

# **Chapter VI: Mobility, Accessibility and Intermodal Transportation**

## **A. Introduction**

The purpose of this chapter is to identify issues relating to the various modes of transportation and evaluate how well the operating entities are individually and collectively meeting the goals and objectives outlined in the Syracuse Metropolitan Transportation Council (SMTC) Long Range Transportation Plan (LRTP). Individually, the New York State Department of Transportation (NYSDOT), the New York State Thruway Authority (NYSTA), the Onondaga County Department of Transportation (OCDOT), the City of Syracuse Department of Public Works (as well as the various towns and villages), and the Central New York Regional Transportation Authority (CNYRTA) must operate effectively in order to allow for the safe and efficient movement of people, goods and services within their respective jurisdictions. Collectively, these agencies must all work together to provide a seamless transportation network that allows for the safe and efficient movement across and through the entire MPO area.

## **B. Existing Trends**

### 1. Changing Demographics and Transportation Choices

The existing and forecasted trends outlined in the original 2020 LRTP have experienced some minor changes, however, for the most part have continued and are the same as those reflected in the 2000 Census, the LRTP 2004 Update, and this LRTP 2007 Update. Yet, there have been some minor changes in the demographic makeup of the community that are consistent with the trends outlined in the original LRTP. In 2004, a few of these minor changes included an increase in vehicle miles traveled and longer commuting times and distances. This continues to be the case in 2007. These small changes to the transportation system in response to these relatively minor demographic shifts are outlined below.

The 2000 Census data has revealed that there have been changes in demographics in the Metropolitan Planning Organization (MPO) area, which have resulted in an increased reliance on personal vehicles for transportation needs. The data shows that persons per household have decreased while median age and the total number of households have increased. The changing demographics have resulted in a shift in transportation choices being made by the community. This is reflected in the increase in vehicles per household, increase in total vehicle miles traveled, and also a corresponding increase in average commute times.

### 2. Regional/Global Economy Factors

#### *Job centers*

The original 2020 LRTP notes that growth in industry continued in smaller firms (less than 50 employees) and that small and medium-sized firms were experiencing great success.<sup>1</sup> As noted

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<sup>1</sup> 2020 Long Range Transportation Plan, Syracuse Metropolitan Transportation Council, January 1995, p. 28.

in the 2004 Update, and again in this 2007 Update, job growth increases in Onondaga County continue to come from smaller businesses, while employment by larger firms is declining. Previously, the majority of employment and manufacturing were mainly concentrated in a few large employment centers in Onondaga County, yet now the smaller firms are spreading throughout the region. Due to the large number and type of niche markets of these smaller size firms, there is more diversity in employment in the MPO area. This diversification of the employment base involves various economic sectors thereby making the local economy more secure and less influenced by the actions of a few large employers. Hopefully this diversification will lead to a more stable employment base in the future.

However, smaller firms have moved away from downtown and other areas of concentrated development. These businesses are becoming dispersed throughout the Syracuse Metropolitan Area, placing a greater strain on the transportation network, as single occupancy vehicles travel to and from work from farther reaching places than before. In addition, an activity that was not anticipated in 1995 was the increase of Internet shopping and just-in-time shipping. Large shipping firms, such as Federal Express and United Parcel Service (FedEx and UPS) are experiencing growth due to these changes in technology. The increased use of the Internet coupled with a growing number of smaller firms in existence has led to more vehicles traveling to farther places within the region. Additionally, more people from outside the region are traveling into Onondaga County to work at these firms, resulting in increased traffic on the area's commuter corridors.



*Online Shopping*

The 1995 LRTP also discusses the trade industry and notes that warehousing and wholesale trade have always flourished in the study area because it is within two trucking days or an hour's flight from 52% of all businesses in the United States.<sup>2</sup>

### *Retail Centers*

As noted previously, retail centers have developed quickly in a few locations in suburban Onondaga County, including the Route 31 corridor in the Town of Clay, Route 5 in Fayetteville, and along Route 11 in Cicero. More recently, retail centers are beginning to expand in the Fairmount and Camillus suburban areas located west of the City of Syracuse. This expansion of suburban retail development was not entirely anticipated in the original 2020 LRTP. As pointed out in previous sections of this report, retail sprawl can go hand in hand with general suburban sprawl and has a negative effect on both transportation and land use. Retail sprawl has also contributed to the expansion in outlying residential areas. For a further discussion on sprawl, see Appendix C.

<sup>2</sup> 2020 Long Range Transportation Plan, Syracuse Metropolitan Transportation Council, January 1995, p. 28.

## *Residential Areas*

In the original 2020 LRTP, it was noted that population growth occurred primarily in the northern suburbs, as well as in the eastern and western portions of the MPO area. The original LRTP also stated that declining populations were located in the City of Syracuse as well as in some of the older towns (i.e., Geddes, DeWitt, Salina, and Camillus) surrounding the City. As mentioned in previous sections of this report, the trend of moving from the City of Syracuse to suburban towns has continued.

Since the 2020 LRTP, residential areas have continued to grow in the outlying portions of the MPO region. As people move further away from goods, services, and places of work, both the reliance on personal vehicles and actual travel times increase. Additionally, commuting trips increase the burden on the existing road network. In addition, when sprawl occurs, public transit options become less desirable due to time efficiency factors. This pattern of sprawl development is creating more of a burden on both the existing physical transportation system as well as on the operations of that system.

### 3. Changing Demographics and Transportation Design Parameters

As outlined in the previous chapters, the demographics of the MPO area have changed in the past 20 years. In particular, the change in demographics over the past ten years has shown an increase in the elderly population in the SMTC region. Although this is not a new finding since the SMTC's original LRTP, changing demographics have contributed to a shift in certain transportation design parameters; particularly toward improving and increasing visibility of signage, striping, traffic signals, etc. An additional aspect of the change in design parameters includes safety concerns. Listed below is a *representative sample* of some of the local initiatives that are being implemented in an effort to address the changing demographics of the MPO area.

- Transit: Centro now has new, easier to read destination bus signs on the front and sides of its newer buses (the majority of the city bus fleet). The signs are backlit, have a larger font and are fluorescent yellow, which is easier to read than white. The exceptions are the over-the-road coaches used on the routes to Auburn and Oswego that make up less than 10% of the total fleet. These will continue to have older curtain style signs for the foreseeable future. Centro recently revised its entire route system in an effort to make it more accessible and responsive to the needs of its users. These changes are due, in part, to the Regional Mobility Action Plan (ReMap) study, which identified the need to augment the traditional hub and spoke system to better



*Hybrid Centro Bus*

respond to changing conditions in suburban areas. Finally, Centro has implemented a plan to purchase low-floor buses as it replaces aging buses in its fleet, which are easier for the elderly population to board. By 2011, Centro expects its entire city transit bus fleet to be low-floor buses.

- Signs: Larger text sizes are being used for street signs and guide signs, as the signs are being replaced. In addition, fluorescent yellow-green warning signs are being used to enhance the visibility of crosswalk and school bus warning signs. Also, the City of Syracuse has recently replaced street signs in downtown with street signs that now include block numbers to assist in navigating City streets.
- Pavement Markings: Six-inch wide line pavement markings are now the standard on limited access freeways and interstate highways. The previous standard was a 4-inch wide stripe.
- Traffic Signals: Existing eight-inch signal indications are being replaced with larger, 12-inch indications. Red and green light emitting diode (LED) indicators have replaced bulbs and colored lenses, primarily because of lower energy costs. A second benefit from this replacement is greater visibility, especially during inclement weather. In addition, traditional pedestrian indications (WALK/DON'T WALK) are being replaced with countdown timers for ease of use on City, County and State roads. Pedestrian phases are also being re-timed based on a slower pedestrian walking speed of 3.3 feet per second, as opposed to the traditional speed of four feet per second. At the same time, exclusive pedestrian phases are now utilized at intersections with a high concentration of elderly pedestrians.

Notably, the City completely replaced all traffic signals and pedestrian signals under its jurisdiction to LED lights as of December 2003. Beyond the increased electrical efficiency and longer life span of LED lights, these lights are easier to see, especially in inclement weather. The new LED lights in the City are expected to save \$20,000 per month in electricity charges, which will in turn help pay for the \$1.2 million upgrade (and eventually save the City approximately \$20,000 per month). In addition, the majority of traffic signals under the jurisdiction of NYSDOT are LED lights, with the exception of some yellow bulbs, as this color light is not lit long enough to justify the cost of replacement. Similarly, OCDOT has a LED light replacement program in which all green, red and arrows under the county jurisdiction were replaced by 2007. Currently, approximately 80 of the 90 total OCDOT lights are LED. In the future, as an intersection is rebuilt, the entire signal will be replaced with LED lights, including the yellow bulbs.

- Bicycle/Pedestrian: As the public has become more aware of the benefits of leading a healthy lifestyle, transportation engineers and planners have been increasingly called upon to include more multimodal opportunities in design, particularly those that will accommodate pedestrians and bicyclists.

In the SMTC MPO area, there are several existing trails, such as the Erie Canalway Trail that currently runs from DeWitt to the east into Madison County, as well as from Camillus to the west into Cayuga County. Connecting the Canalway Trail through the

remainder of Onondaga County (primarily through the City of Syracuse) would provide



*Creekwalk*

an east-west bicycle and pedestrian corridor through the SMTC MPO area. The New York State Canal Corporation, with input from the City of Syracuse and SMTC, is currently developing a primarily on-street route to be signed through the City of Syracuse to connect the existing Canalway Trail in DeWitt to the existing Canalway Trail in Camillus. In addition, the Onondaga Lake Trail is approximately one-half completed at this time, and once complete will provide a connection to the Erie Canalway Trail by way of the Creekwalk. The City of Syracuse is completing final design plans for the Creekwalk Phase I project which will complete the Creekwalk between Armory Square and Onondaga Lake. The City plans to complete construction of this creekwalk by 2009. This facility will be fully handicapped accessible.

The City is also completing a Creekwalk Phase II of this project which involves a Feasibility Study that is currently underway. This study encompasses evaluating the most feasible location of a creekwalk between Armory Square and Kirk Park in the City of Syracuse. This study should be completed by the end of 2007. The completion of each of these trails will eventually provide bicycle and pedestrian connections in such a way that local towns and villages can perhaps begin development of trails that will connect to this larger system.

In addition, three municipalities in the SMTC MPO area have received federal Transportation Enhancement funding to begin work on constructing trails in their jurisdictions. The Town of Lysander plans to begin work on constructing a trail by fall 2007/spring 2008 that will begin at the Village of Baldwinsville's North Shore Trail and Village Center Walk, connect through Town neighborhoods along the Seneca River, and tie to the Onondaga Lake Trail at Long Branch Park. The Village of Baldwinsville and Village of Marcellus also each received Transportation Enhancement funding that will be used to complete similar trails in their jurisdictions. The South Shore East Trail project in the Village of Baldwinsville is moving forward as the Village has been working on putting easements together. As an aside, Baldwinsville's north Shore East portion of the trail was recently completed. The Village of Marcellus's Nine Mile Creek Walk is making progress as the Village is now going back to the architect for the final Creek Walk drawings. These trails could also eventually connect to the larger Canalway Trail.

As noted previously, the following bicycle lanes currently exist in the City of Syracuse: 1) Comstock Avenue from Stratford Street to East Colvin Street, 2) East Colvin Street from Garfield Place to the east City Line and 3) Meadowbrook Drive from Hurlburt Road to Lancaster Avenue. This bike lane then runs along Lancaster Avenue south to East Colvin Street. During the 2007 construction season, the City is planning to install a

bike lane on East Genesee Street from East Avenue to the City/DeWitt Line. In addition, through the 2007-2008 UPWP, the SMTC will lead an effort for the City of Syracuse to develop a Bicycle Boulevard project within the University Hill area. The project will examine the Bike Boulevard Network routes recommended in the University Hill Transportation Study and develop a proposed network to utilize existing urban roadways to provide a hybrid of bicycle lanes, shared roadways and traffic calming to create a grid of streets that encourage daily use of bicycles for urban transportation. Also, the City of Syracuse will be meeting regularly with the Syracuse Onondaga Cycling Coalition (SOCC) to discuss the addition of bicycle amenities (namely bicycle lanes and routes) to City streets in a logical network.

### **C. Operating Agencies Practices**

Through the SAFETEA-LU legislation, the LRTP is required to contain “operational and management strategies to improve the performance of the existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.” Individual transportation agencies within the SMTC MPO have their own practices and/or policies for addressing areas such as corridor management, access management, Intelligent Transportation Systems (ITS), multimodal needs, and asset management. These strategies are used to preserve, improve and enhance the existing multi-modal transportation system. Each of these is described in more detail below.

#### **1. Corridor Management**

The definition of corridor management is “the coordinated application of multiple strategies to achieve specific land development and transportation objectives along segments of a transportation corridor.”<sup>3</sup> There should be adopted uniform practices in New York State and across the United States in order to have consistency on the principal arterials so transportation users can anticipate what is ahead. To achieve the goal of consistency along a corridor also requires a significant increase in inter-agency cooperation. New York State and Onondaga County have made an effort to accomplish corridor management by utilizing these principals in similar types of landscapes. This continual process is currently being further developed for application in New York State. Because this process is being modified, there will be additional information regarding corridor management in the next LRTP.

Some relevant examples regarding corridor management for SMTC member agencies are included below.

- The Onondaga County Settlement Plan gives examples of transportation policies for facilities in urban and rural areas. For further information about transportation policies in the Settlement Plan, please refer to Appendix H.
- The City and State work together for all signal timings for State controlled intersections within the interconnect system. The City also has an arterial agreement with NYSDOT to maintain State arterials within the City.

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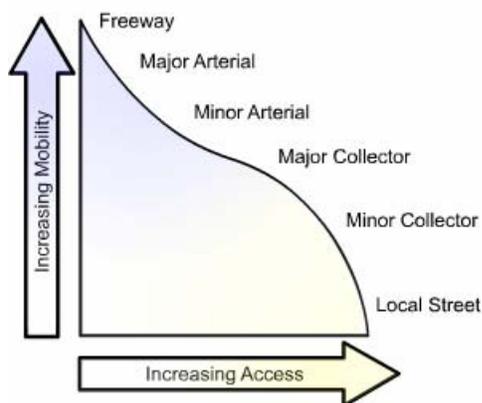
<sup>3</sup> Access Management Manual, Transportation Research Board of the National Academies, 2003.

- As part of NYSDOT’s restructuring, corridor management has become the foundation of the core work that the agency produces. It is the basis for transportation planning and program development and management focusing on information systems and travel time expectations.
- An example of corridor management in the MPO area is the SMTC’s I-481 Industrial Corridor Transportation Study that was completed in December 2004. For this project, the I-481 corridor was studied to determine the best response for both the transportation network and land use planning in the study area given likely future land use development scenarios in the area. Corridor-wide and site specific recommendations were developed for the I-481 Industrial Corridor.

Another example is SMTC’s Soule Road/Break in Access Study that was completed in June 2003. One of the major elements of this study was an examination of the impacts of recent and planned major commercial developments along the Route 31 Corridor in terms of their influence and impact on access to Interstate I-481 and the road network in the general area. One of the primary motivations for the study was to determine if existing access to the Interstate system should be altered to allow for improved traffic operations and safety along the Route 31 Corridor. The Town of Clay and the NYSDOT recently asked the SMTC to revisit this previously completed study. The SMTC is currently developing an addendum to the finished report that will include updated traffic counts, a photo array and updates to the Synchro analysis. Upon completion, the addendum will be forwarded to the NYSDOT and the Town of Clay.

- Onondaga County manages several high volume corridors within their system using time based or closed loop systems to maintain efficient traffic flows. The OCDOT and the NYSDOT work together on timings for signals on County highways that are included in State controlled interconnect systems such as the Route 11/Taft Road/South Bay Road location. As new County projects are identified New York State is kept informed, and where a joint improvement can be made, all efforts are made to accomplish this.

## 2. Access Management



The concept of access management is significant in determining practices for operating agencies. Access management includes regulating access to transportation facilities with an emphasis on safety and efficiency requirements. Access management is defined as “the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway. It also involves roadway design applications, such as median treatments and auxiliary lanes, and the

appropriate spacing of traffic signals.”<sup>4</sup> The successful practice of access management includes an examination of each parcel and a determination of “whether or not the remaining vehicular access is reasonable or if there are fewer intrusive ways to accomplish the same traffic objectives.”<sup>5</sup> Access management is an important issue to the SMTC area due to the job and retail center growth previously discussed in this chapter.

A few representative samples regarding access management for SMTC member agencies are included below.

- As part of the street reconstruction program (curb replacement), the City reviews existing driveway openings and tries to eliminate unnecessary driveways/drop curbs, as well as combining driveways in situations where it will be acceptable with the property owners. Also, during the City's review of new developments, a review of proposed driveways is completed and an attempt is made to combine driveway openings onto City streets where it will be satisfactory to both property owners. The City also reviews the size of the driveway openings and requires that traffic studies be completed when a proposed driveway may cause a traffic problem on a City street. Traffic studies may warrant limited driveway access (for example: only right in or right out).
- The NYSDOT endeavors to incorporate the principles of access management into its review of development proposals as an involved agency in the State Environmental Quality Review (SEQR) process, as well as early in the development stage of its capital project process.
- The OCDOT, through their highway permit system, tries to incorporate access management improvements into new developments and subdivisions. Access management principles are included in the scoping and design of all Capital Program projects both locally funded and federally assisted.

### 3. ITS Strategies

Intelligent Transportation Systems (ITS) refers to the application of electronics, communications, hardware, and software that support various services and products to address transportation challenges. When deployed in an integrated fashion, ITS allows the surface transportation system to be managed as an intermodal, multi-jurisdictional entity, appearing to the public as a seamless system. Implementation or expansion of ITS strategies/elements can improve the overall safety and mobility of the entire region. For a detailed discussion on ITS plans and initiatives in the SMTC area (such as the recently completed ITS Strategic Plan), please refer to the ITS section in Chapter 4 of this document.

A few representative samples regarding ITS strategies for SMTC member agencies are included below.

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<sup>4</sup> Access Management Manual, Transportation Research Board of the National Academies, 2003.

<sup>5</sup> Transportation Planning Handbook, 2<sup>nd</sup> Edition, Institute of Transportation Engineers.

- The City of Syracuse Traffic Control Center manages 143 of the 299 signalized intersections in the city. They presently have four different programmed cycles. The timings consist of am, pm, mid-day and off peak timings. Each cycle has resulted in a reduction of emissions ranging from ten to fifteen percent. The City is presently working on the expansion of the system through the West Genesee/Geddes Street project as well as the North Salina Street/Lodi Street project. The city is planning to install more cameras on its present system as well as on any future expansions. The City has also submitted a TIP application for future expansions to the north/south/east/west corridors.
- Centro is pursuing many ITS related technologies. Options include placing automated vehicle locators (AVL) and automated passenger counters on buses to collect transit data. Centro has also purchased web-based trip planning software and cameras to mount in buses.
- The NYSDOT has developed a plan for statewide implementation of a multi-agency, multi modal Information Exchange Network (IEN), with the first phase presently in operation and accessible through the NYSDOT website. A transportation IEN is a computerized system that collects and distributes a variety of static and real time information about the transportation network. It usually includes information related to: 1.) incidents and accidents, 2.) road conditions and reports, 3.) construction and maintenance lane restrictions, 4.) planned (and un-planned) road and lane closures, 5.) detour and alternate route information, 6.) weather information, or 7.) impacts from major sporting and special events.
- At various locations in the MPO area, mile markers on highways have increased in size in order for drivers to see the markers more clearly. The change in size aids 911 calls, as cell phone users can more easily determine their location based on the improved mile markers.
- The OCDOT completed a project to install a closed loop traffic signal system on Old Route 57 from the Thruway interchange to Gaskin Road in 2005. As funds become available Onondaga County will look to install traffic systems on other high volume corridors within their jurisdiction. In the future the County would like to utilize an AVL system to enhance snow and ice control operations throughout the County.

Additionally, further examples of how NYSDOT has incorporated ITS into their operating practices are listed below.

- Phase I (I-81) and Phase II (I-690) of the incident management system and the Transportation Management Center (TMC) have been constructed and are operational. The TMC is manned 24/7/365 and provides up to date information on road conditions, construction activities, lane closures and so forth through the Department's website. Phases III and IV (I-481) are under construction with Phases V and VI proposed to be on the Department's upcoming Capital Program.

#### 4. Multimodal Needs

Each SMTC member agency incorporates multimodal needs within their planning process. The following is a sampling of descriptions depicting how the member agencies are incorporating the transition from mode specific transportation planning and directing that focus into facilities and projects.

- Ongoing and recently completed studies at the SMTC have examined one of the key multimodal facilities in the MPO area, the DeWitt rail yard, from a multi-agency perspective. Examples of these SMTC studies include the I-481 Industrial Corridor Transportation Study, and the Northern Boulevard/Taft Road Study. Both studies called for an examination of possible improvements in the access to the DeWitt yard as well as to its surrounding roadways. This may be necessary as the volume of trucks accessing the yard continues to increase. Various agencies are working together to plan a 20-year vision to see what is possible from an economic development perspective for the functionality of the rail yard, as well as from a community perspective for the functionality of the surrounding surface transportation infrastructure. Recently, there have also been changes to the functional classification system to better allow for transportation planning related to truck freight movement between I-481 and the DeWitt rail yard.
- The Thruway Authority has studied the possible relocation of its tandem lots in the area for the purpose of enhancing traffic flow, and thus increasing the speed of toll collection. Specific attention was given to Interchange 34A (Rt. 481) and Interchange 39 (Rt. 690). The Thruway Authority is also moving ahead with a Thruway Toll Systems Study, the results of which may contain recommendations that would completely modernize the Authority's toll collection process within the planning horizon of this study.
- The CNYRTA facilitated the building of the Regional Transportation Center, which interfaces train and intercity bus travel as well as improved transit connectivity. In addition, CNYRTA is planning on constructing a new “Common Center” transfer facility in the downtown area of the City of Syracuse. This weather-enclosed facility will facilitate passenger transfers between local and regional bus lines and improve traffic flow downtown.
- The NYSDOT continues to examine how bicycle and pedestrian facilities may or may not fit into every road construction project that is being progressed. In addition, the NYSDOT reviews possible generators of pedestrian and bicycle traffic, notes bus stop locations, examines where the grass is worn (herd paths), and possible and/or necessary connections (i.e., if there is a sidewalk on either side of a NYSDOT project, NYSDOT will aim to connect this sidewalk). All of this is taken into account in determining if bicycle and pedestrian facilities are warranted and/or safe in the project area.
- The NYSDOT also works with Centro during the early stages of its capital project development process to identify any transit needs that may be met as part of the project.

NYSDOT is also an involved agency in the SEQR process and works to promote transit friendly developments.

- When reconstructing a road, OCDOT attempts to design for six to eight-foot wide shoulders on every project. A four-foot wide shoulder is the least desirable but sometimes occurs because of a lack of right-of-way or difficult terrain. The county will install a sidewalk, providing there is a need and the design can accommodate it; however, it is the responsibility of the individual town or village to maintain the sidewalk once it has been built. In many cases, the sidewalk does not get constructed because the town, village and/or property owners do not want to take responsibility for maintenance. In rural areas, wide shoulders are typically acceptable for both bicyclists and pedestrians. As many major routes cross jurisdictions between the NYSDOT and the OCDOT, costs and responsibilities are sometimes shared or traded between the two agencies.
- Onondaga County manages several high volume corridors within their system using time based or closed loop systems to maintain efficient traffic flows. The OCDOT and the NYSDOT work together on timings for signals on County highways that are included in State controlled interconnect systems such as the Route 11/Taft Road/South Bay Road location. As new County projects are identified New York State is kept informed, and where a joint improvement can be made, all efforts are made to accomplish this.
- Approximately 95-97% of the parcels within the City of Syracuse have sidewalks on at least one side of the roadway. Title II regulation of the Americans with Disabilities Act (ADA) specifically requires that curb ramps be provided when sidewalks or streets are newly constructed or altered. The City of Syracuse Department of Public Works has a program in place to bring existing sidewalks and ramps into ADA compliance. In areas where sidewalks do not exist, yet there is a desire among the residents to have them installed, the City will consider the installation providing there is adequate right-of-way, funding, and/or that the property owner agrees to have the sidewalk assessed on their taxes. The available right-of-way usually can accommodate typical sidewalk design standards; however, it is sometimes not sufficient to meet the minimum requirements for bicycle facilities within the roadway. The City will consider the installation of dedicated bicycle lanes under certain circumstances, such as at locations where an identified traffic or safety issue will be improved by said installation.
- The City considers multimodal needs during all capital improvement projects and also considers requests from residents. A bike lane was added to Comstock Avenue from Stratford Street to East Colvin Street. The City has also installed a bike lane on East Colvin Street from Garfield Place to the east City Line. Additionally, the City has installed a bike lane on Meadowbrook Drive from Hurlburt Road to Lancaster Avenue, and Lancaster Avenue south to East Colvin Street. During the 2007 construction season, the City is planning to install a bike lane on East Genesee Street from East Ave to the City/DeWitt Line. The City considers sidewalk improvements and upgrades to meet current ADA regulations within their street reconstruction program and their City sidewalk program. In addition, through the 2007-2008 UPWP, the SMTC will lead an

effort for the City of Syracuse to develop a Bicycle Boulevard project within the University Hill area. The project will examine the Bike Boulevard Network routes recommended in the University Hill Transportation Study and develop a proposed network to utilize existing urban roadways to provide a hybrid of bicycle lanes, shared roadways and traffic calming to create a grid of streets that encourage daily use of bicycles for urban transportation.

- The OCDOT, through its highway permit system and scoping and design process, reviews road geometry to insure safe and efficient tractor-trailer and truck freight movement. The Department has cooperated with Rail owners such as CSX and the Fingerlakes Railroad to permit the upgrade of highway rail crossings. The County has provided services such as traffic control and paving operations to aid in these upgrades.

Within each SMTC planning study that is completed, the multimodal needs of a study area are examined to determine if the existing conditions and use of the study area are appropriately accommodating bicyclists, pedestrians and transit users. In addition, the SMTC assists the MPO's towns and villages by answering questions and concerns they may have relative to bicycle and pedestrian planning.

In addition, approximately twelve percent of the 2005-2010 SMTC Transportation Improvement Plan (TIP) funding is allocated to bicycle and pedestrian improvements, such as trail development and streetscape improvements. This includes the reconstruction of the East Genesee Street (Connective Corridor) project sponsored by the City of Syracuse. This allocation does not include TIP projects that construct sidewalks and/or increase shoulder space as part of other projects. There are also several transit related projects on the TIP.

#### 4. Asset Management

As defined by the Federal Highway Administration (FHWA), asset management is a "systematic process of maintaining, upgrading, and operating physical assets cost effectively. It combines engineering principles with sound business practices and economic theory, and it provides tools to facilitate a more organized, logical approach to decision-making. In the broadest sense, transportation asset management is a strategic approach to managing physical transportation infrastructure. Key functions of a transportation agency's resource allocation and utilization include: policy development, planning and programming, program delivery, operations, and use of information and analytic tools."

##### *Congestion Management Process*

One tool that the member agencies have to assist them in addressing asset management is the SMTC's Congestion Management Process (CMP). The CMP is a process for managing congestion that provides information on the performance of the existing transportation system. The CMP is currently designed to identify and monitor congestion at selected locations throughout the MPO area on a biennial basis and is required by federal legislation. This process aids in identifying those locations that may require various improvements to relieve congestion. As of the passing of the SAFETEA-LU legislation in August 2005, Congress has removed the requirement for "congestion management system

that provides for effective management” and replaced it with a requirement for a “congestion management process (CMP) that provides for effective management and operation”.<sup>6</sup>

Prior to the passing of SAFETEA-LU, previous versions of the SMTC’s CMP are known as Congestion Management Systems (CMS).

The SMTC’s 2004-2005 CMS analyzed approximately 200 road segments and 30 intersections throughout the SMTC region. The locations were chosen by the CMS Study Advisory Committee (SAC). For the existing CMS report, new traffic counts are collected every year for one third of all the locations, as the NYSDOT currently conducts these counts for the SMTC and this schedule corresponds with their traffic counting program.

Through the CMS, the SMTC will offer assistance to its member agencies to establish strategies for addressing congestion at the identified locations. These strategies could be included in various municipal capital programs, the SMTC’s TIP or the UPWP. The limited amount of capital resources and the need to maintain the existing infrastructure are major factors to consider when programming projects to relieve congestion.

During the writing of the 2004-2005 CMS report, the SAC agreed that the CMS should be improved so that it functions as a more useful tool for the SMTC and its member agencies. The SMTC also noted that other New York State Metropolitan Planning Organizations (NYSMPOs) were looking to improve upon their CMS reports as well.

To that end, in the fall of 2005, the SMTC hosted a collaborative effort with all of the NYSMPOs to work with a consultant to complete an examination of CMSs/CMPs. For the smaller and medium-sized MPOs, such as the SMTC, the CMS/CMP had not developed a close fit with existing planning practices. Where congestion is a marginal or absent issue, the CMS/CMP appeared to offer limited benefits while consuming staff and member agency time and resources. In addition, a lack of federal guidance on this subject furthered the burden of satisfying the CMS/CMP requirement. Because the NYSMPOs and their member agencies were interested in making the CMS/CMP requirement more useful as a planning tool, the NYSMPOs determined that undertaking a Shared Cost Initiative (SCI) relative to CMS/CMP best practices and products would be beneficial. The purpose of the SCI was to seek out examples from around the country of innovative approaches to satisfying the CMS/CMP requirement in which auxiliary benefits of the tasks and products associated with the CMS/CMP could be capitalized on. This study was contracted, administered, and managed by the SMTC but served the interests of all the NYSMPOs. This effort resulted in the writing of the *Congestion Management Process (CMP) Innovation: A Menu of Options*, which was completed on February 24, 2006.

This Menu provides information on innovative approaches to CMP activities that are relevant for complying with Federal requirements and for increasing the value of CMP

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<sup>6</sup> Interim Guidance for Implementing Key SAFETEA-LU Provisions on Planning, Environment, and Air Quality for Joint FHWA/FTA Authorities, September 2, 2005, <http://wwwcf.fhwa.dot.gov/hep/igs/lpja.htm> (February 1, 2007).

activities within the transportation planning process, including support for regional transportation goals that go beyond addressing congestion.

With the start of the new program year in April 2007, the SMTC and the CMP SAC will be developing a new approach to the CMP. All of the count information gathered through the CMS/CMP processes will also be incorporated into the SMTC's new travel demand model. As the model becomes more complete, the SMTC will work towards a model-based CMP to more accurately and completely identify and/or analyze congested locations. Through the completion of a model-based CMP, the SMTC anticipates that the CMP will become a better product and that it will be utilized more by SMTC member agencies.

A few representative samples regarding asset management for SMTC member agencies are included below.

- The SMTC completes a Bridge and Pavement Condition Management System (BPCMS) annually and a Congestion Management System (CMS) biennially, both of which support the principals and practices of asset management. In addition, the NYSDOT, partnering with the SMTC, completed an Intelligent Transportation System Strategic Plan for Onondaga County. All of these reports are being utilized by member agencies as tools in an effort to address asset management. Detailed below is a description of the role that the CMS report plays in the SMTC's work program.
- The City uses the SMTC CMS and BPCMS when developing their Capital Improvement Program. The City develops, ranks and schedules the capital improvement projects based on these system reports and funding availability. Also, in order to produce the most cost effective project, the City looks at the project area as a whole and incorporates needed improvements. For example, on a bridge deck replacement, they look at sidewalk improvements adjacent to the bridge and pavement improvements and incorporate the improvements into the project based on budget availability. Similarly, on the interconnect projects on the upcoming TIP, any warranted intersection improvements will be incorporated into the design of the project.
- Another use for the CMS report is allowing Centro to incorporate CMS data to tweak bus system running times to adjust service as necessary.
- Additionally, NYSDOT uses the SMTC's BPCMS to determine road pavement and bridge repair priorities.
- The OCDOT uses the CMS and BPCMS to develop their Long Range transportation improvement program. In addition, the CMS and BPCMS are used in the development of the SMTC TIP. Information gathered by SMTC during these operations aides Onondaga County in resolving citizen requests for such services as new traffic signals, paving operations and bridge replacements.

## **D. Inter-Municipal Collaborations**

A safe and efficient transportation system is necessary to provide for a multiplicity of services and needs, thus inter-municipal cooperation is key to its success. This section will briefly examine how the entities in the SMTC area are working together for the common goals of the transportation network. There are certain key areas discussed below where improvements to the current collaborative effort are vital.

While communications between the agencies are improving, there are many opportunities for future improvements. The SMTC has a unique opportunity as an MPO to facilitate the diverse viewpoints of the various member agencies. By virtue of the role that an MPO plays, the SMTC functions as a facilitator for agencies and municipalities in many areas. The SMTC can work toward bridging the gaps in communication and inter-municipal cooperation for many transportation planning and land use projects. Utilizing the SMTC as a foundation for this facilitation in this process allows for making well informed and cost saving decisions on future projects. A few representative samples regarding inter-municipal collaborations with SMTC member agencies are included below.

- The City tries to coordinate capital improvement projects on corridors that abut the jurisdiction of another agency.
- The Onondaga County Planning Board (OCPB) 239/NYS General Municipal Law 239 outlines the duties of County Planning Boards. The "239 Review" requires county planning boards to review certain proposed municipal zoning and subdivision actions to assess intercommunity or county-wide impacts. This includes potential impacts on the highway network. All efforts are made by the OCPB to increase collaboration and cooperation between municipalities and state and county DOTs. This law also applies to transportation planning concepts such as corridor and access management.
- The SMTC is continuing its collaborative study titled "Northern MPA Planning". The Working Group for this study coordinates communications with municipalities to address issues regarding transportation and land use planning in the northern portion of Onondaga County and the southern portion of Oswego County.
- The OCDOT, the NYSDOT, the City of Syracuse and the towns within Onondaga County have cooperated in snow and ice operations for many years. As resources decline this operation becomes more important to all of the agencies involved. Onondaga County partners with the other agencies within the County to insure that dollars spent on maintenance operations mesh well where jurisdictions overlap. Examples of this could include the County paving a County/State intersection and the State determines if a traffic loop system could be replaced during the design phase, or if a paving operation can be extended across boundary lines, with shared funding, to achieve a homogenous and cost efficient project.

## 1. Corridor Management

There is a need for the member agencies and municipalities in the MPO area to provide a level of “uniformity” in the character and function of the differing types of roadways as they pass through and between jurisdictions. For example, a roadway that functions as a principal arterial should have certain elements that are consistent throughout its length. Intersection spacing, lane width, transit stop location, bicycle and pedestrian accommodations, to name a few, should be substantially similar as it passes from a rural setting to suburban to urban and back again. This allows the agency with jurisdiction over the roadway to better manage the resources needed maintain that roadway, and it allows the entity with the adjacent land use authority to more accurately identify the potential impacts of land use decisions. In the future, the availability of transportation funding may depend upon the success of this type of collaboration.

A few selected examples regarding corridor management and inter-municipal collaborations with SMTC member agencies are included below.

- Although Centro does not implement corridor management decisions, the effects of corridor management have a tremendous impact on Centro’s ability to serve its customers. For example, it is difficult to serve the community’s transit needs along the Route 31 corridor given the pattern of land development and lack of a straightforward interconnected street system.
- The SMTC provides a forum for the various agencies to discuss a variety of transportation and land use related issues.
- Again, examples of corridor management include SMTC’s I-481 Industrial Corridor Transportation Study, the Soule Road/Break In Access Study, and the OCPB 239 Review. Please see Operating Agencies Practices/Corridor Management section in this chapter for further discussion regarding these projects.
- The OCDOT completed a project to install a closed loop traffic signal system on Old Route 57 from the Thruway interchange to Gaskin Road in 2005. As funds become available Onondaga County will look to install traffic systems on other high volume corridors within their jurisdiction. In the future the County would like to utilize an Automated Vehicle Locator (AVL) system to enhance snow and ice control operations throughout the County.
- OCDOT manages several high volume corridors within their system using time based or closed loop systems to maintain efficient traffic flows. The OCDOT and the NYSDOT work together on timings for signals on County highways that are included in State controlled interconnect systems such as the Route 11/Taft Road/South Bay Road location. As new County projects are identified New York State is kept informed, and where a joint improvement can be made, all efforts are made to accomplish this.

## 2. Access Management

A major tool in the corridor management toolbox is access management. The MPO member agencies would benefit from having an established communication process to better inform each other of transportation needs throughout the community. The SMTC member agencies have expressed dissatisfaction with the current methods of communicating on issues relating to development and access management. For example, economic development initiatives and industrial access programs sometimes begin without transportation agencies being aware of the related transportation needs. Currently, the public process by which this occurs is the State Environmental Quality Review (SEQR) process, which is currently not applied consistently by the area's municipalities. In addition, NYSDOT considers zoning changes to be a significant event in terms of its impact on transportation. A thorough application of the SEQR process to zoning changes, including traffic studies, is important to transportation implications.

## 3. ITS Implementation

Recently, there has been a strong local effort to have municipalities work together to utilize ITS for improving the transportation system. For a detailed discussion on ITS plans and initiatives in the SMTC area please refer to the ITS section in Chapter 4 of this document.

The following examples are a sampling of ITS projects that highlight the cooperative effort of local municipalities and agencies working together.

Centro is currently implementing its AVL system. A possible partnership using AVL between the City of Syracuse and Onondaga County has been discussed in an effort to attempt combining their AVL needs with Centro's system.

As previously stated, the City is planning on expanding the interconnect system as recommended in the ITS Study. The City is using spare fiber and installing additional fiber when necessary to connect all of the City of Syracuse Departments to each other and also with the NYSDOT and OCDOT. The City of Syracuse is also planning to upgrade its Traffic Control Center (TCC) software.

- SMARTNET (formerly METCON)

Information on timing and location of construction work zones requiring lane closures and/or traffic diversions is often not shared with other agencies (transportation, transit, emergency service provider) or even within the agency performing the work. This sometimes results in a disruption or overloading of adjacent highway facilities; delayed response by emergency service providers; and/or a conflict with other existing work zones.

The project objectives were to develop a communications network capable of sharing construction activity and transportation related information with other interested agencies in the Syracuse area, and among all six counties of Region 3. This was an

early action ITS project completed by NYSDOT, and is truly multi-jurisdictional in nature. Also note that NYSDOT now has a website ([www.travelinfony.com](http://www.travelinfony.com)) that contains traffic information such as quick updates on roadwork, accidents, and other similar problems. It also shows construction zones, accidents and incidents, emergency closures, and weather.

The regional goal is to collect information on construction activity, special event traffic, incidents, and unscheduled road closures that can be shared among local agencies. This advance notice can result in accommodation of increased traffic flows on diversion routes; advance planning for rerouting of transit and emergency services; interagency coordination; and minimization of conflicts with ongoing work zones. Information on incident location will be helpful to transportation agencies if their assistance as secondary responders is requested.

- Wireless Enhanced 911

A portion of the wireless E911 system was funded through the Transportation Improvement Program (PIN 380475). The NYSDOT also applied an ITS Integration Earmark in the amount of \$317,000 to this project. This portion of the wireless E911 project is now in use (see problem definition below). Currently, 911 is in the process of designing a portion of the improvement, which will include further upgrades to the communication system. This involves installation of a new CAD system to locate the caller's position on a GIS based map and then automatically dispatch the appropriate emergency responder. This second phase is funded solely through 911.

Basic 911 service provides only a voice connection to a predetermined Public Safety Answering Point (PSAP). Enhanced 911 service automatically provides a call back number (ANI) and location (ALI) by interfacing their wire-line telephone call to a specialized computer system and database. Due to this ITS project, enhanced 911 (E911) service is now available for 911 calls placed from a wireless (cellular) telephone. In the past, callers from wireless phones had to verbally relay their location before help could be sent. Agitated or excited citizens who encountered an emergency often required an intense questioning process before they were able to provide an accurate location to the emergency service provider. Callers who were incapacitated may not have been able to respond to the 911 operator's questions. If the caller was unable to relay their location information, the emergency service provider had little chance of locating them.

Thirty percent of 911 calls are currently made from wireless phones and it is projected that this will increase dramatically in the next five years. The shift in preference from wire-line to wireless telephone use without the implementation of Wireless E911 (WE911) will likely compromise the integrity of the emergency services system.

The objectives of this ITS integration project are to: 1.) Enhance incident management detection and response within Onondaga County; 2.) Reduce emergency response time (medical, fire, police); and 3.) Integrate operation of the Department of Emergency

Communications (911 Center) with the City of Syracuse Transportation Operations Center.

- Traffic Management Center

One of the early action ITS projects for NYSDOT that has been completed is the Traffic Management Center (TMC). The Center is located in the State Office Building and has been operational since October 2004. It is staffed with NYSDOT employees and is operational 24/7. At the TMC, traditional and unique activities occur, and it is a central resource for Region 3.