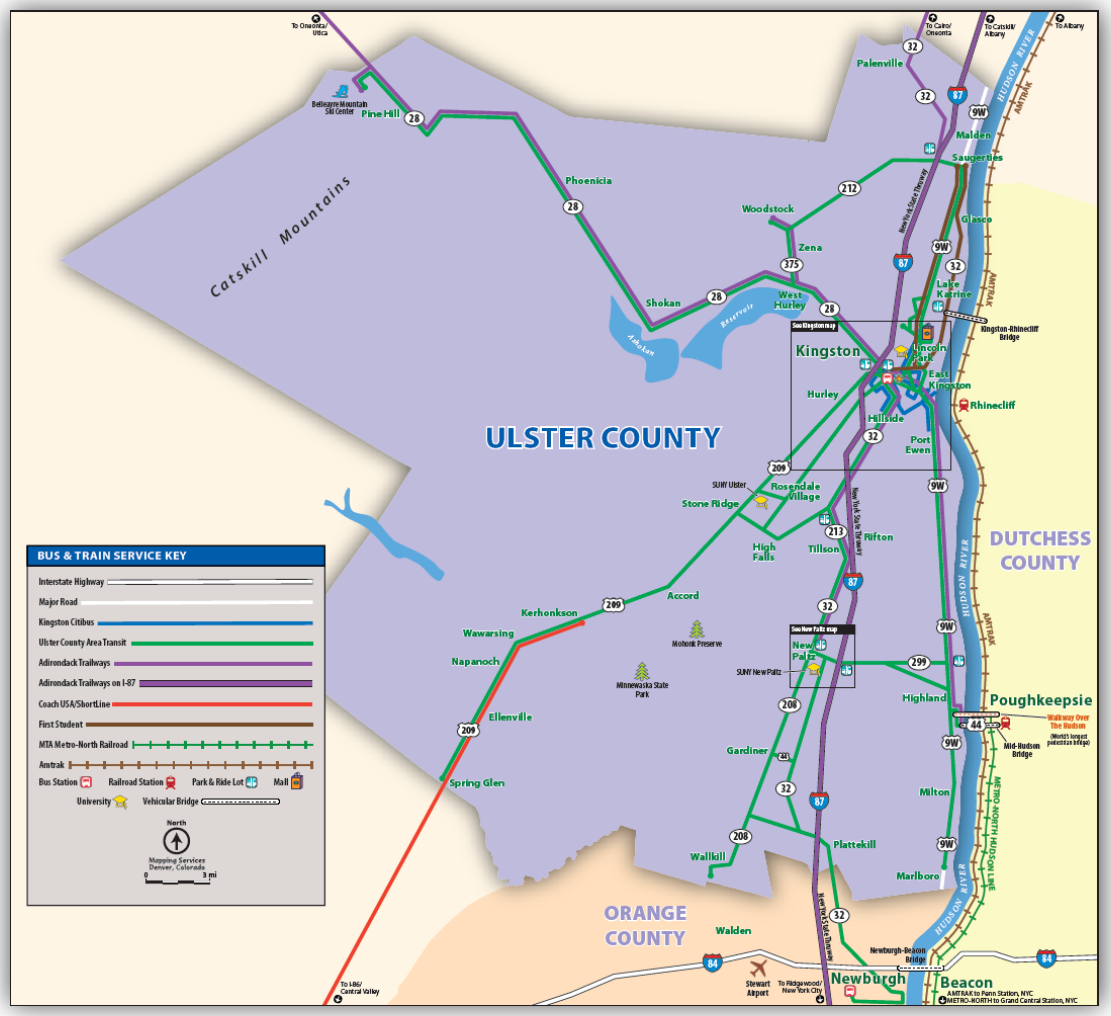
Several public transportation operators also provide service in the vicinity of Ulster County, but do not actually serve the county itself. However, these operators are of interest because they provide services which people who need to travel to and from Ulster County may utilize. These regionally significant neighboring public transportation providers include the following:

- Metro-North Railroad. The MTA Metro-North Railroad's Hudson Line serves Poughkeepsie, located in Dutchess County. It provides relatively frequent service connecting Poughkeepsie - the northern terminal of the Hudson Line - with Grand

Central Terminal in New York City on Manhattan's east side. People traveling to and from Ulster County can utilize the Mulligan Bus Lines service connecting Poughkeepsie with New Paltz in Ulster County.

- Amtrak serves the Rhinecliff-Kingston station, which is located in Rhinecliff in Dutchess County in addition to the Poughkeepsie station. As was previously mentioned, people traveling to and from Ulster County can utilize the Mulligan Bus Lines service connecting Poughkeepsie with New Paltz in Ulster County. However, there is no connecting public transportation service at the Rhinecliff-Kingston station. Amtrak provides service connecting these stations with Pennsylvania Station in New York City on Manhattan's west side. Amtrak's Empire Service connects New York City with Albany, Buffalo and various upstate New York locations, while other Amtrak intercity trains (e.g., those providing service to Chicago, Montreal, etc.) also serve the Poughkeepsie and Rhinecliff-Kingston stations.

Figure 4-13: Transit Operators in the Ulster County Area



Source: Metropool. Note: Bus routes not to scale.

In neighboring Dutchess County, there are additional providers of public transportation services which people who need to travel to and from Ulster County may utilize. In Poughkeepsie, people who travel from Ulster County using Ulster County Area Transit can connect to the following transit services:

- City of Poughkeepsie Transit - This service operates within the City of Poughkeepsie and its immediate environs.

- Dutchess County LOOP - This service operates throughout Dutchess County, with Poughkeepsie as its primary focal point.

- The Leprechaun Connection - This service connects Poughkeepsie with White Plains, in Westchester County. It is operated by Leprechaun Lines and funded by NYSDOT.

Finally, in Orange County, which borders Ulster County to the south, there are also additional providers of public transportation services which people who need to travel to and from Ulster County may utilize. In Newburgh, people who have traveled from Ulster County on the Ulster County Area Transit service can connect to the following transit services:

- Newburgh-Beacon-Stewart Link - This service, operated by Leprechaun Lines and funded by NYSDOT, connects Stewart International Airport and Newburgh with Beacon, located in Dutchess County. In Beacon, transfers can be made to the MTA Metro-North Railroad's Hudson Line as well as to the Dutchess County LOOP bus system.

- Newburgh Area Bus Service - This service operates within Newburgh and its immediate environs. It is also operated by Leprechaun Lines.

- Newburgh-Beacon Ferry – This service operates on the Hudson River between the Newburgh waterfront and the MTA Metro North Railroad Station in Beacon. The ferry system is privately operated, managed by MTA Metro North Railroad and funded by NYSDOT, Mid Hudson Valley TMA, and MTA Metro North Railroad.

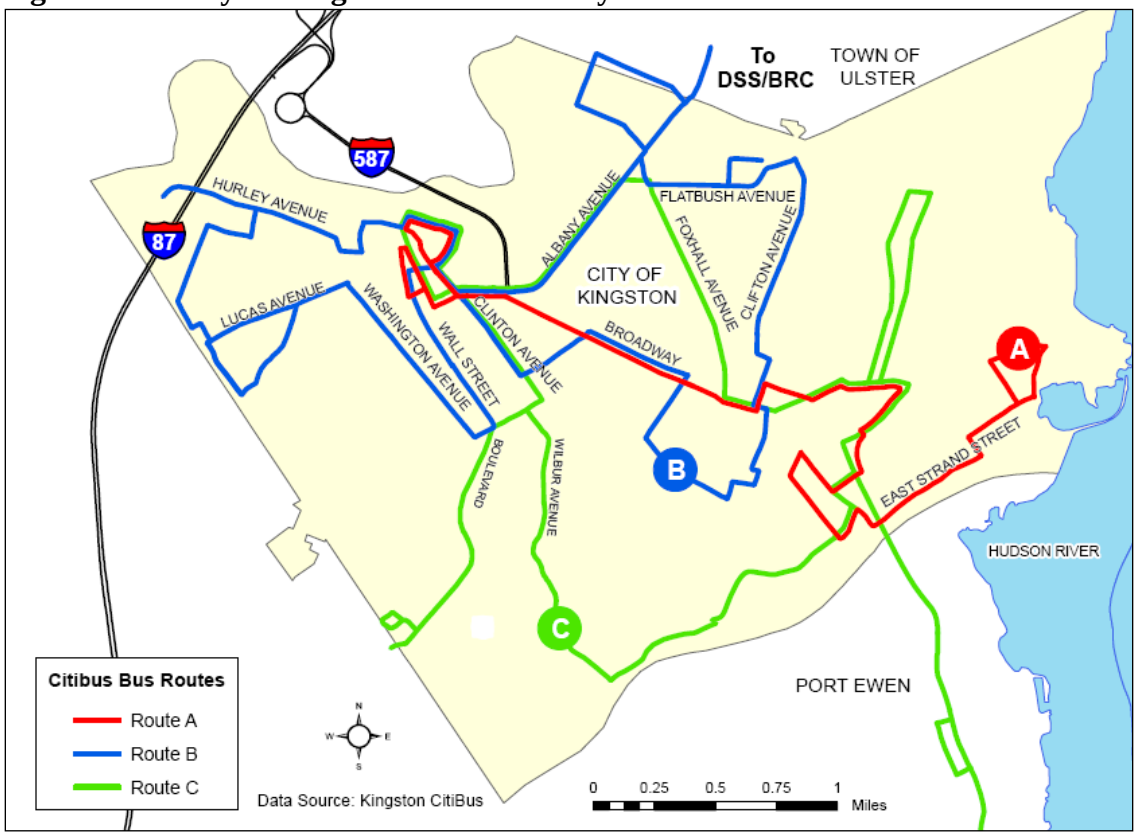
Transit Services

Kingston Citibus operates three bus routes throughout the year in the City of Kingston (see Figure 4-14). One of these bus routes also serves Port Ewen. Route A connects Hannaford's in the Kingston Plaza shopping center with both the uptown and the Rondout areas of Kingston via Broadway. Route B connects Hannaford's in the Kingston Plaza shopping center with both Hurley Avenue and the Business Resource Center – UC Department of Social Services via the uptown and the midtown areas of Kingston. Finally, Route C connects Hannaford's in the Kingston Plaza shopping center with Port Ewen via both the Rondout and Golden Hill areas of Kingston. While the three

routes converge on Hannaford's, they do not operate on a "timed-transfer" basis. Kingston Citibus also operates a fourth bus route from June through October. This seasonal bus route - the Kingston Historic Trolley - connects the Trolley Museum in the Rondout section of Kingston with the Ramada Inn, located west of the New York State Thruway (Interstate 87). The fare on Kingston Citibus is $0.75, with tokens sold in packs of three for $2.00. Transfers cost an additional $0.30.

Ulster County Area Transit (UCAT) operates two different types of bus routes: Regular Routes and Rural Routes. UCAT's Regular Route network consists of fifteen fixed bus routes (see Figure 4-15) which provide public transportation service throughout Ulster County. Only two of the UCAT Regular Routes – the Newburgh and Poughkeepsie Services - leave Ulster County to serve neighboring Orange and Dutchess Counties. Buses operate between the more densely developed communities of Ulster County along many relatively major roadways. Much of the service area is rural in nature. Because of the length of its routes, UCAT employs a distance-based zone fare system. The fare for UCAT service is $1.00 to board the bus (which entitles the passenger to ride within one zone) and $0.25 for each additional zone. The UCAT bus network is essentially focused

Figure 4-14: City of Kingston Citibus Bus System



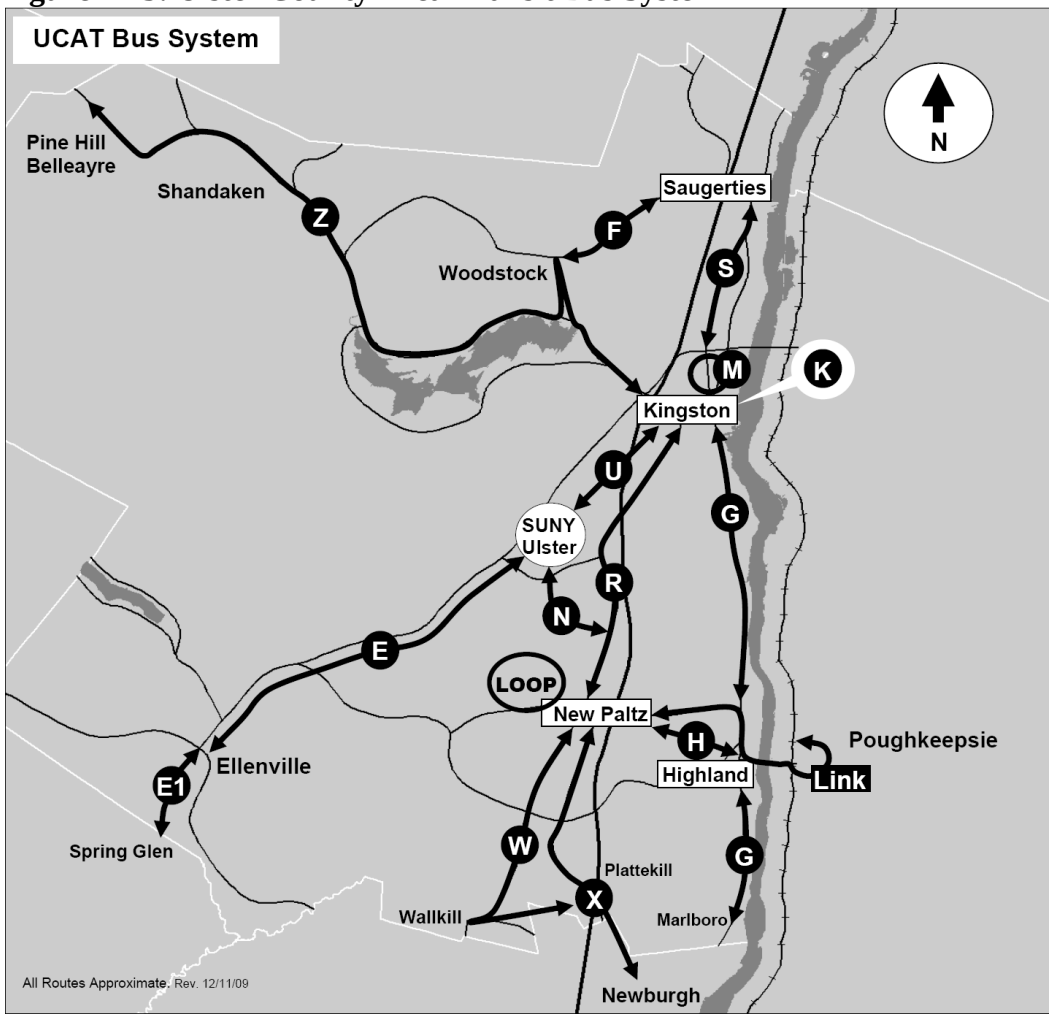
on the Kingston Plaza shopping center in Kingston; however, both the SUNY Ulster College and the Hudson Valley Mall are very important destinations on the UCAT Regular Route network. UCAT's Regular Routes are "Fixed Routes", meaning the bus

stays on a predetermined route. For service off-route within approximately one and one-half miles of the fixed bus route, a pre-arranged reservation is required. Reservations can be made for next day service by UCAT's complementary demand responsive paratransit system. This arrangement allows UCAT to satisfy the requirements of the Americans with Disabilities Act.

UCAT's Rural Route service is a demand responsive service which essentially supplements the regular fixed routes in communities where experience has shown that additional service is needed on certain days. Reservations for the UCAT Rural Route service must be made a day prior to service. Because of the size of its service area, UCAT employs a distance-based zone fare system. The fare for UCAT service is $1.00 to board the bus (which entitles the passenger to ride within one zone) and $0.25 for each additional zone.

Mulligan Bus Lines only operates one bus route. This bus route connects New Paltz with Poughkeepsie, in neighboring Dutchess County.

Figure 4-15: Ulster County Area Transit Bus System



Laidlaw Transit, similar to Mulligan Bus Lines, also operates only a limited service. This bus route connects Kingston with Saugerties via the New York State Route 32 corridor and Old King's Highway.

Adirondack/Pine Hill Trailways operates several bus routes through Ulster County connecting upstate New York locations with New York City as well as Long Island. Adirondack/Pine Hill Trailways provides the only "one-seat ride" service (i.e., no transfer required) between Kingston and the Port Authority Bus Terminal in New York City on Manhattan's west side. Adirondack/Pine Hill Trailways also provides service north to Albany. Adirondack Trailways does provide wheelchair accessible transportation but requires at least a two day notice.

Coach USA - Short Line provides two basic services. The first is the service along the U.S. Route 209 corridor, which connects Ellenville and Kerhonkson with New York City. The second also utilizes the U.S. Route 209 corridor as well as the New York State Route 52 corridor in Ulster County and connects Kingston and Ellenville with Monticello, located in neighboring Sullivan County. Coach USA does provide wheelchair accessible transportation for approximately 70% of its service. Coach USA plans 100% wheelchair accessibility within the next several years.

Sharmash Bus - Monroe Bus Corporation operates the "Catskill Express" bus route which connects Ellenville, Ulster Heights and Naponoch in Ulster County with various locations in New York City.

Kingston-Rhinecliff Ferry Study - The City of Kingston completed a Kingston-Rhinecliff Ferry Study in July of 2010. This study examined the feasibility of ferry service between Kingston and Rhinecliff via the Hudson River, among other destinations. The report concluded that a Kingston-Rhinecliff ferry service is projected to carry far less passengers than the Newburgh and Haverstraw ferries. The City of Kingston is investigating State and Federal funding sources to determine if the Kingston-Rhinecliff passenger ferry service can be initiated and sustained.

Transit Facilities

Presently, there are only two major public transportation terminals located in Ulster County; New Paltz and Kingston. These bus terminals, which are primarily utilized by the commuter/intercity service providers, include a waiting room, public restrooms and a ticket office. These facilities also allow for off-street loading and unloading of buses. The terminals in Ulster County are as follows:

- Kingston Bus Terminal - This facility is located on Washington Avenue in Kingston. Served by Adirondack/Pine Hill Trailways, Coach USA - Short Line, Kingston CitiBus and Ulster County Area Transit (UCAT), this terminal is located a short distance from the interchange with the New York State Thruway (Interstate 87) but is still within walking distance of the uptown area of Kingston.

- New Paltz Bus Terminal - This second terminal is located at the intersection of Main and Prospect Streets in the Village of New Paltz. This facility is served by UCAT, Mulligan Bus Lines and Adirondack/Pine Hill Trailways.

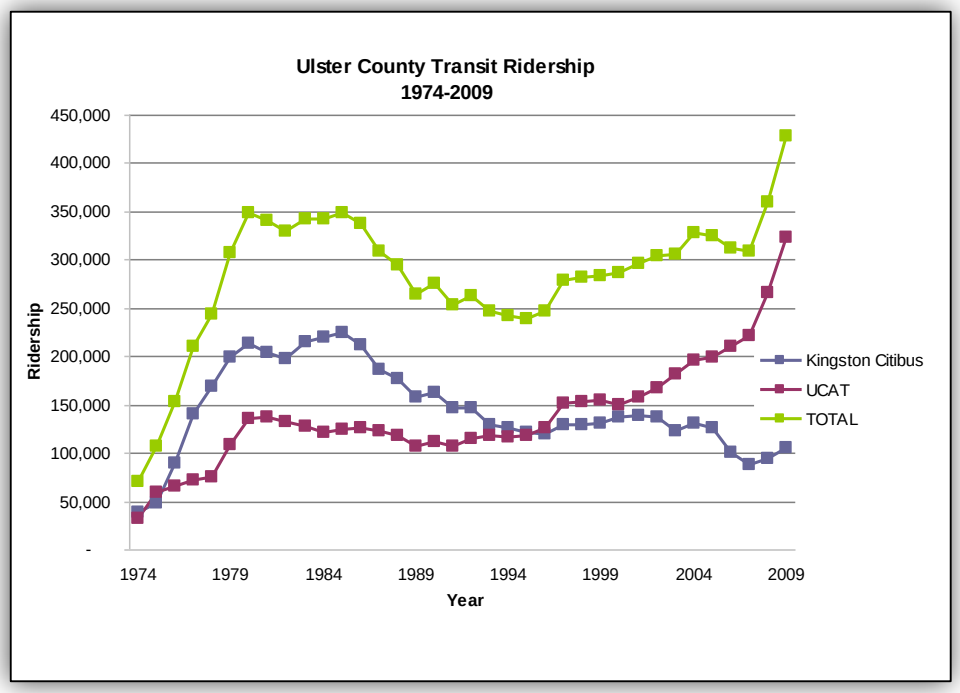
Several transportation and public transit studies completed over the past five years identify the need for an improved or new Kingston Intermodal Bus Terminal and facility improvements to the New Paltz Bus Station.

In 2005, UCAT completed construction of its new bus garage and administration facilities located at 1 Danny Circle near State Route 32 in the City of Kingston. The building provides indoor storage, maintenance and bus wash facilities for the Ulster County Area Transit's (UCAT) bus fleet, as well as housing their administrative offices. The 25,000 sq. ft. facility is located on 2.5 acres. The overall foot print of the building is approximately 100 ft. x 230 ft. and is equipped with a hydraulic lift and pit in order to aid in maintenance activities. The two-story administration area includes an elevator for ADA compliance. Outdoor fuel dispensing and tire changing stations are also featured on-site, as well as an employee/visitor parking area.

Transit Ridership

Historical transit ridership is illustrated in Figure 4-16 for the two municipal bus operators in Ulster County, Kingston Citibus and Ulster County Area Transit (UCAT). UCAT has seen overall increases in system ridership over the past five years. However, Kingston Citibus has seen a decline in ridership over the past two decades.

Figure 4-16: Historical Transit Ridership for UCAT and Kingston Citibus



Source: NYSDOT Public Transportation Bureau

Transit Needs

There is a need for an improved or new City of Kingston Intermodal Bus Terminal and improvements to the existing New Paltz Bus station. Transit operators need to expand their use of advanced public transportation technologies to improve operational efficiencies and customer service. An Ellenville intermodal facility study is needed to determine the need for a regional intermodal bus facility there. Both UCAT and Kingston Citibus need to develop and maintain Transit Development Plans to better define their service plans and needs. There may be a need for a Kingston-Rhinecliff passenger ferry service. Public and private bus operators receiving federal aid need to report Ulster County-specific ridership and financial information to the UCTC to document needs.

Park and Ride Facilities

As part of the UCTC's Congestion Management Process (CMP), commuter parking facilities in Ulster County were inventoried and observed as being heavily utilized and often congested. Figure 4-17 identifies the location of commuter park and ride facilities in Ulster County. Commuter parking facilities promote carpooling and the use of public transit which helps to reduce congestion on the Region's roadways. Once capacity constraints and needs have been identified, Federal funds can be programmed on the Transportation Improvement Program (TIP) to address needed facility expansion and/or the addition of new facilities. Nearly half of the commuter parking facilities in Ulster County experience moderate to severe congestion on a daily basis (see Table 4-10).

The Ulster County commuter parking facilities capacity analysis and needs assessment includes a survey of parking utilization for eight parking facilities. Trailways parking facilities in Kingston were added in 2007 to include onsite parking at the Trailways Bus Station and a reserved parking area at the Dietz Stadium parking facility. Dietz Stadium parking was expanded in 2008. Trailways parking facilities are reserved for Trailways customers only and are partially supported with Federal STP Flexible funds approved by the UCTC Policy Committee in 2007.

Parking facilities were observed by UCTC staff over a period of five consecutive weekdays in mid October 2008, consistent with the 2006 and 2007 analysis. Survey data collected included daily vehicle count, observations of pedestrian and public transit activity, overall facility conditions and available amenities. The data was collected during the AM peak hours (between 9:00 AM and 12:00 PM) avoiding State/Federal holidays and other special events. The parking facilities analyzed in the following:

No.	Location
P1	State Route 32 at New York State Thruway Exit 20 Southbound, Town of Saugerties
P2	State Routes 32 and 199, Town of Ulster
P3	State Route 28, I-587 at New York State Thruway Exit 19, Town of Ulster
P4	State Route 32, Town of Rosendale
P5	State Route 299 at New York State Thruway Exit 18, Town of New Paltz
P6	US Route 9W at State Route 299, Town of Lloyd

P7A Adirondack/Pine Hill Trailways bus station, City of Kingston
P7B Dietz Stadium, Joys Lane & Grandma Brown Lane, City of Kingston
P8 Route 32 at New Paltz Park and Ride Lot (constructed in 2009 – data not available).

Figure 4-17: Park and Ride Facility Locations

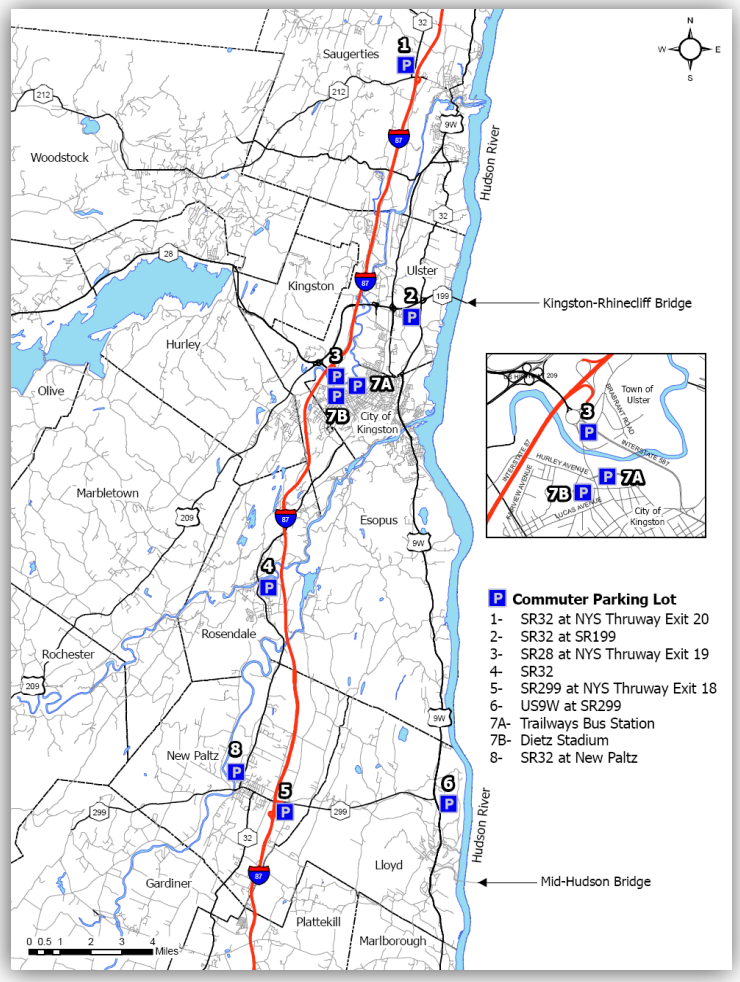


Table 4-10: Summary Comparison of Average Parking Occupancy

Parking Facility	Average Occupancy 2006	2007	2008	Percent Change 06-07	07-08
P1: SR 32/Thruway Exit 20 SB, Saugerties	60%	60%	110%	0%	+50%
P2: SR 32 and SR 199, Ulster	50%	71%	63%	+21%	-8%
P3: SR 28/I-587/Thruway Exit 19, Ulster/Kingston	102%	108%	156%	+6%	+48%
P4: SR 32, Rosendale	45%	96%	88%	+51%	-8%
P5: Thruway Exit 18, New Paltz	104%	101%	71%	-3%	-30%
P6: US Route 9W/SR 299, Lloyd	26%	26%	32%	0%	+6%
P7A: Trailways Bus Station, Kingston	-	100%	83%	-	-17%
P7B: Dietz Stadium, Kingston	-	25%	86%	-	+61%

Source: UCTC Commuter Parking Facilities Capacity Analysis and Needs Assessment, 2008. Note: Route 32 at New Paltz Park and Ride Lot (P8) was constructed in 2009 (data not available).

Table 4-10 shows average commuter parking facility occupancy from 2006 to 2008. The State Route 28/I-587/NYS Thruway Exit 19 parking facility (P3) continues to show an increase in parking occupancy. The average parking occupancy for P3 increased to 156% in 2008, a 48% increase from 2007. Average occupancy for the Saugerties State Route 32/Thruway Exit 20 parking facility (P1) increased to 110%, a 50% increase from 2007. Average occupancy for the Dietz Stadium parking facility (P7B) increased to 86%, an increase of 61% from 2007. The US 9W/SR 299 Lloyd parking facility (P6) increased to 32% average occupancy, an increase of 6%.

Several Ulster County parking facilities showed a decrease in average occupancies in 2008. The Trailways Bus Station parking facility (P7A) decreased by 17% compared to the previous year. The Thruway Exit 18 parking facility in New Paltz (P5) decreased by 30% compared to the previous year (albeit the facility was expanded by 50% in 2008). The State Route 32 Rosendale (P4) and Route 32 at Route 199 (P2) parking facilities both decreased by 8% from the previous year.

Park and Ride Facility Needs

Parking facilities located in Saugerties (P1) and in the Town of Ulster (P3) are in immediate need of capacity expansion improvements. The Town of Ulster parking facility (P2) is in need of near-term improvements such as paving, capacity expansion and security improvements. There may be a need for a commuter parking facility along the Route 32 corridor in the Town of Plattekill.

Special Needs Transportation

In August 2005, Congress passed the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), reauthorizing Federal funds for transportation improvements and other related programs. As part of the SAFETEA-LU requirements, projects identified must be part of a "locally-developed, coordinated public transit-human services transportation plan." A Coordinated Public Transit – Human Services Transportation Plan:

- Identifies the transportation needs of specific populations under Elderly and Disabled Transportation Program (Section 5310), Job Access and Reverse Commute (JARC), and the New Freedom Initiative;
- Provides strategies for meeting those local needs; and
- Prioritizes transportation services for funding and implementation strategies.

In April 2008, UCTC staff initiated efforts to develop the Ulster County Coordinated Public Transit – Human Services Transportation Plan as required by SAFETEA-LU. Ultimately, the Plan will help to improve coordination in planning and operations among Ulster County's public transit and human services transportation providers.

Public Paratransit Services

Kingston Citibus, in addition to providing fixed bus route services described earlier, provides customized paratransit services to senior citizens and those with disabilities. Service is available Monday through Saturday 6:30 am to 7:15 pm and complies with the Americans with Disabilities Act. Users must first apply and be approved to become an eligible user. Upon approval reservations are required at least 24 hours in advance. The fare for Citibus paratransit service is $1.50 per trip within the City of Kingston and $3.00 per trip to Port Ewen.

Ulster County Area Transit (UCAT), in addition to providing fixed bus route services described earlier, provides demand responsive service which essentially supplements the regular fixed routes in communities. Reservations for the UCAT Rural Route service must be made a day prior to service. Because of the size of its service area, UCAT employs a distance-based zone fare system. The fare for UCAT service is $1.00 to board the bus (which entitles the passenger to ride within one zone) and $0.25 for each additional zone. Off-route service fares are double the cost of fixed route fares.

Mulligan Bus Lines only operates one bus route. This bus route connects New Paltz with Poughkeepsie, in neighboring Dutchess County. UCAT provides demand response services to supplement this service.

Laidlaw Transit, similar to Mulligan Bus Lines, also operates only a limited service. This bus route connects Kingston with Saugerties via the New York State Route 32 corridor and Old King's Highway.

Adirondack/Pine Hill Trailways operates several bus routes through Ulster County connecting upstate New York locations with New York City as well as Long Island. Adirondack/Pine Hill Trailways provides the only "one-seat ride" service (i.e., no transfer required) between Kingston and the Port Authority Bus Terminal in New York City on Manhattan's west side. Adirondack/Pine Hill Trailways also provides service north to Albany. Adirondack Trailways does provide wheelchair accessible transportation but requires at least a two day notice.

Coach USA - Short Line provides two basic services. The first is the service along the U.S. Route 209 corridor, which connects Ellenville and Kerhonkson with New York City. The second also utilizes the U.S. Route 209 corridor as well as the New York State Route 52 corridor in Ulster County and connects Kingston and Ellenville with Monticello, located in neighboring Sullivan County. Coach USA does provide wheelchair accessible transportation for approximately 70% of its service. Coach USA plans 100% wheelchair accessibility by 2015.

Private/Non-Profit Paratransit Services

Always There Home Care provides private, non-profit ambulatory and wheelchair transport for elderly and disabled consumers age 60 and older for their Adult Day program. Always There Home Care (ATHC) operates its own fleet of 3 vehicles providing "door-to-door" transportation services throughout Ulster County. Service hours of operation are 6:30 am to 10:00 am and 3:00 pm to 6:00 pm seven days per week. Transportation costs are paid by the consumers. Trips are scheduled as part of the Adult Day program.

Gateway Industries provides private, non-profit busing and van transport for elderly and disabled consumers age 19 and older. Gateway Industries (GI) operates its own fleet of 24 vehicles providing transportation services throughout Ulster and Dutchess Counties. Service hours of operation are approximately 6:45 am to 4:30 pm seven days per week. Transportation costs are paid by the consumers or through Medicaid billing. Consumers must schedule trips at least 48 hours in advance. To date, GI has purchased one (1) wheelchair van using Section 5310 funding. GI expressed an interest in coordinating bulk fuel purchases with other transportation providers.

Resource Center for Accessible Living provides private, non-profit assistance for elderly and disabled consumers of all ages. Resource Center for Accessible Living (RCAL) does not routinely operate vehicles. Instead, RCAL pays local taxi service providers for transportation services on an as needed basis. Unfortunately, taxi service in the Kingston area is reported to be unreliable. Therefore, RCAL staff will periodically drive consumers to their destination if no other service is available. Transportation costs are paid using State funds provided by the Office of Vocational and Educational Services for Individuals with Disabilities (VESID).

Ulster – Greene ARC provides private, non-profit ambulatory and wheelchair transport for elderly and developmentally disabled consumers age 21 and older throughout Ulster and Green Counties. Ulster – Greene ARC (ARC) operates its own fleet of 140 vehicles with up to 500 drivers. ARC operates 12 fixed routes in Ulster County. Service hours of operation are approximately 6:00 am to 5:30 pm seven days per week. Transportation costs are paid using donations, local government contributions, State (Office of Mental Retardation and Developmental Disabilities) funds, and Federal funds (Medicaid, SSI). Consumers must schedule trips at least one day in advance. To date, ARC has purchased two wheelchair and four ambulatory buses using Section 5310 funding. ARC purchases bulk fuel contracts with local gasoline stations to help reduce the costs of transportation operations. ARC indicated its plans to submit a Section 5310 application for the purchase of a vehicle to be used in Greene County.

SUNY Ulster – RSVP Neighbor-to-Neighbor Program was developed to provide support services to seniors who are chronically ill, frail, elderly or disabled. Volunteers use their own vehicles to provide transportation for their clients to medical and medically related appointments, grocery shopping, respite, friendly visiting and telephone reassurance, and help with everyday activities. Individuals or agencies who call the RSVP Neighbor-to-

Neighbor (RSVP) program are assisted by volunteer leaders who match those in need with volunteers who are available to provide help. The volunteer leaders help determine the clients' transportation options (i.e. City or County Bus, etc.) and provide contact information whenever possible. Referrals are received from Office for the Aging, RCAL, Jewish Family Services, 211, and several different Home Care Agencies. In 2007, RSVP provided transportation support to 200 individuals. Volunteers are reimbursed at $0.20/mile and report they can no longer afford to transport clients due to increased energy prices.

Ulster County Office for the Aging provides public ambulatory and wheelchair transport for elderly and disabled consumers age 60 and older throughout Ulster County. Ulster County Office for the Aging (OFA) operates its own fleet of 2 vehicles using Ulster County Area Transit drivers. Service hours of operation are daylight hours Monday through Friday. Service area is Ulster County only. Service is available for a limited number of medical appointments and one shopping trip per week. Transportation costs are paid for by donations, local government, and Federal funds (Title III B, III E). Consumers must schedule trips one day in advance. OFA is not eligible to receive Section 5310 funding.

Ulster County Department of Social Services provides public ambulatory transport for consumers of any age and disability throughout Ulster County, neighboring Counties and neighboring States. Ulster County Department of Social Services (DSS) operates its own fleet of 33 vehicles using DSS professional staff serving as drivers. Medicaid-related transportation services are coordinated with UCAT. Court-ordered transportation services are provided for children. Service hours of operation are Monday through Friday from 5:00 am to 9:00 pm. Transportation costs are paid by local government, State and Federal funds (Medicaid, TANF). DSS staff schedules all transportation for its consumers. DSS is not eligible to receive Section 5310 funding.

Ulster County Mental Health Department provides outpatient clinic treatment services to youth and adults with psychiatric and chemical dependency problems. Clinics are located in Kingston, Highland, and Ellenville. The Ulster County Mental Health Department (MHD) operates a small fleet of vehicles, which are used by clinical staff to provide field-based services, including in-home treatment and case management. The geography of the County and location of existing clinics presents significant access issues for community members who are located great distances from these activity centers and are financially challenged due to their disabilities. This dramatically affects the ability of many consumers to obtain services on a timely and effective basis. There are few, if any, funding sources within these disability areas to directly subsidize transportation for these populations. The MHD is not eligible to receive Section 5310 funding.

Ulster County Veteran's Agency provides public transportation for Ulster County veterans to and from the Albany and Castle Point VA Hospitals daily. The Ulster County Veteran's Agency (VA) also provides round-trip transportation from Ellenville to Kingston to catch the Albany van on Monday, Wednesday and Friday. Ambulette services are also available to wheelchair veterans traveling to the Albany or Castle Point

VA Hospitals and the Kingston VA Outpatient Clinic. UCAT provides some assistance to the VA when wheelchair transport is needed. The VA operates 3 vans, 1 car and 1 bus, and periodically coordinates transportation services with other County agencies. Reservations are required at least one day in advance. The VA hours of operation are from approximately 7:30 am to 5:00 pm Monday through Friday. VA transportation service is 100% county funded. The VA is not eligible to receive Section 5310 funding.
Existing Coordination of Public Transit and Human Services Agencies

Informal service coordination exists among various public and private transportation providers in Ulster County. On occasion, public and private transportation operators share information and resources to help out another operator in need. UCAT coordinates Medicare billing services with Kingston Citibus and other county transportation providers. UCAT also assists callers by answering their questions about how to make connections between public and private transit providers throughout Ulster County and adjoining counties.

Special Needs Transportation Needs

There is a need for human service agencies in Ulster County to acquire unprogrammed Federal Transit Administration (FTA) funds to address mobility needs. There is also a need for UCAT and Kingston Citibus to better coordinate their paratransit services to reduce or eliminate the confusion of duplicating paratransit services on both sides of the City of Kingston municipal boundary. There is a need to establish a mobility manager to coordinate public and private human service transportation services countywide.

Transportation Enhancements Program

The Transportation Enhancements Program (TEP) is a category of federal funding that comes directly to the State of New York through federal transportation legislation known as the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The TEP was originally enacted by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and was created to improve surface transportation activities by developing projects that go “above and beyond” normal, or routine transportation activities and funding. Enhancement projects are required to have a direct relationship to all elements of the intermodal surface transportation system, with the exception of aviation activities.

As part of an annual appropriations process at the federal level, funds for transportation enhancement projects are allocated to New York through the U.S. Department of Transportation, Federal Highway Administration (FHWA). Although FHWA has issued guidance on how states may implement TEP funding, individual rules about the program are determined and administered by each state. In New York, TEP funding is administered by the New York State Department of Transportation (NYSDOT). NYSDOT determines how much money will be available throughout the State on an annual basis, and also sets application deadlines for eligible applicants applying for TEP funding.

Project Eligibility

Transportation Enhancement Program (TEP) projects must fall into one or more of the following Federal Highway Administration (FHWA) categories to be eligible for funding:

1. Provision of Facilities for Bicycles and Pedestrians
2. Provision of Safety and Educational Activities for Pedestrians and Bicyclists
3. Acquisition of Scenic Easements and Scenic or Historic Sites (Including Historic Battlefields)
4. Scenic or Historic Highway Programs (Including Provision of Tourist and Welcome Center Facilities)
5. Landscaping and Other Scenic Beautification
6. Historic Preservation
7. Rehabilitation and Operation of Historic Transportation Buildings, Structures, or Facilities (Including Historic Railroad Facilities and Canals)
8. Preservation of Abandoned Railway Corridors (Including Conversion and Use for Pedestrian and Bicycle Trails)
9. Inventory, Control and Removal of Outdoor Advertising
10. Archeological Planning and Research
11. Environmental Mitigation to Address Water Pollution Due to Highway Runoff or Reduce Vehicle-caused Wildlife Mortality while Maintaining Habitat Connectivity
12. Establishment of Transportation-Related Museums

Several TEP projects are scheduled for implementation in Ulster County. Table 4-11 identifies a list of currently programmed TEP projects in Ulster County. Table 4-12 identifies TEP project needs adopted by the UCTC in 2008. Table 4-13 identifies Ulster County *American Recovery and Reinvestment Act* (ARRA) TEP needs adopted by the UCTC in 2010.

Table 4-11: Currently Programmed TEP Projects

PIN	Project Title	Project Applicant	Project Location	Total Cost
878021	Gardiner Sidewalks	Town of Gardiner	Rt. 44/55: From Wallkill Valley Rail Trail to Town Hall	1.142
878022	Hudson Valley Rail Trail	Town of Lloyd	Tony Williams Park to New Paltz Town Line	1.930
878023	Wallkill Valley Rail Trail Extension	Town of New Paltz	From Wallkill Valley Rail Trail to County Fairgrounds	1.299
875849	D&H/O&W Heritage Trail	Village of Ellenville	From Port Ben Road to Hang Glider Road	0.317
878007	Ulster County Visitors Center	County of Ulster	Build Visitors Center in Town of Ulster at roundabout	4.963
878008	O&W Rail Trail Extension	Town of Marbletown	Connect SUNY Ulster with Stone Ridge Hamlet	0.200
Total				**9.851**

Note: In Millions of Dollars

Table 4-12: Current TEP Project Needs

Ranking	Project Title	Project Applicant	Project Location	Total Cost
1	Gardiner Sidewalks	Town of Gardiner	Gardiner Reformed Church to Gardiner Library	$1,057,490
2	MultiUse Trail Community Connector	Town of Saugerties	Connect Village of Saugerties with HITS Site	$1,565,820
3	Bicycle/Pedstrian Connections	Town of Lloyd	Adjacent to or near Hudson Valley Rail Trail	$1,269,000
4	Hurley Walkable Community	Town of Hurley	A SR2S project in the Hurley Hamlet	$356,712
5	Walkable Community	Village of New Paltz	Various sidewalk work in Village	$991,510
6	Milton on Hudson Railroad Station	Town of Marlborough	Rehabilitate Milton Train Station	$1,196,854
7	Pedestrian/Bicycle Lanes	County Public Works	Main Street to Lucas Avenenue in Town of Hurley	$941,500
8	Mountain View Bike Route	County Public Works	West Saugerties in the Town of Saugerties	$1,343,500
9	Waterfront Trail and Intermodal Link	City of Kingston	Trail connecting Kingston Point Park to Rondout area	$2,628,906
10	Felton Park Area Sidewalks	Town of Plattekill	Connects Park to Modena	$1,350,000

Table 4-13: America Recovery and Reinvestment Act TEP Needs

Priority	Project Title	Project Description	Project Sponsor	Total
1	ADA Compliance, Multicounty	ADA Improvements Countywide	NYSDOT	$800,000
2	Gardiner Sidewalks - Phase 1	Gardiner Hamlet - PIN 878021	Gardiner	$1,200,000
3	D&H and O&W Trail Enhancements	Ellenville to Wawarsing, PIN 875849	Village of Ellenville	$377,000
4	MultiUse Trail Community Connector	Village to HITS Site	Town of Saugerties	$1,566,000
5	Bicycle/Pedestrian Connections	Adjacent to Hudson Valley Rail Trail	Lloyd	$1,270,000
6	Hurley Walkable Community	A SR2S project in the Hurley Hamlet	Hurley	$357,000
7	Walkable Community	Various sidewalk work in Village	New Paltz	$992,000
8	Milton on Hudson Railroad Station	Rehabilitate Milton Train Station	Marlborough	$1,197,000
9	Pedestrian/Bicycle Lanes	Main St. to Lucas Ave	County	$942,000
10	Mountain View Bike Route	West Saugerties	County	$1,344,000
11	Waterfront Trail and Intermodal Link	Trail: Kingston Point Park to Rondout	City of Kingston	$2,629,000
12	Felton Park Area Sidewalks	Connects Park to Modena	Plattekill	$1,350,000
TOTAL				**$14,024,000**

Transit-Related Enhancements

The Transportation Enhancement Program (TEP) is designed to strengthen the aesthetic, cultural and environmental aspects of the region's intermodal transportation system. Although the majority of enhancement projects within Ulster County have focused on the provision of facilities for pedestrians and bicycles, many of these projects have strong intermodal ties to regional transit activities. Often, many of the constructed pedestrian and bicycle enhancements terminate at major intersections, or along routes containing connections to buses, thus allowing for another choice in transportation for pedestrians and cyclists. Many enhancement projects occur near bus stops and bus shelters, and provide safer pedestrian access through the construction of new paths and sidewalks; ADA-compliant curb cuts; marked pedestrian walkways; and in many cases, also provide an aesthetic upgrade to adjacent transit facilities by providing landscaping and shading, artwork, signs, lighting, benches and trash receptacles.

UCAT recently purchased and mounted transit-related art work throughout its office corridors in 2009. UCAT also recently installed bike racks on its entire fleet of buses. In addition to these TEP improvements, the Mid Hudson Valley Transportation Management Area (TMA) recently assigned the responsibility of FTA Section 5307 TMA enhancements to Dutchess and Orange Counties. The MTA is making improvements to the historic Poughkeepsie Train Station in Dutchess County. Orange County is planning to make transit-related enhancements to the Middletown Bus Terminal.

Transportation Enhancements Program Needs

There are TEP project needs going unmet in Ulster County. There is a need to implement the TEP projects currently programmed on the UCTC's TIP. There is a need for transit-related enhancements at the Kingston Bus Station on Washington Avenue and the New Paltz Bus Station. Transit-related improvements needed include pedestrian crosswalk amenities near the Kingston Bus Station and weather protection for riders boarding buses at the New Paltz Bus Station.

Safety

One of the chief components, if not the primary component, of the federal SAFETEA-LU legislation is the emphasis on safety in the transportation planning process. Safety is, and should be, a daily concern for everyone involved in transportation. The 2035 LRTP encourages all planning organizations to routinely and effectively consider safety as an explicit priority in all planning projects. The safe preservation of human life far exceeds the cost of any transportation-related improvements. The issue of safety in transportation and transportation planning is far more reaching than can be identified in this document; it involves the traveling public, the various transportation systems and those that operate and maintain those systems. In order to work towards establishing a "safer" regional transportation system, a need to expand the issue of safety in planning to those outside of the normal transportation agencies and stakeholders is paramount. Local emergency services departments (police, fire rescue) are involved in transportation decision making.

As the MPO, the UCTC is responsible for introducing safety into this LRTP but all planning organizations should routinely consider safety as an explicit planning priority in all planning projects. Decision makers at all levels should be informed about the implications of safety in all planning decisions, and safety should be reflected in their decision making process. A proactive, not reactive, approach to safety in planning should be sought. Planning for safety should be incorporated into all land use and transportation levels, from the federal and state levels to the regional, local and site-specific levels. There should be a seamless relationship with other planning activities at each of these levels as well as a consistent set of policies and procedures.

There are various safety measures being implemented in Ulster County by local, state and federal transportation agencies to help meet the goals of this LRTP in providing a safer transportation environment for the region. NYSDOT maintains databases of crash data for the entire state. Their databases contain varying degrees of information on contributing causes of accidents (road conditions, weather, animals, etc), location and severity (fatality, injury or property damage only). Those organizations charged with the design and construction or reconstruction of transportation facilities have access to this data and can plan accordingly to mitigate crashes and help provide for a safer transportation environment. Data collected and maintained by NYSDOT can be used to identify areas prone to accidents. UCTC staff work with NYSDOT officials in forwarding this information local jurisdictions and stakeholders to use in their planning and design processes to help in mitigating crashes due to tangible causes. Table 4-16 identifies crash data in Ulster County.

Table 4-16 shows vehicle, bicycle and pedestrian crashes in Ulster County from 2006 to 2008. The data shows the total number of crashes is increasing along with personal injuries. However, during the same period, the rate of fatalities decreased.

In terms of vehicle-railroad train crashes, during the three year reporting period, there were three crashes, one fatality, and one injury in Ulster County.

Table 4-17 shows vehicle crash type data by municipality. This data enables planners and municipal officials to see where the crash numbers are the highest and focus resources to increase safety. The Town of Ulster and City of Kingston lead the County with the most crashes in 2008.

Table 4-16: Crash Data, 2006-2008

	2006		2007		2008		Total for 3 years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Crashes	**3,260**		**3,633**		**5,614**		**12,507**	
Fatal	30	0.92%	27	0.74%	25	0.45%	82	0.66%
Injury	1,504	46.13%	1,479	40.71%	2,005	35.71%	4,988	39.88%
Other Crashes	1,726	52.94%	2,127	58.55%	3,584	63.84%	7,437	59.46%
Crash Type	**3,260**		**3,633**		**5,614**		**12,507**	
Automobile Crashes	1,667	51.13%	2,023	55.68%	3,077	54.81%	6,767	54.11%
Bicycle crashes	28	0.86%	38	1.05%	33	0.59%	99	0.79%
Pedestrian Crashes	53	1.63%	49	1.35%	63	1.12%	165	1.32%
Other Crashes	1,512	46.38%	1,523	41.92%	2,441	43.48%	5,476	43.78%
Total Fatalities	**30**		**27**		**25**		**82**	
Automobile Crashes	17	56.67%	18	66.67%	11	44.00%	46	56.10%
Bicycle crashes	0	0.00%	1	3.70%	0	0.00%	1	1.22%
Pedestrian Crashes	3	10.00%	0	0.00%	2	8.00%	5	6.10%
Other Crashes	10	33.33%	8	29.63%	12	48.00%	30	36.59%
Total Injuries	**1,504**		**1,479**		**2,005**		**4,988**	
Automobile Crashes	1,085	72.14%	975	65.92%	1,249	62.29%	3,309	66.34%
Bicycle crashes	24	1.60%	28	1.89%	1	0.05%	53	1.06%
Pedestrian Crashes	52	3.46%	32	2.16%	4	0.20%	88	1.76%
Other Crashes	343	22.81%	444	30.02%	751	37.46%	1,538	30.83%

Source: NYSDOT. Note: "Other Crashes" includes animal, railroad train, deer, guide rail, trees, buildings, fences, bridge structures, snow embankments, curbing and all other crash types.

Table 4-17: Crashes by Type and Municipality, 2006-2008

Municipality	All Crashes			Number of Fatalities			Number of Injuries		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
City of Kingston	384	498	610	0	0	0	103	206	251
Town of Denning	1	3	2	0	0	0	0	1	1
Town of Esopus	199	168	258	1	0	3	93	56	82
Town of Gardiner	143	138	150	1	0	0	42	31	39
Town of Hardenburgh	1	1	5	0	0	0	0	1	2
Town of Hurley	87	73	157	1	1	1	25	42	69
Town of Kingston	25	19	43	0	0	0	5	7	10
Town of Lloyd	241	256	297	2	4	3	141	120	130
Town of Marbletown	122	167	208	0	1	0	44	63	69
Town of Marlborough	110	99	138	0	1	1	55	39	69
Town of Olive	77	65	84	3	2	1	48	38	49
Town of Plattekill	146	137	233	2	0	0	63	63	106
Town of Rochester	139	119	201	1	1	1	51	60	82
Town of Rosendale	176	145	203	4	1	1	56	42	50
Town of Shandaken	34	89	99	0	2	1	14	34	40
Town of Shawangunk	110	118	213	2	4	3	68	49	87
Town of Saugerties	245	277	418	5	4	2	162	137	166
Town of New Paltz	240	226	351	1	3	4	140	94	121
Town of Ulster	404	567	1160	2	2	1	186	204	316
Town of Wawarsing	150	184	316	4	1	2	71	59	108
Town of Woodstock	81	99	167	1	0	1	44	42	58
Village of Ellenville	32	58	89	0	0	0	21	32	30
Village of New Paltz	62	76	151	0	0	0	36	32	42
Village of Saugerties	51	51	61	0	0	0	36	27	28
Total	**3,260**	**3,633**	**5,614**	**30**	**27**	**25**	**1,504**	**1,479**	**2,005**
Three-year total	**12,507**			**82**			**4,988**		

Source: NYSDOT. Note: "All Crashes" includes animal, railroad train, deer, guide rail, trees, buildings, fences, bridge structures, snow embankments, curbing and all other crash types.

The UCTC partners with the Ulster County Traffic Safety Board (CCTSB) to progress a wide range of safety related activities. UCTC periodically participates in UCTSB meetings and invites the Chair of the UCTSB to all MPO meetings. Additionally, the UCTC invites the Chair of the UCTSB to participate in transportation studies performed throughout Ulster County.

The purpose of the Ulster County Traffic Safety Board is:

1. To promote and encourage street and highway traffic safety.
2. To formulate countywide highway safety programs and coordination of efforts of interested parties and agencies engages in traffic safety education.
3. To cooperate with local officials within the County in the formulation and execution of the traffic safety programs and activities.
4. To promote safety education for drivers, pedestrians and all users of the road and street system.
5. To study traffic conditions on streets and highways within the County, study and analyze reports of crashes and causes thereof, and to recommend to the appropriate legislative bodies, department or commissions such changes in rules, orders, engineering, regulations and existing law, the Board may deem advisable.
6. To obtain and assemble crash data and to analyze, study and consolidate such data for educational and informational purposes.
7. Raise the public's awareness about the laws and regulations related to bicycle and pedestrian travel.
8. To promote helmet usage and insure that all young bicyclists and in-line skaters have access to bicycle helmets.
9. To promote the proper use of child safety seats and provide them to all parents who do not have the financial means to purchase them.
10. To decrease the rate of automobile, pedestrian and bicycle crashes in Ulster County.

The partnership of the UCTC and the Ulster County Traffic Safety Board (UCTSB) has been proactive in developing and promoting safety initiatives in the region. The three E's of Traffic Safety guide UCTC safety-related activities: enforcement, education and engineering. The MPO process encompasses many of the needed engineering and educational components of transportation, while enforcement is not part of the normal transportation planning process.

Safe Routes To School

The Safe Routes to School Program (SRTS) is a federal-aid reimbursement program under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) administered by the Federal Highway Administration (FHWA) and the New York State Department of Transportation (NYSDOT). These funds are available for infrastructure and non-infrastructure projects to aid students in grades K-8.

The purpose of the SRTS Program is to enable and to encourage children, including those with disabilities, to walk and bicycle to school, to make bicycling and walking a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age, and to facilitate the planning, development and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption and air pollution in the vicinity of schools.

SAFETEA-LU legislation specifies that eligible infrastructure-related projects include the planning, design and construction of infrastructure-related projects that will substantially improve the ability of students to walk and bicycle within two miles to school and public right-of-way, including:

- Sidewalk improvements;
- Traffic calming and speed reduction improvements;
- Pedestrian and bicycle crossing improvements;
- On-street and off-street bicycle and pedestrian facilities;
- Secure bicycle parking facilities; and
- Traffic diversion improvements in the vicinity of schools.

SAFETEA-LU legislation further specifies that eligible non-infrastructure activities are to encourage walking and bicycling to school, including;

- Public awareness campaigns and outreach to press and community leaders;
- Traffic education and enforcement in the vicinity of schools;
- Student sessions on bicycle and pedestrian safety, health and environment; and
- Funding for training volunteers and managers of SRTS programs.

In 2008, NYSDOT facilitated an application process to select SRTS projects for implementation. A total of five applications were submitted by Ulster County municipalities. Table 4-14 identifies project applications submitted. Table 4-14 also identifies SRTS projects awarded and not awarded funding in Ulster County.

Table 4-14: Safe Routes To School Project Needs

PIN	Project Title	Project Applicant	Project Location	Total Cost
Project Needs Funded				
876039	Safe Sidewalks to Plattekill Elem. School	Town of Plattekill	Adjacent to Route 32 near Orange/Ulster County line	$400,000
876042	Ostrander Gets Moving	Town of Shawangunk	Ostrander Elementary School, Wallkill Hamlet	$26,000
Sub Total				$426,000
Project Needs Not Funded				
	Lucas Avenue Sidewalk	City of Kingston	Near Bailey Middle School and 4 other Middle Schools	$550,000
	Safety Improvements	Town of Shawangunk	Near Borden Middle School & Ostrander Elem. School	$507,661
	Middle School Sidewalks	Village of New Paltz	Near Center, Harrington, and South Oakwood Streets	$380,000
Sub Stotal				$1,437,661
Total Needs				**$1,863,661**

Access Management

Access management is a practice of improving the design and placement of driveways and medians. The goal of access management is to limit traffic conflicts. By reducing conflicts, safety is enhanced and traffic flow is improved. Access management provides reasonable access to property and provides a safer environment for vehicular and pedestrian traffic. It provides coordination between existing land uses and lessens the cut-through traffic in residential neighborhoods. The UCTC will continue to encourage state and local governments to actively consider access management in their overall planning and design processes, planning policies and land use codes.

NYSDOT Strategic Highway Safety Plan

The purpose of the Strategic Highway Safety Plan of 2010 (SHSP) is to promote best practices and strategies that, if implemented, could have a substantial impact on reducing fatal and injury crashes. SAFETEA-LU, the 2005 federal surface transportation authorizing legislation clearly supports the view that the states are to consider the transportation system as a connected network. Boundaries, whether defined by state, county or local jurisdictions are not to be considered as barriers to improving safety. The "system" should address the needs of "engineering, management, operation, education, enforcement, and emergency services elements (including integrated, interoperable emergency communications) of highway safety as key factors in evaluating highway projects" for all public roads. The SHSP, developed under the requirements of this legislation, offers the state the opportunity to advance transportation safety programs and partnerships. Collectively pursuing changes to institutional relationships will allow New York to improve safety for all users of the system, integrate new technologies, manage risk, and maximize the use and safety of all modes of transportation.

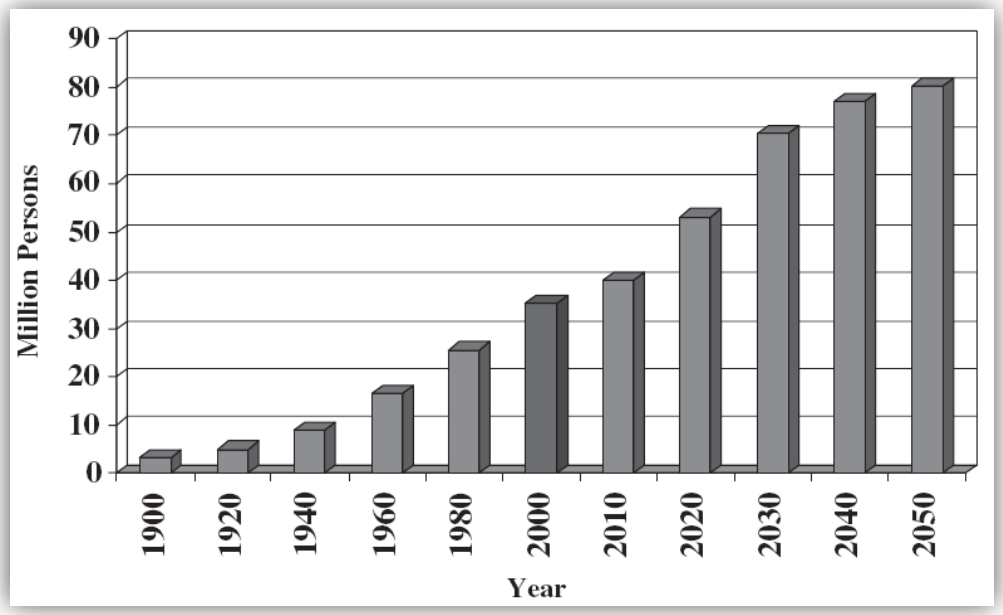
The NYS Department of Transportation (NYSDOT) views this legislative mandate as an opportunity to use technology to partner with safety agencies and groups to create more seamless and compatible avenues for data sharing and exchange. The creation of enhanced data analysis tools must continue to be a priority if the state is to maintain and improve the transportation system to accommodate a changing demographic profile, in-vehicle and roadway enhancements, as well as user confidence in the reliability and safety of the system. Strengthened partnerships with the Metropolitan Planning Organizations (MPOs), Authorities, local transportation agencies, enforcement agencies, community groups and advocates are vital if the state is to realize efficiencies in using limited resources for pedestrian, bicycle, driver, vehicle and roadway safety improvements. Enhancing data and communication linkages are vital steps toward improving the safety of a transportation system that is already experiencing heavy use and is projected to have further increased demands on its use in the future. The UCTC will work NYSDOT to implement the SHSP in Ulster County.

Older Drivers

Over the next two decades, the numbers of older drivers on our nation's roadways will increase substantially (see Figure 4-18). After driving, transitioning to riding as a passenger is the next most common way for older drivers to remain mobile. As the numbers of older drivers increases, so will the likelihood the number of older passengers will increase. As the aging population grows, transportation planners and transportation officials must make every effort to ensure the safe mobility of residents and travelers. One of the best ways for increasing safety for older drivers is to undertake various measures to accommodate elderly driver needs such as:

- Enhancement of driver capabilities and knowledge
- Implement roadway design improvements

Figure 4-18: Projected Growth in U.S. Population Age 65 and Older



Source: National Cooperative Highway Research Program, Report 500, 2004, p. 1-2.

Programs aimed at enhancing one's driving skills, increased use of safety belts, educational and training opportunities for the older driving population and other proactive, preemptive safety measures can provide for the safety of older drivers and the driving public as well. Such training may include:

- Training courses (AARP & AAA Drivers 55+)
- Skill Assessments (self-assessment)
- Physical Fitness Courses for Seniors
- Educational materials on New Safety Issues/Laws
- News Conferences/Press releases
- Safety fairs

Transportation planning techniques used to improve the roadway/driving environment can include such amenities as:

- Advance guide/warning signs and street name signs
- Removal of oversized signs
- Improved lighting
- Retro-reflective strips in the channelization posts
- High intensity sheeting on all signs to increase sign visibility
- Raised pavement markers spaced at 40’ rather 80’
- Minimum 6 feet of paved shoulders
- Guiderails near hazardous locations
- Center turn lanes/left-turn lanes

Safety Needs

There is a need to continue working with the Ulster County Traffic Safety Board to reduce the number of crashes and fatalities in Ulster County. There is a need to work with NYSDOT to implement the Statewide Strategic Highway Safety Plan in Ulster County. There is a need to implement Safe Routes To School (SRTS) projects planned and programmed. There is a need to implement access management improvements to enhance safety, mobility and reduce congestion. There is a need to implement older driver roadway improvements and education programs to address the growing senior citizen population.

Freight

The movement of goods into, within, and out of the region is vital to the local economy. The movement of goods is conducted through the utilization of multiple modes of transport, such as air, pipeline, water, truck, rail, or other non-traditional means. Freight transport involves a complexity of networks and players who use a variety of methods, modes, available information technologies, and equipment to move raw materials, semi-processed and processed goods through regional, national and international markets for the purpose of commerce.

In the United States, the freight industry is essentially dominated by the private sector, and includes trucking companies, railroads, air carriers, pipeline industries, couriers, freight brokers, terminal operators, freight intermediaries, freight forwarders, package express carriers, and all other shippers and receivers of freight, as well as all freight industry customers.

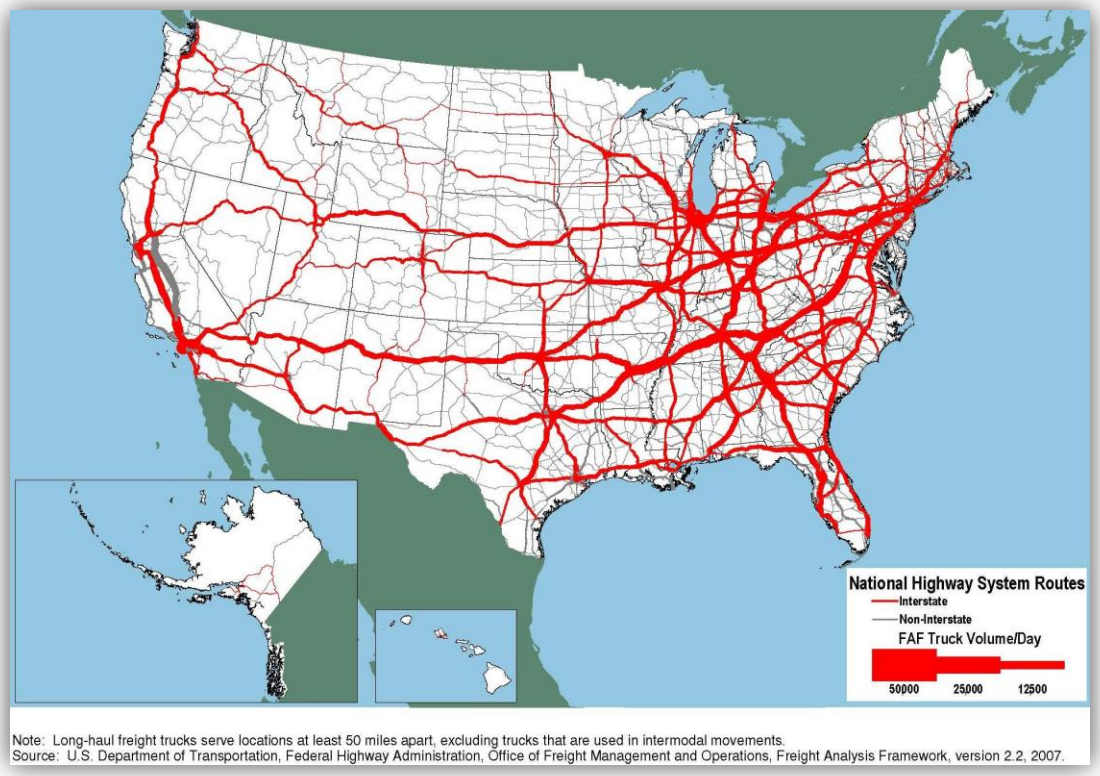
National Freight Overview

The Nation’s 116 million households, 7.7 million business establishments, and 89,500 government units are part of an enormous economy that demands the efficient movement of freight. While the U.S. economy has been affected by the recent global recession, it is

expected to fully recover and continue to grow. Long-term economic growth will result in even greater demand for freight transportation.

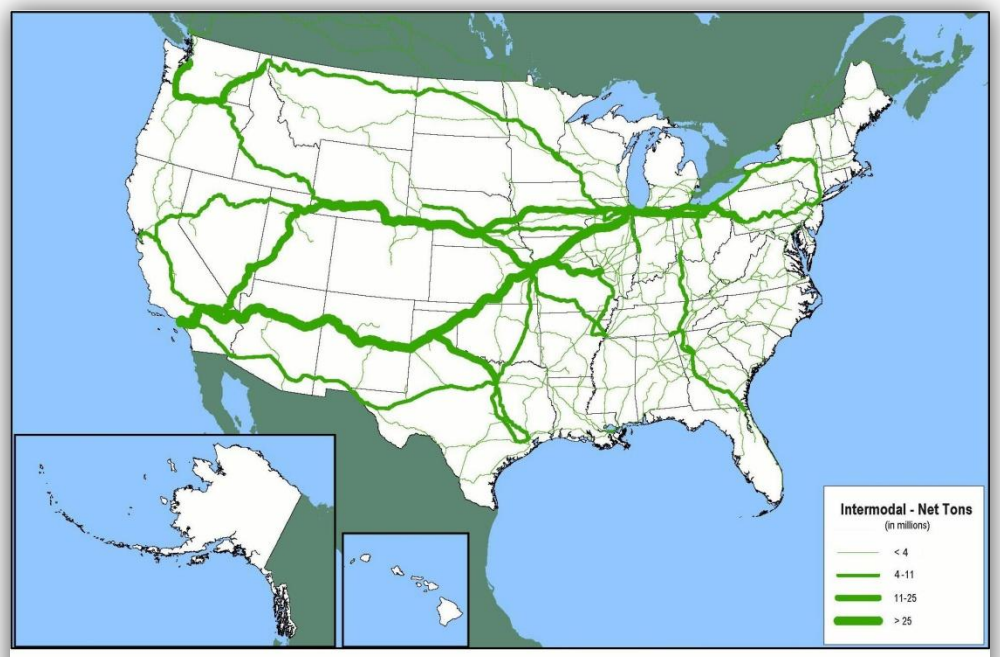
The private sector owns a significant share of assets in the transportation industry: $1.02 trillion in equipment plus $582.2 billion in private structures, compared to $532.4 billion in transportation structures plus $2.63 trillion in highways owned by public agencies. Freight railroad facilities and services are almost entirely private, while trucks in the private sector operate over public highways, air-cargo services in the private sector operate in public airways and mostly public airports, and ships in the private sector serve public waterways and both public and private port facilities. Pipelines are mostly in the private sector, although significantly controlled by public regulation. In the public sector, virtually all truck routes are owned by state or local governments. Airports and harbors are typically owned by public authorities (although terminals are usually owned or managed by private operators). Air and water navigation is mostly federal, and safety is regulated by all levels of government. Figure 4-19 illustrates the truck volumes on the National Highway System in 2002. Figure's 4-20, -21, and -22 illustrate current and future intermodal rail freight tonnage, volumes and capacities nationwide.

Figure 4-19: Average Daily Long-Haul Freight Truck Traffic on National Highway System in 2002



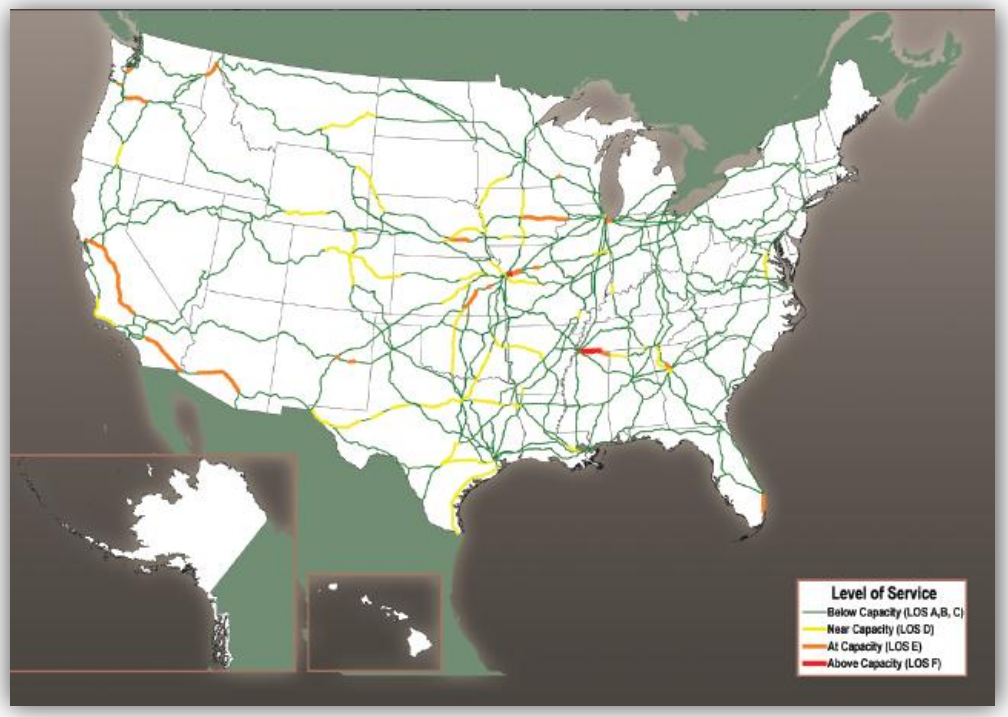
Note: Long-haul freight trucks serve locations at least 50 miles apart, excluding trucks that are used in intermodal movements.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 2.2, 2007.

Figure 4-20: Tonnage of Trailer-on-Flatcar and Container-on-Flatcar Rail Intermodal Moves: 2008



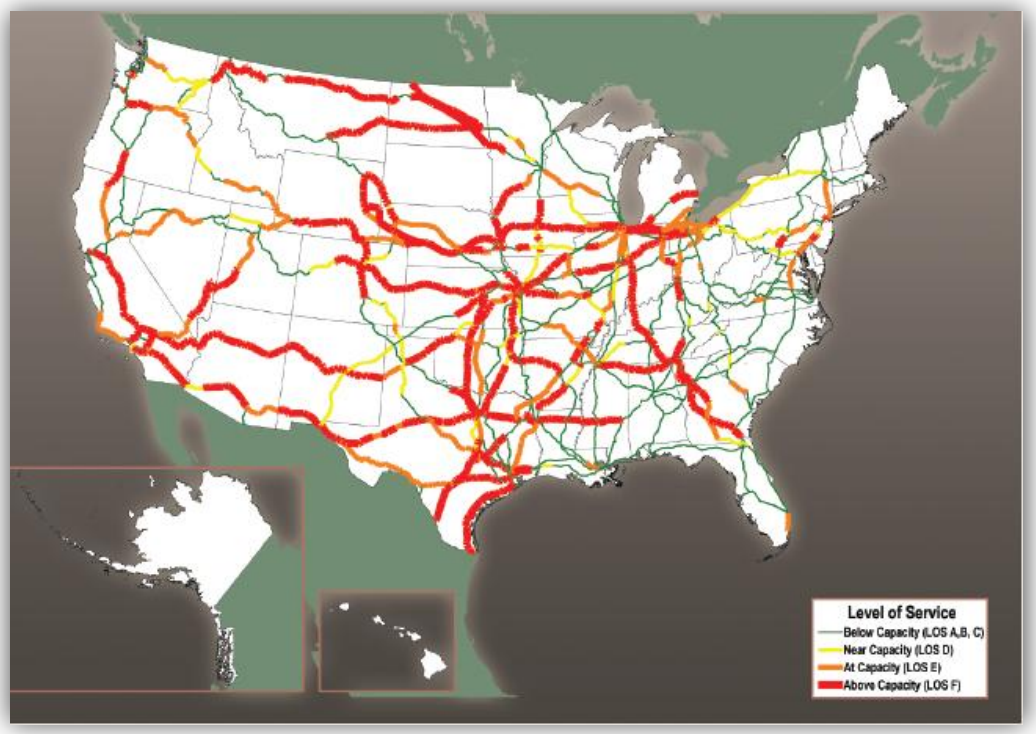
Source: U.S. Department of Transportation, Federal Railroad Administration, November, 2008.

Figure 4-21: Freight Train Volumes Compared to Current Capacity, 2007



Source: FHWA, Freight Story, 2008, p.20

Figure 4-22: Freight Train Volumes in 2035 Compared to Current Capacity



Source: FHWA, Freight Story, 2008, p.21

New York State Freight Overview

New York State is increasingly moving more tonnage and a higher value of freight. Table's 4-17, -18, -19, -20, and -21 show historical and projected overall freight by mode, tonnage, commodity and top trading partners shipped to, from and within New York State in 2002 and 2035. The increasing trends for freight activity in New York State are likely to transfer to Ulster County.

Table 4-17: New York State Freight Shipments by Weight in 2002 and 2035 (in Millions of Tons)

	2002						2035					
	Within State		From State		To State		Within State		From State		To State	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	256.5	100	152.2	100	215.8	100	347.0	100	160.3	100	491.5	100
Truck	223.2	87	96.9	64	120.2	56	318.6	92	88.1	55	308.7	63
Rail	1.7	<1	5.4	4	23.6	11	1.9	<1	1.8	1	43.7	9
Water	0.4	<1	1.5	1	18.7	9	0.7	<1	3.2	2	37.2	8
Air, air & truck	<0.1	<1	<0.1	<1	0.1	<1	<0.1	<1	<0.1	<1	0.7	<1
Truck & rail	<0.1	<1	0.2	<1	0.6	<1	<0.1	<1	0.1	<1	2.9	<1
Other intermodal[1]	0.3	<1	2.1	1	3.0	1	0.2	<1	0.9	<1	8.9	2
Pipeline & unknown[2]	31.0	12	46.0	30	49.5	23	25.5	7	66.2	41	89.4	18

[1]Other intermodal includes U.S. Postal Service and courier shipments and all intermodal combinations except air and truck; [2]Pipeline and unknown shipments are combined because data on region-to-region flows by pipeline are statistically uncertain. Note: Numbers may not add to totals due to rounding.

Source: FHWA, Office of Freight Management and Operations

Table: 4-18: New York State Freight Shipments by Value in 2002 and 2035 (in Millions of Dollars)

	2002						2035					
	Within State		From State		To State		Within State		From State		To State	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	177,962.5	100	238,262.3	100	297,475.8	100	238,867.3	100	293,829.7	100	1,272,210.1	100
Truck	149,027.3	84	164,720.3	69	215,403.5	72	210,538.8	88	193,719.0	66	1,004,813.6	79
Rail	110.8	<1	3,615.0	2	3,866.3	1	207.9	<1	3,581.2	1	7,824.7	<1
Water	53.4	<1	198.2	<1	3,343.3	1	73.8	<1	329.4	<1	6,277.9	<1
Air, air & truck	362.6	<1	4,312.9	2	14,968.4	5	164.7	<1	9,021.6	3	58,816.5	5
Truck & rail	42.2	<1	562.0	<1	2,533.7	<1	34.9	<1	155.1	<1	8,193.3	<1
Other intermodal[1]	11,495.9	6	47,647.4	20	39,678.8	13	12,348.9	5	71,157.3	24	143,323.4	11
Pipeline & unknown[2]	16,870.4	9	17,206.6	7	17,681.8	6	15,498.2	6	15,866.0	5	42,960.6	3

[1]Other intermodal includes U.S. Postal Service and courier shipments and all intermodal combinations except air and truck; [2]Pipeline and unknown shipments are combined because data on region-to-region flows by pipeline are statistically uncertain. Note: Numbers may not add to totals due to rounding.

Source: FHWA, Office of Freight Management and Operations

Table 4-19: New York State Top Commodities by Weight and Value in 2002

Tons (millions)						Value ($ millions)					
Within State		From State		To State		Within State		From State		To State	
Total	256.5	**Total**	152.2	**Total**	215.8	**Total**	177,962.5	**Total**	238,262.3	**Total**	297,475.8
Coal, n.e.c.[1]	41.0	Coal, n.e.c.[1]	34.5	Coal, n.e.c.[1]	58.2	Mixed freight	19,841.8	Electronics	23,374.0	Machinery	61,682.5
Gravel	32.0	Gasoline	14.6	Coal	12.8	Machinery	17,593.3	Misc. mfg. prods.	23,101.9	Electronics	38,684.1
Waste/scrap	26.3	Other foodstuffs	9.6	Gasoline	12.5	Unknown	11,770.1	Textiles/leather	22,925.6	Mixed freight	14,728.0
Other foodstuffs	21.0	Waste/scrap	9.0	Machinery	8.4	Pharmaceuticals	9,591.8	Machinery	20,866.6	Misc. mfg. prods.	13,519.9
Nonmetal min. prods.[2]	19.0	Nonmetal min. prods.[2]	8.7	Nonmetal min. prods.[2]	8.1	Coal, n.e.c.[1]	9,455.7	Mixed freight	18,829.2	Coal, n.e.c.[1]	13,424.2

[1]Coal and petroleum products, not elsewhere classified; [2]Nonmetallic mineral products.

Source: FHWA, Office of Freight Management and Operations

Table 4-20: New York State Top Trading Partners in 2002

	Tons (millions)			Value ($ millions)	
	Number	Percent		Number	Percent
Total	367.9	100	**Total**	535,738.1	100
Foreign	77.6	21	Foreign	91,314.0	17
NJ	82.9	23	NJ	78,157.9	15
PA	40.1	11	PA	49,558.7	9
CT	21.2	6	CA	28,935.3	5
KS	19.5	5	OH	26,561.3	5

Note: Numbers may not add to totals due to rounding.

Source: FHWA, Office of Freight Management and Operations

Table 4-21: New York State Top Trading Partners in 2035

	Tons (millions)			Value ($ millions)	
	Number	Percent		Number	Percent
Total	651.9	100	**Total**	1,566,039.7	100
Foreign	146.4	22	Foreign	304,207.0	19
NJ	106.5	16	NJ	355,483.0	23
PA	66.1	10	CA	114,143.7	7
KS	41.6	6	PA	99,725.0	6
CT	36.3	6	TX	91,289.6	6

Note: Numbers may not add to totals due to rounding.

Source: FHWA, Office of Freight Management and Operations

Waterborne Freight Overview

There are approximately 12,000 miles of navigable inland waterways used by the domestic shipping trades in the United States. This statistic does not include the Great Lakes merchant marine trade, which if included, would almost double the statistic. In 2002 the industry was served by 3,429 towboats, some 22,438 dry cargo barges, and 3,501 tanker barges. Excluding Great Lakes shipping, the inland trade industry moved 691 million metric tons of freight in 2000, which included one-fourth of the exported petroleum and chemical shipments and three-fifths of the exported grain shipments, as well as one-fifth of the domestic coal shipments.

In New York State, the Hudson River is a 315-mile river that flows from north to south through eastern New York (see Figure 4-23). It rises at Lake Tear of the Clouds, on the slopes of Mount Marcy in the Adirondack Mountains, flows past Albany and Kingston, and finally forms the border between New York City and New Jersey at its mouth before emptying into Upper New York Bay.

Figure 4-23: Hudson River, New York

Table 4-22 identifies total waterborne freight tonnage transported upbound and downbound the Hudson River between Waterford, New York (Albany area) and Upper Bay, New York (southern tip of Manhattan) from 1999 to 2008. Table 4-23 identifies all waterborne freight trips in 2008. Table 4-24 identifies the total waterborne freight delivered to the Rondout Harbor, Kingston from 2005 to 2008.

Table 4-22: All Hudson River Freight Traffic Between Upper Bay, NY and Waterford, NY, 1999-2008 (thousand short tons)

Year	Total	Year	Total	Year	Total	Year	Total
1999	18,472	2002	16,563	2005	16,499	**2008**	**16,589**
2000	17,514	2003	17,537	2006	18,140		
2001	18,701	2004	17,597	2007	16,463		

Source: US Army Corps of Engineers, Waterborne Commerce of the US, Part 1, 2008, p. 54

Table 4-23: All Hudson River Freight Trips Between Upper Bay, NY and Waterford, NY, 2008

Trips and Drafts of Vessels, 2008
(draft in feet)

Draft	Self Propelled Vessels				Non-Self Propelled Vessels		Self Propelled Vessels				Non-Self Propelled Vessels	
	Total	Dry Cargo	Tanker	Tow or Tug	Dry Cargo	Tanker	Total	Dry Cargo	Tanker	Tow or Tug	Dry Cargo	Tanker
HUDSON RIVER, NY, DEEPWATER IN UPPER BAY, NY TO WATERFORD, NY (CONSOLIDATED REPORT) - continued												
	Upbound						Downbound					
FOREIGN												
36	1	1	—	—	—	—	—	—	—	—	—	—
34	1	1	—	—	—	—	—	—	—	—	—	—
33	3	3	—	—	—	—	1	1	—	—	—	—
32	2	2	—	—	—	—	3	3	—	—	—	—
31	20	19	1	—	—	—	6	6	—	—	—	—
30	3	3	—	—	—	—	2	2	—	—	—	—
29	6	6	—	—	—	—	3	3	—	—	—	—
28	71	68	3	—	—	—	68	67	1	—	—	—
27	77	76	1	—	—	—	69	69	—	—	—	—
26	7	5	2	—	—	—	5	5	—	—	—	—
25	10	10	—	—	—	—	11	10	1	—	—	—
24	9	9	—	—	—	—	9	9	—	—	—	—
23	10	10	—	—	—	—	10	10	—	—	—	—
22	34	34	—	—	—	—	37	37	—	—	—	—
21	18	16	—	1	—	1	6	5	—	1	—	—
20	17	17	—	—	—	—	31	29	2	—	—	—
19	6	6	—	—	—	—	6	5	1	—	—	—
≤ 18	15	13	1	—	1	—	36	31	3	—	1	1
DOMESTIC												
Total	**109,416**	**103,637**	**67**	**1,205**	**3,136**	**1,371**	**109,416**	**103,636**	**67**	**1,206**	**3,137**	**1,370**
28	—	—	—	—	—	—	1	—	—	—	—	1
27	4	—	—	—	—	4	48	—	—	—	45	3
26	12	—	—	—	—	12	21	—	—	—	20	1
25	4	—	—	—	—	4	4	—	—	—	4	—
24	18	—	—	—	2	16	4	—	—	—	2	2
23	44	—	—	—	19	25	13	—	—	—	1	12
22	43	—	—	—	2	41	10	—	—	—	—	10
21	47	—	—	—	—	47	10	—	—	—	—	10
20	64	—	—	2	—	62	9	—	—	1	—	8
19	38	—	—	—	2	36	6	—	—	—	1	5
≤ 18	109,142	103,637	67	1,203	3,111	1,124	109,290	103,636	67	1,205	3,064	1,318
										Total trips:		**219,445**

Source: US Army Corps of Engineers, Waterborne Commerce of the US, Part 1, 2008, p. 187

Table 4-24: Commodities by Tonnage Delivered to Rondout Harbor, Kingston, NY, 2005-2008

Year	Harbor or Waterway	Commodity	Thousand Short Tons
2005	Rondout Harbor, Kingston	Fuel Oil (49), Fill Dirt (18)	66
2006	Rondout Harbor, Kingston	Fuel Oil	30
2007	Rondout Harbor, Kingston	Fuel Oil	35
2008	Rondout Harbor, Kingston	Fuel Oil	34
Total Short Tons			**165**

Source: US Army Corps of Engineers, Waterborne Commerce of the US, Part 1, 2005-2008

Local Truck Freight Overview

Truck-related freight data for Ulster County is limited in its availability. It is believed truck freight shipments overall in Ulster County are typical of comparable rural and metropolitan areas.

The Saugerties area recently studied truck traffic and freight movement issues as documented in the *Saugerties Area Mobility Analysis (SAMA) Final Report*. The nature of the roadway network in the Village of Saugerties, adjacent to the Hudson River,

provides few alternatives for routing truck traffic. Additionally, the narrow streets in the Village of Saugerties enhance the presence and noise of truck traffic. A trucker stakeholder workshop was organized to discuss trucker issues in the Village area and an origin-destination study was also conducted. Table 4-25 identifies traffic and truck-related data collected during the SAMA study effort.

Table 4-25: Saugerties Area Traffic Analysis, 2006

Roadway Segment	Daily Traffic	
	Volume	Percent Trucks
US Route 9W		
- North of Malden Tpk *	3000	8%
- South of Malden Tpk	3800	6%
- South of Village Line	16000	6%
- South of Spaulding Ln *	14,000	2%
- South of Rt. 32	12300	6%
- South of Glasco Tpk *	12830	3%
Route 32		
- at I-87 Overpass	18100	6%
- West of CSX RR crossing	11600	6%
- North of Rt. 212	11300	6%
- South of Peoples Rd *	9600	4%
- South of Route 9W *	4330	3%
Kings Highway		
- South of 32/212 OLAP *	5900	9%
Malden Tpk.		
- West of I-87 Overpass *	2100	9%
- West of Route 9W *	1300	16%
Glasco Tpk.		
- Kings Hwy. to Route 9W *	4600	5%

Source: UCTC SAMA Final Report, 2006, p. 12

SAMA traffic and truck data collected indicates that approximately seven through trucks traverse the Village on an hourly basis during business hours, typically from 0700 to 1500. There are several businesses/industries in the area that rely on trucking for product distribution. Sections of Route 32 and Kings Highway are currently designated as Truck Access Highways for Large Dimensioned Vehicles, by the NYSDOT. Through truck traffic volumes are low, but perceptible. It is the combined effect of adjacent land use, community setting, narrow travel lanes with adjacent parking, and a number of 90 degree turns in certain areas that cause operational difficulties and quality of life impacts as trucks pass through the Village. There is a need to minimize the negative effects of truck traffic within the Village of Saugerties.

The recently completed *Marlboro Hamlet Area Transportation Plan* identified truck traffic to be 8% of all traffic on US 9W in the Hamlet area based on 2007 traffic volume counts. Annual traffic volume growth rates for that study were estimated to be 1.3%.

The New York State Thruway Corridor is a major facilitator of regional freight movements. The Thruway currently has two (2) travel plazas located in Ulster County: 1) Malden Plaza (Town of Saugerties) and 2) Ulster Plaza (Town of Ulster). These facilities accommodate trucks and other vehicles and offer diesel fuel, restrooms, food and travel information. There is also an unimproved plaza located on the northbound side of the Thruway between Kingston and Saugerties where trucks and other vehicles can park and rest.

Freight Needs

There is a need to implement the *SAMA Study Final Report* recommendations to mitigate truck traffic issues in the Village of Saugerties. Due to projected increases in railroad freight movements through Ulster County, there is a need for the West Shore Railroad Corridor to be continuously double tracked. Access to the City of Kingston Rondout Port Facilities is adequate.

Railroad

CSX West Shore Line (River Line). The River Line is one of the most intensively-used single track freight corridors in the U.S. It serves as the primary freight conduit between the South, New Jersey and New England points. The River Line connects major classification yards in New Jersey with Selkirk Yard, southwest of Albany, which handles the majority of freight entering New England. This freight crosses the Hudson River just east of Selkirk Yard, where traffic splits to the (east of) Hudson Line and the Boston & Albany route to Springfield, Worcester and Albany. Selkirk also serves as CSX's gateway to the "Water Level Route" serving Syracuse, Rochester, Buffalo and points west. While the River Line has no scheduled passenger service, it does serve freight trains of varying priorities, ranging from high-priority intermodal (container and trailer on flat car) trains to general merchandise trains and local switchers.

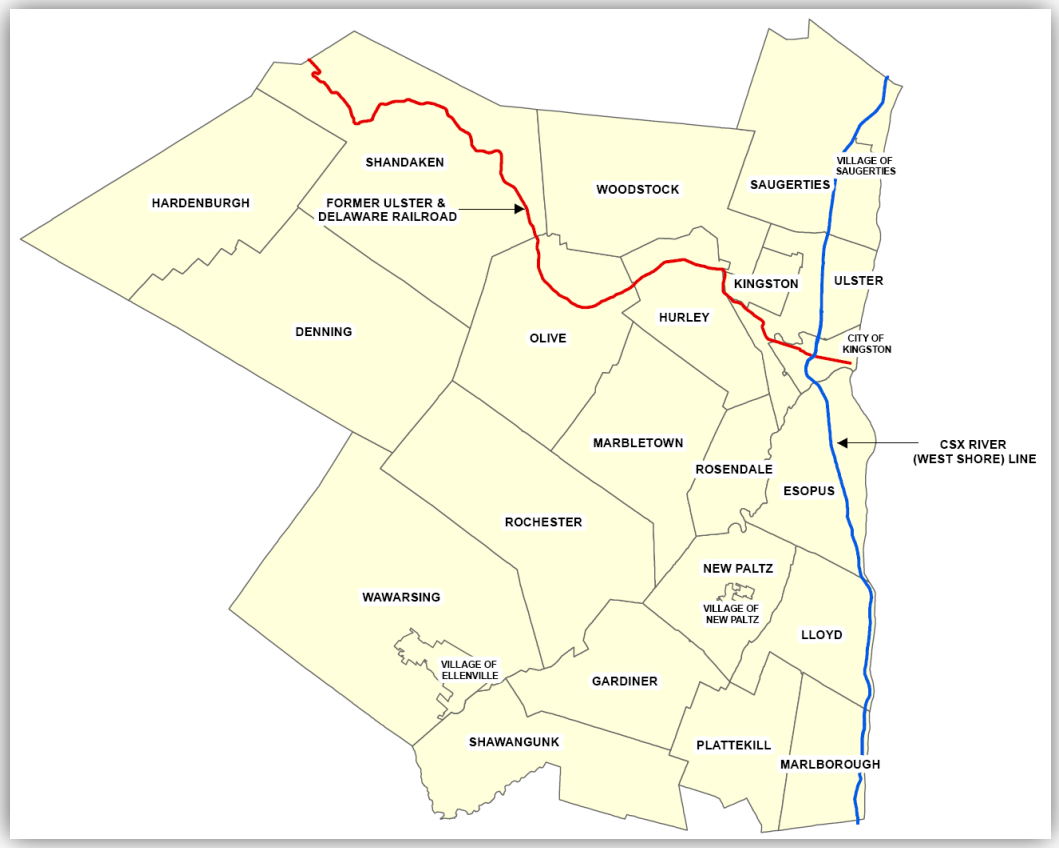
The River Line through Ulster County runs very close to the Hudson River at the northern and southern borders of the County. In the middle, the line swings inland, passing through the center of Kingston, owing to the many coves and inlets along the river. Kingston's CSX trackage serves a number of discrete functions in addition to through train movements. It includes an interlocked (signalized and remotely-controlled) passing siding over two miles in length, allowing trains in opposite directions to pass each other on what is otherwise a single track railroad. This siding is also used for higher priority trains to overtake lower priority trains in the same direction. Kingston's trackage also includes a local switching yard between the two main tracks, with a long yard switching lead oriented northward that connects with both the passing track and main track. Finally, there are several industry spurs in Kingston, all located in the double track territory between the Flatbush Avenue and Boices Lane grade crossings. River Line freight train operations are often congested as a result of intense train traffic and infrequently spaced passing sidings. Figure 4-24 shows the existing active railroad track layout in Ulster County.

With a typical average freight train speed of 30 to 40 MPH, and an average train length of just under 6,000 feet, this means that:

- From a rail operations perspective, a train waiting to leave Kingston could wait 30 or more minutes before an opposing direction freight train clears single track. If that opposing direction freight train has a speed restriction, an equipment problem or stops to set off/pick up a car at an industry siding, the waiting time will be even longer.

- From an emergency responder perspective, emergency vehicles without adequate advance warning that a train will be occupying the track at a grade crossing could be delayed by the critical minutes it would take to detour to an acceptable alternate route. If that opposing freight train has a speed restriction or an equipment problem, the delay could be increased beyond this already unacceptable level. Without an advance warning system, and with the volume of freight traffic through the area, it is also possible that yet another train could occupy a grade crossing at the selected alternate route, causing a second delay in the emergency response.

Figure 4-24: Active Railroad Corridors



- From a pedestrian perspective, the River Line railroad corridor periodically blocks railroad crossings in the City of Kingston and Town of Ulster for extended periods of time, at all times of day and night, and during all seasons of the year. Blocked crossings prevent pedestrian travel forcing pedestrians to wait in unsafe locations without weather protection.

- From a quality of life perspective, train horn noise near the River Line railroad corridor, especially in the City of Kingston area, is problematic for residents.

Ulster & Delaware Railroad Corridor. The majority of the approximately 40-mile right-of-way of the former Ulster & Delaware Railroad is currently leased by Catskill Mountain Railroad and owned by Ulster County and the City of Kingston. Currently, two operators utilize active sections of the railroad corridor: (1) Catskill Mountain Railroad and (2) the Trolley Museum of New York. Ulster County purchased the majority of the Ulster and Delaware Railroad right-of-way in 1979.

In 1991, the Catskill Mountain Railroad Co., Inc. (CMRR) signed a 25-year lease with the County, with the intent of providing tourist railroad service. Currently, CMRR operates the Catskill Mountain Railroad Scenic Train, (a 14-mile, 90-minute round trip excursion, three times per day between Phoenicia and Boiceville), and the Esopus Creek Shuttle, (a six-mile round trip, which operates hourly between Mount Pleasant and Phoenicia and provides service for both excursions and people tubing on the Esopus Creek). CMRR is a volunteer, for-profit corporation, with approximately 30-40 volunteers per year providing railroad operations and maintenance. To the west of the Belleayre Ski area in Delaware County, the Delaware and Ulster Rail Ride operates scenic train service between Arkville and Roxbury, and the 19-mile Catskill Scenic Trail has been developed from Grand Gorge to Bloomville.

A feasibility study was completed in 2006 to assess the possibility of implementing a rail plus trail system throughout the Ulster and Delaware Railroad Corridor. The study concluded that due to right of way constraints, it was only feasible to operate a rail plus trail system on certain segments of the corridor.

Railroad Needs

There is a need for railroad crossing safety improvements along the River Line Railroad Corridor. There is a need to implement railroad quiet zones throughout Ulster County to mitigate train horn noise. There is a need for advanced technologies to detect the presence of, and predict the arrival of, freight trains, therefore, enabling motorists and emergency responders to avoid delays resulting from blocked railroad crossings. There is a need for pedestrian “wait stations” positioned near railroad crossings to enable pedestrians to have shelter and a safe place to wait out train delays. There is a need for an additional railroad grade separation facility at the intersection of Flatbush Avenue and the River Line Railroad Corridor in the City of Kingston to serve motorists, pedestrians, emergency responders, and address Environmental Justice concerns. There is a need for pedestrian-oriented grade separation facilities between Flatbush and Smith Avenues in

the City of Kingston. There is a need to define the future of the county owned Ulster and Delaware Railroad Corridor.

Aviation

Ulster County has three public use general aviation airports. These airports include the *Kingston-Ulster Airport* near Route 32/Flatbush Avenue in the Town of Ulster, *Jospeh Y. Resnick Airport* near Ellenville, and the Kolbert Airport near Wallkill, New York.

The Kingston-Ulster Airport is a public use airport located in the Town of Ulster. Field elevation is 149 ft. MSL (Mean Sea Level). It utilizes a single 3,100 x 60 foot asphalt surface runway heading designated as 15/33. The fixed base operator (FBO), River Aviation, offers aircraft rentals, flight instruction, (recreational, private, instrument, and commercial training), and sightseeing flights around the Hudson Valley. The airport mostly serves Ulster County. Approximately 34 single engine aircraft and one multi-engine aircraft are based at the airport. For the 12 month period ending November 2, 2007, approximately 22 aircraft per day operated at the airport. Of this amount, 88% were local general aviation and 12% transient general aviation. State Route 32 is the nearest federal aid eligible road serving the Kingston-Ulster Airport.

Joseph. Y. Resnick Airport is a Town of Wawarsing-owned public use airport located near the Village of Ellenville. Field elevation is 292 ft. MSL. It utilizes a single 3,838 x 75 ft. asphalt surface runway heading designated 04/22. Approximately 27 single engine aircraft are based at the airport. For the 12 month period ending November 2, 2007, approximately 113 aircraft per week operated at the airport. Of this amount, 85% were local general aviation, 14% transient general aviation, and 1% air taxi. State Route 209 is the nearest federal aid eligible road serving the Joseph. Y. Resnick Airport.

Kobelt Airport is a public use airport owned by Wallkill Airpark, Inc and is located three nautical miles northeast of the central business district of the Hamlet of Wallkill. According to the FAA's National Plan of Integrated Airport Systems for 2007-2011, it is categorized as a reliever airport. Although most U.S. airports use the same three-letter location identifier for the FAA and The Air Transport Association (IATA), this airport is assigned “N45” by the FAA but has no designation from the IATA.

Kobelt Airport covers an area of 125 acres with a field elevation of 420 ft. MSL. It has one runway heading designated 03/21 with an asphalt surface measuring 2,864 by 50 feet. For the 12-month period ending November 4, 2007, the airport had 15,000 aircraft operations, an average of 288 per week. Of this total, 67% of trips were local general aviation and 33% of trips were transient general aviation. At that time there were 36 aircraft based at this airport: 97% single-engine and 3% helicopters. State Route 208 is the nearest federal aid eligible road serving the Kobelt Airport.

Aviation Needs

Ulster County public use airports serve a small population of generation aviation aircraft. In terms of surface transportation needs, the airports identified above each have adequate access to the Ulster County roadway system.

Security

The purpose of this section is to provide an overview of transportation security, and to discuss security-related issues and ongoing efforts that are currently being coordinated to protect transportation networks and facilities at the Federal, State and regional levels. This section will consider a variety of responses to national security issues as they pertain to transportation, and will focus on a number of agencies and transportation security efforts at various levels of government. While it is acknowledged that there are many smaller agencies, offices, consortiums, groups and committees that are committed to providing various aspects of security, this section will address some of the primary governmental and regional efforts that directly impact, assess, or implement measures to protect transportation facilities, systems and networks.

Transportation Security Concepts

When reviewing transportation security, immediately following the September 11, 2001, terrorist attacks on the United States, many agencies began to develop and implement policies and programs to provide for the safety and security of the nation's transportation networks. Also, recent attacks on foreign public transit systems have heightened the need for increased transit security efforts in American cities. Although programs for transportation safety have been around for many years, the concept of planning for transportation security and implementing security procedures on different modes of transportation is relatively new. In some cases, the phrases "safety" and "security" are used simultaneously or interchangeably by many agencies to describe planning or programming components of broader transportation programs or initiatives. However, the intent of the words "safety" and "security" are different from one another. By definition, safety can be described as the "freedom from danger," whereas security is the "freedom from intentional danger." While implementing safety programs for transportation is intended to protect the motoring and nonmotoring public by reducing fatalities, injuries and crashes, the implementation of security measures and security programs are developed to identify and prevent attacks that are intended to harm people, facilities, modes of travel and important transportation infrastructure.

Transportation security efforts consist of programs, measures or initiatives that are primarily focused on an overall transportation system, or network, which collectively comprises our overall means of travel. However, another important aspect of transportation security is concerned with maintaining the American economy and allowing for the free flow of goods. Protecting free trade and allowing for the safe movement of imports and exports is vital to the economy of the United States, and involves providing a high level of security for the nation's overall freight system.

Therefore, when considering transportation mobility and the movement of goods, the implementation, or planning for transportation security measures or policies is crucial to protecting important transportation infrastructure. Important infrastructure includes a variety of elements such as roads and freeways; local and regional road networks; bridges; tunnels; emergency access roads; connector roads; railroads; ports; intermodal passenger facilities; intermodal cargo facilities; freight corridors; pedestrian and bicycling networks; airports; pipelines; public transit systems and evacuation corridors.

Another aspect of providing for secure transportation has to do with the subject of "emergency planning." While transportation security is directly related to preventing attacks that are intended to harm people and damage facilities, harm modes of travel, and harm important transportation infrastructure, emergency planning is intended to respond to unforeseen natural events and disasters. A security incident is one that directly pertains to acts of terror resulting in regional, local or specific location attacks on people, sites, facilities, or transportation infrastructure; whereas emergency response planning efforts maintain responsibility for preparedness, and response and recovery to natural disasters such as earthquakes, floods, hurricanes, violent weather, fires, and similar incidents. However, there are several agencies that coordinate on security and safety matters for the purpose of homeland security. The term "homeland security" refers to domestic governmental actions designed to prevent, detect, respond to, and recover from acts of terrorism, and also respond to natural disasters. Homeland security is a definition, or broader concept that typically refers to a concerted, national effort to protect the homeland by all levels of government at the Federal, State, local and tribal levels, for the sole purpose of protecting the territory of the United States from internal and external hazards.

The following sections of this chapter will address a variety of transportation security efforts at various levels, and also provides a summary that identifies the potential role of the Ulster County Transportation Council (UCTC) in regional transportation security efforts. The information located within Table 4-26 identifies a list of Federal agencies, State agencies, and regional efforts within the Ulster County area that actively address transportation security concerns on a regular basis. Table 4-26 displays each agency responsible for addressing the primary transportation "sectors of concern" relating to roads, transit, air transportation facilities, cargo facilities and commodity movements, and transportation security planning. While these efforts may range from the active implementation of programs and measures, to lesser actions of simply coordinating activities with other agencies, the role of each agency enhances security on the UCTC regional transportation network. The agencies identified in Table 4-26 collectively represent a multifaceted and layered approach to protecting and maintaining security and responding to potential incidents throughout Ulster County.

U.S. Department of Transportation Programs

The U.S. Department of Transportation is responsible ensuring a fast, safe, efficient, accessible, and convenient transportation system that meets national interests and enhances the quality of life for the nation's citizens. The department consists of 11

administrations, which are collectively responsible for establishing national transportation policies pertaining to highway planning, development and construction; mass transit; aviation; railroads; ports, waterways and pipelines; and transportation safety and security issues. Individual administrations coordinate with officials at the State, regional and local levels on fiscal, regulatory, administrative and policy-related matters. Although each administration with the U.S. Department of Transportation is involved with different aspects of transportation security, the following information will provide a brief overview of agencies that are directly involved in various aspects of Ulster County's regional transportation system. These agencies include the Federal Highway Administration, the Federal Transit Administration, the Federal Railroad Administration, and the Federal Aviation Administration.

Table 4-26: Agencies and Security Efforts by Sectors of Concern

AGENCY	SECTOR OF CONCERN				
	ROADS	TRANSIT	AIR TRANSPORTATION FACILITIES	CARGO FACILITIES AND COMMODITY MOVEMENTS	TRANSPORTATION SECURITY PLANNING
U.S. DEPARTMENT OF TRANSPORTATION	●	●	●	●	●
Federal Highway Administration	●				●
Federal Transit Administration		●			●
Federal Railroad Administration		●			●
Federal Aviation Administration			●	●	●
U.S. DEPARTMENT OF HOMELAND SECURITY	●	●	●	●	●
Transportation Security Administration			●	●	●
U.S. Customs and Border Protection			●	●	●
Federal Emergency Management Agency	●				
U.S. Coast Guard				●	
Transportation Research Board					●
STATE OF NEW YORK					
NYS Thruway Authority	●				●
NYS Bridge Authority	●				●
NYS Department of Transportation	●	●	●	●	●
Office of Cyber Security and Critical Infrastructure (CSCIC)					●
Emergency Management Office					●
Metropolitan Transportation Authority		●			●
Homeland Security Office	●	●	●	●	●
Port Authority of New York New Jersey		●	●	●	●
State Police	●				●
LOCAL EFFORTS					
Emergency Communications/ Emergency Management	●	●		●	●
Ulster County Area Transit		●			
Kingston Citibus		●			

Federal Highway Administration

The Federal Highway Administration (FHWA) is responsible for ensuring that the nation's roads and highways are safe and efficient, and have access to the most current forms of technology that allows for a high-level of system performance. Through a variety of programs, the FHWA provides technical and financial support to State, local and tribal governments in an effort to allow for the construction, improvement, and

preservation of the National Highway System. Assistance is also provided for roads on Federal lands, such as national parks and forests.

In time of national disasters or external security threats, the National Highway System serves as an essential component of the nation's defense mobility. The FHWA often conducts emergency preparedness meetings with State officials and members of the U.S. Military to specifically address a variety of issues pertaining to military deployment coordination during times of natural disasters and national security emergencies. The FHWA has worked with the U.S. Department of Defense, and is committed to strengthening deployment coordination and military mobilization during security emergencies by enhancing the conditions of the Strategic Highway Network (STRAHNET) and its connectors.

Shortly after September 11, 2001, the FHWA set up a National Infrastructure Security Committee at the U.S. Department of Transportation, to address intermodal security issues across the United States. Since then, FHWA has worked with States and a variety of local transportation agencies to increase the awareness and understanding of emergency planning and security operations. During September of 2003, the FHWA provided recommendations for maintaining national bridge and tunnel security. This was primarily done to develop strategies and practices for deterring and mitigating potential attacks. The FHWA has also worked with a number of states to identify vulnerable transportation facilities, and has conducted regional emergency management workshops. The FHWA has also supported communication links between public safety departments and the agencies responsible for providing operations; addressed the deployment of Intelligent Transportation System (ITS) projects; prepared a number of case studies addressing transportation security responses; and continues to meet with a variety of officials to discuss security issues as part of their ongoing coordination efforts.

Federal Transit Administration

The Federal Transit Administration (FTA) provides financial assistance to develop new transit systems throughout the country, and to improve and maintain other transit systems that are already in existence. The FTA is responsible for distributing grant funds to State and local transit providers, who in turn are responsible for operating their own systems and programs in accordance with Federal guidelines. The FTA also oversees many initiatives and programs that are directly related to transit, livable communities, financing, database maintenance, human services coordination, and Intelligent Transportation Systems (ITS).

The FTA has also been very active through their attempts to develop a number of security measures. A primary focus of FTA is to integrate security throughout individual transit-provider programs, operations and transit infrastructure. In an effort to protect the general public from threats and terrorist attacks, the FTA has implemented provisions for direct funding and providing initiatives and assistance to local transit agencies throughout the country. In response to the September 11, 2001, terrorist attacks on the United States, the FTA announced a Five Point Initiative. FTA has begun the implementation of this

initiative by assisting transit agencies in completing vulnerability assessments of their respective systems; by deploying technical assistance teams to a number of transit providers; by awarding grant funds to conduct emergency drills; by accelerating technology and research projects and initiatives by providing facilitated training; and by working to form regional collaborations and networks for the purpose of responding to security and emergency situations.

The FTA also addressed security issues by developing a comprehensive list of Security Program Action Items for transit corporations and agencies, which represent the most important elements for incorporation into individual System Security Program Plans. These items are based on good security practices identified through FTA's Security Assessments and Technical Assistance that is provided to the largest transit agencies. FTA is working with transit agencies to incorporate these practices into their programs.

In another effort to assist transit corporations and agencies throughout the country, FTA has developed a comprehensive, 20-point list of entitled Security Program Action Items. This checklist was specifically developed for transit agencies to incorporate the most important security elements pertaining to transit into their System Security Program Plans (SSPS). The items on the checklist are based on a compilation of best security practices that were identified through FTA's technical assistance and outreach efforts to develop security assessments for transit agencies and corporations. FTA also assesses a number of transit operation elements, and recommends the concept of integrating layered security systems into transit operations. The FTA also coordinates activities with the Transportation Security Administration, the intelligence community, and transit agencies and corporations throughout the country in an effort to continually enhance its transit security strategies.

Federal Railroad Administration

The Federal Rail Administration (FRA) is primarily responsible for enforcing rail safety; providing a number of assistance programs related to rail; addressing issues related to intermodal transportation; and conducting research for rail transportation policy and safety. The FRA is also responsible for addressing security-related issues. Through joint efforts with the U.S. Department of Homeland Security, the Transportation Security Administration (TSA), and the Federal Transit Administration (FTA), the FRA is working toward establishing initiatives that are intended to enhance security efforts. The FRA's efforts have been directed at addressing both passenger rail and freight rail security issues.

Shortly after the terrorist attacks on September 11, 2001, the FRA worked closely with the U.S. Department of Homeland Security to conduct comprehensive vulnerability assessments on passenger rail networks that operate in highly dense urban settings. The FRA is responsible for administering Federal grants to the Amtrak rail system throughout the United States, and has been working toward the assessment of Amtrak's nationwide passenger rail system in an effort to ascertain passenger rail's level of preparedness toward external security threats and acts of terrorism.

When assessing the movement of freight over rail corridors, the FRA also works with the U.S. Department of Homeland Security on issues related to implementing security action items on the movement of hazardous materials.

The FRA also works with the Association of American Railroads, which is a consortium of the nation's major freight railroads. Shortly after September 11, 2001, the Association of American Railroads assessed the nation's 142,000-mile rail system, and focused on areas pertaining to the identification and protection of critical assets; the movement and transportation of hazardous materials; freight operations; and the intensification of inspections. As a result of this assessment, they created a full-time operations center referred to as the Railway Alert Network (RAN), which is certified by the U.S. Department of Defense. This center works to monitor various levels of intelligence on potential threats to the national rail network. As part of this process, the Association of American Railroads also created the Surface Transportation Information Sharing and Analysis Center, which collects and analyzes physical and cyber threats to national rail freight security.

Federal Aviation Administration

The Federal Aviation Administration (FAA) is primarily responsible for regulating civil aviation to promote safety and to develop civil aeronautics, new aviation technologies, and to oversee a system of air traffic control and navigation for civil and military aircraft throughout the country. The FAA also works to control aircraft noise, regulates commercial air transportation, and researches and develops the National Airspace System. In addition, the FAA maintains an Internal Security function that specifically works to reduce and eliminate risks associated with terrorism, sabotage, espionage, theft, vandalism and a variety of other criminal acts. Although the FAA has an internal security function, it also maintains an active and open working partnership with the Transportation Security Administration (TSA). The TSA is responsible for screening airline passengers in an effort to minimize security threats. The TSA is also responsible for screening all air cargo materials and onboard airline baggage, and ensures that all commercial air activity is free from potential security risks.

U.S. Department of Homeland Security Programs

The U.S. Department of Homeland Security (DHS) was established during the aftermath of the September 11, 2001, attacks on the nation. The agency is responsible for protecting the security of the United States from external threats and terrorist attacks, and for responding to natural disasters and domestic emergencies. The Department was created from 22 existing Federal agencies, and today consists of a number of directorates and eight other departments. As part of the agency's mission, the DHS leverages resources at the Federal, State and local levels, and thereby coordinates the transition of multiple agencies and layers of government into a single, integrated agency that is focused on protecting the overall security of the American people. As reported by the DHS, there are currently more than 87,000 different governmental jurisdictions at the Federal, State and local levels that are charged with employing homeland security responsibilities. This

is a strategy of maintaining a complementary system that connects all levels of government without duplicating efforts, resulting in a "national mission" of security.

The DHS is primarily concerned with items such as border security, critical infrastructure protection, emergency preparedness and response, domestic intelligence activities, biodefense, researching and implementing security technologies, the detection of nuclear and radiological materials, and the provision of transportation security.

U.S. Customs and Borders Protection

The U.S. Customs and Border Protection (CBP) agency is responsible for the overall protection of the country's borders, and for facilitating the flow of legal trade and travel. The CBP prevents terrorists and dangerous weapons from entering into the country, and enforces hundreds of U.S. Trade and immigration laws. The agency processes incoming and outgoing passengers, pedestrians, cargo, vehicles and ships, and protects the nation's borders with Canada and Mexico. The CBP is also responsible for protecting the nation's shorelines. Aside from border patrol enforcement, the CBP is also responsible for processing all incoming trade via truck, rail, ship and sea containers, and for managing the nation's 317 ports of entry at terminals, ports and airports. After September 11, 2001, the CBP established the Container Security Initiative (CSI), which identifies high-risk containers; uses technology to screen high-risk containers at a faster pace; uses smarter and secure, tamper proof containers; and prescreens containers before they are shipped. This level of scrutiny is extremely vital to national security, because once received, the majority of these imported containers are shipped from American ports of entry to all destinations throughout the country, including New York.

Transportation Security Administration

The Transportation Security Administration (TSA) was created on November 19, 2001, as part of the Aviation and Transportation Security Act. The agency was created to fill three separate mandates, which included the creation of a new Federal agency with the responsibility for providing security on all modes of transportation; to recruit and train security officers for commercial airports at 450 locations; and to take on the responsibility of screening all commercial luggage and packages for explosives and other threats. The TSA maintains the mission of protecting air passengers, and has deployed Federal air marshals aboard commercial air flights. The Federal air marshals serve as the primary law enforcement entity within TSA, and also work closely with a variety of other law enforcement agencies in order to provide security for airline passengers. The TSA also maintains programs that place an emphasis on law enforcement training teams, canine detection teams, deploying Federal flight deck officers, hazardous materials training, crew member self defense, a registered traveler program, and the implementation of transit and rail inspection pilot programs. The TSA has also created an Air Cargo Program, which has recommended enhancements to the current security requirements for various types of cargo carried on commercial aircraft.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for preparing the nation for potential hazards, and effectively coordinating and managing a national response to an array of disasters such as earthquakes, hurricanes, tornadoes, fires, floods, hazardous material spills, and terrorist threats. FEMA works in coordination with other organizations and agencies that are part of the nation's emergency management system. Some of FEMA's primary goals are focused on reducing the loss of life and property; minimizing the level of disruption and suffering affiliated with the consequences of a national disaster; serving as the nation's portal for emergency management information and services; and preparing the nation to address issues and consequences associated with terrorist activities. FEMA functions as the independent Federal agency responsible for leading the nation's efforts to prepare for, prevent, respond to, and recover from disasters.

Under the U.S. Department of Homeland Security, FEMA has formed the internal Office of National Preparedness. This FEMA office serves to implement terrorism incident management programs, and is responsible for coordinating efforts with State and local governments to prepare functions that are necessary to manage natural disaster and terrorist related emergencies. FEMA works in coordination with other agencies, and also works to address issues pertaining to transportation mobility and security at different levels of government during times of natural disasters and terrorist attacks.

U.S. Coast Guard

The United States Coast Guard is a branch of the United States Armed Forces and one of seven uniformed services. The Coast Guard is a maritime, military, multi-mission service unique among the military branches for having a maritime law enforcement mission (with jurisdiction in both domestic and international waters) and a federal regulatory agency mission as part of its mission set. It operates under the Department of Homeland Security during peacetime, and can be transferred to the Department of the Navy by the President or Congress during time of war.

Immediately after the September 11, 2001 attacks, the Coast Guard imposed restrictions on traffic in American waters. Vessels over 300 tons displacement must file notice within 96 hours of estimated time of arrival in American waters, or 24 hours for short voyages. Liquefied natural gas carriers are forbidden to enter American waters without escort and forbidden to anchor near major cities. Coast Guard and Auxiliary units patrol key harbors and waterfronts and intercept foreign merchant vessels for identification and crew checks. The local Coast Guard commander has legal authority over shipping in American waters as Captain of the Port. This role has increased in importance since the Sept. 11 attacks. The Captain of the Port can declare inland waters in his jurisdiction to be "special security zones", wherein commercial vessels must report their movements to the nearest Coast Guard station. Ulster County is host to one Coast Guard Station located at the mouth of the Esopus Creek and Hudson River near the Village of Saugerties.

Transportation Research Board

The Transportation Research Board (TRB) is a division of the National Research Council, and functions within an advisory role to the Federal government and other entities on subject matters of national importance. The primary purpose of the TRB is to promote innovation and progress through solid transportation research. TRB has been very active in the process of providing research on the subject of transportation system security, and has collaborated with all levels of Federal government and the private sector. The TRB conducts special studies on a number of transportation policy issues and research items at the request of the United States Congress, and at the request of government agencies.

New York State Thruway Authority

The Governor Thomas E. Dewey Thruway is a 570-mile superhighway crossing New York State. Operationally, the Authority is segmented into four regional divisions - Albany, Buffalo, Syracuse and Suffern (referred to as New York Division) - with Administrative Headquarters located in Albany.

In Ulster County, the 39 miles of this north-south interstate highway (I-87) includes three interchanges. Interchange 18 (New Paltz), Interchange 19 (Kingston), and Interchange 20 (Saugerties) provide access to and from the Thruway for the southern, middle, and northern segments of the county. A Travel Plaza in each direction of travel provides motorists various amenities on the Thruway. The New York State Thruway Authority works closely with the NYS Department of Homeland Security, NYS Police and local law enforcement agencies to insure the security and operation of the Thruway system.

New York State Bridge Authority

The New York State Bridge Authority (NYSBA) is a State agency charged with the oversight, construction, maintenance and operations of the Kingston-Rhinecliff and Mid Hudson Bridges spanning the Hudson River, among others. The law creating the NYSBA is found in the Bridge Authority Act, currently Sections 525 to 542 of the New York Public Authorities Law and defines the Bridge Authority's mission as "to maintain and operate the safe vehicle crossings over the Hudson River entrusted to its jurisdiction for the economic and social benefit of the people of the State of New York." The crossings listed in the statute are: the Rip Van Winkle Bridge between Hudson and Catskill; the Kingston-Rhinecliff Bridge; the Mid-Hudson Bridge between Poughkeepsie and Highland; the parallel Newburgh-Beacon spans; and the Bear Mountain Bridge. The Authority believes its mandate imposes a responsibility to provide reliable, safe and convenient access across the river to all lawful traffic and to achieve that goal within the framework of a sound long-term financial policy. The New York State Bridge Authority works closely with the NYS Department of Homeland Security, NYS Police, the U.S. Coast Guard and local law enforcement agencies to insure the security and operation of its five Hudson River crossings. Under the auspices of the Federal Department of

Homeland, Port Security Program, the Bridge Authority has a multi-phase plan to add additional security measures and harden critical security points.

New York State Department of Transportation

The New York State Department of Transportation (NYSDOT) is a State agency responsible for coordinating and developing comprehensive transportation policy for the State; coordinating and assisting in the development and operation of transportation facilities and services for highways, railroads, mass transit systems, ports, waterways and aviation facilities; and, formulating and keeping current a long-range, comprehensive statewide master plan for the balanced development of public and private commuter and general transportation facilities. Additionally, NYSDOT is responsible for administering a public safety program for railroads and motor carriers engaged in intrastate commerce; directing state regulation of such carriers in matters of rates and service; and, providing oversight in matters relative to the safe operation of bus lines, commuter railroads and subway systems that are publicly subsidized through the Public Transportation Safety Board.

NYSDOT has within its organization an Office of Modal Safety and Security to address security issues on the State's transportation system. The mission of the Office of Modal Safety and Security (OMSS) is to promote the safe transportation of people and goods in New York State, and to assist passengers and freight transportation providers in establishing proactive safety, consumer and accident prevention programs, and in complying with safety and regulatory requirements. The OMSS oversight authority encompasses bus safety, truck safety, rail safety, motor carrier safety and compliance, commercial vehicle credentialing and permitting and security program monitoring and coordination.

The Commissioner of Transportation, as integrator for statewide transportation, will actively promote effective coordination between the State's public and private transportation operators and other public entities with responsibility for security.

The following areas will be the focus of coordination efforts:

- In consultation with State and Federal homeland security agencies, operating agencies will develop vulnerability and risk assessments for transportation facilities based upon the potential cost of an event (loss of life, property damage, projected cost of clean-up and recovery, projected cost of long-term health or economic consequences).

- Specific facilities which are most essential or critical to the functioning of transportation or to other crucial infrastructure sectors will be identified.

- Mitigation efforts among and between all transportation operators will be undertaken to implement strategies to minimize the risk of damage to their at-risk facilities and vehicles.

- Federal and State agencies with security responsibility will ensure that all transportation operators and local governments coordinate in planning for the response to an event. This effort at emergency response will include the planning, training, and exercise. This effort will coordinate and identify transportation alternative strategies in the event of an attack.

- Transportation operators will coordinate and collaboratively work with the New York State Office of Cyber Security and Critical Infrastructure Coordination (CSCIC) to ensure cyber readiness, resilience, and response efforts. They will work closely to establish partnerships and ensure that there is facilitated communication and information sharing between both public and private sector transportation operators.

- Real-time information exchange and collaboration will be promoted between and among transportation operators and the public sector, including CSCIC for geographical information technologies and information on critical infrastructure assets, to quickly assess the situation, identify available assets, and effectively coordinate efforts both during and after an event.

- NYSDOT will continue to work with the Office of Homeland Security, Metropolitan Transportation Authority, Port Authority of New York and New Jersey, and New York City Department of Transportation through Bi-weekly Agency Heads Meetings and their Transportation Security Subcommittee to collaborate on best security practices across all modes of transportation.

- Emergency management and evacuation planning is lead by the county, municipal and local governments who are responsible for preparing evacuation plans for their respective areas in the case of natural and man-made disasters. The Katrina hurricane and subsequent flooding showed the importance of having and effectively implementing such plans and for coordinating with all potentially affected parties. The State lead for these issues is the SEMO which will consider the need and support for inter-area and interagency cooperation. NYSDOT will coordinate and where appropriate work with the appropriate State and Federal partners to support efforts at all levels so that transportation considerations are addressed.

New York State Office of Cyber Security and Critical Infrastructure Coordination

The New York State Office of Cyber Security and Critical Infrastructure Coordination (CSCIC) was established in September 2002 to address New York State's cyber security readiness and critical infrastructure coordination. In focusing on the State’s cyber readiness and critical infrastructure coordination needs, it is important to address issues from both a cyber and physical perspective. Being cognizant of the interdependencies between cyber and physical events is crucial. The efforts to address cyber events must include an awareness of the potential physical impacts; similarly, addressing physical

events requires an awareness of the potential cyber impacts. To that end, the CSCIC coordinates closely with the NYS Office of Homeland Security (OHS). This close partnership ensures that the information sharing and communication required to secure New York State's assets are maximized.

CSCIC is responsible for leading and coordinating New York State's efforts regarding cyber readiness, geographic information systems (GIS) and critical infrastructure preparedness. CSCIC works collaboratively with the public and private sectors to foster communication and coordination. Two key initiatives coordinated by CSCIC, in collaboration with OHS, include the Public/Private Sector Cyber Security Workgroup , which serves to facilitate information sharing between the public and private sectors; and the Multi-State Information Sharing and Analysis Center (ISAC), which focuses on facilitating communication among States regarding cyber and/or critical infrastructure readiness and response efforts.

New York State Emergency Management Office

The mission of the New York State Emergency Management Office (SEMO) is to protect the lives and property of the citizens of New York State from threats posed by natural or man-made events. To fulfill this mission, SEMO coordinates emergency management services with other federal and State agencies to support county and local governments. SEMO routinely assists local government, volunteer organizations, and private industry through a variety of emergency management programs. These programs involve hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

During disasters, SEMO coordinates the emergency response of all State agencies to ensure that the most appropriate resources are dispatched to impacted areas. Since 1954, New York State has received 53 federal emergency or disaster declarations, 35 of which occurred since 1995. SEMO coordinated the State response and recovery efforts in all of those events, including the terrorist attacks on the World Trade Center on September 11, 2001.

SEMO's legal foundations are in the Federal Civil Defense Act of 1950 and the New York State Defense Emergency Act of 1951. Article 2-B of the New York State Executive Law, enacted in 1978, created the New York State Disaster Preparedness Commission and shifted emphasis from civil defense to all-hazards preparedness. Administrative and program support are provided by SEMO to the Disaster Preparedness Commission, which functions as the Governor's policy management group for the State's emergency management program.

Metropolitan Transportation Authority

The Metropolitan Transportation Authority (MTA) is a public benefit corporation responsible for public transportation in New York State, serving 12 counties in southeastern New York, along with 2 counties in southwestern Connecticut under

contract to the Connecticut Department of Transportation, carrying over 11 million passengers on an average weekday systemwide, and over 800,000 vehicles on its nine toll bridges and tunnels per weekday.

In the wake of the September 11, 2001 attacks, the MTA initiated a comprehensive review of its infrastructure. Security experts defined critical vulnerabilities and better strategies to protect people and infrastructure. Capital investments included hardening assets and implementing the networks and equipment necessary to conduct targeted surveillance, control access, stop intrusion and provide command and control systems to support incident response. MTA began implementing these investments in the 2000-2004 Capital Program and has now committed $990 million to security projects. The 2010-2014 program continues this commitment with $250 million in Federal grants. The security of the MTA's transportation network is continually improving, and these investments and policing programs are constantly recalibrated based on up-to-the minute security intelligence in partnership with local, state and federal law enforcement. Although the MTA has its own police force for its commuter rails, the NYPD is responsible for the security of the subway system and helps guide and prioritize all security investments within New York City.

New York State Office of Homeland Security

The New York State Office of Homeland Security (OHS) was established October 10, 2001. The responsibilities of the OHS include:

- Overseeing, directing and coordinating public security resources and reviewing public security policies, protocols and strategies of State agencies including, but not limited to, the Division of the State Police, Division of Military and Naval Affairs, State Emergency Management Office, Department of Health, Department of Environmental Conservation, Division of Criminal Justice Services, Department of State, Office of Technology and the Department of Transportation;

- Developing policies, protocols and strategies to detect, respond to and recover from terrorist acts or threats; identifying potential short-falls and implementing appropriate revisions and enhancements thereto; and undertaking periodic drills and simulations designed to assess and prepare responses to a terrorist act or threat;

- Coordinating State agency resources for the collection and analysis of information regarding terrorist threats and activities of terrorists throughout the State;

- Coordinating and facilitating information sharing among local, State and Federal law enforcement agencies to ensure appropriate intelligence to assist in the early identification of and response to potential terrorist activities;

- Assessing the preparedness of State and local public health systems to respond to terrorists acts, including ensuring the availability of early warning systems

designed to detect potential threats and determining adequacy and availability of necessary vaccines and pharmaceuticals and hospital capacity;

- Coordinating strategies, protocols and first-responder equipment needs to monitor, detect and respond to and mitigate consequences of a possible biological, chemical or radiological terrorist act or threat;

- Working with local, State and Federal agencies as well as private entities to undertake a statewide assessment of the vulnerability of critical infrastructure to terrorist attacks, including nuclear facilities, power plants, telecommunications systems, public roadways, railways, bridges and tunnels, and develop strategies designed to protect them from terrorist attacks;

- Developing plans to promote rapid recovery from terrorist attacks to ensure prompt restoration of transportation, utilities, critical communications and information systems and protect such infrastructure, as well as to contain and remove hazardous materials that might be used in an attack; and

- Maintain primary contact with the Federal Office of Homeland Security.

Additionally, all State agencies, departments, offices, divisions, public authorities, boards, bureaus, commissions and any other entities over which the Governor has executive power were directed to cooperate fully with the Director of Public Security and provide any assistance necessary to fulfill the stated objectives of the Office of Public Security.

Port Authority of New York and New Jersey

The Port Authority of New York and New Jersey (PANYNJ) is a bi-state port district, established in 1921 (as the Port of New York Authority) through an interstate compact, that runs most of the regional transportation infrastructure, including the bridges, tunnels, airports, and seaports, within the Port of New York and New Jersey. This 1,500 square mile District is a region generally within 25 miles of the Statue of Liberty in New York Harbor. The Port Authority is headquartered at 225 Park Avenue South in Manhattan.

The Port Authority operates the Port Newark-Elizabeth Marine Terminal, which handled the third largest amount of shipping of all ports in the United States in 2004 and the largest on the Eastern Seaboard. The Port Authority also operates Hudson River crossings, including the Holland Tunnel, Lincoln Tunnel, and George Washington Bridge connecting New Jersey with Manhattan, and three crossings that connect New Jersey with Staten Island. The Port Authority Bus Terminal and the PATH rail system are also run by the Port Authority, as are LaGuardia, JFK, Newark Liberty International Airport, Teterboro Airport and Stewart International Airport located near Newburgh, New York, 55 miles north of New York City. The agency has its own 1,600-member Port Authority Police Department, which is responsible for providing safety and deterring criminal activity at Port Authority–owned-and-operated facilities.

The Port Authority's Strategic Plan pledges to provide secure, reliable, and resilient regional transportation networks, using rigorous risk assessment and established security criteria to set priorities for the protection of existing facilities; building state of the art security into the design of new facilities; strengthening the regional backup planning and disaster response as well as the recovery and restoration capability of regional transportation networks; and reducing the vulnerability of critical transportation bottlenecks by expanding capacity at existing regional facilities and ensuring multiple alternatives for critical regional gateways and corridors.

New York State Police

The New York State Police (NYSP) is a state police force of 4,600 sworn Troopers for the state of New York. The NYSP and New York State Department of Transportation (NYSDOT) established a center from which to operate a high-tech system to monitor, assess and respond to roadway emergencies on some of the busiest highways in the Capital Region, traffic flow has improved for all Capital Region highway users. Jointly operated, the Capital Region Transportation Management Center (TMC), located at State Police Headquarters in Albany, enables State Troopers, NYSDOT HELP Trucks, and other emergency personnel to respond swiftly to crash scenes and other highway emergencies and security issues.

When appropriate, NYSDOT maintenance crews are dispatch quickly to help restore traffic flow quickly. TMC personnel monitor highway conditions through strategically positioned video cameras and computer-linked sensors embedded in the roadway, handle wireless 911 telephone calls for assistance from motorists, coordinate responses to emergencies and incidents, and disseminate traffic condition information to other public safety agencies, traffic reporters and public transit dispatchers. TMC system operators can alert motorists to highway incidents and suggest alternative routes using any or all Variable Message Signs (VMS) that are located along State highways and highway advisory radios. There is also a State Police presence at the NYSDOT Transportation Management Center in Hawthorn, New York, where similar NYSP/NYSDOT coordinated emergency responder and security operations are performed.

Ulster County Emergency Communication/Emergency Management

The Ulster County Office of Emergency Communications/Management (ECM) has two primary functions: 1) the Emergency Communications division is responsible for providing enhanced 911 telephone service to the residents of Ulster County and serves as the link between the public and the police, fire and emergency medical services; and 2) the Emergency Management division provides planning, response, recovery and mitigation for natural and man-made disasters. The common mission of both functions is to provide the public with rapid access to the emergency response needs of the community. ECM is concerned with transportation security issues related to roads, bridges, transit, railroad freight movements, NYS Thruway emergency response, and security planning.

Ulster County Area Transit/Kingston Citibus

Ulster County Area Transit (UCAT) and Kingston Citibus are public transit agencies responsible for providing transit services in Ulster County and the City of Kingston, respectively. UCAT is overseen by the Ulster County Executive's Office. Kingston Citibus is overseen by the Kingston Mayor. UCAT and Kingston Citibus provide public bus services; provides for the oversight of dial-a-ride services, paratransit services; and also market transit ridership. UCAT and Kingston Citibus provide public transit information to the public and are also responsible for the operations and maintenance of their vehicle fleets.

The Federal Transit Administration (FTA) has been very active through their attempts to work with transit providers across the country to develop security measures, which are intended to protect members of the transit public, and to also protect vital components of transit system infrastructure. With regard to transportation security, both UCAT and Kingston Citibus coordinate a number of activities with FTA. In an effort to assess and respond to security issues, UCAT recently completed a Transit Security Assessment for their new bus garage and administration facility located at 1 Danny Circle, Kingston, New York. This analysis considered general threat conditions and potential vulnerabilities. The assessment also involved personnel interviews, site visits and documentation review. The analysis findings and mitigation factors were considered by UCAT staff and resulted in a number of recommended actions that will directly respond to potential security issues.

In summary, this section provided an overview of agencies at the Federal, State and local levels, which collectively address various aspects of transportation security throughout the Ulster County area. Since the September 11, 2001, terrorist attacks on the United States, the Federal government and the State of New York have taken considerable steps to protect the nation's transportation networks, which include roads, local and regional rail networks, passenger and freight terminals, port facilities, intermodal facilities, transportation infrastructure and transit systems. Many Federal and State agencies have taken leading roles to ensure the implementation of security procedures within New York, which also includes the implementation of necessary security measures within Ulster County.

Federal and State agencies will continue to refine transportation security measures over the years, and work toward closer cooperation, coordination and integration of tasks at all levels of government in an effort to provide safe transportation networks and facilities throughout the United States. Although the Ulster County Transportation Council (UCTC) does not currently have a direct role in Federal and State Transportation Security policy decisions, in the future, the UCTC will continue to maintain a supportive regional role for transportation security planning. As a Metropolitan Planning Organization, the UCTC will work to coordinate activities with local, State and Federal agencies and officials in order to provide a regional forum on security issues, and will continue to provide a high level of support for existing and ongoing transportation security measures.