ADIRONDACK/
GLENS FALLS
TRANSPORTATION
COUNCIL

Long Range Plan Update: 2035

November 12, 2013

Adirondack/Glens Falls Transportation Council
11 South St., Suite 203, Glens Falls, NY 12801
P: 518-223-0086 F: 518-223-0584
Web: www.agftc.org Email: info@agftc.org

Adirondack /
Glens
Falls
Transportation
Council

Resolution 13-7 approving the
A/GFTC Long Range Transportation Plan (*2035 Ahead*)

WHEREAS, the Adirondack/Glens Falls Transportation Council is designated by the Governor of New York State as the Metropolitan Planning Organization (MPO) for the Glens Falls Urbanized Area; and

WHEREAS, Title 23 CFR Part 450 and Title 49 CFR Part 613 require that a metropolitan transportation plan, with a horizon date of no less than 20 years from the effective date be developed and adopted by the Metropolitan Planning Organization at an interval that is no less than every four years; and

WHEREAS, the Planning and Programming area of the Adirondack / Glens Falls Transportation Council includes the entirety of Warren and Washington Counties and the Town of Moreau in northern Saratoga County; and

WHEREAS, the Technical Advisory Committee to the Council has developed the draft Long Range Plan (LRP), *2035 Ahead,* as the required metropolitan transportation plan; and

WHEREAS, the Technical Advisory Committee has reviewed and approved *2035 Ahead* and released it for the required public comment and review period prior to consideration by the Policy Committee; and

WHEREAS, the draft LRP has been advertised and copies of the draft document have been distributed for public inspection and comment at area government offices, libraries, and at A/GFTC for a period that exceeded the minimum of 30 days; and

WHEREAS, a public meeting was held to present and discuss the draft of *2035 Ahead*; and

WHEREAS, comments received from the public outreach process have been incorporated within the final version of *2035 Ahead;* and

WHEREAS, revenue estimates for plan implementation have been developed in consultation between MPO staff, New York State Department of Transportation, and Greater Glens Falls Transit (public transit operator); and

WHEREAS, previous A/GFTC TIPs and Long Range Plans have been found to be in conformity with the State Implementation Plan for air quality (SIP), and included the required TIP/SIP conformity assessments to meet the Clean Air Act Amendments of 1990, and the EPA's final rules on conformity published in the Federal Register on 8/15/97 (40 CFR parts 51 & 93); and

WHEREAS, the United States Environmental Protection Agency (USEPA) promulgated the 2008 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) on May 21, 2012 to be effective on July 20, 2012 classifying the Albany-Schenectady-Troy area attainment for the 2008 ozone standard; and

WHEREAS, the EPA promulgated a new rule on July 20, 2012 revoking the Transportation Conformity requirements for 1997 8-Hour Ozone NAAQS effective on July 20, 2013; and

WHEREAS, as a result, the CDTC and A/GFTC will not be required to make a transportation conformity determination under the new 2008 8-Hour Ozone NAAQS; and

WHEREAS, *2035 Ahead* , as the Long Range Plan for the A/GFTC Planning and Programming Area, will serve to inform and guide future federally-funded investments in the surface transportation system; and

WHEREAS, *2035 Ahead,* while satisfying the requirements for fiscal constraint, also contains illustrative projects that carry A/GFTC endorsement as being needed and worthwhile investments in the transportation system that are not supported under existing funding requirements or allocation levels;

NOW BE IT THEREFORE RESOLVED, that the Adirondack/Glens Falls Transportation Council endorses *2035 Ahead* as the metropolitan transportation plan; and

BE IT FURTHER RESOLVED, that the Adirondack/Glens Falls Transportation Council certifies that the requirements of 23 CFR Part 450.322 (c) and Title 49 CFR Part 613 Subpart A have been met; and

BE IT FURTHER RESOLVED, that the Council Secretary is directed to transmit *2035 Ahead* to the appropriate State and Federal agencies.

Mitchell Suprenant
Supervisor, Town of Fort Edward
Chairman, Adirondack / Glens Falls Transportation Council

11/12-13
Date

Table of Contents

Introduction

The Adirondack/Glens Falls Transportation Council (A/GFTC) is the Metropolitan Planning Organization (MPO) for the Planning and Programming Area comprised of Warren County, Washington County, and a portion of Saratoga County that includes the Town of Moreau and the Village of South Glens Falls. Originally designated by the Governor of the State of New York in 1982, A/GFTC is a regional association of governments, public agencies, and transportation providers that is responsible for conducting a continuing, cooperative and comprehensive transportation planning process.

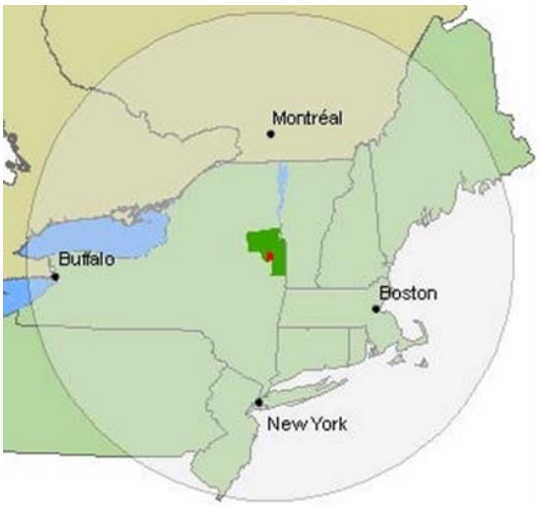
As an MPO, A/GFTC is responsible for producing and maintaining three core products. The foundation document is this Long Range Transportation Plan (LRP). Updated every four years, the LRP sets the course for future transportation system investments by detailing a vision of the desired direction and evolution of the transportation system as described by area residents, businesses, and municipal leaders. The priorities and projects identified within this plan will then be incorporated into a realistic program for action through A/GFTC's annual Unified Planning Work Program (UPWP) and its biennial Transportation Improvement Program (TIP). The UPWP is a listing of planning activities undertaken by A/GFTC in support of goals and objectives contained in the LRP. The TIP is a five-year listing of federally funded capital projects that result from the transportation planning process.

An effective transportation plan cannot be inert. This LRP, *2035 Ahead*, has been written to be adaptable to the changing travel characteristics, evolving land use patterns, and other significant modifications to the surrounding environment that may occur in the next twenty years.

This Long Range Transportation Plan represents the synthesis of public input, regular interaction with local officials, and technical studies undertaken by A/GFTC staff and professional transportation planning firms hired to assist the Council with the execution of its UPWP. The Plan describes existing system conditions, projects future conditions, identifies transportation priorities, and recommends projects and strategies to maintain and improve the system in the near and long term.

Setting

Map 1: 300 mile radius around the A/GFTC Planning & Programming Area



The A/GFTC Planning and Programming Area of Warren County, Washington County, and northern Saratoga County is situated in northeastern New York between the metropolitan Capital District to the south and the Adirondack Park to the north. Transportation infrastructure was critical to the evolution of the region. The area was a base of military activity during the late 1700s, and the Hudson River was a major energy source for industrial development in the century that followed. The 1800s saw the advent of the state canal system and railroads, modes of transport that enabled greater industrial activity and in turn incurred additional settlement.

Modal emphasis shifted from canals and railways to roads and highways during the 20th century. However, the area's significance as a regional transportation link has not diminished. The future of the region will be largely dependent upon how effectively the challenges of enabling the safe and efficient movement of people and commodities are met.

The A/GFTC area is characterized by the remarkable quality of life it provides for its residents. A diverse economy, access to services and cultural and recreational resources, and affordable housing in a variety of residential settings all contribute to the region's significant appeal. The Glens Falls Urban Area is in close proximity to Saratoga Springs and the Capital District (including Albany, Schenectady and Troy). The area is also centered within easy driving distance of four major metropolitan areas - New York City, Boston, Montréal, and Buffalo.

A/GFTC Committee Structure

The Adirondack / Glens Falls Transportation Council consists of two principal working groups. The **Policy Committee** is responsible for reviewing and approving all A/GFTC planning activities and documents, including the TIP, UPWP, and the Long Range Plan. Policy Committee voting membership includes:

- Chairmen of the Boards of Supervisors of Warren, Washington and Saratoga Counties
- Mayors of the City of Glens Falls and the Villages of South Glens Falls, Fort Edward, Hudson Falls, and Lake George
- Supervisors of the Towns of Moreau, Fort Edward, Kingsbury, Queensbury, and Lake George
- One rural supervisor from Warren County and one from Washington County
- The Chairman of the Lake Champlain/Lake George Regional Planning Board
- The Commissioner of The New York State Department of Transportation
- The Executive Director of the New York State Thruway Authority

In addition, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the United States Environmental Protection Agency (EPA) and Greater Glens Falls Transit (GGFT) serve as advisory members to the Council.

The **Technical Advisory Committee** serves as the recommending body to the Policy Committee. It reviews all major documents and actions in advance of Policy Committee consideration and is responsible for oversight of ongoing staff activities. The Technical Advisory Committee is comprised of local highway superintendents, planning officials and other representatives from the municipalities that vote on the Policy Committee.

Through the A/GFTC committee processes, local and regional transportation issues are considered. Transportation policies, programs and projects are developed and prioritized for the area's highway, bridge and public transportation facilities. The Council must ensure the public's involvement in this transportation decision-making process through public notices and hearings and access to complete information on a timely and continuous basis.

Host Agency and Staffing Arrangement

The Lake Champlain-Lake George Regional Planning Board (LC-LGRPB) is the host agency for A/GFTC. The host agency provides first-instance funding for expenses incurred by the operation of the Council. By way of this arrangement, A/GFTC staff members are considered employees of the LC-LGRPB.

As one of nine regional planning and development agencies operating in New York State, the LC-LGRPB's mission is to promote sustainable economic development that strengthens our communities, provides quality jobs and preserves the unique natural, historical and cultural characteristics for the region that includes the counties of Clinton, Essex, Hamilton, Warren and Washington. The LC-LGRPB is also the designated Area-wide Clearinghouse

for the intergovernmental review process. As such, it provides early notification and additional review opportunities to local governments for a wide range of federally funded projects.

Federal Legislation and Requirements

MAP-21

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 6, 2012. MAP-21 represents a transformation of the policy and programmatic framework for investments to guide the growth and development of transportation infrastructure in the U.S. It creates a streamlined, performance-based, and multimodal program to address improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.

MAP-21 builds on and refines many of the highway, transit, bicycle, and pedestrian programs and policies established in previous years. Goals include:

- *Strengthen America's highways:* MAP-21 expands the National Highway System (NHS) to incorporate all Principal Arterials. Investment targets the enhanced NHS, with more than half of highway funding going to the new program devoted to preserving and improving the most important highways -- the National Highway Performance Program (NHPP).
- *Establish a performance-based program:* Under MAP-21, performance management will transform Federal highway programs and provide a means to more efficient investment of Federal transportation funds by focusing on national transportation goals, increasing the accountability and transparency of the Federal highway programs, and improving transportation investment decision making through performance-based planning and programming.
- *Create jobs and support economic growth*: MAP-21 authorizes $82 billion in Federal funding for FYs 2013 and 2014 for road, bridge, bicycling, and walking improvements. In addition, MAP-21 enhances innovative financing and encourages private sector investment through a substantial increase in funding for the TIFIA program. It also includes a number of provisions designed to improve freight movement in support of national goals.
- *Support the Department of Transportation's (DOT) aggressive safety agenda*: MAP-21 continues the successful Highway Safety Improvement Program, doubling funding for infrastructure safety, strengthening the linkage among modal safety programs, and creating a positive agenda to make significant progress in reducing highway fatalities. It also continues to build on other aggressive safety efforts, including the Department's fight against distracted driving and its push to improve transit and motor carrier safety.
- *Streamline Federal highway transportation programs*: The complex array of existing programs is simplified, substantially consolidating the program structure into a smaller number of broader core programs. Many smaller programs are eliminated, including most discretionary programs, with some eligibilities generally continuing under core programs.
- *Accelerate project delivery and promotes innovation*: MAP-21 incorporates a host of changes aimed at ensuring the timely delivery of transportation projects. Changes will improve innovation and efficiency in the development of projects, through the planning and environmental review process, to project delivery.

Clean Air Act Amendments of 1990

The Clean Air Act Amendments are intended to significantly affect transportation planning, not only to achieve air quality goals but also to affect broader environmental goals related to land use, greater availability of mode choice, and reductions in vehicle miles traveled. As the designated MPO, A/GFTC is the lead agency for air quality planning in the urban area. It must insure consistency of the TIP with regional and Statewide Implementation Plans for Air Quality. If air quality standards are not attained, A/GFTC must evaluate and adopt reasonable transportation strategies so that these standards are attained.

The Town of Moreau, in Saratoga County, had been included within the Albany-Schenectady-Troy air quality nonattainment area for ozone . However, in 2012, that area was classified as attainment for the 2008 ozone standard, and conformity determinations are no longer necessary for A/GFTC plans and programs as of July 20, 2013.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (1990) makes it illegal to discriminate against anyone who has physical or mental disabilities in the areas of employment, public services, public accommodations and telecommunications. With regard to transportation, ADA prohibits State and local governments from discriminating against people with disabilities in all programs, services, and activities, including but not limited to public transportation services provided by public entities.

New York State Legislation and Requirements

New York State Energy Plan

The New York State Energy Plan was adopted in 2002 and is scheduled to be revised in 2013. One of the many goals of this plan is to increase the energy efficiency of the transportation system. The State Energy Plan lists a number of measures intended to reduce resource consumption and emissions. Examples include:

- Development of transportation programs for employers to reduce single-occupant vehicle trips
- Speed limit reduction and enforcement
- Enhancement of bicycle and pedestrian programs
- Freight movement improvements
- Increased deployment of demand-actuated traffic signals and coordinated signal systems

Statewide Planning Emphasis Areas

In conjunction with the development of the New York State Transportation Master Plan, the New York State Department of Transportation has identified four forward-looking principles (known as the "Forward Four"):

- Preservation First
- System not Projects
- Maximize Return on Investments
- Make It Sustainable

In addition, the Department has established a "Hierarchy of Priorities" which all actions should satisfy:

a) Demand response: Safety of the system is the key component. Keep the system safe and reliable through: demand and corrective maintenance to structures; demand maintenance to pavement and

roadside appurtenances; and response and restitution of system closures/restrictions due to human and/or natural emergencies.

b)Preservation: Preserve the system through preventive maintenance and additional corrective maintenance actions.

c)Enhance Safety: Enhance the safety of the system through nominal and substantive safety countermeasures, including “systematic” improvements and spot locations.

d)System renewal: Strategically address system critical bridge replacements/major rehabs, pavement rehabs and reconstructions. System Renewal projects are considered “Beyond Preservation” projects.

e) Modernization: Improve the system through strategic added capacity projects (e.g., HOV lanes), major widening, addition of lanes, rest areas, or other enhancements to existing facilities. Modernization projects are considered “Beyond Preservation” projects.

Implementation of the Forward Four on a program-wide basis has resulted in major shift in A/GFTC capital programming, starting with the 2014-2018 Transportation Improvement Program, with the emphasis moving away from infrastructure replacement towards maintenance and repair.

Public Outreach and Input

A/GFTC has demonstrated a strong commitment to including public outreach and input in all MPO products. As the Long Range Plan sets the course for the next twenty years, public input is a crucial component of this product. As such, a public involvement plan was developed and implemented during the drafting of this LRP. The public involvement plan was focused on gathering input at all phases of the LRP, including a public survey and draft plan outreach. The results of these efforts are summarized below.

Public Survey

An electronic survey was created, with a paper version available as well. Press releases were submitted to all local media and a short article appeared in the Post-Star. Displays were established in the Warren County, Washington County, and Town of Moreau offices. Paper copies were also sent to all town and village clerks in the MPO area. The survey was made available for one year (June 2012 to June 2013). In total, 144 responses were submitted.

It is important to note that the Long Range Plan Survey was elective. Although the results are very useful for planning purposes and for registering the opinions and concerns of those who responded, the results of the survey should not be extrapolated to represent a broader population. Additionally, not all respondents answered all of the questions. Depending upon the nature of the question, some of the following charts illustrate the number of responses, while some are presented in terms of the percentage of respondents who answered that particular question.

Access to transportation facilities

In terms of access to transportation facilities, the survey focused on two aspects: the *quality* of access to facilities (scaled poor to excellent, including a not applicable option), and how *important* those facilities are to respondents (scaled from 1-6, 1 being most important and 6 being least important). This distinction allows for a rudimentary assessment of priorities for future projects.

Interstate 87 was rated as having the most "good"," very good", and" excellent" quality of access (see Figure 1). In contrast, passenger rail and public transportation had the most "poor" ratings in terms of access quality. In terms of importance, the facility rated as most important to respondents was Interstate 87, while the least important was airport facilities (Figure 2). These responses indicate that maintaining good access to Interstate 87 and the other major highways should be a priority for the MPO. In addition, although access to public transportation or bicycle/pedestrian facilities may not be of the highest importance, respondents believe that improvements to the quality of access to these facilities is clearly needed.

Figure 1: Quality of Access to Transportation Facilities

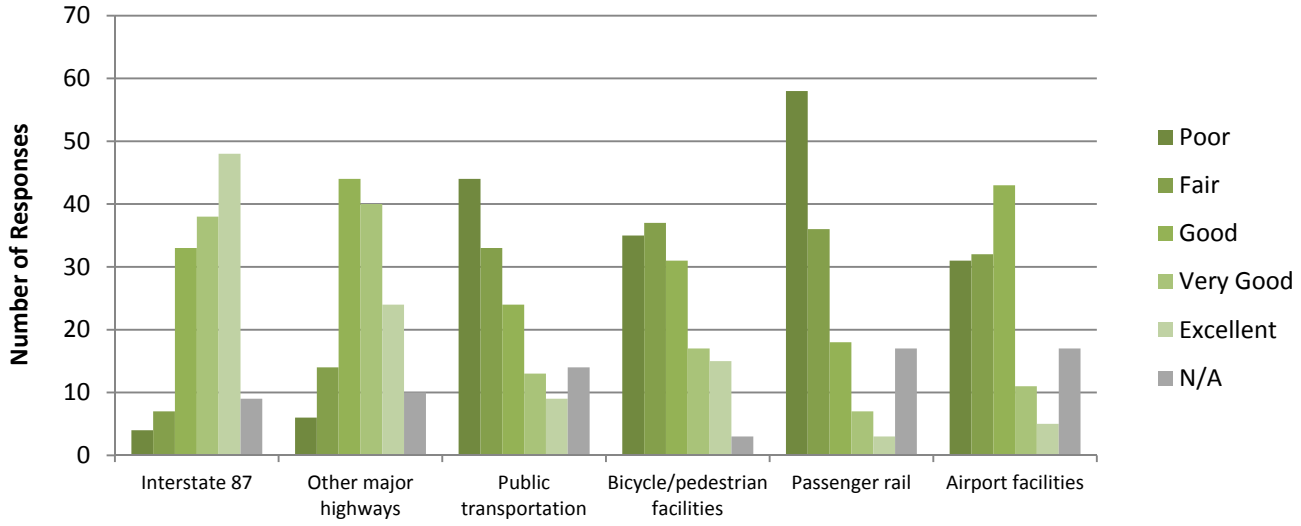
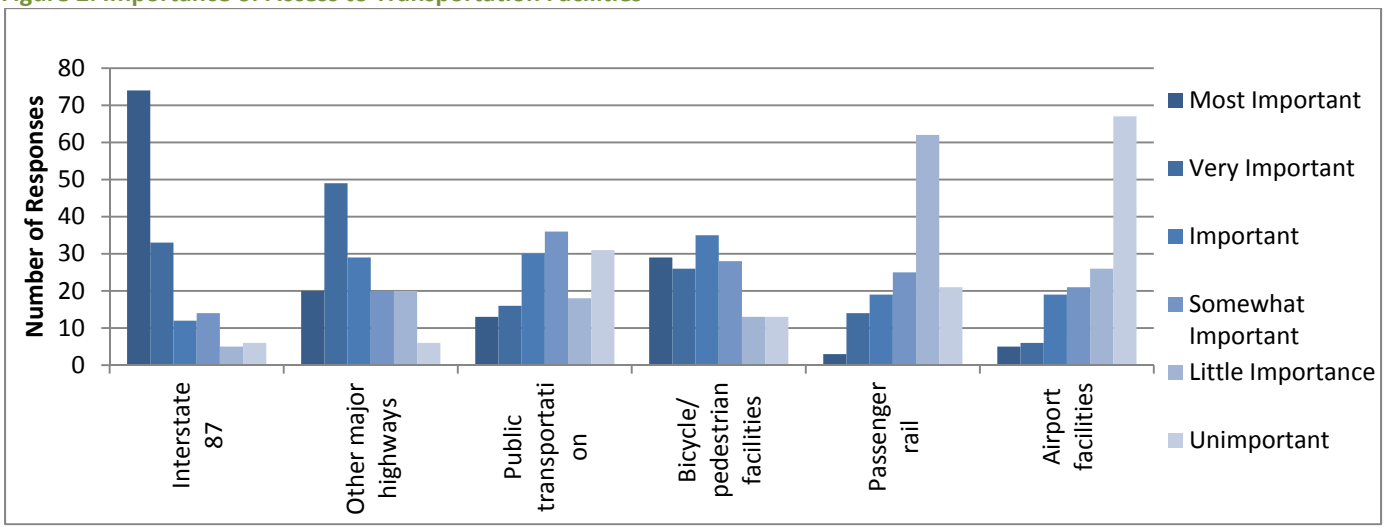


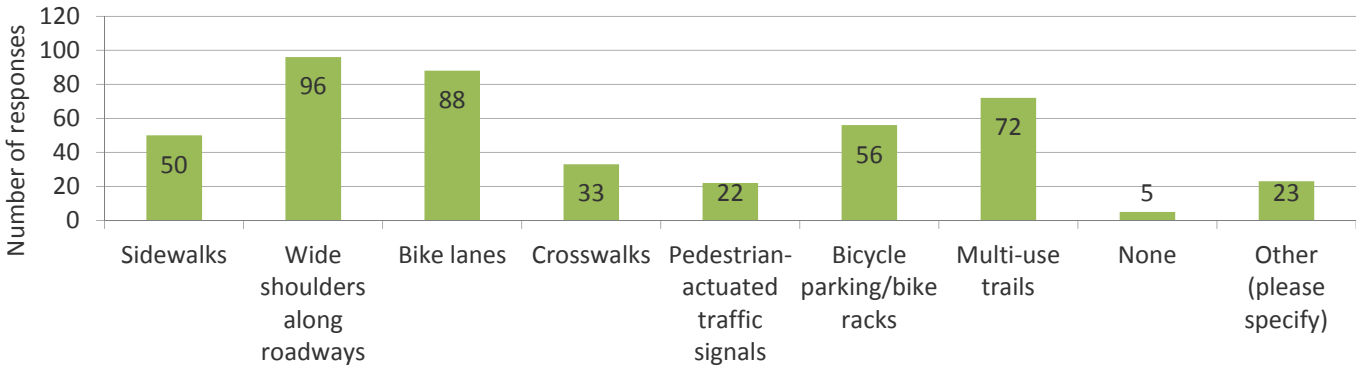
Figure 2: Importance of Access to Transportation Facilities



Bicycle/Pedestrian Facilities

A majority (66.9%) of survey participants noted that bicycle and pedestrian facilities in their communities are insufficient. Respondents expressed a preference for wide shoulders, bike lanes, and multi-use trails as improvements which would encourage bicycle and pedestrian activity (Figure 3). Only five respondents noted that there are no improvements that would encourage more walking/cycling behavior.

Figure 3: Desired improvements to encourage biking & walking

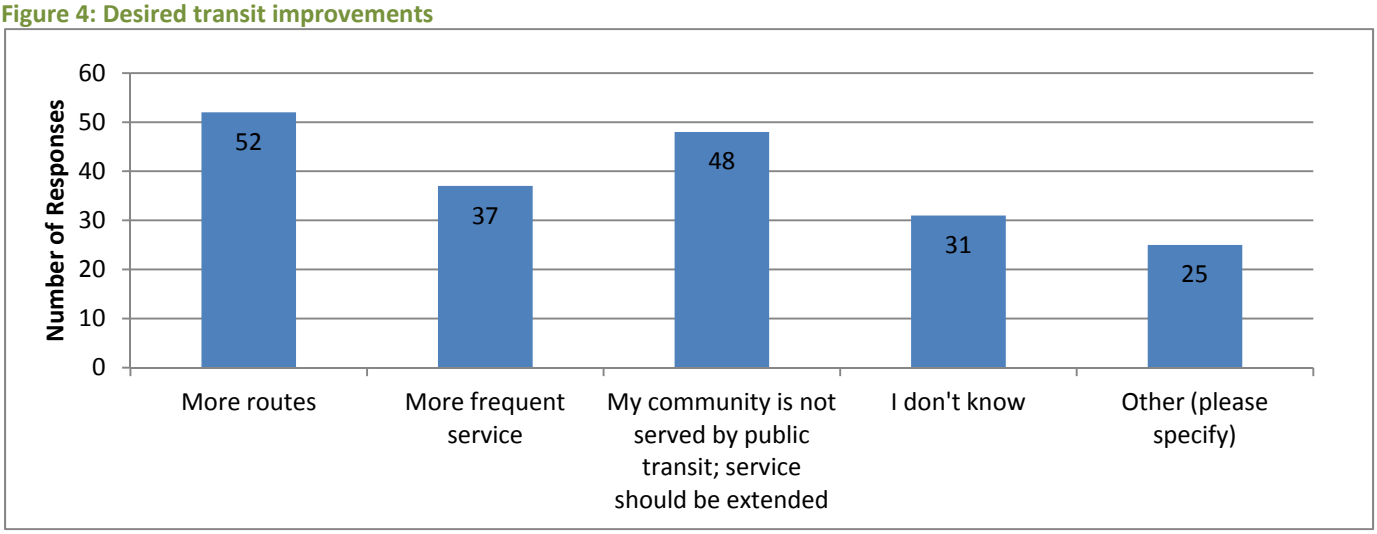


Public Transportation

Fifty-five percent of respondents indicated that public transit does not adequately serve the needs of their community, with 21% indicating that service is adequate, and 24% indicating "I Don't Know." (It is important to note that this question is based on the *perception* of adequacy of public transportation, not whether service exists.) Figure 4 indicates the types of improvements that survey respondents felt were appropriate to their community. The most popular responses included more routes and service extensions. For the open-ended "other" responses, common themes included:

- Expanded services on weekends
- Better connections to Saratoga/Wilton via CDTA
- Bicycle carriers on trolley vehicles

Figure 4: Desired transit improvements



Access to Area Destinations

Respondents were asked to rate the importance of access to certain types of destinations, seen in Figure 5 below. This indicates that the most important destinations are the community centers within the MPO area, with access to commercial centers a close second. Access to Vermont was the least important.

Figure 5: Importance of Access to Area Destinations

The survey also asked people to indicate the zip code of their home (Figure 6), as well as the origin and destination zip codes for the trips they make often. as well as the reason for making the trips. As can be seen in Figure7, the majority of trips are made for work.

The most numerous origin and destination points are within and adjacent to the MPO Urbanized area, mainly Glens Falls and Queensbury (see Figure 8). Other common destinations include Saratoga Springs and Albany.

Figure 6: Zip Codes of Survey Respondents (Home)

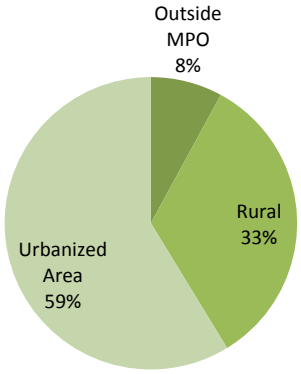


Figure 7:Reasons for Travel Trips

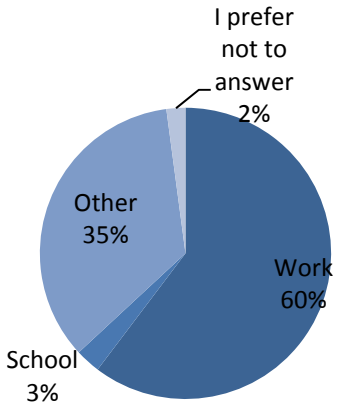
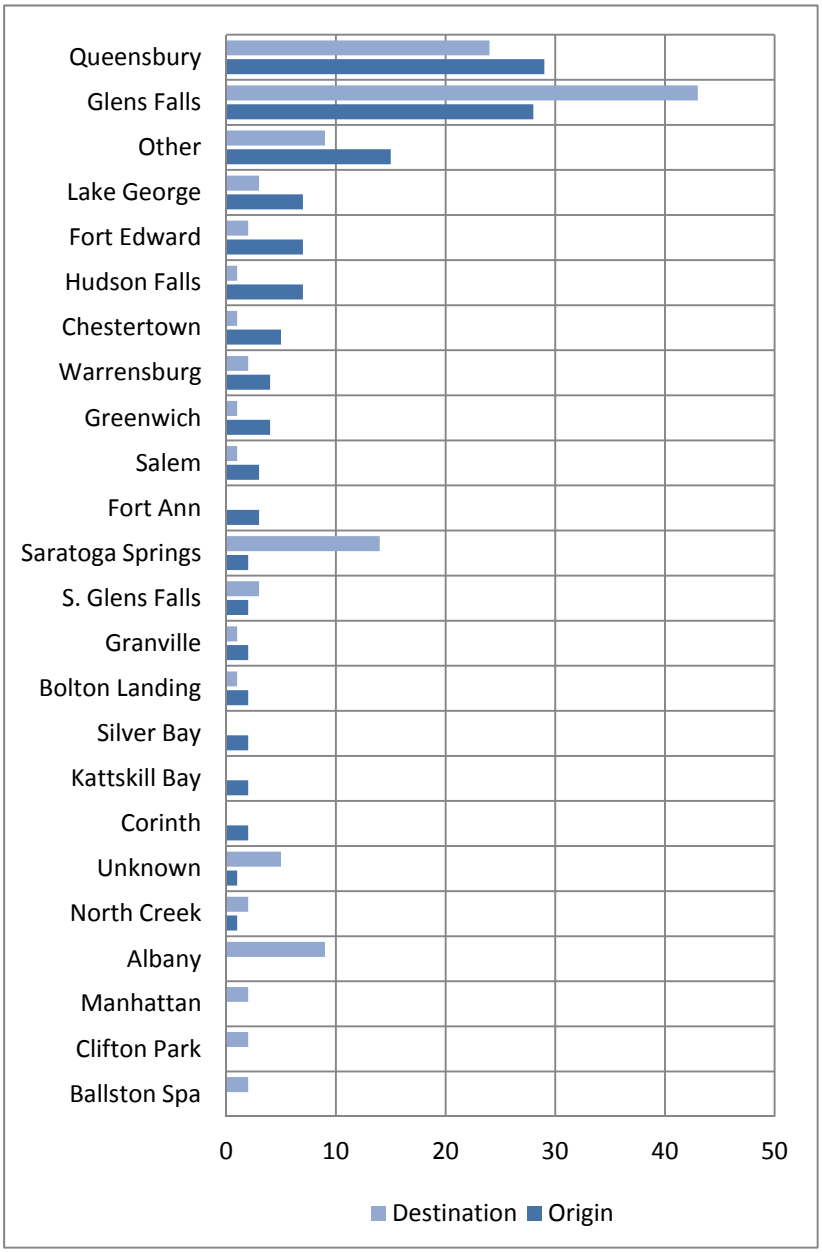


Figure 8: Origin Vs. Destination Zip Codes



Maintenance and Condition of Transportation Facilities

Survey respondents were asked to rate the maintenance and condition of transportation facilities, from "poor" to "excellent". For each type of transportation facility, the most common response for both condition and maintenance was "good" (Figures 9 & 10). Major highways also rated the most "very good" and "excellent" among the choices in the survey.

Figure 9: Maintenance of transportation facilities

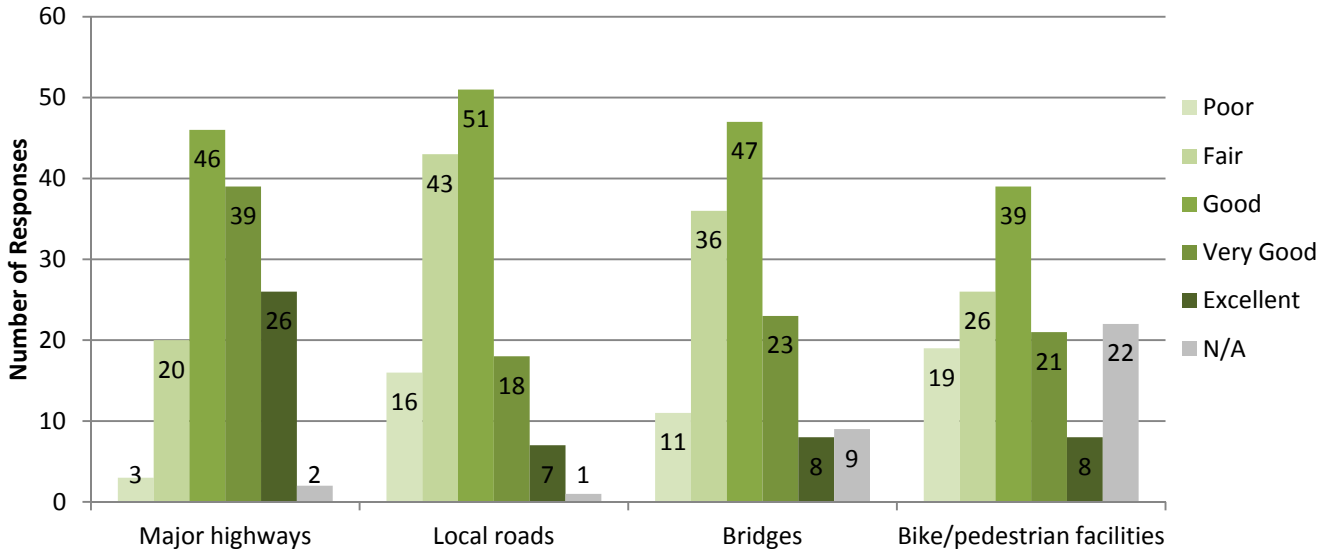
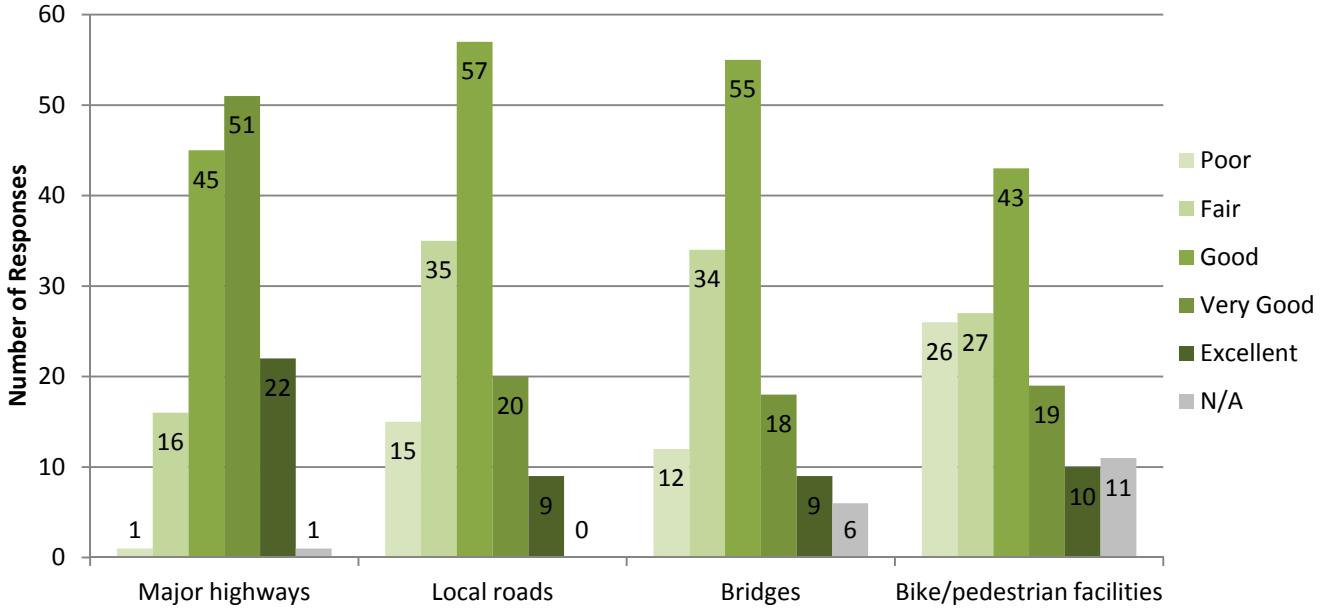


Figure 10: Transportation Facility Condition



Respondents were also asked to rank the *importance* of maintenance and condition of transportation facilities. This is a way to determine if the current maintenance and condition of transportation facilities aligns with the priorities of the public. (For example, the condition of a facility may be excellent, but of low importance to the survey respondent.)The ranked order of importance for both the maintenance and condition of transportation facilities, from most important to least important, was: major highways, local roads, bridges, and bike/ped facilities.

Specific Transportation Issues

The survey asked respondents to note whether specific types of transportation issues occur in their community (Figure 11). Safety, alternative transportation, and infrastructure issues were the most frequently cited. In addition, the survey contained open-ended options for noting the location and details for each issue. These have been summarized into categories in Table 1.

Figure 11: Existence of Specific Transportation Issues

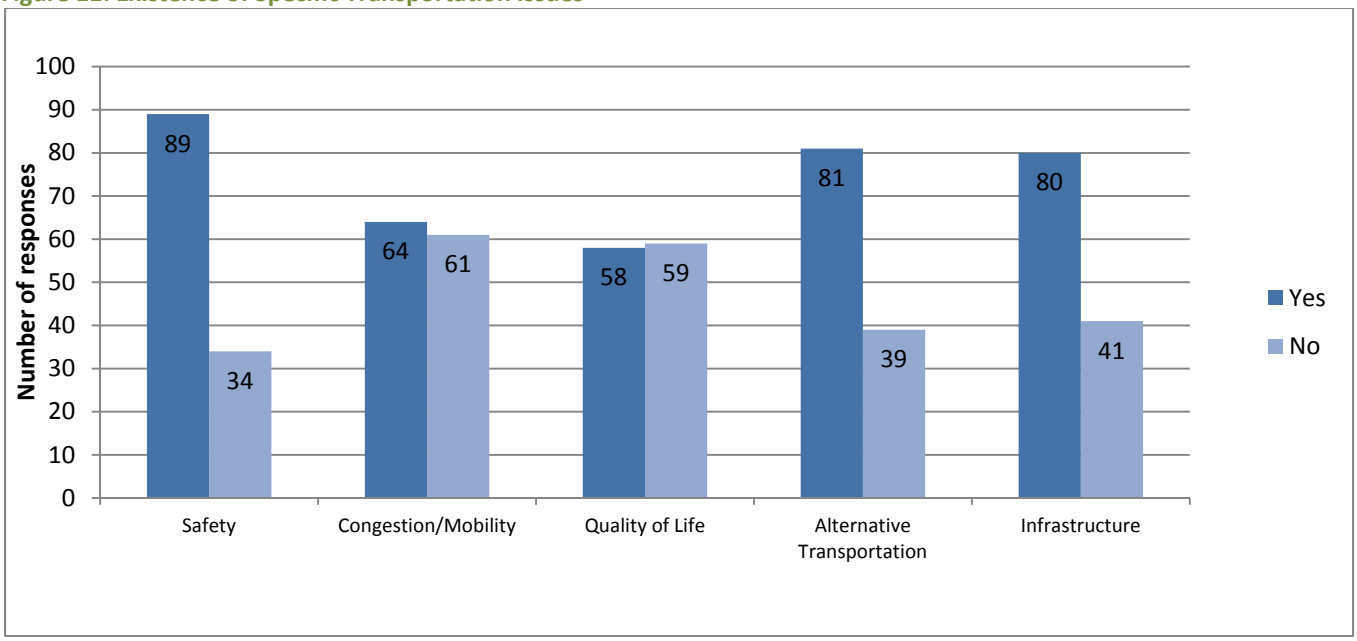


Table 1: Specific Transportation Issues Summary

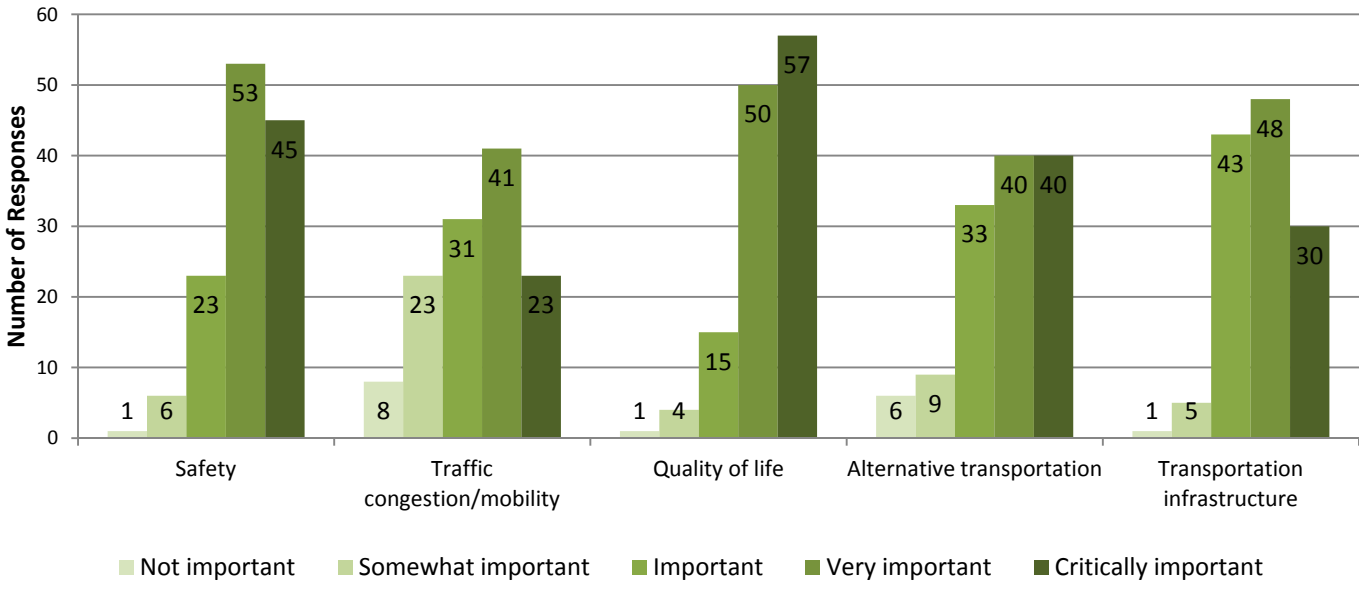
Transportation Issue	Common Comments/Issues
Safety	• Inadequate Bicycle/Pedestrian infrastructure • Speed limit/cell phone enforcement not adequate • Road conditions and maintenance are poor • Turn arrows/lanes are needed
Congestion/Mobility	• Congested areas: o Exit 20/Route9/Route149 o Aviation Road/Quaker Road o Route 9, South Glens Falls • Left-turns with/without signal causes delays • Traffic signal coordination is needed

Transportation Issue	Common Comments/Issues
Quality of Life	• Inadequate Bicycle/Pedestrian infrastructure • Incompatible land uses • Streetscape improvements • Parking issues • Transit service needed • Residential traffic levels
Alternative Transportation	• Increase transit to rural areas • Increase connections to/frequency of transit within current service area • Improve bike/ped infrastructure
Infrastructure	• Road shoulders (width & condition) • Roadway geometry/configuration • Pavement Condition • Traffic control devices/roadway signage • Bicycle/pedestrian Infrastructure

Long-term priorities

Survey respondents were asked to rank the importance of the specific transportation issues for their community for the 10-20 year planning horizon. As can be seen in Figure 12, quality of life and safety are the most important, followed by transportation infrastructure and alternative transportation. Traffic congestion/mobility was the lowest priority.

Figure 12: Long Term Priorities



Draft Plan outreach

A public comment period for the draft plan was held from August 19 until September 30. A series of presentation boards, which summarized the goals and recommendations of the plan, were on display from August 19-August 22 at the Washington County Fair. This event was attended by thousands of residents of the A/GFTC area, and several hundred attendees reviewed the information on the presentation boards. Comments received during this event were focused on specific transportation issues, and are included in Table 2 below.

Copies of the plan were posted online and in several locations throughout the urbanized area, including:

- AGFTC Offices (11 South Street, second floor)
- Warren County Municipal Center (Clerk's office)
- Washington County Municipal Center (Clerk's office)
- Crandall Library
- Queensbury Town Hall
- South Glens Falls Village Hall
- Lake George Village Hall

In addition, a public meeting was held on September 9, 2013. This meeting was announced via legal ad, direct invitation to A/GFTC constituents, and social media, and 10 media outlets received press releases concerning the event. During the meeting, several comments were received and are also summarized in Table 2 below.

Table 2: Draft Plan Public Comment Summary
"There is no Public Transportation in some areas of Washington, Warren or Northern Saratoga Counties. A map can identify where those areas lacking transportation are located. These areas include all of Southern Washington County, Northern Washington County and the Eastern portion around Granville. A definite need exists to connect Southern Washington County with the public transportation of Saratoga Springs that connects with the greater Capital District and also with points north to the Glens Falls area. While local agencies like Van Go and RSVP assist with medical transportation needs, other needs are not being met."
"Would like sign for blind intersection at Meetinghouse Rd & Hoag Rd - Easton. Dangerous intersection."
"A sign at the bike path at Shermantown Rd where it turns off Warren Street would be very helpful. The path in that neighborhood is hard to follow."
There is a growing need for public transportation options to Saratoga Springs and Malta. Does the plan address these options?
Ridesharing services could be useful, especially if the service could be offered directly to large employers.
There is a great need for public transportation in southern Washington County. This could be linked to the Saratoga Springs bus lines which service the Capital District.
Several other counties have county-wide public transportation, such as Essex County. Washington County needs to move in this direction.
The plan should include a map of available public transportation services.
Preserving and enhancing connections to rural areas is important.

Planning Principles for A/GFTC

As the guiding document for all MPO activities for the next twenty years, 2035 Ahead seeks to synthesize the stated priorities of those who live and travel within the A/GFTC area with a wide a variety of national, statewide, and regional priorities for transportation. As part of previous long-range planning efforts, A/GFTC established a series of twelve principles to guide the planning and programming activities in the MPO. These have been reviewed, and are still relevant and appropriate for the 2035 Ahead plan. The principles are:

1. Transportation plans and programs will seek to maintain the established and varied settings that make the area an attractive place to live, work, and visit while bringing positive changes to the natural and built environments that outweigh associated costs.
2. Options for maintaining the existing transportation system and maximizing its operating utility through improvements that address surface conditions, safety issues, intersection operations, access, and multimodal accommodations will be given priority over costlier and more disruptive capacity improvement or new highway alignment concepts.
3. Maintaining and operating an integrated transportation system for all modes that entails minimal risk and maximum access for users of all ages and abilities is paramount.
4. Current travel and transportation habits will intrinsically create some degree of traffic congestion in certain locations. Projects and plans intended to address those locations with recurring vehicle congestion should also incorporate meaningful demand management measures including transit provisions and access improvements.
5. Public transit is essential to progress the evolution of the transportation system. Improving the span, scope and coordination of existing services will enhance mobility options for those that cannot or will not rely upon automobiles and in turn help reduce the physical, environmental and capital costs associated with transportation.
6. Bicycling and walking are modes of transportation – not just means of recreation. Capital projects that are designed to include meaningful accommodations for bicyclists and pedestrians will be given priority as future programs are developed.
7. Developing the potential of passenger rail and commercial shipping of water borne and rail borne freight will lessen the demand upon and improve performance of the road-based transportation system.
8. Coordination of land use planning, economic development, and transportation planning activities is essential to maximize the region's potential.
9. Regional issues will require cooperation of municipalities and organizations that transcend established jurisdictional boundaries.
10. Encouraging infill development and redevelopment through the prioritization of system investments is preferable to facilitating large-scale development outside of established residential and commercial areas.
11. A/GFTC will continue its commitment to public participation so that it may continue to plan with the people, not for the people.
12. Technology and data collection will play an important role in identifying, prioritizing, operating, and analyzing transportation system improvements. A/GFTC is committed to improving its technological and analytical capabilities.

These guiding principles influence decision-making at all levels within the MPO, from large-scale programming efforts to site-specific planning efforts. The remainder of the plan outlines a variety of factors which directly or indirectly influence the transportation system in the A/GFTC area. For each of these factors, the plan outlines the existing condition as it relates to transportation, any challenges or opportunities which exist, and the priorities or projects which the MPO will pursue. These priorities and projects will be directly linked back to one or more of the twelve guiding principles. This will ensure consistency for MPO activities over the long term, a key goal of 2035 Ahead.

Population and Housing Data

Population growth rates from the 2010 census indicated an overall 4% growth rate for the A/GFTC area, with strong growth trends in and around the Glens Falls metropolitan area. Growth rates for individual municipalities can be seen in Map 2. The rates of population change from 2000 to 2010 in the A/GFTC region suggest a few surprising trends. Most municipalities experienced a slowing growth trend. The communities in shaded cells in Table 3 experienced a positive rate of growth from 1990-2000, but then a negative growth rate from 2000-2010. However, four communities experienced a reversal in population growth as compared to the 1990-2000 period (see bold cells in Table 3). This was most evident in Kingsbury, which reported a 13% growth rate from 2000-2010, in strong contrast to the–6% percentage of growth in the Town from 1990-2000.[1]

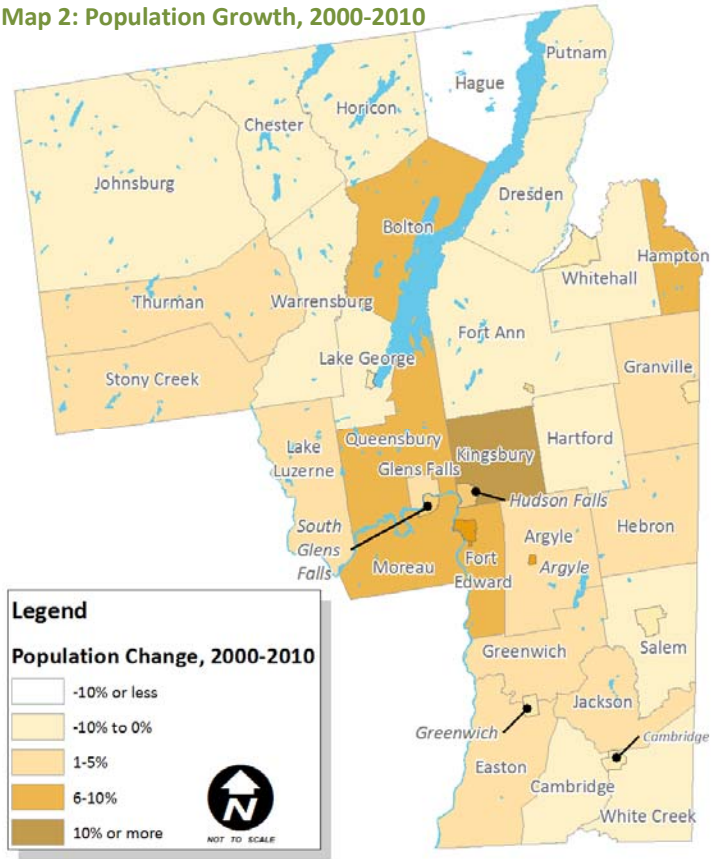
Table 3: Population Growth Rates by Municipality

Name	1990 Pop.	2000 Pop.	2010 Pop.	90-00 Growth	00-10 Growth
Bolton	1855	2117	2326	14.1%	9.9%
Chester	3465	3614	3355	4.3%	-7.2%
Glens Falls	**15023**	**14354**	**14700**	**-4.5%**	**2.4%**
Hague	699	854	699	22.2%	-18.1%
Horicon	1269	1479	1389	16.5%	-6.1%
Johnsburg	2352	2450	2395	4.2%	-2.2%
Lake George	3211	3578	3515	11.4%	-1.8%
Lake Luzerne	2816	3219	3347	14.3%	4.0%
Queensbury	22630	25441	27901	12.4%	9.7%
Stony Creek	670	743	767	10.9%	3.2%
Thurman	1045	1199	1219	14.7%	1.7%
Warrensburg	4174	4255	4094	1.9%	-3.8%
Warren County	59209	63303	65707	6.9%	3.8%
Argyle	3031	3688	3782	21.7%	2.5%
Cambridge	1938	2152	2021	11.0%	-6.1%
Dresden	561	677	652	20.7%	-3.7%
Easton	2203	2259	2336	2.5%	3.4%
Fort Ann	6368	6417	6190	0.8%	-3.5%
Fort Edward	**6330**	**5892**	**6371**	**-6.9%**	**8.1%**
Granville	5935	6456	6669	8.8%	3.3%
Greenwich	4557	4896	4942	7.4%	0.9%
Hampton	756	871	938	15.2%	7.7%
Hartford	1989	2279	2269	14.6%	-0.4%
Hebron	1540	1773	1853	15.1%	4.5%
Jackson	1581	1718	1800	8.7%	4.8%
Kingsbury	**11851**	**11171**	**12671**	**-5.7%**	**13.4%**
Putnam	477	645	609	35.2%	-5.6%
Salem	2608	2702	2715	3.6%	0.5%
White Creek	3196	3411	3356	6.7%	-1.6%
Whitehall	**4409**	**4035**	**4042**	**-8.5%**	**0.2%**
Washington County	59330	61042	63216	2.9%	3.6%
Saratoga County (Moreau)	13022	13826	14728	6.2%	6.5%
A/GFTC Area	131561	138171	143651	5.0%	4.0%

Source: US Census, 2000 & 2010

[1] Town officials in Kingsbury attribute some of this shift to undercounting in the 2000 census.

Map 2: Population Growth, 2000-2010



In terms of housing, each community in the A/GFTC area experienced an increase in the number of housing units between 2000 and 2010.

In every Town except Fort Edward, the rate of housing unit growth was greater than the rate of population growth. Map 3 compares the rates of housing unit growth to population. Areas in which the rate of housing unit growth outstrips the population growth are commonly associated with "suburban sprawl". The Towns with the largest differences between housing unit growth and population growth are mainly rural areas. Hague and Cambridge had the largest discrepancy between population growth rates and housing growth rates. In the A/GFTC area, it is likely that this pattern could also be associated with an increase in second homes in rural/tourist areas. This can be an important consideration, since seasonal homes are associated with different traffic patterns and infrastructure needs than primary homes.

Map 3: Comparison of Population Vs. Housing Unit Growth

Age Data

Like many areas of New York, many of the communities in the A/GFTC area are facing an aging population. Surprisingly, several of the communities in the A/GFTC area were revealed to have relatively young populations.

This trend towards a younger population can be seen in Figure 13. For the majority of the municipalities, there was a decline in the number of 20-24 year old residents between 2000 and 2010. In these communities (seen with the red trendline in the figure), the highest percentage of the population of residents is between the 45-65 age range (averaging about 8%), while the 20-40 years old populations makes up only about 3% of the total. However, for several communities, including most of the Villages in the A/GFTC area, the 20-24 cohort grew between 2000-2010. In these municipalities (the blue trend line), the 20-30 age group represents a much higher proportion of the population - averaging about 7%, which is about equal with the 45-65 age group. These younger communities include the Villages of Argyle, Fort Ann, Fort Edward, Hudson Falls, Whitehall, and South Glens Falls, as well as the Towns of Fort Ann, Fort Edward, Kingsbury and the City of Glens Falls.

Figure 13: Age by % of Population, 2010

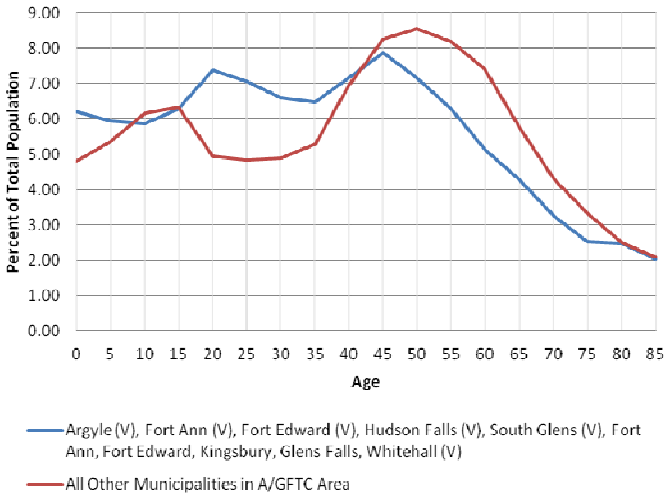
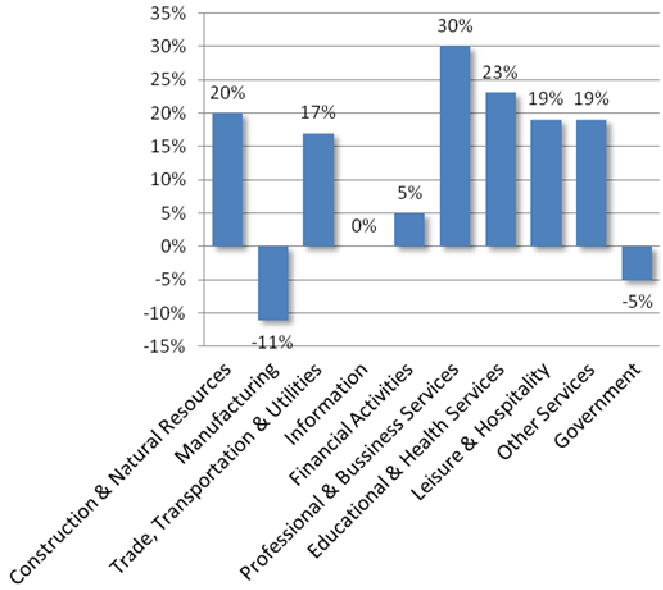


Figure 14: % Change in Jobs by Super-Sector, Glens Falls MSA, Dec. 2002 - Dec. 2012



Data Source: NYS Department of Labor

Employment

Across the country, the recent economic climate has been less than ideal. However, despite these trends in the nation and across New York State, the A/GFTC region has seen impressively high employment statistics. For example, from 2011-2012, the NYS Department of Labor reported that the Glens Falls Metropolitan Statistical Area (defined as Warren and Washington Counties but not including Moreau) had the highest rate of private sector job growth in the state at 3.6%, eclipsing the statewide rate (1.6%) and national rate (1.7%). Although the Manufacturing, Information, and Government Industry super-sectors saw negative or 0% change over the past 10 years, all other industries saw strong job growth in the MSA (see Figure 14). In terms of current employment rates by industry, residents of the A/GFTC area are mainly employed in the education/health services, retail, and manufacturing sectors.[2]

[2] http://www.labor.state.ny.us/stats/cap/glensfalls.pdf

Although it is important to have an understanding of the types of jobs held by residents of the A/GFTC area, it is perhaps more relevant to this plan to examine where these jobs are located. Job location affects transportation systems, both in terms of commuting and public transportation.

According to the U.S. Census, over 75% of the employed residents of the A/GFTC area work 24 miles or less from their home. (See Figure 15.) In terms of direction, most workers head south towards their jobs. South-bound commutes are also significantly longer, as residents travel to Saratoga, Wilton, and the Albany area to get to work.

Another important consideration is the actual location of jobs inside and outside the A/GFTC area. According to the U.S. Census, about 45% of employed residents in the A/GFTC area also work within the MPO boundary (See Figure 16). Conversely, about 34% travel outside the area to get to work, and just over 20% of people working in the A/GFTC area live outside the MPO boundary. More specifically, Table 4 lists the municipalities where residents work. The City of Glens Falls and the Town of Queensbury make up over 30% of the jobs for A/GFTC residents. Outside of the A/GFTC area, the City of Saratoga Springs, Town of Colonie, City of Albany, and Town of Wilton are the most common destinations for employed residents.

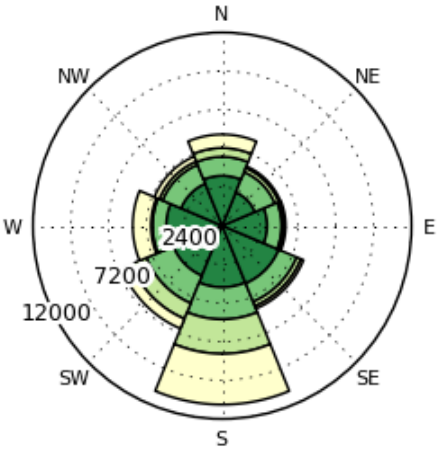
Table 4: Top 10 Locations of Employment for A/GFTC Workers - 2010

Location	# of Jobs	% of Total
All A/GFTC Jobs	60,933	100.0%
City of Glens Falls	9,968	16.4%
Town of Queensbury	9,121	15.0%
City of Saratoga Springs	*2,903*	*4.8%*
Town of Fort Edward	2,428	4.0%
Town of Colonie	*1,995*	*3.3%*
Town of Moreau	1,945	3.2%
City of Albany	*1,876*	*3.1%*
Town of Kingsbury	1,708	2.8%
Town of Wilton	*1,355*	*2.2%*
Town of Granville	1,312	2.2%
All Other Locations	26,322	43.2%

Note: locations in italics are located outside of the MPO boundary

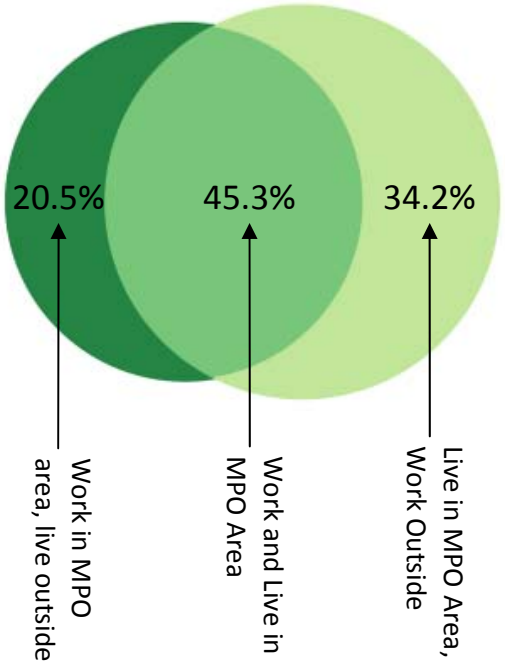
Data Source: US Census 2010

Figure 15: Jobs by Distance and Direction - Work Census Block to Home Census Block



	2010 Count	2010 Share
Total Primary Jobs	47,616	100.0%
Less than 10 miles	25,642	53.9%
10 to 24 miles	10,665	22.4%
25 to 50 miles	4,727	9.9%
Greater than 50 miles	6,582	13.8%

Figure 16: Inflow/Outflow Job Counts in 2010



Data Source: US Census 2010

Challenges and Opportunities

The demographic profile suggests a number of transportation-related challenges and opportunities for the MPO, both currently and in the future. These include:

- The gap between population growth and increase in housing units indicates development pressure in outlying rural areas, although this trend may be partially due to an increase in second homes. Development of residential uses in the rural areas may create additional burdens on the transportation infrastructure in those areas.
- A majority of residents in the MPO area work less than 10 miles from their home. These short commutes may be conducive to alternative transportation modes, especially biking, walking, and transit.
- Many of the rural towns have an aging population. Over time, the need for specialized transportation services for this demographic will grow, as the population ages out of driving and given a continued emphasis upon home-based care for the elderly.
- The urban area has seen strong population growth especially in younger age groups. Recent studies have indicated that younger people are more likely to use alternative transportation, and less likely to drive[3], which could lessen future demand reduce the stress on the road network.

Demographic Priorities and Projects

Related Planning Principles: 1, 2, 3, 5, 6, 9, 10

As a regional transportation agency, A/GFTC has a responsive, rather than proactive, role in demographics. The MPO must seek ways to respond to demographic trends in a manner that supports the primary role of the agency. As such, the following priorities have been identified:

1. Continue to promote biking, walking, and transit use within the urbanized area and near employment centers. The population and aging patterns present a clear opportunity to encourage greater usage of alternative transportation modes. A/GFTC is already committed to finding ways to increase biking, walking, and public transit. Having a clear understanding of the demographic trends can further support this effort.
2. Actively participate in regional planning efforts, which can provide valuable insights and partnership opportunities for employment, housing, and other factors which affect the transportation system. As an MPO, A/GFTC currently participates in a wide variety of regional plans, both as a technical assistance resource and as a stakeholder. Continuing this participation will allow A/GFTC to identify synergies which can be used to improve transportation in the region.
3. Continue to consider the transportation needs of an aging population. As the rural towns and villages continue to age faster than the urbanized area, A/GFTC should seek solutions to the unique challenges presented by this demographic trend.

[3] *Transportation and the New Generation: Why Young People Are Driving Less and What It Means for Transportation Policy* http://www.uspirg.org/sites/pirg/files/reports/Transportation%20%26%20the%20New%20Generation%20vUS_0.pdf

Highways and Bridges

Highways comprise the vast majority of regional transportation infrastructure. Private automobiles and commercial vehicles continue to be the dominant mode of moving goods and people. Besides providing basic mobility, a reliable, predictable, and functional surface transportation system is directly linked to sustained and expanded economic development, tourism and recreation, safety and emergency response, and quality of life. This section includes a description of federal-aid eligible roadways, a summary of existing conditions and recent condition history, and generalized traffic conditions and trends.

Jurisdictional Responsibilities

Most of the Federal funding sources adminstered by A/GFTC have restricted applicability. Federal funds are generally limited to the Federal aid - eligible network that is comprised of locally identified roadways (as shown in Map 4) included on the basis of their individual Functional Classifications. Similarly, state funds are generally limited to use along state highways. The total centerline mileage (689.6) of regional streets and highways that are eligible to receive federal and state funds is less than 30% of the overall mileage total. As a result, federal and state funds are a comparatively small element of the transportation funding equation. Cities, villages, towns and counties also contribute considerable resources to maintaining their respective highways systems while working to preserve local and regional mobility.

Functional Classification and the federal aid - eligible network

Functional Classification is the grouping of streets and highways into classes or systems according to the nature of service they provide. The classification also defines the role that a road or street plays in the network. Selection criteria for the various categories are listed below. In addition to the Interstate system, all roadways that are grouped into those categories listed below are Federal aid-eligible.

Principal Arterials – Rural and Urban

- Connected network of continuous routes that serve substantial statewide or interstate travel
- Carry the major portion of trips entering and leaving the area

Minor Arterials – Rural and Urban

- Work in conjunction with Principal Arterials to link cities and larger towns
- Spaced at logical intervals so that developed areas are within reasonable distance of an arterial highway
- Are designed to provide for relatively high overall travel speeds with minimum interference to movements
- Carry significant intra-area travel, such as between business districts and outlying residential areas
- May link major suburban centers and carry bus routes

Collectors - Urban

- Provides land access and traffic circulation within residential neighborhoods, commercial and industrial areas.
- Accumulates traffic from local streets in residential neighborhoods and channels it into the arterial system
- Normally follows a grid pattern which is the most logical form for traffic circulation
- Integrates interstate travel with the arterial street system and augments the principal system with a lower level of mobility

Major Collector - Rural

- Constitute routes on which the predominant travel distances are shorter than on arterial routes; speeds may be more moderate
- Provide service to larger towns not directly served by higher roadway systems, and to other traffic generators such as consolidated schools or county parks

MostState highways, urban or rural, are Federal aid-eligible. Roadways classified within the following categories are generally **not** eligible for federal aid:

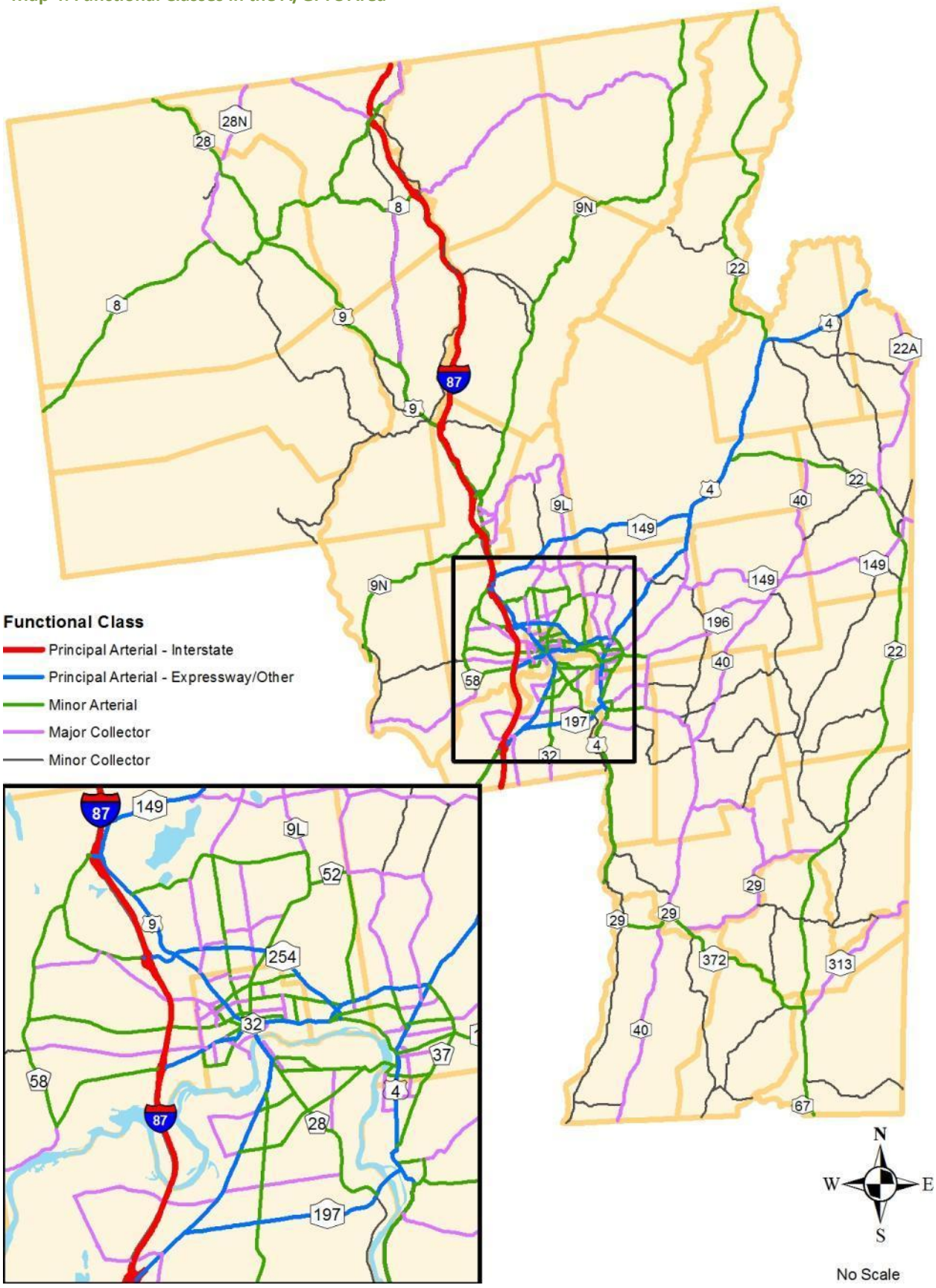
Minor Collectors - Rural

- Provide service to smaller communities
- Bring traffic to developed areas and link locally important traffic generators within their rural areas

Local Streets - Urban/Rural

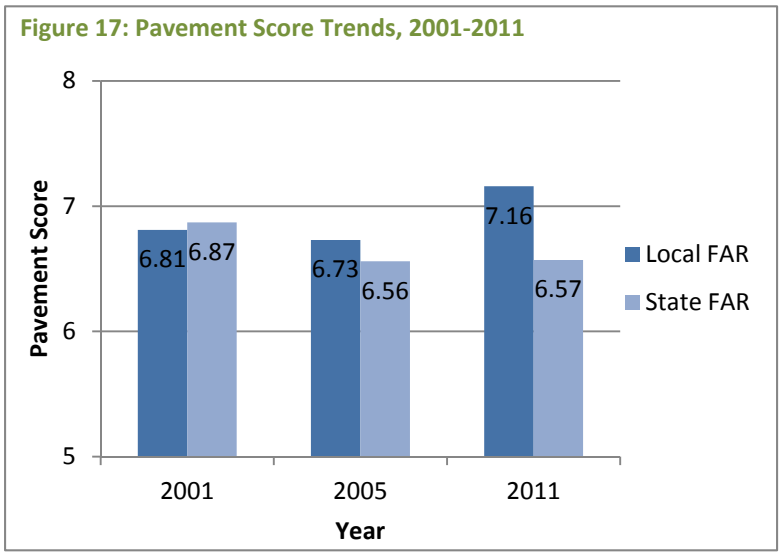
- Provide direct access to land and higher ordered systems
- Lowest level of mobility; through traffic movements are usually deliberately discouraged
- Primarily provide access to adjacent land; service travel over shorter distances compared to collectors or other highway systems

Map 4: Functional Classes in the A/GFTC Area



Pavement Conditions

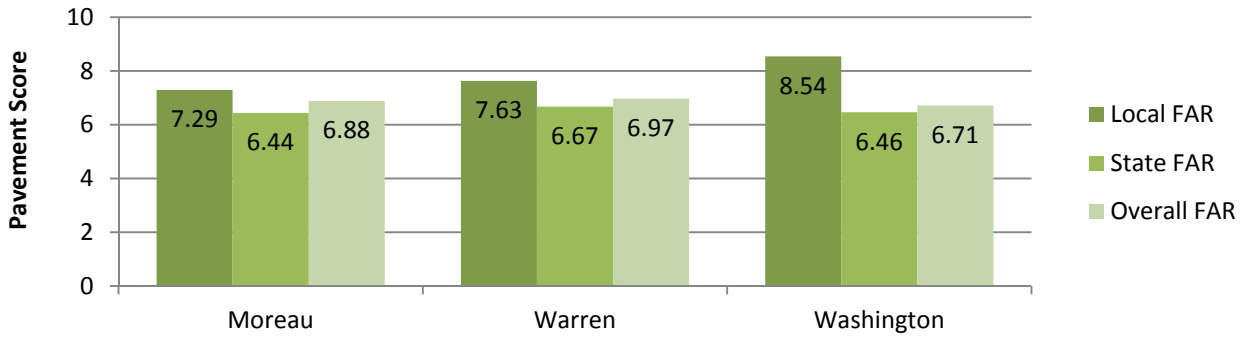
Figure 17: Pavement Score Trends, 2001-2011



One important measure of the federal aid road system is pavement condition. Figure 17 shows the average surface scores by mileage for state- and local-owned federal-aid roadways (FAR). Surface scores for local highways are assessed using windshield surveys. A reference manual with photographs is used to maximize consistency in evaluations. However, it is important to note the state system is assessed by NYSDOT staff, while the local system is assessed through A/GFTC. Scores of 9-10 represent pavement that is in "excellent" condition, with 7 or 8 being "good", 6 being "fair", and 1-5 being "poor". For 2012, the State-owned roadways had an average condition rating of 6.56 for the entirety of the A/GFTC area, while local Federal Aid Network roadways had an average condition rating of 7.77. A breakdown of state/local condition ratings by location and owner is available in Figure 18.

Perhaps the most noteworthy trend here is the improvement of pavement conditions along locally-owned federal-aid highways, while conditions along State roadways remains largely stable. The data is a reflection of the difficulty encountered by NYSDOT in maintaining a large highway network within the constraints of the New York State budget. It is anticipated that the roadway conditions will remain steady or even decline slightly as the State implements a "preservation first" strategy. However, this approach is designed to improve pavement conditions over the long term, with the goal of maintaining the bulk of roads at a score of 7 or higher.

Figure 18: 2012 Pavement Scores by Location and Owner



System Performance - Capacity

The historic trend of annual increases in Vehicle Miles Traveled, documented in previous editions of this LRP, is no longer the case in the A/GFTC region. Indeed, a comparison of VMT on the State Touring Route from 2004 to 2011 levels shows a very minor increase in Washington County (0.57%) and a decrease in Warren County (-2.61%)[4]. This could be attributable to increases in gas prices or other indirect economic factors.

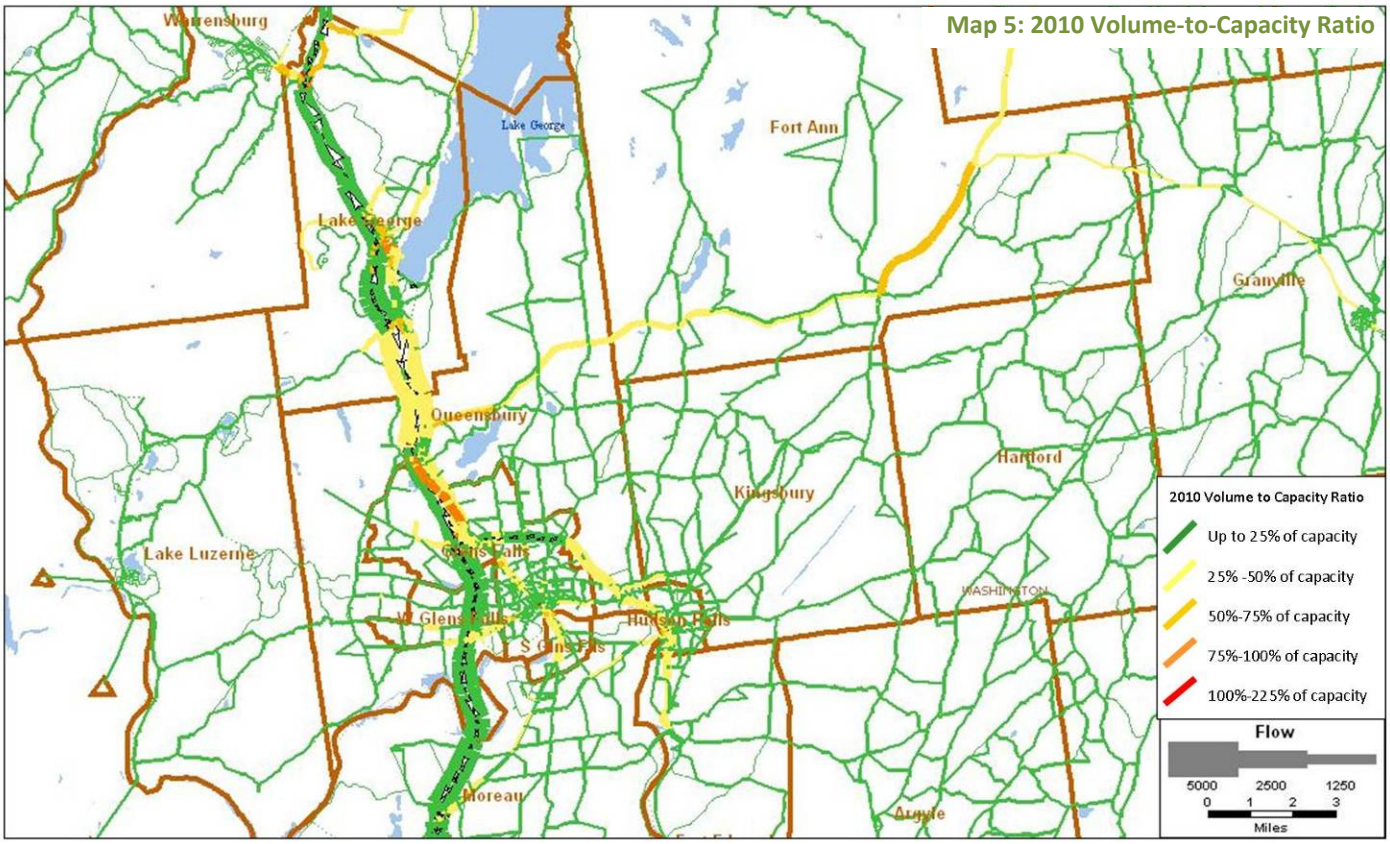
Although VMT has held steady or decreased, system performance with regards to vehicle capacity is still an issue in certain localized areas. Capacity issues have become increasingly difficult to accommodate within capital programs as infrastructure conditions deteriorate, the buying power of public funds continues to decline, and the overall size of the programs decrease. As a consequence, A/GFTC's 2014-2018 Transportation Improvement Program contains no highway improvement projects solely intended to address capacity or congestion issues. Anticipated regional growth in the number of households and employment will result in additional trip generation which will in turn place additional pressure upon the functionality of the highway system.

To estimate the potential impacts of continued economic development and proliferation of households, the A/GFTC regional travel demand model was used to generate volume to capacity ratio (V/C) data . The V/C ratio compares the amount of traffic along a given roadway to the amount of traffic that that roadway is capable of carrying. The degree to which known site-specific capacity issues are accurately represented within a regional travel demand model can vary from location to location; for example, the A/GFTC model notably under-represents existing traffic conditions at US Route 9 / NYS 149 in Queensbury and at US Route 9 in the Village of South Glens Falls, two locations that feature significant and recurring congestion. However, comparison of existing data to forecasted data within the regional model is a useful measure that can be used to identify potential system capacity constraints.

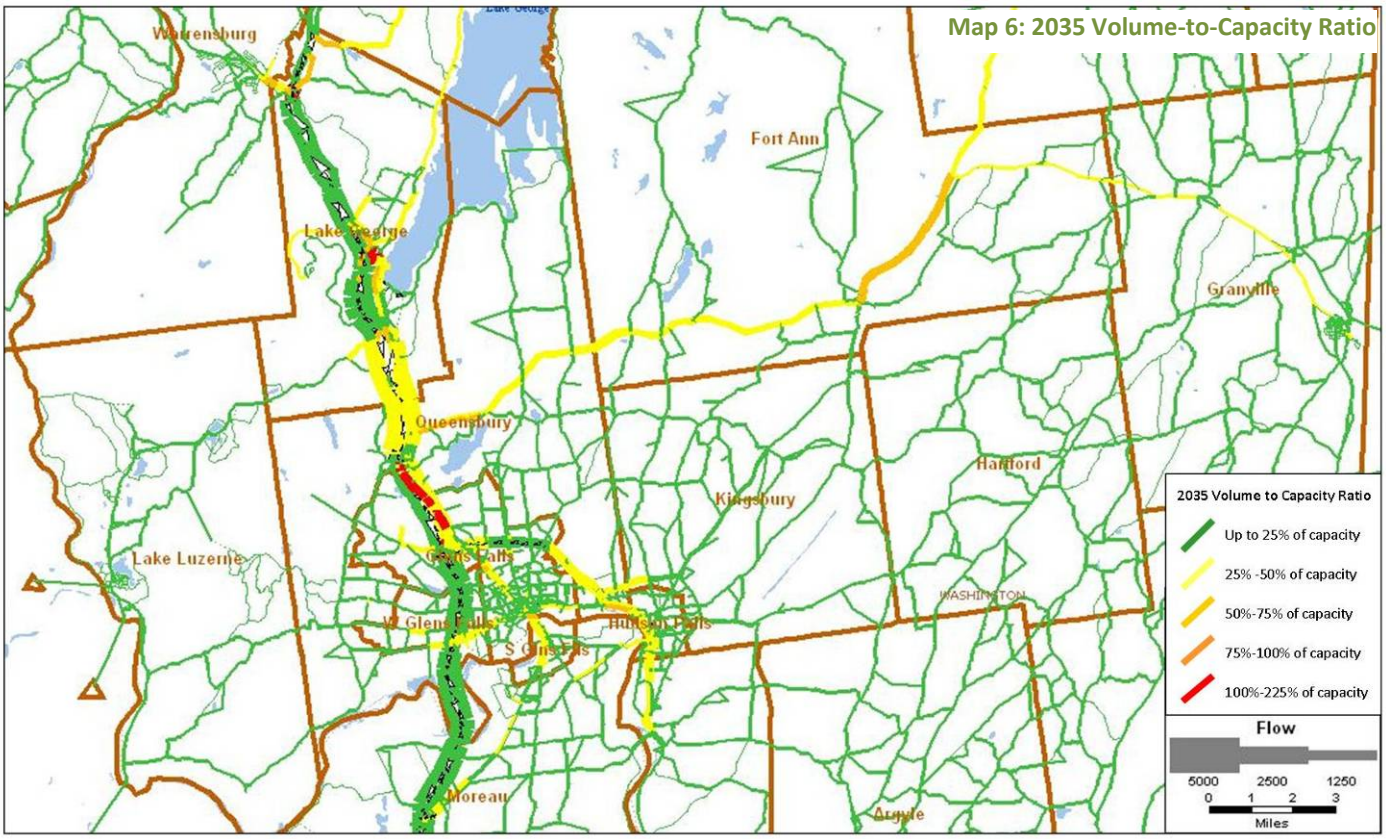
The following graphics (Maps 5 & 6) show current condition (2010) and projected (2035) PM peak hour summer season V/C data for federal aid - eligible roadways in the A/GFTC area. The 2035 forecast was developed using data provided to the New York State Department of Transportation by IHS Global. Using a conservative estimate that forecasts no capacity improvement projects between now and 2035, the A/GFTC travel demand model suggests that capacity constraints evident in 2010 will become more pronounced over time with growth, but that capacity issues do not appear to expand geographically. It is however logical to assume that a more significant capacity constraint at a given location could indeed lead to delays and queue length increases on adjacent segments. Noting that, the travel demand model suggests that future traffic conditions at the following locations may approach or exceed existing roadway capacities:

- US Route 9, between Quaker Road and Exit 20
- NYS 149 at US Route 9 (Gurney Lane / Exit 20 SB)
- Downtown Glens Falls (Glen Street / Ridge Street /Warren Street/Hudson Avenue)
- NB ramp from I-87 to Diamond Point Road (Exit 23), Town of Lake George
- NB ramp from I-87 to US Route 9 (Exit 22), Town of Lake George
- US Route 4 at NYS Route 196, Village of Hudson Falls
- US Route 4 between NYS 149 and NYS 22, Town of Fort Ann

[4] Data provided by NYSDOT Highway Data Services Bureau



Map 5: 2010 Volume-to-Capacity Ratio



Map 6: 2035 Volume-to-Capacity Ratio

Bridges

The A/GFTC Planning and Programming Area is home to 593 highway bridges[5]. Of those, state agencies own 41.6% (247 bridges), local municipalities own 51.6% (306 bridges), railroads own 5.7% (34 bridges), and the remaining 1.1% (6 bridges) are privately owned.

NYSDOT is responsible for inspecting all the highway bridges in the state, regardless of ownership, according to state and federal mandates. New York State requires bridge inspection teams, led by licensed professional engineers, to inspect highway bridges at least once every two years. These bridge inspectors assess all of a bridge's individual parts, assign an overall condition score, and document the condition of up to 47 structural elements.

The NYSDOT condition rating scale ranges from 1.0 to 7.0, with a score of 7.0 indicating new condition and a score of 5.0 or greater considered as good condition. Bridges with a condition rating of less than 5.0 are deemed to be deficient, which indicates deterioration that requires corrective maintenance or rehabilitation. It is important to note that a deficient bridge is not necessarily unsafe.

Average condition ratings for highway bridge structures within the A/GFTC have improved slightly over the past ten years (see Figure 19). While overall condition ratings have improved, the level of improvement varies by municipality and by ownership.

Figure 19:Bridge Conditions by Location, 2002-2012

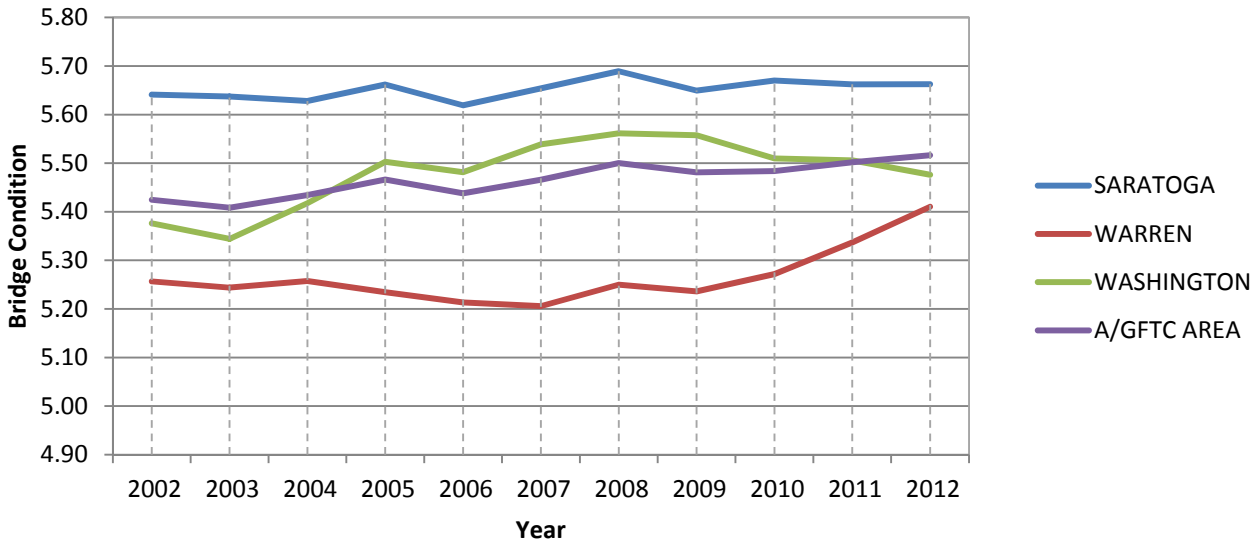
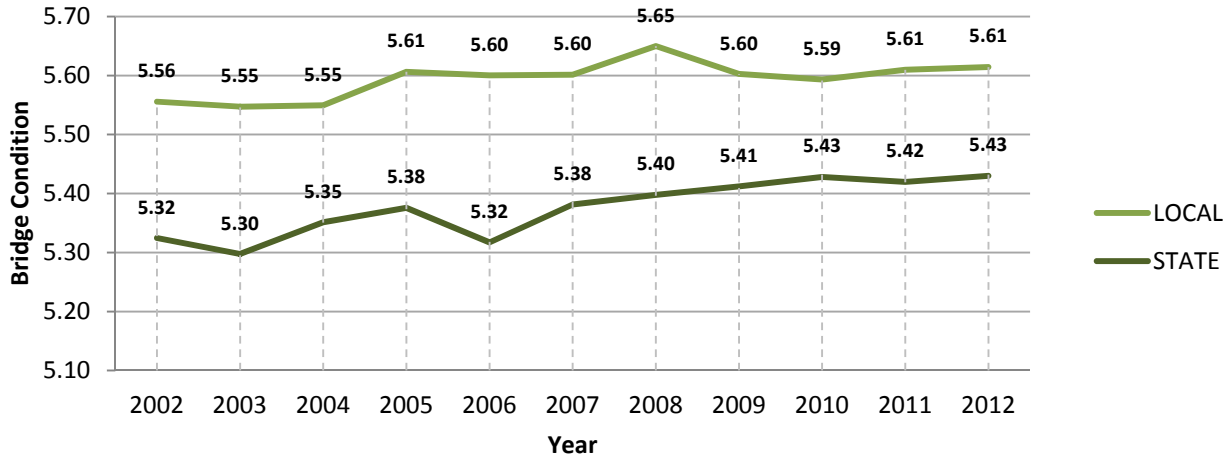


Figure 19 shows that the average condition ratings for bridges improved most substantially within Warren County, although these bridges are still below the overall average for the A/GFTC region. The conditions of the 11 bridges in the Town of Moreau are above average for the A/GFTC area, and have held relatively steady over the past 10 years. In Washington County, the average bridge ratings have declined recently, but are still better than they were 10 years ago.

Another important consideration is condition of locally-owned versus State-owned bridges. As can be seen in Figure 20, State-owned bridges have improved over the past 10 years, but are still rated lower than locally-owned bridges on average.

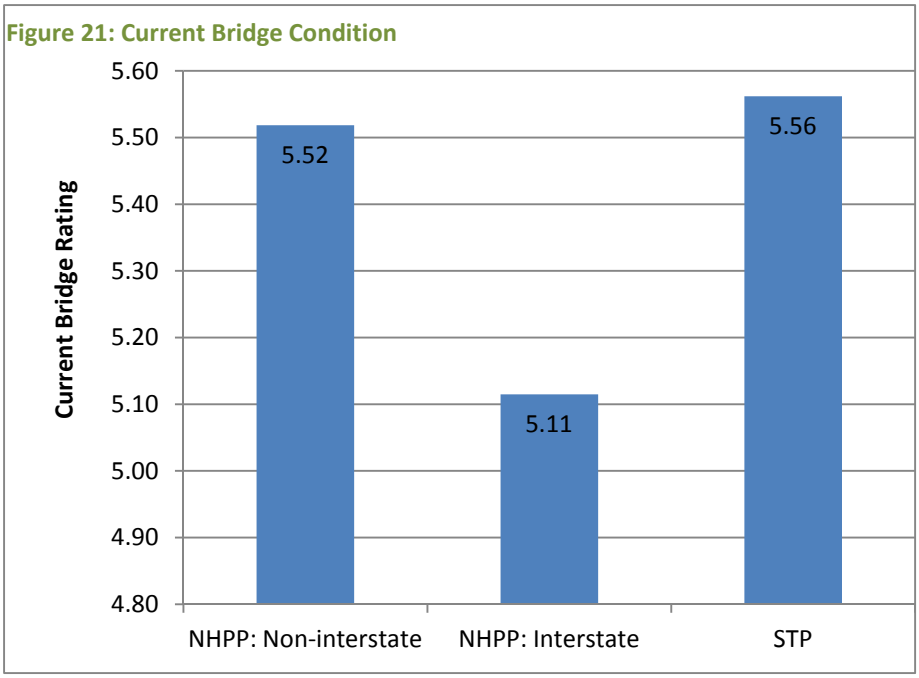
[5] All bridge condition data derived from NYSDOT GIS layers and/or Highway Bridge Data services

Figure 20:State vs. Local Bridge Conditions, 2002-2012



MAP-21 also includes requires that data be collected according to the funding program for bridges. As such, the most current bridge condition data was averaged for bridges on the Interstate System, on the National Highway System, and local-system bridges which are funded under the Surface Transportation Program. These ratings are summarized in Figure 21.

Figure 21: Current Bridge Condition



In addition to the inspection rating system used by New York State, it also required that rating scales developed by FHWA be used as the basis for annual, state-by-state comparisons of bridge conditions. Those federal ratings are not as detailed as the State system and are the result of overall average condition assessments of only the bridge's five major structural components.

The federal ratings are also used to identify bridges that do not meet contemporary Federal Highway Administration (FHWA) standards. Those bridges are classified as either structurally deficient (SD) or functionally obsolete (FO). According to FHWA guidelines, structurally deficient bridges are those that have any of the following characteristics:

- Significant load carrying elements in poor or worse condition due to deterioration and/or damage
- Inadequate load capacity
- Repeated bridge flooding that causes traffic delays

The fact that a bridge is structurally deficient does not imply that it is unsafe or is on the verge of imminent collapse. Many structurally deficient bridges remain in operation but require significant maintenance and repair to continue to carry traffic. Load postings are often deployed to restrict weight over these structures. Eventually, rehabilitation or replacement is necessary to address the specific deficiencies. Bridges that fail to meet contemporary standards for managing the type or volume of traffic they carry are classified as functionally obsolete. This classification has nothing to do with the structural integrity of the bridge. Contributing factors to functional obsolescence include narrow lanes, no shoulders, or low clearances.

Statewide data[6] indicates that about 12% of the highway bridges in New York are classified as structurally deficient and about 25% are classified as functionally obsolete, yielding 37% of all bridges in New York State as deficient. Within the A/GFTC area, 18% of the bridges are structurally deficient, and 12% of the bridges are classified as functionally obsolete.

Highlights of Highway/Bridge Projects (Completed or Initiated Since 2009)

Highway Projects:

Corinth Road / Exit 18 / Main Street / Broad Street Reconstruction: Town of Queensbury / City of Glens Falls

As the primary access route to the City of Glens Falls from Interstate 87, this corridor was one of the most congested arterials in the A/GFTC area. After lengthy consideration of design options, the final design called for several new elements in addition to the three-lane arterial reconstruction. Among those were additional lanes under the I-87 overpass, construction of a new north-south connector road between Main Street and Luzerne Road, realignment of Big Boom Road, a park-and-ride lot near Exit 18, improved connectivity for bicyclists, and installation of underground utilities.

Route 149 Reconstruction (Phase II)Town of Queensbury

Route 149 is a major component of the regional freight transportation system and is also subject to large volumes of seasonal traffic during the summer and winter months. The project was designed to improve the transportation function of this important NHS corridor by establishing a consistent roadway width that was more suitable to large truck traffic. As part of the reconstruction, 12' travel lanes and 6' shoulders were installed. A number of non-standard vertical and horizontal curves were smoothed out in order to reduce crashes and crash severity. Phase I of the Route 149 reconstruction, from US Route 9 to the west and Martindale Drive to the east, was completed in 2002. Phase II continued the reconstruction (or rehabilitation, where existing roadway geometry allowed) eastward to the boundary between Warren and Washington Counties. Improvements at the Bay Road and Ridge Road (NYS Route 9L) intersections were also included.

Beach Road Reconstruction: Town and Village of Lake George

Originally intended to address the section of Beach Road owned by Warren County, this project was redefined to include the entire length of Beach Road, including sections owned by New York State Department of Environmental Conservation. The roadway supports a variety of tourism and special event traffic and experiences proportionally high volumes of pedestrians and bicyclists during the summer. The Warren County portions of the project were complete in 2013, and included geometric reconfigurations, pervious pavement and stormwater controls, and bicycle-pedestrian facilities. The NYSDEC portion of the project is scheduled to begin construction in 2013.

[6] NYS Highway Bridge Data Services: https://www.dot.ny.gov/main/bridgedata

NYS Route 4 Reconstruction: Town of Kingsbury, Village of Hudson Falls

This project is a full-depth reconstruction, which will continue the improvements completed for Route 4 in the Town of Fort Edward to the south. Construction began in early 2013. The project begins near Gibson Street (where the Fort Edward project ended) and continues north to the bridge over the Feeder Canal. River Street and Park Place within Juckett Park will also be reconstructed. The reconstruction work will include new drainage systems, granite curbing, concrete sidewalks, and asphalt concrete pavement. This project also includes waterline and sewer improvements: a new waterline and new house service connections will be installed throughout the project limits.

NYS Route 9 Safety and Congestion Improvements, Village of South Glens Falls

This project is located along NYS Route 9 from the Village/Town boundary in the south, and the Hudson River Bridge to the north. The objectives of the project, funded through the Highway Safety Improvement Program, are to reduce vehicle conflicts and accidents, accommodate bicyclists and pedestrians and ensure American Disability Act compliance, mitigate vehicle conflict through the access management and operational techniques, correct identified pavement deficiencies, and extend the useful life of the highway. The project involves creating a center-turn lane for the majority of the length of the project, as well as adding sidewalks and curbs. Construction began in 2013.

Bridge Projects

The following bridge projects are either currently under construction or have been completed since 2009:

Warren County

- Alder Brook Road over Alder Brook, Chester
- Grist Mill Bridge over Stony Creek, Stony Creek
- Harrington Road over Mill Creek, Johnsburg
- Interstate 87 over the Schroon River, Bolton / Warrensburg
- Interstate 87 over U.S. Route 9, Chester
- NYS 9N over the Hudson River, Lake Luzerne
- NYS 28 over Mill Creek and Glen Brook, Johnsburg
- Woolenmill Bridge over the Schroon River, Warrensburg
- Tannery Road Bridge over Stony Creek, Stony Creek

Washington County

- Clay Hill Road over the Champlain Canal, Fort Ann
- Clinton Street and Saunders / Division Streets over CP Rail, Whitehall
- County Route 12 and Lower Turnpike Bridges over the Mettawee River, Granville
- County Route 61 over the Batten Kill, Jackson / Salem
- Dewey's Bridge Road over the Champlain Canal, Fort Ann
- NYS 372 over the Batten Kill, Greenwich

Planning Projects

Exit 20 Corridor Plan: Town of Queensbury

This Corridor Management Plan addressed the Exit 20 / Factory Outlets / Great Escape area in the Town of Queensbury. The study area included the intersection of Route 9 and Route 149 south to the intersection of Route 9 and Round Pond Road. The Plan addressed existing traffic congestion issues that are very acute during the summer tourism season for Lake George. Transportation facility design elements, public transit operations, existing and future land uses, development potential, access management, shared parking, improved bicycle and pedestrian accommodations and intersection improvements were all considered as part of this effort.

Queensbury Connector Road: **Town of Queensbury**

A/GFTC developed a regional transportation analysis to determine the desirability and feasibility of a roadway that would connect Quaker Road and Queensbury Avenue in the Town of Queensbury. This study was intended to yield three basic products: (1) a quantification of the immediate and longer term benefits and impacts of establishing a new roadway linkage between Quaker Road and Queensbury Avenue, (2) a conceptual layout and cross-section of the proposed roadway based upon existing physical limitations, available ROW, and review of alternatives, and (3) cost estimates for the construction of the preferred concept. The fundamental conclusion contained within the document is that the regional transportation benefits of the proposed roadway are minimal, but there may be other compelling land use and access benefits that may compel the Town of Queensbury or Warren County to consider the matter further.

Lake George Gateway Corridor Plan: **Town of Lake George**

This plan entailed identifying existing issues and opportunities regarding pedestrian safety, access, and streetscape amenities, as well as ways to improve the connectivity between Lake George's waterfront, the Lake George Battlegrounds, Warren County Bikeway, Prospect Mountain Veterans Memorial Highway, and the Charles R. Wood Park. The study area consists of the Route 9 corridor, from its intersection with Route 9N near Exit 21 of the Adirondack Northway (I-87), north to the Village of Lake George's municipal boundary. The final concept calls for a "Complete Street" approach, including sidewalks, medians, landscaping, signage and gateways, lighting/utilities, crosswalks, access management, stormwater, transit improvements, and snowmobile access.

Exit 17/Route 9 Corridor Land Use and Transportation Study

A/GFTC is developing a regional transportation and land use analysis for the Exit 17 / U.S. Route 9 corridor in the Town of Moreau. The defined study area is the U.S. Route 9 corridor in the Town of Moreau with the southern terminus to include the operational area of Exit 17 of Interstate 87 and the northern limit to be the southern boundary of the Village of South Glens Falls. This corridor is a critical access link to Interstate 87 for northern Saratoga County as well as central and northern Washington County. The southern section of the corridor accommodates regional freight traffic between Interstate 87 and northern New England. The plan will analyze existing conditions and capacities, develop growth projections, and formulate land use recommendations and conceptual design alternatives that will help the Town of Moreau plan for anticipated growth along the corridor while preserving the utility of the existing surface transportation system.

Challenges and Opportunities

- In terms of pavement condition, the "preservation first" model promulgated by NYSDOT is a long-term strategy, which may result in a short term reduction in pavement scores, especially on the State system. As physical conditions along individual links decline, trip distribution could be affected, which may cause localized capacity issues in adjacent links.
- The plateau in VMT may result in a reduced burden on the road system as a whole, which may ease the deterioration of capacity in the short-term. However, although VMT may have leveled off in the last few years, previously identified capacity constraints still remain. The extreme limitations on funding will limit the MPO's ability to program capital projects intended to address these issues.
- Changes in the funding mechanisms for MAP-21 have limited the amount of funding available for local system bridges. Although the funding for bridges on the NHS system has increased, most structures within the A/GFTC area are not NHPP - eligible.
- As with the highway system, limited funding dictates that the vast majority of bridge funds are expended on maintenance projects. As such, there are little to no opportunities to address functional obsolescence. In addition, many bridges are nearing the end of their design life. Bridges in poor condition will likely go unaddressed in the short-term, resulting in potential load postings (weight restrictions) and closures.

Highway and Bridge Priorities and Projects

Related Planning Principles: 2, 3, 4, 12

Maintaining existing transportation facilities is of primary concern to the A/GFTC transportation planning process. The following priorities and projects are intended to maximize the limited funding available, within the targets set by NYSDOT.

1. Identify ways to assist local sponsors to maximize the benefit of bundled maintenance setasides on the Transportation Improvement Program. The current TIP includes annual regional setasides for preservation/maintenance projects, including activities such as bridge inspection, pavement maintenance, and ADA compliance. Traditionally, local sponsors would avoid using federal transportation dollars for these types of projects, opting instead to utilize federal money for larger or more intricate projects. A/GFTC can provide assistance to sponsors to find ways to make the most out of this new funding mechanism.
2. Actively pursue opportunities to complete Illustrative Projects. The following projects have been identified as desired improvements to the transportation system and are listed on the TIP as "Illustrative Projects". Currently, insufficient programming capacity exists to allow for these projects to be programmed. However, as funding opportunities arise, these projects should be given priority consideration:
    a. U.S. Route 9 / NYS 149 / Exit 20 Congestion Improvements (Queensbury)
    b. U.S. Route 4 / NYS 32 Intersection Improvements (Kingsbury)
    c. Replace functionally obsolete bridges:
        i. NYS 197 over the Hudson River -east branch (Fort Edward)
        ii. U.S. Route 4 over the Hudson River (Greenwich)

iii. I-87 over Corinth Road (Exit 18) (Queensbury)
iv. Baldwin Corners Road over the Champlain Canal (Hartford)
v. East Street over the Champlain Canal (Fort Edward)

d. Other bridge replacements:
i. NYS Route 28 over the Hudson River (Thurman)
ii. Route 67 over Owl Kill (White Creek)
iii. Church Street over the Mettawee (Granville)

e. Dix Avenue/NYS Route 32 improvements (Glens Falls/Queensbury / Kingsbury)
f. Exit 18 reconfiguration (Queensbury)
g. Route 4 geometric improvements (Washington County)

Public Transportation

Whether considering the economic, community, or environmental health of a region, a vital and utilized public transportation system has many well-documented benefits, including:

- Providing essential mobility to the area's population and workforce, potentially attracting both workers and employers alike
- Increasing capacity of key transportation corridors, particularly during the peak summer tourist season
- Reducing air pollution and greenhouse gas emissions from single-occupant vehicles
- Expanding the range of bicycle and pedestrian transportation (all GGFT fixed route buses feature bicycle carriers)
- Attracting tourists and other visitors traveling without automobiles

Regional mobility and quality of life are dependent upon the continued success and potential expansion of public transportation operation.

Greater Glens Falls Transit (GGFT)

Greater Glens Falls Transit (GGFT) is the designated publicly operated local transit system that provides fixed route bus service and demand responsive paratransit service throughout most of the urbanized area. (See Map 7). GGFT is a department of the City of Glens Falls. Services are funded in part with funds from the Federal Transit Administration and the NYS Department of Transportation, in addition to fares and local government support. A summary of GGFT's services is included below. See Table 5 for ridership trends and projections.

Fixed-Route Service

The fixed-route bus system consists of seven primary routes designed as a radial pulse system focused on downtown Glens Falls, with all routes converging at an on-street terminal located along the east side of Ridge Street opposite City Hall. The pulse system allows passengers to easily transfer between routes; GGFT offers timed transfers and will hold buses for a few minutes to make sure services meet. The full system operates primarily on weekdays between 6:00 AM and 6:30 PM. Selected routes also operate on Saturdays.

Seasonal Trolley Service

In addition to the regular route system, GGFT operates on-road trolley service in Lake George during the summer months from late June through Labor Day. Routes extend north and south from the Steel Pier on Beach Road in the Village of Lake George for about 20 miles between Bolton Landing and downtown Glens Falls. The seasonal trolley routes operate seven days per week at times and service frequencies that are primarily oriented to visitors' travel schedules and itineraries.

Freedom and Mobility Express (FAME) Service

GGFT offers complementary paratransit service to individuals unable to access the fixed-route services. This service is branded as Freedom and Mobility Express (FAME). FAME is available for travel within ¾ mile of GGFT's fixed-route services and all passenger pick-ups and drop-offs must be within this area. The service is available during the fixed-route operating hours and based on the route schedule. Fares for FAME trips are double the fare on the fixed-route system.

Map 7: Greater Glens Falls Transit Service Area

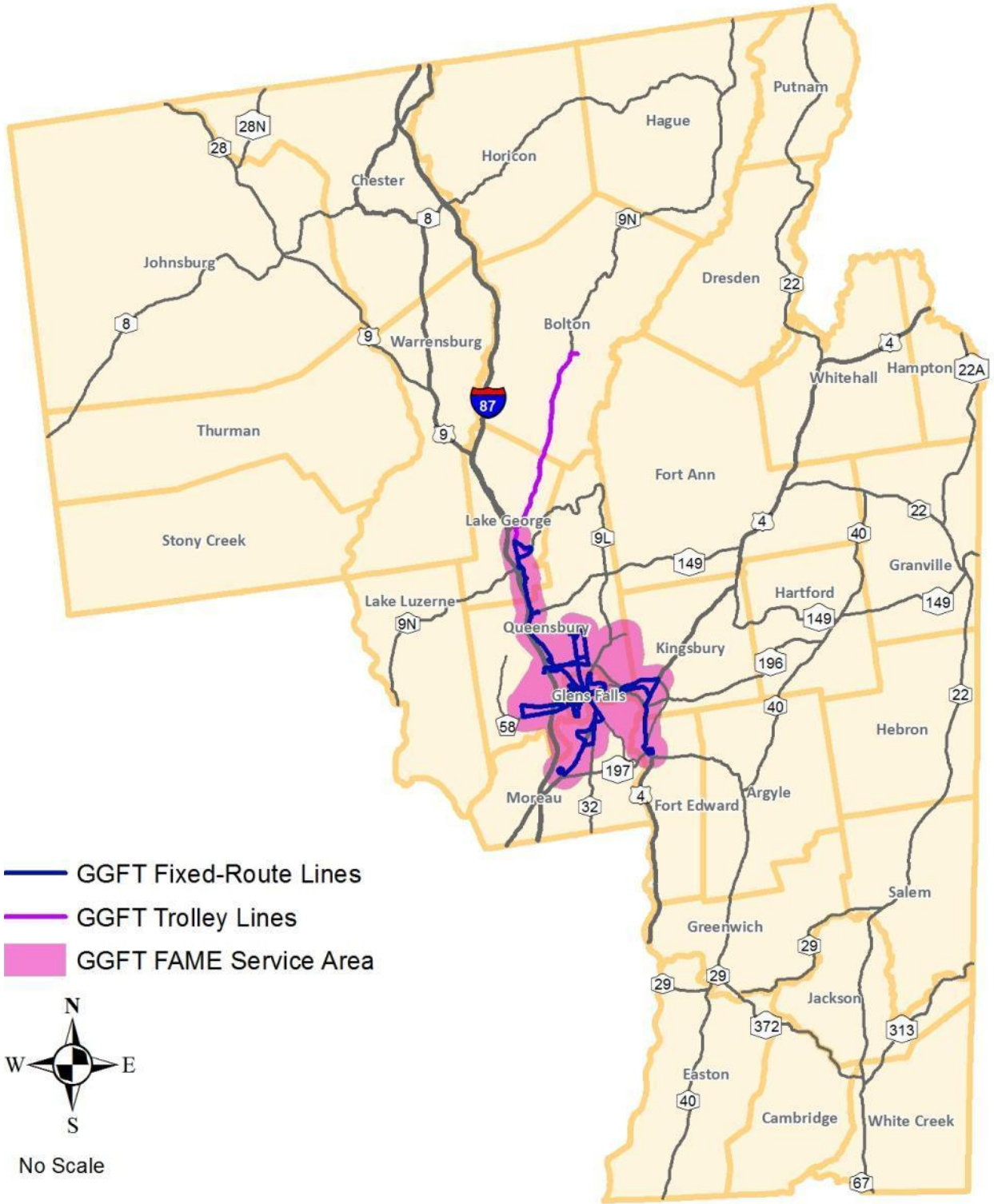


Table 5: GGFT Ridership Trends						
Year	Fixed Route	Trolley	FAME	Total Passengers	% Change - Annual	Actual/Projection
2007	212045	114030	2885	328960	4.0%	Actual
2008	216930	119268	3090	339288	3.1%	"
2009	220907	94549	2961	318417	-6.2%	"
2010	227891	94773	2445	325120	2.1%	"
2011	231482	107407	2142	341031	4.9%	"
2012	232469	107566	1895	341930	0.3%	"
2013	237,118	108,642	1,800	347,560	1.6%	Projection
2014	241,861	110,814	1,818	354,493	2.0%	"
2015	246,698	113,031	1,836	361,565	2.0%	"
2016	251,632	115,291	1,855	368,778	2.0%	"
2017	256,665	117,597	1,873	376,135	2.0%	"
2018	261,798	119,949	1,892	383,639	2.0%	"

Note: shaded boxes indicate years when GGFT operated a special EXPO shuttle for Americade
Data provided by GGFT

Other Agency Services

Several area public departments and social service agencies (including Offices for the Aging, Veterans Services, and public senior health care facilities) as well as private organizations (examples include Glens Falls Home, Community Work and Independence Inc, Hudson Headwaters Health Network) and others offer varying levels of transportation services to their respective clients. Although these services are not truly public in that they are only available to limited segments of the population or specific clients, they do serve particular mobility needs for specific segments of the population and often operate in areas where sustained public transit is not feasible. While many of these operators cater to unique clients or geography, overlap of services does exist. Coordination of human services transportation has the potential to increase significantly the efficiency and range of area transportation services.

Intercity Bus

Northway Xpress

The Capital District Transit Authority (CDTA) operates this commuter-oriented bus line, which runs Monday through Friday from a park & ride lot in South Glens Falls. The route stops at Exit 9 on the Northway and various points in downtown Albany and the State Office campus. Another trip returns to the lot each evening. This service is not coordinated with the GGFT route schedule. In addition, the route leaves quite early from South Glens Falls, arriving in Albany at 7:35, while the return schedule in the afternoon leaves Albany well before 5 p.m. This schedule could be a potential barrier to people looking for transportation predicated on a traditional 9-5 schedule. Previous efforts to coordinate GGFT & CDTA services have yet to come to fruition, but remain a possibility in the future.

Adirondack Trailways and Greyhound

These buses operate intercity and commuter services six days a week from a terminal on Hudson Avenue in the City of Glens Falls. An average of six bus trips per day operate between Glens Falls, the Albany area and points south including New York City; one regular bus per day travels north from Glens Falls to Canton, NY. Major local service destinations include Warrensburg, Lake George, and Bolton Landing. Adirondack Trailways does offer a commuter-oriented fare package from Warrensburg and Glens Falls to Albany. However, the fares are significantly higher than the Northway Xpress and would not be a viable daily transportation option for most people.

Intercity Rail

AMTRAK

Passenger train service to the Glens Falls area is accessed by way of the AMTRAK station located in the Village of Fort Edward. There is twice daily north- and south-bound service from the station provided by the Adiorndack and Ethan Allen Express tains. GGFT's Train Catcher service travels to and from the train station and major area destinations on a reservation basis. AMTRAK services to the Fort Edward / Glens Falls station are not practical for regular commuting based upon departure and arrival times. However, the service is very useful for tourists, and provides an important alternative travel mode to Albany and New York City. The schedule of the Ethan Allen is currently under review by the New York –Vermont Bi-State Intercity Passenger Rail Study. Reductions in service are possible, depending on the outcome of this study. A/GFTC supports preserving the local level of service currently provided by existing AMTRAK operations.

Saratoga & North Creek Railway

Although long dormant, rail service on this line was reinstated in 1999 with scenic train rides offered by the Upper Hudson Railroad, operating from North Creek. Since 2011, the Saratoga & North Creek Railway has operated tourist passenger service between Saratoga Springs and North Creek with 7 station stops in between. Saratoga & North Creek Railway extended the service to Saratoga Springs enabling a connection with the National Rail Network[7]. This rail line provides a valuable tourist service, as well as limited freight, but is not practical for regular commuting.

Regional Transit Issues

Although an inventory of current transportation services is useful, for the purposes of this Plan, it is of greater importance to identify future transit needs and potential solutions. Land use patterns, commuter travel demand, rural mobility, economic development, human service agency transportation systems, and new technology all influence public transportation services. A precise prediction of future need is not possible, but the following factors are expected to influence public transportation usage and demand:

Land Use Patterns

The City of Glens Falls, all urban area villages and most major urban arterials are included within GGFT's coverage area. Existing GGFT services provide reasonably convenient access to most area employers, shopping and older residential areas. However, development of residential and commercial centers has continued to

[7] The term *national rail network* refers to the entire network of interconnected standard gauge rail lines in North America. It does not include most subway or light rail lines.

occur in the more outlying suburban and rural areas. In addition, demand in outlying hamlets and villages outside of the GGFT service area has continued.

Challenges posed by these trends:

- Routing and schedule adjustments necessary to serve new areas of development
- Poorly designed developments or individual establishments that do not meet the accessibility requirements of transit buses
- Residential areas that are not conducive to pedestrian activity that in turn increase the demand for specialized demand-responsive and route deviation type service – typically these are less productive from a passenger volume standpoint and can be more expensive to operate on a per passenger basis than comparable fixed route services

To respond to these challenges, public transit systems should evaluate their operations periodically. This will help to ensure that new demands can be met without eroding core services. This could include consideration of alterations in service, utilizing different types of vehicles or modifications to or additions of routes. Consideration should be given to transit-related issues of access and scale, by allowing transportation providers review and comment on the design of major land use developments.

Although existing services to can sometimes be adapted to respond to changes in demand, expanding service to new areas often entails considerable costs. To be a truly viable alternative to private vehicles, an adequate frequency of service is necessary. Establishing these new services should be balanced with the need to continue predictable and reliable services to existing service areas.

While A/GFTC is not directly involved in the operations of transit services, staff is available to provide technical assistance to public transportation providers. In addition, the UPWP can be utilized to undertake more rigorous planning efforts. For example, in 2009, A/GFTC and GGFT completed a Transit Development Plan. This plan recommended a number of route and schedule changes. GGFT has met with success in implementing this plan, resulting in improved service for the greater Glens Falls area.

Commuter Travel Demands

Commuting patterns between residential and employment areas are somewhat fluid, depending on the location of homes and businesses. Public and private transit capabilities can have a positive impact on reducing road congestion, increasing road capacities and maintaining air quality. Local public and intercity private commuter systems should work together to improve the transferability between systems and jointly market their services to encourage maximum usage.

Since Glens Falls currently meets federal air quality standards and peak hour congestion does not yet constitute a serious regional problem, localized reliance upon private automobile transportation has not yet deteriorated to the point where there are serious observable consequences. As a result, a strong need for dedicated intercity commuter transit services has not yet developed. Excluding smaller scale rural demands, present commuter services are considered as adequate within the immediate Glens Falls area.

The commuter dynamic between the A/GFTC Planning and Programming Area and the greater Capital District (including the Albany and Saratoga areas) is expected to strengthen as large-scale employment centers continue to develop along Interstate 87 between the urban areas. As fuel prices increase, there may be an associated increase in the need for new park and ride lots near Glens Falls area Northway exits, expanded bus commuter options, ridesharing services, and vanpooling services. Acceleration of these demands could be expected if the Luther Forest Technology Park develops to its full potential. Among these new demands will likely be the need for new and expanded commuter transit services from the A/GFTC area.

Rural Mobility

The Glens Falls area is the primary center for the location and delivery of many services, employers and shopping for large areas of Warren, Washington and other outlying counties. Currently, most public transit services are limited to the urbanized area. Transportation services to outlying rural areas are generally limited to private intercity carriers and restricted services from various public human service agencies.

A/GFTC and GGFT surveys from the past ten years, including the LRP survey results included in this plan, have consistently identified unmet rural transportation needs as a primary issue for a number of small rural locations. GGFT and other area public service agencies have long studied the feasibility of instituting rural transit services to selected larger rural population centers such as Warrensburg, Whitehall, Granville, and others. It may be feasible to implement limited Trolley service to Warrensburg; however, no service agreement between the Town and GGFT is yet in place. Providing service to the more outlying communities poses an even greater challenge, as these areas are not contiguous to the existing service boundary. To date, the demand has been too diffuse in these areas to overcome the challenge inherent in expansion of GGFT service area.

A/GFTC has implemented a computerized ridesharing program for Warren and Washington Counties that is designed to begin to address some of the unmet rural mobility needs. This service, once known as iPoolNorth, and now integrated into the larger iPool2 Capital District service, has addressed some previously unmet travel needs. However, use of the service has been somewhat limited in the A/GFTC area.

Economic Development

Effective transportation, inclusive of all modes, is critical to sustaining and growing the local and regional economy. Transit provides inexpensive transportation to the work force. In addition to providing access to jobs, tourism plays a major role in the area economy. A 2010 white paper, prepared for the Economic Development Corporation of Warren County, indicates that tourism accounts for annual visitor spending of $450 million, and the generation of over 8,100 jobs. The GGFT trolley service has seen increased ridership trends over the last few years, indicating that demand for transit to tourist centers such as Lake George and Bolton Landing continues to grow.

Coordination of Human Services Transportation Programs

The need for public transportation is vital and continues to grow, especially among particular segments of the population such as the elderly and persons with disabilities. Given the aging population noted in this plan, a significant amount of the future growth in demand for transportation services is likely to be in these specialized areas of service.

Historically, much of this need has been addressed on a case-by-case basis by a variety of local agencies providing services to their specific clients. As a result, there are a number of area government agencies and not-for-profit organizations that either operate or sponsor client transportation services. Many of the vehicles used for these transportation services have been purchased with assistance of State and Federal funds. While each of these services are important and make small but valuable contributions to the local and regional mobility, there are individuals and groups (such as rural residents and young people) who are not served adequately or reliably. Underutilization of publicly funded vehicles and duplication of services are also a consequence of a multi-provider system. While no one operator can assume the roles of sole mobility provider for the entire region, transportation coordination between agencies can yield increased efficiencies and greater extent of services. It is important that future planning efforts work to promote the coordination of services wherever feasible so that available public resources are used as effectively and efficiently as possible. A/GFTC maintains a Coordinated Human Services Transportation Plan for the area to address Federal requirements for FTA-funded programs. Recommendations of that Plan are focused on finding feasible, meaningful opportunities for the many human service agencies to come together to coordinate transportation needs.

New Technologies and Equipment

The last ten years have seen the introduction of a variety of new 'green' and 'smart' technologies in the transit industry. Small public transit operations like those in Glens Falls face challenges in adopting many of the new beneficial technologies. Many of these new technologies have associated costs (new equipment, training, operating, and infrastructure) that are difficult to reconcile without corresponding increases in ridership.

New technologies such as hybrid engines and smart card - type systems will likely become more standardized throughout the industry. Emissions regulations will mandate alternative fuels and cleaner vehicles. Small transit operations will need to be provided with sufficient time and resources to incorporate these changes into their fleets and operations.

Challenges and Opportunities

Significant challenges that will face public transportation operators in the next 25 years are expected to include:

- Changes to regional north-south commuting patterns and the resultant transit demand, potentially accelerated by development in Malta and Saratoga
- Continued pressure to expand services to outlying rural areas, where expanding populations and increased percentages of elderly and disabled residents will likely trigger implementation of rural transportation services during the planning horizon of this document
- Securing the requisite levels of federal, state and local funding support essential for continuing transit's critical role in the regional transportation system
- Coordinating the varied public and private transportation providers as is needed for the region to effectively address its transportation needs

Public Transportation Priorities and Projects

Related Planning Principles: 3, 5, 6, 8, 12

Although A/GFTC does not operate a transit system, the MPO takes an active role in advancing public transportation options for the many residents and employees in the area. The following priorities and projects are intended to continue this commitment to improving public transportation.

1. Promote mobility management by hosting a web-based application that links those in need of transportation services with human service transportation providers. Currently, there are dozens of local and regional agencies that provide transportation services. However, there is no single information portal dedicated to providing data concerning geographic range, accessibility, or other qualifying factors. A/GFTC is uniquely suited to hosting a web-based service to fulfill this need.
2. Continue to manage the Coordinated Human Services Transportation process through stakeholder meetings and regular plan updates. A/GFTC provides staff support to the Coordinated Human Services Transportation Committee. The MPO will continue to seek input and participation from this group and other stakeholders when updating the Coordinated Human Services Transportation Plan, as well as during solicitations and selection of FTA competitive programs.
3. Continue to support GGFT through promotion, data needs, mapping, and technical assistance. A/GFTC maintains a strong working relationship with Greater Glens Falls Transit. The MPO will continue to support GGFT as needed.

Bicycle/Pedestrian Facilities

Maintaining and expanding bicycle and pedestrian infrastructure has long been a key priority for A/GFTC. The presence of safe, functional, and accessible bicycle and pedestrian facilities provides essential transportation choices for those without practical access to private vehicles and for the increasing number of Americans electing to limit their automobile usage. Non-motorized transportation modes have a number of benefits to communities, including:

- Less vehicular congestion
- Reduced environmental consequences, such as air quality impacts, noise levels, resource consumption and neighborhood disruptions
- Improved health and fitness for participants
- Increased economic activity through better access to urban commercial areas and tourist spending, as well as increased personal capital from reduced vehicle-related costs
- Reduced reliance upon social services to provide transportation alternatives and a heightened sense of independence for those with disabilities
- Increased interpersonal interaction within the community

Bicycle and pedestrian infrastructure in the A/GFTC area contributes to the quality of life for residents and workers as well as seasonal visitors. In addition to having numerous tourist destinations and attractions, the A/GFTC region serves as a gateway to the Adirondack Park, Lake Champlain and Vermont. Tourism is a vital component to the continued economic vitality of the region. Promotion of existing recreational opportunities can enhance the profile of the region as an attractive vacation destination.

Existing Assets

The A/GFTC region currently is home to a growing bicycle and pedestrian network, including:

- Separated right-of-way trails: The A/GFTC area has approximately 17 miles of trails which accommodate non-roadway travel. The most extensive network consists of the Warren County Bikeway and Feeder Canal Trails, which link the City of Glens Falls to the Villages of Fort Edward, Hudson Falls, South Glens Falls, and Lake George, and the Towns of Queensbury, Fort Edward, and Kingsbury. In addition, there are almost 5 miles of trail located in the Village and Town of Granville. This trail is located along the D&H rail bed and extends into Vermont.
- Designated cycling routes: There are currently about 100 miles of on-road bicycle routes, located on State highways and local roads throughout the area. These include US Route 9 in Saratoga County, NY Route 197 in the Town of Moreau, US Route 4 and NYS 22 (both are elements of NYS Bicycle Route 9), as well as local roads in the Towns of Queensbury, Lake Luzerne and the City of Glens Falls. It is anticipated that this network of on-road bicycle routes will continue to grow as local communities adopt policies in support of the A/GFTC Bicycle Plan and NYS Complete Streets legislation.

In addition to dedicated bicycle facilities, the A/GFTC area is home to villages, hamlets, and the City of Glens Falls that were built prior to the automobile and are inherently walkable communities. Conditions among the associated pedestrian networks vary widely. Many communities struggle to maintain, repair, and replace older facilities that have degraded in condition and were not constructed to ADAAG standards. However, thanks to dedicated funding programs such as the Transportation Enhancement Program and Safe Routes to School (now

part of the Transportation Alternatives Program), and A/GFTC's Make the Connection Program, many communities have been able to make targeted improvements to the pedestrian network.

A/GFTC last completed an update to its *Bicycle and Pedestrian Plan* (*BPP*) in 2000. The goal of the Plan was to preserve and enhance the area's bicycling and pedestrian network and to improve safety, attractiveness and overall viability of cycling and walking as legitimate transportation alternatives within the region. The *BPP* contained both region-wide and corridor-specific recommendations as well as public comments intended to enhance area bicycle and pedestrian accommodations.

Since the last LRP, A/GFTC has worked steadily to improve bicycle and pedestrian conditions throughout the MPO. These efforts have included:

- *Preparing the Warren County Bicycle Improvement Plan.* This plan, prepared with assistance from the Warren County Safe & Quality Bicycling Organization, was completed in 2012. It set forth a framework by which local municipalities could plan for feasible improvements to bicycle infrastructure, taking into account physical conditions, the priorities of various user groups, and current funding levels. This plan has been adopted by the Warren County Board of Supervisors, and has been cited in other local and regional efforts to improve bicycle facilities. It is anticipated that A/GFTC will expand this plan to include Washington County and the Town of Moreau, thereby updating the BPP from 2000.
- *Updating the Regional Bike Map.* A/GFTC staff prepared a complete re-design of the Regional Bike Map. This included new on-road bicycle routes in Queensbury and Lake Luzerne, as well as off-road trails in Granville.
- *Preparing local ordinances and policies intended to implement Complete Streets principles.* Creating Healthy Places to Live, Work, and Play, a program run by Glens Falls Hospital, hosted several Complete Streets workshops in the area. In particular, the Town of Warrensburg expressed a desire to review and revise their local land use codes to be in compliance with the Complete Streets policy passed by the Town Board. A/GFTC staff coordinated the preparation and adoption of these revisions.
- *Completing a Bicycle and Pedestrian Assessment for the Village of Greenwich.* The Adirondack/Glens Falls Transportation Council approached the Village of Greenwich to assist with a Bicycle and Pedestrian Assessment in summer 2010. The intent of the bicycle and pedestrian network assessment within the Village was not to direct bicyclists or pedestrians to use or avoid existing facilities based upon their present physical conditions. Rather, by providing this scoring and prioritization of the streets, the Village may be better informed to decide how to prioritize funds towards implementing physical improvements that would enhance the traveling experience for bicyclists and pedestrians.
- *Conducting Dix Avenue/Sagamore Street intersection evaluation*. This project involved a traffic assessment and evaluation of the intersection of Dix Avenue and Sagamore Street/Walnut Street in the City of Glens Falls. The project identified potential geometric and operational improvements to the intersection, and a traffic signal warrant analysis was also conducted. Potential intersection improvements include narrowing the travel lanes for the Dix Road and realigning the pedestrian/bikeway crossing on eastbound approach of Dix Avenue. The results of the Traffic Signal Warrant Analysis indicated that the intersection meets two of the accepted national traffic volume warrants for the installation of a traffic signal. However it is recommended that the traffic signal should be installed after the physical intersection improvements are made.
- *Lake George Gateway Corridor Plan: Town of Lake George.* This plan entailed identifying existing issues and opportunities regarding pedestrian safety, access, and streetscape amenities, as well as ways to improve the connectivity between Lake George's waterfront, the Lake George Battlegrounds, Warren

County Bikeway, Prospect Mountain Veterans Memorial Highway, and the Charles R. Wood Park. The study area consists of the Route 9 corridor, from its intersection with Route 9N near Exit 21 of the Adirondack Northway (I-87), north to the Village of Lake George's municipal boundary. The final concept calls for a "Complete Street" approach, including sidewalks, medians, landscaping, signage and gateways, lighting/utilities, crosswalks, access management, stormwater, transit improvements, and snowmobile access.

- *Supporting local efforts to improve bicycle and pedestrian conditions*. A/GFTC staff has participated in several planning efforts sponsored by local municipalities and advocacy groups. This includes the City of Glens Falls Pedestrian and Bicycle Connectivity Study (2013), the Lake George Trails Master Plan (2013), and the ongoing efforts of WCS&QBO.

Challenges and Opportunities

The projects above have made considerable progress in improving bicycle and pedestrian conditions, but much work remains. The following are some of the challenges and opportunities that will inform this work.

- Despite the recent adoption by NYS of a Complete Streets law, bicycle and pedestrian improvements are often given only the minimally required consideration within the scope of larger transportation projects. This is compounded by the "Preservation First" approach, since roadway maintenance projects are exempt from the law. As such, many opportunities to redefine roadway user space are not taken when maintenance projects are completed.
- The increasing demand for bicycle and pedestrian facilities suggests that infrastructure needs are likely to exceed the scale that can be addressed by the comparatively small funding amounts available through the Make the Connection Program.
- Recent changes to FHWA policies have made it difficult for local municipalities to use in-house design and force-account labor to construct MTC projects.
- Support for bicycle and pedestrian issues is growing substantially, creating an opportunity for partnerships and collaboration which did not exist even a few years ago. This can, in turn, create new opportunities for improvements from non-traditional funding sources. In addition, as local municipalities become more supportive of bicycle and pedestrian needs, the opportunity to implement small-scale or phased improvements grows.

Priorities and Projects

Related Planning Principles: 1, 2, 6, 12

A/GFTC has identified the following projects and priorities, intended to continue the MPO commitment to bicycle and pedestrian transportation, as well as take advantage of new opportunities.

1. Continue to provide staff support for local municipalities and agencies in plans involving bike/pedestrian issues. As stated above, A/GFTC staff currently supports a number of local and regional bicycle and pedestrian oriented efforts. This assistance will continue to be provided, as staff resources allow.
2. Review/reorganize the Make the Connection program to address new FHWA requirements and the need for project delivery. A/GFTC is committed to continuing the Make the Connection program. However, given the problems faced by sponsors for project delivery, it may be worthwhile to explore ways to modify the program to allow the local benefits to the bike/pedestrian infrastructure while minimizing the administrative burden associated with small projects.

3. Update the Bicycle Pedestrian Plan (BPP), using the Warren County Bicycle Plan as a template. The Warren County Bicycle Plan set forth a methodology for the identification of bicycle improvements which could serve as a model for a regional plan. The updated regional plan could take into account Complete Streets principles, which apply to both bicycle and pedestrian issues.
4. Utilize UPWP and Engineering Assistance to plan for bicycle pedestrian improvements. The Engineering Assistance task allows local sponsors to address the gap between concept and design, which is a common obstacle for small projects. Similarly, the UPWP can be used for larger-scale projects which are dedicated solely to bicycle/pedestrian issues, or contain those issues as components of a larger plan.
5. Complete previously-identified bicycle/pedestrian projects. Currently, there are a number of ongoing bike-ped projects in the A/GFTC area. This includes Make the Connection projects, Safe Routes to School projects, and a number of concepts identified in local planning efforts, such as the Dix Avenue/Sagamore Street intersection improvements, Fire Road/Jerome Avenue/Kensington Avenue project, or the City of Glens Falls Downtown Connectivity Plan. These projects are a priority for the MPO, whether in terms of construction project delivery, or assistance in bringing a concept plan to fruition.
6. Give priority in preservation project selection parameters to maintaining existing bicycle/pedestrian facilities. One of the largest challenges, in terms of improving the bicycle and pedestrian infrastructure, is that preservation/maintenance projects usually replace existing facilities in kind. This leaves little or no opportunity to create wider shoulders or road striping which benefits cyclists. However, many roads in the A/GFTC area are already amenable for bicycle use. Given the choice between two equal candidates for preservation funding, one which accommodates bicycles adequately and one which does not, it is logical to give priority to the project which will benefit more than one mode.

Freight

Freight travels through the A/GFTC area on a variety of transportation modes, although the primary reliance is on highways, and to a lesser extent, rail and waterways. The movement of goods impacts the region in a variety of ways. The provision of adequate freight facilities is of prime importance for local and regional economic development interests. However, in most cases, the same transportation facilities used for freight are also shared by passenger vehicles, which creates the potential for competing interests among limited resources.

Freight Facilities: Highways

In New York State, almost 93% of shipments originating in the state (by weight) are shipped via truck. Commercial truck traffic nationwide has more than doubled since 1980. FHWA estimates that, by 2040, the tonnage of freight moved by truck will increase almost 40% over 2011 levels.

Table 6: Modes of Transportation for Shipments Originating in New York

Mode of Transportation	% of value	% of weight
Truck	71.8	92.6
Air (including truck and air)	1.9	0
Rail	0.5	1.9
Water	S	S
Pipeline	S	0.5
Multiple modes	23.2	3.3
Parcel, U.S.P.S. or courier	21.7	0.6
Other and unknown modes	2.6	S
Total	100.0	100.0

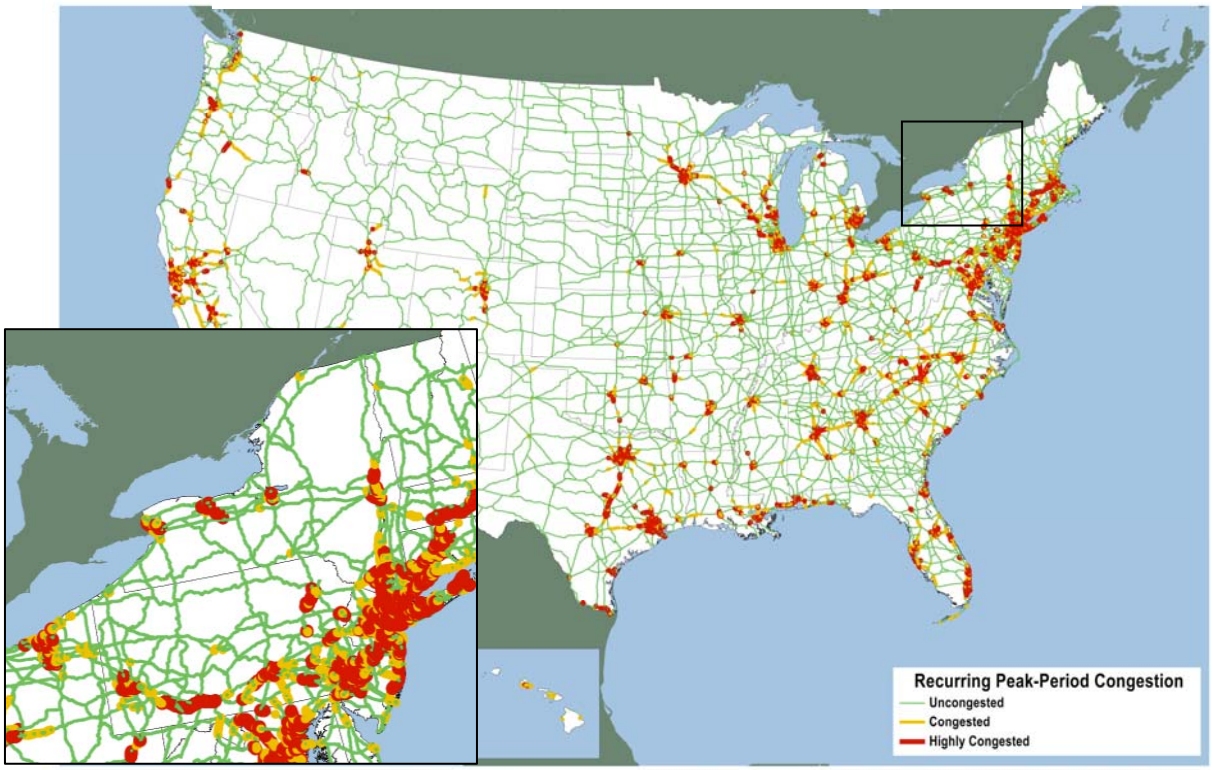
S = Estimate does not meet publication standards because of high sampling variability or poor response quality.

SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, 2007 Commodity Flow Survey data, March 2010.

With the exception of local deliveries and commodities generated or consumed by the local economy, the majority of regional trucks utilize the National Highway System (NHS). The NHS is a network of highways identified as having strategic importance to the nation's economy, defense, and mobility. Within the urban area, most of these NHS components are built and designed to handle considerable volumes of heavy truck traffic. However, some rural Principal Arterials, including U.S. Route 4 and NYS 149, are already experiencing strains exerted by increases in truck volumes.

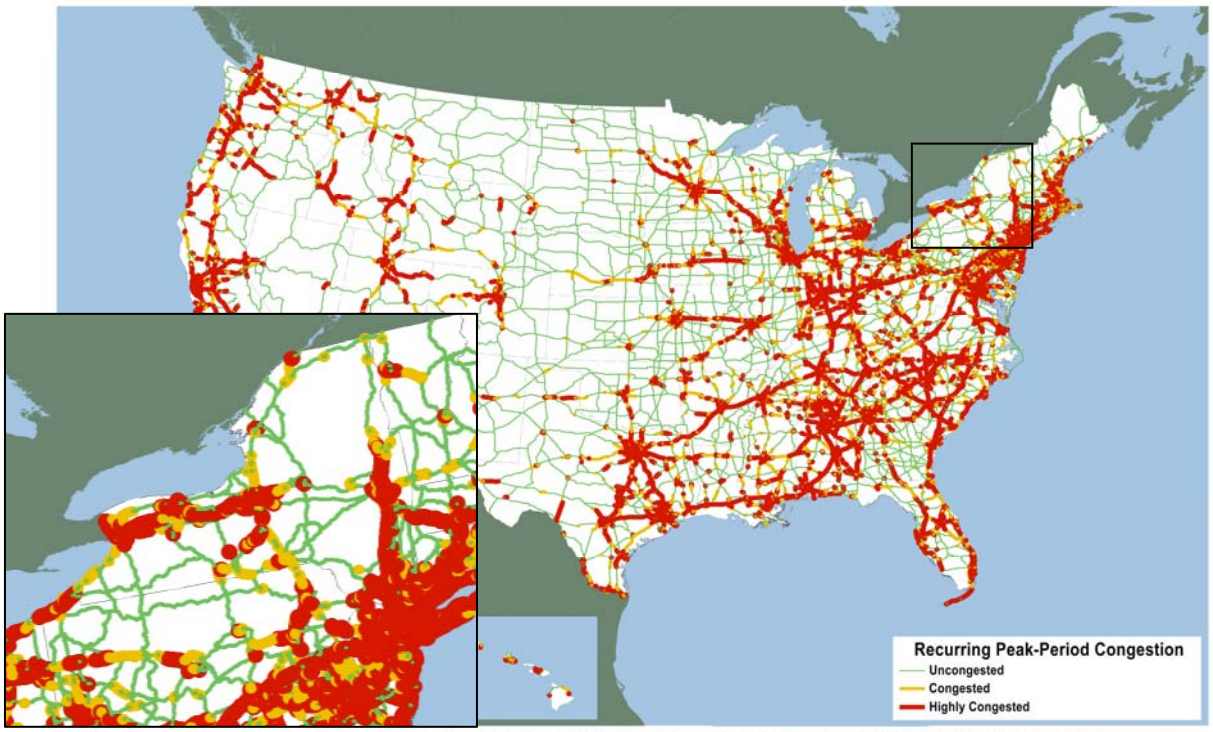
Maps 8 and 9 depict data from FHWA's *Freight Analysis Framework* that predicts peak hour congestion issues on the NHS to worsen considerably by 2040. Notably the model indicates that unlike today, some of the NHS components in the A/GFTC Planning and Programming Area arterials will be subject to peak hour congestion.

Map 8: Peak-period Congestion of the National Highway System, 2007



Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95.The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual, Appendix N.
Source: U. S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System, and Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2012

Map 9: Peak-Period Congestion on the National Highway System, 2040



Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual, Appendix N
Source: U. S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2012

Since freight trucks share the same road network as other automobiles, the movement of freight over highways is subject to the same congestion issues that affect all vehicles. In addition, freight vehicles are also affected by a number of geometric limitations, as well as local limits on truck traffic along certain roadways. Although a number of improvements have been made to the transportation system over the past decade, the following locations are noted to have existing congestion or geometric issues that limit the regional mobility of larger vehicles. These have been identified through the course of planning studies undertaken by A/GFTC.

NYS 197 Bridge over Hudson River, Village of Fort Edward

The bridge that carries NYS 197 over the east branch of the Hudson River is functionally obsolete. The bridge deck has inadequate lane width and no shoulder (22 feet total pavement width). The intersection with Route 4 has geometric limitations for truck movements, although a recent reconstruction of that intersection has improved those limitations. Existing adjacent land uses limit right-of-way availability for larger, more functional design alternatives.

Route 4 / NYS Route 32 Intersection, Town of Kingsbury

The intersection angle of Routes 4 and 32 in the Town of Kingsbury is an impediment to the safe and efficient movement of larger trucks. Additionally, this location is subject to moderate peak hour congestion, particularly on the east and west approaches. Previously programmed as a TIP project, funding for this project was diverted to other priority projects and has not been restored.

Exit 20 Corridor, Town of Queensbury

Traffic volumes along this section of Route 9 that carries the NYS 149 overlap from Exit 20 to NYS 149 exceed capacity during the summer months. Local and regional freight movements, as well as heavy volumes of seasonal tourists, result in substantial delays along this short segment of highway. A high density of commercial driveways further complicates traffic congestion along the corridor, and recent construction at the Warren County Municipal Center limits practical bypass options. A/GFTC conducted a corridor study to (1) identify a low-cost short-term improvement package focused on access management and (2) to model anticipated benefits of a larger capital-intensive solution such as a redesigned freeway interchange. The study identified a number of short- and long-term capacity and safety alternatives for the 2-mile segment of US Route 9, as well as recommendations for transit, access management, and signage.

NYS Route 149 Geometry/Alignment Improvements, Washington County

NYSDOT reconstructed the westernmost portion of this NHS route in 2001 and 2008-09. The remaining NHS component of Route 149 in Washington County is a source of significant local concern. Maintenance resurfacing of sections has taken place during recent years, but no reconstruction projects to address vertical or horizontal curves or width constraints for this section are currently programmed on the TIP.

US Route 4, Various municipalities in Washington County

Route 4 is a major component of the primary truck route between Interstate 87, Washington County, Vermont, and northern New England. Previous traffic counts taken for rural sections have shown heavy truck percentages approaching 20% of overall traffic. Within the urban area, Phase I of the Route 4 reconstruction project (Village and Town of Fort Edward) was completed in 2010. As part of this project, the geometry of several intersections was improved for large trucks. Phase II (Village of Hudson Falls/ Town of Kingsbury) is currently underway, but the project's physical scope does not include the intersection of Route 4 with NYS 32 (listed earlier).

The rural section of U.S. Route 4, north and east from the Town of Kingsbury to the State of Vermont boundary, features a number of substandard intersection angles, horizontal and vertical sight distance issues, varying shoulder widths, and abrupt rural-to-village transitions. The intersection of Route 4 and NYS 149 in the Village of Fort Ann is a known capacity constraint with potential construction solutions largely limited by the surrounding

built environment. The 2005 Route 4 Corridor Study, commissioned by A/GFTC, contained the following recommendations for safety, capacity, and aesthetic improvements:

- Roundabouts at the intersections of Routes 4/32 (Kingsbury) and 4/22 (Whitehall)
- Speed limit reductions in villages
- Widened shoulders to establish consistent profile and accommodate emergency maneuvers
- Gateway-style entrances to villages
- New turn lanes at selected intersections

Route 9, Town of Moreau and Village of South Glens Falls

Route 9 provides important access to commercial and industrial development in northern Saratoga County. Congestion and delays frequently occur during peak hours, particularly in the Village of South Glens Falls. A corridor study that contained recommendations that addressed signal coordination, truck conflicts, access management controls and intersection improvements was completed in 2002. Route 9 in the Village of South Glens Falls is currently being reconstructed to allow for a continuous center-turn lane. This project is intended to alleviate safety issues; however it is anticipated that some congestion issues will also be mitigated. In addition, A/GFTC is undertaking a large-scale land use corridor study of the Exit 17 corridor, which will examine freight movement throughout Route 9 in the Town of Moreau.

Freight Facilities: Railroads

Rail infrastructure continues to be a valued if underutilized and disinvested component of the transportation system. While the speed of contemporary consumer purchases and trade have moved a majority of shipments to trucks, vans, and airplanes, rail transport remains as a viable alternative for the movement of high volume bulk goods that are not sensitive to time demands. Preserving and improving rail infrastructure could help to sustain those businesses which use rail freight currently, as well as encourage new economic activity within the region. On a larger scale, maintaining existing railiroads in a state of good repair is vital to the current and future economic security of the United States. Regional efforts to alleviate rail congestion issues could lead to further use of rail in the A/GFTC area. There are five distinct railroad systems within the A/GFTC region (see Map 10) of varying ownership, condition and function. More detailed information for the major active rail lines are listed below[8]. Please note that these are listed in terms of ownership of the rail lines and the name of the rail service operated.

Delaware & Hudson Railway Company - Canadian Pacific Railroad

Of the four main rail lines in the MPO, the most significant in terms of the economic activity, movement of goods, and connectivity to major ports and terminals is the Canadian Pacific Railway (CP). CP is one of only seven remaining Class I railroads still operating in North America (Class I is defined by the Surface Transportation Board as having minimum carrier operating revenues in excess of an inflation-adjusted total of 433.2 million dollars in 2011[9]).

[8] General Electric Company owns and operates a short rail spur in Fort Edward. This rail line is not included as part of the LRP.

[9] Palley, Joel. "Freight Railroad Background". March 2012. Office of Rail Policy and Development, Federal Railroad Administration. http://www.fra.dot.gov/eLib/Details/L03011

CP tracks connect Montreal, New York City, and Philadelphia, as well as the following communities within the A/GFTC area:

- Glens Falls
- Queensbury
- Moreau
- Fort Edward
- Kingbsury
- Fort Ann
- Whitehall
- Dresden
- Putnam

Industrial employers including Lehigh Cement, Finch, Pruyn and Company and Irving Tissue rely upon rail service from CP for shipments of commodities including coal, pulp paper, cement and industrial chemicals. Other smaller operations in the area involve the transport of feedstock, scrap materials and rock salt.

Map 10: A/GFTC Area Railroads

Intermodal service is necessary to optimize the competitiveness of rail as a means of shipping. The area intermodal terminal for CP is currently located at Kenwood Yard in Albany. In addition, a recently upgraded rail switching yard in Mechanicville is a clear indicator in regional interest in improving rail infrastructure. Within the A/GFTC area, significant rail infrastructure improvements at the dewatering facility in Fort Edward, constructed to faciltate the outbound shipment of PCB-contaminated sediment removed from the Hudson River, represent an important opportunity as the dewatering facility site is redeveloped in the future.

Vermont Rail System - Clarendon and Pittsford Railroad

Vermont Rail System acquired the Clarendon and Pittsford Railroad in 1972. The 6.8 miles of track in Washington County crosses the towns of Whitehall and Hampton and connects the CP mainline to the Vermont Railway in Rutland, VT. Commodity shipments along this line include fuel, rock salt, and slurry (mixtures of water and insoluble solids such as cement). AMTRAK also operates its Ethan Allen service to Rutland along this rail section.

NE Rail - Batten Kill Railroad

The Batten Kill Railroad is a Class III line, comprised of 34 miles of track in southern Washington and northern Rensselaer Counties, with an eventual connection to the CP network via Guilford Transportation Industries trackage that leads to Mechanicville, NY. Once servicing Cambridge, Salem, Greenwich and Clarks Mills, existing operations along the Batten Kill are limited to bulk shipments of animal feed and fertilizer to East Greenwich. The 500 annual carloads shipped along the track result in transportation and commodity cost savings for local

farmers. NYSDOT has identified approximately 10 miles of track which require rehabilitation between Eagle Bridge and East Greenwich[10]. Previous efforts by the State resulted in the recent improvement of three miles of track, and the rehabilitation or replacement of several rail bridges. Currently, the railroad owner, NE Rail, is working with Washington County and NYSDOT to complete a $1M track repair project.

Warren County - Saratoga & North Creek Railway

After years of track dormancy, Warren County acquired the former Adirondack Branch of the Delaware and Hudson Railroad in 1998. The Upper Hudson River Railroad began operations of an 8.5-mile scenic excursion train between North Creek and Riverside in 1999. In 2011, the railroad was acquired by the Saratoga & North Creek Railway. Through significant investments of county, state, and federal funds toward improving track, ties, clearing and at-grade crossings, 40 miles of railroad are now up-to-date and operational, from North River south to the Town of Corinth in Saratoga County. The line is mainly used for tourist passenger rail, but Barton Mines began using the railway for freight in 2013. There is potential for other freight customers, such as logging and mining companies, which could expand the usefulness of the railroad for the region.

Freight Facilities: Canals

Champlain Canal

The 63-mile Champlain Canal connects Lake Champlain in the north to the Hudson River and Erie Canal to the south and includes 49 miles of waterway in Washington County. Despite the fact that barge shipping is far more fuel efficient, truck and rail-based shipments dominate contemporary commodity movements. The slow travel rate of barge travel simply does not support the movement of low-volume high-value consumer goods that are in continued demand. Besides speed, another constraint that limits the viability of barge shipments is canal depth. As a legacy of historic PCB contamination in the Champlain Canal, the controlling depth of the Champlain Canal in the A/GFTC area is generally too shallow to accommodate larger vessels[11]. However, recent interest in commercial shipping has increased, with transportation of low-value, high-volume products such as stone and aggregate being the primary interest. Deeper drafts are necessary in the Champlain Canal in order to make these shipments more economically viable. Through continued capital investments by the New York State Canal Corporation, the Champlain Canal remains operational and supports recreational boating as well as the recent resurgence of commercial shipping.

The alignment of the Champlain Canal effectively parallels the Canadian Pacific Railway mainline. Both provide unique modal access to hundreds of acres of industrial-zoned property in the Towns of Fort Edward and Kingsbury. Anticipated fuel shortages and price fluctuations could trigger additional demand in water-borne shipping. In addition, the construction of a state of the art wharf at the dredge dewatering facility could prove to be an asset to redevelopment of these properties in the future. While most of that property is located less than 20 minutes from Interstate 87, there are a number of vehicle access issues relating to intersection alignment, capacity restrictions, and deficient structures along the major connecting National Highway System routes. The Town and Village of Fort Edward have worked to identify potential solutions to the issue of truck access, and have pursued public-private partnerships to establish improved vehicle connectors to this area.

Challenges and Opportunities

FHWA expects the value of commercial freight tonnage shipped in this country to nearly double from 2011 amounts by 2035[12], resulting in commercial truck traffic growth that should well exceed increases in passenger

[10] https://www.dot.ny.gov/recovery/repository/RevisedAppendices.pdf
[11] Data source: NYS Canal Corp. http://www.canals.ny.gov/navinfo/navinfo.cgi?waterway=champlain
[12] FWHA Freight Analysis Framework Data Tabulation Tool http://faf.ornl.gov/fafweb/Extraction1.aspx

car usage. If realized, this growth will have an enormous impact upon mobility along our nation's major highways. The A/GFTC Planning and Programming Area is itself situated at a regional transportation crossroads between the New York City – Montreal corridor and northern New England. The existing regional NHS network features generally adequate system redundancy that can temporarily absorb non-recurring congestion events, but the level of anticipated growth in truck traffic will create future capacity issues in locations where they do not exist today. Other specific challenges and opportunities include:

- Unstable fossil fuel prices and supplies could potentially result in a shift of transport demand proportionally away from trucks to more fuel efficient but less timely modes like barges and railcars. Unique and diverse infrastructure assets advantageously position the A/GFTC area to accommodate modal shifts in commodity transport, but continued investments in new accesses, system maintenance and intersection capacity mitigations are required if the region is to capitalize fully upon the inevitable increase in the regional, national, and international movement of goods.
- Impediments to the multimodal accommodation of freight shipments in and through the A/GFTC Planning and Programming Area include the following:
  - Geometric deficiencies at intersections of NHS components, notably:
    - US Route 4 and NYS 32 in the Town of Kingsbury
    - US Route 4 and NYS 197 in the Village of Fort Edward
    - US Route 4 and NYS 196 in the Village of Hudson Falls
  - Intersection capacity issues along major routes, including:
    - Exit 20 / US Route 9 / NYS 149 in the Town of Queensbury
    - Exit 19 / NYS 254 / Quaker Road in the Town of Queensbury
    - NYS 32 (Dix Avenue) in the Town of Kingsbury
  - NHS components that bisect established villages and activity centers
  - Anticipated continued growth in truck traffic, counter to other automobile usage trends
  - Substandard access to existing and planned industrial parks and industrially zoned property throughout the urban area
  - Aging rail infrastructure
  - Water depth limitations in the Champlain Canal

For a small urban area, the A/GFTC region features a number of unique freight transportation assets that collectively comprise a system that can likely adapt to the anticipated increases in freight traffic, including:

- Access to Interstate 87
- A comprehensive NHS network featuring system redundancy and generally adequate arterial link capacity
- Diverse non-highway shipping infrastructure that includes active rail, a regional airport, and the Champlain Canal
- Sites positioned for future development or redevelopment as intermodal transfer centers

  Hundreds of acres of vacant industrial property located in close proximity to major transportation facilities

Priorities and Projects

Related Planning Principles: 1, 2, 7, 8, 9

Given the importance of freight to the economic welfare of the region, as well as the potential to impact the transportation network, A/GFTC has identified the following priorities and projects relating to freight.

1. Continue to collaborate with local and regional agencies to identify innovative solutions to identified surface transportation freight obstacles:
    - US 4/NYS 32 Intersection Improvements (Kingsbury)
    - US 9/Exit 20/NYS 149 Congestion Improvements (Queensbury)
    - NYS 197 over the Hudson River (Fort Edward)
    - Dix Ave/NYS Route 32 Improvements (Glens Falls, Queensbury, Kingsbury)
2. Continue to collaborate on local, regional, and statewide planning efforts related to rail- and water-based freight. This includes participation in regional planning efforts, as well as providing technical assistance as needed.

Safety

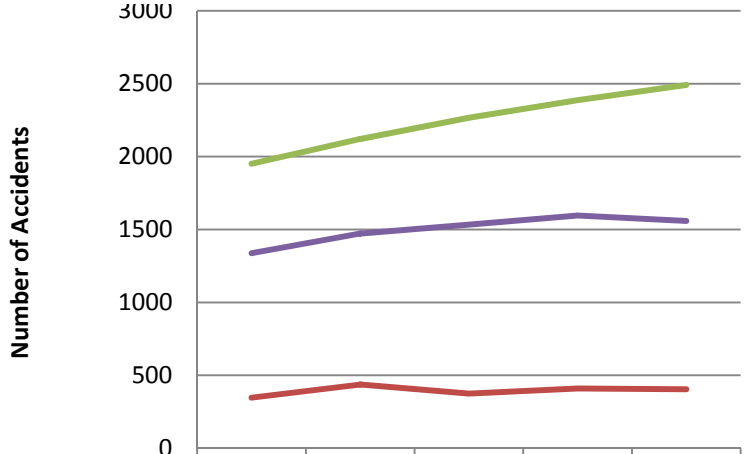
Safety is an issue of paramount importance in transportation planning. A/GFTC has a strong commitment to improving the safety of the transportation system, and will continue to pursue this goal. Previous efforts to address safety issues in the MPO have included both planning and capital projects at a variety of scales. This includes:

- Capital projects. The MPO has used HSIP funds to program capital improvements on County Route 12 in the Town of Granville (obligated for 2013-2014), Route 9 in South Glens Falls (currently under construction), and County Route 42/ East Road/ Mahaffy Road in the town of Fort Edward. The County Route 42 project has demonstrably lowered the incidence and severity of crashes.
- Intersection-Specific Assessments. Using the Engineering Assistance Program, the MPO has examined the configuration of several intersections, including Bay/Sanford (currently underway) and Crandall/Orville in the City of Glens Falls, and Bay/Cronin in the Town of Queensbury. The completed project allowed the municipalities to implement low-cost striping and signage solutions at each intersection. As these projects are recently completed, no data is available to determine the effectiveness of the implemented solutions.
- Road Safety Assessments. Although the MPO has not conducted a Road Safety Assessment in recent years, this tool is available as a Unified Planning Work Program task, upon request of a member municipality.
- Local System Safety Screening documents. A/GFTC prepared reports for Washington County and the Town of Moreau which examine the crash patterns and locations along the local roadway system. These reports also list contributing factors, as well as a wide variety of conditions relating to vehicle crashes, such as light condition, weather, and pavement conditions. The plans also look specifically at trends for bicycle/pedestrian crashes. It is anticipated that a similar report will be prepared for Warren County in the next 1-2 years. These reports are intended to fulfill the requirement for HSIP projects to be "data-driven".

In addition to local projects, there are a number of State-wide efforts to increase safety. The New York State Strategic Highway Safety Plan, prepared and updated by NYSDOT, promotes best practices and strategies that, if implemented, could have a substantial impact on reducing fatal and injury crashes. The emphasis areas of this plan include: driver behavior, pedestrians, large trucks, motorcycles, highways, emergency medical services, and traffic safety information systems. The companion document to this is the New York State Highway Safety Strategic Plan, prepared and updated by the Governor's Traffic Safety Committee (GTSC). This plan is focused on enforcement and behavior-related campaigns than on infrastructure improvements. As an MPO, A/GFTC participates in the preparation and implementation of these plans at the local level.

Safety Trends and Patterns

Figure 22: Total Accidents, 2007-2011



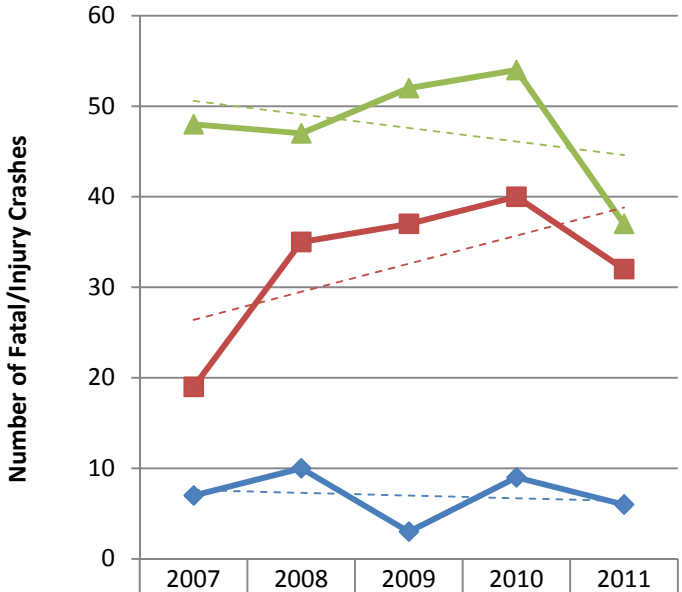
	2007	2008	2009	2010	2011
Saratoga (Moreau)	347	437	375	410	404
Warren	1951	2121	2267	2387	2491
Washington	1338	1472	1533	1596	1559

To gather information about safety, the Statewide Accident Location Information System (ALIS) was used[13]. A five year period was included in the analysis (01/01/2007 - 12/31/2011).

The most basic way to examine crash trends is through the annual number of crashes. As can be seen in Figure 22, the total number of crashes in Washington County and the Town of Moreau has held relatively steady, while the number of crashes in Warren County increased by almost 22%. This increase is not associated with an increase in vehicle miles traveled.

The severity of crashes is another important factor to consider. For this plan, severity was measured as the number of accidents which involved a fatality, injury, or property damage and injury was analyzed. For the five year period analyzed, there were 436 crashes involving fatality, injury, or property damage and injury. Of these, 85 accidents involved a fatality. Figure 23 illustrates the number of severe crashes per year by location. Each location in the MPO experienced spikes or dips in the 5-year period surveyed. However, the general trend in Washington County and the Town of Moreau was a reduction in the number of severe crashes; Warren County had an increasing trendline. Overall, Washington County had significantly more severe crashes than Warren County.

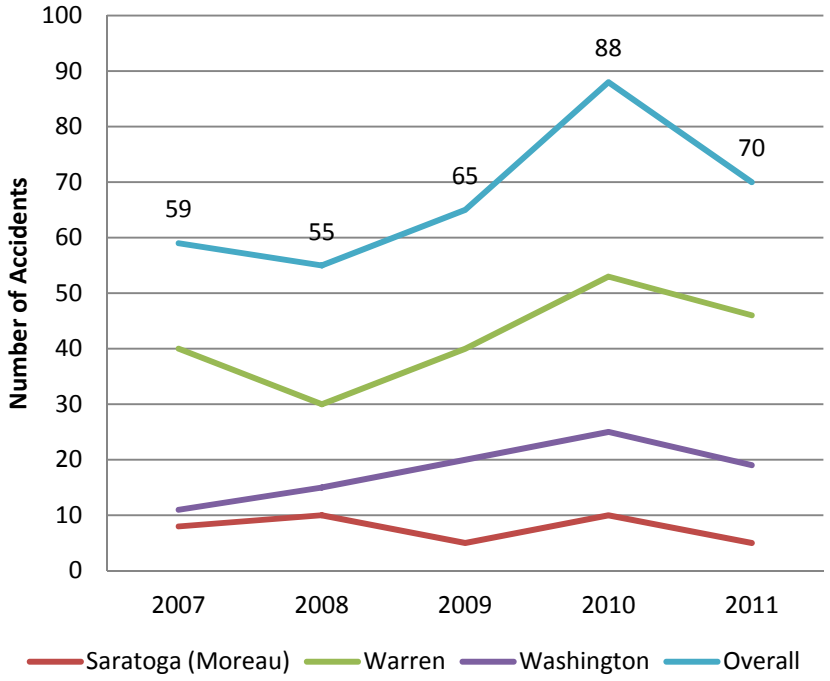
Figure 23: Crashes Involving Fatality/Injury



	2007	2008	2009	2010	2011
Moreau	7	10	3	9	6
Warren	19	35	37	40	32
Washington	48	47	52	54	37

[13] All safety data derived from ALIS Query Reporting Application, unless otherwise noted.

Figure 24: Bicycle-Pedestrian Accidents, 2007-2011



Crashes involving bicyclists or pedestrians were also analyzed, as these crashes carry a higher risk of injury. For these accidents, 2010 saw the greatest number of crashes for all data groups, falling in 2011. In general, the number of bicycle/pedestrian crashes has increased for the entire area over the five years studied. This could indicate the fact that more and more people are cycling and walking, or an increase in driver behavior which leads to accidents, or a combination of both. In addition, these types of accidents are often under-reported, so the actual number of crashes is most likely higher than shown in Figure 24.

In addition to examining the types and severity of crashes that have occurred, it is also crucial to understand the causes of vehicle crashes. This analysis was conducted by collecting data for "Accident Contributing Factors" from the ALIS system. This data is included in many (but not all) of the accident reports on ALIS, and usually includes up to four factors (two per involved vehicle). As such, the number of contributing factors is not equal to the number of accidents.

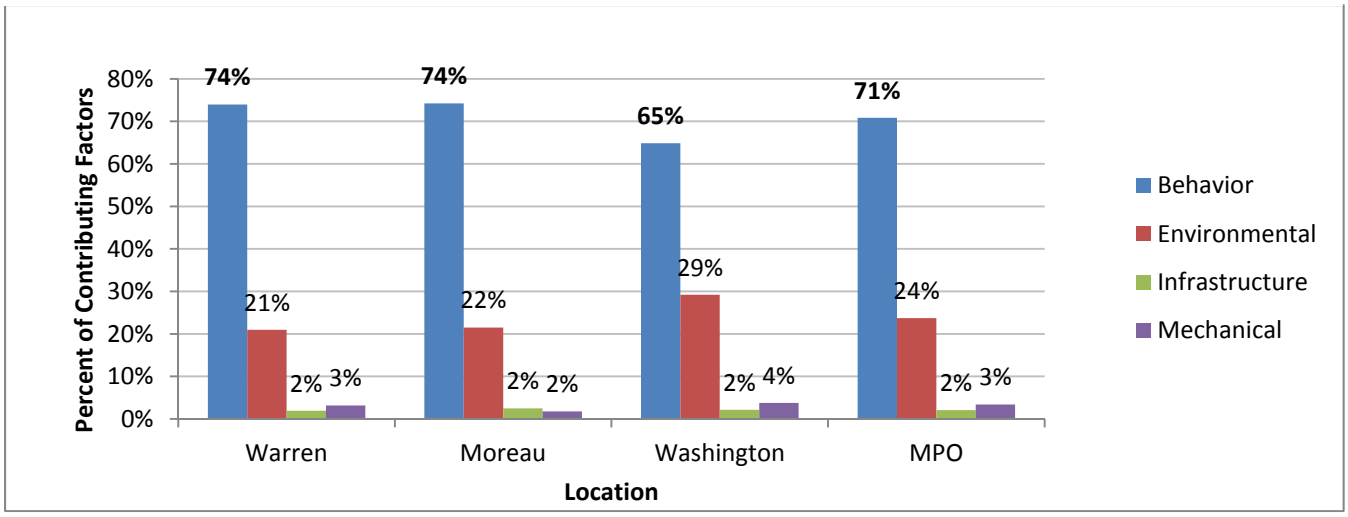
For the incidents within the reporting period, 51 contributing factors were noted on the accident reports. These were broadly classified into four categories:

- Behavior: includes contributing factors which are related to human behavior or condition, such as speeding, driver distraction, or unsafe passing
- Environmental: includes contributing factors which are imposed by environmental or temporary conditions, such as animal behavior or weather.
- Infrastructure: includes any contributing factor relating to the roadway or traffic control devices.
- Mechanical: includes any contributing factor which resulted from vehicle malfunction.

For each county in the MPO, as well as the entire A/GFTC area, the contributing factors were sorted into the above categories. As can be seen in Figure 25, the overwhelming majority of accident contributing factors are behavior-related.

In Warren County and the Town of Moreau, the breakdown of accident contributing factors is almost identical, with behavioral factors making up 74% of accidents. In Washington County, there was a much higher incidence of contributing factors relating to animal behavior (usually from vehicles striking deer).

Figure 25:Accident Contributing Factors by Location, 2007-2011



Since behavioral contributing factors are so prevalent, a breakdown of the individual factors for the entire MPO was prepared, as seen in Table 7. This includes all contributing factors reported for crashes in the A/GFTC area from 2007-2011. To facilitate the readability of the data, certain similar factors were grouped together.

This data shows that driver inattention is the most often cited contributing factor, with following too closely, failure to yield right-of-way, and unsafe speed as the next most numerous categories.

Table 7: Common Contributing Factors, 2007-2011

Contributing Factor	Number of times cited
DRIVER INATTENTION	3229
FOLLOWING TOO CLOSELY	3026
FAILURE TO YIELD RIGHT OF WAY	2562
UNSAFE SPEED	2402
PASSING/IMPROPER LANE USE/UNSAFE LANE CHANGE	1409
BACKING UNSAFELY	1364
ALCOHOL INVOLVEMENT	799
FAILURE TO KEEP RIGHT	731
REACTION TO UNINVOLVED VEHICLE	599
FELL ASLEEP/LOST CONSCIOUSNESS/ FATIGUED/DROWSY	538
IMPROPER TURNING	515
TRAFFIC CONTROL DEVICES DISREGARDED	404
DRIVER INEXPERIENCE	354
OUTSIDE CAR/PASSENGER DISTRACTION	159
PEDESTRIAN'S ERROR/CONFUSION	131
ILLNESS/PHYSICAL DISABILITY	129
AGGRESSIVE DRIVING/ROAD RAGE	59
CELL PHONE/OTHER ELEC DEVICE	53
DRUGS (ILLEGAL)	27
PRESCRIPTION MEDICATION	23
OTHER	15

Challenges/Opportunities

A/GFTC faces a number of challenges and opportunities regarding transportation safety over the next twenty years. These include:

- Difficulty in addressing safety related to human behavior. As the analysis of contributing factors shows, human behavior made the most significant contribution to crashes in the MPO. As a transportation planning agency, it can be difficult for A/GFTC to make measurable improvements to driver behavior. However, there are infrastructure safety countermeasures which help drivers to regain control of a vehicle, or to reduce the severity of a crash once it occurs.
- Changes to HSIP funding mechanism. MAP-21 included a significant increase in funding for safety projects. However, the distribution of this funding has changed. Currently, 50% of the HSIP funding is now distributed through a state-wide competitive program, with a heavy emphasis on cost-effectiveness and data-driven approaches to safety, usually involving engineering or other technical analyses. This approach may make it difficult for smaller municipalities, which do not have access to technical expertise, to compete for these funds.

Priorities/Projects

Related Planning Principles: 2, 3, 12

This plan identifies a number of projects and priorities intended to increase safety while taking into account the challenges facing the MPO. These include:

1. Continue to use engineering assistance to identify safety improvements. A/GFTC has demonstrated success in applying engineering assistance contracts towards site-specific safety improvements. As such, the MPO is committed to continuing to make this tool available to member municipalities.
2. Continue to monitor safety trends on the local road network and identify appropriate system-wide strategies and countermeasures. As stated above, the focus on data-driven approaches to safety planning can create a burden on local municipalities. A/GFTC has created the Local System Safety Screening documents for Warren and Washington Counties, and the Town of Moreau as a first step towards fulfilling the requirements of the HSIP program. These will continue to be updated on a regular basis, every 3-5 years.
3. Continue partnership with Traffic Safety Boards. A/GFTC has a positive, beneficial relationship with both the Warren and Washington County Traffic Safety Boards. This collaboration should continue in the future, so that all involved agencies can maximize the safety benefits for the region.

Air Quality, Climate Change, & Environmental Mitigation

Transportation plans and projects can have many direct and indirect effects on the environment, including air and water quality, noise and vibration, historic and cultural properties, parklands, contaminated lands, displacement of indigenous species, and community preservation.

MAP-21 mandates the consideration of environmental issues as part of MPO transportation plans, as well as the consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies. In addition, the plan must contain a list of potential environmental mitigation activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

As part of the required consultation process for this Long Range Plan, A/GFTC solicited input from a wide variety of agencies at all levels of government in an attempt to identify those issues that are of greatest significance or sensitivity on a regional scale. The following includes a description of the air quality non-attainment designation that affects A/GFTC as well as a summary of the issues identified by the responding environmental stakeholders and how those issues relate to the future transportation planning and programming activities within the A/GFTC area.

Air Quality

The Clean Air Act, amended in 1990, requires the United States Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) for various air pollutants. Areas not in compliance with those standards are designated as "non-attainment." The New York State Department of Environmental Conservation (DEC) is required to produce a plan that outlines how emission reductions, including those from mobile sources, will meet the NAAQS.

Previously, the Town of Moreau and Village of South Glens Falls were included in the Albany-Schenectady-Troy ozone non-attainment area. As such, A/GFTC TIPs and Long Range Plans were required to be in conformity with the State Implementation Plan for air quality (SIP), and included the required TIP/SIP conformity assessments to meet the Clean Air Act Amendments of 1990, and the EPA's final rules on conformity published in the Federal Register on 8/15/97 (40 CFR parts 51 & 93). On May 21, 2012, the United States Environmental Protection Agency (USEPA) promulgated the 2008 8-Hour Ozone National Ambient Air Quality Standards (NAAQS), to be effective on July 20, 2012, which classified the Albany-Schenectady-Troy area in attainment for the 2008 ozone standard.

The EPA promulgated a new rule on July 20, 2012, revoking the Transportation Conformity requirements for 1997 8-Hour Ozone NAAQS, effective on July 20, 2013; and as a result, A/GFTC will not be required to make a transportation conformity determination under the new 2008 8-Hour Ozone NAAQS.

Climate Change

While there are many contributing factors to global climate fluctuations (including the cyclical nature of the Earth's climate itself), the relationship between fuel consumption and climate change is well established. According to FHWA, the transportation sector directly accounts for about 29% of current total U.S. greenhouse gas (GHG) emissions. Across the country, transportation agencies at all levels, whether local municipalities, regional MPOs, state DOTs, or the Federal Highway and Transit Administrations, are actively seeking to reduce the level of GHG emissions from the transportation sector.

In the A/GFTC planning area, warming trends can already be observed in the historical weather patterns. In addition, severe weather events, such as hurricanes Irene and Sandy, have had direct impacts on the A/GFTC

region. According to the ClimAID report[14], the A/GFTC area is facing current and future climate change impacts due to:

- Increases in annual average temperature: Warmer winters may reduce snow removal costs and extend the construction season. However, the increased frequency of freeze/thaw cycles can cause potholes, cracks, and frost heaves in pavement.
- Increases in annual average precipitation, especially during the winter: When combined with warmer winters and more extreme storms, this may lead to an increase in icing events, which affect vehicular traffic, on-road freight movements, and aviation.
- Extreme heat events: This can lead to damage of asphalt pavement and railroad tracks.
- Increased storm intensities: Extreme storms can overload stormwater systems, leading to flash flooding, temporary road closures, and road washouts. These events can also increase the potential for scouring of bridge foundations. High winds and intense storms can affect air transportation.

Challenges/Opportunities: Climate Change

- Identifying meaningful ways to reduce GHG emissions can be a challenge for MPOs. The most effective methods to reduce GHGs, such as an increase in fuel efficiency standards, are not within the purview of A/GFTC. In addition, it can be difficult to directly influence driver behavior; the rising cost of fuel may prove to be an effective, if unintended, way to reduce the number of vehicle miles traveled.
- Although advances in climate science have helped to determine the particular risks facing the A/GFTC region, the actual incidence of these events (such as severe storms) is impossible to predict. This makes it difficult to determine where infrastructure improvements designed to adapt to climate change should be located.
- Regional planning efforts have provided support and potential funding streams for climate change related plans at the local level. This may allow the MPO to partner with other agencies to complete studies, such as vulnerability assessments.

Priorities/Projects

Related Planning Principles: 1, 2, 8, 9, 10, 12

Many of the activities that A/GFTC is currently engaged in have climate change co-benefits. The following is a list of current or proposed priorities or projects which will help the A/GFTC area mitigate or adapt to climate change impacts in the future.

1. Alternative Transportation: A/GFTC will continue its commitment to increasing the use of alternative modes of transportation, including public transportation, ridesharing facilities, and bicycle and pedestrian infrastructure. In addition, A/GFTC will continue to pursue projects and collaborations which encourage climate-smart behavior, such as reducing automobile trips, distances traveled, and idle times, increasing the number of people per vehicle, using alternative fuels, and increasing fuel efficiency. These efforts not only contribute incremental benefits to reducing GHG emissions, but also have numerous financial and health-related co-benefits.

[14] Rosenzweig, C., W. Solecki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn (Eds.). 2011. *Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation.* Technical Report. New York State Energy Research and Development Authority (NYSERDA), Albany, New York. Full report (NYSERDA Final Report 11-18) may be found at www.nyserda.ny.gov

2. Congestion/Idle Time: The longer a vehicle sits in traffic, the more greenhouse gases are emitted. The A/GFTC planning area does not currently suffer from widespread congestion, although this is an issue in specific locations. A continuing commitment to keep levels of congestion low by seeking ways to reduce VMT is one way that A/GFTC will address this issue. More directly, the MPO will identify ways to improve intersection efficiencies, by installing roundabouts or coordinating traffic signals.
3. Access Management: Access management, at the system-wide level, can contribute to a logical and efficient flow of vehicles between local streets, collectors, arterials, and the freeway system. This results in decreased congestion and reduced travel times and can therefore decrease the amount of carbon output. A/GFTC has a strong track record of encouraging sound access management techniques, and is committed to maintaining this effort in the future.
4. Land Use and Design: The pattern of development can have a direct impact on GHG emissions. In general, dense urban neighborhoods with a grid street network are associated with fewer vehicle miles traveled and less travel time, and therefore less GHG emissions, than neighborhoods with a less compact development pattern. Encouraging Complete Streets principles can improve the likelihood of biking and walking as well. A/GFTC will continue to pursue projects which encourage efficient development patterns, which can also improve livability, economic vitality, and public health.
5. Alternative Fuels: The usage and availability of alternative fuel vehicles (AFV) and associated refueling infrastructure can supplement the goal of energy independence while providing economic benefits. Specifically, alternative fuels can benefit the Greater Glens Falls area by creating commercial opportunities and jobs through the sale, conversion, and maintenance of AFVs and the associated infrastructure. However, more research and substantial investments are required before converting the existing oil-based transportation economy to one based upon other sources of energy is imminent. Any change will not happen quickly, but incremental steps such as fuel conversions of large public or private vehicle fleets could enable larger transitions.
6. Infrastructure Vulnerability Assessments: In addition to finding ways to reduce greenhouse gases, it is important to identify ways that existing infrastructure can be adapted to the changes which are already occurring. One method is to complete a vulnerability assessment, which identifies opportunities to adapt transportation infrastructure and operations to climate change events, including more frequent severe storms, road washouts, and flooding. This also has significant co-benefits in terms of system preservation. The MPO has listed this task as a potential UPWP item, and will continue to make this tool available to members.

Environmental Mitigation

Consultation with involved agencies

A/GFTC conducted specific outreach to local, county, regional and State agencies that routinely deal with environmental considerations in order to solicit priorities, opinions and suggestions on how to best incorporate environmental preservation and mitigation activities within the context of transportation planning. In general, the responding agencies emphasized corridor management as a mechanism to address three primary negative impacts that result from transportation projects:

- Degradation of water quality due to runoff
- Proliferation of invasive species
- Disruption of wildlife habitat continuity

Water Quality Preservation

The construction and maintenance of roadways can cause significant impacts on nearby waterbodies and the surrounding watershed. During construction, soil erosion can cause sedimentation in waterbodies that create deltas, decreased wildlife habitat and the overall eutrophication of the waterbody. These impacts can also continue post-construction if the road corridor has not been properly graded and re-seeded. Once the roadway is constructed and in use, the impermeable surface of the pavement collects contaminants such as soil, oil, grease, and litter, which is then carried to local waterbodies during storm events.

Road maintenance also impacts water quality. Salt and sand are commonly deployed during the winter months to improve driving conditions; this hastens the decline of pavement conditions and the quality of adjacent soils and water bodies.

As discussed in the Climate Change section of this plan, flooding from storm events can also cause considerable damage. Excessive runoff can wash out roads and bridges, which can cut off crucial transportation routes.

To address these concerns, a stormwater study is conducted in conjunction with all new road projects. Best management practices will be selected based on the most current relevant standards as required by the NYS Department of Environmental Conservation, Adirondack Park Agency, and/or Army Corps of Engineers.

Invasive Species

Controlling the proliferation of invasive species continues to a principal concern in the A/GFTC area. These species spread rapidly and outcompete native plants for resources. Whether by accidental or intentional introduction, invasive species often cause severe and irreversible impacts on agriculture, recreation, and natural resources by threatening biodiversity, habitat quality, and ecosystem function. Some common invasive plant species along roadsides include Phragmites, Purple loosestrife, and Japanese knotweed.

Surface transportation activities can hasten the spread of invasive species. Seed and seed heads are readily dispersed in the spring when road and roadside maintenance becomes more frequent. Mowing and plowing can move soil and roots of plants outside of their habitats, where they spread rapidly from recurring roadway upkeep. Recognizing contaminated soils and properly disposing of them can eliminate the spread of plants that are choking the habitation of native species.

The movement of freight by roadway or canal is also a potential vector for the spread of invasive species. Seeds can be carried in cargo or the wheels of vehicles. Pests, such as the Asian long horn beetle, can travel via wood pallets and wood packing material in cargo shipments. Other pests can travel in the cargo itself, especially in produce and livestock.

Aquatic invasive species may have little direct impact on transportation, but they are easily spread via transportation methods. Plant fragments, seeds and animals can all accidently become attached to a boat, whether for freight or recreation and travel upwards of hundreds of miles beyond their current range. New invasive species are introduced in this manner and current invasive species spread even further.

A key element to stopping the spread of invasive species is to recognize them. Once identified, a strategy can be put in place to best manage them in order to contain and minimize their impact. Eradication is rarely obtainable. Identifying potential vectors, such as contaminated soils and vehicles will also be considered when undertaking roadway construction projects.

Habitat Continuity

Roadways can impede the natural migration and territory of wildlife. Limited access highways can be very disruptive to native animal populations. Additionally, animal/vehicle collisions are a common cause of accidents in the A/GFTC region. The following are examples of wildlife-supportive highway design elements that can

reduce negative impacts on breeding cycles and habitat, heighten motorist awareness of the presence of animals, and enhance territorial connectivity across a given highway corridor:

- Breaks in medians and fencing
- Visible and scalable fencing for larger mammals
- Construction of culverts and underpasses specifically for wildlife and fish passage
- Recreation of native habitats along newly constructed roadways

Challenges/Opportunities: Environmental Mitigation

- The A/GFTC area is fortunate to have a great variety of local organizations devoted to protecting various aspects of our unique environment. A key element of improving the locally administered transportation planning process will be to expand the communication and professional consultation between these organizations and transportation organizations to maximize awareness of these and other priority environmental issues that warrant consideration as the transportation system evolves.
- As an MPO, A/GFTC is not directly involved in the design or construction of roadway projects. As such, it is diffcult to introduce countermeasures to these project phases. However, there are many opportunities to consider environmental issues during the many planning projects undertaken by A/GFTC.

Priorities/Projects

Related Planning Principles: 1, 2, 8, 9, 10, 12

Although A/GFTC does not directly engage in the design or construction of transportation projects, there are still activities and strategies which can be undertaken to ensure that environmental impacts are avoided.

1. Explore design alternatives that are less disruptive to the natural and built environment. The federal aid design process already includes a thorough environmental review process, including evaluation of alternatives. In addition, A/GFTC will continue to include environmental considerations within all relevant planning projects, to ensure that these issues are considered at all levels of project development.
2. Improved outreach to and communication and coordination with environmental organizations. As an MPO, A/GFTC does not have a formally established relationship with environmental organizations. However, improvements in communication have been made as staff continues to explore regional collaboration. A/GFTC is committed to further strengthening this coordination in the future.

Security

As noted previously, Moving Ahead for Progress (MAP-21) requires that A/GFTC and all MPOs provide for consideration of projects, strategies and services that increase the security of the transportation system for motorized and non-motorized users. That the issue of security is now a stand-alone planning factor is largely in response to the terrorist attacks of 2001 and is indicative of a new and broader context of the concept of security.

For the purpose of this discussion, security has been defined as actions to deal with significant and unforeseen disruptions to the transportation system. In this area, this can include disruptions caused by weather events, as well as the more traditional security-related issues. NYSDOT and Warren and Washington Counties have repeatedly proven their ability to respond to major flooding events and resulting road washouts.

Presently, A/GFTC's relationship to those entities charged with hazard response and mitigation can be classified as limited. The primary responsibility for mobilization and operations rests with other organizations and municipalities that A/GFTC interacts with on a regular basis and that are currently involved in the coordinated regional transportation planning process.

Challenges/Opportunities

- Security is a difficult concept for smaller MPOs such as A/GFTC to integrate into their planning processes. The A/GFTC Planning and Programming Area does not feature a major intermodal passenger center such as an international airport or large-scale rail station or for that matter an intermodal transfer center like a large port. Further, A/GFTC does not own or operate any transportation infrastructure nor does it have any direct influence over the management or operations of any transportation facility. The regional surface transportation system is generally devoid of access control and thus immensely difficult to "secure" in the traditional sense.
- A/GFTC has the financial resources to engage targeted engineering consulting resources for the express purpose of improving disaster planning efforts if such is identified by A/GFTC Policy and Technical Advisory Committees. It is expected that such efforts could be conducted without disruption to other A/GFTC planning and programming activities.
- The MPO is currently engaged in a number of activities that have some relevance to the issue of security. Most of those related activities are listed in the current Unified Planning and Work Program and include:
    - Task 2.10 - Transportation Data Inventory: A/GFTC routinely collects data on transportation facility characteristics that could be of potential value to emergency response and mitigation efforts.
    - Task 2.20 - Land Use Monitoring: As a regional planning organization, A/GFTC has access to data and modeling outputs for the entire area, not just specific municipalities within. This could prove useful in the event of a large-scale disruption.
    - Task 2.70 - Program Coordination and Local Government Assistance: Again, a regional planning organization like A/GFTC is in an advantageous position to coordinate area-wide planning efforts should the need arise or desire on behalf of the municipalities be expressed. With recent staff changes, A/GFTC has already initiated efforts to enhance its presence among its member municipalities and their committees and departments. Those efforts would need to continue in order for those tasked with emergency response to become familiar with A/GFTC and its resources.

- Task 2.80 - Local Traffic Engineering and Assistance: A/GFTC retains contracts with up to three transportation planning and engineering firms for the purpose of availing those firms' services to its member municipalities. These agreements, although limited in scope so as not to circumvent the coordinated planning process, could be utilized to review transportation-specific operational elements of existing plans or to aid municipalities in developing plan updates.
- Task 2.90 - GIS Support and Operation: A/GFTC staff is available to supplement existing municipal GIS resources if called upon to do so in the event of a significant regional disruption.
- Task 3.20 - Traffic Simulation and Modeling: A/GFTC staff has the ability to quickly analyze potential alternatives for detours and evacuation routes. Those capabilities could be of value in either the emergency planning or response stages.
- Task 3.40 - Intelligent Transportation Systems Architecture Development: Intelligent Transportation Systems (ITS) is a concept rooted in the coordinated use of technology and infrastructure to adapt to changing transportation patterns. The role of ITS in the advancement of security of the transportation system is immense, particularly with regards to emergency response, routing, and coordinated communications. At present, A/GFTC is the only MPO area in New York State that does not have an architecture for ITS investments in place.
- Task 4.20 - Transportation Improvement Program Update: The Transportation Improvement Program is the capital programming document that identifies priority projects for federal transportation funding. Through judicious application of the planning process, facilities that are subjected to recurring disruption (eg: a flood-prone roadway) can be addressed through the coordinated planning process. Additionally, in the event of infrastructure replacement, the type of facility that is desired could potentially evolve through MPO discussions.

Priorities/Projects

Related Planning Principles: 3, 8, 9, 12

As stated above, addressing security within the context of a small MPO can be a challenge. In time, the anticipated role of A/GFTC in security planning could change because of unforeseen events or legislative action. As security planning is a comparatively new requirement for MPOs, it is expected that further guidance and responsibilities will emerge over time. The following are the priorities and projects which have been identified as feasible ways to address transportation security within the A/GFTC area.

1. Expand our outreach to the emergency planning and response community. To date, there has not been an extensive amount of dialogue between the MPO, public safety coordinators, and emergency responders other than on corridor-specific planning initiatives. Increased communication must transpire in order to foster a universal understanding of capabilities and needs.

2. Complete the ITS Architecture Development task. The initiative to prepare an ITS architecture for the A/GFTC Planning and Programming Area has stalled for a variety of reasons. As part of this effort, NYSDOT and A/GFTC staff conducted outreach to regional highway departments and emergency coordinators. Working towards the implementation of a regional ITS provides a natural vehicle to re-engage those responsible for emergency response.

3. Identify methods to undertake a criticality assessment of road network, to determine network robustness. A criticality assessment reveals those transportation network links which are most crucial to the operations of the network as a whole. Traditionally, these were identified by examining traffic patterns and capacity. However, new modeling techniques are available which can identify links which, due to connectivity and lack of redundancy, would result in a "domino effect" of backups and issues in the network as a whole. Having an understanding of which network links are most critical can be a powerful tool for emergency planning, as well as capital improvement plans.

Financial Plan

MAP -21 requires that all Long Range Plans produced by Metropolitan Planning Organizations include a financial plan. The prior A/GFTC Long Range Plan was developed under anticipation that reauthorization of federal transportation law would introduce new revenue sources and funding programs that would help to address declining transportation infrastructure conditions and performance. Those changes did not occur. Funding for transportation infrastructure continues to be inadequate, and distribution formulas continue to reward states for fuel consumption at the expense of transit utilization. The consolidation of federal programs has further limited funding eligibility, particularly for rural off-system bridges. Most municipalities do not have the requisite funding to keep pace with growing infrastructure maintenance needs even with the availability of federal funding assistance, and merely increasing the share of the existing federal transportation program will not solve this issue. Not only is new funding required, but also new mechanisms and formulas for funding.

Federal Transportation Funding Programs Available to A/GFTC

The *2014-2018 Transportation Improvement Program (TIP)* serves as the near-term capital programming plan for the investment of federal transportation funding within MPO areas. A/GFTC administers the programming of the following federal transportation funding sources through maintenance and biennial updates to the *TIP*. These funding programs are subject to change as the federal surface transportation bill is revised and updated.

Highway Safety Improvement Program (HSIP): funding for improvements designed to achieve a significant reduction of traffic-related fatalities and serious injuries on public roads.

National Highway Performance Program (NHPP): funding for improvements to rural and urban roads and bridges that are part of the National Highway System, including the Interstate System, Principal Arterials and designated connections to major intermodal terminals.

Surface Transportation Program (STP): funding for projects on any Federal- aid highway, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities.

Transportation Alternatives Program (TAP): funding for alternative transportation projects, including bicycling and pedestrian facilities, access to public transportation, transportation enhancement projects, recreation trails, scenic byways, safe routes to schools, community improvement, and environmental mitigation.

Large Urban Cities (FTA 5307): funding for transit capital and operating assistance in urbanized areas and for transportation related planning.

Rural and Small Urban Areas (FTA 5311): funding for supporting public transportation in areas of less than 50,000 populations.

Transportation for Elderly Persons and Persons with Disabilities (FTA 5310): funding for assisting private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities when the existing transportation services provided are unavailable, insufficient, or inappropriate to meeting these needs.

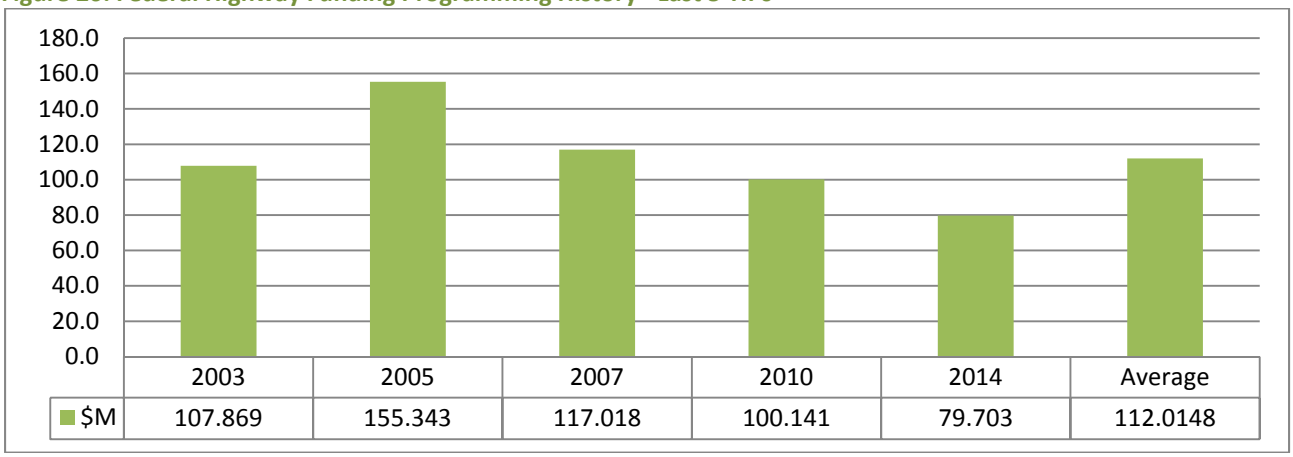
For A/GFTC, the most significant change in funding from SAFETEA-LU to MAP-21 is the consolidation of former Interstate Maintenance, National Highway System, and Highway Bridge Preservation Programs into a single program, the National Highway Performance Program. While the consolidation was intended to simplify program administration and assign greater programming priority to major infrastructure, it also represents a major reduction in dedicated funds available for locally owned bridges located off of the federal aid highway system. Major rehabilitations and replacements of local bridges accounted for over 1/4 of the highway funds programmed within the 2010-2015 TIP.

Short-term Core Program Funding History at A/GFTC

Capital programming at A/GFTC has been a collaborative process with Greater Glens Falls Transit and New York State Department of Transportation. Typically, A/GFTC is provided with suballocated program targets for the core highway transportation programs: NHPP and STP. Transit programming is largely driven by formula and availability of local matching funds.

Federal transportation funding levels within the A/GFTC area have shown considerable variability over the period that includes the last 5 Transportation Improvement Programs. NYSDOT Region 1 historically provides guidance regarding the suballocation targets based upon formulas that are used for distribution within New York State, localized needs and regional and statewide balances. A greater degree of fund source overprogramming had been permitted in the past, which accounts for the peak programming that occurred in 2005. Recently issued programming instructions from New York State have had a considerable impact upon transportation funds available to A/GFTC. The most recent federal funding suballocation formula issued to the MPOs by the State of New York withheld 30% of certain federal funding programs for statewide competitive solicitation and Commissioner's reserve. That percentage correlates with the drop in overall programmed federal funds between the 2010 and 2014 TIPs. Due in large part to the reduction in available highway funds to be programmed, the 2014-2018 Transportation Improvement Program is the smallest A/GFTC capital program in terms of overall dollars since 1991.

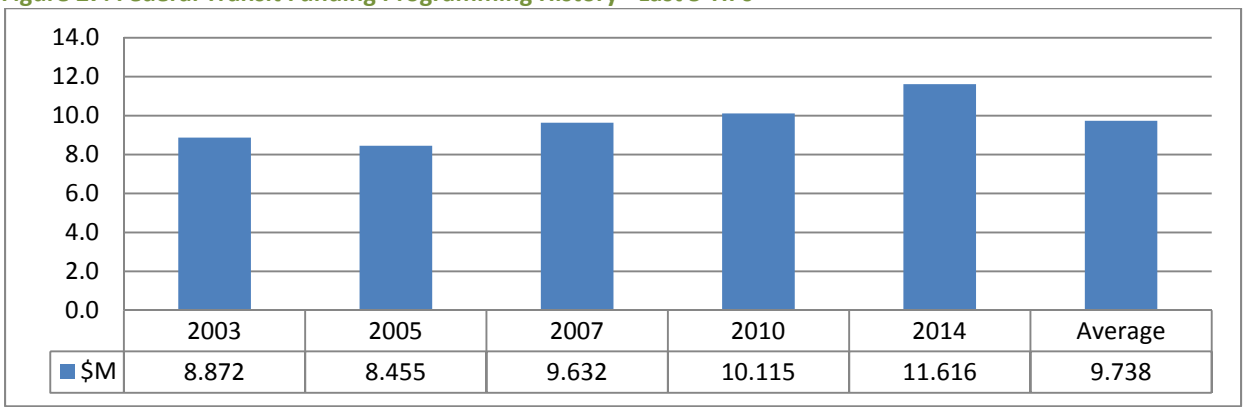
Figure 26: Federal Highway Funding Programming History - Last 5 TIPs



	2003	2005	2007	2010	2014	Average
$M	107.869	155.343	117.018	100.141	79.703	112.0148

In contrast to the combined highway programs, core transit funding has increased steadily in terms of overall dollars since the 2005 TIP.

Figure 27: Federal Transit Funding Programming History - Last 5 TIPs



	2003	2005	2007	2010	2014	Average
$M	8.872	8.455	9.632	10.115	11.616	9.738

Adequacy of Funding Levels

This Long Range Plan presents condition data and demand information for highways, intersections, bridges, transit, rail and bicycle and pedestrian facilities. In general, average condition ratings for State and locally-owned bridges are better than they were ten years ago, but significant overprogramming beyond regional suballocated funding levels has occurred in the bridge program and it unlikely that those gains would have been realized had expenditures been limited to suballocated planning targets over that time. It remains to be seen whether the maintenance and preservation-first strategy will have an immediate impact upon average conditions, as less-costly repairs and maintenance will receive funding priority over replacement of structures in poor condition.

Average pavement condition ratings for the State highway system and for locally-owned federal aid eligible highways are also improved over a ten year span. Gains in locally-owned pavement conditions are not entirely attributable to federal funding levels, as most previously programmed highway projects were pavement reconstructions or major rehabilitations that only improved short sections of roadways. It is anticipated that the maintenance and preservation-first strategy will have a positive impact upon average pavement conditions over time once municipalities begin to apply federal assistance to offset what were once locally-sourced pavement expenditures.

Federal transit funding continues to be adequate to sustain existing public transportation operations only. Greater Glens Falls Transit has been able to successfully maintain its fleet, staffing and operations with only modest increases in fares and municipal contributions. The generally sufficient condition of GGFT's present levels of federal funding assistance could be quickly and significantly diminished with continued increases in demand for services, particularly those that result from growth and development pressures and the ever-increasing costs associated with personal transportation.

Funding for bicycling and pedestrian projects tends to suffer at the expense of mounting highway and bridge costs; that trend is likely to continue as funding for capital improvement projects becomes more scarce. The maintenance and preservation-first strategy is not likely to be effective in addressing bicycle and pedestrian infrastructure deficiencies. The Safe Routes to School and Transportation Enhancement Program, two distinct federal funding categories that had been used to expand the scope of bicycle and pedestrian infrastructure in the A/GFTC region, have been consolidated under MAP-21 into the new Transportation Alternatives Program. While bicycle and pedestrian facilities remain eligible for funding under MAP-21's new Transportation Alternatives Program, it remains to be seen as to whether that program will have the same positive impact upon non-motorized transportation network as did the outgoing program.

Programming priority for improving railroad and canal facilities suffers from a general lack of profile based upon stagnant or declining commercial usage. Demand for rail transportation (both freight and passenger) and waterborne transportation is anticipated to increase along with rising fuel costs. Many railways throughout the country, including the Batten Kill Railroad, have deteriorated to the point where such demand cannot be met given existing infrastructure conditions. And while the Champlain Canal remains open to recreational boat traffic, the controlling depth of the canal in the A/GFTC area is shallower than the 12 feet needed to accommodate larger commercial vessels.

Funding for transportation improvements is quite simply insufficient. As noted previously, demand continues to increase along major highways. Many of the region's deficient structures have deteriorated beyond repair and require major rehabilitation or replacement. NYSDOT Region 1 estimates a needed $315 million in yearly construction letting targets to achieve and maintain a state of good repair for area transportation system components, while realizing only $110 million in average yearly letting based upon current allocations.

The previous LRP noted A/GFTC's past programming philosophy of reserving federal funds to provide fiscal relief to municipal project sponsors that were engaged in costly, large-scale, or design-intensive capital replacement projects. It also noted that that strategy left little or no funding for infrastructure maintenance. The maintenance and preservation first strategy introduced by NYSDOT's Forward Four is tied to an 83% preservation program 'target'. That effectively inverts the shortfalls of the previous programming strategy, leaving little or no funding for capital improvements or infrastructure replacement. It is anticipated that adjustments to the preservation target will need to be considered in the future.

Funding Projections

MAP-21 requires that MPO Long Range Plans include an estimate of funds that are reasonably expected to be available in order to implement those plans. The average overall federal program size based upon the last 5 previous programming cycles undertaken by A/GFTC is approximately $112M. Discarding the 2005 program (substantially overprogrammed) and the 2014 program (not anticipated to be a sustainable amount) yields an average of $108M. This figure will be used as the basis for projected future funds. Factoring an increase of 2.5% per year and an assumed 2014 federal reauthorization with accompanying revised programming guidance, A/GFTC staff projects that an average of federal program of $28.7M will be available over a 21 year period, leveraging an approximate $725M worth of capital projects during that time. Previous estimates have concluded that sustained levels of investments approaching $100M over twenty years (a total of 2 billion dollars) will be needed in the A/GFTC area just to attain and sustain a state of good repair for transportation infrastructure.

Transit Federal Funding Assistance

Public transit operations throughout the country rely upon Federal and State assistance to help fund current levels of operations and capital purchases. Table 8 includes estimates of required federal financial assistance to support transit services over the next twenty years in increments of five years. Capital estimates are based on a federal participation level of 80% with State and local funds providing the required 20% match. Operating aid estimates are based on present levels plus any additional anticipated need. Estimates for FTA 5310 program projects (Capital assistance for Elderly/Disabled services by private not-for-profits) are not available.

Given the long timeframe involved in this plan, numbers used are only estimates that are based upon the assumptions previously outlined in this section. It is important to note such estimates become increasingly speculative over time as unforeseen changes in legislation, demand, and technologies may greatly influence future expenditures. The A/GFTC TIP process will be the appropriate vehicle to address these changes.

Table 8: Twenty Year Transit Needs Estimate ($ M)[a]				
Program Source	**2014-18**	**2019-23**	**2024-28**	**2029-2033**
Operating-urban (5307)	$9.0 (3.3)	$9.0 (3.3)	$9.0 (3.3)	$9.0 (3.3)
Operating-rural (5311)	0.15 (0.06)	0.15 (.06)	0.15 (0.06)	
Capital-urban (5307, 5339) [b]	1.5 (1.2)	2.5 (2.0)	1.5 (1.2)	1.5 (1.2)
Capital-rural (Section 5311)[c]	0.2 (0.16)	0.2 (0.16)	0.2 (0.16)	

Notes:

a - All numbers are in constant 2013 dollars, no adjustment for inflation has been made.

b - Capital replacements for urban systems assume a continuation of the cycle currently contained in the current TIP, which a ten (10) year life for GGFT's four large buses and a five (5) year life for smaller vehicles. Also includes trolley replacements at 10-year intervals.

c - Rural figures include operation of potential expansions of rural transit service using two to three small buses.

Local, Regional, and State Impacts

Maintaining existing levels of funding for transportation infrastructure will result in the accelerated decline of that infrastructure that will likely prove to be in direct conflict with national goals of economic viability and personal mobility. Sustained shortfalls in needed transportation funding will negatively affect the quality of life for residents, workers, and visitors in a number of different ways, including:

- Decreased mobility and greater unpredictability in travel times resulting from failing or overburdened infrastructure
- Increased personal transportation costs
- Slowed economic growth resulting from stagnant market areas, unreliable shipping and goods movement operations, and the lack of infrastructure- related job creation
- Continued environmental degradation resulting from transportation inefficiencies

Should the transportation sector within New York be able to address funding shortfalls in transportation revenues, many of these impacts can be lessened, reduced, or eliminated.

Conclusion

Based upon resource estimates developed by staff, the A/GFTC region can reasonably expect to be able to program close to 750 million dollars in transportation funds between now and the year 2035. Simply stated, this will not be enough to keep pace with continued infrastructure decline and increased demand upon public transportation. Highway capacity projects are practically unsupported by maintenance-first programming strategies, and freight demand reduction strategies such as greater utilization of regional rail and canal facilities entail additional capital programming that is currently not likely under existing funding scenarios.

The fact that needs dramatically exceed revenues is not surprising; that trend has been known throughout the transportation sector for several years. A technical analysis of needs versus resources was prepared on behalf of the NYS Metropolitan Planning Organization Association in 2002 by Wilbur Smith Associates and Cambridge Systematics. A general finding of that study was existing revenue mechanisms, regardless of scale, are not adequate to address mounting transportation needs. Even doubling the size of the federal transportation program does not address growing infrastructure and capacity demands.

Transportation often suffers from a lack of policy profile even though the efficient and reliable movement of people and goods affect us all. A functional and reliable multimodal transportation system is critical to support economic growth, environmental sustainability, national security, tourism, and community character and cohesion. New York State was once a national leader in multimodal transportation and is well-poised to capitalize upon previous and progressive infrastructure investments should future funding scenarios improve.

Sources:

Federal Highway Adminstration.*MAP-21Fact Sheets*. Retrieved July 2013 from: http://www.fhwa.dot.gov/map21/factsheets.cfm

Federal Transit Administration. *FTA Programs.* Retrieved July 2013 from: http://www.fta.dot.gov/grants.html

New York State Metropolitan Planning Organization Association (2003):*Transportation Funding Needs Study.* Cambridge Systematics and Wilbur Smith Associates

Performance Measures

MAP-21 expands the importance of accountability with a requirement that MPOs and States implement what is called "performance-based planning". Section 1203 of the MAP-21 calls for the establishment of performance measures in the areas of the National Highway Performance Program (NHPP), Highway Safety Improvement Program (HSIP), the Congestion Mitigation and Air Quality Improvement Program (CMAQ), and the National Freight Movement (Freight). Once these measures are put in place, A/GFTC will be required to document the outcomes of projects in the Long Range Transportation Plan and programmed for construction or implementation in the TIP. Ultimately, MPOs must demonstrate to the public and their elected officials that investment decisions have produced positive outcomes that are consistent with the adopted goals and objectives.

One important distinction must be made between performance measures vs. performance targets. Performance **measures** describe the specific, outcome-oriented issues related to the operation of the transportation system. This includes pavement condition, bridge sufficiency, crash fatalities, congestion, and related factors. Performance **targets** are the level of performance the MPO (or State) wishes to achieve during the TIP period, or over the Plan horizon. For example, A/GFTC may adopt a target to reduce poor pavements by a certain percentage every year; reduce pedestrian fatalities by a certain number or percentage over ten years; or achieve specific Levels of Service on NHS streets over the life of the Plan. The targets relate back to the goals and objectives of the LRP, while the measures are the data needed to identify progress toward the targets.

Under MAP-21, USDOT, through the Federal Highway Administration and Federal Transit Administration, is responsible for identifying required performance measures that will relate to the seven National Goals in the law. MPOs and State DOTs set and adopt targets for each of the performance measures. Currently, rulemaking for these performance measures is underway. These rules will be rolled out in three phases, over the first three quarters of 2014. Final rules are anticipated to become effective in Spring 2015, at which time A/GFTC must also have in place the relevant performance targets.

The NYS MPO Association performed a gap analysis for performance measurement. As part of this document, a list of <u>possible</u> performance measures and data needs was created, based on the language of the national goals and subsequent information from FHWA and FTA. This list includes:

(1) Safety
- a. Fatalities/MVMT and/or total # for NHS roads
- b. Fatalities/MVMT and/or total #for all roads
    - i. Possible disaggregation by type (car, transit, truck, motorcycle, pedestrian, cyclist)
- c. Serious injuries/MVMT and/or total # for NHS roads
- d. Serious injuries/MVMT and/or total # for all roads
    - i. Possible disaggregation by type (car, transit, truck, motorcycle, pedestrian, cyclist)

(2) Infrastructure condition
- a. Pavement condition
    - i. Average rating, NHS roads
    - ii. Percent good, fair, poor for NHS roads
    - iii. Average rating, non-NHS roads
    - iv. Percent good, fair, poor for non-NHS roads
    - v. Segment rating, Interstate highways (required for NHPP performance plan)
- b. Bridge condition
    - i. Number of NHS bridges Structurally Deficient

ii. Number of NHS bridges Functionally Obsolete
iii. Number of non-NHS bridges Structurally Deficient
iv. Number of non-NHS bridges Functionally Obsolete
v. Square feet of deck area of NHS bridges (required for NHPP performance plan)

(3) Congestion reduction [limited to the NHS]
   a. Level of service
   b. Vehicle-hours of delay

(4) System reliability [not limited to the NHS]
   a. Travel time index, freeway
   b. Travel time index, arterial
   c. Transit measures, perhaps on-time performance

(5) Freight movement and economic vitality
   a. Freight volume by mode
   b. For truck movements, the congestion and system reliability measures apply, modified perhaps by peak period or daily truck percentage of volume
   c. For rail movement, system congestion; impact of highway-rail grade crossings

(6) Environmental sustainability
   a. GHG emissions
   b. Air quality measures
   c. Land use: compactness/open space consumption

(7) Reduced project delivery delays
   a. Possibly enhanced Annual Listing of Project Obligations, which allows monitoring of project schedule versus programmed schedule
   b. Total time from TIP initiation to construction

When these or similar performance measures become effective, A/GFTC will update this portion of the LRP accordingly. Finally, it is important to note that performance-based planning requires data collection, data analysis, trend analysis over time, and information archiving. This requires staff and dollar resources. A/GFTC, along with New York's MPOs and New York State DOT, will be collaborating to find efficient ways to obtain information, perform analyses, and archive information. There are no punitive measures nor reduction in funding in MAP-21 related to failing to meet performance targets. However, in some cases, the law requires that a state must redirect program funds to meet a documented deficiency, which may impact funding in the future.