



# ***LRTP 2004 Update***

**Long-Range Transportation Plan - 2004 Update**



*A long-range transportation plan that seeks to preserve the infrastructure, improve safety, provide system connectivity, improve mobility, increase access, protect air quality and support economic growth in the Greater Syracuse Metropolitan Area.*



**Syracuse Metropolitan Transportation Council**

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# LONG-RANGE TRANSPORTATION PLAN

Syracuse Metropolitan Planning Area

*Final Report  
June 2004*

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## **List of Acronyms**

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
Amtrak	Passenger Railroad Company
APL	Auto Passenger Counter
APU	Auxiliary Power Unit
AVL	Automatic Vehicle Locator
BMS	Bridge Management System
BPCMS	Bridge and Pavement Condition Management System
BTU	British Thermal Unit
CAAA	Clean Air Act Amendments
CBD	Central Business District
Centro	Common name for CNYRTA
CLASS	Centralized Local Accident Surveillance System
CMAQ	Congestion Mitigation and Air Quality
CMS	Congestion Management System
CNG	Compressed Natural Gas
CNYRPDB	Central New York Regional Planning Development Board
CNYRTA	Central New York Regional Transportation Authority
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CoE-ES	Center of Excellence in Environmental Systems
COMCO	Cayuga Oswego Madison Cortland and Onondaga Development Corporation
CSS	Context Sensitive Solutions
CSX	Railroad
CSXT	Railroad
CTPP	Census Transportation Planning Package
DPZ	Duany, Plater, Zyberk & Associates (A Planning Firm)
DVMT	Daily Vehicle Miles Traveled
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration

FHWA	Federal Highway Administration
FOCUS	Forging Our Community's United Strength
FTA	Federal Transit Administration
GIS	Geographic Information System
GOP	Goal Oriented Program
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
HUD	Housing and Urban Development
IAP	Industrial Access Program
ICG	Intragency Consulting Group
LEV	Low Emissions Vehicle
IEN	Information Exchange Network
I/M	Inspection Maintenance
ISTEA	Intermodal Transportation Efficiency Act of 1991
ITS	Intelligent Transportation Systems
JARC	Job Access Reverse Commute
LED	light emitting diode
L RTP	Long-Range Transportation Plan
MDA	Metropolitan Development Association
MMC	Mobility Management Center
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NHS	National Highway System
NO	Nitrous Oxide
NS	Northern Suffolk
NYS DEC	New York State Department of Environmental Conservation
NYS&W	New York, Susquehanna & Western Railway
NYSAMPO	New York State Association of Metropolitan Planning Organizations
NYSDEC	New York State Department of Environmental Conservation
NYSDMV	New York State Department of Motor Vehicles
NYSDOT	New York State Department of Transportation

NYSP	New York State Police
NYSTA	New York State Thruway Authority
OCBP	Onondaga County Planning Board
OCDOT	Onondaga County Department of Transportation
PARP	Petroleum Addiction Rehabilitation Park
PIP	Public Involvement Plan
PMS	Pavement Management System
PSAP	Public Safety Answering Point
ReMAP	Regional Mobility Action Plan
SAC	Study Advisory Committee
SEP	State Energy Plan
SCI	Shared Cost Initiative
SEQR	State Environmental Quality Review
SIDA	Syracuse Industrial Development Agency
SIMS	Safety Information Management System
SIP	State Implementation Plan for Air Quality Redesignation Request
SMARTNET	Syracuse Metropolitan Area Regional Transportation Network
SMTC	Syracuse Metropolitan Transportation Council
SNI	Syracuse Neighborhood Initiative
SOV	Single Occupancy Vehicle
SyREN	Syracuse Regional Emergency Network
TAC	Transportation Advisory Committee
TANF	Temporary Assistance to Needy Families
TCM	Transportation Control Measure
TCSPPP	Transportation/Community Systems Preservation Pilot Program
TE	Transportation Enhancements
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TIP	Transportation Improvement Program
TMC	Transportation Management Center
TMODEL	Software program used for Transportation Modeling
TND	Traditional Neighborhood Design
TNT	Tomorrow's Neighborhoods Today
TransCAD	Software program used for Transportation Modeling



TSE	Truck Stop Electrification
UPWP	Unified Planning Work Program
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound.

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## SYRACUSE METROPOLITAN TRANSPORTATION COUNCIL

### POLICY COMMITTEE RESOLUTION

June 30, 2004

- WHEREAS,** The Syracuse Metropolitan Transportation Area contains a complex, multimodal transportation system, which must be maintained in a good state of repair to preserve the infrastructure, improve safety, provide system connectivity, improve mobility, increase access and support economic development and growth; and
- WHEREAS,** The Syracuse Metropolitan Transportation Council (SMTC) has been designated by the Governor of the State of New York as the Metropolitan Planning Organization (MPO) responsible, together with the New York State Department of Transportation (NYSDOT), for the comprehensive, continuing, and cooperative transportation planning process for the Syracuse Metropolitan Urban Area, including the preparation of Long-Range Transportation Plans; and
- WHEREAS,** The Federal Metropolitan Planning regulations (23 CFR Part 450) mandate that MPOs update their Long-Range Transportation Plans every three years in non-attainment and maintenance areas; and
- WHEREAS,** The SMTC has prepared the Long-Range Transportation Plan 2004 Update to examine and consider changes in trends and conditions, and to confirm the validity of the forecasts and assumptions used in the 1995 Long-Range Transportation Plan and the subsequent Updates of 1998 and 2001; and
- WHEREAS,** Onondaga County was designated in October 1993 as a maintenance area under the provisions of the Clean Air Act; and
- WHEREAS,** The New York State Department of Environmental Conservation has proposed a State Implementation Plan revision for Onondaga County containing a new motor vehicle emissions budget and USEPA has proposed to find the emission budget adequate for transportation conformity purposes; and
- WHEREAS,** The Long-Range Transportation Plan 2004 Update and the 2004-2006 Transportation Improvement Program meet all applicable requirements in 40CFRPart 93 and conform to the purpose of the State Implementation Plan contingent upon an affirmative finding by USEPA that the motor vehicle emission budget is adequate for the purposes of transportation conformity; and

**WHEREAS,** Should USEPA determine that the new motor vehicle emission budget for Onondaga County is not adequate for transportation conformity, this conformity determination for the Long-Range Transportation Plan 2004 Update and the 2004-2006 Transportation Improvement Program, as well as the Long-Range Transportation Plan 2004 Update itself, shall be invalid; and

**WHEREAS,** The Long-Range Transportation Plan 2004 Update was developed collectively by the SMTC Central Staff and the SMTC Planning Committee; and been made available for public comment; and

**WHEREAS,** The Long-Range Transportation Plan has been made available for public comment and all comments received have been evaluated, addressed as appropriate and documented as an appendix to the report; and

**WHEREAS,** The SMTC Policy Committee is the policy making body of the MPO having the authority to adopt the Long-Range Transportation Plan 2004 Update.

**NOW THEREFORE BE IT RESOLVED,** that the SMTC Policy Committee hereby adopts the Long-Range Transportation Plan 2004 Update and the conformity determination for the Long-Range Transportation Plan 2004 Update and the 2004-2006 Transportation Improvement Program.

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Matthew J. Driscoll  
Chair, SMTC Policy Committee

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Jon P. Edinger  
Secretary, SMTC Policy Committee

Date: \_\_\_\_\_

Date: \_\_\_\_\_

# **Syracuse Metropolitan Transportation Council**

## **Long-Range Transportation Plan 2004 Update**

### **Executive Summary**

#### **Chapter I: Introduction**

##### **1. Define SMTC and MPO area**

As the Metropolitan Planning Organization (MPO) designated by the Governor of the State of New York, the Syracuse Metropolitan Transportation Council (SMTC) was created in 1966 to carry out the continuous, comprehensive and cooperative transportation planning process for the Syracuse Metropolitan Area, which includes all of Onondaga County and small parts of Oswego and Madison Counties. The SMTC area is centered in the City of Syracuse, the transportation hub and economic center for Central New York (see Map 1).

The SMTC is composed of officials representing local, State and Federal governments or agencies having interest or responsibility in comprehensive transportation planning. To facilitate and encourage maximum interaction among these groups and the local community, the SMTC has adopted a committee structure that consists of a Policy, Planning and Executive Committee. Served by the SMTC central staff, these committees serve as the hierarchy to the transportation planning activities of the SMTC.

The SMTC develops three key documents that are the components to transportation planning and programming in the Syracuse Metropolitan Area: the Long-Range Transportation Plan (LRTP), the Unified Planning Work Program (UPWP), and the Transportation Improvement Program (TIP). Together, these three documents represent the beginning, middle and end to an effective transportation planning process.

##### **2. Purpose of LRTP**

The LRTP is a blueprint to guide the Syracuse Metropolitan Area's transportation development over a 20-year period. Updated every three years to reflect changing conditions and new planning principals, the LRTP is based on projections of growth and travel demand coupled with financial assumptions. The LRTP specifically looks at major urban transportation planning concerns such as environmental/air quality issues; comprehensive access to transportation; alternative transportation modes (especially transit and bicycle and pedestrian); the impact of land development on the transportation system; highway traffic congestion; and maintenance of the existing infrastructure.

The LRTP presents a vision of the transportation system and the projects that will bring that vision to reality over time. Central to that vision is the protection of the value of investments already made in developing the transportation system while providing resources to pursue innovative solutions to mobility constraints and enhancing travel choices available. Also central to the LRTP is the need to adjust the land development patterns and transportation system investments, where practical, to conform to existing development guidelines (i.e., Onondaga County's 2010 Development Guide, the Onondaga County Settlement Plan, and the City of Syracuse's Comprehensive Plan, which is currently underway).

In January 1995, the SMTC published the 2020 LRTP. This was followed three years later with the 1998 LRTP Update, and again with a 2001 LRTP Update. All documents were prepared in compliance with CFR 450.332, which also is the basis for this document, the 2004 Update, to fulfill triennial review and update requirements. Since this document is an update, some information and data may not be balanced due to modifying/adding data to the original 1995 information. The original 1995 Long-Range Transportation Plan is the base document and this 2004 Update represents modifications to that plan and its subsequent updates.

### **3. Public Involvement Process**

Engaging the public early and often in the planning process is critical to the success of any transportation plan or program, and it is required by numerous state and federal laws. Such legislation underscores the need for public involvement, calling on MPOs such as the SMTC to provide citizens, affected public agencies, representatives of transportation agencies, private providers of transportation and other interested parties with a reasonable opportunity to comment on transportation plans and programs.

For many of the SMTC's activities, a project-specific Public Involvement Plan (PIP) is created that sets the framework for the public participation opportunities that will be available throughout the course of the project. Such a proactive and dynamic PIP development process ensures the continual review of meaningful public involvement objectives and concepts, as opposed to one stagnant PIP that the SMTC must follow in all its transportation planning activities. The varying PIPs also consider the differing characteristics and impacts of different geographical areas on the focus of the study. Thus, the majority of the time, the SMTC creates individual project-specific PIPs in which differing methods allow the public to better participate in the study. The PIPs also pinpoint when in the project the public involvement meetings will be held that allow for the exchange of information and input.

For a majority of SMTC studies, a Study Advisory Committee (SAC) is formed to provide input and guidance to the SMTC Project Manager, the study process, study documents, and public meetings. The SAC typically consists of representatives from affected organizations, local governments, and community representatives that meet several times throughout a project's development. In addition to the SAC, a list of interested "stakeholders" (a broader group of interested individuals with significant relations and interest in a particular planning study or activity) is maintained by the SMTC. The SMTC recognizes that the active involvement of the entire community, in addition to the SMTC Policy and Planning Committee members, is paramount to good transportation planning. Public comments are valued because they can shape the direction of a particular transportation study or planning activity, and may help to identify new transportation projects that are important to citizens of the area.

### **4. Process**

The UPWP identifies the federally funded transportation planning activities that are to be undertaken in the SMTC study area in support of the goals, objectives and actions established in the 2020 LRTP. The SMTC Central Staff, working with the Planning Committee and the NYSDOT, annually initiates the process of developing the UPWP and prepares a final draft for the consideration of both the Planning and Policy Committees.

The SMTC is responsible for the maintenance of the area's TIP, a three-year program that funds capital projects related to transit, local roadways and interstates, bicycle and pedestrian amenities, and more. Four pieces of federal legislation significantly affect the TIP and the



planning and programming of transportation projects. These include the TEA-21, ISTEA, ADA, and CAAA.

The TIP for the SMTC area is comprised of a staged three-year program of transportation capital projects together with a three-year estimate of transit capital and maintenance requirements.

## **Chapter 2 - Goals and Objectives**

### **1. Goals**

Part of the process for updating the 2020 LRTP during 2001 and 2004 included the identification of action plans that had been implemented under each of the LRTP's six goals since 1995. The six goals include (1) Community Safety: To enhance the safety of the people using the transportation system, (2) Community Mobility: To improve the mobility options for people within the Syracuse Metropolitan Planning Area (MPA), (3) Community Environment: To provide a clean and environmentally sound transportation system for current and future residents, (4) Community Economy: To enhance the area's economic competitiveness, thereby increasing opportunities for employment, (5) Community Land Use: To promote the development of an efficient urban area and a sense of community through transportation planning, and (6) Community Facilities: To provide safe, clean, well maintained and efficient transportation infrastructure. The identification of implemented action plans involved discussions with the member agencies responsible for their respective TIP projects.

In this 2004 LRTP Update, the implemented action plans are presented, together with their respective goals and objectives. The implemented action plans are summaries rather than complete descriptions. In many cases, an overlap exists because a particular action plan may apply to multiple goals.

### **2. Changing Program Focus**

Since the publication of the 2020 LRTP, a shift in emphasis has occurred creating a larger emphasis on bicycle and pedestrian facilities planning than previously existed. Examples of this include the Onondaga Lake Circumferential Canalway Trail, the Erie Canalway Trail, and the redevelopment of Clinton Square. The increase in facilities for non-motorized travel creates a stronger multimodal orientation to the work of the SMTC, which may not be reflected adequately in the original LRTP. Other issues that are currently receiving more attention, although not significantly noted in the original Plan, include roadside maintenance and periodic clean-up in order to improve the visual attractiveness of the area, as well as enhancements that make transportation facilities accessible under the Americans with Disabilities Act of 1990 (ADA).

In the future, better measures of effectiveness will be needed for assessing the quality of non-motorized transportation facilities, as well as general quality of life issues that are becoming increasingly important in the MPO area. Other issues needing future attention are the roads originally designed for home to market use. There is a need to coordinate local land use and development planning with planning for a fully developed highway network ranging from local streets to a larger network. Many agencies and government entities will need to cooperate to make this process work.

## **Chapter 3 - MPA Updated Data and Trends**

## **1. Updated MPA, UAB, and Functional Classification**

The Metropolitan Planning Area (MPA) is defined as the area in which the MPO is responsible for transportation planning defined by the most current Census as being urbanized, plus the area anticipated to be urbanized by the year 2020.

In Spring 2003, the MPO area boundary was revised based on the 2000 Census. The former boundary included all of Onondaga County and a small portion of Oswego County (Town of Schroepfel including the entire Village of Phoenix). The revised boundary includes the entire former portion as well as some additional areas of Oswego County and Madison County. The new areas of Oswego County extend north along Interstate 81 and New York State Route 11. The Madison County portion includes the Bridgeport area along Oneida Lake as well as a portion along I-90.

Along with the revisions of the new MPO Area Boundary, the Urban Area Boundary was also revised. The former Urban Area Boundary surrounded the City of Syracuse metropolitan area and remained within Onondaga County. The revised Urban Area Boundary expanded to additional metropolitan areas within Onondaga County, and now includes the urbanized portions of Oswego County and Madison County that are contiguous to Onondaga County. The portions of the Urban Area Boundary and the MPO Boundary that are outside of Onondaga County coincide (e.g., the only portions of the MPO that are outside of Onondaga County are the expanded urban areas.). See Map 4 for the updated Urban Area Boundary based on the 2000 Census.

Functional classification is the process by which streets and highways are grouped into classes or systems according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently but are part of a greater network. This network “channels” traffic in a logical, safe and efficient manner, and helps define the functional classification hierarchy. A simplified hierarchy of a functional classification (from lowest class to highest) consists of local roads, major and minor collector roads, minor arterial, and principal arterials.

At this time, the functional classification system has been revised to take the 2000 Census and revised MPO boundaries into consideration, however the revisions have not yet received NYSDOT and FHWA approval. Changes in the system will be discussed in detail and included in the next LRTP document.

## **2. Planning Area Trends**

This 2004 Update includes a basic profile of some of the most important demographic trends and changing conditions that affect transportation planning in the SMTC area. The Syracuse MPA has seen notable changes since 1990 in population, economic transition and land use shifts. The trends are typical to most Northeast communities, including:

- A declining metropolitan area population, and a shift in population away from the city core to suburban and rural areas;
- A changing economic base from manufacturing to a more diversified information and service based economy;
- Recent increases in unemployment as a result of the national recession and the recent closures of some significant manufacturing facilities;

- A continued land use pattern towards suburban sprawl and decreasing density;
- A concentration of poverty in the City of Syracuse;
- Increased commuting into Onondaga County, and from the City to the suburbs; and
- A significant increase in the elderly population as a total percent of the demographic makeup of the community.

Included in the LRTP are descriptions of demographic trends (population, local economy, land use), and how they relate to transportation planning in the SMTC area.

### **3. Travel Demand Modeling**

The SMTC currently has a Travel Demand Model that functions adequately to meet federal and state requirements. However, in an effort to improve on the quality and usability of the model a significant project is underway to create a new Travel Demand Model for the MPO. Hence, Travel Demand Modeling at the SMTC is currently in transition due to new software implementation and the updating of its travel forecasting information.

Travel Demand Modeling is the utilization of a computer software package to replicate the “real world” transportation system around us including roads, intersections, traffic control devices, congestion delays, use of a transit system, etc. Once the computer model can accurately replicate the existing conditions of an area, it can be used to predict future travel patterns and demands based on changes in the transportation system (e.g., new roads, wider roads with more capacity, closed roads, etc.); changes in land use (e.g., more residential development, a new industrial site, etc.); and changing demographics (e.g., more or less people in a specific area, access to a vehicle, etc.). By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system can be identified. It is also an important tool in planning future network enhancements and analyzing currently proposed projects. In addition to simulating vehicular traffic, the model will be able to adjust for transit vehicles, bicycles and pedestrians.

The new model will be a traditional, four-step model that involves the processes of (1) trip generation, (2) trip distribution, (3) mode choice, and (4) trip assignment. The new model will utilize TransCAD software and include a Geographical Information Systems (GIS) interface. Once completed, the model will be utilized by the SMTC staff to perform a wide range of transportation planning activities.

## **Chapter 4 - Changing Transportation Needs and Impacts**

### **1. Travel Modes**

Passenger vehicles: By far, the most common mode of transportation utilized in Onondaga County is the passenger motor vehicle, and the popularity of this mode of commuting continues to increase over time. The 2000 commuting data shows that most people commute in single occupant vehicles. Correspondingly, there has been a 35.52% increase in vehicle miles traveled (VMT) since 1990. Overall, a small percentage of work trips are made via public transportation. However, in certain zones in the urbanized area, transit is utilized more and is regarded as an indispensable mode of travel for many people. In no instance did bicycling reach even one-half of one percent of work trips made. Carpooling remains an alternative for many.

Bicycle and Pedestrian Travel: Since 1990, Onondaga County has seen a decrease in pedestrian travel, potentially attributable to a decrease in city population over the past decade. Other factors

such as the condition of pedestrian facilities, perceived safety, and alternative mode choices may also be attributable to the decrease. With the majority of bicycle and pedestrian trips covering short distances, land use patterns play a critical role in the current and future development and use of bicycle and pedestrian facilities. Both Onondaga County and the City of Syracuse have bikeway plans and projects underway, several of which are funded through the MPO's Transportation Improvement Program (TIP). Several examples are listed in the LRTP.

Public Transit: Centro operates the public transportation system in Onondaga, Oswego and Cortland Counties. Centro transports 25,000 people per day in Onondaga County on over 100 transit routes with 18,000 to 20,000 riders per day. Centro operates connecting routes between the Cities of Syracuse, Oswego, Fulton and Auburn, as well as city transit services within each of these cities. Within Onondaga County, service frequencies in the rush hours are such that all Common Center bus stops are in continuous and heavy use. Centro has reported increases in ridership in the last two years as new services have been implemented.

Water Transportation: The New York State Canal System is operated by the New York State Canal Corporation, a division of the New York State Thruway Authority. In order to address these issues and capture the potential economic development benefits associated with increased tourism, the Canal Corporation is working with canal communities along the system to improve facilities and support the efforts of private entrepreneurs to improve the number, quality and spacing of privately sponsored facilities. The federal government has also been a source of financial assistance, through the US Department of Housing and Urban Development's (HUD) *Canal Corridor Initiative* under the previous administration. Although there are gaps in water transportation services and facilities in the MPO area, there is potential for increasing future use of the water features in the area.

Air Passenger Transportation: The number of enplaned passengers through an airport typically fluctuates in response to changes in the economy and other local, national and international conditions. The full utilization of Hancock International Airport also has been adversely affected by high airfares. The City of Syracuse has succeeded in bringing lower cost airlines to the airport that are now offering more competitive airfares.

Passenger Rail Service: Rail passenger service in the SMTC area is provided through two companies. The National Railroad Passenger Corporation (Amtrak) provides intercity rail passenger service in the Central New York region. The OnTrack shuttle trains operate over track operated by the Syracuse, Binghamton & New York Railway, a subsidiary of New York, Susquehanna & Western Railway (NYS&W). A number of initiatives being considered have the potential for improving passenger rail service in Central New York. The State of New York is currently assessing the feasibility of high-speed rail service across Upstate. If this service is implemented, changes will be required in the configuration of the William F. Walsh Regional Transportation Center to accommodate high-speed trains and the resulting increase in the number of rail passengers.

Freight Movement (Air, Highway, Rail and Water): Among the attractions to doing business in Onondaga County and the Central New York region is the crossroads location of the County for air, highway, rail and water transportation and the variety of freight movement services available. Air cargo service is available at Syracuse Hancock International Airport, which is directly linked to Interstate 81. U.S. Customs inspection services are also available at Hancock Field. Two interstate highways intersect at Syracuse, the New York State Thruway (Interstate 90) and Interstate 81, providing excellent truck access to the SMTC planning area. Rail freight

services in Onondaga County are available from three providers. Water transportation is available on the New York State Canal System.

## **2. Emerging Initiatives**

There are several emerging initiatives relating to transportation planning that currently have a direct impact on the planning activities in the MPO area and they are discussed below.

First is the Onondaga County 2010 Development Guide and the Onondaga County Settlement Plan. The *2010 Plan's* vision, goals and policies are intended to guide future individual government decisions on land use, transportation and infrastructure development, utilizing balanced goals that include economic growth, creating an attractive community, encouraging diversity and choice, and enhanced fiscal strength. The Syracuse-Onondaga County Planning Agency also enlisted the services of the firm Duany Plater-Zyberk & Associates (DPZ) in 1999 to prepare the *Onondaga County Settlement Plan*. The Settlement Plan for Onondaga County was designed to present a comprehensive “toolbox” of strategies to encourage the traditional neighborhood development patterns outlined by New Urbanism, as an alternative to conventional zoning and suburban development patterns which many deem an inefficient use of land and a burden on transportation facilities.

A second emerging initiative relating to planning in the MPO area is Environmental Justice. In recent years, the concept of Environmental Justice has become a very important aspect of transportation planning. The USDOT, which governs the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), has mandated that Environmental Justice be included in all aspects of transportation planning. The value of such an analysis is important to transportation planning operations in that agencies and related contractors who receive federal funding are required to comply with various relevant regulations set forth by the USDOT. This concept focuses on the equal and fair treatment of all persons, particularly racial or ethnic minorities and low-income populations. In addition, it is unlawful to disproportionately distribute the benefits or disadvantages of transportation planning amongst disparate areas of minority/income group concentration. Based upon the primary assessment done by SMTC in the past year, the Environmental Justice Study showed that the transportation planning and programming activities performed by the SMTC are not known to have been disproportionately distributed regarding the designated target populations.

Transportation Needs for Senior Citizens is becoming an area of increasing concern as the population of the MPO ages. At the suggestion of the FHWA in furthering environmental justice initiatives, and recognizing a growing elderly population (as discussed in previous chapters), this LRTP 2004 Update represents the first time that the SMTC has devoted specific attention to senior citizen transportation needs.

An emerging initiative that has a great deal of potential benefit for the MPO area is Intelligent Transportation Systems (ITS). ITS refers to the application of electronics, communications, hardware, and software that support various services and products to address transportation challenges. The NYSDOT in conjunction with the SMTC and its member agencies developed a strategic plan for deployment of ITS for the Syracuse Metropolitan Area (principally Onondaga County).

The last emerging initiative to mention is that of Homeland Security. Since September 11, 2001, security has affected all levels of government in a substantial manner. Transportation is no exception. Most of the issues related to security and transportation are outside of the purview of

the MPO. The MPO can, however, act as a conduit to facilitate interagency cooperation to that end.

### **3. Emerging Projects**

University Hill Area: The University Hill area is one of the most intensive areas in terms of land use and transportation in the SMTC study area. Due to complex transportation issues in the University Hill area, a comprehensive transportation study known as the “University Hill Comprehensive Transportation Study” has been initiated. The goal of the study is to develop a set of recommendations (policy and infrastructure) that address the wide range of transportation and land use issues in the University Hill study area. The study consists of three parts: data collection and analysis, identification of issues, and the presentation of alternative solutions and recommendations.

Due to the existing intensive land use in a limited geographic area, a comprehensive transportation study that includes parking, general vehicular access, bicycle and pedestrian access, and an examination of existing transit services and possible transit alternatives is necessary. This study will also address parking issues such as enforcement, regulations, and residential and employee parking. There is also a need to look at non-automobile alternatives and improvements such as additional park and ride shuttle systems and other mass transit options. This study will also include of a cursory review of innovative transit options, specifically innovative Passenger Rail options.

Lakefront Development District: Over the past 15 years, the City of Syracuse and several public and private partners have been working to redevelop a long vacant and underutilized area in the northern part of the city. The area is undergoing a continued transformation into what is now known as the *Syracuse Lakefront*. Included in the 800-acre district are the Franklin Square district, the existing Carousel Center (regional shopping mall), and the Syracuse Inner Harbor. Some of the more significant redevelopment projects underway and proposed for the Lakefront Development area include the development of DestiNY USA, the continued redevelopment of abandoned manufacturing facilities into new mixed-use housing and offices in Franklin Square and the significant redevelopment of an underutilized canal port on the Barge Canal system at the southern end of Onondaga Lake. Similar to revitalization efforts across the entire Erie Canalway, the Syracuse Inner Harbor is being renovated into a recreational and tourism facility, inclusive of a public promenade, marina, amphitheater, mixed-use waterfront development, housing, and recreational amenities.

## **Chapter 5 - Safety Conditions and Infrastructure Maintenance**

### **1. Vehicle Safety**

Strategies to improve the safety of the highway systems are often grouped in one of three categories: education, engineering and enforcement. Overall, traffic fatalities have declined in recent years locally, particularly when measured against the number of miles traveled per vehicle. National and statewide fatality rates have also declined. Much of this recent improvement results from increased education, enforcement efforts aimed at reducing the number of people driving with ability impaired, and new vehicle safety systems such as air bags and anti-lock brakes. The SMTC member agencies play a key role in reducing the number and severity of accidents as well. Much of the local effort is directed at engineering improvements to the highway system itself.

## **2. Bike/Pedestrian Safety**

As part of the SMTC's Bicycle and Pedestrian Plan, the SMTC examined bicycle/motor vehicle and pedestrian/motor vehicle collisions, and their associated injuries and fatalities in Onondaga County for the years 1987-2000 using collision data gathered from the New York State Department of Motor Vehicles (NYSDMV). Upon examination and analysis of the data, generally speaking, the number of bicycle/motor vehicle collisions and pedestrian/motor vehicle collisions over the fourteen-year period analyzed has decreased (with some annual fluctuation). Collision locations were mapped utilizing the NYSDOT Centralized Local Accident Surveillance System (CLASS) along with the SMTC's GIS system and the SMTC found that the majority of high bicycle/motor vehicle and pedestrian motor vehicle collision incidences and occurred in the City of Syracuse at heavily traveled intersections.

## **3. Infrastructure**

Bridges: Onondaga County has 474 bridges on thruway, state, county and local roads. The NYSDOT maintains a Bridge Management System (BMS) for all of these bridges. The BMS rates the bridge deck, bearings and other structural elements on a weighted scoring system. Thruway, state and local bridges are rated by the NYSDOT on a scale of 1.0 to 7.0, with scores falling into three categories: Priority Deficient, Deficient, and Non-Deficient. A deficient condition does not mean that the bridges are unsafe, but rather they are candidates for rehabilitation work, replacement or even perhaps closure. Priority deficient bridges are given a priority for funding over those that are deficient. Many bridges with condition ratings of less than 3.0 have to be closed to some or all traffic. State and local bridges are inspected every two years, regardless of condition rating. The condition of bridges in the SMTC area has been a critical funding issue for a number of years. The large number of bridges and the percentage of bridges that are rated as Priority Deficient and Deficient combined with the limited amount of money available for funding improvements has made this a key improvement area noted by the NYSDOT and other SMTC member agencies.

Pavement: The NYSDOT uses a Pavement Management System (PMS) that attempts to maximize the effectiveness of the limited dollars spent on maintaining pavements. Pavements have a varying life cycle dependent on many conditions. A PMS allows the NYSDOT and other highway departments to determine the pavement rating relative to all other pavements in a jurisdiction. It also allows year-to-year monitoring of pavements and facilitates predictions of when to cost effectively overlay, rehabilitate or reconstruct a road. The NYSDOT system uses a visual rating system with a scale of 1 to 10 for surface conditions, which are categorized into poor, fair, good, or excellent condition. The Onondaga County Department of Transportation (OCDOT) and the City of Syracuse also maintain pavement management systems. The City of Syracuse rates approximately half of the pavement each year in the City on a 1-10 scale, similar to the NYSDOT scale. Although the OCDOT rating system is not identical to the NYSDOT system, it is comparable since OCDOT also uses a 1-10 scale. By placing an annual work activity on the SMTC's UPWP to examine pavement condition, the SMTC is able to produce a document that allows its member agencies to comprehensively view the total pavement condition in a summary format both numerically and graphically. This helps allow for the decision makers to plan for the appropriate funding expenditures for proper pavement maintenance.

One thing that needs to be pointed out is that the vast infrastructure for bridges, pavements and other resources that exists in the MPO area requires constant maintenance and upkeep to operate

safely and effectively. This required maintenance utilizes the lion's share of the annual transportation capital expenditures and leaves little left over for new initiatives.

## **Chapter 6 - Mobility, Accessibility and Intermodal Transportation**

### **1. Existing Trends**

A few of the key trends in the local community that relate to transportation planning and programming are outlined below.

Changing Demographics and Transportation Choices: 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.

Regional/Global Economy Factors: Previously, the majority of employment and manufacturing were mainly concentrated in a few large employment centers in Onondaga County, yet now 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.

Changing Demographics and Transportation Design Parameters: As outlined in the document, 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 improved/increased visibility.

### **2. Operating Agency Practices**

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. Each of these (Corridor Management, Access Management, ITS Strategies, Multimodal Needs, Asset Management) are described in more detail in the full LRTP 2004 Update.

### **3. 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 of the 2004 LRTP Update examines how the entities in the SMTC area are working together for the common goals of the transportation network. There are certain key areas (Corridor Management, Access Management, ITS Implementation) discussed in the LRTP 2004 Update 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.



## **Chapter 7 - Air Quality and Conformity Determination**

### **1. Air Quality and Conformity**

Air Quality, as it pertains to the operations of the SMTC and its member agencies, includes the state and federal requirements for transportation conformity, project level analysis for Congestion Mitigation/Air Quality (CMAQ) funding, and requirements for the State Energy Plan (SEP) and Greenhouse Gas analysis. The SMTC and its member agencies take a multi-faceted approach to improving and monitoring air quality impacts within the SMTC planning area.

Transportation conformity ("conformity") is a way to ensure that Federal funding and approval is applied to those transportation activities that are consistent with air quality goals. Conformity applies to transportation plans (such as the SMTC LRTP, TIPS, and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA)) in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide. These areas are known as "non-attainment areas" or "maintenance areas," respectively.

Transportation projects must demonstrate conformity in order to be funded. A conformity determination demonstrates that the total emissions projected for a plan or program are within the emissions limits ("budgets") established by the State Implementation Plan (SIP), and that transportation control measures (TCMs) are implemented in a timely fashion. TCMs are specific programs designed to reduce emissions from transportation sources by reducing vehicle use, changing traffic flow or congestion conditions. Examples include programs for improving public transit, developing high occupancy vehicle (HOV) facilities, and ordinances to promote non-motor vehicle travel.

In examining the results of the conformity analysis for the SMTC relative to this 2004 LRTP Update the output shows that carbon monoxide emissions between the base year of 1990 and the forecast year of 2025 will be significantly reduced. The analysis indicates that with the completion of construction or implementation of the projects on the TIP, the area will still result in emission levels that are lower than the 1990 base year.

Since the regional implementation program of transportation projects, as reflected in the TIP and derived from the goals and objectives of the LRTP, have been shown to meet the required emission reduction test for air quality conformity, and there are no applicable TCM's in the current SIP for the Onondaga County area, **the 2025 LRTP 2004 Update has been shown to be consistent with applicable conformity regulations and the current SIP**. No goals, directives, recommendations or projects of the LRTP will contradict requirements or commitments of the SIP or the intent of the CAAA or other applicable federal and state guidance.

### **2. Energy and Greenhouse Gas Impacts**

A policy objective of both the U.S. Department of Transportation and the State of New York is the conservation of energy through a reduction in motor fuel consumption. In addition, the New York SEP has identified a reduction of greenhouse gases (CO<sub>2</sub>) as an objective for all LRTPs.

Similar to the documentation relating to air quality emissions above, the SMTC performed a quantitative analysis on both energy consumption and carbon dioxide emissions that may result from the implementation of the 2025 LRTP. This analysis, included to promote the policy objectives of federal and state transportation departments, is intended to focus awareness on these issues. The results of the analysis demonstrate that the projects new to the 2025 LRTP

horizon year will provide for an insignificant increase in the emission of VOC, NO<sub>x</sub>, CO, and CO<sub>2</sub> and the amount of direct energy used by vehicles in the Syracuse MPA.

The SMTC and its member agencies will continue to develop processes and tools to further monitor and improve our air quality for a variety of pollutants, while working towards enhanced energy savings and a more effective transportation system operation. However, it is anticipated that significant additional resources and funding will be required to address this area. Metropolitan Planning Organizations (MPOs) generally do not have the level of expertise and resources on hand that are now being required for increasingly more complex and integrated analysis in this subject area. In addition, the MPOs will require greater clarity and consistent detailed guidance, training and tools to allow for such analysis.

## **Chapter 8 - Long-Term Outlook and the Financial Plan**

### **1. Asset Management**

Asset Management and Infrastructure Maintenance: First and foremost, as shown in the previous sections of this plan, the vast majority of financial resources relating to transportation for the Syracuse Metropolitan Transportation Council (SMTC) area are committed to maintaining the extensive, diverse, and aging infrastructure that already exists in the community. This infrastructure maintenance includes, but is not limited to the major activities that are discussed in the LRTP 2004 Update.

Pavement Maintenance/Road Reconstruction: Most member agencies have programs for preserving infrastructure maintenance, including pavement and bridges.

Bridge Repairs/Improvements: The NYSDOT inspects all bridges in the Metropolitan Planning Organization (MPO) area and determines goals for the condition of both state and local (non-state) bridges.

Other Safety Improvements: Safety is a high priority for the implementing agencies in the MPO area. Most member agencies regularly schedule safety improvements for corridors, roadways and intersections.

Transit Maintenance and Improvements: Centro is leading the way in Central New York in the use of alternative fuel, low emissions vehicles. CNYRTA is seeking funding to construct a stand-alone Common Center transit facility where bus operations can be conducted off-street and out of general traffic patterns.

### **2. Exceptions**

Notable Exceptions: It is expected that the majority of the resources that will be expended in the near future relate to maintenance via the activities previously discussed and other required actions. However, there are some notable exceptions that should be called out, listed below.

- **Additional Capacity:** While not a major activity in the MPO area, adding capacity is an occasional activity that is required due to economic and residential expansion into outlying areas. While there are no current major capacity building efforts on the programmed TIP, it is possible that in the near future some additional capacity will be needed in select and isolated portions of the transportation system in response to growth.
- **New Transit Initiatives:** Centro will continue to pursue alternative service concepts.

- Additions and improvements to the Non-Motorized System (Bicycle & Pedestrian System): Since the Intermodal Transportation Efficiency Act (ISTEA) of 1991 legislation, bicycle and pedestrian planning activities continue to be addressed through the UPWP. Bicycle and pedestrian capital projects have also become a growing element of the Transportation Improvement Plan (TIP).
- New Development Potential: Theoretical plans for the Lakefront area call for various economic development opportunities. One such plan is the Destiny USA initiative. If built to its advertised potential, these plans could significantly impact the MPO area.
- Intelligent Transportation Systems (ITS): ITS is becoming more of an active methodology to assist in traffic and incident management.

### **3. Resources Available**

The 2020 LRTP, when published in 1995, anticipated a total of \$3.050 billion in funding over the 25-year planning period. This LRTP 2004 Update anticipates a total of \$2.791 billion in funding over the remaining term of the planning period. The major sources of funding, shown in Table 8-1 and 8-3, include the federal government at 33.0% (\$920 million) of the total, the State Dedicated Fund at 28.1% (\$784 million), Onondaga County at 6.8% (\$189 million) and the City of Syracuse at 1.5% (\$42 million). The balance is comprised of other State and local sources at 24.3% (\$679 million)<sup>1</sup> and Centro operating revenue at 6.3% (\$177 million). It is anticipated that all traditional funding mechanisms will be exhausted with the implementation of this LRTP 2004 Update.

The largest share of the total resources available will be expended to maintain the existing transportation system. As detailed in the full document maintenance of existing bridges and pavement will absorb 58.7% of the budget (\$1.64 billion). An additional 23.8% (\$664 million) will be allocated to support the area transit system; 10.7% (\$298 million) will be used to improve congested locations, reduce single occupancy vehicles (SOVs) and the Americans with Disabilities Act (ADA) compliance; and 3.9% (\$101 million) will be spent for efforts to increase safety at high incident locations. The remaining 2.9% (\$83 million) of the budget will support transportation projects that enhance economic development, environmental quality and efforts to coordinate land use and transportation planning decisions in the study area. The 2004 Update also supports a number of innovative initiatives new to this area. Examples of the latter include funds which have been allocated to encourage the application of ITS technology in the Syracuse region and an effort to devise a cost/benefit methodology for application to future TIPs.

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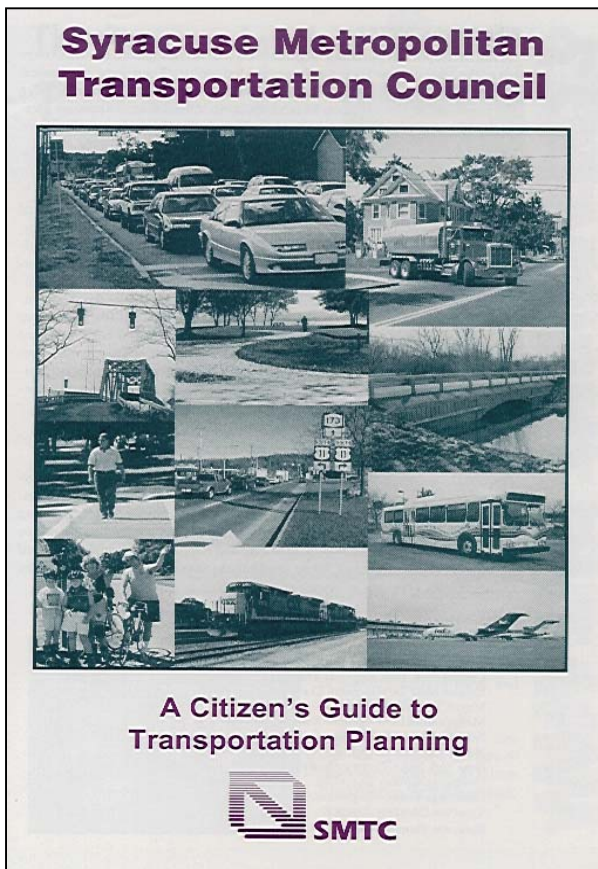
<sup>1</sup> The number does not match the number for "Other State and Local Funds" on Table 8-1 because it includes some non-transit funding that cannot be broken out from that number.

# Chapter I: Introduction

## A. What is the Syracuse Metropolitan Transportation Council?

As the Metropolitan Planning Organization (MPO) designated by the Governor of the State of New York, the Syracuse Metropolitan Transportation Council (SMTC) was created in 1966 to carry out the continuous, comprehensive and cooperative transportation planning process for the Syracuse Metropolitan Area, which includes all of

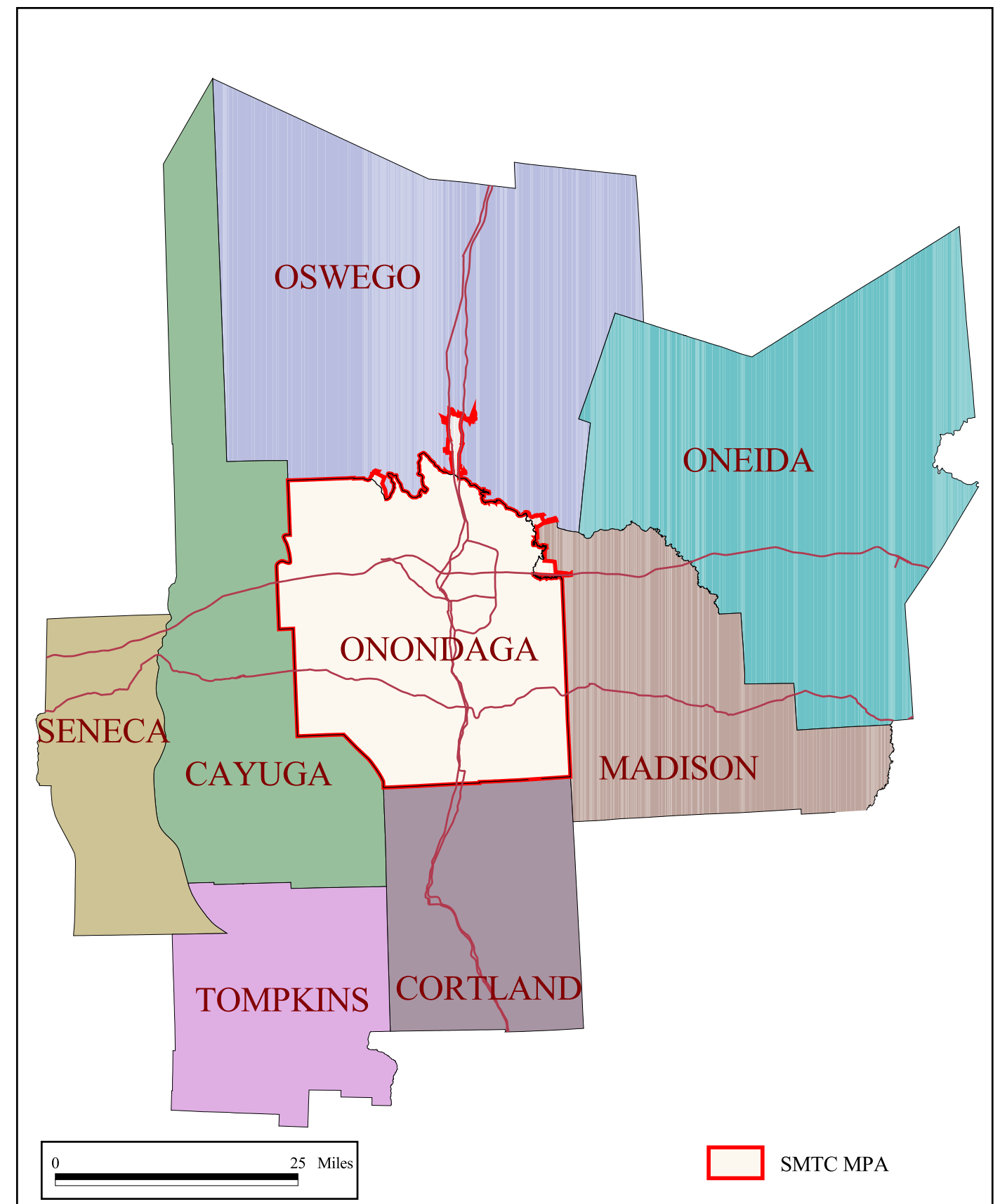
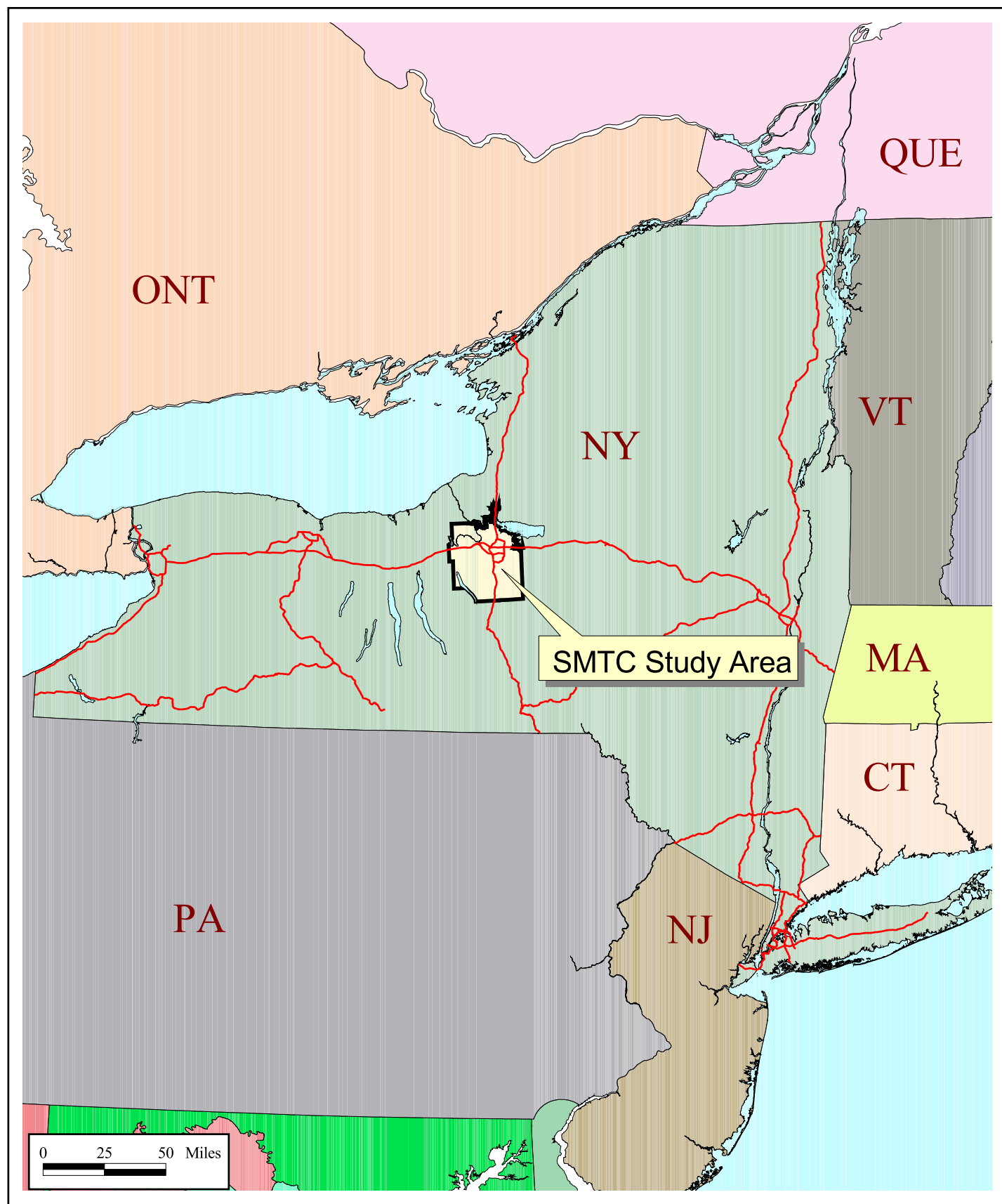
Onondaga County and small parts of Oswego and Madison Counties. The SMTC area is centered in the City of Syracuse, the transportation hub and economic center for Central New York (see Map 1).



In addition to maintaining a long-range transportation plan (a 20-year vision of future transportation projects and improvements), the SMTC conducts a number of specific transportation planning activities as part of the biennial Unified Planning Work Program (UPWP), some of which include: traffic corridor studies; transportation data collection; safety improvement analyses; congestion management; and multimodal transportation planning (including bicycle and pedestrian planning). The SMTC is also responsible for the maintenance of the area's Transportation Improvement Program (TIP), a three-year program that funds capital projects related to transit, local

roadways and interstates, bridges, bicycle and pedestrian amenities, and more. It is important to note, however, that the SMTC is not an agency that can implement particular transportation improvements, but serves as a collaborative forum where transportation issues are studied, and recommendations made.

The SMTC is composed of officials representing local, State and Federal governments or agencies having interest or responsibility in comprehensive transportation planning. To facilitate and encourage maximum interaction among these groups and the local community, the SMTC has adopted a committee structure that consists of a Policy, Planning and Executive Committee. Served by the SMTC central staff, these committees serve as the hierarchy to the transportation planning activities of the SMTC.



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This map is for presentation purposes only. SMTC does not guarantee the accuracy or completeness of this map.

## SMTC Metropolitan Planning Area Long-Range Transportation Plan 2004 Update

Map 1



Basemap Copyrighted by NYSDOT, 2001  
Datasources: SMTC, NYSDOT, 1999  
Prepared by SMTC, 07/2003

The Policy Committee consists of the elected and appointed officials representing local, State and Federal governments and other organizations/agencies having an interest or responsibility in comprehensive transportation planning in the Syracuse Metropolitan Area. The primary responsibility of the Policy Committee is to establish policies for the overall conduct of the SMTC.

The Planning Committee, which is established by the Policy Committee, is composed of the professional/technical representatives of both the Policy Committee members and public agencies having direct or indirect responsibility for transportation planning and/or implementation. Their primary responsibility is to monitor all technical activities including the development of a draft UPWP and TIP for recommendation to the Policy Committee. They also direct and consider for recommendation to the Policy Committee all major studies and planning activities.

The Executive Committee is made up of Planning Committee members and provides oversight of the day-to-day operation of the Central Staff for financial management, personnel and other administrative requirements.

The SMTC Policy Committee members include the City of Syracuse Office of the Mayor, the Central New York Regional Planning and Development Board (CNYRPDB), the Central New York Regional Transportation Authority (CNYRTA), the Empire State Development Corporation, the Metropolitan Development Association (MDA), the New York State Department of Environmental Conservation (NYS DEC), the New York State Department of Transportation (NYSDOT), the New York State Thruway Authority (NYSTA), the Onondaga County Office of the Executive, the Onondaga County Legislature, the Onondaga County Planning Board, the Syracuse Common Council, and the Syracuse Planning Commission.

The SMTC develops three key documents that are the components to transportation planning and programming in the Syracuse Metropolitan Area: the Long-Range Transportation Plan (LRTP), the UPWP, and the TIP. Together in tandem, these three documents represent the beginning, middle and end to an effective transportation planning process.

## **B. Purpose of the Long-Range Transportation Plan**

The LRTP is a blueprint to guide the Syracuse Metropolitan Area's transportation development over a 20-year period. Updated every three years to reflect changing conditions and new planning principals, the LRTP is based on projections of growth and travel demand coupled with financial assumptions. The LRTP specifically looks at major urban transportation planning concerns such as environmental/air quality; comprehensive access to transportation; alternative transportation modes (especially bicycle and pedestrian); the impact of land development on the transportation system; highway traffic congestion; and maintenance of the existing infrastructure.

It is important to note that in all of its transportation planning activities, the SMTC is required to consider and integrate the following planning factors as outlined in the Transportation Equity Act of the 21<sup>st</sup> Century (TEA-21):

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
2. Increase the safety and security of the transportation system for motorized and non-motorized users;
3. Increase the accessibility and mobility options available to people and freight;
4. Protect and enhance the environment, promote energy conservation and improve the quality of life;
5. Enhance integration and connectivity of the transportation system, across and between modes, for people and freight;
6. Promote efficient system management and operation; and
7. Emphasize the preservation of the existing transportation system.

In January 1995, the SMTC published the 2020 LRTP. This was followed three years later with the 1998 Update, and again with a 2001 Update. All documents were prepared in compliance with CFR 450.332, which also is the basis for this document, the 2004 Update, to fulfill triennial review and update requirements. Since this document is an update, some information and data may not be balanced due to modifying/adding data to the original 1995 information. The original 1995 Long-Range Transportation Plan is the base document and this 2004 Update represents modifications to that plan.

The 2004 Update has been prepared on the basis of an evaluation of the initial LRTP completed in 1995 and the 1998 and 2001 Updates, as well as changing circumstances of a significant nature that have occurred and affect the three documents. The 2004 Update should not be viewed as a stand-alone document but instead should be used in conjunction with the LRTP published in 1995, and the 1998 and 2001 Updates. In general, sections of the LRTP that are not substantially affected by changing circumstances are not included in this document. Some examples of the differences between the 1998 Update and the following two Updates (2001 and 2004) include:

1. The completion of several planning projects from the annual SMTC UPWP and substantial progress on other projects;
2. Inclusion of more recent demographic data resulting from Census 2000;
3. Changes made in the Federal Highway Administration (FHWA) planning factors to be considered in conducting UPWP planning projects and in the SMTC TIP for selecting capital projects;
4. Progress achieved in the Action Plans in the LRTP, included in Chapter 2;
5. An extensive public outreach plan, including a public opinion survey;



6. A comprehensive review of changes in the community since the 1998 Update, including examining the impact of the proposed Destiny USA project and the Lakefront Development as well as a review of the Onondaga County Settlement Plan.

During the last decade, several changes in federal legislation have had a substantial impact on how MPOs, such as the SMTC, conduct transportation planning. These include the Clean Air Act Amendments (CAAA) of 1990, the Americans with Disabilities Act (ADA) of 1990, the Intermodal Transportation Efficiency Act (ISTEA) of 1991 and the TEA-21 of 1998. Collectively, these acts address such major urban transportation planning concerns as environmental quality (especially air quality), access to transportation (especially for those with mobility difficulties), alternative transportation modes (especially bicycle and pedestrian), the transportation-land use linkage (especially the impact of land development on the transportation system), highway traffic congestion and maintenance of the existing transportation infrastructure. The legislation directs the planning focus of agencies such as the SMTC to these new areas of concern, now that the interstate highway system has been completed.

The LRTP presents a vision of the transportation system and the projects that will bring that vision to reality over time. Central to that vision is the protection of the value of investments already made in developing the transportation system while providing resources to pursue innovative solutions to mobility constraints and enhancing travel choices available. Also central to the LRTP is the need to adjust the land development patterns and transportation system investments, where practical, to conform to existing development guidelines (i.e., Onondaga County's 2010 Development Guide, the Onondaga County Settlement Plan, and the City of Syracuse's Comprehensive Plan, which is currently underway).

### 1. Public Involvement

Engaging the public early and often in the planning process is critical to the success of any transportation plan or program, and it is required by numerous state and federal laws. Such legislation underscores the need for public involvement, calling on MPOs such as the SMTC to provide citizens, affected public agencies, representatives of transportation agencies, private providers of transportation and other interested parties with a reasonable opportunity to comment on transportation plans and programs.



*SMTC JARC Public Meeting*

For many of the SMTC activities, a **project-specific** Public Involvement Plan (PIP) is created that sets the framework for the public participation opportunities that will be available throughout the course of the project. *Please refer to Appendix A to review the PIP for the LRTP 2004 Update.* Such a proactive and dynamic PIP development process



ensures the continual review of meaningful public involvement objectives and concepts, as opposed to one stagnant PIP that the SMTC must follow in all its transportation planning activities. Depending on the nature of the project, such groups as freight shippers, business developers, property owners, community leaders, social service agencies, fire and police representatives, and/or representatives of public transit, to name a few, are actively sought as participants in the project process. Input from such groups is important to the success of the project in meeting identified needs. The varying PIPs also consider the differing characteristics and impacts of different geographical areas on the focus of the study. For example, the existing conditions, the transportation issues, and the corresponding recommendations for the Seneca Turnpike Corridor Study (located on the City of Syracuse's South Side) are quite different from that of the Bicycle and Pedestrian Plan, a 2-year bicycle and pedestrian planning activity that will encompass all of Onondaga County. Thus, the SMTC created an individual project-specific PIP for both studies, in which differing methods allow the public to better participate in the study. The PIP also pinpoints when in the project the public involvement meetings will be held that allow for the exchange of information and input.



*University Hill Public Meeting*

The SMTC has taken several steps to strengthen the public involvement process. In addition to holding public meetings, the SMTC continues to recruit the necessary technical personnel and community representatives to serve on a project-specific Study Advisory Committees (SAC). The SAC, consisting of representatives from affected organizations, local and state governments and agencies, and selected community representatives, meets regularly with the SMTC to assist in managing projects and provide needed input and direction.

In addition to the SAC, a list of interested “stakeholders” (a broader group of interested individuals with significant relations and interest in a particular planning study or activity) is maintained by the SMTC. The stakeholders are sent pertinent study information, kept apprised of significant study developments, notified of all public meetings, and encouraged to provide feedback and comment regarding the particular planning study or activity. Separate meetings are also considered for the stakeholders group at various points during some projects, so that the SMTC may report on the progress of a study effort, and solicit input. The SMTC feels meeting with the stakeholders group on a one-on-one basis is an important strategy in gaining support and input from non-traditional partners.

On an overall basis, the staff's Communications Specialist works with the technical staff on a regular basis to expand opportunities for public input on each of the projects conducted under the annual UPWP.

Since the 2001 Update, the SMTC has continued to improve and expand upon its already impressive public involvement efforts. The following items are some of the noteworthy acts and methods the SMTC has implemented to inform and invite the public to participate:

1. **SMTC Web Site [www.smtcmpo.org]:** In September 2001, the MPO launched a "new and improved" SMTC web site, which now contains general information on the SMTC, and detailed, "headline" information on its studies, products, public participation opportunities, and other pertinent news and developments. The site is also referred to as a "one-stop shopping" site for various SMTC-produced reports and study documentation. The new and improved web site has received a significant number of hits, has been extremely useful and cost-effective in its posting of final reports, and is becoming a site that the public relies on for meeting notices, and UPWP project updates. Most importantly, it has become another source for the public to participate in the transportation planning process.

The public involvement aspects pertaining to the web site have also been strengthened. The SMTC has taken advantage of the Internet and its web site by creating a sub web site specific to individual UPWP projects. For example, a sub web site for the SMTC's Bicycle and Pedestrian Plan has been created [[www.smtcmpo.org/bike-ped](http://www.smtcmpo.org/bike-ped)], as has a web site for the LRTP 2004 Update [<http://www.smtcmpo.org/LRTP2004>]. The SMTC will continue to use its web site for project-specific sub web sites in the future, publicizing project news, updates, and opportunities for public participation.

2. The use of **press releases** to announce various meetings, project updates, and available reports has been upgraded in its distribution. The SMTC is now e-mailing its press releases to local media and agencies/individuals/citizens of interest.
3. **SMTC newsletter, DIRECTIONS:** The SMTC continues to promote its activities through its quarterly newsletter, which has grown in its total distribution count from approximately 1,500 in 1999 to about 2,000 in 2002. The SMTC has also begun to promote its online version of DIRECTIONS, and is now distributing the newsletter via e-mail to hundreds of recipients.
4. **Final Reports:** The SMTC has attempted to make better use of technology in making transportation planning reports, memorandums, and documents available for public review and possession. Central staff has implemented procedures that allow for final reports to be accessed via CD-ROM, e-mail (PDF file), or accessed on the SMTC web site. The SMTC continues to make

its reports available at its offices, and at local libraries throughout Onondaga County.

5. Continued and improved distribution of various project-specific **fact sheets and meeting announcement flyers**.

The SMTC has received considerable feedback and inquiries following the distribution of such material. SAC members are assisting in the distribution of these flyers in an attempt to get the “grass-roots” community involved.



6. **Project specific newsletters** have been developed to provide focused information and project updates on particular UPWP projects.

*Break-In-Access Public Meeting*

7. **SMTC brochure: *A Citizen's Guide to Transportation Planning*** was produced in the Fall 2001. It has been well received in its attempt to explain the role and purpose of the SMTC. In fact, it has been recognized by the public in its effective explanation of the MPO process (e.g. the progression and relationship of the LRTP, UPWP, and the TIP).
8. **Media Relationships:** Continued and heightened relationship with the local media has led to increased media exposure over the past three years for the SMTC and many of its transportation planning activities. The SMTC has been working with all mediums, television, radio, and print, to promote the activities and public participation opportunities to the public. In addition, the SMTC has established a good working relationship with students from Syracuse University who conduct interviews for their public communications class, and the Syracuse University newspaper. This is helping to spread the SMTC news on to the college setting/environment.
9. **Advertisements:** When necessary, the SMTC has arranged for advertisements in free newspapers to expand its outreach to all populations. The SMTC has also posted various legal notices and announcements in the print media.
10. **Representation on the FOCUS (Forging Our Communities United Strengths)**, a community-wide visioning program. This volunteer activity has allowed the SMTC to discuss its role in the community and promote the activities and studies of the SMTC in tandem with the community's goals and visions.

11. **Integration and coordination with the City of Syracuse's Tomorrow's Neighborhoods Today (TNT)**, a citywide community development forum. The SMTC has partnered with this group in the distribution of information, and holding of public meetings in an attempt to reach more citizens in all sections of the City of Syracuse.
12. **Orientation Packet:** Part of the SMTC's public involvement activities has been to educate our Planning and Policy Committee members, in addition to the general public who request information about the SMTC. Thus, the SMTC created and established an orientation packet for new committee members.
13. **Onondaga Indian Nation:** The SMTC continues its outreach to the Onondaga Indian Nation in all of its mailings (e.g., press releases, newsletters, flyers, and public meeting announcements).
14. **Assisting other MPOs:** The SMTC has expanded its outreach to assist in promoting MPOs throughout New York State. In 2002, the SMTC assisted with the design and layout of the New York State Association of Metropolitan Planning Organizations (NYSAMPO) brochure. The SMTC's Communications Specialist designed the graphical layout, and coordinated printing efforts for a brochure that aims to promote the role and purpose of MPOs, and the significance of transportation planning in New York State.
15. **Comment Cards/Surveys:** The SMTC has implemented various questionnaires, surveys, and comment cards in an effort to obtain additional public participation and opinion.

The SMTC recognizes that the active involvement of the entire community, in addition to the SMTC Policy and Planning Committee members, is paramount to good transportation planning. Public comments are valued because they can shape the direction of a particular transportation study or planning activity, and may help to identify new transportation projects that are important to citizens of the area.

### **C. Transportation Planning Context**

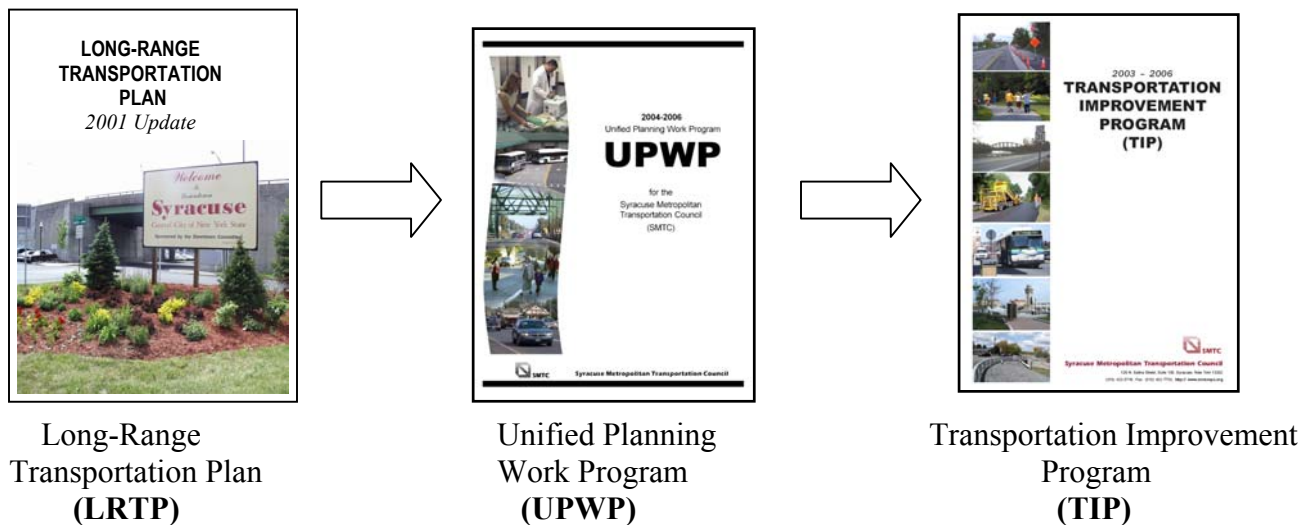
The SMTC develops three key documents that are the ingredients to transportation planning and programming in the Syracuse Metropolitan Area: the LRTP, the UPWP, and the TIP. Together in tandem, these three documents represent the beginning, middle and end to an effective transportation planning process. Descriptions of each of the three key documents are included throughout this chapter. The following illustration (Table 1-1) depicts the interrelationship between the three documents.

The *LRTP* represents the starting point in which the transportation goals and objectives for the future are set forth in a document adopted by the SMTC Policy Committee. Each year, the Policy Committee adopts the *UPWP*, which incorporates all the transportation

planning and directly supporting comprehensive planning activities for the coming year. The activities are generally major transportation studies that identify short-and long-range needs and reflect the efforts to be undertaken that will lead toward the attainment of the *L RTP* goals and objectives over a number of years. Finally, the SMTC adopts the *TIP*, the SMTC instrument for programming capital improvement projects to complete the planning and implementation process.

**Table 1-1**

**The Planning and Programming Process**



**D. Process and Funding**

**1. Transportation Improvement Program (TIP) Process**

The SMTC is responsible for the maintenance of the area's TIP, a three-year program that funds capital projects related to transit, local roadways and interstates, bicycle and pedestrian amenities, and more. Four pieces of federal legislation significantly affect the TIP and the planning and programming of transportation projects. These include the TEA-21, ISTEA, ADA, and CAAA.

The TIP for the SMTC area is comprised of a staged three-year program of transportation capital projects together with a three-year estimate of transit capital and maintenance requirements. While the TIP is usually approved biennially, the document may be amended as needed. ISTEA and TEA-21 as well as the Metropolitan Planning Regulations mandate that a TIP adhere to the following requirements:

1. Identify transportation improvement projects recommended for advancement during the program year. The projects required are those located within the study area and receiving any FHWA or Federal Transit Administration (FTA) funds.

2. Identify the criteria and process for prioritization for inclusion of projects in the TIP and any changes from past TIPs.
3. Group improvements of similar urgency and anticipated staging into appropriate staging periods.
4. Include realistic estimates of total costs and revenue for the program period.
5. Include a discussion of how improvements recommended from the Long-Range Transportation Plans Transportation Systems Management Plan were merged into the program.
6. List major projects from previous TIPs that were implemented and identify any major delays in planned implementation.
7. Describe progress in implementing any required Transportation Control Measures (TCM) as identified in the State Implementation Plan (SIP) for Air Quality.
8. Include an air quality conformity analysis of the TIP to the SIP with a list of all projects found to conform in previous TIPs that should be considered as a base case for conformity analysis.

The TIP should also include regional highway and transit projects that are being implemented by the State, City, County and CNYRTA for which no Federal funding is requested.

## 2. UPWP Process

The UPWP identifies the transportation planning activities that are to be undertaken in the SMTC study area in support of the goals, objectives and actions established in the 2020 LRTP, which was adopted in January 1995. The SMTC Central Staff, working with the Planning Committee and the NYSDOT, annually initiates the process of developing the UPWP and prepares a final draft for the consideration of both the Planning and Policy Committees. The intent in developing a comprehensive UPWP is to ensure that a coordinated transportation planning process occurs in the region, which will make positive contributions towards the achievement of the established 2020 goals regarding mobility, facilities, safety, the environment, economy and land use.

The SMTC's Operations Plan outlines a framework for the UPWP, which the Central Staff is expected to accomplish, and provides guidance with respect to a financial plan to support the UPWP. The UPWP is intended to be consistent with the Operations Plan, as well as the metropolitan planning requirements for the TEA-21 and its implementing regulation (23 CFR Part 450, Subpart C and 49 CFR Part 613, Subpart A). Compliance with these regulations frames much of this program. Further, the UPWP strives to address NYSDOT planning emphasis areas that are intended to implement the State's policies for urban area transportation planning. This is to ensure that projects conceived by the SMTC fulfill the Federal and State policies, and local issues progress in a timely manner.

The status of the current UPWP is reviewed monthly by the SMTC's Executive Committee to ensure that it is being carried out in a manner consistent with the MPO's

goals. While it is the mission of the Central Staff and the Executive Committee to complete work efforts within a program year, task elements may be designed to span multiple fiscal years and therefore are carried into subsequent UPWP's to enable project closure. Each year an estimate of transportation planning funds available for new programs is made. Policy direction and scope of the UPWP are developed with member agency participation based on their needs, consistent with the LRTP.

The staff, working with member agencies, establishes a list of candidate projects for inclusion in the next year's UPWP. Estimates of amounts and sources of funding to accomplish the planning program are developed. The Planning Committee then prioritizes the continuing program and the new projects. A draft UPWP is developed for Planning Committee review and recommendation of acceptance to the Policy Committee. The Policy Committee has the final responsibility to approve the UPWP.

### 3. Long-Term Funding

Although the planning funds for the MPO over the past few years have remained consistent, there was an approximate decrease of \$100,000 for the 2003-2004 UPWP. The projections for federal funding available for transportation planning projects are unlikely to increase during the next few years. Similar to planning fund trends, capital projects trends show a plateau or slight decrease over time. This limits the money available for further capital improvements. According to SMTC policy, funding should be prioritized for use in maintaining the current infrastructure with minimal focus on expansion. An examination of the recent transportation expenditures shows the majority of funding going towards maintenance of existing infrastructure.

At the time of the authorship of this document, a temporary 5-month extension to the existing legislation has been enacted. The future of federal transportation funding beyond this extension is unknown and beyond the ability of the SMTC to foresee. Hence, until further information is made available, the SMTC is operating under the auspices of the previous funding mechanisms for the prioritizing of both planning and capital projects. Additionally, the New York State budget is operating at a considerable deficit, adding additional unknowns to the long-term future funding of both transportation planning and capital projects.

## **Chapter II: Goals and Objectives**

### **A. Introduction**

The 2020 Long-Range Transportation Plan (LRTP) provides the policy framework for fulfilling transportation needs within the Metropolitan Planning Organization (MPO) area of responsibility. In January 1995, the adopted LRTP included six goals, 23 objectives and 46 recommended action plans. In the interval since 1995, these goals, objectives and actions have been reflected in the development of the annual Unified Planning Work Program (UPWP) adopted by the SMTC Policy Committee. The member agencies of the Syracuse Metropolitan Transportation Council (SMTC), representing state, regional, county, city and other organizations, cooperate in carrying out the action plans. The SMTC member agencies also participate in the allocation of funds in the annual Transportation Improvement Program (TIP), the SMTC instrument for programming capital improvement projects to complete the planning and implementation process.

### **B. Changing Program Focus**

Since the publication of the 2020 LRTP in 1995, a shift in emphasis has occurred in order to place more emphasis on bicycle and pedestrian facilities planning, such as the Onondaga Lake Circumferential Canalway Trail, the Erie Canalway Trail, and the redevelopment of Clinton Square. The increase in facilities for non-motorized travel creates a stronger multimodal orientation to the work of the SMTC, which is not reflected in the original LRTP. Other issues that are currently receiving more attention, although not noted in the original Plan, include roadside maintenance and periodic clean-up in order to improve the visual attractiveness of the area, as well as enhancements that make transportation facilities accessible under the Americans with Disabilities Act of 1990 (ADA).

In the future, better measures of effectiveness will be needed for assessing the quality of non-motorized transportation facilities, as well as general quality of life issues that are becoming increasingly important in the MPO area. The SMTC currently anticipates that a growing amount of public attention will be given to non-motorized travel, as well as to the maintenance of the bridge and pavement infrastructure. For example, many of the Interstate bridges were built during the 1950s and are showing signs of aging. Therefore, the need is for infrastructure renewal, more so than the construction of new roads for the foreseeable future.

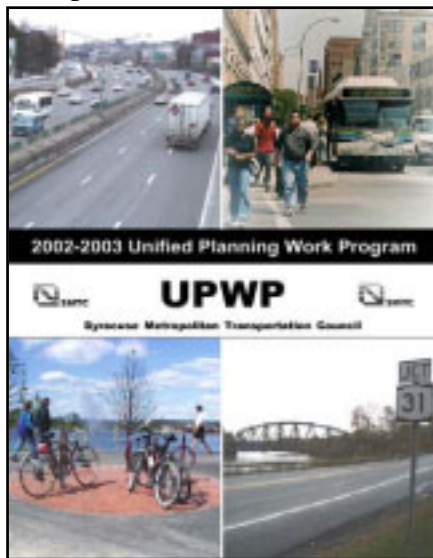
Other issues needing future attention are the roads originally designed for home to market use. These roads have been strip-developed and simultaneously serve as local streets, collectors and arterials, in the absence of a more fully developed hierarchical road network. There may be instances of improving regional links on the Interstate system to support area economic development. One example is the need for a stronger road network around Interstate 481/Kirkville Road in the Town of DeWitt that is built upon a clear understanding of the best use of the surrounding land and the infrastructure improvements needed to support that development. Another example is an area in the Town of Clay that is proposed for new industrial use. There is a need to coordinate local



land use and development planning with planning for a fully developed highway network ranging from local streets to a larger network. Many agencies and government entities will need to cooperate to make this process work.

### **C. Progress Achieved on UPWP Projects**

Since the first LRTP Update (1998), the SMTC has achieved measurable progress on several major transportation planning projects. These projects address a variety of transportation and land use issues in specific geographic locations. The projects were originally selected for inclusion in the SMTC annual UPWP that establishes the activities and programs to be carried out. Examples of projects completed include, but are not limited to, the following:

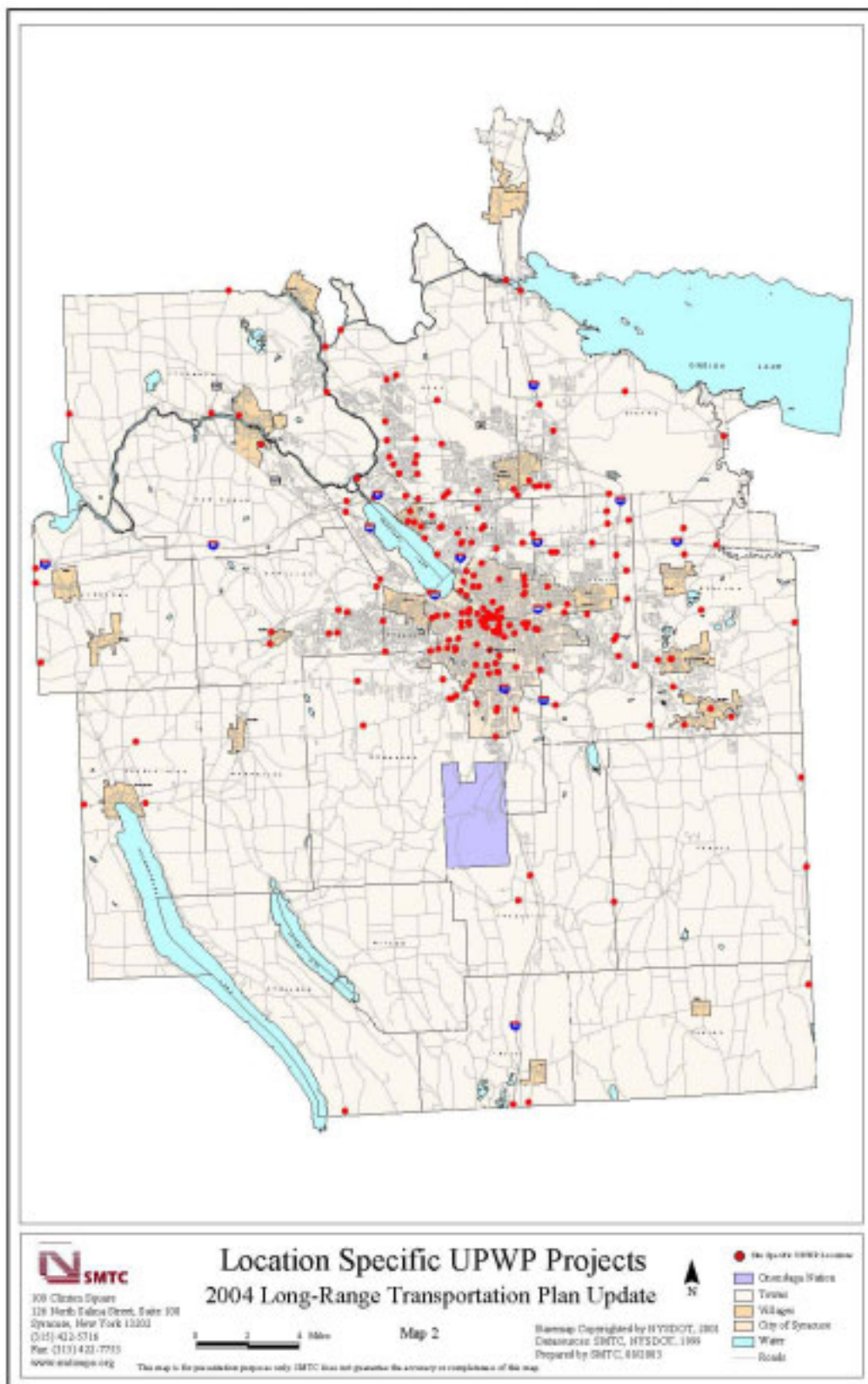


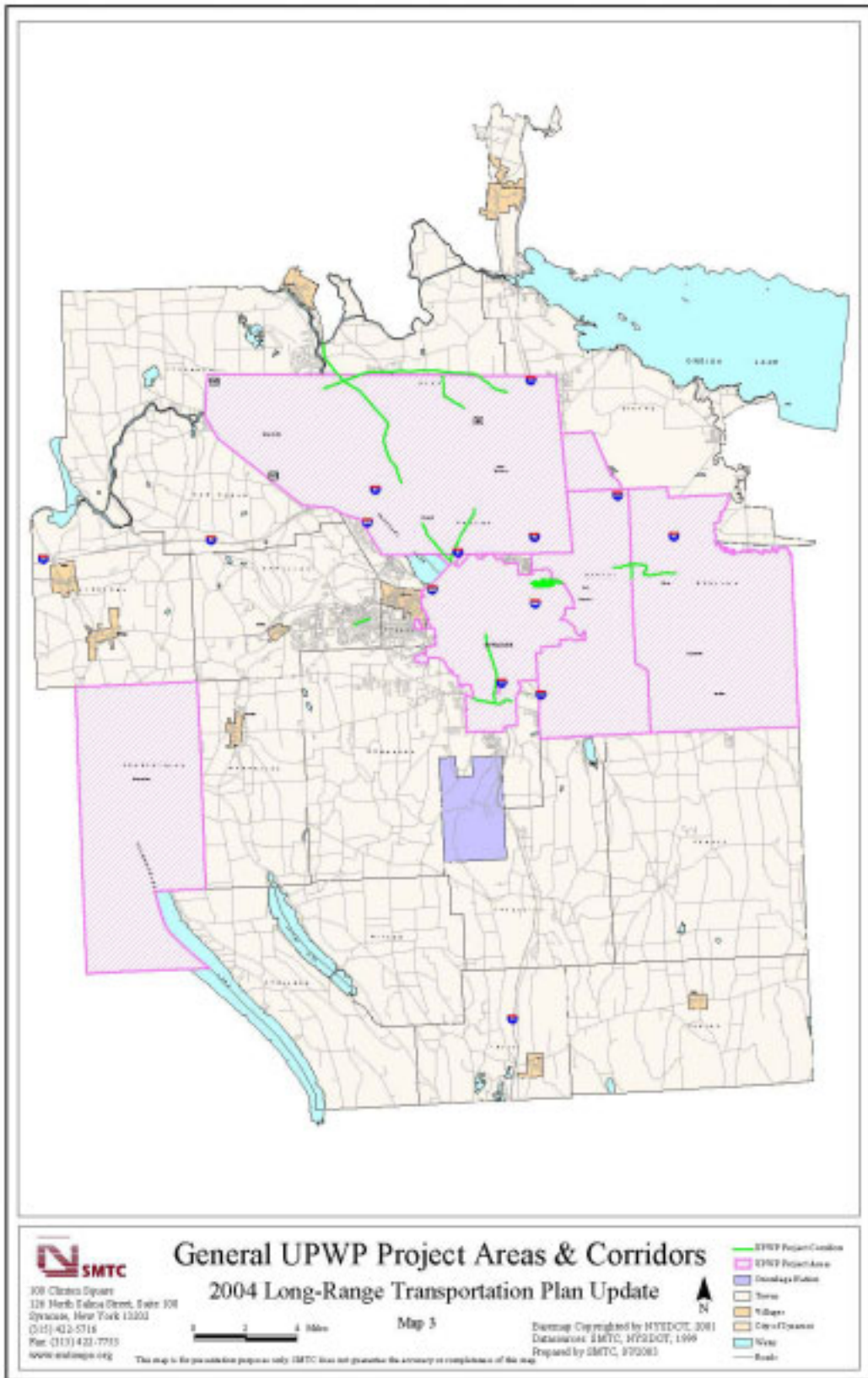
the South Side Transportation Study (October 1999); the Liverpool Area – Onondaga Lake Parkway Transportation Study (February 2000); the University Hill-Special Events Transportation Study (February 2000); the City of Syracuse Truck Route Study (May 2000); South Salina Street Corridor Study (February 2001); James Street Corridor Study (March 2001); DeWitt Comprehensive Plan Transportation Study (April 2001); Taft Road/Northern Boulevard Study (May 2001); Seneca Turnpike Corridor Study (March 2002); Soule Road Break-In-Access Study (June 2003); and annual projects such as the Safety

Improvement Analysis, Bridge and Pavement Condition Management System (BPCMS), and the Congestion Management System (CMS). These projects, together with the implementation actions identified on the following pages, provide an overview of the wide-range of activities being carried out by the SMTC and its member agencies. On Maps 2 and 3, the locations of major transportation planning projects, carried out under the UPWP are shown. Map 2 shows specific project locations, while Map 3 shows general project areas and corridors.

### **D. Review of Action Plans Implemented**

Part of the process for updating the 2020 LRTP during 2001 included the identification of action plans that had been implemented under each of the six goals since 1995. The six goals include (1) community safety, (2) community mobility, (3) community environment, (4) community economy, (5) community land use, and (6) community facilities. The 1998 Update did not address implementation actions associated with specific goals and objectives, while the 2001 Update did address action plans. This process was deemed useful and is continued for the 2004 Update. The identification of implemented action plans involved discussions with the member agencies responsible for their respective TIP projects. In the pages that follow, the implemented action plans are presented, together with their respective goals and objectives. The implemented action plans are summaries rather than complete descriptions. In many cases, an overlap exists because a particular action plan may apply to multiple goals. For example, a highway project can fulfill both a safety and a mobility goal.





## Community Safety

**Goal:** To enhance the safety of the people using the transportation system.

**Objectives:**

- ##To annually identify the ten highest accident locations in the SMTC area and recommend remediation measures that, within five years, will reduce the accident rate at these locations by an average of 25%.
- ##To identify the five highest intermodal accident locations (vehicle/pedestrian, transit/pedestrian, rail/vehicle, bicycle/vehicle etc.) periodically, and to encourage remediation measures that will reduce intermodal conflict.
- ##To assist local planning officials and developers in accommodating travel between different areas when planning new developments.

**Action Plans Implemented:**

1. The New York State Department of Transportation (NYSDOT) has instituted an annual program to identify high accident locations and institute remedial design improvements, including the following:
  - ## The Carrier Circle safety capital project (1993) channelized Route 635, Thompson Road and Route 298 westbound approaches and upgraded traffic signs. The Route 298 3R project (let in 2001) will channelize and reduce the approach/merge skew angle of the Route 298 eastbound approach to Carrier Circle, and will also improve the left turn lane alignments at the two signalized intersections with Ridings Road and Deere Road.
  - ## The I-81/I-690 Interchange capital project (1999) replaced scuppers and downspouts on Almond Street viaduct, cleaned scuppers and downspouts on the Onondaga interchange, and cleaned the underground drainage system. A recent highway safety investigation (2000) recommended cleaning bridge drainage systems as part of the annual bridge cleaning project to address wet pavement and ponding-related accidents; the study also recommended consideration of transverse grooving under a future bridge repair project.
  - ## The I-690 at Route 635 (Thompson Road) capital project (1996) improved channelization and signs within the interchange, including creation of a two-lane exit along I-690 eastbound.
  - ## The Route 11 near Bailey Road capital project (1999) included channelization and lane reallocation improvements at I-81 northbound exit at Route 11 northbound/Northern Lights Plaza; Route 11 northbound and South Bay Road northbound split; Route 11 northbound at South Bay Road southbound; Route 11 southbound at South Bay Road southbound/Northern Concourse; Route 11 between Bailey Road and Elbow Road.

- €# The Route 31 and County Route 57 capital project (completed in 2000) created a five-lane section on Route 31 from Theodolite Lane to Soule Road.
- €# The Adams and Almond Streets capital project (completed in 2000) upgraded and coordinated downtown traffic signals; a 2000 maintenance by contract (MBC) project resurfaced the Adams Street Arterial.
- €# The Route 173 3R project from Fairmount to Onondaga Community College (OCC) will include widening at the Howlett Hill Road intersection to provide an exclusive left turn lane and a three-color traffic signal.
- €# Route 173 “Pen Hill” project on Jamesville Road (let 7/01), improved the horizontal alignment, roadside/clear zone and drainage system between the Route 91 intersection and the Onondaga County Correctional Facility.
- €# Route 173/175 Onondaga Hill project, scheduled for 12/03, will realign the Maykes Road and Velasko Road intersections into one, signalized intersection, improve channelization and operations along the 173/175 overlap section, and provide a new driveway for Van Duyn Hospital onto Broad Road. The existing Van Duyn driveway on Route 173 will be modified to prohibit left turns out of the driveway.
- €# The Route 92 project from Syracuse City Line to Erie Boulevard (letting 2004) will address driveway access issues between Jamesville Road and Erie Boulevard and will improve left turn capacity along this section.
- €# The Routes 5 and 92 project from Erie Boulevard to Edwards Drive (letting 2004) will include measures to reduce the merge/approach skew angles on the I-481 NB exit to 5 and 92 EB and in the I-481 SB exit to 5 and 92 WB.
- €# The Route 31/Mud Creek bridge project (let 2/2003) will widen Route 31 to a five-lane section from Great Northern Mall east driveway through Morgan Road.
- €# Route 31 Belgium Bridge project (let 10/02) will reconstruct the existing span and add an additional span across the Seneca River. The project will address safety and capacity issues at the River Road and Gaskin Road intersections.

2. Recent/upcoming NYSDOT improvements for the ten highest vehicular accident locations on State-owned roads include:

- €# Route 31, Crabtree Lane to I-481 – Currently exploring alternatives to reduce accidents and congestion along corridor.
- €# Route 11, E. Circle Drive to Hogan Drive – A protected-only left turn phase was recently installed for Route 11 southbound traffic turning onto E. Circle Drive.

- ≠# Route 290, Bridge St./BJ's – The First Street and Bridge Street project (scheduled 2006 letting) will include measures to reduce the skew angles of the slip ramps to and from Bridge Street.
- ≠# Route I-81, Clinton Street to Spencer Street – Possible ramp metering/ITS measures.
- ≠# Route 298 between Court Street and Carrier Circle.
- ≠# Adams Street (Salina to Almond) with a double left turn from Townsend Street to Adams Street (1998).
- ≠# Route 11, from Sand Road to South Bay Road (see above).
- ≠# Route 31 to Route I-81 - currently exploring alternatives to reduce accidents and congestion along corridor.
- ≠# Erie Boulevard (Route 5) at Thompson Road. The highway safety investigation (1997) recommended review of set back loop operation, sign upgrade and consideration of signal interconnect; the loops were checked and lane use signs were upgraded or added.
- ≠# Route 11, Wally Road to Taft Road. The highway safety investigation (2000) recommended review of signal clearance intervals.
- ≠# Route 11 at South Bay Road (see above).
- ≠# Route 298, Court Street Road to GM Circle. The Route 298 3R project (2001 letting) will address various safety and operational deficiencies between Arterial Road and Carrier Circle.
- ≠# Route 11 at Bailey Road (see above).
- ≠# I-81 at 7<sup>th</sup> North Street Interchange. The highway safety investigation (1997) recommended upgrading chevrons on the exit loops with speed advisory panels.

3. The NYSDOT funds safety improvements through the capital program update process. Qualifying improvements, those which can achieve a benefit/cost ratio of 5.0 or higher, are added to the capital program every two years through the following methods:
  - ≠# Safety Capital Projects, which are stand-alone projects, are programmed for the purpose of eliminating a safety deficiency and/or reducing accident frequency and severity.
  - ≠# Safety Enhancements, which are safety improvement components, are added to a paving or infrastructure improvement project to reduce accidents and severity at high accident locations and cluster locations.
4. The NYSDOT is currently developing a Safety Information Management System (SIMS) that will provide accident record information on State and local highways and streets.



5. The NYSDOT is currently pursuing a program to produce a comprehensive statistical and Geographic Information Systems (GIS)- based report on pedestrian and bicycle crash data.
6. The NYSDOT has eliminated a rail grade crossing at Poolsbrook Road in the Town of Manlius.
7. The NYSDOT has developed a community outreach program presentation that is used during development of the capital program for obtaining local government and citizen input during the planning process. The outreach program is used to identify and address problems, as well as current and anticipated needs.
8. The NYSDOT is implementing the guidelines contained in the brochures *Best Practices In Arterial Management* and *An Information Guide to the Highway Work Permit Process* in order to enhance safety.
9. The Central New York Regional Transportation Authority (CNYRTA) has a System Safety Plan that is updated every 24 months covering internal and external operations.
10. The CNYRTA uses a system for tracking and categorizing transit accidents. During 2001, a new tracking process was being initiated using the NYS Public Transportation Safety Board process as a template.
11. The Onondaga County Department of Transportation (OCDOT) has implemented the following safety action plans:
  - ⌘ The Kirkville Road / Fremont Road Intersection Project (1998 Completion) added dedicated turn lanes on all approaches, channelization improvements, signing improvements and upgraded signalization to improve an intersection with a accident rate well above the State Mean Accident Rate.
  - ⌘ The Kirkville Road / Fly Road Intersection Project (2002 Completion) added dedicated turn lanes on all approaches, channelization improvements, signing improvements and upgraded signalization to improve an intersection with a accident rate well above the State Mean Accident Rate. Additional left turn lanes southbound and a right turn lane westbound were added to improve mobility through the intersection during New Venture Gear rush hours.
  - ⌘ The Northern Blvd. / Taft Road Intersection Project (2003 Completion) added dedicated turn lanes on all approaches, channelization improvements, signing improvements and upgraded signalization to improve an intersection with a accident rate well above the State Mean Accident Rate. Slip Ramps from Northern Blvd southbound onto Taft Road westbound and Taft Road eastbound onto Northern Blvd southbound

were replaced with 90-degree turn lanes at the signal to eliminate an unusually high rear end accident problem.

- ## The Taft Road / Allen Road Intersection Project (2003 Completion) added a dedicated turn lane on the eastbound approach, channelization improvements, signing improvements and upgraded signalization to improve an intersection with a accident rate well above the State Mean Accident Rate.
- ## The Salt Springs Road / North Eagle Village Road Intersection Project (2003 Letting) will realign Salt Springs Road to intersect North Eagle Village Road at a desirable angle and signing improvements to improve an intersection with a accident rate well above the State Mean Accident Rate.
- ## The Intersections of Henry Clay Blvd. at Buckley Road and Wetzel Road (2003 letting) will add dedicated turn lanes on all approaches of both intersections, channelization improvements, signing improvements and upgraded signalization to improve a corridor with an accident rate well above the State Mean Accident Rate. Additional lanes between the intersections will be added to improve mobility through the area during peak hours.

12. The City of Syracuse has implemented the following safety action plans:

- ## Traffic Signal Light Emitting Diode (LED) Lighting Initiative – The City replaced all of their traffic signal lights with LED's including yellow lights. This will increase pedestrian and vehicular safety. The LED's emit a brighter light, have a longer life span, and save energy.
- ## Adams Street/Comstock Avenue Signal Improvements – Signals were added at Adams/Comstock and at Adams/Walnut. These signals are interconnected so that a vehicle starting up the hill will make it through the intersection on the hill without having to stop on the hill. The traffic signal at Adams/Comstock replaces stop signs on Comstock, making the intersection safer.
- ## Solar/Kirkpatrick Street Improvements - This project consists of the realignment of Kirkpatrick Street between Solar Street and the Court Street/ Clinton Street intersection and the reconstruction of Solar Street from Spencer Street to Bear Street. Signals will be added at Solar Street and Kirkpatrick Street and Solar Street and Spencer Street. All approaches will have left hand turn lanes.
- ## Upgraded Signal Indication Study – the City is completing a study of all signal indications to determine what signals are warranted. Signals that are not warranted will be eliminated. If signals are warranted, the signals will be upgraded to dual indication. The study should be completed in summer 2004. All unwarranted signals will be deactivated after the study is completed and signal upgrades will be initiated.



## Community Mobility

**Goal:** To improve the mobility options for people within the Syracuse Metropolitan Planning Area (MPA).

### **Objectives:**

- ## To provide efficient, effective, fixed-route or demand-responsive transit service to areas with urban population densities (approximately 1,000 or greater per square mile) and to major activity centers. This service should accommodate both work trip and non-work travel (shopping, medical, etc.) for both able-bodied and mobility impaired citizens.
- ## To improve the level-of-service (LOS) of at least half of the ten most congested sections and intersections between 1990 and 2020.
- ## To reverse the decline in the share of trips made by modes other than the single occupant vehicle by 2000 and to increase the share of trips made by high occupancy vehicles (including fixed and demand-responsive transit), bicycle and walking by 25% collectively, by the year 2020.
- ## Transportation facilities should be accessible to all people. All improvements to the transportation system should comply with the ADA.
- ## To encourage greater utilization of electronic communication with the workplace and to conduct personal business (shopping, etc.).

### **Action Plans Implemented:**

1. The SMTC has implemented the CMS Model, which is updated on a biennial basis. The NYSDOT provides updated traffic counts each year and the SMTC staff runs the model and issues a project report that identifies the congestion concerns in Onondaga County.
2. The CMS model has identified mobility hot spots, resulting in projects being placed on the TIP and implemented to address high priority mobility concerns at locations such as Routes 5 and 92 and the Baldwinsville Bypass. During 2002, the CNYRTA went through a complete route restructuring process. The impact of these improvements has been to enhance service for both work and non-work trips. During 1999-2000, the CNYRTA began two small bus services in suburban/rural areas that provide feeders to the main Centro network as intracommunity circulators. These services were established in the eastern and western portions of the service area as experimental routes. In 2003, one of these routes was discontinued due to lack of ridership.
3. The CNYRTA has reviewed the factors affecting mode choice in the SMTC area in its continuing efforts to increase transit ridership. Several factors adversely impact the agency's ability to increase ridership. These include: a low density regional development pattern that minimizes opportunities for creating the type of

- critical mass needed for supporting transit service; low levels of commuter congestion at peak hours compared to other large urban areas; city and suburban parking policies that result in providing the public with large areas of inexpensive automobile parking space; time and cost differentials that often favor single occupancy commuting; generally improved air quality; a high capacity road network; and a limited level of interest in ride-sharing.
4. The CNYRTA, together with the NYSDOT and others, has developed plans and instituted transit service improvements and multi-hub based service under the Regional Mobility Action Plan (ReMAP) Project to improve connectivity. The ReMAP study resulted in a plan to serve reverse commuters through a reworking of the existing fixed routes and adding job-site specific small buses for non-traditional commuter times.
  5. The CNYRTA has fulfilled its policy to have all transportation facilities comply with the ADA.
  6. The CNYRTA has developed an outreach program to discuss the potential for expanding transit service ridership. These efforts include customer focus groups, meetings with municipalities as a part of the previously mentioned ReMAP project, plus numerous individual one-on-one discussions. These outreach efforts are being repeated every two years. Another initiative being undertaken by CNYRTA is an Automatic Vehicle Locator (AVL) system that, when operating may result in communications units being installed that provide real time information on bus locations at key CNYRTA passenger stops.
  7. The CNYRTA is working with area employees to promote ride sharing, and with employers to provide employee transit subsidies. The ride sharing efforts have proven difficult. However, there are currently 40 businesses participating in a transit pass program where the employer pays part of the transit fee and receives a tax credit. The Employer Fare Deal also avoids employees having to pay an income tax on the employer contribution.
  8. The CNYRTA is nearing the completion of a project to install bicycle racks on all of its buses. A majority of the fleet is now equipped with bike racks.
  9. The CNYRTA has implemented a Mobility Management Center (MMC) with Federal Job Access/Reverse Commute and State Temporary Assistance to Needy Families grants. As a transportation broker, the MMC provides mobility services for low-income residents and public assistance clients. Centro's goal is to expand the MMC to other client agencies with special transportation needs.
  10. The NYSDOT is evaluating alternative funding sources for a new Seneca River bridge crossing in Baldwinsville (Baldwinsville Bypass Project). The Baldwinsville Bypass Project, Phase II, is on the TIP for ROW and design but construction funds are not yet identified.

11. The NYSDOT is exploring the applicability of non-traditional modes for the Routes 5/290 corridor. Project scoping for the Routes 5/92 Demonstration Project was concluded with a Final Expanded Project Proposal in 1999. A variety of traditional and non-traditional alternatives were evaluated and five were recommended for further consideration. A Park & Ride lot is being reviewed by the CNYRTA, a signal interconnect project and a Routes 5/92 Transportation Control Measures (TCM) project are on the Region 3 program and the I-481 interchange modification is on the Long-Range program. The fifth project, at Lyndon Corners, was deferred.
12. The NYSDOT has developed a program to enhance pedestrian and bicycling opportunities through roadway design, as set forth in a rewritten chapter of their Highway Design Manual for accommodating bicyclists and pedestrians. The new Chapter 18 is intended to be used as guidance on how the NYSDOT should take into account the needs of bicyclists and pedestrians into highway design plans.
13. The NYSDOT requires that all pedestrian facilities built with federal or state funds comply with the provisions of the ADA.
14. The NYSDOT requires that all repair/retrofit of existing pedestrian facilities to comply with the provisions of the ADA.
15. Under the jurisdiction of the OCDOT, the intersections of Henry Clay Blvd. at Buckley Road and Wetzel Road (2003 letting) will add dedicated turn lanes on all approaches of both intersections, channelization improvements, signing improvements and upgraded signalization to improve a corridor with an accident rate well above the State Mean Accident Rate. Improved signalization and added capacity at these intersections will improve level of service ratings from over saturated to passable. Additional lanes between the intersections will be added to improve mobility through the area during peak hours.
16. The OCDOT also will coordinate the Old Route 57 Closed Loop Project with existing traffic signals from Exit 37 from the NYS Thruway to the Gaskin Road Intersection. This improvement will increase mobility through the corridor as well as alleviate accidents at intersections.
17. The City of Syracuse has implemented the following mobility action plans:
  - ≠ City Owned Sidewalk Improvements – The City requires all repair/retrofit of existing pedestrian facilities to comply with the provisions of the ADA. The City has also programmed \$350,000/year for City owned sidewalk improvements that includes corners in their capital plan. This sidewalk program will include pedestrian improvements and all sidewalks constructed will meet current ADA standards.
  - ≠ Solar/Kirkpatrick Street Improvements – The reconstruction of Solar Street between Spencer Street and Bear Street will include left hand turn lanes at all approaches.

€# The City of Syracuse is expanding the Traffic Interconnect System by adding the Geddes Street and Genesee Street corridors and the Lodi Street and North Salina Street corridors to the existing Interconnect system.

## Community Environment

**Goal:** To provide a clean and environmentally sound transportation system for current and future residents.

**Objectives:**

- ## To implement programs that lead to improvement in the region's air and environmental quality.
- ## To reduce the total daily carbon monoxide (CO) emissions from mobile sources by at least 60% from 1991-2003.
- ## To reduce the overall use of road salt through more efficient application on roadways by 2020.

**Action Plans Implemented:**

1. The CNYRTA now has 114 of the 132 buses (86%) in operation in the urbanized area during its "peak of the peak" period (i.e., the morning rush hour) powered by compressed natural gas (CNG). This replacement effort is continuing in Onondaga County, as new diesel buses are required. The Clean Communities of CNY (part of the national Clean Cities Program) has a program that encourages other fleets to pursue alternative fuel electric or natural gas vehicles, including the State, Onondaga County, City of Syracuse, school districts, municipal governments and the local business community. The NYSDOT has begun converting its motor pool fleet to CNG.
2. The Clean Communities of CNY is supporting Niagara Mohawk's (a National Grid Company) Electric Car Joint Venture project to manufacture and promote electric car use in Syracuse and New York State.
3. The SMTC is promoting strategies in the Clean Communities of CNY Plan through the participation of its member agencies.
4. As indicated previously, the SMTC and its member agencies are promoting multimodalism in their transportation projects by planning and implementing enhanced transit, carpooling, bicycling and walking opportunities.
5. The SMTC member agencies are implementing measures contained in the New York State Implementation Plan Resignation Request for Onondaga County as an Attainment area for Carbon Monoxide. The City of Syracuse continues to strengthen the operation of the coordinated signal system through additional staffing and personnel training to operate the system. Improved management of special events traffic has improved traffic flow and safety, especially for Dome events at Syracuse University.
6. New Intelligent Transportation Systems (ITS) technologies for snow and ice conditions have been implemented, such as the NYSDOT project installing variable message signs for travel weather conditions monitoring. There are now

two such signs in Onondaga County on I-81 Northbound in northern Onondaga County that advise motorists of lake affect snow conditions.

7. The City of Syracuse and Onondaga County have instituted improved inter-municipal coordination and cooperation for snow and ice removal on arterial highways within the City of Syracuse.

## Community Economy

**Goal:** To enhance the area's economic competitiveness, thereby increasing opportunities for employment.

**Objectives:**

- ## To place particular emphasis in allocating funding resources and supporting access to economic development projects, which will encourage job creation/retention including the utilization of an industrial access program.
- ## To place particular emphasis on maintaining an adequate condition and operation standard (maximizing predictability and reliability) on principal arterials, the facilities most heavily used by both freight and passenger vehicles.
- ## To increase the amount of employer-centered coordination of employee travel by 50%, including coordination of car/vanpooling, employer coordinated linkages to transit, employer transit subsidy and guaranteed ride home.

**Action Plans Implemented:**

1. The transportation needs of the local and regional business community, and the improvement of intermodal transportation and connectivity continued to be discussed in a number of venues by the SMTC and its member agencies. This includes participation in the Intermodal Roundtable discussions sponsored by the SMTC, which are open to all members of the business community. The focus of the Intermodal Roundtable has been on the movement of freight and on the limitations and restrictions of the transportation network. The input provided at these forums and the results of a survey, which polled a portion of the business community, have proven valuable in identifying transportation needs from the businesses' perspective.
2. Potential TIP projects must meet the criteria contained in the NYSDOT Region 3 Goal Oriented Programming Criteria. Under the capacity/mobility section of the guidelines, a project that displays characteristics beneficial to the community may be ranked higher, based on its potential to improve the quality of life for the community. These projects may demonstrate characteristics such as industrial corridor access or improvements, and strategic or planned economic development.
3. The NYSDOT has expended significant resources on economic development-related projects through the Industrial Access Program (IAP). Funding received through the IAP for \$950,000 plus \$300,000 in multimodal funds allowed for the construction of improved truck access to the Anheuser-Busch Brewery in Baldwinsville. The project supported the Brewery's \$100 million upgrade that secured over 1,000 jobs for Central New York. The construction project, coupled with the designation of Willet Parkway, West Entry Road and Hencle Boulevard as State Touring Route 631, has virtually removed truck traffic from the center of the Village of Baldwinsville. Additionally, several new parcels were opened in the Radisson Corporate Park and have since been developed (i.e. Ainsley Warehouse, Nathan Spec-250 Warehouse). Several other economic development projects were recently completed, which had a related transportation element. The

Whitacre Engineering Company of Liverpool invested \$1.5 million and added 37 jobs after the NYSDOT awarded a \$200,000 grant/loan to construct a rail siding into their facility on Wetzel Road. Similar projects were completed at Solvay Paperboard, Climax Corp, and Roth Steel.

4. The SMTC undertook a City of Syracuse Truck Route Study and published a plan for truck routes and freight movement. SMTC member agencies participated in the study, which was presented to the City of Syracuse transportation officials to implement recommended improvements.
5. The SMTC has adopted TIP selection criteria that give appropriate weight to intermodal connectivity for freight. Regional capacity and mobility shall also be improved by increased transit, bicycle and pedestrian travel and enhanced by promoting the connectivity of the National Highway System routes to the non-highway transportation modes. These criteria must be met in order for a potential federal aid candidate project to become an SMTC TIP project.
6. The CNYRTA efforts previously mentioned, such as the Employer Fare Deal, ReMAP Project and other employment based initiatives such as the Welfare to Work Transportation Program, being addressed through its Mobility Management Center, contribute to making the area economically competitive. In addition, businesses served by transit are able to recruit employees from a wider range of socio-economic groups and the disabled population than those not served. This is a considerable, publicly funded benefit. Moreover, these population groups are able to be income productive, in part due to the mobility afforded them by the Centro transit system.
6. The OCDOT is overseeing the Kirkville Road / Fly Road Intersection Project (2002 Completion) that added dedicated turn lanes on all approaches, channelization improvements, signing improvements and upgraded signalization to improve an intersection with an accident rate well above the State Mean Accident Rate. Additional left turn lanes southbound and a right turn lane westbound were added to improve mobility through the intersection during New Venture Gear rush hours. The project was initiated due to requests from New Venture Gear on behalf of their employees.



## Community Land Use

**Goal:** To promote the development of an efficient urban area and a sense of community through transportation planning.

### **Land Use Objectives**

- ## To protect/enhance the visual and functional condition of streets and highways by encouraging well-planned residential, and industrial development.
- ## To educate and encourage municipalities to develop land use, zoning regulations and circulation plans which are supportive of transportation planning objectives including mobility protection.
- ## To ensure that funding decisions, particularly projects that improve street capacity for highway improvements, are related to municipal land use regulations that are supportive of mobility protection.
- ## To support development patterns, densities and design options that are conducive to transit service, pedestrian and bicycle travel.

### **Action Plans Implemented:**

1. Onondaga County has prepared transportation plans, land use/site design recommendations and/or development suggestions, for the villages, towns and the City of Syracuse. The plans encourage municipalities to utilize techniques and concepts that are supportive of the SMTC 2020 LRTP and Onondaga County's 2010 Plan.
2. The Onondaga County Settlement Plan exists as a development guideline for local municipalities.
3. Onondaga County has prepared model zoning, subdivision and highway access control ordinances and regulations.
4. The SMTC is implementing the guidelines contained in the brochure, *Best Practices In Arterial Management*, prepared by the NYSDOT in cooperation with the New York State Association of Metropolitan Planning Organizations (NYSAMPO) and others.
5. Lakefront Zoning plan was adopted in January 2004.
6. City of Syracuse Comprehensive Land Use Plan and other local municipal plans are being completed.
7. The City of Syracuse has implemented the following community land use action plans:

- ## City of Syracuse Comprehensive Plan 2025 – The City is currently working on a Comprehensive Plan that will be completed this year. This plan includes an analysis of the physical place which includes transportation networks; public spaces; parks; schools; libraries; historic preservation; urban design; natural and cultural resources; land use; and neighborhood plans.
- ## Lakefront Area Planning Study – The Lakefront Area Planning Study was undertaken to focus on all modes of transportation to determine the overall needs of the greater Syracuse area over a 20-year planning horizon. All modes of transportation including highway and local roadways, rail freight (CSX, New York Susquehanna & Western, and Finger Lakes Railway), transit (OnTrack, Amtrak, bus traffic, Centro), pedestrian, bicycle, water transportation (the Canal and Onondaga Lake/Creek corridor), airport access and truck freight, needed to be evaluated on a local and regional basis. A Task Force was established consisting of many agencies within the region and Phase I of the study has been completed. Phase I on this project evaluated the transportation system, identified regional deficiencies, and a selected and prioritized list of desired projects.

## Community Facilities

**Goal:** To provide safe, clean, well maintained and efficient transportation infrastructure.

**Objectives:**

To increase the percentage of bridges with condition ratings of better than 5.0 to 80 percent and to increase the percentage of bridges with deck area condition ratings of greater than 5.0 to 83 percent of the total number of bridges by 2020.

- €# To stabilize pavement conditions at or above the following levels for all medium and high volume roads (greater than 2,500 Annual Average Daily Traffic [AADT]): 11% poor; 26% fair and average condition rating of 7.0 for all medium and high volume roads by 2020.
- €# To maintain and/or rebuild sidewalks and other pedestrian or bicycle facilities most used by pedestrians and cyclists.
- €# To maintain transit system facilities, providing safe and reliable service through 2020.
- €# To ensure connections between transportation modes for passenger travel and goods movement, through facility location and design.

**Action Plans Implemented:**

1. The NYSDOT allocates TIP funds annually to address bridge maintenance needs in the most cost-effective way. Life cycle costs are a factor in bridge programs. The percentage of State-owned bridges in Onondaga County, in terms of the total number of bridges that are non-deficient, is 71.0%. The percentage of State-owned bridges, based on deck area of bridges that are non-deficient, is 70.5%. Since 1995, funds have been allocated through the TIP to achieve the 2020 goal of 80% non-deficient by number and 83% by deck area. The percentage of deficient bridges in Onondaga County is lower than that of the entire six- county NYSDOT Region 3 area for State-owned bridges. The current condition for all local bridges in Onondaga County is 56.0% non-deficient.
2. The NYSDOT allocates TIP funds annually to address pavement conditions in the most cost-effective way, emphasizing preventive maintenance on the basis of high volumes and functional class. From 1995 to 2000, the percentage of poor condition pavement for medium and high volume State roads has decreased from 6.9% to 2.8% in Onondaga County. This exceeds the 2020 goal of reaching not more than 11% poor condition. During the same time frame, the percentage of fair condition pavement for medium and high volume State roads has decreased from 47.6% to 24.2% in Onondaga County. This exceeds the 2020 goal of reaching not more than 26% fair condition. The average pavement condition rating from 1995 to 2000 has increased from 6.56 to 7.27 for medium and high volume roads in Onondaga County. This compares favorably with the 2020 goal of reaching an average condition rating of 7.0. Since 1995, funds have been

allocated through the TIP to address pavement conditions with emphasis on preventive maintenance on high volume roads with higher-level functional classifications.

3. The NYSDOT has implemented the Pavement and Bridge Management Systems.
4. During the period 1995 through 2000, TIP funds have been programmed to enhance maintenance and construction of pedestrian and bicycle facilities where potential use increases exist.
5. The NYSDOT Headquarters (Albany, NY) is currently engaged in developing an Intermodal Management System. When available, this tool will be used to display all grade crossings on a GIS platform and, pending further development, will display other features.
6. The CNYRTA has completed construction of the William F. Walsh Regional Transportation Center. This facility links transit, rail and air transportation systems and has experienced a 15 percent growth in passengers served in its first two years. Intercity ridership, however, has declined since September 11, 2001. Additional improvements for expanding the existing parking facilities were completed during 2001 to accommodate subsequent passenger growth.
7. The CNYRTA has begun a study of options for a new Common Center in the City of Syracuse, which will ultimately act as the new nexus of the transit system where Centro routes will meet in a safe, off street, weather protected environment affording patrons a higher quality of service than currently exists. In addition, the CNYRTA has a program item in the TIP to construct bus waiting shelters.
8. The OCDOT annually dedicates funds, Local and Federal, to the community's bridge program in order to maintain an overall rating of 75%.
9. The OCDOT annually dedicates local funds toward a Pavement Management System. The system allows OCDOT to maintain the highway system in the most cost-effective way.
10. Onondaga County annually dedicates local funds toward a Bicycle and Pedestrian System and encourages construction of new facilities to enhance the community as well as to improve mobility and air quality through non-motorized transportation means.
11. The City of Syracuse has implemented the following community facilities action plans:

~~€~~ City Owned Sidewalk Improvements – The City requires that all repair/retrofit of existing pedestrian facilities comply with the provisions of the ADA. The City has also programmed \$350,000/year for City owned sidewalk improvements that includes corners in their capital plan.

This sidewalk program will include pedestrian improvements and all sidewalks constructed will meet current ADA standards.

- ≠# City Street Reconstruction Program – The City has increased its Street Reconstruction Program to \$5.5 million/year starting in the City's 2002/03 fiscal year in order to stabilize pavement conditions.
- ≠# The City of Syracuse does consider multimodal needs during all capital improvements where warranted and where right-of-way is available. The City recently added a bike lane to Comstock Ave. from Stratford Street to Colvin Street and they are considering extending the bike lane on Colvin Street up to Sky Top.
- ≠# The City of Syracuse annually dedicates funds (Local and Federal) to the community's bridge program in order to improve/maintain the City's bridge ratings. The Walton Street Bridge Replacement project is going to be constructed this summer and the City is currently initiating design on four other bridge rehabilitation/replacement projects.

## Miscellaneous

On April 27, 2001, the NYSDOT Commissioner and the New York Department of Environmental Conservation (NYS DEC) Commissioner joined with State officials and the Oneida Lake Association to open a new fishing access site in Brewerton, on the south shore of Oneida Lake in Onondaga County (Town of Cicero), and a new fishing access site on the north shore of Oneida Lake in Oswego County (Towns of Hastings and West Monroe).

The NYSDOT developed this \$500,000 project, which includes two fishing sites in two counties and three towns along Interstate 81, to create new opportunities for people to enjoy New York's vast natural resources. Both sites are accessible to people with disabilities and provide safe parking for anyone who visits either site. While creating the new fishing access sites, the NYSDOT addressed a safety concern caused by anglers who parked along the Interstate and then climbed the banks and walked along the shoulders (next to high-speed Interstate traffic) to access the deep-water fishing sites.

The Brewerton fishing access includes a 40-car parking lot with a bus passenger shelter, a paved trail system that leads to the south shore of the lake, a concrete walkway under the I-81 bridge, and a pedestrian bridge that allows people access to the human-made island and deep water fishing sites on the south shore. The West Monroe-Hastings site has a 17-car parking lot, an asphalt trail system that leads to the north shore, and a 20' x 25' fishing platform that provides deep-water fishing access for handicapped individuals. Because of the NYSDOT's cooperation with NYS DEC and the Federal Highway Administration (FHWA), anglers now have safe parking and improved access to one of Central New York's premier fishing sites.<sup>1</sup>

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<sup>1</sup> Oneida Lake, an important Walleye fishery, is home of NYSDEC's Constantia Fish Hatchery

## **Chapter III: MPA Updated Data and Trends**

The existing conditions and needs within the Syracuse Metropolitan Transportation Council (SMTC) study area have stayed remarkably consistent since the last updates with minor exceptions as noted in the following portions of this chapter. This chapter's purpose is to summarize the current state of the SMTC study area as it relates to the mission of the SMTC, and to point out the continued trend of certain demographic and land use conditions. Additionally, the possible continuation of these trends may equate to future needs of the transportation system being somewhat different than they are today. This need will have to be examined in future plans if these trends continue.

### **A. Metropolitan Planning Area Revisions**

#### **1. Metropolitan Planning Area Boundary**

The Metropolitan Planning Area (MPA) is defined as the area in which the Metropolitan Planning Organization (MPO) is responsible for transportation planning defined by the most current Census as being urbanized, plus the area anticipated to be urbanized by the year 2020.

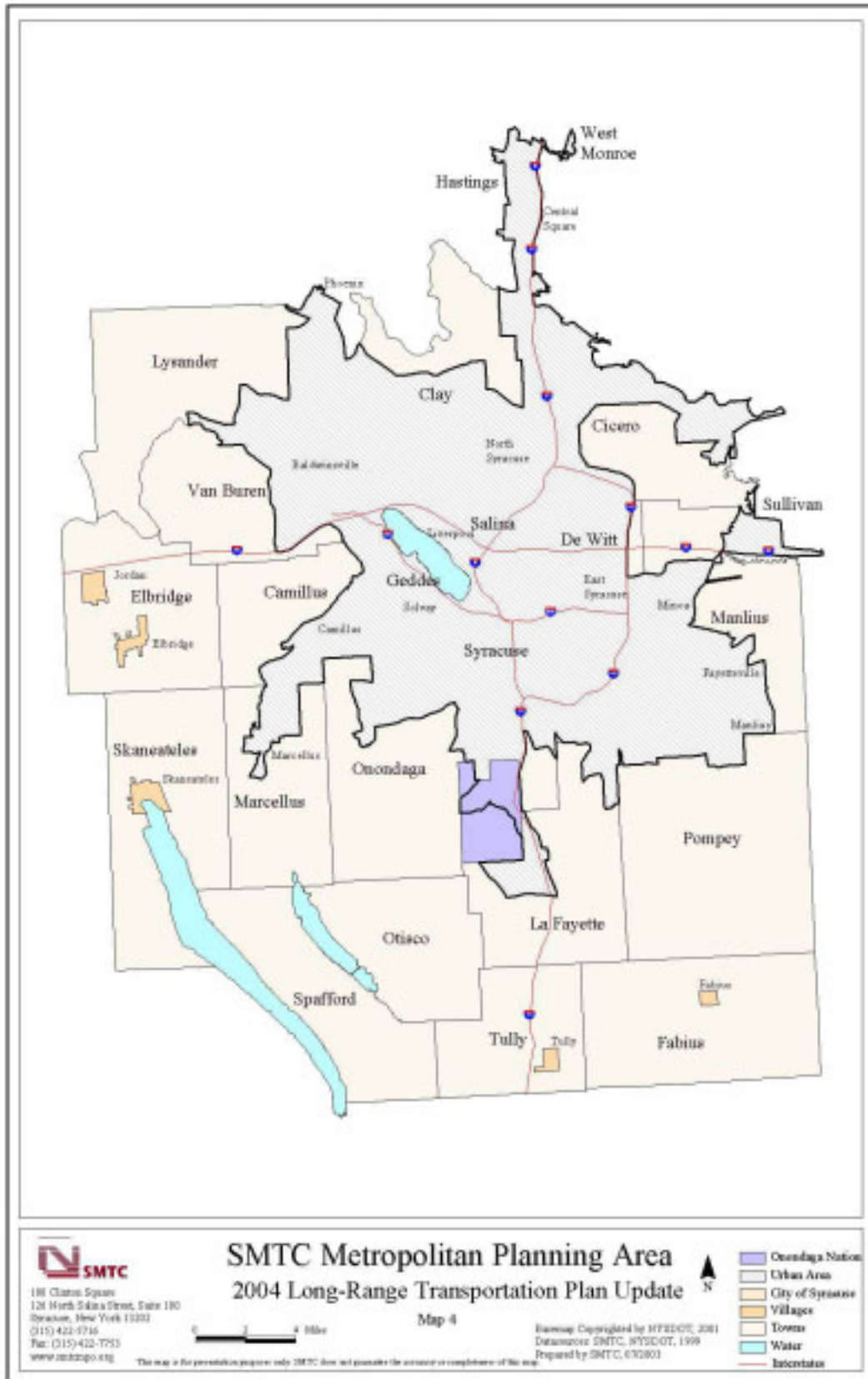
In Spring 2003, the MPO area boundary was revised based on the 2000 Census. The former boundary included all of Onondaga County and a small portion of Oswego County (Town of Schroepfel including the entire Village of Phoenix). The revised boundary includes the entire former portion as well as some additional areas of Oswego County and Madison County. The new areas of Oswego County extend north along Interstate 81 and New York State Route 11. The Madison County portion includes the Bridgeport area along Oneida Lake as well as a portion along I-90. See Map 4 for the updated MPO boundary based on the 2000 Census.

#### **2. Urban Area Boundary**

Along with the revisions of the new MPO Area Boundary, the Urban Area Boundary was also revised. The former Urban Area Boundary surrounded the City of Syracuse metropolitan area and remained within Onondaga County. The revised Urban Area Boundary expanded to additional metropolitan areas within Onondaga County, and now includes the urbanized portions of Oswego County and Madison County that are contiguous to Onondaga County. The portions of the Urban Area Boundary and the MPO Boundary that are outside of Onondaga County coincide (e.g., the only portions of the MPO that are outside of Onondaga County are the expanded urban areas.). See Map 4 for the updated Urban Area Boundary based on the 2000 Census.

#### **3. Metropolitan Planning Area Highway System**

The following contains a brief description of the surface transportation network in the MPA. Additional details on specific topics relating to the MPA Highway System are contained in the corresponding sections of this Long-Range Transportation Plan (LRTP) 2004 Update.





The MPA's surface transportation system includes a total of approximately 3,227.47 centerline miles of roads. The roads are owned/maintained by various jurisdictions including 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, and the towns and villages in Onondaga, Oswego and Madison Counties.

Within the MPA area, there are various jurisdictions responsible for the highway network. The NYSDOT and the NYSTA own approximately 14.5% of the system (which equals about 468.02 centerline miles). The NYSDOT system contains the majority of the main commuter routes. Other key jurisdictional ownerships in the MPA are the OCDOT and City of Syracuse. The OCDOT is responsible for 24.9% of the system (802.72 centerline miles) and the City of Syracuse is responsible for 13.2% of the system (424.65 centerline miles). In addition to those itemized above, other jurisdictions are responsible for the balance of the system. These jurisdictions include Oswego and Madison Counties, as well as numerous towns and villages in all three counties.

The transportation system is organized by a scheme called "Functional Classification." Functional classification is the process by which roads are categorized into classes according to the type of service they are meant to provide. This topic is discussed in detail in the following section.

The vast system of existing highways and bridges in the MPA area require a large amount of maintenance in order to ensure adequate operational characteristics. The majority of money spent on the Transportation Improvement Plan (TIP) from Federal Highway Administration (FHWA) (non-transit specific funds) is used for maintaining the existing road network. The most recent three-year 2003-2006 TIP includes a total of \$129.680 million in FHWA funds. Of that amount, \$13.686 million (10.5%) has been allocated for transportation related enhancements such as trails and enhancement projects for bicycles and pedestrians. The remainder of all FHWA funds, a total of \$115.994 million (89.5%) is for maintenance related projects.

As depicted, it is clear that the majority of capital money for the surface transportation network in the MPA area is for maintenance, leaving modest funds and need for system expansion. In past TIP documents, there were capacity improvement projects planned that utilized FHWA obligated funds (i.e., the Belgium Bridge over Route 31), but generally, there have been minimal new capacity projects and system additions in recent years.

The sections that follow contain greater detail about the surface transportation system including detailed discussions on functional classification, bridge and pavement conditions, incident management/tracking and other related topics.

#### 4. Functional Classification

Functional classification is the process by which streets and highways are grouped into classes or systems according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve

travel independently but are part of a greater network. This network “channels” traffic in a logical, safe and efficient manner helps define the functional classification hierarchy. A simplified hierarchy of a functional classification (from lowest class to highest) consists of local roads, major and minor collector roads, minor arterial, and principal arterials.

Table 3-1 provides the number of centerline miles by functional classification for the various MPA jurisdictions. Functional classification is further detailed in the next section of this Update.

**Table 3-1**

<b>Centerline Miles by Functional Classification for SMTC MPA</b>						
	<b>Principal Arterial</b>	<b>Minor Arterial</b>	<b>Major/Urban Collector</b>	<b>Minor Collector</b>	<b>Local</b>	<b>Total</b>
<b>NYSDOT</b>	187.59	107.31	111.98	24.39	5.39	<b>436.66</b>
<b>NYSTA</b>	31.36	0	0	0	0	<b>31.36</b>
<b>OCDOT</b>	28.33	89.30	160.38	110.22	414.49	<b>802.72</b>
<b>Oswego County</b>	0	0	5.78	0	2.48	<b>8.26</b>
<b>Madison County</b>	0	0	10.34	0	1.90	<b>12.24</b>
<b>City of Syracuse</b>	19.73	65.21	32.59	0.00	307.12	<b>424.65</b>
<b>Towns/Villages</b>	0.00	8.50	42.04	2.26	1458.78	<b>1511.58</b>
<b>Total</b>	<b>267.01</b>	<b>270.32</b>	<b>363.11</b>	<b>136.87</b>	<b>2190.16</b>	<b>3227.47</b>

Source: SMTC’s Geographic Information System

Functional classification codes are given to all federal-aid eligible roads. There are four functional classification codes used in the SMTC study area. They include principal arterial, minor arterial, collector and minor collector. Arterials provide the highest level of mobility, at the highest speed, for long, uninterrupted travel. Arterials generally have higher design standards than other roads, often with multiple lanes and some degree of access control. Collectors provide a lower degree of mobility than arterials. They are designed for travel at lower speeds and for shorter distances. Collectors are typically two-lane roads that collect and distribute traffic from the arterial system. The minor collectors code applies to rural parts of the SMTC study area.<sup>1</sup>

At this time, the functional classification system has been revised to take the 2000 Census and revised MPO boundaries into consideration, however the revisions have not yet received NYSDOT and FHWA approval. Changes in the system will be discussed in detail and included in the next LRTP. See Map 5 for the current Functional Classification system.

<sup>1</sup> Definitions taken from the Federal Highway Administration’s Conditions and Performance Report, Chapter 2. For further information, visit the website: <http://www.fhwa.dot.gov/environment/flex/ch03.htm>



## **B. Metropolitan Planning Area Trends**

This 2004 Update includes a basic profile of some of the most important demographic trends and changing conditions that affect transportation planning in the SMTC area. More comprehensive analysis of 2000 Census data, including the analysis of an expanded SMTC MPA, will occur in the next SMTC LRTP.

The Syracuse MPA has seen notable changes since 1990 in population, economic transition and land use shifts. The trends are typical to most Northeast communities, including:

- ≠ A declining metropolitan area population, and a shift in population away from the city core to suburban and rural areas;
- ≠ A changing economic base from manufacturing to a more diversified information and service based economy;
- ≠ A continued land use pattern towards suburban sprawl and decreasing density;
- ≠ A concentration of poverty in the City of Syracuse; and
- ≠ Increased commuting into Onondaga County, and from the City to the suburbs.

Following is a brief analysis of these demographic trends, and how they relate to transportation planning in the SMTC area.

### **1. Population**

#### *Population Distribution*

Population shifts within Onondaga County are occurring, mostly from the City of Syracuse to suburban towns. Table 3-2 charts the historic population changes in Onondaga County since Syracuse's peak population of 220,583 in 1950. At that time, the City of Syracuse made up 65% of the total County population. In 2000, it made up only 32% of the total County population. The table illustrates a growing suburban population, at the expense of a declining City population.

According to 2002 Census Bureau estimates, the trend continues.<sup>2</sup> The Bureau estimates that between 2000 and 2002, the City of Syracuse has continued to lose people at a rate of 1.5%, while Onondaga County suburbs show a 1.45% increase. The Town of Geddes is the only suburban municipality projected to have lost population (-0.4%) utilizing these estimates since 2000.

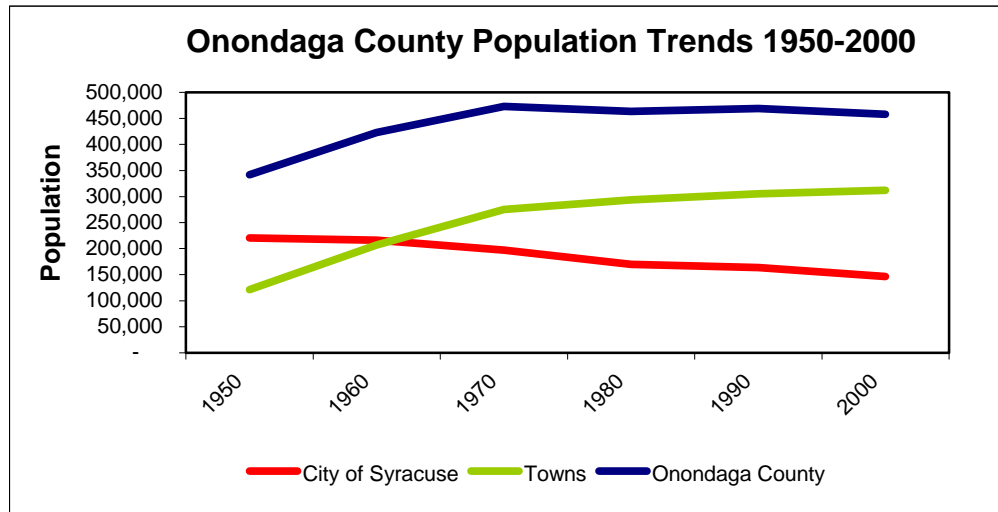
Map 6 graphically shows Central New York's regional population distribution. Onondaga County is the most populous county in Central New York, with the City of Syracuse as its traditional city core, surrounded by suburban and rural towns, villages and hamlets. As represented by SMTC's Urban Area boundary, the most populated areas of

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<sup>2</sup> Source: US Census Bureau, April 1, 2002 Population Estimates

Onondaga County continue to be in the City of Syracuse and nearby towns to the north and east.

**Table 3-2**



Source: US Census Bureau, Population of Counties by Decennial Census 1900-1990, 200 SF 3 Table P1

The average population density in Onondaga County is 588 people per square mile, which includes a peak density of 5,871 persons per square mile in the City of Syracuse and a low density of 42 persons per square mile in the rural Town of Fabius.<sup>3</sup>

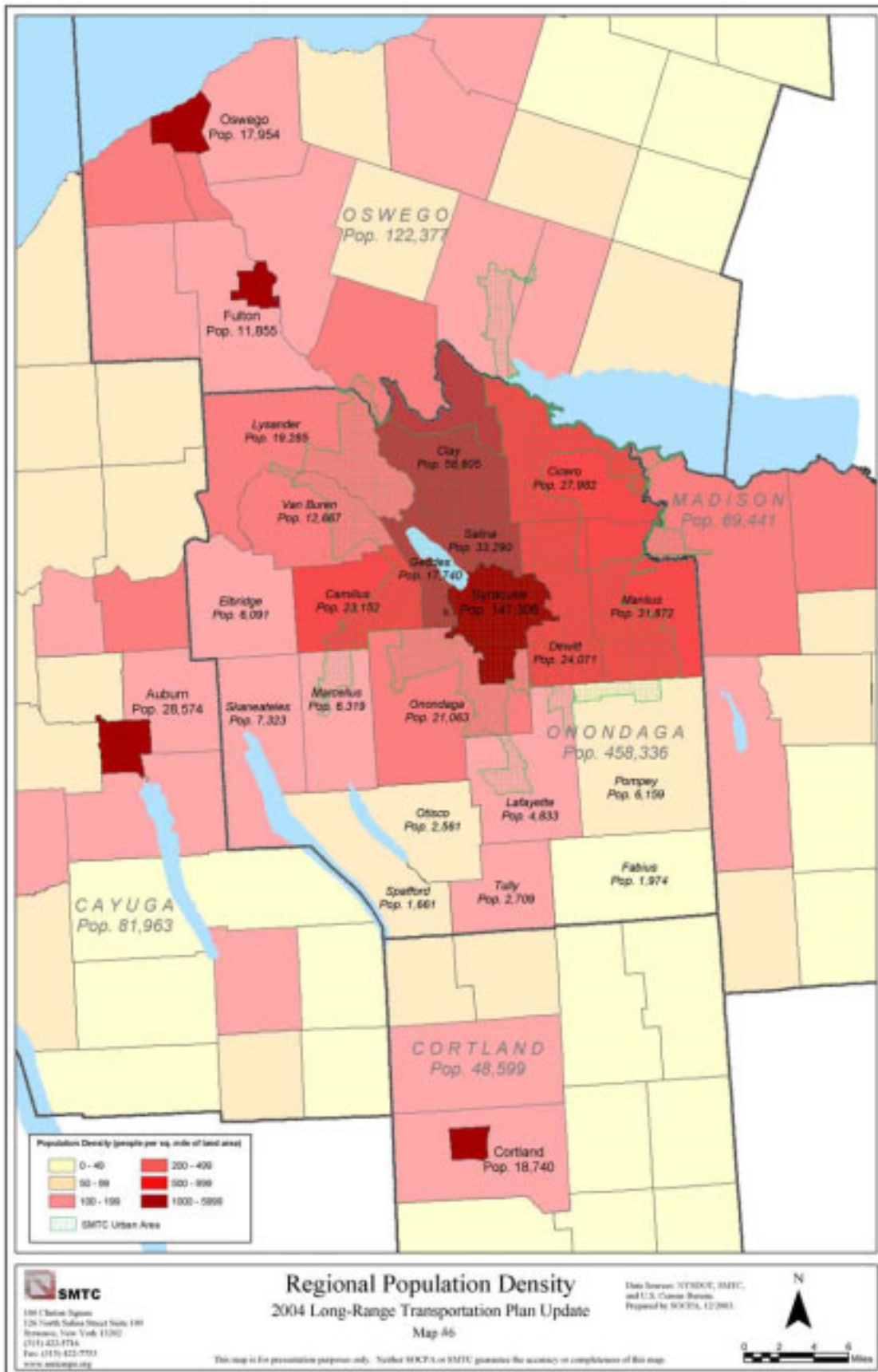
### *Age Distribution*

As shown on Table 3-3, between 1990 and 2000, some age cohorts rose while others fell across Onondaga County. Births are declining in Onondaga County. In addition, age cohorts representing young adults (age 18-34) and recent retirees (age 60-74) also posted losses during the 1990s.

The age makeup of the City and suburban populations has also been undergoing change, similar to communities across the country. Migration patterns within the County have resulted in age group shifts. The median age in Onondaga County is 36.3, with Syracuse tending somewhat younger with a median age of 30.5, and the combination of Onondaga County Towns tending somewhat older at 39.3. The large college student population decreases the median age in Syracuse.

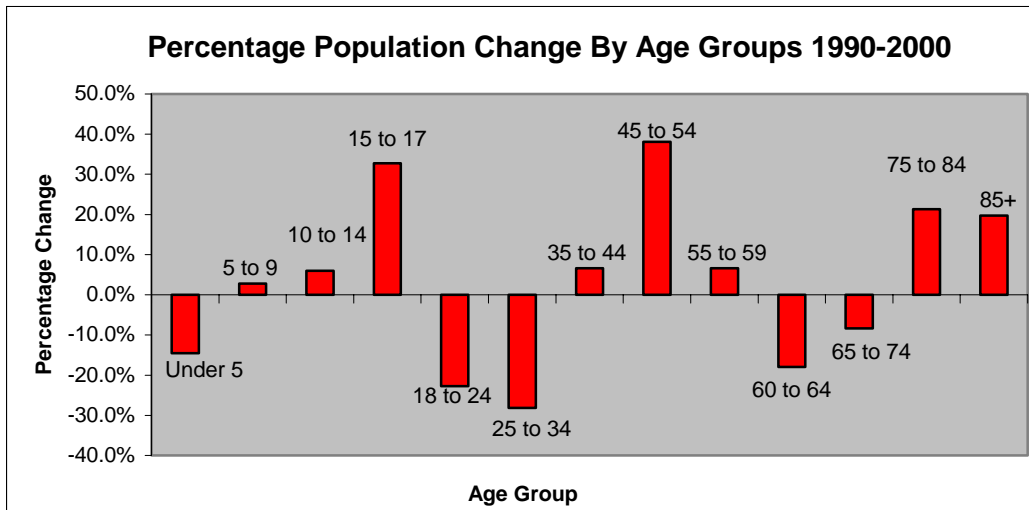


<sup>3</sup> US Census 2000 – Summary Population and Housing Characteristics – Table 15.





**Table 3-3**



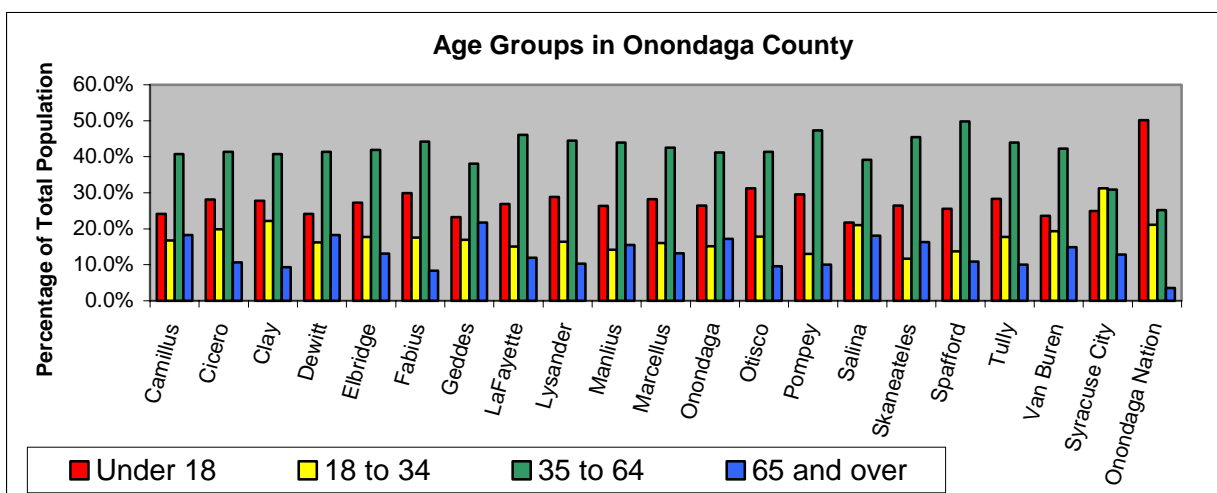
Source: US Census Bureau, Summary File 1, Table P12 (2000) & STF1- P11 (1990)

Senior age cohorts (age 75+) show an approximate 20% increase over the past decade, a national trend attributed largely to longer life expectancies. The mobility limitations and reliance on public transportation for this segment of the population will continue to present challenges in transportation planning, especially as the “Baby Boom” generation nears retirement age in lower density suburbs, as opposed to urban areas most conducive to efficient public transit.

The 40-58 age bracket represents the “Baby Boomer” segment of the population. Children of “Baby Boomers” are also represented in the rising 10-14 and 15-17 age brackets. The “Baby Boom” generation is generally expected to enter retirement age between 2010 and 2030. During these critical years, demand for housing and transportation services for seniors will increase. Out-migration to warmer climates is also expected to have its greatest effect on the County’s overall population during this time period.

Analysis of age distribution among Onondaga County municipalities (Table 3-4) shows a slight difference between older suburbs versus those showing more recent growth. The older “inner ring” suburbs of DeWitt, Geddes, and Salina average the highest concentrations of people age 65 and older, and the lowest percentages of children under 18. Newer suburbs saw an increase in young families. Suburban towns with the most recent growth, such as the larger towns of Cicero, Clay and Lysander, show the highest percentages of children under 18 and young adults between the ages of 18 and 34.

**Table 3-4**



Source: US Census Bureau 2000, Summary File 1, Table DP-1

### *Families and Households*

Table 3-5 is a summary of Census 2000 family and household characteristics for Onondaga County Households, including comparable 1990 information.

**Table 3-5**

<b>Household and Family Characteristics Onondaga County 1990 and 2000</b>			
	<b>1990</b>	<b>2000</b>	<b>Change</b>
<b>Number of Households</b>	<b>177,898</b>	<b>181,153</b>	2%
Family Households	118,575	115,320	-3%
Non-Family Households	59,323	65,833	11%
Householder Living Alone	47,047	53,225	13%
<b>Average Household Size</b>	<b>2.55</b>	<b>2.46</b>	-4%
<b>Average Family Size</b>	<b>3.12</b>	<b>3.07</b>	-2%

Source: US Census Bureau 2000 SF1 Table P18, 1990 STF1 Table P015

The 2000 Census data show a continuing national trend represented in Onondaga County with smaller families, fewer married families, and more individuals living alone. The data shows a 3% decrease in the number of Family Households, and an 11% increase in Non-Family Households. Of those Non-Family Households, almost 80% were one-person households. The implications of these trends on transportation planning in the SMTC area may prove significant in terms of personal mobility and housing choice, and resulting in changes in vehicles per household, vehicle usage, carpooling, and land use development patterns.



### *Income and Poverty*

In 2000, Onondaga County residents had a per capita income of \$21,336 and a poverty rate of 12.2%; both rates coincide closely with national averages. However the poverty is concentrated clearly in the City of Syracuse, where residents have a median income of just over \$15,000 and a poverty rate at least three times that of surrounding Onondaga County Towns, as shown in Table 3-6.

**Table 3-6**

<b>Income &amp; Poverty</b>		
	<b>Per Capita Income</b>	<b>% of Individuals Below Poverty Level</b>
Camillus	\$22,591	4.3%
Cicero	\$21,527	5.1%
Clay	\$22,011	5.7%
DeWitt	\$29,198	7.2%
Elbridge	\$18,682	6.9%
Fabius	\$21,206	5.7%
Geddes	\$20,986	8.2%
LaFayette	\$24,591	5.1%
Lysander	\$26,187	3.8%
Manlius	\$31,825	3.3%
Marcellus	\$25,628	3.2%
Onondaga	\$25,522	4.2%
Onondaga Nation	\$15,425	7.6%
Otisco	\$19,726	5.7%
Pompey	\$27,970	3.9%
Salina	\$21,839	7.4%
Skaneateles	\$28,624	3.2%
Spafford	\$24,014	5.2%
Syracuse (City)	\$15,168	27.3%
Tully	\$25,223	6.7%
Van Buren	\$20,997	6.6%
<b>Onondaga County</b>	<b>\$21,336</b>	<b>12.2%</b>
United States	\$21,857	12.4%

Source: US Census Bureau 2000, Summary File 3, Table DP-3

The outward population shift from Syracuse of those with greater financial resources has resulted in a disproportionate concentration of people facing a variety of challenges. From a transportation planning perspective, this group is an important concentration of potential clients for transit utilization (i.e., for those not having access to an automobile due to income, age and other related issues). A larger reliance on public transportation and greater use of alternate forms of transportation such as walking or bicycling are prevalent in the City, likely due to the concentration of poverty, significant elderly populations, and the dense pattern of land use in the City of Syracuse.

## 2. Local Economy

### *Transportation Crossroads*

The highest concentrations of population and economic activity in Central New York are in the City of Syracuse and adjacent urban areas of Onondaga County. According to the Central New York Comprehensive Economic Development Strategy, over 72% of employment opportunities in Central New York are located in Onondaga County.<sup>4</sup> There are additional centers of activity along major transportation corridors and in smaller cities such as Auburn, Cortland, Oneida, Oswego and Fulton.

Onondaga County benefits economically as the transportation crossroads of the region. Interstate 81 is a significant north-south corridor reaching from Canada to the southern States, which intersects the New York State Thruway just north of the City of Syracuse in the center of Onondaga County. The NYS Thruway runs east-west across all of New York State linking to major interstate corridors into neighboring states. New York Route 481 also plays a role in the regional transportation network, stretching north to the City of Oswego from Onondaga County. Other significant corridors include NYS Route 20 that spans across New York State and through three Central New York counties, and NYS Route 5 that carries traffic between Onondaga County and neighboring counties. Additionally, NYS Route 31 serves as the northern Onondaga County connector.

Historic development patterns along the Erie Canal and railroad transportation corridors led to Onondaga County's early prominence. This significant network of interstate highways has continued to ensure its sustainability. Though global economic factors have negatively influenced the area's transportation and goods producing heritage, opportunities remain to take economic advantage of the major transportation assets in the Central New York region.

### *Regional Economy*

As defined by the New York State Department of Labor, the *Central New York Labor Market Region* consists of five counties-Cayuga, Cortland, Madison, Onondaga and Oswego. While broader than the SMTC Study Area, it is important to understand the regional economy and its impact on the transportation system.

The Central New York region covers an area of 3,120 square miles and has an estimated population of 780,000. The region generally forms an area of interdependent economic



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<sup>4</sup> Central New York Regional Planning and Development Board, *Central New York Comprehensive Economic Development Strategy*, June 2002.

activity, with Onondaga County at its core. Table 3-7 summarizes some key economic indicators for each of the counties in the Central New York region. As shown, Onondaga County accounts for approximately two thirds of the total Central New York labor force.

**Table 3-7**

<b>Central New York Economic Indicators</b>						
<b>September 2002 and 2003</b>						
	<b>Labor Force</b>		<b>Employment</b>		<b>Unemployment Rate</b>	
	<b>Sep '02</b>	<b>Sep '03</b>	<b>Sep '02</b>	<b>Sep '03</b>	<b>Sep '02</b>	<b>Sep '03</b>
Cayuga County	38,400	39,400	36,500	37,200	5.5%	5.5%
Cortland County	23,200	23,400	21,800	22,000	5.9%	5.9%
<b>Onondaga County</b>	<b>241,300</b>	<b>246,200</b>	<b>229,400</b>	<b>234,000</b>	<b>4.9%</b>	<b>5.0%</b>
Oswego County	57,500	59,700	53,600	54,700	6.7%	8.3%
Madison County	35,500	36,500	33,900	34,500	4.7%	5.4%
<b>Central NY Region</b>	<b>360,300</b>	<b>368,700</b>	<b>341,300</b>	<b>347,900</b>	<b>5.3%</b>	<b>5.6%</b>

Source: NYS Department of Labor. Local Area Unemployment Statistics Program

### *Employment*

Central and Upstate New York employment has remained relatively stable over the past several years, though affected by the ongoing national recession. Many of the region's largest employers are located in Onondaga County. These companies and institutions include Syracuse University, Niagara Mohawk, State University of New York Upstate Medical University, New Venture Gear, Bristol Myers Squibb, Verizon Communications, Lockheed Martin, Welch Allyn, Blue Cross/Blue Shield, and Anheuser-Busch. (Of note: One of Syracuse's largest and most prominent manufacturers, the Carrier Corporation, announced in 2003 the elimination of over 1,200 jobs from its DeWitt plant, representing almost 1/2 of its workforce.)



*Syracuse University*

Despite the continued gradual decline of high-profile manufacturing jobs in Central New York, the area is reporting continued job growth, and Onondaga County has been recognized as one of the most diversified metropolitan economies in the State<sup>5</sup>. The unemployment rates for Onondaga County and the Central New York region remain significantly lower than the New York State average (6.3% in September 2003).

The strongest economic sectors in Onondaga County are in health care and education, largely located in the City of Syracuse. Employment in health care and social services sectors reached an all-time record high (40,700) for the area in 2003.<sup>6</sup> Other strong

<sup>5</sup> NYS Department of Labor, Division of Research and Statistics. "Employment in New York State", April 2003.

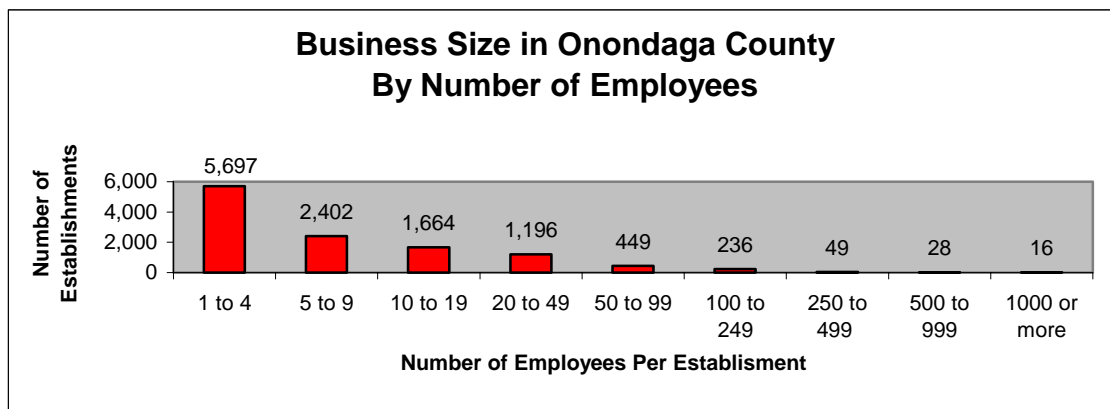
<sup>6</sup> Ibid.

sectors include retail, wholesale trade, transportation and warehousing, government and accommodation/food services.<sup>7</sup> Manufacturing still accounts for over 13% of employees in Onondaga County.

### *Size of Firms*

Over 83% of establishments in Onondaga County employ fewer than 20 employees; only 16 establishments in Onondaga County employed over 1,000 people in 2001. Table 3-8 graphically shows the breakdown of size of establishments in Onondaga County based on the number of employed workers. Job growth increases in Onondaga County generally come from smaller businesses, while employment by large firms continues to decline.

**Table 3-8**



Source: US Census Bureau, County Business Patterns 2001.

The trend towards smaller businesses is growing. Smaller commercial and manufacturing firms have become more prevalent in Onondaga County. Suburban multi-tenant campuses, consolidating a number of smaller businesses, are also becoming more common than large scale, single tenant campuses.

### *Development Projects and Incentives*

In an effort to encourage new business and expansion within the Upstate New York Region, New York State has expanded its *Economic Development Zone* Program, now known as *Empire Zones*, within Onondaga County. This program offers a variety of tax incentives and utility reductions to facilitate business growth in selected target areas. The City's Downtown Area, as well as corridors along I-690, Salina Street and Lakefront locations have been targeted. The County's Empire Zone acreage continues to grow, allowing for expansion of existing commercial sites along with new targeted development locations.

<sup>7</sup> US Census Bureau; Economics and Statistics Administration. "County Business Patterns 2001". 2003.

An added business development incentive for the City of Syracuse was announced in 2002, with the designation of the City as a *Federal Empowerment Zone* by the Department of Housing and Urban Development (HUD). See Map 7. This designation entitles business owners in targeted areas to receive regulatory relief and tax breaks to encourage community revitalization.

The following are some of the sites that Onondaga County is marketing for industrial and commercial development through the Empire Zones, Empowerment Zones or other statewide industrial and high-tech development initiatives:<sup>8</sup>

## Clay Industrial Park (SemiNY)	245 acres
## Radisson Industrial Park	50 acres
## Town of DeWitt (BuildNow-NY)	108 acres
## Syracuse (University) Research Park (BuildNow-NY)	100 acres
## Hancock Air Park (Empowerment Zone, BuildNow-NY)	175 acres
## Salina Power Park (Empowerment Zone)	78 acres

In addition to the Town of DeWitt 100+ acre Build Now-NY site, the Interstate 481 corridor, generally in the Town of DeWitt, also houses several existing, and planned commercial and industrial businesses, as well as large amounts of vacant land to support growth.

Also of particular note is the public and private partnership, including a \$37 million commitment by New York State to create a Center of Excellence in Environmental Systems (CoE-ES) in the Syracuse University area, now slated for Downtown at the former Midtown Plaza site. This project is aimed at making Syracuse a worldwide leader in environmental systems engineering (see Changing Needs and Impacts: University Hill Area), and the planned development of a Biotechnology Research Center in partnership with local higher education institutions.

### *Economic Development Activity*

As a result of efforts by economic development officials and planners, with the assistance of the SMTC, several new commercial, residential and retail projects affecting the County's land uses have been initiated or completed since the last LRTP Update. Specific areas of activity include:

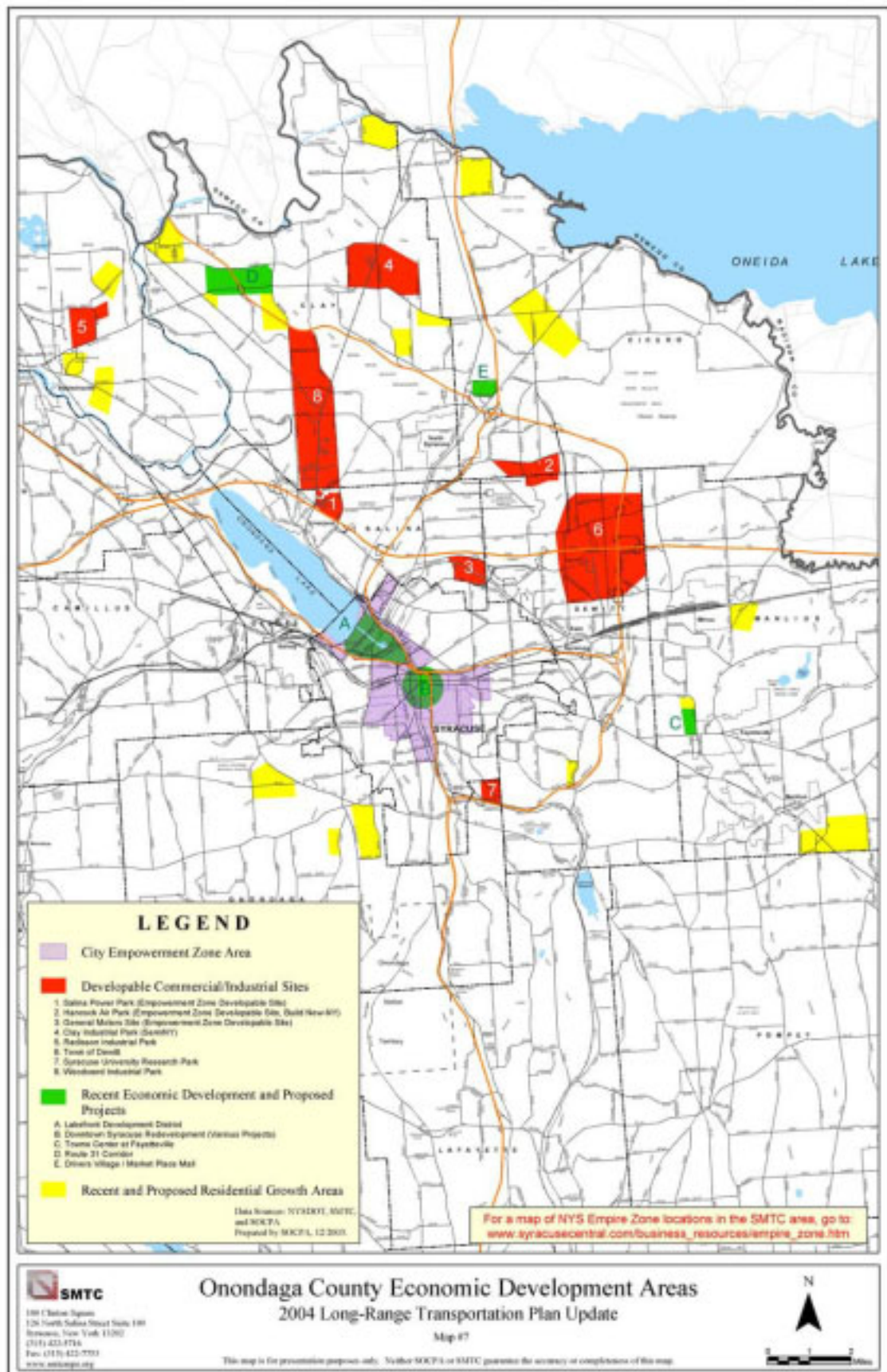
- ## The continued redevelopment activity within the Syracuse Lakefront, including the proposed *DestiNY USA* project, the Inner Harbor and Franklin Square (see Changing Needs and Impacts: Lakefront Development District).



*Syracuse Lakefront Area*

<sup>8</sup> Central New York Regional Planning & Development Board. "Central NY Comprehensive Economic Development Strategy Annual Report." June 2003





- Part of a Downtown Syracuse redevelopment effort to retain and attract employers, a \$45 million parking, office, and commercial/residential development will be constructed.



*Clinton Square*

- The completion of Downtown's Clinton Square renovation project and continued focus on Downtown's urban parks, monuments and cultural attractions. The City of Syracuse formally endorsed the creation of a Cultural Corridor in Downtown Syracuse.

- Over 100 new apartment units have been

reintroduced to Downtown Syracuse, in Hanover Square, the Leow's Landmark Building, and on West Genesee Street. Hanover Square also saw new tenants in many of its commercial storefronts.

- New infrastructure enhancements and façade improvement programs to facilitate the North Salina Street corridor, also known as the *Little Italy* project.
- Retail corridors have emerged in three specific areas within the County in recent years – the Route 31 Corridor near Great Northern Mall continues to see expansion of commercial strip growth; the former Fayetteville Mall has been reconfigured and revitalized with new tenants, becoming the *Towne Center at Fayetteville*, loosely based on the recommendations of Andres Duany in the *Onondaga County Settlement Plan*; and the renovation of the PennCan and Marketplace Malls in Cicero, including a large scale *Driver's Village* automobile sales establishment.
- Recently developed and/or proposed residential development projects continue to rise at the outer limits of the SMTC urbanized area, including particular activity in the towns of Cicero, Clay, Lysander and Onondaga.

In an effort to attract new jobs and increase population, several new exciting projects are taking place in the SMTC Area, with many more being planned. With that, care must be taken to preserve the separation between urban and rural land uses; encourage investment in existing communities and transportation corridors; and consider natural resources, environmental constraints and infrastructure costs when dealing with new suburban development.

### 3. Land Use

The 1995 SMTC LRTP and subsequent updates identified five general types of land use prevalent in the SMTC Study Area, including a moderately dense urban core; suburban towns, villages and hamlets; farmland; shoreline; and scattered development. These

types remain indicative of present conditions, though the trend towards suburbanization and outward growth of the metropolitan area is beginning to affect the distinction between land uses and are creating new patterns of development in the County. Several economic development and residential projects, both planned and underway, may have impacts on future development patterns as well.

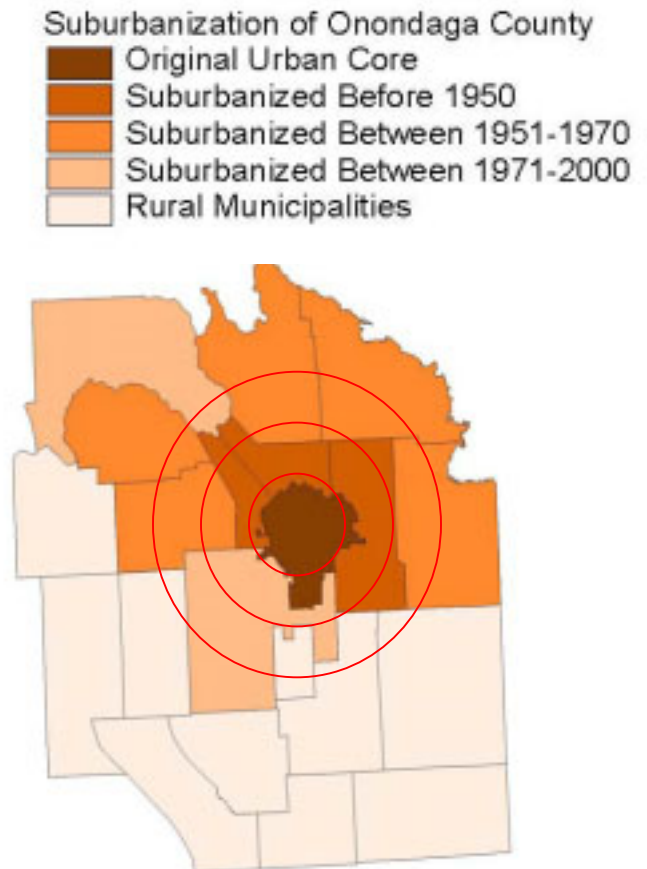
#### *Effects of Suburbanization in Onondaga County*

While the Onondaga County population has shown a slow population decline, changes in the geographic distribution of the County signify internal population shifts. Population changes in recent history depict a population that is slowly migrating away from the urban core, first to an inner ring of older closer suburbs, and now even further to a new second ring of suburbs.

In the 1970s, Onondaga County had seen decades of population growth, and as projected, continued growth into the future. Accordingly, transportation, water and sewer infrastructure was expanded into the suburbs with significant capacities to accommodate a need for new housing for an expanding population. However, population since 1970 has steadily declined and Onondaga County has seen little job growth, leaving an underutilized infrastructure network.

The aging urban housing stock, available undeveloped land, affordable housing, water and sewer costs, access to transportation infrastructure and increased personal mobility have encouraged the expansion of housing into areas long vacant or farmed.

This trend is shown illustratively here and graphically in Tables 3-9, 3-10 and 3-11. Residential construction in Onondaga County in the 1990s has occurred largely in this outer ring – most notably in the towns of Cicero, Clay, Lysander, Manlius, and Onondaga. Areas of growth within the inner ring of suburbs, such as the towns of DeWitt, Salina and Geddes see a slowing of growth since 1980.





**Table 3-9**

<b>Building Permits In Onondaga County By Town</b>											
<b>1990 to 2003</b>											
	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>TOTAL</b>
<b>Camillus</b>	83	59	46	22	39	45	78	65	54	76	<b>491</b>
<b>Cicero</b>	158	112	163	99	133	149	171	159	245	249	<b>1,389</b>
<b>Clay</b>	161	103	177	93	126	158	109	106	135	196	<b>1,168</b>
<b>Dewitt</b>	56	35	26	30	34	135	72	54	91	116	<b>533</b>
<b>Elbridge</b>	10	13	15	8	11	18	16	39	24	14	<b>154</b>
<b>Fabius</b>	9	2	8	8	6	9	6	15	10	7	<b>73</b>
<b>Geddes</b>	29	20	23	18	15	15	10	8	6	4	<b>144</b>
<b>Lafayette</b>	17	9	16	12	10	8	10	15	26	67	<b>123</b>
<b>Lysander</b>	125	85	84	71	92	128	123	223	200	108	<b>1,131</b>
<b>Manlius</b>	92	81	58	68	87	91	112	179	99	100	<b>867</b>
<b>Marcellus</b>	37	10	13	8	8	10	36	11	21	19	<b>154</b>
<b>Onondaga</b>	98	42	44	58	71	76	89	76	93	75	<b>647</b>
<b>Otisco</b>	16	19	13	23	13	13	11	9	19	15	<b>136</b>
<b>Pompey</b>	31	27	22	34	40	48	48	42	41	40	<b>333</b>
<b>Salina</b>	99	6	17	15	100	60	46	17	24	5	<b>384</b>
<b>Skaneateles</b>	18	21	17	16	15	23	32	24	36	27	<b>202</b>
<b>Spafford</b>	10	13	9	20	10	13	10	10	7	7	<b>102</b>
<b>Tully</b>	5	6	4	3	11	10	13	16	17	5	<b>85</b>
<b>Van Buren</b>	16	13	29	29	16	26	23	17	24	11	<b>193</b>
<b>City of Syracuse</b>	116	67	173	28	35	16	79	83	60	58	<b>657</b>
<b>Total County</b>	<b>1,186</b>	<b>743</b>	<b>957</b>	<b>663</b>	<b>872</b>	<b>1,051</b>	<b>1,094</b>	<b>1,168</b>	<b>1,232</b>	<b>1,199</b>	<b>8,966</b>

Source: Syracuse-Onondaga County Planning Agency

Note: Building permits does not show demolitions (and therefore net change).

Please see Table 3-11 for demolition data.

**Table 3-10**

<b>City and Town Households, 1960-2000</b>					
	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
<b>City of Syracuse</b>	67,830	67,671	66,961	64,945	59,482
<b>Camillus</b>	4,702	7,182	7,992	8,917	9,315
<b>Cicero</b>	4,028	5,960	7,401	9,014	10,538
<b>Clay</b>	4,641	10,162	17,299	21,095	22,294
<b>Dewitt</b>	6,375	8,422	9,211	9,729	10,068
<b>Elbridge</b>	1,328	1,642	2,011	2,228	2,322
<b>Fabius</b>	401	446	591	612	686
<b>Geddes</b>	5,647	6,389	6,669	6,889	7,262
<b>LaFayette</b>	876	1,186	1,476	1,724	1,826
<b>Lysander</b>	2,745	3,282	4,497	5,839	7,139
<b>Manlius</b>	5,242	7,242	9,633	11,481	12,553
<b>Marcellus</b>	1,268	1,664	2,061	2,311	2,378
<b>Onondaga</b>	3,513	4,513	5,961	6,557	7,679
<b>Otisco</b>	319	405	667	780	922
<b>Pompey</b>	904	1,178	1,370	1,827	2,154
<b>Salina</b>	9,006	11,352	13,370	14,166	14,401
<b>Skaneateles</b>	1,951	2,393	2,705	2,871	2,881
<b>Spafford</b>	257	313	510	572	631
<b>Tully</b>	488	563	802	886	1,030
<b>Van Buren</b>	2,375	3,157	4,322	5,234	5,288
<b>Onondaga Nation Territory**</b>	194	200	168	221	304
<b>Total Households</b>	<b>124,090</b>	<b>145,322</b>	<b>165,677</b>	<b>177,898</b>	<b>181,153</b>
*figures include respective villages					
** Separate Native American Territory					
Source: U.S. Census of Populations 1950,1960,1970,1980,1990,2000					

The gradual expansion of residential and commercial land uses has significant implications on community land uses and the economy, including an increased demand and cost for transportation infrastructure, utilities and public services, increased commute times and reliance on the automobile for more and longer trips.

However, the demand for affordable land, free parking, large lots and low density have proven difficult to deter. The metropolitan area is gradually expanding, as illustrated by the expansion of SMTTC's MPA and Urban Area Boundary, which reflect changing land use patterns and growth.

### *Planning Efforts*

Several efforts are being undertaken to combat the environmental, fiscal and social implications of sprawl in Onondaga County. New land use patterns, focusing on mixed use, higher densities, infill and clustered development are being encouraged by Onondaga

County, through its *2020 Development Guide: A Framework For Growth*, and the recently produced *Onondaga County Settlement Plan*, which outlines strategies to encourage New Urbanism development practices within Onondaga County. The first private residential development project based on the principles of New Urbanism, *Annesgrove*, began construction in 2000 in the Town of Camillus.



*Annesgrove*, in the Town of Camillus

Led by Onondaga County's *2010 Development Guide*, efforts are being made to discourage unnecessary creation of new infrastructure into un-urbanized areas until existing built infrastructure nears capacity. This policy is intended to assist in providing cost effective infrastructure investments and curbing suburban sprawl by focusing capital investments on maintaining existing urbanized areas rather than creating new ones.

The City of Syracuse is considering a change to its zoning code within its Lakefront Development area to encourage new high-density, mixed-use development, consistent with the principles outlined in the *Onondaga County Settlement Plan*. This zoning code may serve as a model for future revisions to antiquated zoning regulations throughout the City and County.

To help the City compete for population and economic opportunities, with funding assistance from the federal government and local private contributions, the *Syracuse Neighborhood Initiative* (SNI) was established in 2000. SNI plans and initiatives focus on improving the City housing market and position City neighborhoods to successfully compete for investment.

An important focus of the first phase of the SNI was to address the large dilapidated, aging housing stock in the City. The construction of new housing units throughout the suburbs of Onondaga County has resulted in an oversupply of housing. This results in the abandonment of older homes, close to the City core.

According to the 2000 Census, of the City's 68,196 housing units, 8,710 stand vacant. In addition, 48% of housing units in the City were built prior to 1940. The City partnered with resident groups to identify hundreds of blighted properties for rehabilitation (the preferred option for preservation of urban densities) or demolition. Later phases concentrated on preservation of owner equity in properties, and the development of

neighborhood plans for revitalization. Table 3-11 illustrates the significant difference in climate for housing development, in comparing the City of Syracuse with the collective towns in Onondaga County in terms of building and demolition permits over the past twenty years.

**Table 3-11**

<b>Residential Building and Demolition Permits</b>				
	<b>Towns 1980-89</b>	<b>City of Syracuse 1980-89</b>	<b>Towns 1990-99</b>	<b>City of Syracuse 1990-99</b>
<b>Building</b>	17,139	1,783	9,946	881
<b>Demolition</b>	149	2,768	86	2,003
<b>Net Gain/Loss</b>	16,990	(985)	9,860	(1,122)
Source: SOCPA- based on municipal building permit data.				

The situation the City of Syracuse faces is not unique to this City, and is common to almost every city in the United States. Significant attention across the nation is now being centered on the “costs of sprawl,” and the economic and social benefits of reinvesting in existing city centers, villages and hamlets. With current government fiscal constraints across New York State, out-migration, and limited economic growth projected in Central New York over the next several years, the costs of sprawl become more important. However, in this same economic climate, municipalities find it difficult to discourage new private development on the basis of sprawl, especially given the relatively large amount of undeveloped land within Onondaga County.

#### *Land Use and Transportation*

Acknowledging the important effects of land use on transportation options, the SMTC has been involved in several activities and studies that examine land use alternatives as well as transportation system alternatives in its transportation planning activities. For example, the current University Hill Comprehensive Transportation Study being prepared by the SMTC will focus heavily on land use and transportation strategies to address the congestion and parking issues faced by students and employees within the University Hill area. Similarly, the Interstate 481 Corridor Study is examining the effects of continued build-out of industrial and commercial uses on the transportation infrastructure and the importance of preserving capacity on major state and county highways.

In 2003, the SMTC also began the process to update its existing TMODEL Travel Demand model software, which utilizes current and projected population and land use statistics to estimate impacts on proposed transportation infrastructure projects. This modeling is a useful tool, helping planners to project necessary improvements and predict typical impacts of land development actions. The updated software, TransCAD, will provide more accurate information regarding transit usage, as well as allow for more accurate modeling at a site-specific scale. In addition to updating the software, the base information data that is put into TransCAD will be updated as well.

In addition, the NYSDOT is also continuing to recognize the important linkage between land use and transportation. Introduced by the NYSDOT in 2000, and supported by the FHWA, *Context Sensitive Solutions* (CSS) is “a philosophy wherein safe transportation solutions are designed in harmony with the community. CSS strives to balance environmental, scenic, aesthetic, historic, cultural, natural resources, community and transportation service needs.”<sup>9</sup> The new CSS approach seeks to incorporate smart, aesthetic and accessible solutions into all phases of the transportation planning process. The process realizes the importance of quality of life and seeks to minimize the effects of major transportation infrastructure on the communities in which they are built, through creative and context-sensitive design.



*I-81 Fishing Access Site at Oneida Lake*

### **C. Travel Demand Modeling**

Travel Demand Modeling is the utilization of a computer software package to replicate the “real world” transportation system around us including roads, intersections, traffic control devices, congestion delays, use of a transit system, etc. Once the computer model can accurately replicate the existing conditions of an area, it can then be used to predict future travel patterns and demands based on changes in the transportation system (e.g., new roads, wider roads with more capacity, closed roads, etc.); changes in land use (e.g., more residential development, a new industrial site, etc.); and changing demographics (e.g., more or less people in a specific area, access to a vehicle, etc.).

Travel demand forecasting is a state-of-the-art analysis tool used in the transportation planning process. By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system can be identified. It is also an important tool in planning future network enhancements and analyzing currently proposed projects. Travel demand models are developed to simulate actual travel patterns and existing demand conditions. Networks are constructed using current roadway inventory files containing data for each roadway within the network. Travel demand is generated using socioeconomic data such as household size, automobile availability, and employment data. Once the existing conditions are evaluated and adjusted to satisfactorily replicate actual travel patterns and vehicle roadway volumes, the model inputs are then altered to project future-year conditions. Using these inputs, the model is able to derive future capacity limitations relative to the current roadway system. Once these deficiencies are identified, potential improvements are evaluated by rerunning the model with an “improved or modified” transportation system. A range of different street networks, and

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<sup>9</sup> Source: NYSDOT web site: Power Pt. Presentation on Context Sensitive Solutions

even different land use patterns, are tested this way. Future-year traffic projections are based on numerous assumptions about how population, employment, automobile operating costs, and other factors will change over time. As such, future year-projections are only as good as the assumptions that are made. By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system can be identified.

The purpose of Travel Demand Modeling at the SMTC is to enable the agency to more accurately predict future travel patterns and volumes. This tool is therefore valuable in transportation planning activities to assist in determining the best solution for identified transportation problems and issues. Additionally, it can be used to examine the consequences of capital investments via the TIP. For example, the model can perform a before and after comparison of a bridge replacement or road widening project and yield traffic volumes for the segments of interest. This will allow the SMTC to better understand the impact of the project. Because of the utility of travel demand models at predicting future travel patterns and volumes, they are also critical to the process of Air Quality and Conformity (discussed Chapter 7 in detail). The model allows for the agency to predict future volumes and speeds on selected roadway elements and then, by following an involved procedure and additional computer software analysis, the impact on air quality can be quantified to a degree.

Travel Demand Modeling at the SMTC is currently in transition due to new software and updating its forecasting information. The SMTC is developing a more accurate and user friendly travel demand model that can be used by the agency's staff on a regular basis as a tool to predict future traffic volumes and patterns with a higher degree of credibility than the current model.

The current travel demand model at the SMTC is based on TMODEL2 software. There are limitations as to the ability of the software due to its age and design. For example its graphical output is quite limited and it has no real Geographic Information Systems (GIS) connectivity. Additionally, existing staff is not fluent in the software, and since it is no longer a "popular" modeling platform nationally – it is hard to find either trained staff or available training for the model. This has led the SMTC to utilize consultants for all of the current modeling activities. This is both expensive and cumbersome. The SMTC discussed these modeling concerns with other NYS MPOs that utilize TMODEL2 as their model and discovered that other MPOs have similar concerns.

In an attempt to solve the common concerns among the MPOs using TMODEL2 software, the SMTC led a statewide initiative to examine the options available to the MPOs that wanted to migrate to another software platform. This process was well attended by other MPOs in the state and was comprehensive in nature. The year-long process led to a final recommendation of TransCAD software as a first choice for replacing TMODEL2 models in New York State. Many of the participating MPOs have either migrated or are in the process of migrating to this new modeling platform as a result of this effect.

The SMTC has recently retained a consultant to develop a new and improved TransCAD model. Most of the new model is being recreated from scratch however, selected

elements are being migrated from the TMODEL2 model. At the time that this document is being written the process is approximately 50% complete. The SMTC expects that the new model will be in place in time for the next LRTP compilation.

In addition to simulating vehicular traffic, the model will be able to adjust for transit vehicles, bicycles and pedestrians. The model will be a traditional, four-step model that involves the processes of (1) trip generation, (2) trip distribution, (3) mode choice, and (4) trip assignment. The new model will utilize TransCAD software and include a Geographical Information Systems (GIS) interface. Once completed, the model will be utilized by the SMTC staff to perform a wide range of transportation planning activities.

## Chapter IV: Changing Transportation Needs and Impacts

### A. Travel Modes

#### 1. Passenger Vehicles

By far, the most common mode of transportation utilized in Onondaga County is the passenger motor vehicle, and the popularity of this mode of commuting continues to increase over time. Between 1990 and 2000, the percentage of those driving alone to work increased from 75 to 80 percent. The remaining modes of transportation noted in Table 4-1, including carpool, public transportation, and bicycling or walking, have shown a decline in usage since 1990.

According to the data published by the Census Bureau and the Bureau of Transportation Statistics, in addition to the passenger motor vehicle remaining the preferred mode of commuting, the travel time of the commute for the labor force has increased over the past decade. In 1990, the mean travel time to work in Onondaga County was 18.3 minutes, and in 2000 it increased to 19.3 minutes.<sup>1</sup>

**Table 4-1**

Changes in Commuting Patterns, 1990 and 2000 Percent of the Labor Force Ages 16 Years and Over Onondaga County			
Transportation To Work	1990	2000	Total Increase / Decrease From 1990 - 2000
Drove Alone	75.2%	80.1%	+ 4.9%
Carpooled	12.1%	9.9%	- 2.2%
Public Transportation	4.5%	2.6%	- 1.9%
Bicycled or Walked	5.3%	4.1%	- 1.2%
Other	0.6%	0.5%	- 0.1%
Worked at Home	2.4%	2.8%	+ 0.4%
Total	100.1%	100%	-----

Source: U.S. Census Bureau. *Public Transportation includes buses, trains, taxicabs and related services. Other includes motorcycles.*

The number of licensed drivers in Onondaga County in 2001 was 315,615, with the total number of all types of vehicles registered in Onondaga County at 346,360.<sup>2</sup> The mean number of vehicles per household remained relatively steady at 1.52 in 2000 (versus 1.54 in 1990).<sup>3</sup> Worth noting, however, is that while the number of vehicles per household remained relatively constant, the number of persons per household fell over the same time period (2.4 persons per household in 2000 versus 2.6 persons per household in

<sup>1</sup> CTPP 2000, Table 1.

<sup>2</sup> [www.nydmv.state.ny.us/stats.htm](http://www.nydmv.state.ny.us/stats.htm)

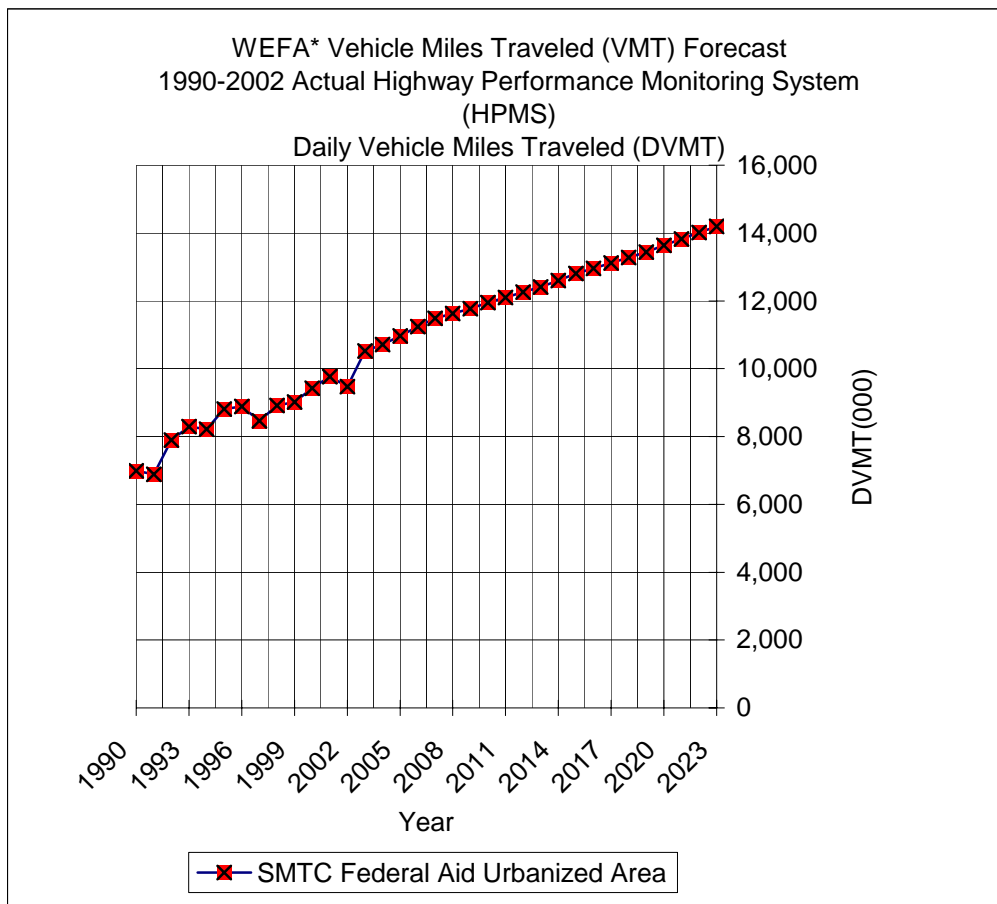
<sup>3</sup> CTPP 2000, Table 1



1990). This results in a higher vehicle per person ratio (i.e., larger number of smaller households with the same number of vehicles per household). This trend could logically lead one to ask – “Does this mean people are driving more?” In short, the answer is yes.

According to the Highway Performance Monitoring System (HPMS) provided by the New York State Department of Transportation (NYSDOT) Planning and Strategy Group, in 2002 the number of Daily Vehicle Miles of Travel (DVMT) in the SMTC Federal Aid Urbanized Area was 9,473,000. This represents a 35.52 percent increase over miles traveled in 1990 when the DVMT was 6,990,000. The following graph (Table 4-2) shows actual HPMS DVMT values for 1990 through 2002 and forecasted travel miles for the years 2003 through 2023. The forecasted DVMT shown in this graph was prepared by the WEFA Group, a forecasting consulting firm, for the NYSDOT in 2001.

**Table 4-2**



Sources: NYSDOT, Planning Strategy Group, 2001 & 2003, WEFA\*, 2001.

\*WEFA: Wharton Econometric Forecasting Association is a forecasting consultant group hired by the NYSDOT.

### *Journey to Work Forty-Year Trends*

As previously stated, the preferred mode of transportation for commuting to work is the single-occupancy automobile. Table 4-3 summarizes the mode of choice for trips to work in Onondaga County from 1960 to 2000. There has been a substantial increase in private vehicle use over this forty-year period, while transit use and walking have declined over time.

**Table 4-3**

<b>Mode of Trip to Work, 1960-2000</b>					
	<b>Private Vehicle/Carpool</b>	<b>Transit</b>	<b>Walked</b>	<b>Bicycled</b>	<b>Home Occupation</b>
1960	70.9%	14.6%	9.9%	NA	3.1%
1970	80.3%	8.5%	7.6%	NA	2.2%
1980	84.4%	6.6%	6.8%	NA	1.4%
1990	87.3%	4.5%	5.1%	.2%	2.4%
2000	90.0%	2.6%	3.9%	.2%	2.8%
Source: U.S. Census Bureau					

An examination of the mode of transportation to work by municipality in Onondaga County yields interesting information (see Table 4-4). For example, the City of Syracuse has by far the largest number of people (4,148) using public transportation to get to work, with the Towns of Camillus, Salina and Clay following with approximately 300 public transportation users each. Rural towns south of Syracuse such as LaFayette, Otisco, Fabius, Pompey, Spafford and Tully show very few people use public transportation to get to work.

In the City of Syracuse, 5,960 people walked to work in 2000. The Towns of Salina, Clay, DeWitt, Camillus and Manlius reported having between 200 and 300 walkers each. The towns with the fewest people walking to work were Spafford and Otisco.

The City of Syracuse, and the Towns of Clay, Manlius, Cicero and Lysander had a large number of people who work at home. Elbridge, Fabius, Otisco, and Spafford had the fewest home workers.

**Table 4-4**  
**Mode of Transportation to Work by Town in Onondaga County, 2000**

<b>Towns in Onondaga County</b>	<b>Drove Alone</b>	<b>Car Pool</b>	<b>Public Transportation</b>	<b>Other Means</b>	<b>Walked</b>	<b>Worked at Home</b>	<b>Total Workers</b>
Camillus	9,769	1,373	376	42	256	276	10,993
Cicero	12,367	1,076	27	47	161	444	14,122
Clay	26,618	2,700	239	214	255	737	30,763
DeWitt	9,321	997	170	102	237	402	11,229
Elbridge	2,386	346	55	20	80	55	2,942
Fabius	803	95	4	3	23	52	980
Geddes	6,564	853	152	39	112	168	7,888
LaFayette	2,184	228	0	9	67	89	2,577
Lysander	8,540	756	43	59	82	383	9,863
Manlius	13,388	993	124	76	230	584	15,395
Marcellus	2,706	255	24	6	161	117	3,269
Onondaga	8,280	758	106	44	67	282	9,537
Otisco	1,019	137	7	5	17	62	1,247
Pompey	2,397	187	0	0	98	263	2,945
Salina	13,891	1,561	243	138	317	345	16,495
Skaneateles	2,843	264	28	24	115	171	3,445
Spafford	708	90	0	3	5	64	870
Tully	1,072	128	3	11	61	96	1,371
Van Buren	5,197	593	67	36	89	163	6,145
City of Syracuse	38,936	8,114	4,148	678	5,960	1,205	59,041

Source: US Census Bureau 2000, SF3 Table P30 and CTPP Table 1-102

#### *Commuting in Onondaga County*

The 2000 commuting data (see Table 4-4) shows that most people commute in single occupant vehicles. Overall, a small percentage of work trips are made via public transportation. However, in certain zones in the urbanized area, transit is utilized more and is regarded as an indispensable mode of travel for many people. In no instance did bicycling reach even one-half of one percent of work trips made. Carpooling remains an alternative for many.

For those who commute to work, the mean travel time, depending on the county, varied from 19 minutes in Onondaga County to 24 minutes in Oswego County, both of which were lower than the statewide travel time of 31 minutes. The data regarding the percentage of the labor force working outside the county of residence clearly demonstrate that Onondaga County is where most of the jobs in the Central New York region are located. Only 5.9 percent of Onondaga County residents work outside Onondaga

County. This is contrasted by much higher percentages in adjacent counties. For example, 28 percent of residents in Cortland County and 49 percent of residents in Madison County travel to a different county to work. These commuting patterns of outlying counties commuting into Onondaga County for work highlight the need for maintaining a well-functioning highway network.



*Commuting in Onondaga County*

As noted previously, there has been a 35.52% increase in vehicle miles traveled (VMT) since 1990. Data from a 1995 New York National Personal Transportation Survey study (which has been verified to be reflective of current trends by the NYSDOT Planning and Strategy Group) shows that the Syracuse Metropolitan Planning Area (MPA) reported 30.28 daily VMT per driver. This number is slightly higher in comparison to Albany (at 26.05 daily VMT per driver), the only other upstate New York MPA of similar population size. As compared to other upstate MPA areas with less than 3 million people, Syracuse MPA's daily VMT is about average.<sup>4</sup>

As shown in the 2000 Census data, the highest numbers of people commuting to work in Onondaga County are traveling to the City of Syracuse (87,779) as well as the Town of DeWitt (37,837) and the Town of Salina (17,337).<sup>5</sup> The number of people commuting to work in a single occupancy vehicle is determined by where jobs are located as well as the density of residential areas and the transit available in those areas. In some cases, an increase in available transit would not be cost effective based on population density. As daily VMT and corresponding trends of an increase in commuting rise, sprawl will continue. For a discussion of sprawl, please see the discussion in the following paragraph and Appendix C. An additional factor in increasing the use of single occupancy vehicles and VMT is low fuel costs. If fuel is affordable (according to market conditions), people are more likely to drive greater distances.<sup>6</sup>

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<sup>4</sup> 1996 New York NPTS: A Comparison Study, Table 6.5 Daily Vehicle Miles Travel Statistics of New York State MPO Drivers by MSA size, page 6-12.

<sup>5</sup> Census 2000: Residence MCD to Workplace MCD/County Flows for New York: 2000

<sup>6</sup> Technology Vs. Land Use: Alternative Strategies To Reduce Auto-related Air Pollution by Chang-Hee Christine Bae, Planning & Markets, 1999-2000.

When presented with an increase in commute times combined with an increase in the movement of residents to the outlying suburbs, one of the main concepts that needs to be addressed is suburban sprawl. The impacts of suburban sprawl greatly affect passenger vehicle transportation. As people move further away from goods, services, and places of work, the use of vehicles and travel time increases. The additional commuting trips increase the burden on the road network. In addition, when sprawl occurs, public transit options become less desirable due to cost and time efficiency factors. Sprawl and development tend to create more of a burden on the passenger vehicle transportation system. The presence and absence of existing infrastructure such as water and sewer systems directly influence development and sprawl. There is now a willingness of residents to move to the outskirts of Onondaga County and to other surrounding counties, where commuting greater distances is acceptable. One of the side effects associated with sprawl is cost. There are additional building and maintenance costs for roads, schools, retail, water and sewer systems, human services, transit services, and abandonment of existing infrastructure, among other things. The reliance of the interstate system is due to sprawl; as more sprawl occurs, more are reliant on the interstate system as this is how people move from one point to another.

The ongoing change in retail and related development also contributes to sprawl. Retail development that is built away from established areas draws housing development, which in turn entices people to move to these outlying areas. As people move to the new area, more retail development follows to fill in the gap of missing needs and services. The creation of additional housing occurs once again because now there is an established area of retail development. A few examples of this concept are found within Onondaga County along the Route 31 corridor in Clay and Cicero, as well as with the new Town Centre at Fayetteville.

As a result of suburban sprawl and its contribution of increased passenger vehicle trips made and longer travel times to work, most funding sources currently available for capital improvements on Onondaga County roadways are utilized for maintaining the current road network. As noted in *Chapter 5: Safety Conditions and Infrastructure Maintenance*, the majority of the funds for the road network are used to maintain the most heavily traveled routes in the county.

*Interstate Congestion-* There are many issues relating to the high rate of single occupancy passenger vehicles in Onondaga County and the surrounding areas. There is an increase in the amount of traffic on the commuter interstates (I-690 and I-481) as well as on the through-route interstates (I-81 and I-90). Local traffic combined with interregional traffic (i.e., truck freight movement and commuters) can create heavier traffic flow, primarily during peak hours, especially on I-81.

*Network-* Overall, there is a lack of options for passenger vehicles to move across the Syracuse MPA from east to west or vice versa. The main east west corridor is I-90 (New York State Thruway). Initial efforts are being made to examine the possibility of using different roads to provide an alternative for traffic moving in these directions across Onondaga County.

*Interstate ITS-* As mentioned in this report, current Intelligent Transportation Systems (ITS) initiatives are aimed at relieving recurring and non-recurring delay caused by passenger vehicle commuting in Onondaga County. Another issue that the ITS program will address is improving passenger vehicle mobility through incident management. Please refer to the ITS section for additional details.

*Parking-* Suburban sprawl has an additional impact on parking. Parking becomes more of an issue when increasing amounts of people are using passenger vehicles as a mode of transportation, and is of critical importance in dense areas that have a lack of parking such as University Hill and Downtown Syracuse. Park and ride and transit options are current ongoing efforts attempting to assist with reducing parking issues associated with an increase in passenger vehicle traffic.

*Air Quality-* Additionally, an increase in passenger vehicle traffic has a direct negative effect on air quality and also is a contradiction to the principals of the state energy plan.

*City-Residential Demolition-* As suburban sprawl continues, a direct result is the de-densification of housing units in the City. For data on demolitions, please see table 3-11. This has significant transportation infrastructure implications, noted below:

- ⌘ The average commute to work in Onondaga County continues to increase.<sup>7</sup>
- ⌘ An increased dependency on vehicles for transportation, as indicated through increases in vehicles per household in Onondaga County to a record average.
- ⌘ With larger travel distances to work, 2000 Census figures show decreases in walking, bicycling and public transit, as well as increases in private vehicle usage for commuting to work.
- ⌘ Providing accessible and cost-effective public transportation becomes more difficult, as residential and job centers are spread out across the County.

## 2. Bicycle and Pedestrian Travel

Census data detailing the modes of travel to work by workers in Onondaga County in 1990 and 2000 are shown in Table 4-5. Additionally, the 2000 Census data are separated to compare City of Syracuse patterns with those of the remaining suburban portions of Onondaga County.

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<sup>7</sup> US Census Bureau, Census of Population and Housing. 1990 and 2000.

Table 4-5

Onondaga County Journey To Work Statistics, 1990-2000					
	Onondaga County			Onondaga Co. - 2000 Census	
	1990 Census	2000 Census	% Change	City	Towns
<b>Workers (Ages 16 and Over)</b>	223,650	211,646	-5.37%	59,041 (28%)	152,605 (72%)
<b>Drove alone</b>	168,206	169,433	0.73%	38,936 (23%)	130,497 (77%)
<b>Carpooled</b>	27,040	20,873	-22.81%	8,114 (39%)	12,759 (61%)
<b>Public Transportation</b>	10,037	5,560	-44.60%	4,148 (75%)	1,412 (25%)
<b>Walked</b>	<b>11,367</b>	<b>8,262</b>	<b>-27.32%</b>	<b>5,960 (72%)</b>	<b>2,302 (28%)</b>
<b>Bicycled</b>	<b>390</b>	<b>487</b>	<b>24.87%</b>	<b>348 (71%)</b>	<b>139 (29%)</b>
<b>Worked at Home</b>	5,295	5,977	12.88%	1,205 (20%)	4,772 (80%)
<b>Motorcycled or Other</b>	1,315	1,054	-19.85%	330 (31%)	724 (69%)

Source: US Census Bureau 2000, SF3 Table P30, CTPP 2000

According to the 2000 United States Census, approximately 8,749 workers over the age of 16 within Onondaga County walk or bicycle to work. Of those who walk or bicycle to work, over 70% live within the City of Syracuse. Since 1990, Onondaga County has seen a decrease in pedestrian travel, potentially attributable to a decrease in city population over the past decade. Other factors such as the condition of pedestrian facilities, perceived safety, and alternative mode choices may also be attributable to the decrease.

Although the percentage of those bicycling to work has shown an increase of nearly 25%, upon further examination of the census numbers for bicycle commuting, the increase may not be statistically significant, as the number of bicycle commuters increased by only 97 people since 1990.

Another important factor in bicycle and pedestrian planning (as well as transit planning) is the accessibility of vehicles. Remaining relatively steady since 1990, the latest 2000 Census indicates that 12.6% of all households in Onondaga County do not have a vehicle, a 3.6% decrease from 1990. It is important that the Metropolitan Planning Organization (MPO) recognize the needs of those without personal motor vehicle transportation. In addition, there are various citizens' groups that are interested in using non-motorized modes of transportation to travel to work.

#### *Typical Pedestrian and Bicycle Trip Lengths*

When planning new bicycle and pedestrian facilities or upgrading or reconstructing existing roadways to accommodate bicyclists and pedestrians, one of the items for transportation planners and engineers to consider is the typical trip length of pedestrians and bicyclists. According to the *Transportation Planning Handbook*, published by the Institute of Transportation Engineers, "bicycle and pedestrian trips are typically characterized by short trip distances: approximately one-quarter mile to one mile for

pedestrian trips and one quarter-mile to three miles for bicycle trips.”<sup>8</sup> In addition, the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* notes that “the pedestrian most likely will not walk over 1 mile to work or over 0.5 mile to catch a bus, and about 80% of the distances traveled by the pedestrian will be less than 0.5 mile.”<sup>9</sup>

With the majority of bicycle and pedestrian trips covering short distances, land use patterns play a critical role in the current and future development and use of bicycle and pedestrian facilities.

#### *Federal Legislation*

Over the past several years, federal legislation and funding for transportation has given increasing consideration to bicycle and pedestrian travel and related infrastructure. Through the 1991 Intermodal Transportation Efficiency Act (ISTEA), new national attention was placed on bicycle and pedestrian provisions and MPOs were mandated to consider bicycling and walking as transportation plans were prepared. The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) of 1998 continued to expand both legislative requirements as well as funding opportunities for pedestrian and bicycle facilities to be used for transportation purposes.

One reason that these non-motorized modes of travel are gaining in stature and importance is their positive effects on air quality. The federal Congestion Mitigation and Air Quality (CMAQ) legislation and Transportation Enhancements (TE) programs administered by the Federal Highway Administration are principal funding avenues for bicycle/pedestrian projects across the country, as a way of encouraging alternatives to private automobile usage for transportation. Successful as many of these projects have been, both of these funding sources have been limited compared to other transportation funding mechanisms and are highly competitive in nature. The Transportation Enhancements program has concluded its last round of project solicitations and, until a successor program is developed within the next transportation reauthorization, is no longer an option for funding projects. It is anticipated that a similar program will be included but specific information is not available at the time of this report.

With the TEA-21 legislation expiring in 2003, the United States Department of Transportation (USDOT) is currently preparing for the reauthorization of surface transportation programs by working with Congress, State and local officials, tribal governments, and other stakeholders to develop its proposals. Discussions to date seek to build upon the successes of ISTEA and TEA-21, including a renewed emphasis on air quality enhancements and multimodal opportunities.

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<sup>8</sup> John D. Edwards, Jr., P.E., Editor, *Transportation Planning Handbook*, 2d ed., Institute of Transportation Engineers, Washington, D.C., 1999, p. 604.

<sup>9</sup> American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, AASHTO, Washington, D.C., 2001, p. 96.



### *Pedestrian/Bikeway Planning*

Both Onondaga County and the City of Syracuse have bikeway plans and projects underway, several of which are funded through the MPO's Transportation Improvement Program (TIP). Several examples are listed below. See Map 8.

- ## Bicycle And Pedestrian Plan – The SMTC is in the process of developing a *Bicycle and Pedestrian Plan for Onondaga County and the City of Syracuse*. The primary goals of this Plan are to preserve and enhance the bicycling and pedestrian network; and to improve the safety, attractiveness, and overall viability of cycling and walking as legitimate transportation alternatives to the transportation system in the Greater Syracuse area.



*Onondaga Lake Trail*

The SMTC has taken the lead role in the sponsorship of this project, and is completing the study in-house, with substantial input from the SMTC member agencies and citizen participants. This study is scheduled to be completed in 2004, and includes the following tasks: (1) evaluating and summarizing existing bicycle and pedestrian plans; (2) data compilation and summary; (3) gathering of existing conditions/creation of a suitability map; (4) identifying known and perceived bicycle and pedestrian issues; and (5) developing recommendations and action items that seek to improve the community's bicycle and pedestrian environment.

- ## Onondaga Lake Trail, also known as the "Loop the Lake Trail" - The Onondaga County Department of Parks and Recreation continues to work on completing the planned bicycle/pedestrian trail around Onondaga Lake. In 2002, the West Shore Trail was opened to the public, representing another leg of the trail planned to encircle the entirety of Onondaga Lake. The County is also currently working with the U.S. Army Corps of Engineers on the design of a proposed trail opportunity along the eastern shoreline of the lake. The trail may be in the form of a causeway or boardwalk constructed well into the lake itself, creating a trail extension that avoids dangerous roadways and railroad corridors, and also providing for the creation of an expanded wetland habitat for plants and animals. The southwest shore trail segment continues to present obstacles due to environmental conditions, proximity of railroad facilities to the shoreline, and litigation over cleanup responsibilities. Funding totaling approximately \$6 million for the trails completion is currently earmarked on the TIP. See Map 8 for the Onondaga Lake Trail, as well as other major exiting and proposed trail routes in Onondaga County.



## Onondaga Creekwalk – This multi-use trail system has been in existence since the early 1990s, with completed portions open in the Franklin Square and Inner Harbor areas in Syracuse’s Lakefront Area. (A temporary connection has been established as well, connecting the two segments until creekside property can be obtained and removed of pollutants.) The Onondaga Creekwalk is intended to be a continuous trail system on the edge of Onondaga Creek, stretching from Onondaga Lake to the southern city limits and beyond. Another TIP funded project (a Creekwalk extension project) is currently under design extending the trail further south to Armory Square, as well as north to the mouth of Onondaga Lake. A feasibility study for another southern extension, from Kirk Park north to Armory Square, is also on the current TIP. Several neighborhood advocacy groups have supported construction of the Creekwalk and are initiating grassroots campaigns to rediscover the Creek and its recreational opportunities.



*Onondaga Creekwalk*

## New York State Erie Canalway Trail - Portions of this planned 350+ mile trail have been completed within Onondaga County that link to the end-to-end statewide Erie Canalway Trail along the Erie Canal Corridor from Buffalo to Albany. This project is ongoing. The Syracuse segment of this trail is considered to be one of the most difficult gaps to complete, primarily due to the fact that the 15-mile segment that will connect Camillus in the west and DeWitt in the east traverses land that is the most urbanized along the entire state route. The proposed route also exhibits widely differing characteristics and features, as it passes over public streets, moderately maintained utility roads, seasonal access roads, multi-use trails, and a waste settling bed. The Onondaga Lake Trail and Onondaga Creekwalk will be incorporated as segments of the Canalway Trail system.

In 2002, New York State announced a \$35 million state funding commitment toward the completion of the entire statewide trail. The Syracuse Area is slated to receive approximately \$3 million towards the effort. Towns and villages along the canal system are attempting to capitalize on the revitalization of the Erie Canalway, and several municipalities such as the Village of Baldwinsville are requesting TIP and other funds for the construction of trail facilities and promenades along the canal. See Map 8 for the proposed routing of the Canalway Trail.

## Centro Bicycle Racks - Beginning in 1997, the Central New York Regional Transportation Authority (CNYRTA or Centro) began retrofitting all of its Centro passenger buses with bicycle racks, in an effort to encourage increased Centro usage combined with bicycling. Today, the vast majority of Centro's fleet is equipped with bike racks attached to the front of their buses, and the SMTC has included informational panels on its *Bicycle Suitability Map* to educate bicyclists in proper usage of the racks.



*Centro Bicycle Racks*

Through various SMTC studies, the SMTC has been made aware of bicycle and pedestrian issues that exist within the MPO area. Commonly, the noting of bicycle and pedestrian issues are required elements of any transportation study. Some of the concerns

regarding bicycle travel that the public has shared with the SMTC include a lack of facilities, disregard for safety and a general lack of awareness of the rules and regulations associated with safe bicycle travel. One of the most often stated comments relayed to the SMTC by the public is the lack of dedicated bicycle lanes and routes with appropriate signage within the MPO area. This and other related issues are being examined comprehensively via the Bicycle and Pedestrian Plan currently underway.

The SMTC has also been made aware of several pedestrian issues such as poor sidewalk conditions, inadequate clearing and maintenance of sidewalks, non-compliance with the Americans with Disabilities Act (ADA), and bus stop related issues such as a limited number of shelters and boarding surfaces. The majority of pedestrian issues relayed to the SMTC consist of a lack of continuity in pedestrian facilities as well as safe places to walk.

Another bicycle and pedestrian travel related issue that has been shared with the MPO is the need for connectivity between the major destinations within the MPO area, such as parks, shopping centers and colleges/universities. The SMTC's Bicycle Suitability Map (recently published and distributed) furthers this perception as it shows that many of the "popular" destinations have less than favorably rated roadways available for access.

Bicycle and pedestrian improvements continue to be made throughout the SMTC planning area. Improvements such as the addition of bicycle and pedestrian amenities (i.e., bike racks) at key locations, the upkeep of sidewalks and roads, the building of new bicycle and pedestrian facilities, and the continued inclusion of bicycle and pedestrian planning in all aspects of SMTC's work will further promote the use of non-motorized transportation in the MPA.

As stated above, the SMTC is currently completing a comprehensive, policy-based Bicycle and Pedestrian Plan. Since that study is currently a work in progress, it would be premature to rely on its issues and recommendations at this time. Upon the completion of the Bicycle

and Pedestrian Plan, the SMTC will have a policy tool that can be utilized by any entity in the MPA to further the cause of bicycle and pedestrian planning activities. The SMTC will utilize the results of this plan in the next iteration of this Long-Range Transportation Plan (LRTP).

### 3. Public Transit

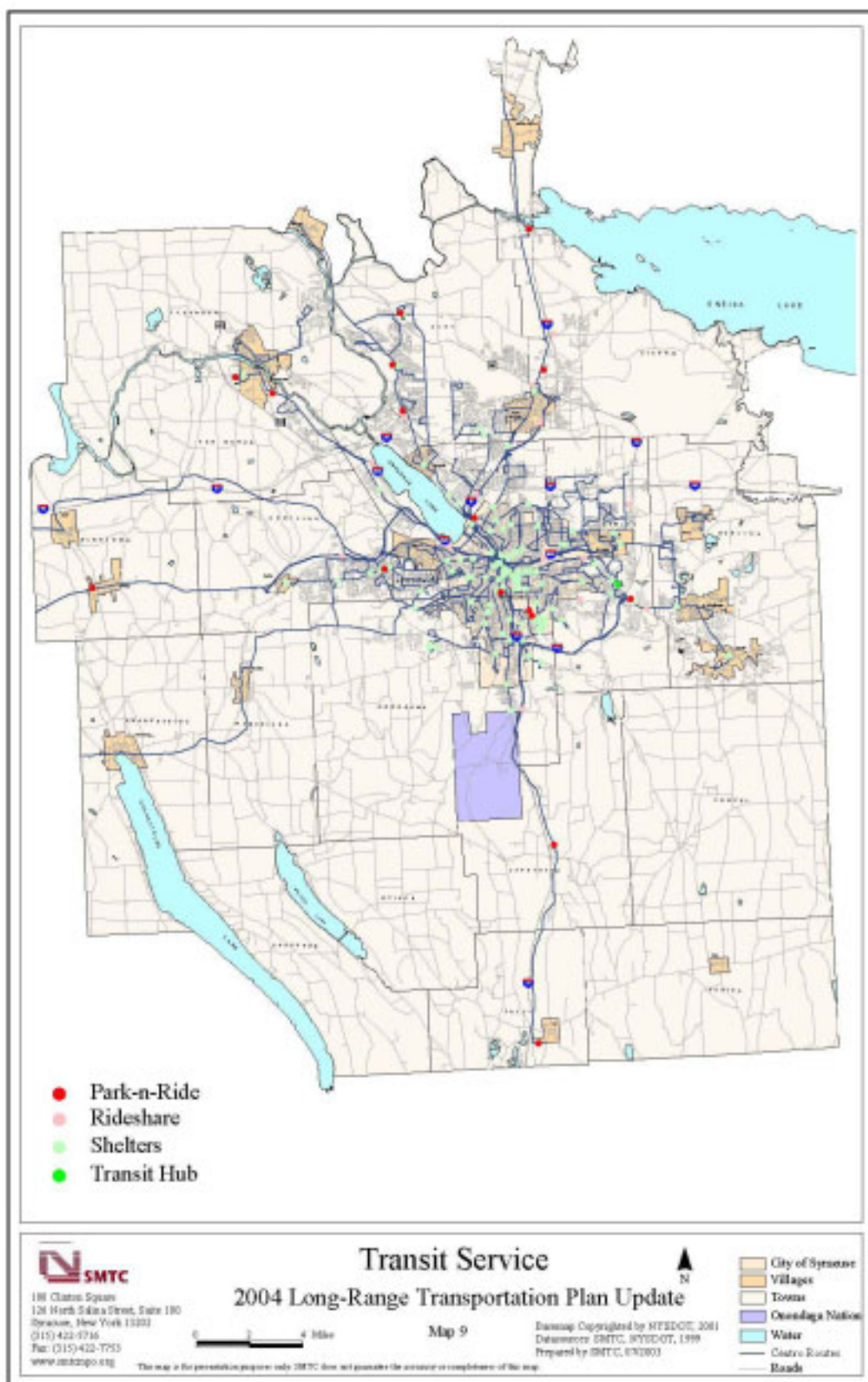
Centro operates the public transportation system in Onondaga, Oswego and Cortland Counties. Centro operates fixed-route public transit systems and demand-responsive paratransit service with a total fleet of 207 buses housed in three garages- one in each county. The CNYRTA has made a commitment to convert as many of its buses as possible to clean fuel technologies and currently includes 114 compressed natural gas (CNG) buses in its Onondaga County fleet. This fleet of CNG buses comprises a significant proportion (86%) of Centro's peak bus hour requirement of 132 buses. Centro plans to purchase five additional clean air diesel/electric hybrid, low floor buses in 2004. In an effort to promote multimodal transportation uses, bicycle racks can be found on the front of most Centro buses. All future bus purchases will include bike racks.

Centro transports 25,000 people per day in Onondaga County on over 100 transit routes with 18,000 to 20,000 riders per day. See Map 9 for transit routes in the MPO area. The majority of Centro's routes meet at the central point of the regional hub-and-spoke system at the intersection of Fayette and Salina Streets in the City of Syracuse. It is at this "Common Center" that nearly two thirds (65%) of the Syracuse metropolitan region's bus riders transfer to other routes. Other routes circulate within suburban areas without traveling into the center of Syracuse. In addition, locations such as regional shopping centers, the William F. Walsh Regional Transportation Center, and other outlying centers of activity serve as convergence points for transit routes.

Centro operates connecting routes between the Cities of Syracuse, Oswego, Fulton and Auburn, as well as city transit services within each of these cities. Within Onondaga County, service frequencies in the rush hours are such that all Common Center bus stops are in continuous and heavy use. In the midday and evening periods and on weekends, up to 16 Centro routes converge simultaneously and "line-up" at Common Center every 35 minutes; four at each nearside corner of the intersection. Suburban routes operate with a seventy-minute level of service (headway) during these time periods.

Centro's routing system in Onondaga County was modified in November 2002 to better serve new markets and changing demographics. The updated Centro routing system provides better service to suburban markets, more "one-seat" rides for significant origin



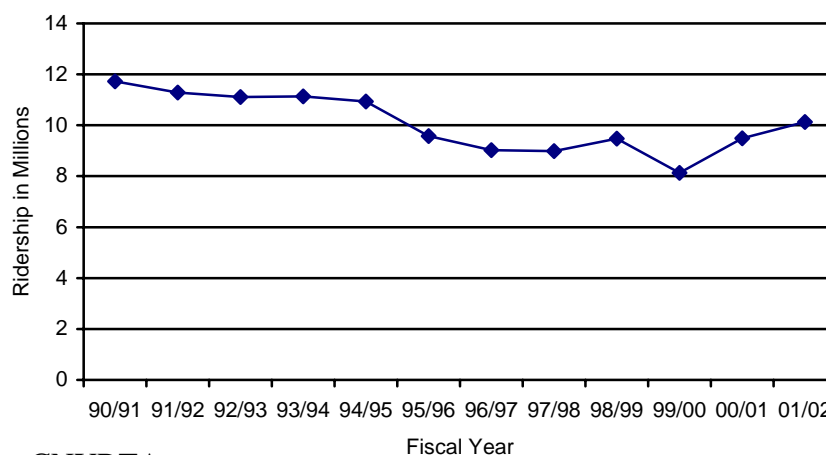


and destination pairings and minimizes the percentage of people needing to transfer. In addition, changes were made to accommodate the growing percentage of elderly patrons by connecting senior living and community centers to likely destinations such as Carousel Center, the William F. Walsh Regional Transportation Center and the many medical facilities on University Hill. Finally, a new, simplified route numbering system has been implemented.

Centro bus stops, bus shelters, park-and-ride and rideshare locations can be found throughout the MPO area (see Map 9). Fares to ride Centro are \$1.00 for travel within one fare zone with a \$.25 charge for crossing into a new zone. Senior citizens and disabled citizens are charged \$.60 for riding on Centro with a \$.10 extension zone charge. Centro bus service operates primarily between 5:00 am and 12:00 am, seven days a week. Children under the age of 6 that are accompanied by an adult are free. The fare for children between the age of six and nine is \$.50.

General ridership numbers for routes within the MPO area are noted in Table 4-6.

**Table 4-6**  
CNYRTA System-Wide Ridership Levels



Source: CNYRTA

The CNYRTA ridership numbers noted in Table 4-6 represent Centro's service within Onondaga County. Ridership is reported by fiscal year and includes paratransit service. Centro's Onondaga County ridership levels decreased between 1990 and 2000. The Census 2000 demographics indicated that the use of public transportation for journey to work trips has decreased by almost 45% between 1990 and 2000. Nevertheless, Centro has reported increases in ridership in the last two years as new services have been implemented.

Centro also operates Call-A-Bus service to provide transportation options to the elderly and disabled who meet the criteria of the ADA. Call-A-Bus uses a fleet of 22 smaller transit vehicles to serve the geographic area and span the hours and days mandated by the ADA. Call-A-Bus service will travel up to three-quarters of a mile to either side of every

Centro regular bus route. Fares to ride Call-A-Bus are \$1.25 within one fare zone, with a \$.50 charge for crossing into a new zone.

In 1998, the CNYRTA opened the William F. Walsh Regional Transportation Center in the City of Syracuse, located adjacent to Interstate Route 81, the Central New York Regional Market, P & C Stadium, and Carousel Center.

For the first time in the Central New York community, this intermodal facility brings together intercity rail, intercity bus lines, local and regional buses and taxi service. The CNYRTA subsequently restructured a number of its bus routes to maximize direct service to the William F. Walsh Regional Transportation Center from points throughout the region, furthering the ease of intermodal passenger travel. From the William F. Walsh Regional Transportation Center, travelers can access Greyhound and Trailways intercity coach service, shuttle bus service to Hancock International Airport, as well as Amtrak intercity passenger rail along the Empire Corridor and ground transportation services. The Empire Corridor serves all the major upstate New York cities such as Albany, Syracuse, Rochester and Buffalo as well as destinations along the Hudson Valley. Centro has experienced an increase of passengers due to the connectivity of the William F. Walsh Regional Transportation Center.



*Centro Bus In  
Onondaga County*

As part of the Regional Mobility Action Plan (ReMap) report completed by Centro in 1999, a Mobility Management Center (MMC) operated by Centro was created to coordinate transportation for people with transit needs (taxi, vans, etc.) that have non-traditional hours and locations, such as rural areas. This program recently provided service to its 25,000th customer. The Mobility Management Center has proven to be successful and effective.

Following is a list of the greatest challenges facing the public and private transit systems within the planning horizon:

- ⌘ As of this writing, Federal legislation is being formulated to renew authorization for transportation expenditures through the Federal Highway Administration and Federal Transit Administration. The new legislation may change the funding formula used to distribute Federal funding for all transportation modes, including transit. The Federal funding allocation to New York State and, therefore, to CNYRTA may be reduced. If so, CNYRTA may face financial limitations for capital acquisitions and equipment maintenance in the future.



- ⌘ While Centro recently updated its routing system to better serve emerging markets, the dispersal of population to less densely developed suburban and exurban areas makes provision of efficient, effective mass transportation a continual challenge. Centro must continually react to changing land use and demographic conditions with a budget that has not grown commensurately over the years.
- ⌘ The transit system must attempt to accommodate the growing percentage of elderly patrons. This presents special challenges for the transit system as senior living and community centers proliferate, often in hard to serve locations. Serving the elderly well also may require acquisition of more expensive equipment, such as low floor buses, voice enunciator systems, etc.
- ⌘ There are operational and market-driven reasons for the location of Common Center at the intersection of Fayette and Salina Streets. In years past, efforts have been made to induce the Authority to move Common Center permanently to an alternate location. While discussions are ongoing, a new site has not been definitively identified. Planning for a new Common Center, capital acquisition, land acquisition, design and construction may take up to five years to accomplish.
- ⌘ Centro is researching hybrid diesel/electric (fuel cell) buses and is considering purchasing such vehicles in the future. Diesel/electric hybrid is a clean fuel technology as is compressed natural gas. While CNG buses will continue to comprise the bulk of the fleet, Centro will seek to diversify its bus fleet. All future buses purchased will be clean fuel, however, such equipment is more costly than diesel technology. If Federal funding is not forthcoming, this program may be jeopardized.
- ⌘ Centro is currently completing several ITS projects; including Automated Vehicle Locator (AVL), Automated Passenger Counter (APC) systems and a modern, more efficient radio communications system. These technologies will enable Centro to complete its mission with greater efficiency. If Federal funding is reduced future ITS projects may be jeopardized.
- ⌘ Centro also intends to enhance security throughout its transit system in response to Homeland Security concerns and in an effort to combat crime. Again, if Federal funding is reduced future security projects may be jeopardized.
- ⌘ Intermodal connectivity will be enhanced when the Ontrack railroad bridge over Park Street is completed. This will allow Ontrack Shuttle and special events trains to access the William F. Walsh Regional Transportation Center.
- ⌘ With the proposed development of the Carousel Center into DestiNY USA, there may be further opportunities for intermodal connectivity and enhancement of regional access to the William F. Walsh Regional Transportation Center, Hancock

International Airport and other major trip generators in the urbanized area of the region.

- ## In order to increase ridership, Centro must compete with the perception that the best mode of travel is via the single occupant passenger car.
- ## Detailed and comprehensive ridership data (by route and stop) should be collected in order to provide accurate transit information for planning studies.
- ## Centro has stated that a more stable funding source is needed for mobility brokerage activities of social services and paratransit services.

#### 4. Water Transportation

The New York State Canal System is operated by the New York State Canal Corporation, a division of the New York State Thruway Authority. The Canal System is open approximately six months of the year, with the exact opening and closing dates subject to change based on (potential) seasonal flooding conditions or other factors.

As was pointed out in the *Central New York Canal Plan* in 1993,<sup>10</sup> the Canal System has been adversely impacted by three major issues: (1) the gaps in the kinds of facilities and services available to canal users; (2) the inconsistencies in the quality of those facilities provided; (3) the unplanned geographic distribution of facilities and services, resulting in distances not within a convenient day's travel for boaters. The Central New York portion of the Canal system is shown in Map 10.

Data does exist on the number of lockings through the area, as reflected in Table 4-7.

Lock E-23 is the busiest lock, and Lock E-24 the second busiest on the entire New York State Canal System. Forecasts for future years are not available.



*Lock 24 in Baldwinsville, NY*

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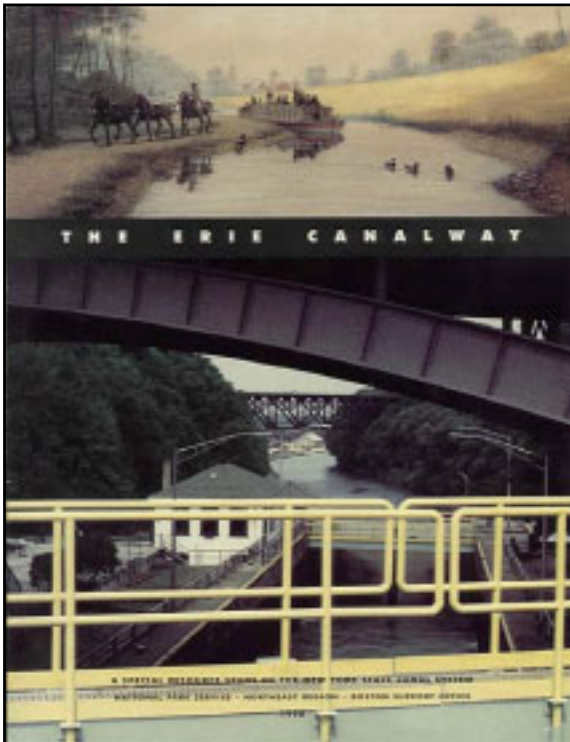
<sup>10</sup> Central New York Regional Planning and Development Board, *Central New York Canal Plan*, 1993.



**Table 4-7**

<b>Number Of Pleasure Craft Passing Through Lockings</b> (LOWERED OR RAISED FROM ONE LEVEL TO ANOTHER)								
Location	1994	1995	1996	1997	1998	1999	2000	2001
Lock E-23 State Canal Park, Town of Clay	7,598	8,924	7,372	7,553	7,469	8,072	6,295	7,115
Lock E-24 Village of Baldwinsville	3,973	4,484	3,426	3,746	3,826	4,171	3,382	4,152
Total NYS Canal System	115,684	126,051	127,699	138,619	141,929	141,965	129,304	135,181
Source: New York State Canal Corporation, <i>New York State Canal System Traffic Reports</i> , 1996 through 2001.								

In order to address these issues and capture the potential economic development benefits associated with increased tourism, the Canal Corporation is working with canal communities along the system to improve facilities and support the efforts of private entrepreneurs to improve the number, quality and spacing of privately sponsored facilities. The federal government has also been a source of financial assistance, through the US Department of Housing and Urban Development's (HUD) *Canal Corridor Initiative* under the previous administration.



In 2002, these efforts were enhanced through federal designation of the Canal System as the Erie Canalway National Heritage Corridor and a Commission of 27 members representing Federal, State and local interests. The Commission has recently begun its activities and is expected to receive Federal funds of approximately \$1 million annually for ten years to preserve the historical significance of the canal, promote tourism to spur economic development and expand recreational use.

With the added marketing support and services provided by the National Heritage Corridor designation, improvements identified in the *Central New York Canal Plan* will likely continue to be implemented, and most likely increase in intensity, through a gradual revitalization process. The public investments and initiatives are also expected to lure greater participation on the part of private investors in expanding the number of and improving the quality of facilities, making the NYS Canal system a viable and accessible means of transportation and recreation.

Although there are gaps in water transportation services and facilities in the MPO area, there is potential for increasing future use of the water features in the area. The major issues and opportunities relating to water transportation in the MPO area that have been identified relate to the canal system and possible future ferry service. The Canal system is being marketed as a tourist attraction, and the development of Inner Harbor on Onondaga Lake could improve as a featured destination for water transportation services. Additionally, the possible implementation of the ferry service across Lake Ontario traveling to destinations in Canada could greatly improve the capacity of water transportation services in the Central New York region.

## 5. Air Passenger Transportation

Hancock International Airport is the only airport providing commercial air passenger service in the SMTC area and the four-county Syracuse Metropolitan Statistical Area (MSA). Hancock International Airport is owned and operated by the City of Syracuse. The facilities are modern and attractive and space is available to expand to meet new opportunities. In addition to commercial passenger service, Hancock provides an extensive air cargo operation, including U.S. Customs inspection service, as well as general aviation services for private pilots and military operations.

There are three Federal Aviation Administration-designated general aviation reliever airports that support Hancock International Airport, one of which is within the SMTC planning area, Michael Airfield. Hancock Airport, the relievers and several other general aviation airports constitute the Central New York portion of the Federal Aviation Administration's *National Plan of Integrated Airport Systems*. The general aviation airports provide alternative sites for privately owned aircraft whose pilots prefer a smaller airport setting. General aviation airports are particularly important to air transportation because of their role in providing private business decision makers and representatives with access to a geographically disbursed array of airfield choices, closer access to destinations and use of private aircraft operating according to the private firm's schedule rather than an airline schedule.

### *Air Passenger Service*

The number of enplaned passengers through an airport typically fluctuates in response to changes in the economy and other local, national and international conditions. The current passenger levels are still recovering from the adverse impacts of the terrorist attacks of September 11, 2001 and the economic downturn that followed, both in Syracuse and nationally.

The full utilization of Hancock International Airport also has been adversely affected by high airfares. This has caused some passenger diversion to other airports and other modes of transportation. The City of Syracuse has succeeded in bringing lower cost airlines to the airport that are now offering more competitive airfares. The City is continuing its efforts to attract more competition in the Syracuse market by expanding the

number of airlines offering lower airfares. Table 4-8 shows the number of enplaned passengers for the years 1998, 2000 and 2002.

**Table 4-8**

Enplaned Passengers at Hancock International Airport		
1998	2000	2002
1,073,752	1,069,123	953,935
Source: City of Syracuse, Department of Aviation; data from the draft <i>Airport Master Plan Update</i> , being prepared by C&S Engineers, Inc.		

### *Forecasts*

Air traffic forecasts for the number of enplaned passengers vary depending upon the source as well as the point in time when a forecast is made. Table 4-9 shows the most recent forecast data available for enplaned passengers for the years 2007, 2012 and 2017 from the draft *Master Plan Update*, currently in preparation.

**Table 4-9**

Forecasts of Enplaned Passengers at Hancock International Airport Proposed Preferred Enplanement Forecasts		
2007	2012	2017
1,070,004	1,242,667	1,442,297
Source: City of Syracuse, Department of Aviation; Table 5 data from the draft <i>Airport Master Plan Update</i> , being prepared by C&S Engineers, Inc., based on the Proposed Preferred Airport Forecast.		

### *Changing Needs and Impacts*

Hancock International Airport, like all airports, continues to be in the midst of changing conditions. From one perspective, the events of September 11, 2001 and the ensuing economic downturn and the war in Iraq have had an adverse impact on the number of airline passengers. Nationwide, major airlines are faced with significant financial problems and possible restructuring as a consequence of these conditions. As the current national economic situation improves, a positive stimulus is being provided for growth in passenger activity at the airport.

From another perspective, the addition of lower-cost carriers entering the Syracuse market is helping to address a long-standing issue of high airfares at Hancock that have caused much complaint locally and a diversion of some travelers to other airports and modes of travel. The new lower airfares have had a positive impact on the ability to attract passengers and the City of Syracuse continues to support the addition of other low-cost carriers.

## 6. Passenger Rail Service

Rail passenger service in the SMTC area is provided through two companies. The National Railroad Passenger Corporation (Amtrak) provides intercity rail passenger service in the Central New York region. The OnTrack shuttle trains operate over trackage operated by the Syracuse, Binghamton & New York Railway, a subsidiary of New York, Susquehanna & Western Railway (NYS&W). The passenger rail system in Onondaga County is shown in Map 11.

### *Amtrak*

Syracuse rail passenger traffic on Amtrak is substantial, traditionally ranking third behind New York City and Albany in ridership. The number of passengers initially increased, with enhanced accessibility provided by the opening of the William F. Walsh Regional Transportation Center in 1998 (see Table 4-10). The William F. Walsh Regional Transportation Center provides improved interconnectivity between bus and rail transportation modes, as well as a greater presence for Amtrak in the Syracuse Metropolitan Area. With the decrease in travel following the disaster of September 11, 2001 and the addition of discount airline services, patronage has declined during the last three years. Amtrak is examining additional marketing and service restructuring.



**Table 4-10**

<b>Total Arriving and Departing Rail Passengers William F. Walsh Regional Transportation Center 1980-2001</b>						
<b>1980</b>	<b>1990</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
120,547	118,147	125,459	132,173	127,589	108,650	107,434

Source: Amtrak

As a result of Onondaga County's efforts, a Task Force of County Legislative Chairs from across Upstate New York was formed in 1997 to address the issue of incremental implementation of High Speed Rail in New York State and the enhancement of rail freight service to the region.

The Task Force has been instrumental in working to make changes in local taxation of rail properties. For example, with only 17% of its tracks in New York State, CSXT (railroad) paid approximately 50% of its system-wide tax burden to New York State jurisdictions. Legislation supported by the Task Force and signed by the Governor in



February 2003 lowered the ceiling for municipal taxation of railroads and exempted certain capital improvements for a specified period, thereby reducing the costs of rail operations and shipping and making New York State more competitive. The legislation also has a provision for reimbursing the municipalities during a transition period.



*OnTrack Car*

#### *OnTrack*

The Syracuse, Binghamton & New York Railway began operation of OnTrack in 1994 with a recreational rail shuttle service. The service connects Carousel Center to Syracuse University with a stop at Armory Square in the Syracuse Central Business District. During the summer months, service occasionally continues on to Jamesville. A future extension is planned that will provide an additional stop at the

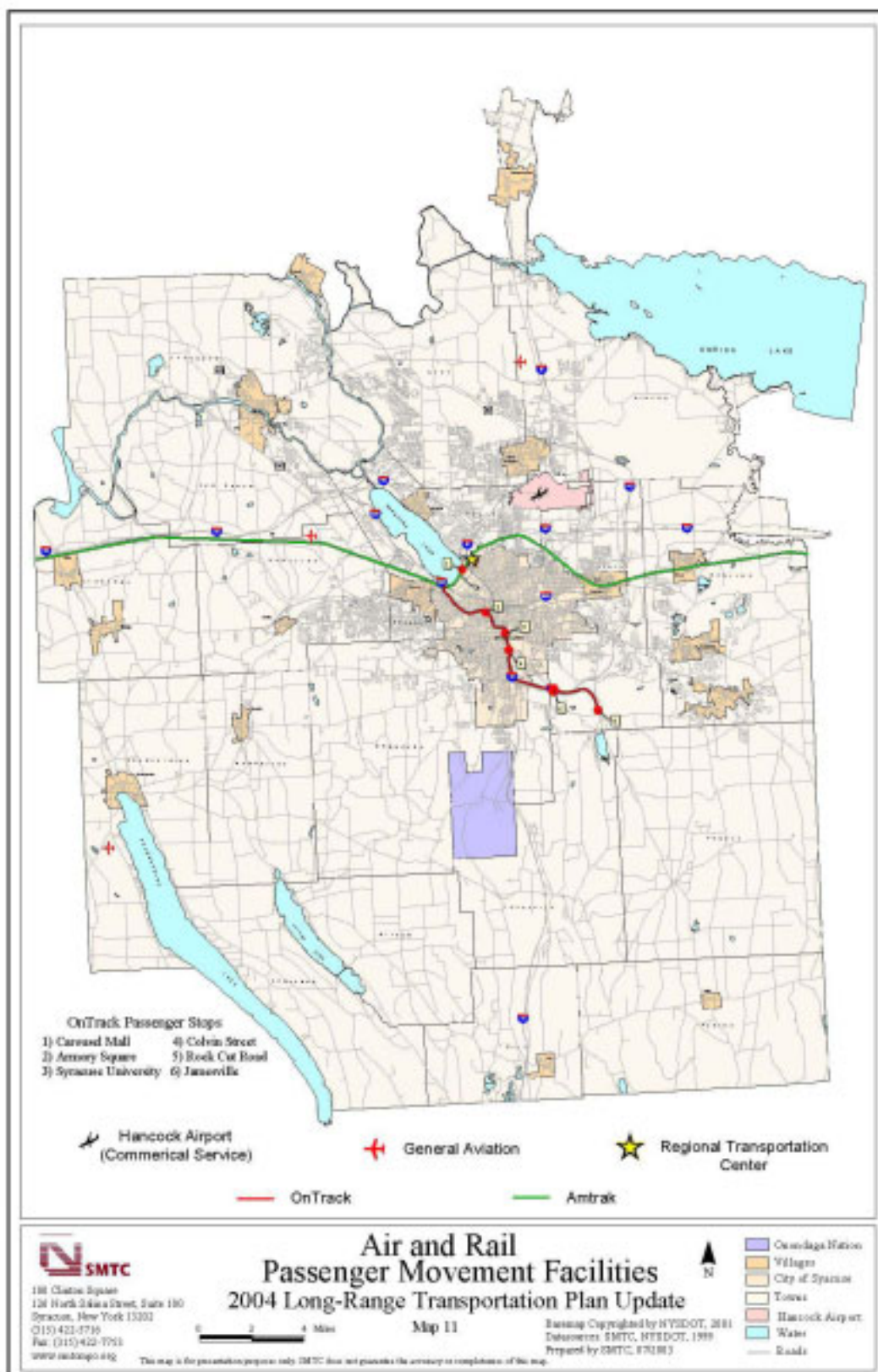
William F. Walsh Regional Transportation Center. This future stop will provide passenger service to the adjacent P&C Stadium and Regional Market. Service is currently limited to eight trains in each direction, Wednesdays through Sundays with limited times throughout the day.

#### *Changing Needs and Impacts*

A number of initiatives being considered have the potential for improving passenger rail service in Central New York. The State of New York is currently assessing the feasibility of high-speed rail service across Upstate. If this service is implemented, changes will be required in the configuration of the William F. Walsh Regional Transportation Center to accommodate high-speed trains and the resulting increase in the number of rail passengers.

The proposed Carousel Center expansion to become DestiNY USA may include the construction of a fixed rail service, potentially connecting the Syracuse Hancock International Airport with the William F. Walsh Regional Transportation Center, DestiNY USA, various Downtown locations and the University Hill area. At this writing,





no decision has been made on whether to construct a fixed rail service but, if this occurs, there is presumably a potential for replacing the OnTrack service currently provided since the possible route and service points at this juncture would appear to overlap.

In the Central New York region, there is a need for improved service for passenger rail transportation. In the future, both OnTrack and Amtrak rail services may be in greater demand and should operate with greater consistency. An expansion of these services beyond the current capacity could improve viable transportation options. In addition, the possibility of studying high-speed rail service to be built for enhanced connectivity on a regional basis exists and is being examined throughout the State.

## 7. Freight Movement (Air, Highway, Rail and Water)

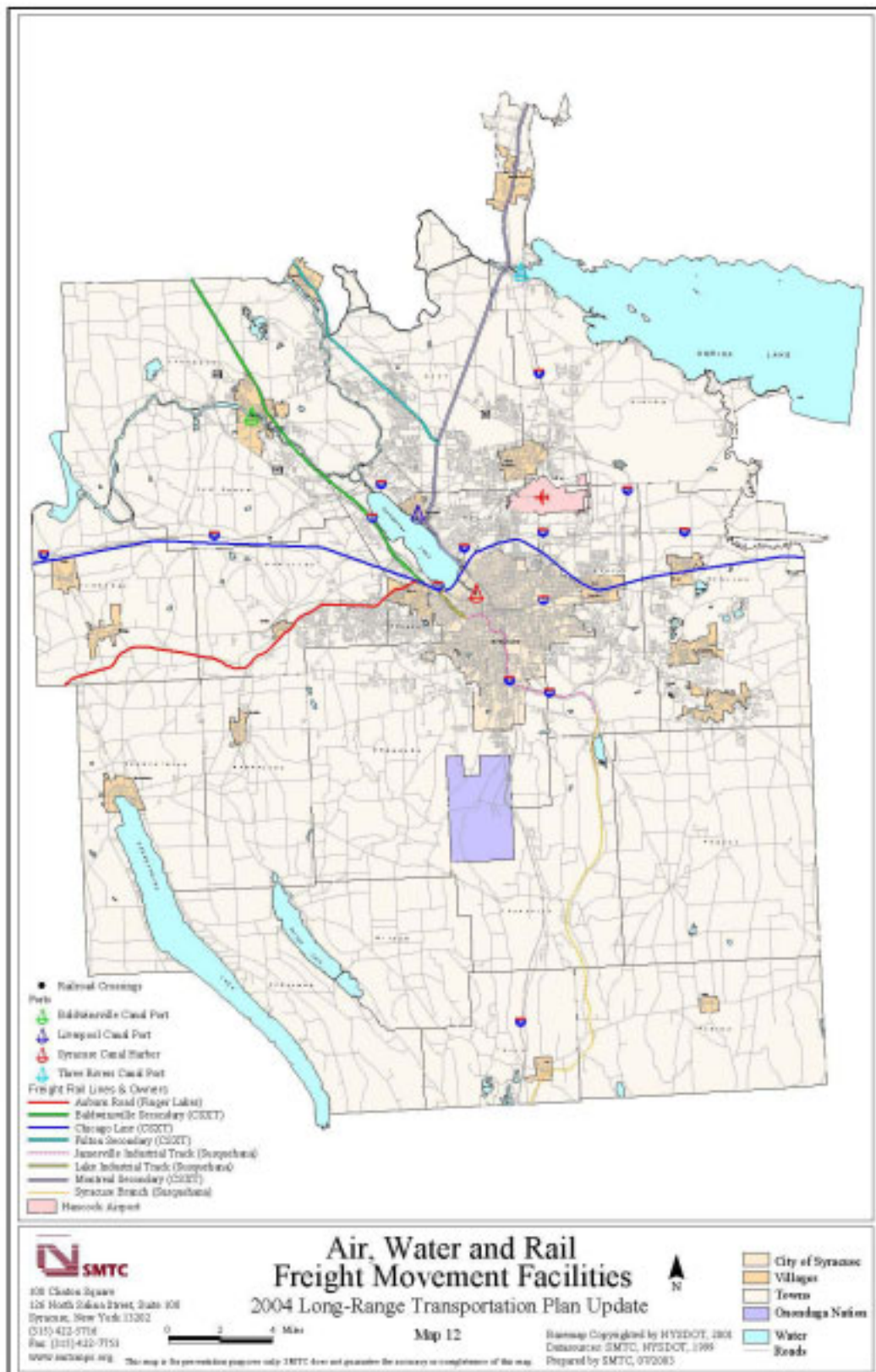
Among the attractions to doing business in Onondaga County and the Central New York region is the crossroads location of the County for air, highway, rail and water transportation and the variety of freight movement services available. Air cargo service is available at Syracuse Hancock International Airport, which is directly linked to Interstate 81. U.S. Customs inspection services are also available at Hancock Field. Two interstate highways intersect at Syracuse, the New York State Thruway (Interstate 90) and Interstate 81, providing excellent truck access to the SMTC planning area. Rail freight services in Onondaga County are available from three providers. Water transportation is available on the New York State Canal System. Each mode is discussed in greater detail below and the major freight movement modes/routes are shown on Map 12.

### *Air Cargo*

*Hancock International Airport.* Hancock International Airport is owned and operated by the City of Syracuse and is the only commercial service airport in the SMTC planning area and Central New York region. Hancock has extensive air cargo operations, including U.S. Customs inspection service. The airport in recent years has undergone a substantial expansion in the capacity to handle air cargo. A highly successful effort has been made by the private sector and the City of Syracuse to expand and modernize air cargo facilities and services. Examples of freight carriers at Hancock include, but are not limited to, Airborne, Business Air, Emery, Federal Express and UPS. Over the past three decades, the tonnage of air cargo has increased from 5,000 in 1967 to over 13,832 in 2002.<sup>11</sup>

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<sup>11</sup> The 1967 data is from the Central New York Regional Planning and Development Board, *Central New York Regional Aviation System Plan*, 1996. The 2002 data is from the City of Syracuse Department of *Aviation Activity Reports*, October 17, 2003.





*Air Cargo at Hancock Airport*

Of major importance to the area business community is the fact that Hancock Airport has the land area capability for substantially expanding ground facilities that will accommodate the growth of air cargo operations to meet future needs. Other New York State airports are reportedly constrained in this respect. In addition, the capability for expanding runway and taxiway facilities serves not only air passenger growth but air cargo carriers as well, offering greater capacity and flexibility to meet changing circumstances.

*General Aviation Airports.* There are currently no air freight services available at general aviation airports within the SMTC area or the larger Syracuse MSA. Some of the general aviation airports in Central New York do have the capability in terms of land and runway capacity to provide these services, should a firm be interested in such an opportunity.

#### *Highway Freight*

Most products utilized by industry or sold in retail outlets at some point move by truck. Air, rail and water intermodal shipments have a trucking aspect at both ends of their trip. In Central New York, a majority of freight shipments move directly by truck from origin to destination. With trucks playing an important role in freight transportation, almost 75% of motor carrier revenues come from long-distance trucking, and the remainder from local trucking. Most truckload freight travels less than 500 miles. Truckloads traveling over 500 miles are more economical if shipped via rail intermodal service. The local and regional nature of trucking was highlighted in the 1993 and 1997 U.S. Department of Transportation Commodity Flow Survey, which found that 30% of the value and 55% of the tonnage moves between locations that are less than 50 miles apart. The SMTC area has a system of Qualifying Highways (national network) and Access Highways designated for use by Special Dimension Vehicles in New York State. Although this network, shown on Map 4 (Functional Classification) is the primary network for truck movements, trucks with trailers measuring 48 feet or less in length are allowed on any roadway not otherwise restricted by local laws or regulations. The Syracuse Metropolitan Area, with Syracuse located at the interchange of the two major truck routes

of Interstates 81 and 90 (New York State Thruway), is also home to many regional distribution centers serving the Northeast and eastern Canada, as well as major intermodal connectors to rail and freight networks.

### *Rail Freight*

A substantial change over the last several years has benefited the area and strengthened the rail transportation industry. Mergers have created rail mega-carriers (such as Union Pacific/Southern Pacific and Burlington Northern/Santa Fe). There has also been a growth of the regional and shortline railroads as links and feeders to the larger carriers, making the railroad business in the United States a growing industry. In the Central New York region, there is one major (Class 1) carrier, CSX Transportation; one regional carrier, New York, Susquehanna & Western Railway; and one shortline railroad, Finger Lakes Railway.

CSXT Transportation- CSXT Transportation (CSXT) replaced Conrail as the major rail freight service provider in 1999 and operates the Chicago Main line that links Central New York with New York City, New England and the Midwest. The company also operates the Baldwinsville, Fulton and Montreal Secondary lines to the north of Syracuse, with the Montreal Secondary being the gateway to Montreal and Canada. CSXT has experienced a three-percent increase in local traffic annually over the last several years and currently handles about 600 carloads of local traffic weekly. Another significant segment of CSXT business is the rail/truck intermodal freight terminal located in the DeWitt rail yard. CSXT handles approximately 50,000 containers annually at the DeWitt facility and this number has grown significantly as former Conrail routes are integrated into the CSXT Service Lanes. CSX Intermodal is currently examining the expansion of the facility to accommodate growth of this market segment. The DeWitt yard is a major intermodal facility serving the Northeast and is the only terminal of its type between New York City and Buffalo.

New York, Susquehanna & Western Railway (NYS&W)- The NYS&W is a regional railroad company serving New York and New Jersey. In the Central New York Region, the railroad operates two lines: the Syracuse to Binghamton, and the Utica to Binghamton. In Syracuse, the NYS&W interchanges with CSXT and in Binghamton with the Norfolk Southern Railway and the Canadian Pacific Railway. The Utica traffic is interchanged at Syracuse via Binghamton. The NYS&W has recently been transformed into a carload carrier as automobile shipments have shifted to other routes via other railroads. The NYS&W has expanded its traffic base in Cortland County and in the Southern Tier. Much of the traffic base is in New Jersey on the railroad's southern branches.

Finger Lakes Railway- The Finger Lakes Railway, operating the shortline between Solway and Geneva, has produced significant results since taking ownership of the former Conrail Geneva Cluster (including the Auburn Branch). The Finger Lakes Railway has been able to stop the decline of rail traffic in its service area and has increased its business nearly 300 percent. Carloads have increased from 5,600 in 1995 to 14,347 in



2002 with an anticipated 15,000 for 2003. Each carload is a business choice made by a shipper in the region to most effectively and economically move their product. Each rail carload is the equivalent of four tractor-trailers resulting in the current years traffic on the Finger Lakes Railway keeping approximately 60,000 tractor-trailers off the regional highway network. There are positive air quality and highway maintenance impacts from this and other rail freight operations. Further examination of this aspect is included in the Freight Rail Bottom Line Report issued by the American Association of State Highway and Transportation Officials (ASSHTO) in 1993. In addition, the rail operation has had a positive impact on job creation and retention in Central New York. Finger Lakes Railway has increased from five employees in 1995 to thirty one currently. It has also indirectly created or secured 1,037 jobs in the manufacturing sector. The Finger Lakes Railway customers see benefits due to the interchange rights with two Class 1 railroads (CSXT and Norfolk Southern (NS)) instead of one. Interchange with CSXT occurs in Solvay and Lyons, while interchange with the NS occurs in Geneva.

### *Water Freight*

Many are unaware that goods are still shipped using the New York State Canal System, with seasonal cargo movement across the State, linking the Port of New York, Port of Albany, Port of Oswego, Port of Rochester and Port of Buffalo, and connecting throughout the Great Lakes and beyond. Clearly, the tonnage shipped is not at levels rivaling tonnage levels of past decades and most cargo activity has been replaced by recreational boating as well as commercial passenger service.

The State Canal Corporation, together with private entrepreneurs, have been implementing a statewide revitalization program pursuant to seven regional canal plans and the *New York State Canal Recreationway Plan*. The SMTC area (Onondaga County) is included in the *Central New York Canal Plan*, which covers the entire Syracuse MSA of Cayuga, Madison, Onondaga and Oswego Counties.<sup>12</sup> The Syracuse MSA accounts for approximately 19% of the entire State Canal System, with all or parts of the Cayuga-Seneca Canal, Erie Canal and Oswego Canal.



*Port of Oswego*

While the readily available published data is not complete, it appears that the tonnage carried between 1995 and 1999 varied greatly, between 14,000 and 39,000 tons annually.<sup>13</sup> The tonnage carried on the entire canal system has decreased significantly in

<sup>12</sup> Central New York Regional Planning and Development Board, *Central New York Canal Plan*, 1993.

<sup>13</sup> New York State Canal Corporation, *Traffic Report*, 1999, p.7.

recent years. The most recent data available shows that in 2003 the total tonnage was 8,711.<sup>14</sup>

Commercial passenger vessel traffic is also increasing. For example, tour ships sailing from Rhode Island traverse the Hudson River to the Erie Canal and proceed north on the Oswego Canal to Montreal and then south along the Atlantic Coast, returning to Rhode Island. As with the shipment of goods, the data is too incomplete to provide a statistical overview.

### *Changing Needs and Impacts on Freight Movement*

The dual forces of the tragedy of September 11, 2001, and the worsening economy have adversely impacted all modes of transportation. The impact is not confined to the transportation sector but all modes are sensitive to maintenance issues when a shortfall in public funding occurs for routine maintenance and major repairs. Postponed maintenance generally makes infrastructure maintenance more costly over the long run. Beyond maintenance and repairs, all modes in the Central New York region are in need of funds for infrastructure modernization to improve the intermodal movement of goods and to capture new opportunities for growth.

In order to improve economic and regional growth in Central New York, the cost of freight movement needs to be lowered, better facilities should be made available (especially for truck freight), and the current system should be used to its full potential. The excess air, water, rail and road capacity leads to potential opportunities for expansion in all types of freight movement.

## **B. Emerging Initiatives**

### **1. Onondaga County 2010 Development Guide / Onondaga County Settlement Plan**

#### *2010 Development Guide for Onondaga County*

In 1998, the Syracuse-Onondaga County Planning Agency presented an update to its *2010 Development Guide For Onondaga County*. The *2010 Plan's* vision, goals and policies are intended to guide future individual government decisions on land use, transportation and infrastructure development, utilizing balanced goals that include economic growth, creating an attractive community, encouraging diversity and choice, and enhanced fiscal strength.

In furthering those goals, Onondaga County's *Policies for Investment and Land Use*, as defined in the 2010 Plan, call for investment in existing communities, preservation of existing infrastructure and transportation assets, sustainable urban and suburban settlement patterns, and protection of the rural economy, agricultural land, and access to natural resources. The 2010 Plan encourages the public and private sector to make

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<sup>14</sup> New York State Canal Corporation data.

funding, permitting, and planning decisions utilizing these guiding principles, and to be cognizant of individual projects' effects on the quality of life of all residents.

The following *Land Use Vision* map (Map 13) graphically summarizes the goals, strategies and policies outlined in the 2010 Plan, with a Land Use Vision identifying areas designated for both protection or expansion, areas for industry versus neighborhoods, and areas for dense development or open spaces. Established corridors are already largely in place to provide mobility within the county, connect centers of activity and help define the urban and rural landscape between communities.

The Land Use Vision does not replace planning by the City, towns and villages, but encompasses local plans within a countywide vision, and encourages coordinated implementation of programs and projects.

Growth is encouraged in areas currently served by infrastructure, especially transportation infrastructure. According to the Plan, premature extension of linear infrastructure creates a surplus of urban land that devalues public and private investments in existing communities and developments that have not been completed. Surplus urban land leads directly to the abandonment of the oldest community centers and neighborhoods and permanently destroys access to farmland and natural resources. City and suburban demographics analyzed in previous sections of this report illustrate these trends over the past several decades.

One action identified by the 2010 Plan that is necessary to facilitate the concepts identified in the plan is the modification of land use regulations within the respective city, towns and villages to allow for and encourage a renewed emphasis on mixed-use neighborhoods, higher-density developments, and preservation of open space. Existing zoning regulations tend to encourage strict separation of land uses, thus resulting in dependence on the automobile and de-densification of urban areas.

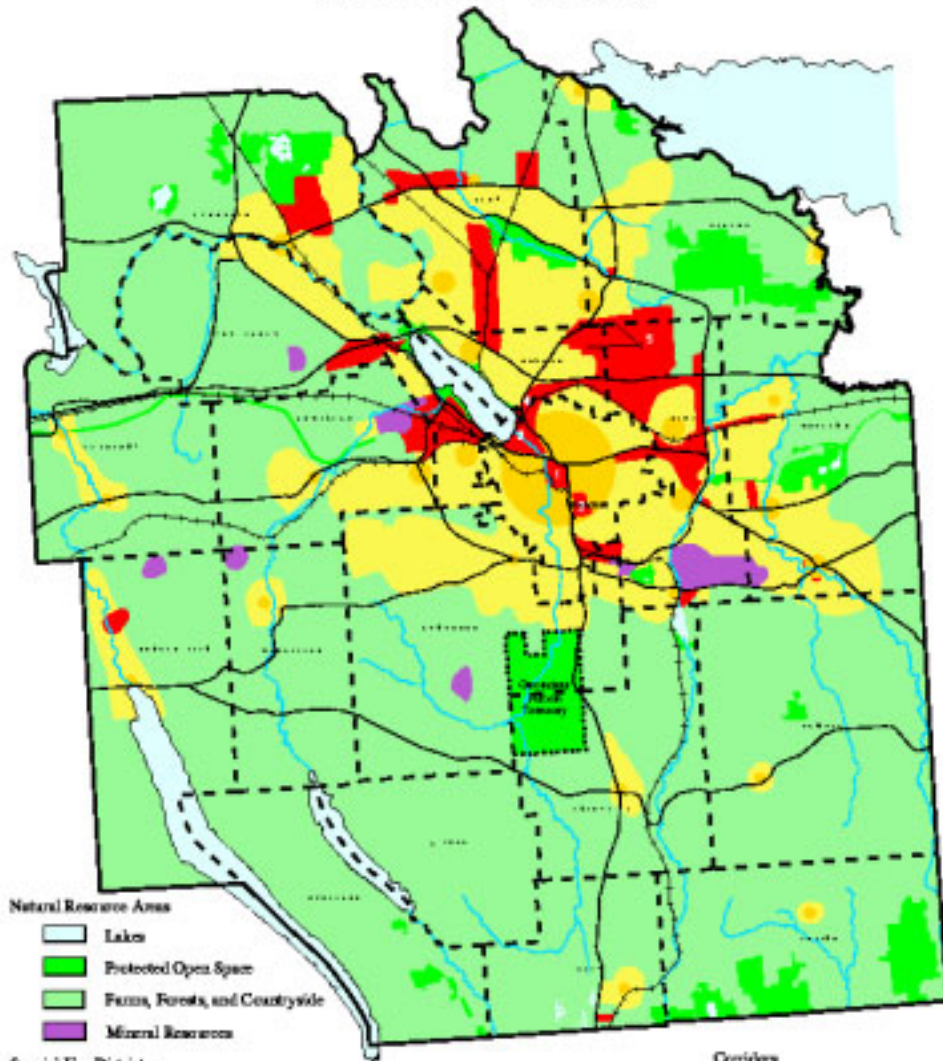
### *Onondaga County Settlement Plan*

To facilitate this change, the Syracuse-Onondaga County Planning Agency enlisted the services of the firm Duany Plater-Zyberk & Associates (DPZ) in 1999 to prepare the *Onondaga County Settlement Plan*. Andres Duany of the DPZ firm is known to many in urban planning as one of the founders of the *New Urbanism* movement in planning, which celebrates traditional neighborhood development patterns from a century ago for its efficiency of land use, transportation opportunities, social interaction and mix of incomes.

The Settlement Plan for Onondaga County was designed to present a comprehensive “toolbox” of strategies to encourage the traditional neighborhood development patterns outlined by New Urbanism, as an alternative to conventional zoning and suburban development patterns which many deem an inefficient use of land and a burden on transportation facilities. The DPZ firm completed the Settlement Plan in four parts:



# Land Use Vision



## Natural Resource Areas

- Lakes
- Protected Open Space
- Farms, Forests, and Countryside
- Mineral Resources

## Special Use Districts

- 1. Downtown
- 2. University Hill
- 3. Lakefront
- 4. Stadium/Market/Transportation Center
- 5. Airport
- Industrial and Commercial Districts

- Neighborhoods
- Community Centers

## Corridors

- Major Highways
- Streams
- Railroads

Onondaga County  
2010 Development Guide  
Syracuse-Onondaga County Planning Agency



- €# Transect Based Zoning: The “Transect”, as coined by the DPZ firm, describes a style of zoning – not by use alone as in conventional zoning, but on the scaling, configuration and mass of buildings within its environment. The seven general Transect zoning districts range from gradations of rural to urban. Within each transect zone, a specific set of building specifications are detailed to foster desired patterns of growth, such as preservation of rural landscapes, or a dense, walkable urban center, and gradients in between. A model Transect Code was presented for Onondaga County’s towns and villages to utilize in changing their municipal zoning regulations.
- €# Traditional Neighborhood Design (TND) Guidelines: The TND Guidelines take the “transect” zoning to the next level of detail, providing a more descriptive illustration of TND concepts, as they relate to more fine-grained development specifications such as landscaping, architectural details, streetscaping, and parking lot design.
- €# Regional Plan/Transportation Policies: One of the most important concepts of the New Urbanism design philosophy is the creation of dense neighborhood centers that foster alternative transportation modes, such as walking or mass transit. The Settlement Plan presents a set of recommended municipal policies that would foster these concepts, especially creating walkable neighborhoods. Proposed policies include the restriction of high-speed roadways through neighborhoods, provision of intermodal opportunities in neighborhood centers, avoidance of cul-de-sacs to avoid overburdening collector roadways, and maximum block perimeters for increased walkability.
- €# Pilot Studies: To illustrate the concepts of the Settlement Plan and encourage usage of the new regulations, the study identified several “Pilot” study areas, where different elements of the plan were hypothetically put into action. For example, the largely abandoned Fayetteville Mall site was turned into a mixed-use village center, incorporating several design concepts to encourage transit usage, walkability and neighborhood scale facilities.

## 2. Environmental Justice

In recent years, the concept of Environmental Justice has become a very important aspect of transportation planning. The USDOT, which governs the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), has mandated that Environmental Justice be included in all aspects of transportation planning. The value of such an analysis is important to transportation planning operations in that agencies and related contractors who receive federal funding are required to comply with various relevant regulations set forth by the USDOT. This concept focuses on the equal and fair treatment of all persons, particularly racial or ethnic minorities and low-income populations. In addition, it is unlawful to disproportionately distribute the benefits or

disadvantages of transportation planning amongst disparate areas of minority/income group concentration.

There are three fundamental principles at the core of Environmental Justice planning:

- ≠# To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- ≠# To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- ≠# To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.<sup>15</sup>

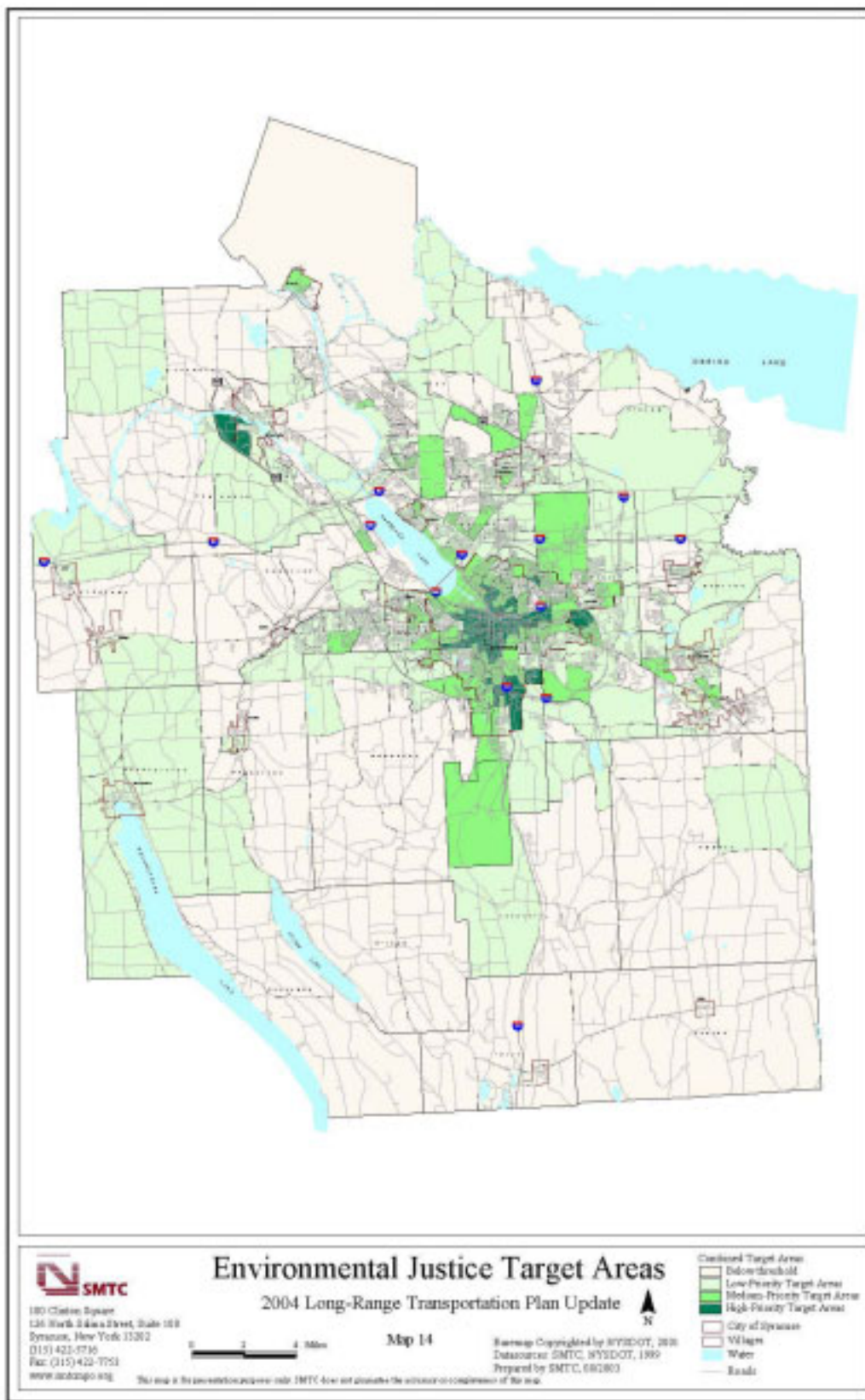
### *Changing Needs and Impacts*

To date, the SMTC has prepared a study to evaluate recent and future transportation planning projects/programs within the MPO area. Through the utilization of Census 2000 data, the *Environmental Justice Analysis* was specifically developed for identifying transportation planning projects/programs in relation to Block Groups within the MPO area. The goal of this analysis was to ensure that both the positive and negative impacts (construction/rehabilitation related improvements, maintenance of the existing infrastructure, congestion) of transportation planning conducted by the SMTC and its member agencies are fairly distributed amongst all socioeconomic populations. Based upon the primary assessment, the Environmental Justice study showed that the transportation planning activities performed by the SMTC are not known to have been disproportionately distributed regarding the designated target populations. Future environmental justice initiatives will be incorporated into each planning study that the SMTC completes.

Future year reports will involve periodic assessments of the planning activities and their relevant implications, and participation from stakeholders throughout the MPO area. The following map (Map 14) represents consolidated target areas for environmental justice activities within the SMTC study area. It includes concentrations of minority, low income and elderly populations.

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<sup>15</sup> Transportation & Environmental Justice Case Studies. U.S. Department of Transportation Federal Highway Administration, Federal Transit Administration. December 2000. Pg ii.



As of this 2004 Update, the most significant issue relating to Environmental Justice is defining the target geographic areas and populations to understand their transportation needs. Subsequent actions include strategies for improving the accessibility and distribution of goods and services at neighborhood levels through land use and development patterns.

### 3. Transportation Needs for Senior Citizens

At the suggestion of the FHWA in furthering environmental justice initiatives, and recognizing a growing elderly population (as discussed in previous chapters), the LRTP 2004 Update represents the first time that the SMTC has devoted specific attention to senior citizen transportation needs. In preparing the LRTP 2004 Update, discussions were held with the Onondaga County Department of Aging and Youth, which provided the SMTC with much of the data contained in this section.

According to information currently available, there are at least 167 facilities (not including traveling services for seniors such as meal delivery) that meet a variety of human needs at specific locations within Onondaga County.<sup>16</sup> These facilities are shown on Map 15 and are listed in Appendix G. Eleven types of facilities are available in Onondaga County as identified below; some locations have more than one type of facility on site.

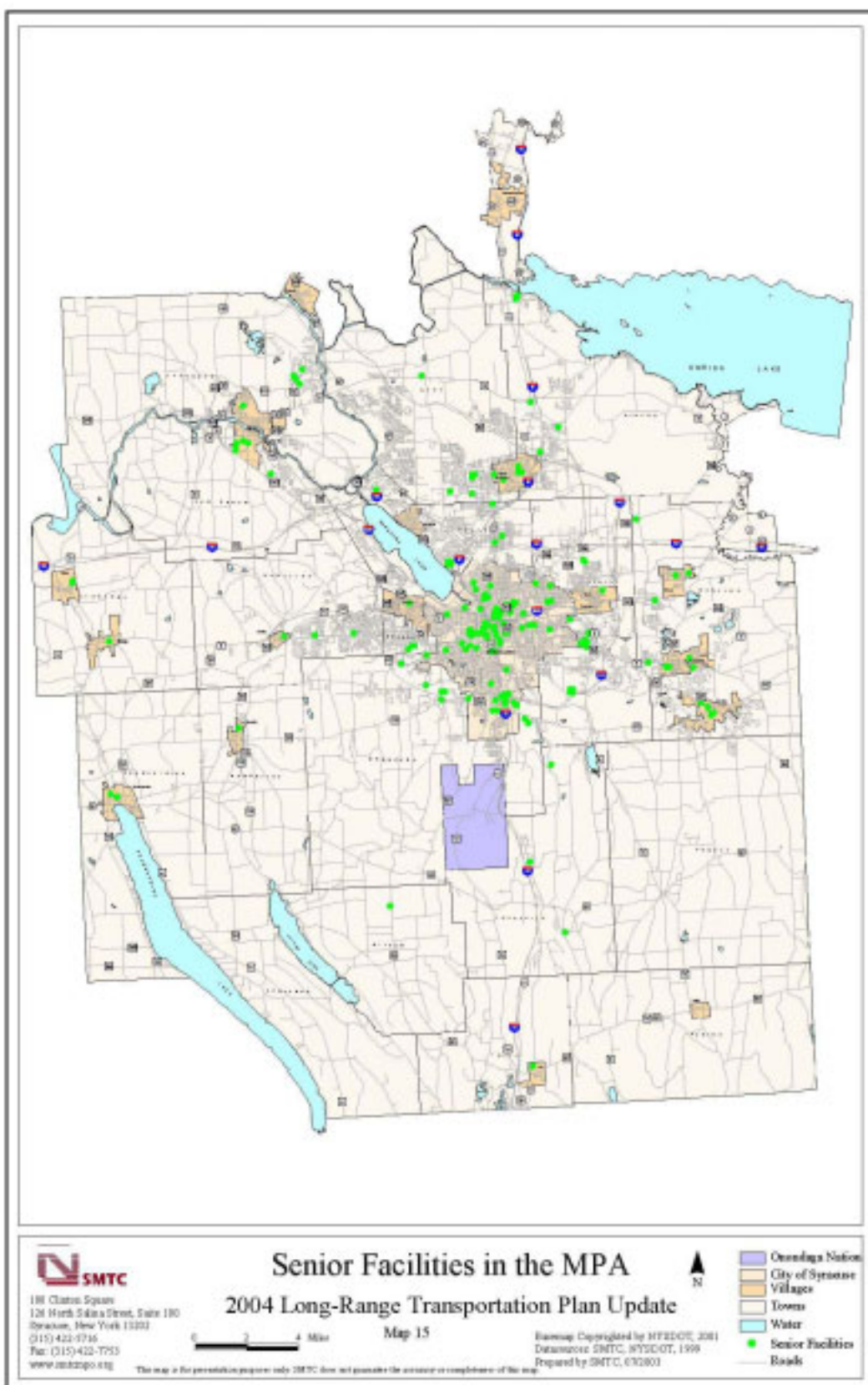
- ## 3 Adult Family-Type Homes (single family homes in which the owner provides services).
- ## 11 Adult Homes (for adults of all ages).
- ## 6 Assisted Living Programs (personal and health care services provided).
- ## 8 Enriched Housing complexes (long-term care with all services provided).
- ## 85 Independent Living complexes (apartments).
- ## 1 Independent Living Services facility (an alternative to nursing home care).
- ## 8 Medical Model Adult Day Care Centers (medical and social/recreational daytime care).
- ## 13 Nursing Homes (skilled nursing and chronic custodial care).
- ## 10 Retirement Communities (apartments and town homes).
- ## 18 Senior Centers (social, recreational, health and human services support).
- ## 4 Social Model Adult Day Care Centers (social and recreational daytime care).

There are also many other types of services available for seniors that are not included in the previous list of facilities.

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<sup>16</sup> Onondaga County Department of Aging & Youth, *Resources for Seniors in Onondaga County*, 2000.





The Office for the Aging indicates that they are aware of various difficulties in trying to meet the transportation needs of senior citizens. A major issue for many of their clients is the lack of access to desired destinations using Centro's public transit buses or Centro's Call-A-Bus, the latter providing more individual curb-to-curb service. The Office for the Aging indicated that some of these accessibility issues are due to individual decisions by seniors regarding their place of residence. While some people may express frustration with the fact that public transit buses do not meet their needs, there is not always a recognition that living in a relatively isolated location that is removed from the public transit network is a self-created hardship.

Even for those living near the Centro transit bus network, accessibility can be a problem as a result of a lack of mobility due to physical limitations. In that environment, the client needs to rely on non-Centro based community transportation services, family and/or acquaintances; these alternatives may not always offer the exact type of support desired. According to recent Office for the Aging information, at least 21 transportation services providing access to general or specific destinations are available (see Appendix G).<sup>17</sup> The list does not include church or other local services that may be available.

In addition to the transportation needs of seniors traveling from senior facilities to various destinations, it is possible that a need exists by those employed at the senior facilities for traveling to the workplace, particularly in view of the fact that many of these jobs are in the lower wage scale. A few examples of senior facilities that are currently serviced by Centro include Brighton Towers, Bernardine Apartments, Iroquois Nursing Home, Loretto Geriatric Center, Onondaga Senior Apartments, Conifer Village, St. Mary's Apartments, Limestone Gardens, Redfield Village, Bennett Manor, James Square Apartments, Colonial Village, St. Camillus Health & Rehab, Bishop Ludden Apartments, Toomey Abbott Towers, Menorah Park, Van Duyn Hospital, and Villa Scalabrini. Some employees may not have access to an automobile and need to rely on public transit to reach the work site, or utilize a carpool arrangement if feasible. However, at this juncture, no information is readily available to the SMTC on what these needs may be. A key opportunity for future study is the coordinated communication between representatives of non-drivers (Office of the Aging, Department of Social Services, etc.) for the future transportation needs of the elderly population.

The nation is undergoing demographic changes, resulting in a larger aging population (including the aging baby boomer generation). This change is substantial in Onondaga County because of the dual factors of the aging population as well as a declining total population. Over a single generation, the number of those 65 and older in Onondaga County has more than doubled. In 1970, the total Onondaga County population was 472,835, of which 26,632 were 65 and over, or 5.6% of the population. By 2000, the Onondaga County population had declined to 458,336 and the number of those 65 and over had grown to 63,294, or 13.8% of the population.<sup>18</sup> These data suggest that Onondaga County is facing conflicting changing conditions. While the portion of County resources available for non-mandated programs (Federal and State) is declining, due

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<sup>17</sup> Onondaga County Department of Aging & Youth, *Resources for Seniors In Onondaga County*, 2000, p. 47.

<sup>18</sup> U.S. Bureau of the Census, 1970 and 2000.

primarily to mandated Medicaid programs, the number of people who are becoming eligible for Medicaid assistance, and the resulting cost is growing. Consequently, resources available for meeting other needs, such as non-Medicaid support for senior citizens, are shrinking.

Transportation needs for senior citizens vary as age increases. For example, seniors in the 65-85 age group have different mobility requirements than seniors that are over age 85. Potential transportation needs for senior citizens that may increase in future years include walkable neighborhoods with a variety of goods and services nearby, transit and paratransit options, and visual improvements to the transportation system such as larger signs, wider pavement markings and more handicapped parking. The current land use pattern and transportation system options may not address the needs of the growing population of senior citizens.

The LRTP 2004 Update is only beginning to examine the transportation needs of senior citizens and those employed at senior facilities. It is anticipated that more work will be undertaken in conjunction with the complete revision to the LRTP in future years.

#### 4. Intelligent Transportation Systems (ITS)

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. The United States Department of Transportation has been advancing the development and deployment of ITS through various programs.

The NYSDOT in conjunction with the SMTC and its member agencies developed a strategic plan for deployment of ITS for the Syracuse Metropolitan Area (principally Onondaga County). In addition to providing recommendations for the NYSDOT, the study also included recommendations for the City of Syracuse Department of Public Works, the Onondaga County Department of Transportation (OCDOT), the New York State Thruway Authority (NYSTA) and the CNYRTA. The study was primarily concerned with traditional traffic flow; hence a detailed analysis of emergency service provider's overall ITS needs were not part of this study. A comprehensive section of the plan listed all available technology related equipment that can improve performance in responding to transportation incidents without being specific.

The study's regional ITS architecture framework also included recommendations, intended to be advisory, for key regional transportation agencies in the spirit of developing integrated ITS in the region. Please refer to the complete study for reference; this LRTP update includes only select excerpts and summarizations.

The ITS study created three key components: Technical Memorandum # 1 - ITS Concept Plan; Technical Memorandum # 2 - ITS Regional Architecture; and Technical Memorandum # 3 - ITS Implementation Plan.



### *ITS Opportunities in the Region*

Onondaga County, with an area of approximately 800 square miles, contains the fourth largest upstate city (Syracuse) in New York. Onondaga County and the City of Syracuse occupy a central position within the local, regional, and national transportation system. The region's roadways, public transportation, rail, and airport provide outstanding access to services and employment. In Onondaga County, two major interstates (Interstate 81, which provides connections to the north and south and the New York State Thruway - Interstate 90, which provides access to the east and west) meet in Onondaga County and provide access to all of the Northeast and Canada. In addition, I-690 runs through the City connecting the east to the west. There are approximately 3,100 miles of roadway and almost 500 bridges in Onondaga County. However, in some cases, connections among these facilities, and between these facilities and the local road network, is limited. There are some gaps in the transportation system, and some facilities have reached capacity. Implementation or expansion of ITS strategies/elements can improve the overall safety and mobility of Onondaga County as well as the entire region.

### *ITS Stakeholder Coalition*

In order to build consensus to deploy ITS in an integrated manner, major ITS stakeholders in the region were identified and coalitions among them forged through monthly meetings, workshops and seminars. The core group of the stakeholders which met monthly for the duration of the project included representatives from the NYSDOT, the NYSTA, the SMTC, the City of Syracuse Department of Public Works, the OCDOT, the CNYRTA, the New York State Police (NYSP), the City of Syracuse Police, the Onondaga County Sheriff's Office, the City of Syracuse Fire Department, and the Onondaga County Department of Emergency Communications 911 Center.

### *ITS Vision & Goals*

The vision for the ITS strategic plan for the Syracuse Metropolitan Area depicts the future regional transportation system in a 20-year horizon. The ITS goals have been developed in view of the deficiencies identified in the region's existing transportation system as well as the long-term vision of the future regional transportation system. The process of identification of vision, goals, and of selection and prioritization of the appropriate ITS service options involved the participation of a wide array of ITS stakeholders. A series of seminars/meetings/workshops were held to develop a consensus and understanding of the ITS goals and service needs for the area. Provided in Table 4-11 are the various stakeholders and their groupings under the two networks identified in the plan.

**Table 4-11**

*Schematic Representation of Regional Data Exchange Networks*



### *ITS Implementation Plan*

The final product of this ITS study is an overall ITS implementation plan in the form of proposed individual projects to be deployed over a period of time. The implementation plan provides recommendations for the NYSDOT Region 3, the City of Syracuse Department of Public Works, NYSTA, OCDOT, and CNYRTA. The Table 4-12 provides a summary of costs for some of the recommended projects in the strategic plan.

**Table 4-12**  
**Summary of Recommended Project Costs**

Agency	Deployment Time Frame	Number of Projects	Capital Costs	Annual Operations and Maintenance costs
<b>NYSDOT Region 3</b>	Early Action	3	\$2.2 M	Included in short term
	Short Term	14	\$ 11 M	\$1.1 M
	Mid Term	9	\$16.2 M	\$1.8 M
	Long Term	8	\$9.3 M	\$2.2 M
	<b>TOTAL</b>	<b>34</b>	<b>\$38.7 M</b>	
<b>City of Syracuse DPW</b>	Short Term	11	\$ 8.7 M	\$0.66 M
	Mid Term	9	\$6.9 M	\$1.1 M
	Long Term	4	\$10.2 M	\$1.5 M
	<b>TOTAL</b>	<b>24</b>	<b>\$25.8 M</b>	
<b>Onondaga County DOT</b>	Short Term	10	\$5.6 M	\$0.53 M
	Mid Term	8	\$3.5 M	\$0.85 M
	Long Term	3	\$0.97 M	\$1.1 M
	<b>TOTAL</b>	<b>21</b>	<b>\$10.1 M</b>	
<b>New York State Thruway</b>	Early Action	3	\$1.6 M	Included in short term
	Short Term	3	\$ 1.35 M	\$0.31 M
	Mid Term	3	\$1.9 M	\$0.63 M
	Long Term	2	\$0.79 M	\$0.67 M
	<b>TOTAL</b>	<b>11</b>	<b>\$5.6 M</b>	
<b>Central NY Regional Transportation Authority</b>	Short Term	12	\$5.4 M	\$0.7 M
	Mid Term	11	\$7.7 M	\$1.2 M
	Long Term	9	\$5 M	\$1.4 M
	<b>TOTAL</b>	<b>32</b>	<b>\$18.1 M</b>	

Source: ITS Strategic Plan Executive Summary

#### *Recommended Interagency Projects*

The National ITS Architecture provides a common framework for planning, defining, and integrating intelligent transportation systems among agencies. This common framework represents the starting point for more detailed regional and/or project architectures in which local characteristics are more appropriately addressed (see [http://www.nawgits.com/fhwa/itsarch\\_v5highlights.html](http://www.nawgits.com/fhwa/itsarch_v5highlights.html) for a detailed explanation of the ITS Architecture).

This has been the basis for the recommendations made and ITS projects defined in this study. The first and most important step in provision of integration and sharing of information is to build an electronic communication network among the agencies where regional construction activities, incidents and special events can be shared across boundaries. This Regional Information Sharing Network, also known as the Syracuse Metropolitan Area Regional Transportation Network (SMARTNET), has been defined as the first early action project upon which to build the basis of all future integration and information sharing needs. It is recommended to use the available ITS standards for

future ease of integration and compliance with the National Architecture. By using the approved ITS standards, all current and future local systems can translate their data into the same format via various data interfaces using the SMARTNET system. Even though this is considered an interagency project, the NYSDOT has assumed the Champion role and has acquired the needed funds and will lead this effort on behalf of the region.

SMARTNET will be a multimodal, multi-agency system. The architecture of the SMARTNET system should provide for future integration with ITS systems as well as dissemination of real-time information among agencies. As such, the next phase of the SMARTNET project will provide integration with the I-81 Freeway Management System in such a manner that real time traffic conditions can be collected along the I-81 corridor. This integration will take place via a Data Interface (DI) and will provide real time traffic condition on the State facilities to other agencies. Upon further expansion of the NYSDOT Region 3 freeway coverage (i.e., I-690, I-481, etc.) the DI will share additional traffic conditions with the appropriate agencies.

It is also recommended that the NYSTA, the City of Syracuse, the CNYRTA and Onondaga County will provide similar DIs from their existing and future systems to the SMARTNET for the benefit of all other agencies.

The existing and future planned expansion of the NYSDOT weather monitoring system will provide the region with a wealth of weather information. The study recommends the integration and sharing of this weather information via the METCON system.

Various information from the CNYRTA will also be integrated into this system. It is recommended to integrate SMARTNET and the future transit trips itinerary system to provide travelers with a single point of access to the regional information.

The study also recommends deployment of the Syracuse Regional Emergency Network (SYREN) under the 911 Center's authority. This network will upgrade the existing network and will provide additional functionalities such as the E911 system, upgraded Geographic Information Systems (GIS), AVL, etc. A direct data interface is recommended between SYREN and SMARTNET to assure timely and real-time share of information.

The National ITS Architecture emphasizes, to the extent possible, sharing of each others' resources. NYSDOT is about to deploy ITS along the I-81 freeway within the Syracuse Metropolitan area. There will be a minimum of eight cameras at the major interchanges. The City of Syracuse can benefit from video feeds from these cameras to enhance its operations. Both the NYSP and City of Syracuse Police can use the real-time video feeds to better manage traffic conditions and incidents along the roadways. The 911 Center can take advantage of real time information to better dispatch the needed resources to an incident scene. The study also recommends future expansion of the SMARTNET system to provide interagency video sharing ability across all facilities.

The development of a regional 911 system is another recommended interagency project that will take advantage of the SMARTNET system to provide travelers with unified, seamless transportation information. It is also recommended to share the Centro's AVL infrastructure with City of Syracuse, Onondaga County and NYSDOT agencies to provide the AVL functionalities to each agency's fleets.

The CNYRTA has funds on the TIP to deploy two kiosks. It is recommended to use this opportunity to integrate with SMARTNET and provide multi-agency, multimodal information to the users. Each agency can either develop or enhance their web sites and provide individual transportation information. It is recommended to use the SMARTNET database for a regional transportation website to provide comprehensive information to travelers. The study recommends co-location of Transportation Management Centers to the extent possible to assure proper and needed integration of information and resources as well as to minimize the cost of remote connections/integrations within agencies.

The NYSDOT, the City of Syracuse Department of Public Works and County Department of Transportation do not believe there is a need for coordination of interagency traffic signal systems at this time, however, the study does recommend further discussion on this issue. In particular, there are NYSDOT signals at the bottom of off ramps from major interchanges that need to be integrated with the existing City signal system.

The study recommends as a short-term project, the creation of an incident management group that includes all emergency service providers and transportation facility operators that will be responsible for the development of a regional incident management plan. This plan will be comprehensive, multi-agency and multimodal.

The study also recommends the continuation of ITS coordination activities as well as for revisions of the ITS Strategic Plan on a regular basis (every three to five years). This could take the form of a "Syracuse Regional ITS Policy Committee" or other formal (or informal) body that meets periodically to discuss issues and problems, and to plan for maintenance and continued upgrade of the region's ITS. To assist in this effort, the SMTC sets aside some of its annual planning funds to facilitate this continued collaborative effort.

For comprehensive information relating to the ITS Strategic Plan please refer to either the "Syracuse Metropolitan Area Intelligent Transportation Systems Strategic Plan" or the complete Executive Summary.

## 5. Homeland Security

Since September 11, 2001, security has affected all levels of government in a substantial manner. Transportation is no exception. Most of the issues related to security and transportation are outside of the purview of the MPO. The MPO can, however, act as a conduit to facilitate interagency cooperation to that end. The NYSDOT has begun development of a transportation security plan. Also, Centro is in the process of implementing greater security. Future editions of the LRTP will articulate the content of these plans where appropriate.

## C. Emerging Projects

### 1. University Hill Area

The University Hill area is one of the most intensive areas in terms of land use and transportation in the SMTC study area. Due to complex transportation issues in the University Hill area, a comprehensive transportation study known as the “University Hill Comprehensive Transportation Study” has been initiated.



*University Hill Area*

#### *Changing Needs and Impacts*

In the past decade, the University Hill area has seen an extraordinary change in land use resulting from the proximity of numerous hospitals, universities, and affiliated medical/research facilities. This has changed the dynamics of transportation in the area. The intensive land use generates a significant amount of vehicular traffic and an increasing demand for parking. Also, the type and density of land use encourages a substantial amount of bicycle and pedestrian traffic creating numerous conflict points between these modes of transportation and vehicles.

The goal of the study is to develop a set of recommendations (policy and infrastructure) that address the wide range of transportation and land use issues in the University Hill study area. The study consists of three parts: the data collection and analysis, the identification of issues, and the presentation of alternative solutions and recommendations.



*Bicycles on the Syracuse University Campus*

Due to the existing intensive land use in a limited geographic area, a comprehensive transportation study that includes parking, general vehicular access, bicycle and pedestrian access, and an examination of existing transit services and possible transit

alternatives is necessary. This study will also address parking issues such as enforcement, regulations, and residential and employee parking. There is also a need to look at non-automobile alternatives and improvements such as additional park and ride shuttle systems and other mass transit options. This study will also include of a cursory review of innovative transit options, specifically innovative Passenger Rail options.

The existing conditions portion of the University Hill Comprehensive Transportation Study has been completed, and the issues portion is currently underway. A summary of the alternatives and recommendations will be included in the next LRTP update.

For purposes of the study, the University Hill area is generally bounded by I-81 to the west, I-690 to the north, East Colvin Street to the south, and Westmoreland Avenue.

The primary goals of the University Hill Comprehensive Transportation Study are:

## **Land Use-** To develop land use and transportation recommendations that support growth and redevelopment of the land.

## **Access-** To develop recommendations to provide safe access *to and from* the University Hill study area from the north, south, east, and west for the long term. Also, to develop recommendations to seek to improve circulation *within* the University Hill study area.

## **Public Involvement-** To create and maintain on-going communication between the consultant, SMTc, and the Study Advisory Committee (SAC). Also, to ensure public awareness of the project and continued participation throughout the planning and decision making process.

## **Multimodal Transportation-** To develop recommendations for a multimodal transportation system that seeks to improve the mobility and safety of individuals traveling to, from and within the University Hill study area as well as encourage use of alternative modes of transportation.

## **Parking-** To develop recommendations to address existing and future parking needs of institutions, businesses and residents located in the University Hill study area.



*Marshall Street, University Hill*



## 2. Lakefront Development District



Over the past 15 years, the City of Syracuse and several public and private partners have been working to redevelop a long vacant and underutilized area in the northern part of the city. Sometimes referred to as *Oil City* due to the large concentration of oil storage facilities and industrial businesses, the area is undergoing a continued transformation into what is now known as the *Syracuse Lake-*

*front*. Included in the 800-acre district are the Franklin Square district, the existing Carousel Center (regional shopping mall), and the Syracuse Inner Harbor.

In 1999, the City of Syracuse endorsed the Syracuse Lakefront Master Plan, which identified over \$500 million in new investment opportunities and a vision for mixed-use development and recreational growth and redevelopment activity within the Lakefront Area. In 2003, the City adopted an updated Master Plan, which again encouraged urban scale mixed-use development and included updated redevelopment projects underway to date. New zoning regulations are currently being written for the area to reflect the New Urbanism concepts presented in the Onondaga County Settlement Plan, especially to reflect a vibrant, mixed-use, and accessible urban district, fitting with the context of neighboring areas in the city.

Some of the more significant redevelopment projects underway and proposed for the Lakefront Development area include the development of DestiNY USA, the continued redevelopment of abandoned manufacturing facilities into new mixed-use housing and offices in Franklin Square and the significant redevelopment of an underutilized canal port on the Barge Canal system at the southern end of Onondaga Lake. Similar to revitalization efforts across the entire Erie Canalway, the Syracuse Inner Harbor is being renovated into a recreational and



*Amphitheater at the Inner Harbor*

tourism facility, inclusive of a public promenade, marina, amphitheater, mixed-use waterfront development, housing, and recreational amenities.



### *Carousel Center Expansion / DestiNY USA*

Undoubtedly the most significant development project in the Syracuse Lakefront is the DestiNY USA Initiative (formerly referred to as the Carousel Center Expansion). This initiative proposes a major expansion of the regional shopping center at the base of Onondaga Lake into an international resort destination.

Originally constructed as a catalyst for continued redevelopment of the Syracuse Lakefront, the developer has presented plans to transform the Carousel Center into a major shopping and entertainment destination through a large expansion of its facility, mainly to the south on former oil terminal land condemned by the Syracuse Industrial Development Agency in the 1990s. In 1998, the Pyramid Companies, owners of the facility, presented an environmental impact statement detailing construction of an expansion adding up to 3.25 million square feet to the existing 1.75 million square foot mall. A Payment in Lieu of Tax Agreement (PILOT) between the Pyramid Companies and the City of Syracuse was signed in 2000 to facilitate the project.



Since that time, however, the Pyramid Companies has unveiled a new look, a new scale, and a new focus to its mall expansion that includes plans to redevelop much of the surrounding lands in the area. Though changes to the originally adopted environmental impact statements have not yet been formally presented to the City of Syracuse, the DestiNY USA project has been presented in public forums. The most recent proposed DestiNY USA plan includes the creation of a world-class golf resort, thousands of hotel rooms, a water park and aquarium, restaurants, shops, entertainment venues and much more.

The DestiNY USA proposed development encompasses much of the 800-acre Syracuse Lakefront area, as well as subsequent related projects in nearby towns. In addition, the developer has advanced plans for the creation of what has been dubbed PARP, or "Petroleum Addiction Rehabilitation Park." PARP, to be created on lands outside the Syracuse Lakefront District, would be a center for revolutionary research and production of renewable energy technologies aimed at reducing consumption of fossil fuels. DestiNY USA is touted to become the largest "green" building in the world.

### *Lakefront Planning Study*

In order to facilitate the redevelopment of the lakefront area for large-scale tourism uses such as DestiNY USA, the City of Syracuse recently approved a Tourism Zoning District over much of the Lakefront area and a small portion of the city's north side. The optional overlay sets design and other standards outside traditional zoning to regulate development projects over 30 acres, to ensure compliance with area goals and compatibility with adjacent land uses.

No matter what scale of development accompanies the growth from the expansion to the Carousel Center and surrounding Lakefront properties, major transportation impacts are anticipated. In an effort to understand the transportation needs and opportunities associated with the development and the implications of the full buildout of the Syracuse Lakefront Area, in 2002 the City of Syracuse commenced the Lakefront Transportation Planning Study, funded through the federal Transportation/Community Systems Preservation Pilot Program (TCSPP). According to the Phase I report, the goal of the project is to “analyze the existing transportation network in the Lakefront Development area and identify the needed improvements to accommodate alternative modes and users.”



*Syracuse Lakefront Area*

The study has been divided into two distinct phases. The Phase I document represents a conceptual analysis of the existing and future transportation issues that can be expected over a 20-year planning horizon based on the anticipated development in the Syracuse Lakefront and general development in Onondaga County. Phase II is a more detailed analysis of the corridor level issues identified in the first phase.

Work completed to date on the study identifies a wide variety of system constraints and a variety of potential multimodal solutions. The SMTC has participated in the study on its Advisory Committee and has provided information and technical assistance to the planning effort. The SMTC realizes the large impact that a full buildout of the Lakefront Area may have on the transportation system on a local as well as regional level and continues to play an active role in transportation planning for this dynamic area.

## Chapter V: Safety Conditions and Infrastructure Maintenance

Highway and bridge infrastructure are significant aspects of the transportation system in Onondaga County. The safety of the traveling public is of great importance, and it has improved during the past decades. Maintaining the current infrastructure is an important long-range transportation goal of the Syracuse Metropolitan Transportation Council (SMTC) Metropolitan Planning Organization (MPO) area, and the majority of financial resources are allocated to the maintenance of the existing highways and bridges.

### A. Safety

#### 1. Vehicle Accident Analysis

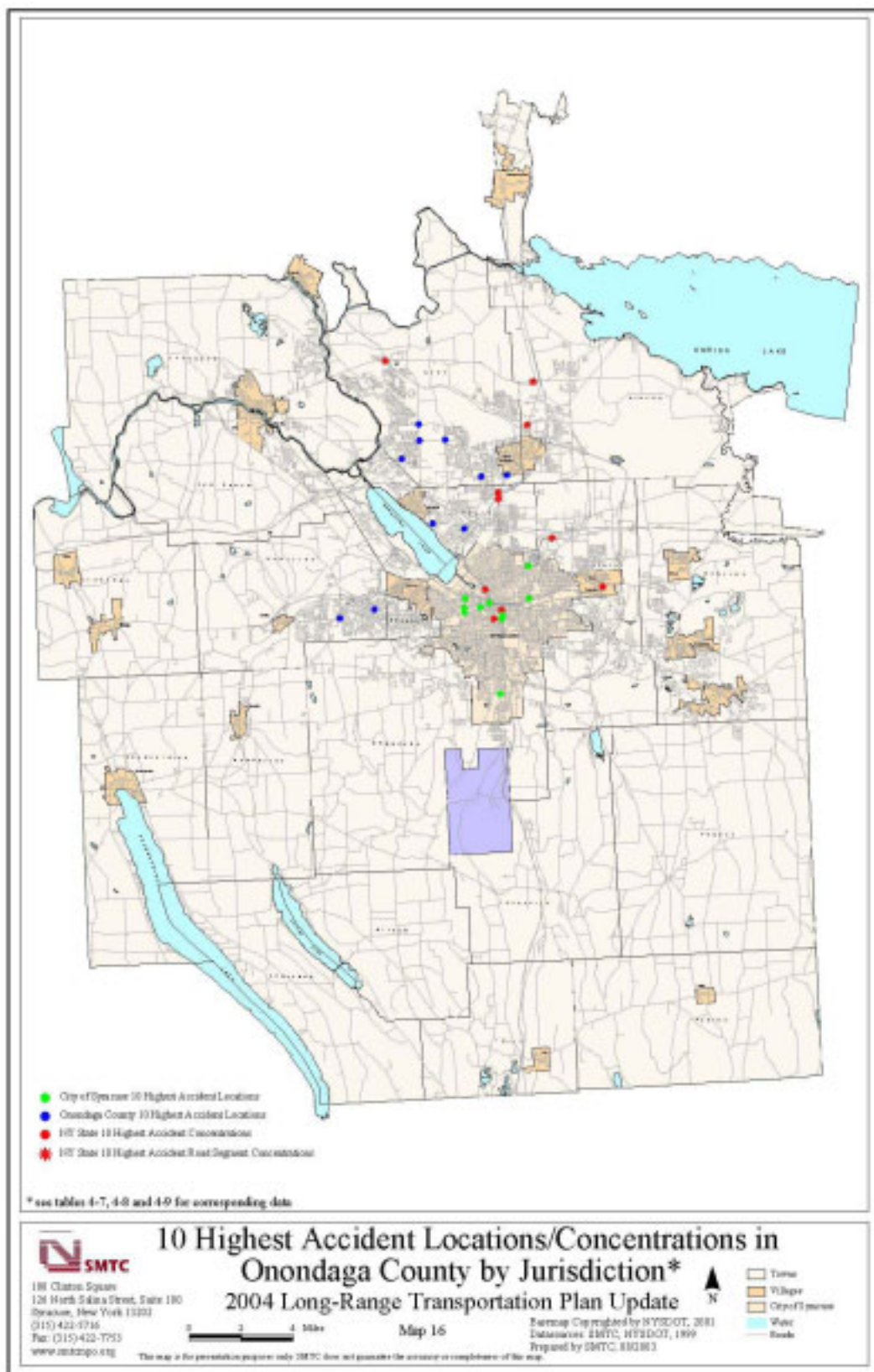
Strategies to improve the safety of the highway systems are often grouped in one of three categories: education, engineering and enforcement. Overall, traffic fatalities have declined in recent years, particularly when measured against the number of miles traveled per vehicle.



*I-81*

National fatality rates have declined from a high of 5.5 fatalities per 100 million vehicle miles traveled (VMT) in 1966 to 1.5 fatalities per 100 million VMT in 2000. Statewide, the number of fatalities has decreased from 1,557 in 1995 to 1,358 in 2000. Much of this recent improvement results from increased education, enforcement efforts aimed at reducing the number of people driving with ability impaired, and new vehicle safety systems such as air bags and anti-lock brakes (see Map 16 for high accident locations/concentrations).

The SMTC member agencies play a key role in reducing the number and severity of accidents as well. Much of the local effort is directed at engineering improvements to the highway system itself. The ten highest accident locations for state roads, county roads and city roads in the SMTC study area are shown in Tables 5-1, 5-2, and 5-3. The following tables list the most recent data for the number of reported accidents for State, County and City owned roads. The State-owned roads (Table 5-3) are listed by rank instead of total number of reported accidents. The rank is determined by a calculation for severity index, not the number of reported accidents. The City and County ten highest accident locations (Tables 5-1 and 5-2) are identified through a different process based on the total number of accidents that occurred during the most recent period for which data is available. The accompanying map (Map 16) portrays geographically the accident locations highlighted in Tables 5-1, 5-2 and 5-3.



**Table 5-1**

<b><u>City of Syracuse</u></b> <b><u>Ten Highest Vehicular Accident Locations</u></b> <b><u>January 1998 - December 2000</u></b>		
Location	Total Number of Accidents	Included in the 2003 SMTTC Safety Improvement Analysis
Harrison Street Almond Street	90	
Adams Street and Almond Street	82	
Teall Avenue and Grant Boulevard	73	*
Teall Avenue and Burnet Avenue	67	*
North Geddes Street and Genesee Street	64	
West Street Arterial and Fayette Street	61	
South Salina Street and East Seneca Turnpike	60	
South Geddes Street and Fayette Street	60	
North Geddes Street and Erie Boulevard West	58	
North Salina Street and Genesee Street/James Street	57	
Source: New York State Department of Transportation  Note: The direction of the accident is unknown. The accidents listed may include bicycle and pedestrian accidents. Locations that are included in the accident analysis program are determined by City of Syracuse. There are particular reasons why a given location may not be included in the Safety Improvement Analysis.		

**Table 5-2**

<p align="center"><b><u>Onondaga County</u></b>  <b><u>Ten Highest Vehicular Accident Locations</u></b>  <b><u>January 1998 - December 2000</u></b></p>		
Location	Total Number of Accidents	Included in the 2002 SMTCSafety Improvement Analysis
Buckley Road and Taft Road	74	
John Glenn Blvd. and Rt. 57	60	
Buckley Road and Morgan Road	46	
Buckley Road and Henry Clay Blvd.	43	
Old Liverpool Road and Electronics Parkway	39	
Buckley Road and 7th North Street	36	*
Onondaga Road and West Genesee Street	35	
South Bay Road and E Taft Road	35	
Morgan Road and Wetzel Road	33	
West Genesee Street and Hinsdale Road	33	
<p>Source: New York State Department of Transportation CLASS Data</p> <p>Note: The direction of the accident is unknown. The accidents listed may include bicycle and pedestrian accidents. Locations that are included in the Safety Improvement Analysis are determined by Onondaga County. There are particular reasons why a given location may not be included in the Safety Improvement Analysis.</p>		

**Table 5-3**

<b><u>New York State Roads</u></b> <b><u>Accident Concentrations in Onondaga County</u></b> <b><u>January 1999-December 2000</u></b>		
Rank	Location	Total Number of accidents
1	Rt. 298- Court Street to Carrier Circle	167
2	Rt. 31- Crabtree Lane to I-81	89
3	Rt. 11 at Bailey Road	31
4	Rt. 11- Sand Road to South Bay Road	152
5	Rt. 11- East Circle Drive to Hogan Drive	101
6	Rt. 290- Bridge Street near BJ's Drive	53
7	I-81- Clinton Street to Spencer Street	125
8	Rt. 930C- Salina Street to Almond Street	117
9	I-81- Harrison Street to I-690	139
10	Rt. 31- Wegmans to Great Northern Mall	150
Source: New York State Department of Transportation CLASS Data  Note: The direction of the accident is unknown. The accidents listed may include bicycle and pedestrian accidents. There are particular reasons why a given location may not be included in the accident analysis program.		

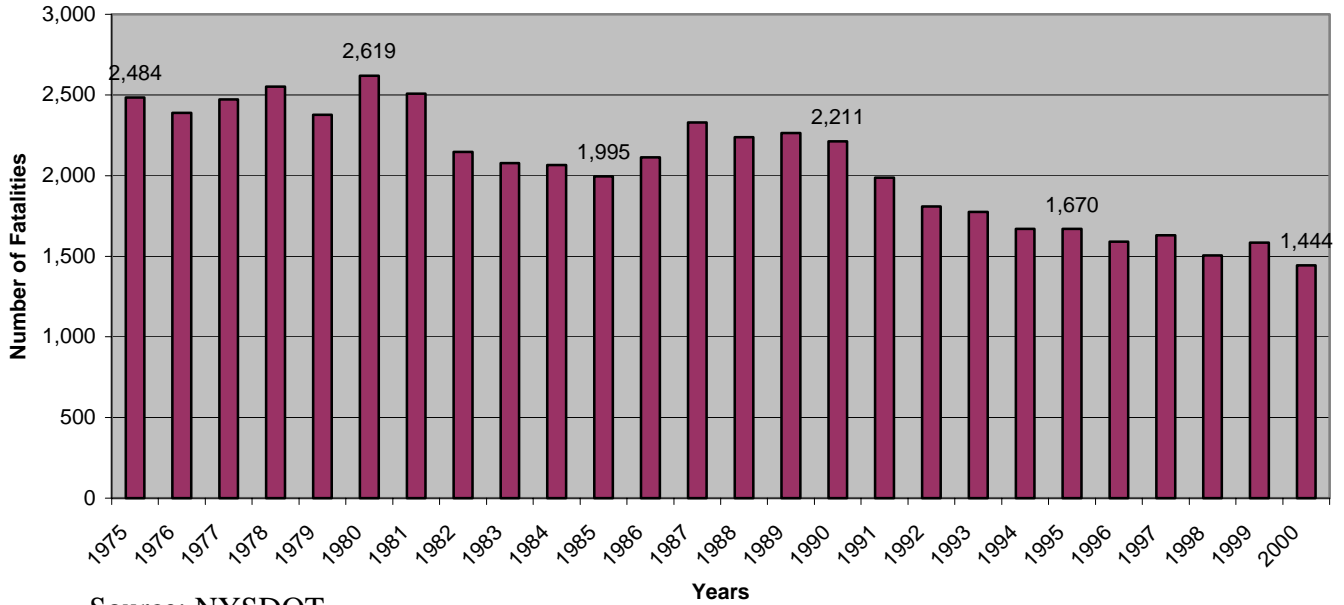
The presence of a high number of accidents does not always indicate a problem. A road with a large number of accidents may actually have a relatively low accident rate due to high traffic volumes. Other locations that have a low number of accidents may have a relatively high accident rate due to low traffic volumes.

As part of the annual work program, the SMTC assists Onondaga County and the City of Syracuse in a Safety Improvement Analysis. The analysis consists of identifying high accident locations on county or city streets, calculating accident rates by relating the number of accidents to traffic volumes and selecting the priority locations for more detailed study. The detailed study looks at the history of accidents at a location and attempts to determine if the problem is correctable. Recommendations are then made to Onondaga County or the City of Syracuse for the given locations.

Overall, the statistics available from the New York State Department of Transportation (NYSDOT) for highway fatalities in New York State show that the number of fatalities has decreased since 1975 (see Table 5-5). Table 5-4 represents the overall decline in New York State from 1975-2000. Additionally, the NYSDOT data concludes that the number of fatalities related to highway accidents in the nation has also decreased since 1975 (see Table 5-5). The graph titled "United States Highway Fatalities" (Table 5-5) depicts fatal accidents

on highways since 1975, and there is a gradual decline during this 30-year period of highway fatalities. With safety programs and improving technology, the overall trend of a reduction in fatal highway accidents may continue.

**Table 5-4**  
**New York Highway Fatalities 1975-2000**



**Table 5-5**  
**United States Highway Fatalities 1975-2000**

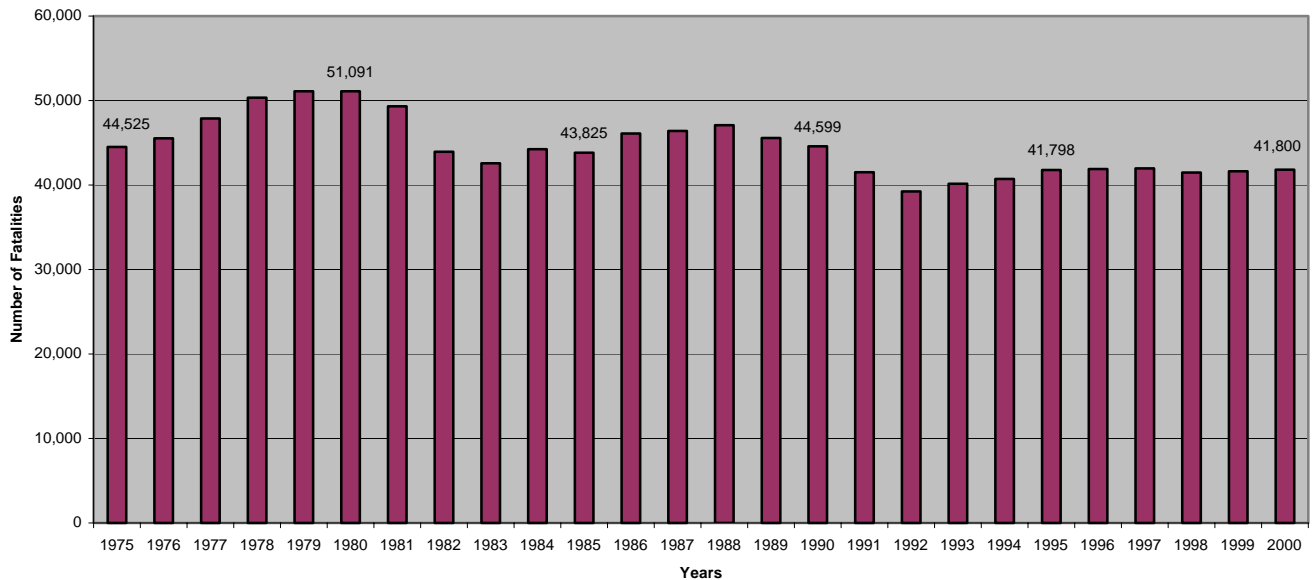
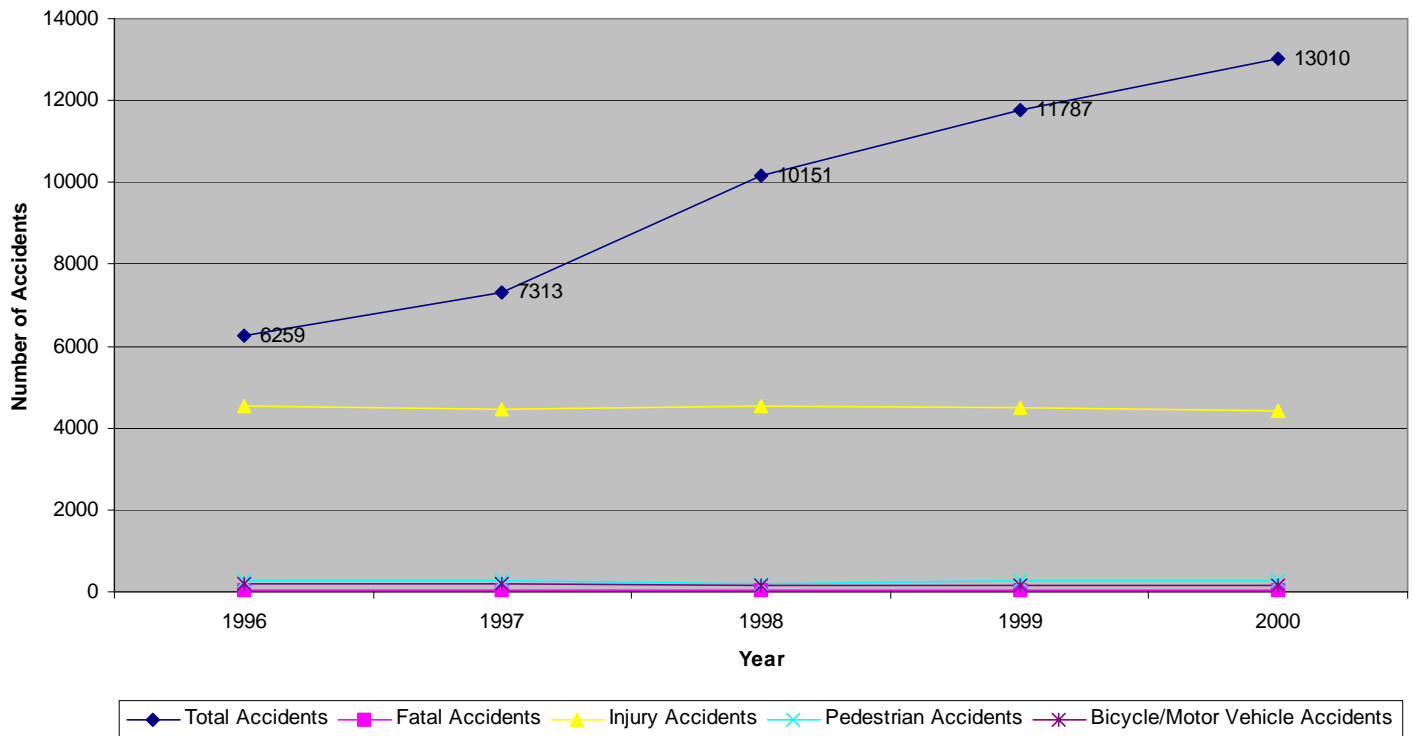




Table 5-6 shows the types of accidents reported in Onondaga County from 1996-2000. There was a significant increase in total accidents from 1996 to 2000, with a reduction in fatal accidents.

**Table 5-6**  
**Onondaga County Reportable Accidents**



Source: New York State Department of Motor Vehicles

In New York State during 1996-2000, the reportable fatalities, as well as the death rate per 100 million vehicle miles, decreased slightly, while the injury rate per 100 million vehicle miles decreased substantially. See Table 5-7.

**Table 5-7**  
**New York State Reportable Accidents**

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Motor Vehicle Deaths	1,590	1,630	1,504	1,585	1,444
Death Rate/100 Million Vehicle Miles	1.34	1.36	1.22	1.25	1.15
Injury Rate/100 Million Vehicle Miles	249.69	233.83	228.14	230.28	232.67

Source: NYSDMV

## 2. Bicycle/Pedestrian Accident Analysis

As previously mentioned, the SMTC is in the process of completing a Bicycle and Pedestrian Plan. Included in the plan are bicycle and pedestrian collision data, analyses and maps. Due to SMTC's recent involvement with the Bicycle and Pedestrian Plan, there is a proportionally high amount of data available pertaining to bicycle and pedestrian accidents to be included in this 2004 Update. The following text is a summary of the information included in the Plan.

### *Onondaga County Collision Data*

Using collision data gathered from the New York State Department of Motor Vehicles (NYSDMV) Form 144A, the SMTC examined reported bicycle/motor vehicle and pedestrian/motor vehicle collisions in Onondaga County for the years 1987-2000. Only those accidents reported to the NYSDMV are included in the data.

### *Bicycle Collisions 1987-2000*

The following is a summary of NYSDMV bicycle collision data for Onondaga County, including number of reported collisions, number of injuries, and number of fatalities between 1987 and 2000. Please refer to Table 5-8.

In general, the number of bicycle/motor vehicle collisions over the fourteen-year period analyzed shows a downward trend (with some annual fluctuation). The largest number of bicycle collisions occurred in 1987 at 283, while the fewest amount occurred in 1999 at 155.



Each year between 1987 and 1991, there was a significant drop in the number (at least 24 collisions per year) of bicycle/motor vehicle collisions that occurred in Onondaga County. Between 1992 and 1995, the number of collisions oscillated between decreases and increases, until the number of collisions reached 190 in 1995. Between 1995 and 1999, the number of collisions declined again, but gradually to 155. The number of bicycle/motor collisions essentially remained the same in 2000 at 156 collisions.

*Full Bicycle Rack in Onondaga County*

### *Bicycle Collision Injuries 1987-2000*

The number of injuries occurring as a result of bicycle/motor vehicle collisions was also evaluated. The bicycle injury data mimics the number of collisions reported between 1987

and 2000, with a *near* one-to-one relationship occurring between the number of collisions and number of injuries. The lack of an *exact* one-to-one relationship could be attributed to motorist(s)/passenger(s) being injured in the collision in addition to the bicyclist, multiple cyclists and/or vehicles involved in the collision, or if a bicyclist was not injured.

The highest number of bicycle/motor vehicle collision injuries occurred in 1987 at 288, while the least amount occurred in 2000, at 154. Each year between 1987 and 1991 there was a significant drop in the number (at least 23 per year) of bicycle/motor vehicle collision related injuries that occurred in Onondaga County. Between 1992 and 1995 the number of bicycle collision injuries oscillated between decreases and increases, until the number of injuries reached 191 in 1995. Between 1995 and 2000 the number of injuries declined again, but gradually, to 154.

Overall, the data indicates a downward trend in the number of bicycle/motor vehicle collision related injuries that occurred between 1987 and 2000.

#### *Bicycle Collision Fatalities 1987-2000*

Data on the number of fatalities occurring as a result of bicycle/motor vehicle collisions was also obtained. The data on fatalities does not echo the similar trend noted between the number of bicycle collisions and number of injuries. However, it can be noted there were typically more bicycle/motor vehicle collision related fatalities in years where more bicycle/motor vehicle collisions occurred. The highest number of bicycle/motor vehicle collision fatalities occurred in 1987, 1989 and 1990 with 3 fatalities recorded each year. Zero (0) fatalities occurred in 1988, 1991, 1992, and 2000.

#### *Pedestrian Collisions 1987-2000*

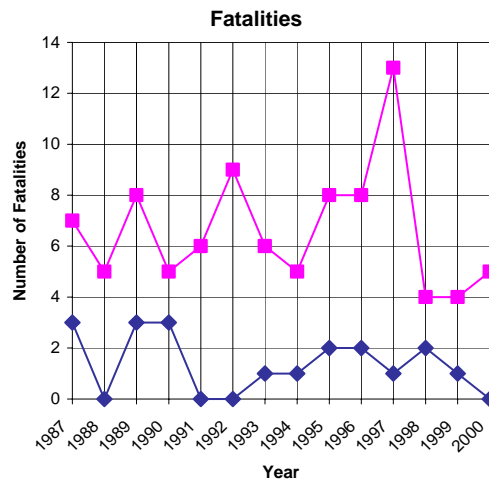
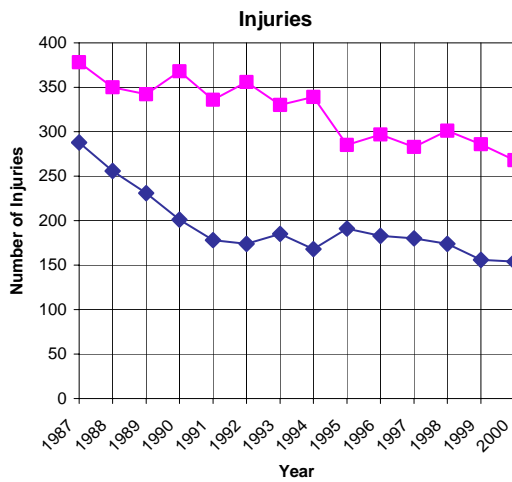
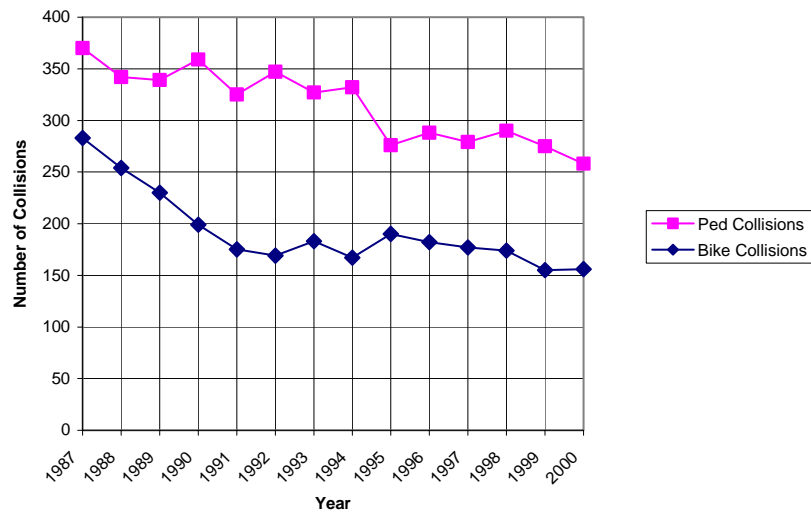
The following is a summary of NYSDMV pedestrian collision data for Onondaga County, including number of collisions, number of injuries, and number of fatalities between 1987 and 2000. Please refer to Table 5-8.

Although the pedestrian/motor vehicle collision data fluctuates from year to year through a series of increases and decreases, there is a general downward trend in the overall number of collisions that occurred between 1987 and 2000.

The highest number of pedestrian collisions occurred in 1987 at 370, while the fewest occurred in 2000 at 258. The most significant drop in pedestrian collisions occurred between 1994 and 1995 when Onondaga County experienced a decrease of 56 pedestrian collisions.

Over the fourteen-year period analyzed, a downward trend (with annual variation) in the number of pedestrian/motor vehicle collisions occurred.

**Table 5-8**  
**NYSDMV Reported Bicycle /Motor Vehicle and Pedestrian Motor/Vehicle Collisions,**  
**Injuries and Fatalities**  
**1987-2000**  
**Onondaga County**  
**Collisions**



### *Pedestrian Collision Injuries 1987-2000*

The number of injuries occurring as a result of pedestrian/motor vehicle collisions was also evaluated. The pedestrian injury data trend mimics that of the pedestrian collisions, showing increases and decreases from year to year, but an overall downward trend in the number of injuries sustained in pedestrian/motor vehicle collisions between 1987 and 2000.



*Pedestrian Crossing at Carousel Center*

The highest number of pedestrian/motor vehicle collision related injuries occurred in 1987

at 378, while 268 injuries were reported in 2000. For every case year, the number of pedestrian collision injuries exceeds the number of pedestrian collisions. This could be attributed to more than one pedestrian being injured in a single collision event, or that individual(s) within the motor vehicle were injured as a result of the collision.

As with the number of pedestrian collisions, the fourteen-year period is indicative of a general downward trend (with annual fluctuation) in the number of injuries occurring as a result of pedestrian/motor vehicle collisions.

### *Pedestrian Collision Fatalities 1987-2000*

The data on fatalities occurring as a result of pedestrian/motor vehicle collisions does not echo the similar trend noted between the number of pedestrian collisions and number of injuries sustained as a result of pedestrian/motor vehicle collisions. However, it can be noted that in the span of the fourteen years evaluated, at least four pedestrian/motor vehicle collision fatalities occurred each year.

A general upward trend in the number of pedestrian/motor vehicle collision fatalities occurs between 1987 and 1997, where the number of fatalities peaked at 13. The least amount of pedestrian fatalities occurred in 1998, the year following the peak of 13 fatalities, and in 1999, at 4 fatalities each. The year 2000 shows a slight increase in the number of pedestrian collision fatalities at 5.

### *Bicycle and Pedestrian Collision Maps*

The SMTC has mapped Onondaga County bicycle/motor vehicle and pedestrian/motor vehicle collision locations using data provided by the NYSDOT Centralized Local Accident Surveillance System (CLASS). The maps display the collisions that occurred within the City

of Syracuse as well as the remainder of the MPO between 1987 and 2000. It is important to note that the CLASS data utilized to develop the collision maps was limited to collision reports that had the most accurate location data. Therefore, the data on the maps cannot be directly compared to the data shown in the line graphs.

### *Bicycle Collision Locations 1987-2000*



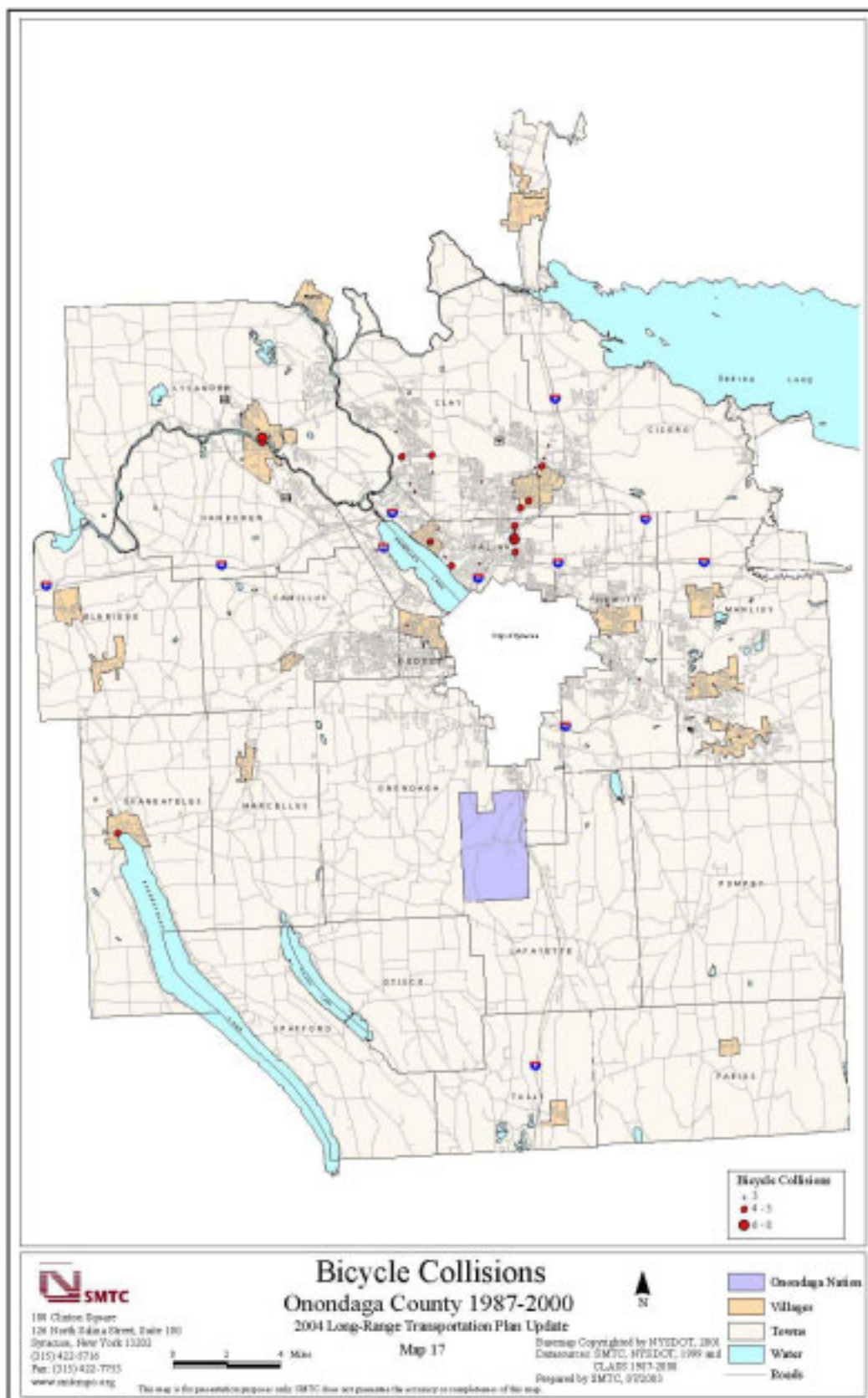
*Bicyclists in Syracuse*

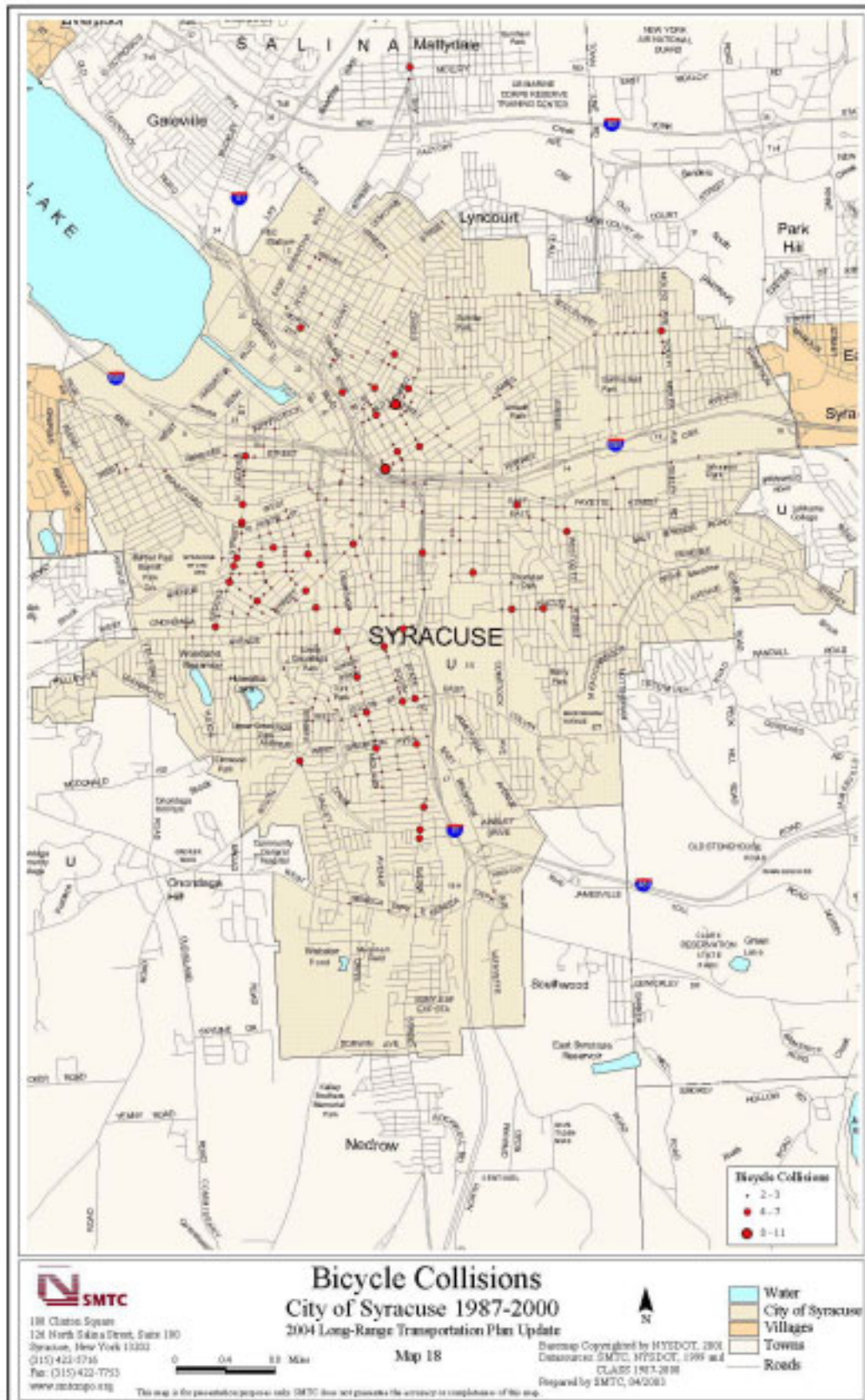
The following list identifies the top ten locations with the most reported bicycle/motor vehicle collisions over the fourteen-year period analyzed. More than ten locations are listed as several locations reported having the same number of collisions. The highest number of bicycle/motor vehicle collisions at a given location between 1987 and 2000 was 11. As a reminder, only the collisions that had accurate location information listed on the accident report could be mapped. Maps 17 and 18 show the bicycle collision locations for collisions occurring in the Onondaga County and the City of Syracuse, respectively.

#### *Top 10 Bicycle/Motor Vehicle Collision Locations:*

- Š 11 collisions: Lodi St./Butternut St./Catherine St. (City of Syracuse)
- Š 8 collisions: James St./N. State St./S. State St. (City of Syracuse)
- Oswego St./E. Genesee St. (Village of Baldwinsville)
- 7 collisions: S. Clinton St./W. Onondaga St./Gifford St. (City of Syracuse)
- South Ave./Tallman St. (City of Syracuse)
- S. Geddes St./Delaware Ave. (City of Syracuse)
- S. Salina St./W. Brighton Ave./E. Brighton Ave. (City of Syracuse)
- Brewerton Rd./Hinsdale Rd. (Mattydale)
- Š 6 collisions: E. Division St./Carbon St. (City of Syracuse)
- Catherine St./James St. (City of Syracuse)
- N. Geddes St./Erie Blvd. West/S. Geddes St. (City of Syracuse)
- S. Geddes St./Seymour St. (City of Syracuse)
- S. Geddes/Shonnard St. (City of Syracuse)
- Shonnard St. between S. Geddes St. and Oswego St. (City of Syracuse)
- Midland Ave./W. Brighton Ave. (City of Syracuse)
- Euclid Ave./Lancaster Ave. (City of Syracuse)









The majority of high bicycle/motor vehicle collision incidences occurred in the City of Syracuse at heavily traveled intersections.

The location with the highest amount of accidents (11) noted over the fourteen-year period analyzed is the intersection of Lodi Street with Butternut Street and Catherine Street. This is a five-legged intersection located in a commercial area with numerous driveways.

#### *Pedestrian Collision Locations 1987-2000*

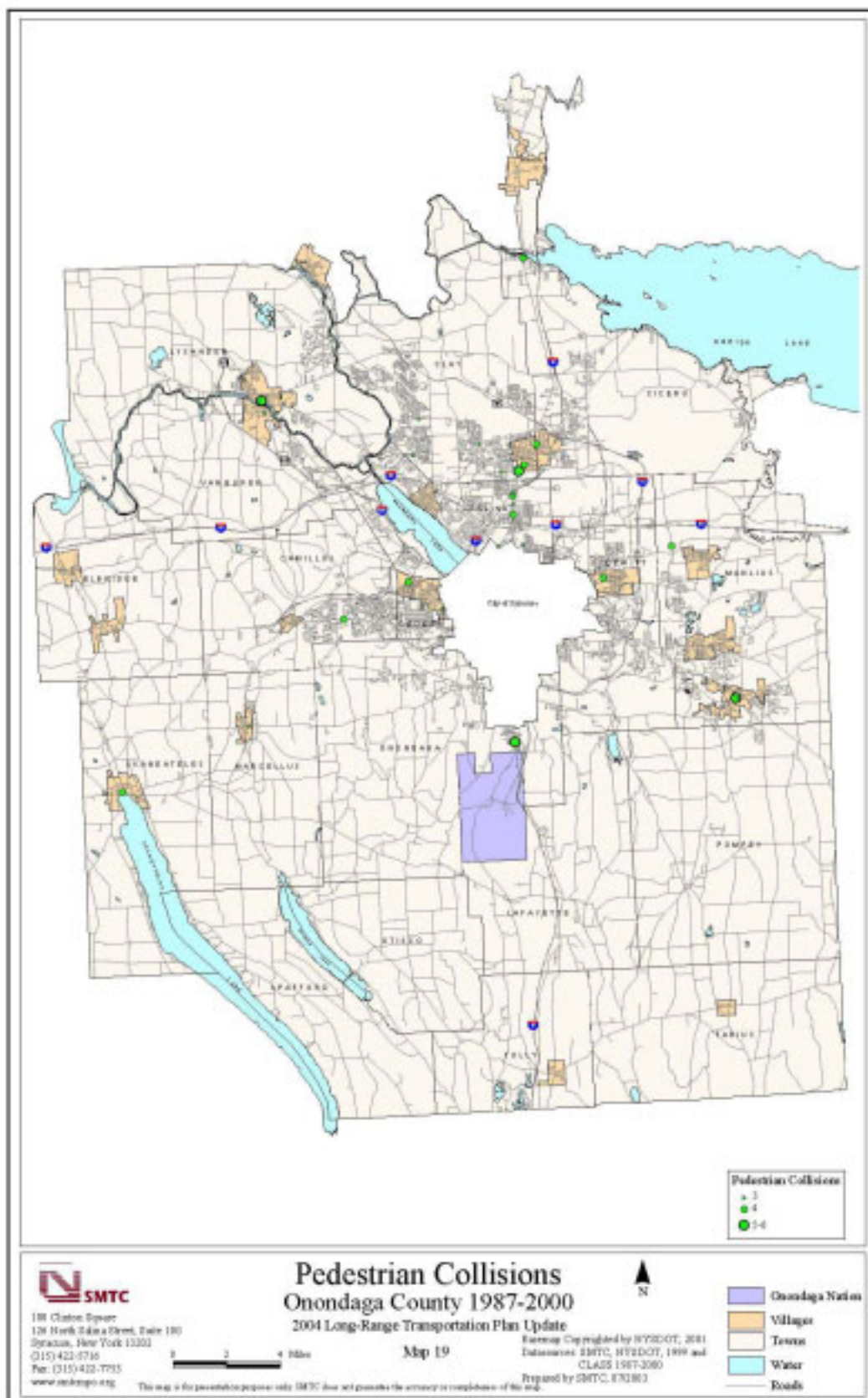
The following list identifies the top ten locations with the most reported pedestrian/motor vehicle collisions over the fourteen-year period analyzed. More than ten locations are listed as a few locations reported having the same number of collisions. The highest number of pedestrian/motor vehicle collisions at a given location between 1987 and 2000 was 52. As a reminder, only the collisions that had accurate location information listed on the accident report could be mapped. Maps 19 and 20 show the pedestrian collision locations for collisions occurring in Onondaga County and the City of Syracuse, respectively.

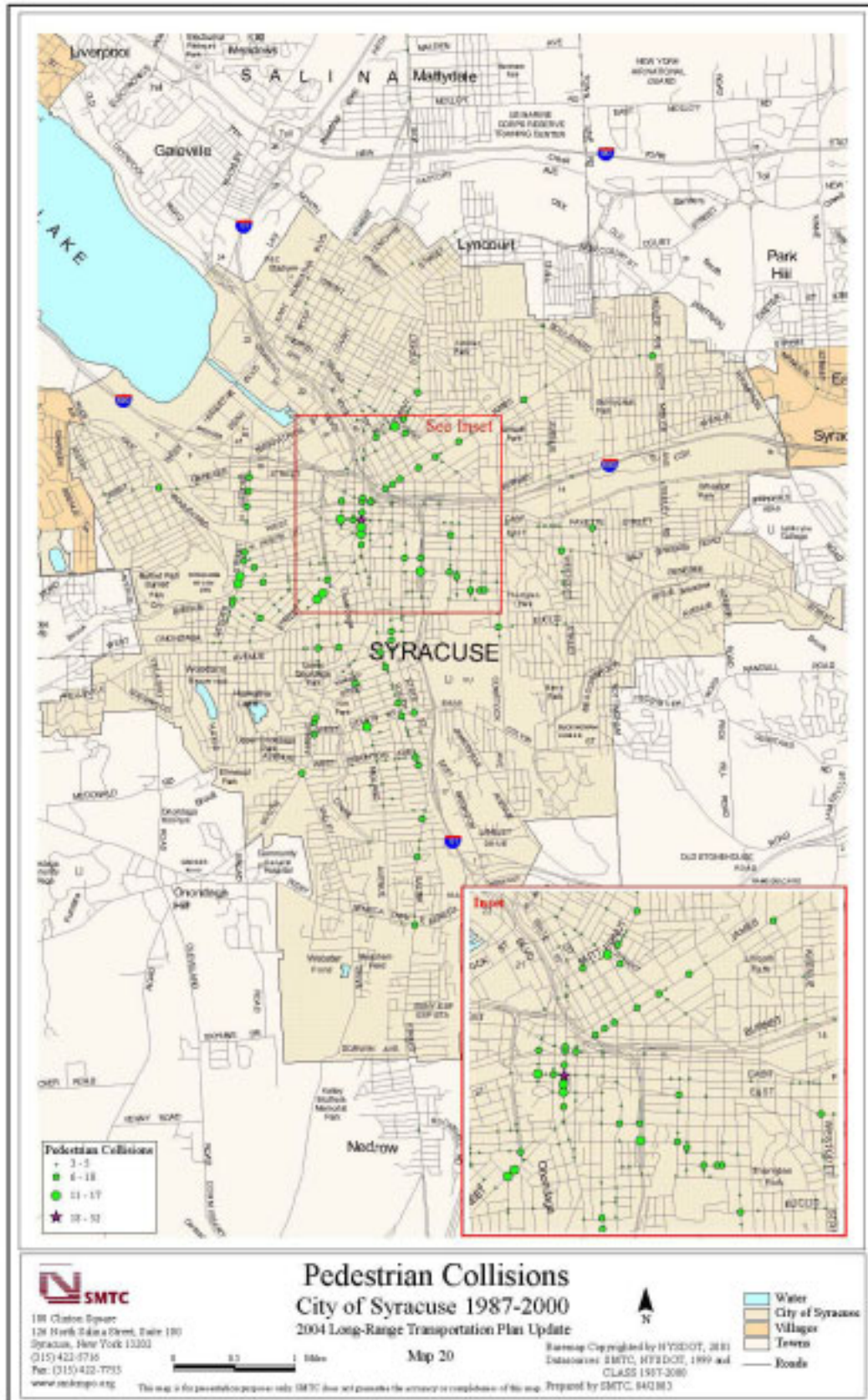
#### *Top Ten Pedestrian/Motor Vehicle Collision Locations:*

Š` 52 collisions:	E. Fayette St./W. Fayette St./S. Salina St. (City of Syracuse)
Š` 17 collisions:	E. Jefferson St./S. Salina St. (City of Syracuse)
Š` 15 collisions:	E. Adams St. underneath I-81 near Almond St. (City)
Š` 14 collisions:	S. Salina St. between W. Fayette St. and E. Jefferson St. (City of Syracuse)
	Midland Ave./W. Colvin St. (City of Syracuse)
Š` 13 collisions:	Lodi St./Butternut St./Catherine St. (City of Syracuse)
	W. Fayette St./S. Franklin St. (City of Syracuse)
Š` 12 collisions:	S. Geddes St./Seymour St. (City of Syracuse)
Š` 11 collisions:	Slocum Ave./W. Onondaga Ave./South Ave. (City)
	Midland Ave./W. Onondaga Ave. (City of Syracuse)
	S. Geddes/Shonnard St. (City of Syracuse)

Like the bicycle/motor vehicle collisions, the majority of high pedestrian/motor vehicle collision incidences occurred in the City of Syracuse at heavily traveled intersections. The location with the highest amount of accidents (52) noted over the fourteen-year period analyzed is the intersection of Fayette St. with S. Salina St. This intersection is located in downtown Syracuse and serves as a major transit hub for Centro. Numerous pedestrians walk within this area to utilize transit service, and to reach downtown destinations such as restaurants, shops, and employment centers.

The proceeding section identifies the state of bicycle and pedestrian planning as well as the state of bicycle and pedestrian safety in the SMTC area. Upon completion of the SMTC Bicycle and Pedestrian Plan, additional information will be available.







## **B. Infrastructure Maintenance**

### **1. Bridge Conditions**

The condition of bridges in the SMTC area has been a critical funding issue for a number of years. There are a large number of bridges in Onondaga County. The percentage of these bridges that are rated as Priority Deficient and Deficient combined with the limited amount of money available for funding improvements has made this a key improvement area noted by the NYSDOT. There are a large number of interstate bridges that need repair within the same time frame because many are of the same age. While a significant effort has been made in the last decade to remedy this problem, many bridges still are in need of repair and compete for a limited amount of federal money for those repairs. Because of the priority ranking system that is used to determine which bridges get fixed first, the problem is particularly acute for low volume bridges that are often essential to rural areas (see Maps 21 and 22 for bridge conditions).

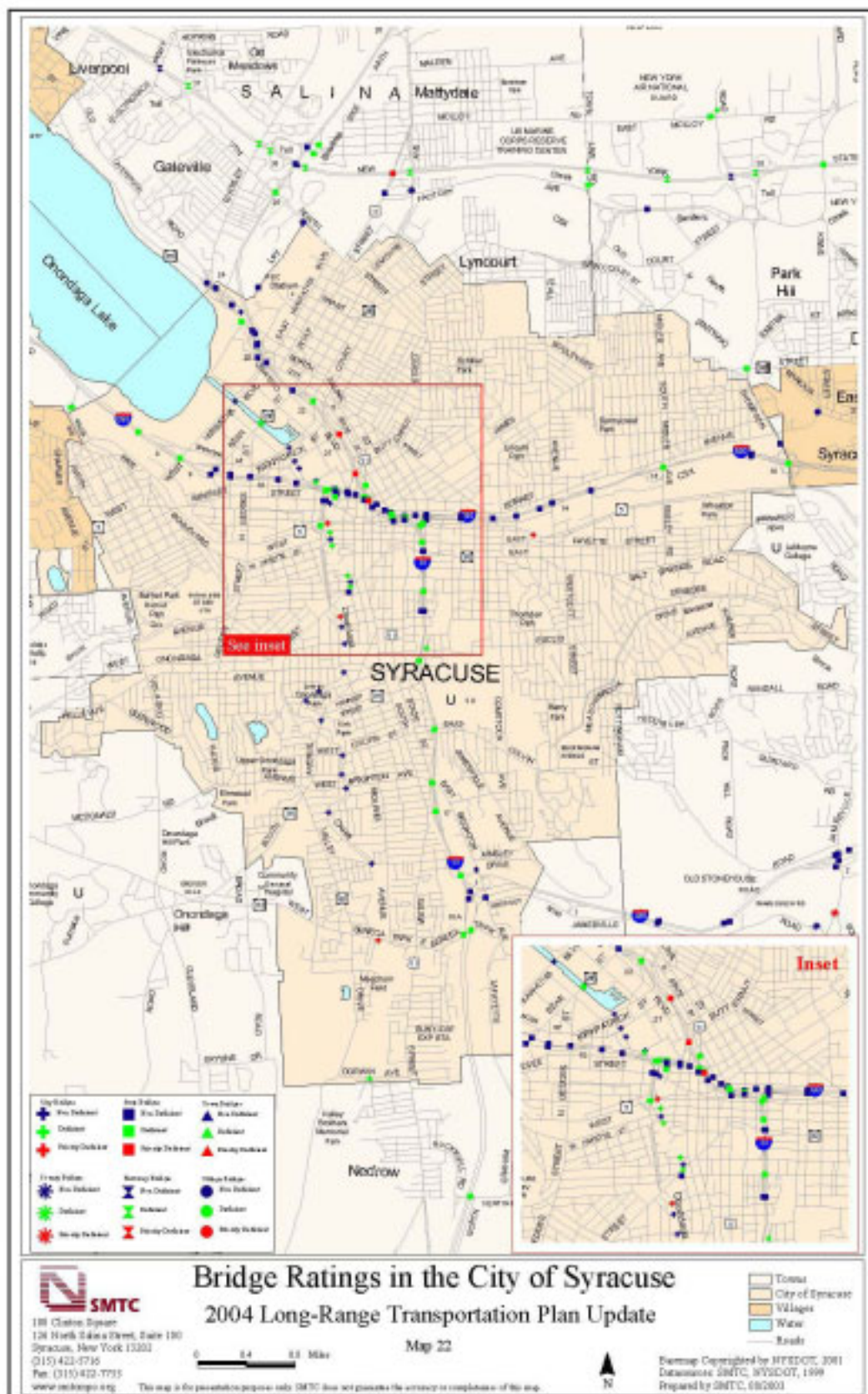
The Metropolitan Planning Area (MPA) boundary for the greater Syracuse area was recently updated to reflect the changes in the 2000 Census. Expanding outward to Madison and Oswego Counties (see Urban Area Boundary, section III, B, 1), the number of bridges and miles of pavement since the last Long-Range Plan Update has increased. Yet, the bridge and pavement data was unavailable for these new portions of the MPA at this time. Therefore, the following sections describe the most recent data (2002) for Onondaga County infrastructure.



*Belgium Bridge, Route 31*







### *Bridge Maintenance System (BMS)*

Onondaga County has 479 bridges on the various State, County and local roads, as well as on or over the New York State Thruway. The NYSDOT maintains a Bridge Management System (BMS) for all of these bridges. The BMS rates the bridge deck, bearings and other structural elements on a weighted scoring system. State and local bridges are rated by the NYSDOT on a scale of 1.0 to 7.0. Bridges with a condition rating of less than 5.0 are deemed as being in a deficient condition. However, a deficient condition does not mean that the bridges are unsafe, but rather they are candidates for rehabilitation work, replacement or even perhaps closure. Priority deficient bridges are those which have a condition rating of less than 3.0, or a condition rating between 3.0 and less than 3.999 with an annual average daily traffic (AADT) of over 4,000 vehicles. Priority deficient bridges are given a priority for funding over those that are deficient. Many bridges with condition ratings of less than 3.0 have to be closed to some or all traffic.

State and local bridges are inspected every two years, regardless of condition rating. All State and local bridges that are posted have a structural active or inactive red flag or active yellow flag are inspected every year. The condition ratings for all State, local and Thruway Authority (TA) bridges in Onondaga County are presented in Table 5-9. The local bridges are further divided into County bridges as well as town, village, City, and TA bridges for 2002, as shown in Table 5-10. According to the NYSDOT, future conditions are based on a tradeoff between an additional five years worth of further deterioration and programmed work on some of the bridges.

In 1997, forty-four (44) percent of all bridges within Onondaga County were considered to be deficient or priority deficient. In 2002, approximately 36% of the County's bridges were recorded as being deficient or priority deficient (see Table 5-10). Therefore, the number of all non-deficient bridges in Onondaga County is increasing. In 2002, approximately 71 percent of all state bridges within Onondaga County were considered non-deficient, compared to 63.9 percent in 1997 (see Table 5-9). Therefore, the number of State deficient bridges in Onondaga County is decreasing. The long-range goal for all bridges in New York State is 80 percent non-deficient by 2020.



*Belgium Bridge Reconstruction*

Bridges are also rated by deck area. The long-range goal for deck area of all bridges in New York is 83 percent non-deficient by 2020. In 2001, approximately 67 percent of all state bridges in Onondaga County were non-deficient by deck area (see Table 5-10). Additionally, approximately 55 percent of all local and Thruway bridges were non-deficient by deck area in 2002 (see Table 5-10).

The SMTC Long-Range Transportation Plan (LRTP) 2004 Update has bridge goals by number of bridges and deck area, as the State owns several very large multiple-span bridges on the Interstate system. This could skew the measure of deficiency based on the condition of a single bridge. For example, the I-81 mainline viaduct over Almond Street in downtown Syracuse is one bridge in the system but is made up of 36 spans. Local bridges usually have smaller bridge deck areas. Therefore, measuring the deficiency by deck area takes this concept into account.

Recently, guidelines have been approved for increasing funding options, available through the NYSDOT Region 3 Transportation Advisory Committee (TAC), that allows for element-specific bridgework (i.e., crack and deck sealing, bearing lubrication, etc.) to be completed for preservation and preventative/corrective maintenance for bridges in Onondaga County. The new funding options allow for more specific bridge elements to be maintained than could be funded in the past. Previously, the only federal-aid eligible maintenance activity was bridge painting for local bridges.

**Table 5-9**

2002 Bridge Conditions in Onondaga County				
Bridge Jurisdiction	Rating Category	2002		Percent Non-Deficient by Deck Area in 2001
All Bridges	Total	479		65%
	Deficient*	151	32%	
	Priority Deficient	17	4%	
State Bridges	Total	293		67%
	Deficient*	77	27%	
	Priority Deficient	9	3%	
Local and Thruway Bridges	Total	186		55%
	Deficient*	74	40%	
	Priority Deficient	8	4%	
Source: New York State Department of Transportation				
* Not including Priority Deficient Bridges				



**Table 5-10**

**2002 Local Bridge Conditions in Onondaga County**

Jurisdiction	Total Number of Bridges	Number of Non-Deficient Bridges	Percent Non-Deficient Bridges	Number of Deficient and Priority Deficient Bridges	Percent Deficient and Priority Deficient Bridges	Percent Non-Deficient Bridges by Deck Area
Onondaga County	94	60	64%	34	36%	60%
Towns	15	7	47%	8	53%	71%
Villages	7	3	43%	4	57%	14%
City of Syracuse	32	21	66%	11	34%	61%
Thruway	38	13	34%	25	66%	44%
Source: New York State Department of Transportation						

**2. Pavement Conditions**

One of the NYSDOT goals in its Goal Oriented Program (GOP) is stabilizing pavement conditions at or above 1986 levels. According to the NYSDOT Region 3 GOP and Criteria:

*“The pavement goal seeks to give priority to projects on the National Highway System and to the corridors with high commercial traffic volumes or potential for economic growth, and stabilize pavement conditions at or above the level of 60 percent of pavement in good condition and an average surface rating of 7.0.”*



*Long Branch Road Westbound*

In order to monitor progress toward this goal, the NYSDOT uses a Pavement Management System (PMS) that attempts to maximize the effectiveness of the limited dollars spent on maintaining pavements. Pavements have a varying life cycle dependent on many conditions. A PMS allows the NYSDOT and other highway departments to determine the pavement rating relative to all other pavements in a jurisdiction. It also allows year-to-year monitoring of pavements and, most importantly, it facilitates predictions of

when to cost effectively overlay, rehabilitate or reconstruct a road. Knowing where a pavement is in its life cycle allows a determination of the most cost-effective treatment (see Maps 23 and 24 for pavement conditions).

### *Assessing Pavement Conditions*

The NYSDOT system uses a visual rating system with a scale of 1 to 10 for surface conditions, which are categorized as follows: below 5.0 is considered poor, 6.0 is fair, 7.0-8.0 are good, and 9.0-10.0 are excellent condition. Table 5-11 shows the average pavement rating of state roadways within Onondaga County and the percent of pavement that is considered in poor condition.

**Table 5-11**

<b>State Pavement Conditions in Onondaga County</b>		
<b>Year</b>	<b>Average Condition</b>	<b>Percent Poor</b>
1997	6.60 (Fair)	12.0%
1998	7.09 (Good)	8.3%
1999	7.31 (Good)	4.0%
2000	7.28 (Good)	2.3%
2001	7.06 (Good)	4.4%
2002	7.0 (Good)	8.0%
Source: New York State Department of Transportation, Bridge & Pavement Report		

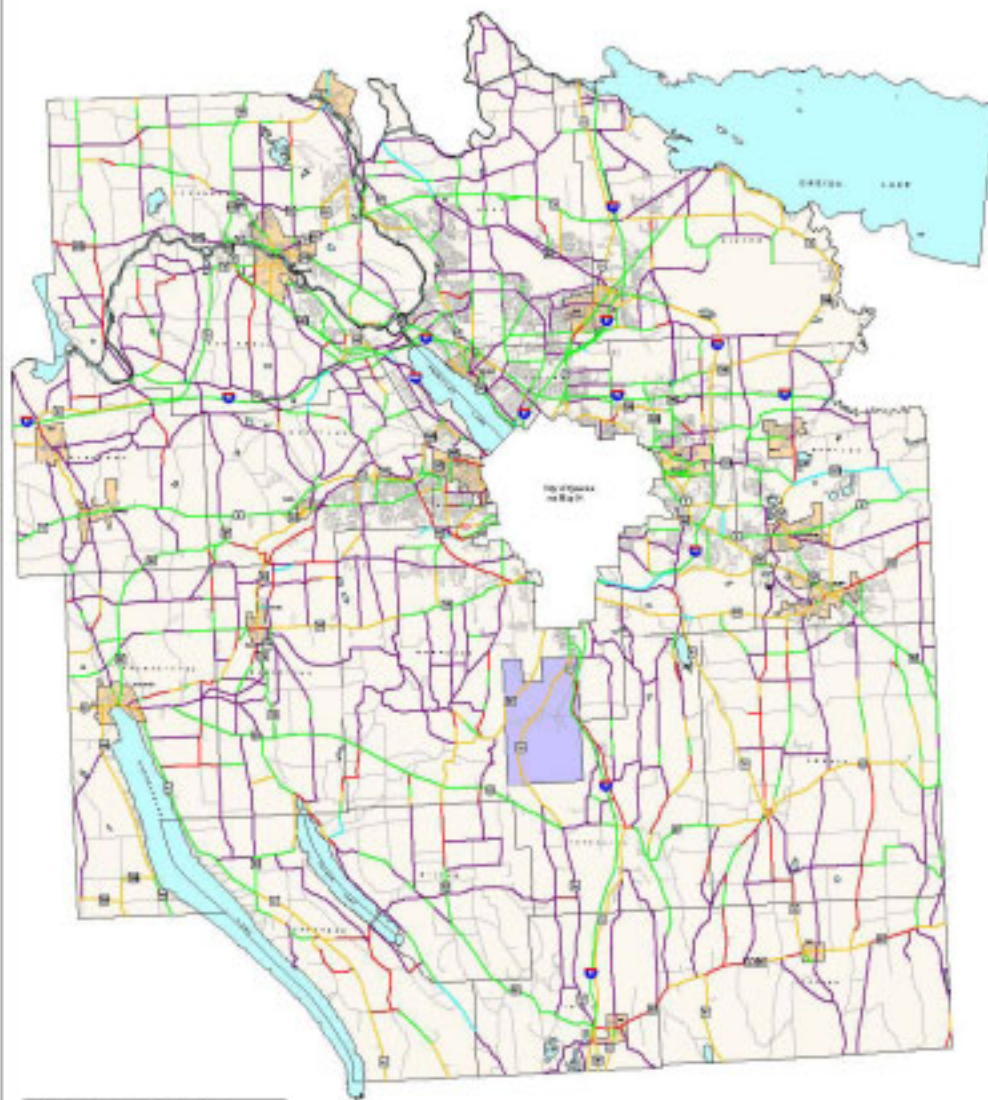
As reflected in Table 5-11, the average pavement conditions on the State highway system have improved slightly since 1997 and the percent of poor pavement had decreased significantly. The 2002 ratings show that Onondaga County's State route pavement average condition ranks 36th best out of 62 counties in the state. State roads are currently exceeding



*Route 173 Eastbound*

the 2020 goals of no more than 11 percent having poor pavement conditions and 26 percent having fair pavement conditions. Additionally, the State roads are meeting the goal of reaching an average condition rating of 7.0 for all medium and high volume roads.

The Onondaga County Department of Transportation (OCDOT) and the City of Syracuse also maintain pavement management systems. The City of Syracuse rates approximately half of the pavement each year in the City on a 1-10 scale, similar to the NYSDOT



**All Rated Roads\***

- Excellent (9-10)
- Good (7-8)
- Fair (6)
- Poor (1-5)
- No Data



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## All Rated Roads in Onondaga County\*

### 2004 Long-Range Transportation Plan Update

Map 23

0 2 4 Miles



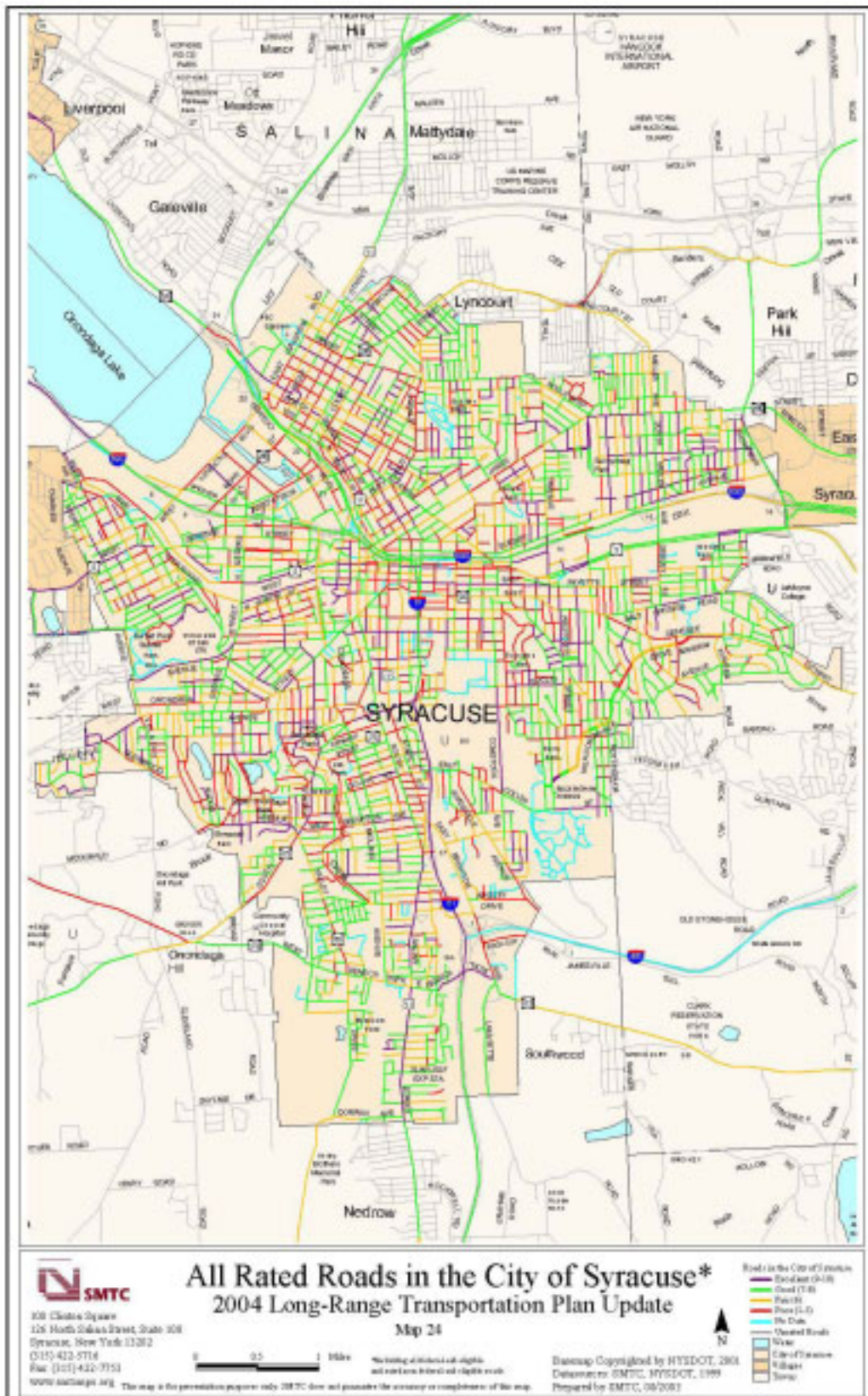
Base map: Copyrighted by NYSDOT, 2001  
Data source: SMTC, NYSDOT, 1999  
Prepared by SMTC, 06/2003

— Towns  
— Villages  
— Onondaga Nation  
— Water  
— Unrated Roads

\*Excluding all federal and right-of-way roads and select new federal and right-of-way roads

This map is for presentation purposes only. SMTC does not guarantee the accuracy or completeness of this map.





scale. The City then performs annual preventive maintenance to maintain pavements in good condition and to slow the rate of deterioration on improved streets, thereby reducing the life-cycle costs.<sup>1</sup> As of 2000, the City was reconstructing an average of 13-14 miles of pavement per year. At that time, the average miles of pavement reconstructed per year was expected to increase to maintain pavement conditions.

The OCDOT system is not identical to the NYSDOT system, although the system is comparable since OCDOT also uses a 1-10 scale. The OCDOT has three different paving programs: a hot mix, a cold mix, and an oil and stone treatment. Onondaga County currently paves approximately 38 miles of roadway per year using hot mix, 15 miles per year using cold mix, and 55 miles per year using oil and stone. To adequately maintain system condition, the OCDOT anticipates that approximately 48 miles of highway per year need to be paved using hot mix, 19 miles per year using cold mix and 75 miles per year using oil and stone. Using year 2003 costs per mile for each type of paving program, the total costs amount to almost \$9.95 million per year for paving, compared to the \$7.8 million spent for the year 2001.

The aforementioned information in Chapter 5, including bridge and pavement data illustrates the necessity for infrastructure maintenance and safety concerns in the MPO area. These critical issues emphasize the need for maintenance funding to be allocated to the MPO on an annual basis.

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<sup>1</sup> City of Syracuse: Improved Street Maintenance Program, received by the SMTC in 2002.

## **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) and the City of Syracuse Department of Public Works (as well as the various towns and villages) 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 roadway 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 and this LRTP 2004 Update. Therefore, the goals and objectives formulated in the original LRTP do not need to be altered. 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. A few of these minor changes include an increase in vehicle miles traveled and longer commuting times and distances. 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 has 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 this 2004 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.

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, the Towne Center at Fayetteville, and along Route 11 in Cicero. 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.

### *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.

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



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 cost and 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 improved/increased visibility. 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 the 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 respond to changing conditions in suburban areas. Finally, Centro recently acquired ten low-floor buses, which are easier for the elderly population to board. Centro may acquire more of these buses in the future.
- ## Signs: Larger text sizes are being used for street signs and guide signs. In addition, fluorescent yellow warning signs are being used to enhance the visibility of crosswalk and school bus warning signs.
- ## Pavement Markings: Six-inch wide line pavement markings are now the standard on 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. 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 will be replaced by October 2004. Currently, 20 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 an east-west bicycle and pedestrian corridor through the SMTC MPO area. 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 currently in the design phase of the Creekwalk Phase I project which will complete the Creekwalk between Armory Square and Onondaga Lake. Phase II of this project involves a feasibility study for constructing a Creekwalk between Armory Square and Kirk Park in the city. 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.

For example, the Town of Lysander recently received federal Transportation Enhancement money to begin work on constructing a trail 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 money that will be used to complete similar trails in their jurisdictions. These trails could also eventually connect to the larger Canalway Trail.

## C. Operating Agencies Practices

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. 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 in the process of 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.
- ## As part of NYSDOT’s transformation, corridor management will become the foundation of the core work that the agency produces. It will be 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 is currently being completed (at the time of this writing the study is in the recommendations stage). For this project, the I-481 corridor is being 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.

Another example is SMTC’s recently completed Soule Road/Break in Access Study. One of the major elements of this study was an examination of the impacts of recent

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

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.

- ## 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

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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.

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.

- ## 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 presently plans on expanding 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.
- ## 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 is also looking into purchasing 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 to be implemented in late 2004. Some examples of how NYSDOT has incorporated ITS into their operating practices are listed below. 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 has advertised and will let in 2004 a project to install a closed loop traffic signal system on Old Route 57 from the Thruway interchange to Gaskin Road. 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.

## Freeway Management System- Phase I (I-81) and Phase II (I-690)

Problem Definition – Phase I: The section of Route I-81 between the north and south interchanges with Route I-481 includes the interchanges with Brighton Avenue, Route I-690, closely spaced entrance and exit ramps for downtown Syracuse, access to/from Carousel Center, Route 370 (Onondaga Lake Parkway), and Thruway Exit 36. The high volume of through traffic (LOS E and F), combined with peak hour ramp traffic causes significant back ups and vehicle incidents.

Phase II: The 12.5 mile section of Route I-690 between access to Thruway Exit 39 and Route I-481 includes several interchanges and highway segments identified by the NYSDOT as high accident locations. These include the interchanges with: Hiawatha Boulevard, West and West Genesee Streets, Route I-81, Teall Avenue, Midler Avenue, Thompson Road/Bridge Street; plus the Geddes Street to West Street section.

Project Description- Phase I: The I-81 Freeway Management Project involves the installation of 10 video cameras and radar vehicle detectors and 3 dynamic message signs along I-81 from I-481S to I-481N. Cameras and speed detectors will cover various I-81 interchanges and intersections. Dynamic message signs will be placed in advance of both I-481 interchanges.

Phase II: Currently, the preliminary project scope includes installing cameras, radar speed detectors, and dynamic message signs on I-690 from the I-481 interchange in the Town of DeWitt to the Thruway interchange in the Town of Van Buren. The need for Highway Advisory Radio (HAR) will be determined during the project's scoping phase.

Project Objectives- Enhance highway safety, reduce non-recurring vehicle hours of delay and provide traffic condition information and/or diversion suggestions to motorist during incidents.

#### 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 is studying improvements or relocations of its tandem lot locations in the area to enhance traffic flow and improve freight distribution. Also, the Central New York Regional Transportation Authority (CNYRTA) facilitated the building of the Regional Transportation Center, which interfaces train and intercity bus travel as well as improved transit connectivity.
- ## 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 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.

- ## 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 Colvin Street. The City is also considering extending the bike lane on Colvin Street to Sky Top. The City considers sidewalk improvements and upgrades to meet current ADA regulations within their street reconstruction program and their City sidewalk program.
- ## 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 ten percent of the 2003-2006 SMTC Transportation Improvement Plan (TIP) funding is allocated to bicycle and pedestrian improvements, such as trail development and streetscape improvements. 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 System*

One tool that the member agencies have to assist them in addressing asset management is the SMTC's Congestion Management System (CMS). The CMS is a process for managing congestion that provides information on the performance of the existing transportation system. The CMS is 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.

The CMS is currently completed on a two-year cycle as opposed to the one-year cycle that was previously followed primarily due to the fact that the traffic volumes were not significantly changing during the one-year cycle. In addition, it was determined that it would prove more useful if the CMS was completed in ‘non-TIP’ years, thus completing a report in time for it to be used in developing the following year's capital program.

The 2003-2004 CMS, which should be completed by the summer of 2004, includes numerous new count locations. This report will analyze approximately 200 road segments and 30 intersections throughout the SMTC region. Every year, new traffic counts will be collected 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.

As there are some limitations to the SMTC's current CMS process and product, staff will be participating on a New York State MPO Shared Cost Initiative (SCI) project aimed at identifying best practices for completing a CMS.

In addition, all of the count information gathered through the CMS process will be incorporated into the SMTC's new travel demand model. As the model becomes more complete, the SMTC will work towards a model-based CMS to more accurately and completely identify and/or analyze congested locations. Through the completion of a

model-based CMS, the SMTC anticipates that the CMS 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 (OCPB). 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 currently beginning a collaborative study titled "Northern MPA Planning". This study will coordinate communications with interested stakeholders for addressing issues of transportation and land use planning in the northern portion of the MPO area.
- ## 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 at the time of paving, 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 has advertised and will let in 2004 a project to install a closed loop traffic signal system on Old Route 57 from the Thruway interchange to Gaskin Road. 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.

## 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 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 are 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.

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.

#### ## Transportation Management Center

In addition to the NYSDOT Freeway Management System, project, the design phase for a functional and technical Transportation Management Center (TMC) is currently underway and will be completed through Advanced Detail Plans. The current project does not include the Plan's Specifications & Estimates (PS&E) phase. The TMC will be located in a vacant room on the first floor of the State Office Building that housed the communication equipment for the abandoned LINCOS calling system. This is intended to act as an interim TMC until a permanent location/facility can be secured. A backup TMC will be located in the Incident Command Center portion of the Equipment Management building in North Syracuse. The facilities at the backup TMC will be used when the Incident Command Center is inactivated.

Functions to be carried out at the TMC include operation of the Freeway Management Systems on I-81, I-690, and I-481 and the SMARTNET system. Other possible functions include operation of the region's closed loop signal system, plus snow and ice dispatch for Onondaga County. It is the intention that NYSDOT personnel will staff the center.



## **Chapter VII: Air Quality and Conformity Determination**

### **A. Introduction**

Air Quality, as it pertains to the operations of the Syracuse Metropolitan Transportation Council (SMTC) and its member agencies, includes the state and federal requirements for transportation conformity, project level analysis for Congestion Mitigation/Air Quality (CMAQ) funding, and requirements for the State Energy Plan (SEP) and Greenhouse Gas analysis. Additional requirements may be added in the future as a result of the reauthorization of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) and/or other Federal or State initiatives.

The SMTC and its member agencies take a multi-faceted approach to improving and monitoring air quality impacts within the SMTC planning area. Improvements in traffic monitoring technology or engine development, such as Compressed Natural Gas (CNG) transit fleets and Light Emitting Diodes (LED's) in traffic signals, can result in reduced emissions of pollutants and energy savings. Planning studies of long-range transportation issues generally examine the impacts of improvements on the region's air quality. Each project proposed for use of CMAQ funds requires an analysis of the air quality impacts of that particular project. This chapter will examine the three main areas under which the SMTC attends to air quality: conformity, CMAQ and Energy/Greenhouse gases.

### **B. Conformity**

Transportation conformity ("conformity") is a way to ensure that Federal funding and approval is applied to those transportation activities that are consistent with air quality goals. Conformity applies to transportation plans (such as the SMTC Long-Range Transportation Plan [LRTP]), Transportation Improvement Programs [TIPs], and projects funded or approved by the Federal Highway Administration [FHWA] or the Federal Transit Administration [FTA] in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide. These areas are known as "non-attainment areas" or "maintenance areas," respectively.

Transportation projects must demonstrate conformity in order to be funded. A conformity determination demonstrates that the total emissions projected for a plan or program are within the emissions limits ("budgets") established by the State Implementation Plan (SIP), and that transportation control measures (TCMs) are implemented in a timely fashion. TCMs are specific programs designed to reduce emissions from transportation sources by reducing vehicle use, changing traffic flow or congestion conditions. Examples include programs for improving public transit, developing high occupancy vehicle (HOV) facilities, and ordinances to promote non-motor vehicle travel.

The SMTC LRTP is a blueprint that guides investment in the surface transportation system in our metropolitan area, and is therefore required to be in conformity with the regional air quality plan or SIP. This is due to Onondaga County being designated a "maintenance" area for Carbon Monoxide (CO).

The SIP places limits on emissions of each pollutant for each source type (mobile, stationary and area sources). Projected emissions from highway and transit usage must be less than or equal to the emissions limits for on-road mobile vehicles that are established by the SIP. These emissions limits for motor vehicle emissions sources are called “budgets”.

Budgets are developed as part of the air quality planning process by the New York State Department of Environmental Conservation (NYSDEC) and approved by the Environmental Protection Agency (EPA). The FHWA, FTA, and the New York State Department of Transportation Environmental Analysis Bureau (NYSDOT EAB) participate with NYSDEC and EPA as members of the Interagency Consulting Group (ICG) that approves the budgets.

## 1. Non-Attainment Background

The SMTC metropolitan planning area (MPA) consists of all of Onondaga County and small portions of Madison and Oswego Counties. In the late 1970s, a CO monitor was placed in downtown Syracuse by the NYSDEC. The location of the monitor, at the intersection of East Adams Street and Almond Street, indicated that there were CO concentrations in excess of the EPA standards. Subsequently, parts of Syracuse were designated non-attainment for CO. In 1990 the Clean Air Act was amended to include a CO non-attainment classification scheme, which included a classification for low to moderate non-attainment. At that time, the non-attainment classification was expanded by NYSDEC to include all of Onondaga County. In 1992, the SMTC non-attainment area was re-designated to attainment of the CO National Ambient Air Quality Standards (NAAQS). As part of the re-designation process a maintenance plan was developed for 1993 through 2003.

Under Section 175A of the Clean Air Act of 1990, the individual states are required to provide for the maintenance of the NAAQS once an area is re-designated to attainment. The maintenance plan includes an attainment inventory, demonstration of continued attainment, and budgets for years leading to the end of this plan, (in 2013). A 1990 base year is included for comparison for emission reductions as provided by the conformity regulation. The emission budgets are also provided by the transportation conformity regulation. The SMTC travel demand model has recently been updated to a base year of 2003 to more accurately reflect trends.

The first Maintenance Plan expired in September 2003, and the NYSDEC released a new 10-year Maintenance Plan in December 2003, and subsequently revised it in February 2004. The February 2004 Plan is currently under review. The conformity analysis performed by the SMTC, in cooperation with the NYSDOT EAB, indicates that the SMTC area will continue to attain emission levels in conformance with requirements. As indicated previously, the conformity test for the SMTC maintenance area must demonstrate that, once a project is built, the emissions impacts of a proposed project will: 1.) be less than the emissions in the SMTC base year (originally established for modeling purposes as 1990); 2.) will remain below budgets established for selected future years as determined by the Interagency Consulting Group (specifically 2005, 2009, and 2013), and 3.) that TCMs are being implemented in a timely manner. All of the SMTC TCM's have been implemented and no new TCM's have been included in the proposed Onondaga County SIP. The conformity analysis for this LRTP 2004

Update shows that SMTC is well below the 1990 standards, as well as below for all future years analyzed.

The SIP and the conformity determination, while integrated, both have separate time frames as far as each year is examined. The SIP is only concerned with the time frame up to the end of the maintenance period in 2013, while conformity must look out at least 20 years, which is 2025 for this LRTP 2004 Update.

As the SMTC LRTP is a policy or “visioning” document, it does not contain specific projects. The projects included in the Transportation Improvement Program (TIP), all of which are consistent with the goals and objectives of the original LRTP and subsequent updates are considered to be the project list for the LRTP. The policies contained in this LRTP 2004 Update support the intentions of the Clean Air Act Amendments (CAAA) in maintaining the NAAQS. The LRTP goals, directives, recommendations and policies are in conformance with the SIP requirements.

## 2. Generation of Vehicle Miles Traveled and Average Speed Forecasts

The SMTC uses TModel2 as its travel demand-modeling platform. The Syracuse Intermodal Model (SIM) is utilized to estimate the study area's peak hour transportation demand for modes other than personal motor vehicles. The SIM is a stand-alone package developed as an adjunct to the original SMTC travel demand model that attempts to add bicycle, pedestrian and transit travel to the SMTC's travel demand model. This multimodal “add on” provides some estimate for non-automobile trips but is quite limited in its capabilities.

The data forecasts used in the model are derived from several sources. Current population estimates were obtained via the 2000 census while future population estimates for the horizon year were forecasted by a working group of local professionals with experience in demographic analysis. This working group included the Syracuse-Onondaga County Planning Agency (SOCPA), the Central New York Regional Planning & Development Board (CNYRPDB), NYSDOT, SMTC, and others.

Land use data in the model (e.g., type of employers and number of employees) was similarly calculated for both the base and future scenarios utilizing the above-mentioned working group with the addition of key economic development agencies and personnel. Some of the key additions to the working group included the Director of the Onondaga County Industrial Development Agency and the CNYRPDB's Director of Economic Development.

Travel data for transit was included in the modeling, taking into account Central New York Regional Transportation Authority (CNYRTA) fixed route service. CNYRTA's para-transit service is treated as shared ride trips. Additionally, bicycling and walking trips were also quantified via some system wide adjustments.

The process by which both the residential forecasts and employment forecasts was made will be significantly improved upon in the new Travel Demand Model that is currently under

development at the SMTc. These improvements are planned to yield an even more accurate and useful model for the SMTc area.

### 3. Projects Included in the Analysis

The conformity rules have designated several categories of projects that, by their nature, will not affect regional emissions. These projects are categorized as “**exempt**”. Highway and transit projects of the types noted below are exempt from the requirement to determine conformity. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. However, a particular action of the type listed below is not exempt if the MPO, in consultation with the ICG, concurs that it has regionally significant emissions impacts.

The following list of exempt projects is derived from “Table 2 - Exempt Projects” in 40 CFR Part 93.126 and 6 NYCRR Part 240.27.

#### Ø **Safety**

1. Railroad/highway crossing
2. Hazard elimination program
3. Safer non-Federal-aid system roads
4. Shoulder improvements
5. Increasing sight distance
6. Safety improvement program
7. Traffic control devices and operating assistance other than signalization projects (i.e. Intelligent Transportation Systems (ITS) maintenance and ITS operations)
8. Railroad/highway crossing warning devices
9. Guiderails, median barriers, crash cushions
10. Pavement resurfacing and/or rehabilitation
11. Pavement marking demonstration
12. Emergency relief (23 U.S.C. 125)
13. Fencing
14. Skid treatments
15. Safety roadside rest areas
16. Adding medians
17. Truck climbing lanes outside the urbanized area
18. Lighting improvements

19. Widening narrow pavements or reconstructing bridges (no additional travel lanes)
20. Emergency truck pullovers

Ø **Mass Transit**

1. Operating assistance to transit agencies (or entities that provide transit service)
2. Purchase of support vehicles
3. Rehabilitation of transit vehicles
4. Purchase of office, shop, and operating equipment for existing facilities
5. Purchase of operating equipment for vehicles (i.e.: radios, fare boxes, lifts, etc.)
6. Construction or renovation of power, signal, and communications systems
7. Construction of small passenger shelters and information kiosks
8. Reconstruction or renovation of transit buildings and structures (i.e.: rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures)
9. Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way
10. Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet
11. Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR 771

Ø **Air Quality and Other**

1. Continuation of ride-sharing and van-pooling promotion activities at current levels
2. Bicycle and pedestrian facilities
3. Planning and technical studies that do not proceed to construction
4. Grants for training and research programs
5. Planning activities conducted pursuant to titles 23 and 49 U.S.C.
6. Federal-aid systems revisions
7. Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action
8. Noise attenuation
9. Advance land acquisitions (23 CFR 712 or 23 CFR 771)

10. Acquisition of scenic easements
11. Plantings, landscaping, etc.
12. Sign removal
13. Directional and informational signs (i.e. ITS maintenance and ITS operations)
14. Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities)
15. Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes

Projects which are expected to affect the distance, speed or capacity of a roadway, and do not fall under any of the above noted classifications, are categorized as “**non-exempt**” and must undergo a conformity analysis. All of the non-exempt projects included in the 2003-2006 TIP that could be modeled did undergo a conformity determination analysis for the 2025 scenario and are included in Table 7-1.

**Table 7-1**

Non-Exempt Projects Included in the Analysis			
PIN	Project	General Scope	TCM?
375285	Geddes/Genesee Sts Signal Interconnection	Upgrading of signals and inclusion in existing interconnect system.	No
375272	Lodi St/North Salina St. Signal Improvements	Upgrading of signals and inclusion in existing interconnect system.	No
375281	Kirkpatrick/Court/Solar	Realign Court/Kirkpatrick, expand Kirkpatrick to 4 lanes, rehabilitate Solar Street.	No
303756	Rt. 31 Over Seneca River (Belgium Bridge)	Widening of Route 31 to reduce vehicle hours of delay and safety deficiencies.	No
Source: SMTC, 2003-2006 TIP. “PIN” stands for project identification number; “TCM” indicates whether or not the project is a Transportation Control Measure.			

#### 4. Emissions Modeling

The 2004 emissions analysis was based upon the emission estimates from the recently released MOBILE 6 model. The results of the model include an estimate of the total daily CO emissions from mobile sources (cars, buses, trucks) in Onondaga County. This emissions analysis is based on calculations for a winter day with vehicle, traffic and weather conditions that are the most conducive to carbon monoxide production. The above analysis includes measures from the emission control program. Specific examples include the gas cap integrity check, anti-tampering program, an on-board diagnostics system check, and the California Low Emission Vehicle II Program (CAL LEV II).

## 5. Results of the Emissions Modeling

The modeling output shows that carbon monoxide emissions between the base year of 1990 and the forecast year of 2025 will be significantly reduced. The analysis indicates that with the completion of construction or implementation of the projects on the TIP, the area will still result in emission levels that are lower than the 1990 base year.

In addition to the required emissions level conformity test, the SMTc staff and the NYSDOT analyzed several milestone years between the 1990 base year and the 2025-plan year. The results of these analyses demonstrate the gradual reductions in CO emissions over time for the milestone years. These are shown in Table 7-2.

**Table 7-2**

Emissions Modeling Results				
Year	1990	2005	2009	2013
Budget	N/A	495	372	357
Mobile 6 Analysis	803	438	275	224
Emissions in tons per winter day (tpwd). Calculated by the NYSDOT, EAB, April 1, 2004.				

## 6. Timely Implementation of Transportation Control Measures (TCMs)

All of the TCMs from the previous Maintenance Plan have been implemented. No new TCM's have been identified in the new Maintenance Plan for the years 2003-2013. The previous TCM's from the 1999-2004 TIP are shown for informational purposes in Table 7-3.

## 7. Transit Impacts on Conformity

The Transportation Conformity Rule (40 CFR Part 93), issued by the USEPA, requires that the conformity determination for each Plan and TIP must discuss how transit operating policies (including fares and service levels) and assumed ridership have changed since the previous conformity determination (93.110(c)). In addition, the conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time (93.110 (d)).

The CNYRTA has not had a fare increase since 1995. According to the CNYRTA, there would be no fare increase in the foreseeable future as fares are raised only as a last resort. The same applies to service levels. The CNYRTA reduced service in 1995, however in November 2002, service was added as part of a major restructuring of bus lines and service hours. As a result of that restructuring, CNYRTA ridership is up approximately 4% overall. Finally, CNYRTA will continue to pursue the service concepts proposed in the ReMAP Study completed in 1999 to the extent possible, given adequate funding. These concepts include small bus community circulators in suburban settings, express services between downtown and outlying locations and



the development of key hubs. There has been limited success to date with some of those service concepts. Two new bus routes were added; one is doing moderately well, while the other was cancelled due to lack of sufficient ridership.

**Table 7-3**

<b>Transportation Control Measures (TCMs) Update</b>				
PIN	Project	1994-1999	1999-2004	Comments
303519	RT 57, phase IV, Gaskin to RT 31	Construction 11/96		Implemented
310412	RT 635, RT 5 to RT 298	Construction 11/94	Construction 6/98	Implemented
310413	RT 298, Syracuse to Carrier Circle	Construction 11/98	Construction 4/02	Implemented
375206	Harrison Street Traffic Signal	Construction 9/95		Implemented
375207	Buckley Road Improvements at Bear Road	Construction 11/95		Implemented
380272	Oncenter Signs	Construction 1/94		Implemented
380275	Downtown Syracuse Signal Interconnect System	Engineering 11/96	Construction 7/96	Implemented
380307	Connections Ride Sharing Program			Implemented
380312	AVL System	Construction 10/96		Implemented
382074	Fare Collection System	Construction 10/96		Implemented
382089	Shelter Schedule Panels	Construction 10/94		Implemented
Source: Syracuse Metropolitan Transportation Council, 1999-2004 Transportation Improvement Program.				

## 8. Summary

Since the regional implementation program of transportation projects, as reflected in the TIP and derived from the goals and objectives of the LRTP, have been shown to meet the required emission reduction test for air quality conformity, and there are no applicable TCM's in the current SIP for the Onondaga County area, **the 2025 LRTP 2004 Update has been shown to be consistent with applicable conformity regulations and the proposed February 2004 SIP.** No goals, directives, recommendations or projects of the LRTP will contradict requirements or commitments of the SIP or the intent of the CAAA or other applicable federal and state guidance.

The conformity analysis prepared by the SMTC, with the support of NYSDOT EAB, may be found in Appendix D.

### **C. Congestion Mitigation/Air Quality Program**

The CMAQ program was established under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 as a funding source for transportation projects and programs that help support the goals of the 1990 CAAA of 1990. The program was reauthorized under TEA 21. The main goal of the CMAQ Program is to fund transportation projects that reduce emissions in non-attainment and maintenance areas. In the context of total available federal transportation funding, CMAQ makes a small but targeted contribution toward addressing air quality issues.

Congestion mitigation is also a goal of the CMAQ Program. Congestion relief can contribute to improvements in air quality by reducing travel delays, engine idle time and unproductive fuel consumption. Over the past twenty-five years, vehicle miles traveled (VMT) have more than doubled, while lane miles have increased slightly. As VMT increases there is greater opportunity for congestion and increased emissions.

All sponsors in the Syracuse metropolitan region requesting CMAQ funds must provide an air quality analysis for review and approval by the SMTC and NYSDOT EAB. A few examples of CMAQ projects funded by the SMTC in the 2002-2006 fiscal year time frame include:

- €# Geddes/Genesee Signal Interconnect (signal upgrades and linking to signal interconnect system);
- €# Lodi/North Salina Street Signal Improvement (signal upgrades and linking to signal interconnect system);
- €# Onondaga Lake Canalway Trail (significant regional pedestrian/bicycle trail),
- €# Syracuse Creekwalk, Phase 1 (significant urban trail project);
- €# Henry Clay Boulevard at Buckley Road (intersection improvement to reduce congestion and improve traffic flow); and
- €# 7<sup>th</sup> North Street at Wetzel Road (intersection improvement to reduce congestion and improve traffic flow).

According to the CMAQ analysis, the combined first year benefit of these projects is roughly 32 tons/year in CO emissions and is shown in Table 7-4.

Two other projects have a CMAQ analysis pending:

- €# Operations of the City of Syracuse Traffic Control Center (support for effective operation of signal interconnect system); and
- €# Replacement of 29 diesel transit buses with clean fueled buses.

**Table 7-4**

**CMAQ Projects in the 2003-2006 TIP Benefits in Tons Per Year**

<b>Sponsor</b>	<b>Project</b>	<b>Anticipated Year Complete</b>	<b>Tons/Year Benefits</b>
City of Syracuse	Geddes/Genesee Signal Interconnect	2004	0.096
City of Syracuse	Lodi/North Salina Signal Improvement	2005	0.005
City of Syracuse	Syracuse Creekwalk	2004	7.626
Onondaga County	Onondaga Lake Canalways Trail	2009	24.634
Onondaga County	Henry Clay at Buckley Intersection Imp.	2004	0.052
Onondaga County	7th North at Wetzel Road Intersection Imp.	2004	0.047
<b>TOTAL</b>			<b>32.46</b>
<i>This table was created from information derived from the SMTC's 2003 – 2006 TIP and various individual CMAQ analysis calculated by the SMTC for various projects.</i>			

Once CMAQ projects have been completed, a “before and after” study is necessary (according to federal requirements) to confirm the benefits predicted by the project sponsors. To ensure continued emissions benefits from a project, the EAB and SMTC require that the scope be reviewed and an analysis completed for each year that funds are requested.

## **D. Energy and Greenhouse Gas Impacts**

### **1. Introduction**

A policy objective of both the U.S. Department of Transportation and the State of New York is the conservation of energy through a reduction in motor fuel consumption. In addition, the New York SEP has identified a reduction of greenhouse gases (CO<sub>2</sub>) as an objective for all LRTPs.

Similar to the documentation relating to air quality emissions above, the SMTC performed a quantitative analysis on both energy consumption and carbon dioxide emissions that may result from the implementation of the 2025 LRTP. This analysis, included to promote the policy objectives of federal and state transportation departments, is intended to focus awareness on these issues.

### **2. State Energy Plan (SEP)**

The 2002 SEP laid the foundation for many of the State’s transportation policies with regard to energy-efficient travel. The SEP is coordinated with the statewide Master Transportation Plan prepared by the NYSDOT and the SIP for air quality prepared by the NYSDEC.

“The SEP achieves a true integration of transportation issues with energy, environmental and economic development issues. It contains several recommendations and goals that affect the transportation sector and how we do business. Among the more significant recommendations and goals are:

- ## Reducing energy use across all sectors and all fuels by 25 percent by 2010 from 1990 levels;
- ## Reducing greenhouse gas emissions across all sectors and all fuels by 5 percent by 2010 and 10 percent by 2020 from 1990 levels;
- ## Including greenhouse gas, air quality and energy production (and mitigation, as appropriate) in the development of transportation plans, programs and projects at a metropolitan and statewide level;
- ## Redirecting transportation funding to energy efficient transportation alternatives;
- ## Targeting open space funding to prevent suburban sprawl, reduce vehicle miles traveled, and reduce energy use and pollutant emissions; and
- ## Supporting, adopting and enhancing various emission control strategies.”<sup>1</sup>

The statewide Master Transportation Plan emphasizes maintaining transit infrastructure and providing operating improvements that will continue to improve the energy efficiency of travel in New York. The significant continuing investment in Intelligent Transportation Systems (ITS) statewide is also expected to have a positive effect on future energy use.

The policies and objectives set forth in the SEP provide many areas where efforts to improve the efficiency of the transportation system are aligning with these new travel trends, such as the statewide ITS program, passenger rail and bus infrastructure upgrades, transit enhancements, promotion of new pedestrian and bicycle facilities, intermodal freight access improvements, and the New York State High Speed Rail Initiative.

Energy use in the transportation sector is derived from the amount of travel, expressed as VMT, and fuel economy, expressed as miles per gallon (MPG). Increasing energy efficiency in the transportation sector can be accomplished by reducing VMT, increasing the fuel economy of the vehicles used for travel, or by reducing congestion and vehicle delays. Reducing VMT can be achieved in a number of ways, from an absolute reduction in travel to increasing the occupancy of each vehicle to move the same or more travelers in fewer vehicles (e.g., shifting from single-occupant vehicles (SOVs) to HOVs, which include carpools, vanpools, and transit vehicles).

The primary methods used to reduce congestion and its impacts are decreasing Vehicle Hours of Delay (VHD) and total VMT. Every action undertaken by the State or local transportation agencies to mitigate the growth of congestion attempts to accomplish one or both of these objectives. These actions by nature are multimodal; covering highway construction and operating projects, transit capital projects and operating policies (e.g., fare incentives), and motor carrier and rail freight services.

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<sup>1</sup> Memorandum from Michael Fleischer, First Deputy Commissioner to Executive Staff, Assistant Commissioners and Regional Directors, September 23, 2002.

### 3. SMTC Initiatives & The New York State Energy Plan

The SMTC and its member agencies fully support the efforts and goals of the New York State Energy Plan and there are several examples indicative of this support. The NYSDOT, the Onondaga County Department of Transportation (OC DOT) and the City of Syracuse have upgraded a number of their traffic signals to use LEDs, which save energy and are longer lasting than standard bulbs. The NYSDOT and the CNYRTA maintain CNG fueling stations and both agencies are increasing their fleets of CNG vehicles. In addition, the City of Syracuse has an established CNG fueling facility maintained by the Department of Public Works that services not only the growing City fleet of alternative fueled vehicles, but also provides services for other agencies and municipalities.



*Diesel-Electric Hybrid during testing at CNYRTA*

Previous UPWP studies have included ridesharing programs, emergency energy contingency plan development, staggered work hours feasibility, and several traffic improvement studies that have had direct input into the TIP development. In particular, extensive work has been completed on the coordination and optimization of traffic lights in the City of Syracuse. In addition, the SMTC has funded through its TIP process an Environmental Technology Degree program to

support the Alternative Fuels Technology Center at Onondaga Community College, as well as an expanding fleet of CNG and clean-fueled buses for the transit authority. The SMTC is also a stakeholder in the Clean Communities of Central New York program. The CNYRTA has also tested and is planning on purchasing diesel-electric hybrid buses, which further reduce energy, greenhouse gases and CO emissions.

The CNYRTA envisions that by 2025 their fleet would consist of Diesel-Electric Hybrids allowing the retirement of the existing diesel fleet and the operation of clean-fueled buses throughout their regional system (where currently CNG buses cannot operate). The support of the CNYRTA's efforts by the SMTC will allow the replacement of both diesel and CNG with an even cleaner, more energy efficient transit fleet. The Hybrid buses get improved mileage as well as significantly reduce emissions.

One interesting and useful initiative that is in the process of being implemented by the NYS Thruway Authority (NYSTA) is a Truck Stop Electrification (TSE) project. This is a \$500,000,

two-year pilot program being funded jointly by the NYSTA, the New York State Energy Research and Development Authority (NYSERDA), and Niagara Mohawk. Up to 44 TSE units have been installed at the DeWitt and Chittenango Travel Plazas (both located near Syracuse) as part of the pilot project. The program is also being extended to other parts of the Thruway System. The goal of this project is to provide electrical, heat, air conditioning, and other powered services to the trucks via window units. This will allow the trucks to be powered down during their rest periods, saving energy (diesel fuel) and reducing truck-based emissions.

According to the Argonne National Laboratory, truck engines idle an average of six hours a day and 1,830 hours per year, wasting millions of gallons of diesel fuel annually. A single long-haul truck idling for 1,830 hours per year emits an estimated 220 pounds of nitrogen oxide, 380 pounds of carbon monoxide and over 20 tons of carbon dioxide (CO<sub>2</sub>), a greenhouse gas. The fuel savings realized by not idling for an 8-hour period could provide truckers with 56 to 64 miles of distance, or about 60 more minutes travel time before stopping to refuel.

This TSE project is a practical implementation of a transportation related project that directly impacts energy usage and emissions output in a positive and measurable manner. This project is very much in line with the goals of both the SMTC's LRTP 2004 Update and those of the NYS Energy Plan as well as assisting various environmental initiatives at the state and federal level.



*Photo of TSE from the NYS Thruway website*

#### 4. Private Sector Initiatives

In Central New York the private sector has also been active in initiatives that support the goals of the State Energy Plan. CSX Transportation has been retrofitting its fleet of diesel engines with an auxiliary power unit (APU) generator, which allows the railroad to reduce idling thereby saving fuel, energy and substantially reducing emissions from railroad sources. The APU provides for power during idling and shuts down the main locomotive engine. According to the CSX Transportation Mechanical Department and the EPA, during idling the APU provides for the following reductions in emissions:

- ≠# 85% reduction in Carbon Dioxide (CO<sub>2</sub>)
- ≠# 91% reduction in Nitrous Oxides (NO<sub>x</sub>)
- ≠# 94% reduction in Hydrocarbons (HC)
- ≠# 96% reduction in Carbon Monoxide (CO)
- ≠# 84% reduction in Particulate Matter (PM)

CSX Transportation anticipates completing installation of the APU on its fleet of 3,600 locomotives by 2005. In addition to the APU, according to reports of the American Association of Railroads (AAR), fuel efficiency in the railroad industry has improved 68 percent since 1980. CSX Transportation has reported a CO<sub>2</sub> emission reduction from 0.034 Kg/ton-mile in 1999 to 0.026 Kg/ton-mile in 2001.

Improvements by short line railroads in the region have also contributed to conversion an increasing amount of freight traffic being converted from truck to rail thereby reducing number of truck trips and reducing congestion while saving energy and reducing emissions.

In addition to the above noted endeavors by the SMTTC and its member agencies, the state energy plan requires an analysis of energy consumption and greenhouse gas for TIP's and Plans. The process and results of that analysis are described below.

#### 5. 2025 Long-Range Plan 2004 Update Energy Analysis

The LRTP 2004 Update is the first document that requires both an analysis of energy usage and an analysis of greenhouse gas emissions. The NYSDOT EAB provided guidance on the approach to this process. These guidance documents are as follows:

- *Air Quality Analysis of Transportation Improvement Programs, Regional Transportation Plans, and Capitol Project programs – Technical Guidance to Assist Metropolitan Planning Organizations and Department of Transportation Regional Offices Meet the Objectives of the 2002 New York SEP* (January 21, 2003);
- *Development of Revised NYSDOT Energy Analysis Guidelines (Draft), Subtask 12a: Energy Analysis Guidelines for TIPs and Plans* (June 21, 2002); and
- *Development of Revised NYSDOT Energy Analysis Guidelines (Draft), Subtask 12b: Greenhouse Gases (CO<sub>2</sub>) Emissions Estimates for TIPs and Plans* (June 21, 2002).

To comply with/adhere to this guidance, the SMTTC staff worked through a nine-step process that included:

1. Projects were reviewed based on guidance provided in 6 NYCRR Part 240.6 (h)(2) for their significance in effecting energy consumption and the appropriate projects were

identified as non-exempt projects.

2. Travel Demand Modeling was completed to determine the impact of future projects in the Syracuse MPA. The analysis scenarios included a year 2025 no-build and a year 2025 build (2025 is the horizon year of the SMTC LRTP). The no-build scenario includes the 2003 roadway network with 2025 demographic and employment projections excluding two major private developments : Lakefront Development and the Clay Industrial Site Development, while the build scenario consists of the 2025 road network and 2025 land-use characteristics including the two noted developments. Please note that the omission of the previously mentioned projects in the No Build scenario resulted in an increase of VMT for the Build scenario compared to the No Build scenario. The programs and policies reflected in the LRTP would reduce the total Build scenario VMT to levels below the No Build scenario if these private development projects were excluded from the Build scenario. As these projects are private developments, their construction is not contingent on adoption of the LRTP.
3. Off-model Projects analysis to account for the visions of the 2025 LRTP that could not be modeled in TModel 2. Inclusion of transit and bicycle/pedestrian transportation modes is beyond the capabilities of the current modeling software in any meaningful way. Using information developed by the SMTC and its member agencies, SMTC calculated the reduction of VMT as a result of transit and bicycle and pedestrian system improvements envisioned in the LRTP.
4. Regional Emissions Modeling. The emissions modeling for the SMTC has traditionally been performed by NYSDOT EAB during the conformity analysis process. For this analysis, however, the SMTC averaged emissions factors by road type and speed, and developed emission factors for Volatile Organic Compounds (VOC) and Nitrogen Oxide (NOx) for both the build and no-build scenarios. CO was also calculated using the same methodology.
5. Direct Energy Analysis. Direct energy represents the energy consumed by vehicles using a transportation facility (for this analysis, “facility” is defined as the roadway segments in SMTC’s regional travel demand model). For this analysis, per EAB guidelines, only the energy used in construction activities for the identified Non-Exempt projects, including new construction, reconstruction, rehabilitation, and widening was analyzed. Each scenario total VMT was multiplied by the percentage of each vehicle type to determine vehicle type VMT. That vehicle type VMT was then divided by the fuel economy rate to calculate the number of gallons of fuel used. These fuel consumption values were then converted to British Thermal Units (BTUs) by multiplying each gallon by 125,000. Finally, these total direct energy consumption (in BTUs) were summarized for all vehicles in either scenario.
6. Indirect Energy Analysis. Indirect energy represents the energy required to construct and maintain the transportation system. Indirect energy values were calculated for any non-exempt project where this calculation was relevant. Certain non-exempt projects, such as ridesharing, include no energy-consuming construction or maintenance activities, and therefore, an indirect energy calculation is not applicable.
7. CO<sub>2</sub> Emissions Estimates from Direct Energy Consumption. The guidance from EAB provides Carbon Emission coefficients based on vehicle type. The Direct Energy



consumed (by vehicle type) was multiplied by the Carbon Emission Coefficients for both gasoline and diesel engines and then by a factor representing the amount of carbon that is oxidized. This process created a value representing total tons of carbon dioxide emitted.

8. CO<sub>2</sub> Emissions Estimates from Indirect Energy Consumption. Similar to the step above, the indirect energy consumed was multiplied by the Carbon Emission Coefficients for diesel vehicles and then by a factor representing the amount of carbon that is oxidized. The results were the total tons of Carbon emitted.
9. Documented and presented the results of the analyses.

## 6. Analysis Summary

The results of the analysis demonstrate that the projects new to the 2025 LRTP will provide for an insignificant increase in the emission of VOC, NO<sub>x</sub>, CO, and CO<sub>2</sub> and the amount of direct energy used by vehicles in the Syracuse MPA. The emissions analysis for VOC, NO<sub>x</sub> and CO is shown in Table 7-5. The energy summary and CO<sub>2</sub> analysis is shown in Table 7-6. It should be noted that the TModel outputs are accurate to only +/- 10 - 15%. This indicates that the VMT generated for greenhouse gas and energy plan analysis are roughly equal since they are within that margin of error.

**Table 7-5  
Emissions Analysis**

Scenario		VMT	VOC (grams)	NOX (grams)	CO (grams)
2025 no-build	Peak	4,519,672	949,131	949,131	48,104,377
	Off-Peak	10,008,969	2,402,153	2,201,973	109,031,038
	<b>Total</b>	<b>14,528,641</b>	<b>3,351,284</b>	<b>3,151,104</b>	<b>157,135,415</b>

Scenario		VMT	VOC (grams)	NOX (grams)	CO (grams)
2025 build	Peak	4,707,573	988,590	988,590	50,104,269
	Off-Peak	10,415,115	2,499,628	2,291,325	113,455,319
	<b>Total</b>	<b>15,122,688</b>	<b>3,488,218</b>	<b>3,279,916</b>	<b>163,559,588</b>
2025 build with off-model transit and bike/ped assumptions	bike/ped reduction*	-30,245	-7,127	-1,563	-17,035
	transit reduction**	-410,650	-96,770	-21,217	-231,295
	<b>Total</b>	<b>14,681,793</b>	<b>3,384,321</b>	<b>3,257,136</b>	<b>163,311,257</b>

Avg. Emission Factors***			
	35 mph	40 mph	Subtractive****
VOC	0.21	0.24	0.24
NOx	0.21	0.22	0.22
CO	10.64	10.89	10.90

\*bike/ped reduction assumes decrease of 2% VMT in 2025 build scenario

\*\*transit reduction assumes 32,852 daily riders with 12.5 mile average trip length in 2025 build scenario

\*\*\*Emission factors were determined by an average of factors by road type for each speed

\*\*\*\*Subtractive emission factors were developed as a function of peak versus off peak emission factors

**Table 7-6**  
**CO<sub>2</sub> and Energy Summary**

Scenario	VMT	Energy		Greenhouse Gas (CO <sub>2</sub> ) Emissions	
		Direct (BTUs)	Indirect* (BTUs)	Direct (tons)	Indirect (tons)
<b>2025 no-build</b>	14,528,641	101,258,844,095	0	2,151	0
<b>2025 build</b>	14,681,793	102,326,250,454	126,300,000,000	2,174	2,749
<b>Change (build-no build)</b>	153,152	1,067,406,359	--	23	--
<b>% Change (build-no build)</b>	1.05%	1.05%	--	1.05%	--

*\* The intent of the indirect energy and greenhouse gas calculations was to measure the impact of the construction of the projects in the SMTC Long-Range Plan. The indirect energy used in the 2025 No-Build scenario is zero (as is the greenhouse gas emissions arising from the indirect energy used); therefore it is not possible to compute the percentage difference between the two scenarios.*

*2025 Build scenario includes off model transit and bike/ped assumptions.*

Further details of the analysis steps utilized by SMTC staff and the results thereof are shown in Appendix E. This appendix details several important considerations relevant to both greenhouse gas and energy calculations.

## **E. Conclusions**

The SMTC and its member agencies will continue to develop processes and tools to further monitor and improve our air quality for a variety of pollutants, while working towards enhanced energy savings and a more effective transportation system operation. In addition, the SMTC and its member agencies will continue to work closely with the New York State Department of Transportation Environmental Analysis Bureau to achieve the goals and objectives of the State Energy Plan. However, it is anticipated that significant additional resources and funding will be required to address this area. Metropolitan Planning Organizations (MPOs) generally do not have the level of expertise and resources on hand that are now being required for increasingly more complex and integrated analysis in this subject area. In addition, the MPOs will require greater clarity and consistent detailed guidance, training and tools to allow for such analysis.

## **Chapter VIII:**

### **Long-Term Outlook and the Financial Plan**

#### **A. Long-Term Outlook**

When examining the long-term outlook for transportation planning and programming over the foreseeable future, there are several summary conclusions that can be drawn.

##### 1. Asset Management and Infrastructure Maintenance

First and foremost, as shown in the previous sections of this plan, the vast majority of financial resources relating to transportation for the Syracuse Metropolitan Transportation Council (SMTC) area are committed to maintaining the extensive, diverse, and aging infrastructure that already exists in the community. This infrastructure maintenance includes, but is not limited to the following major activities discussed briefly below.

##### **≠# Pavement Maintenance / Road Reconstruction:**

Most member agencies have programs for preserving infrastructure maintenance, including pavement and bridges. The City of Syracuse, the Onondaga County Department of Transportation (OCDOT), the New York State Department of Transportation (NYSDOT) and the New York State Thruway Authority (NYSTA) all have active pavement management systems (PMS) that include routine scoring of pavements and repaving a pre-determined number of centerline miles of roadway each year. The repaving program consists of in-house work (for routine pavement maintenance and minor repairs) and contractual work (for major overhauls and maintenance paving). By following a periodic treatment cycle (for example, every eight to ten years) for the pavement maintenance program, the initial pavement investment is preserved, with the possibility of avoiding a future total pavement overhaul for quite some time. Additionally, the SMTC includes the Bridge and Pavement Condition Management System (BPCMS) annually on its Unified Planning Work Program (UPWP). The goal of this effort and corresponding report is to publish the conditions of the bridges and pavement in the MPO area for each member agency that is responsible for infrastructure maintenance. This tool is an additional aid that can be utilized by member agencies in setting their road maintenance priorities.

##### **≠# Bridge Repairs / Improvements:**

The NYSDOT inspects all bridges in the Metropolitan Planning Organization (MPO) area and determines goals for the condition of both state and local (non-state) bridges. The bridge condition ratings and the goals are also included in the annual SMTC BPCMS report. A common existing programming challenge with bridges in the MPO area is that many of the bridges are of similar age, and therefore are due to be repaired at relatively the same time (i.e., interstate bridges, canal bridges). This presents a challenge because only a limited amount of money is available for bridge repairs in any given year, yet many bridges may be “due” for improvements. It is more difficult to stagger bridge rehabilitation schedules than pavement life cycles. This challenge is met via a priority system given to the bridges so that the safety of the traveling public is never compromised.

#### ## Other Safety Improvements:

Safety is a high priority for the implementing agencies in the MPO area. Most member agencies regularly schedule safety improvements for corridors, roadways and intersections. Common safety improvements to minimize incident severity include minor widening of roadways, minor horizontal and vertical changes in a roadway and geometric adjustments such as the straightening of a curve. There are various mechanisms in place to monitor safety conditions on highways. One such NYSDOT safety monitoring mechanism is the creation of annual accident/incident location lists. Similarly, the SMTC annually completes a Safety Improvement Analysis that examines 10 locations chosen by either the City of Syracuse or Onondaga County.

#### ## Transit Maintenance and Improvements:

Centro is leading the way in Central New York in the use of alternative fuel, low emissions vehicles. Currently, Centro has 207 total buses in its fleet including 114 compressed natural gas (CNG) buses. Centro has constructed a CNG fueling facility that is open to the public. However, this facility is currently being used only by companies with fleet vehicles. Additionally, Centro is pursuing New York State consortium of transit properties to purchase hybrid buses. The consortium would include approximately seven transit agencies interested in buying the same model of hybrid buses. Through purchasing a larger quantity using the consortium, the buses can be purchased at a reduced rate. This would include Centro purchasing five to nine buses at approximately \$450,000 to \$500,000 each. In looking toward future improvements, hydrogen fuel cell buses (approximately \$1 million each) will improve air quality. As buses require maintenance and eventual replacement during their life cycle, there is a need for continuous money to be available to upgrade and upkeep Centro's fleet. Additionally, instead of purchasing a few buses each year to keep the fleet operable, Centro purchases a larger number of buses every few years because this allows for a reduced rate on the bus price.

The Central New York Regional Transportation Authority (CNYRTA) bus lines serving the City of Syracuse converge at "Common Center" in downtown at the intersection of Fayette and Salina Streets. During weekday, midday and evening periods and also on weekends, buses are scheduled to meet at Common Center to facilitate passenger transfers. Currently, the number of bus lines that can make connections at these "pulses" or "line-ups" is constrained due to space limitations. Buses entering the City are routed to specific stops; however, bus queuing within each stop can be inconsistent, which can lead to customer confusion. Moreover, Fayette and Salina Streets are major arterials in downtown Syracuse, carrying significant traffic volumes. While the intersection is fully signalized, the volume of vehicular traffic often conflicts with crossing pedestrian movements creating safety concerns. Finally, while bus shelters are provided at Common Center, its location at a major central business district (CBD)

intersection precludes significant improvement to the facility due to lack of right-of-way and surrounding land use considerations.

CNYRTA is seeking funding to construct a stand-alone Common Center transit facility where bus operations can be conducted off-street and out of general traffic patterns. This facility will offer a convenient, safe, weather-protected environment for passengers to make transit connections.

## 2. Notable Exceptions

It is expected that the majority of the resources that will be expended in the near future relate to maintenance via the activities previously discussed and other required actions. However, there are some notable exceptions that should be called out.

### ## Additional Capacity:

While not a major activity in the MPO area, adding capacity is an occasional activity that is required due to economic and residential expansion into outlying areas. While there are no current major capacity building efforts on the programmed TIP, it is possible that in the near future some additional capacity will be needed in select and isolated portions of the transportation system in response to growth. Recent examples of projects that are either completed or underway include the added capacity improvements on NYS Route 31 in response to the large influx of development in the area, as well as the Belgium Bridge replacement project. While these existing scenarios are likely extreme examples of additional capacity building that may be needed at select locations in the future, it would be incorrect to say that no capacity improvements will be necessary in the twenty-year planning horizon. Rather, it is more likely that minor capacity building projects may be required in response to select areas of growth.

### ## New Transit Initiatives:

Centro will continue to pursue alternative service concepts. Studies that have been completed regarding transit initiatives (such as the Regional Mobility Action Plan [ReMap] and Job Access Reverse Commute [JARC]) recommended alternative transit options and services. One example of this concept is the successful Mobility Management Center, which Centro plans on expanding.

### ## Additions and improvements to the Non-Motorized System (Bicycle & Pedestrian System):

Since the Intermodal Transportation Efficiency Act (ISTEA) of 1991 legislation, bicycle and pedestrian planning activities continue to be addressed through the UPWP. Bicycle and pedestrian capital projects have also become a growing element of the Transportation Improvement Plan (TIP). This trend will continue to be a consistent element when dealing with transportation issues within the SMTC members' transportation systems. As a result, the completion and connection of existing trails, sidewalks, and bicycle facilities may be further emphasized in the future, thus improving the non-motorized transportation system.

## ## New Development Potential:

Theoretical plans for the Lakefront area call for various economic development opportunities. One such plan is the Destiny USA initiative. If built to its advertised potential, these plans could significantly impact the MPO area. If the plans materialize, an update to the existing Long-Range Transportation Plan (LRTP) will likely be needed in order to take transportation changes and requirements adequately into account. Due to the various options currently being discussed and the lack of any guarantee of the project actually being constructed, it would be inappropriate for this document to speculate as to the details of the development or its transportation needs at this time. Similarly, any new major employment center (that is not currently being planned or envisioned) that should arise in the MPO region would have a similar effect and require possible modification to the LRTP to account for its needs.

## ## Intelligent Transportation Systems (ITS):

As noted in several locations throughout this document, ITS is becoming more of an active methodology to assist in traffic and incident management. The member agencies of the SMTC expect the role of ITS to continue to grow significantly and that the various ITS technologies will require planning and financial assistance via the SMTC. Please refer to the earlier sections of this document or the ITS Strategic Plan Executive Summary (located at [www.smtcmpo.org](http://www.smtcmpo.org)) for more details on the various strategies under consideration.

As discussed above, the maintenance of the existing systems is a top priority in the SMTC area with some exceptions. The following section details the financial resources anticipated to be expended in the near future.

## **B. Financial Plan**

### **1. Resources Available**

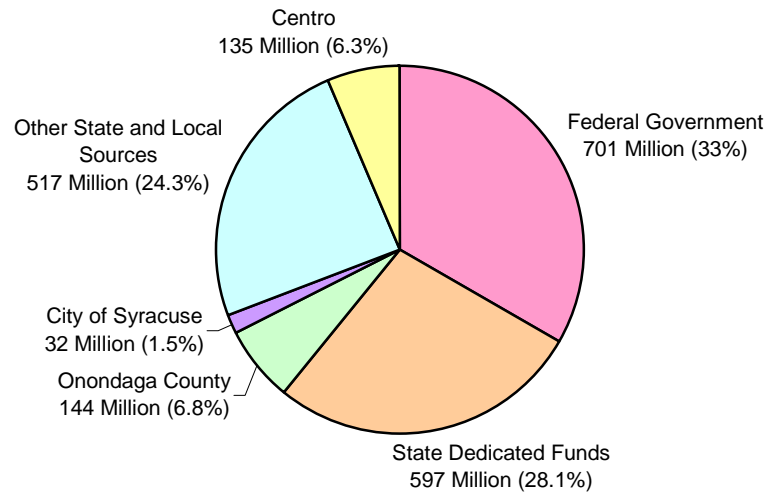
The 2020 LRTP, when published in 1995, anticipated a total of \$3.050 billion in funding over the 25-year planning period. This LRTP 2004 Update anticipates a total of \$2.126 billion in funding over the remaining 16-year term of the original 25-year planning period. The major sources of funding, shown in Table 8-1 and 8-3, include the federal government at 33.0% (\$701 million) of the total, the State Dedicated Fund at 28.1% (\$597 million), Onondaga County at 6.8% (\$144 million) and the City of Syracuse at 1.5% (\$32 million). The balance is comprised of other State and local sources at 24.3% (\$517 million)<sup>1</sup> and Centro operating revenue at 6.3% (\$135 million). It is anticipated that all traditional funding mechanisms will be exhausted with the implementation of this LRTP 2004 Update.

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<sup>1</sup> The number does not match the number for “Other State and Local Funds” on Table 8-1 because it includes some non-transit funding that cannot be broken out from that number.

**Table 8-1**

**Resources Available- Major Sources of Funding**



**2. Costs**

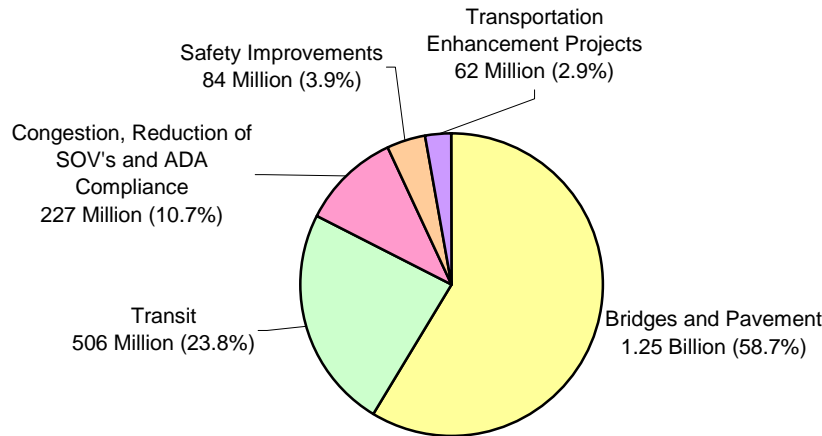
The largest share of the total resources available will be expended to maintain the existing transportation system. The percentage allocation of anticipated resources through 2020 has not been changed from the original LRTP of 1995. Although the transit portion of Table 8-2 and 8-3 shows fewer total dollar resources under the 2001-2020 column, the annual amount is greater now for the Update period than was the case when the LRTP was originally published. The 2004-2020 column for highway funding corrects previous misrepresentations that were not based on the assumption that all of the allocations would be spent in a 25-year period.

For this 2004 Update, the 2001 cost of each objective has been prorated using the new 16-year resource base of \$2.126 billion. The results show that maintenance of existing bridges and pavement (Facilities 1-3 in Table 8-4, as well as Table 8-2) will absorb 58.7% of the budget (\$1.25 billion). An additional 23.8% (\$506 million) will be allocated to support the area transit system; 10.7% (\$227 million) will be used to improve congested locations, reduce single occupancy vehicles (SOVs) and the Americans with Disabilities Act (ADA) compliance; and 3.9% (\$84 million) will be spent for efforts to increase safety at high incident locations. The remaining 2.9% (\$62 million) of the budget will support transportation projects that enhance economic development, environmental quality and efforts to coordinate land use and transportation planning decisions in the study area. The 2004 Update also supports a number of innovative initiatives new to this area. Examples of

the latter include funds which have been allocated to encourage the application of ITS technology in the Syracuse region and an effort to devise a cost/benefit methodology for application to future TIPs.

**Table 8-2**

**Resources Available to Maintain Existing Transportation System**



### 3. Evaluation of the Project Financial Tracking Process

A review of the LRTP section on Goals, Objectives and Action Plans for this Update indicates that there is an opportunity to strengthen the current system for tracking and evaluating projects in relation to LRTP goals. Specifically, it is sometimes difficult to link a project to one or more goals. Consequently, it is difficult to document what has been accomplished toward reaching a goal or to demonstrate how far along the SMTC is toward attainment of any given goal.

In order to strengthen the existing process, the SMTC intends over the short term (the next three years) to restructure the current project tracking system in order to make documentation of goal progress more effective. Essentially, this will occur by linking each project with one or more specific goals. Additional information could be provided, such as project sponsor, or forecasted versus actual cost. This will permit a more systematic documentation and evaluation of progress achieved toward goal attainment.

The resources on Table 8-1 are based on adjustments to the original allocations from the original 1995 LRTP. It can be assumed that 25-year allocations will be spent down because of the fact that the need for transportation projects far outweighs the resources to implement them. Therefore, by proportionally spending down the 25-year allocation from the beginning in 1995, the Federal Highway Administration (FHWA) allocation percentages by funding category have not been changed. It is because of this lack of resources to fund all of the needs that projects have been prioritized and thus, the Project Financial Tracking System.



**Table 8-3**

Established Resources Available for Transit Operations Capital Funding and Highway Capital Funding					
		1995-2020 (Millions of Dollars)	1998-2020 (Millions of Dollars)	2001-2020 (Millions of Dollars)	2004-2020 (Millions of Dollars)
Transit Funding Sources	Federal-FTA	\$180 M	\$99 M	\$91 M	\$80 M
	State Dedicated Funds	\$30 M	\$16 M	\$15 M	\$13 M
	Other State and Local Funds	\$290 M	\$327 M	\$301 M	\$424 M
	Operating Revenue	\$170 M	\$167 M	\$154 M	\$135 M
	Total Transit Funding	\$670 Billion	\$609 Billion	\$561 Billion	\$652 Billion
Highway Funding Sources	Federal-FHWA	\$1095 M	\$1087 M	\$1000 M	\$701 M
	State Dedicated Funds	\$1010 M	\$801 M	\$738 M	\$597 M
	Onondaga County-Capital Program	\$225 M	\$242 M	\$233 M	\$144 M
	City of Syracuse-Capital Program	\$50 M	\$70 M	\$64 M	\$32 M
	Other Municipalities in the SMTA Area	Not Included	Not Included	Not Included	Not Included
	Total Highway Funding	\$2.380 Billion	\$2.200 Billion	\$2.025 Billion	\$1.474 Billion
Total Highway and Transit Capital Funding		\$3.050 Billion	\$2.809 Billion	\$2.586 Billion	\$2.126 Billion

**Sources: NYSDOT and CNYRTA**

Notes and Assumptions: The 2004-2020 column for highway funding corrects previous misrepresentations that were not based on the assumption that all of the allocations would be spent in a 25-year period.

**2004-2020 (16 years) Estimated Resources-Transit Operations and Capital Funding**

Federal-FTA-Assume continuation of current 5307 program at approximate level of \$5 million per year. This program is subject to reauthorization approximately every six years, as well as to specific annual appropriation levels that can be less than the authorization.

State Dedicated Funds- This capital program is subject to renewal by New York State approximately every five years. Specific funding is determined by NYSDOT annually based on relative need. CNYRTA estimates it will receive and average of about \$800,000 per year over this 16-year period.

Other State and Local Funds-Components include: local mortgage recording fees, Statewide Transit Operating Assistance (STOA), local match for portions of the STOA amount, and state 10% match.

Mortgage recording fees are expected to be nominally higher over this period compared to previous estimates.

The STOA program was substantially increased in the fiscal year beginning April 1, 2002 and was continued at a slightly lower level in the fiscal year beginning April 1, 2003. For purposes of estimation, we anticipate the April 1, 2003 level of \$19.7 million to be the base amount going forward. This is the primary reason for the substantial increase in this resource category.

Local match for STOA, plus some small non-required subsidies, is expected to hold at about \$2.7 million per year.

With federal capital programs estimated at \$5 million per year (representing 80% of project costs) results in a total capital program of up to \$6.25 million per year. The NYS share of a \$6.25 million annual capital program is 10% or \$625,000.

Operating Revenue-Projected at approximately current levels, with nominal increases.

**Table 8-4**

Allocation of Resources by Long-Range Transportation Plan Objective				
OBJECTIVE	1995 – 2020	1998 – 2020	2001-2020	2004-2020
Mobility 1 – Transit service	\$520 M	\$479 M	\$441 M	\$506 M
Mobility 2 – Improve LOS at congested locations	\$300 M	\$276 M	\$254 M	\$192 M
Congested locations				
Mobility 3 – Decrease the number of SOVs	\$25 M	\$23 M	\$21 M	\$16 M
Mobility 4 – Comply with ADA	\$30 M	\$28 M	\$26 M	\$19 M
Mobility 5 – Greater utilization of electronic communication	\$0	\$0	\$0	\$0
Land Use 1-4 – Assist local communities in planning	\$1 M	\$0.9 M	\$0.8 M	\$0.6 M
Environment 1 – Implement programs that improve air quality	\$15 M	\$14 M	\$13 M	\$10 M
Environment 2 – Implement carbon monoxide SIP	\$14 M	\$13 M	\$12 M	\$9 M
Environment 3 – Decrease use of road salt	\$5 M	\$5 M	\$4 M	\$3 M
Economy 1 – Support access to economic development	\$50 M	\$46 M	\$42 M	\$32 M
Economy 2 – Maintain operation/condition standard on principal arterials	\$0	\$0	\$0	\$0
Economy 3 – Employer coordination of employee travel	\$12 M	\$11 M	\$10 M	\$8
Facilities 1 – Bridge maintenance	\$776 M	\$715 M	\$659 M	\$497 M
Facilities 2 – Pavement maintenance	\$1172 M	\$1079 M	\$994 M	\$750 M
Facilities 3 – Maintain sidewalks & other pedestrian/bike facilities	\$10 M	\$9 M	\$8 M	\$6 M
Safety 1 – Reduce accident rates at highest accident locations	\$95 M	\$87 M	\$80 M	\$61 M
Safety 2 – Reduce the highest intermodal accident locations	\$25 M	\$23 M	\$21 M	\$16 M
Safety 3 – Assist planning officials and developers in accommodating travel in new developments	\$0	\$0	\$0	\$0
Total	\$3.050 Billion	\$2.809 Billion	\$2.586 Billion	\$2.126 Billion
Source: New York State Department of Transportation				