



BICYCLE AND PEDESTRIAN PLAN

Syracuse Metropolitan Transportation Council

Final Report



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*Final Report
March 2005*

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- Appendix B: Sidewalk Inventory Maps
- Appendix C: Articles 27 and 34 of the NYS Vehicle and Traffic Law
- Appendix D: Bicycle and Pedestrian Awareness Survey
- Appendix E: Recommendation Action Item Details

**RESOLUTION
SYRACUSE METROPOLITAN TRANSPORTATION COUNCIL
POLICY COMMITTEE**

March 14, 2005

- WHEREAS,** Walking and bicycling are important modes of transportation which benefit the quality of life for the SMTC Region's communities, businesses, residents and visitors, and;
- WHEREAS,** Walking and bicycling are part of the solution for key regional issues including Safety, Health, Environment, Mobility and Economy, and;
- WHEREAS,** Federal and New York State policy guidelines provide a model for the integration of walking and bicycling into plans, programs, policies and projects, and;
- WHEREAS,** Recent trends for the SMTC Transportation Improvement Plan (TIP), allocate 5% to 10% of TIP money to bicycle and pedestrian related projects.

NOW THEREFORE BE IT RESOLVED,

That the SMTC Policy Committees hereby adopt as the following policy:

1. Bicycle and pedestrian ways should be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:
 - Bicyclists and pedestrians are prohibited by law from using the roadway.
 - The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use.
 - Where sparsity of population or other factors indicate an absence of need.
2. In rural and suburban areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day.
3. Highway and transit facilities should be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, and

bicyclists can travel safely and independently.

4. The design and development of the transportation infrastructure should improve conditions for bicycling and walking through the following additional steps:
 - Planning projects for the long-term. New facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.
 - Addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, the design of intersections and interchanges should accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
 - Designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO *Guide for the Development of Bicycle Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets*, the NYSDOT Highway Design Manual and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".
 - Local codes and ordinances. Local communities should adopt, where appropriate, codes and ordinances for sidewalks, shared-use paths, bikeways, bicycle parking and related improvements.
5. The SMTC should attempt to continue TIP funding at current levels (for bicycle and pedestrian projects) when possible.



Dale A. Sweetland
Chairperson
SMTC Policy Committee

March 14, 2005

Date



Carl F. Ford
Secretary
SMTC Policy Committee

3/14/2005

Date

Syracuse Metropolitan Transportation Council

Bicycle and Pedestrian Plan

EXECUTIVE SUMMARY

Chapter 1 – Introduction

Background

As the Syracuse Metropolitan Transportation Council (SMTC) is responsible for promoting a coordinated, continuous and comprehensive multimodal transportation planning process and is also charged with ensuring that the Greater Syracuse Area complies with Air Quality Standards, the SMTC proposed this project to develop a comprehensive policy-level Bicycle and Pedestrian Plan. The project was also strongly encouraged and supported by Onondaga County and the City of Syracuse as the results are expected to assist them with their bicycle and pedestrian endeavors. The project commenced in September 2001 and was completed with the release of this document in early 2005.

Purpose

The 2005 Bicycle and Pedestrian Plan was designed as a policy level plan that seeks to preserve and enhance the area's bicycling and pedestrian network and to improve the safety, attractiveness, and overall viability of cycling and walking as legitimate transportation alternatives.

As a policy-level plan, this document puts forth policies and guidelines to guide future bicycle and pedestrian facilities and amenities within the MPO area. The report is non-location specific so that it can be applied in the various municipalities represented within the MPO region. The SMTC's overall expectation is that municipalities within the MPO will utilize this plan and the noted recommendations as a starting point or as a guideline to follow when addressing bicycle and pedestrian planning options within their respective communities.

Goals and Objectives

The Goals and Objectives for the project were developed cooperatively by the SMTC staff, the Study Advisory Committee (SAC), and the public. To give the project direction, the following Goals were identified: (1) To encourage the use of bicycling and walking as legitimate modes of transportation; (2) To improve the safety of bicyclists and pedestrians; (3) To educate bicyclists, pedestrians, motorists, law enforcement officers, and others regarding traffic laws and safety measures; (4) To promote the improvement of travel and tourism and business opportunities along bicycle and pedestrian infrastructure; (5) To encourage planners and municipalities to develop bicycle and pedestrian resources; and (6) To develop a methodology for tracking

bicycle and pedestrian improvements. Several objectives were identified to provide support to the above noted goals. The objectives are noted in Chapter 1.

Public Involvement Plan (PIP)

Engaging the public early and often in the planning process is critical to the success of any transportation plan or program, and is required by numerous state and federal laws that apply to MPOs such as the SMTC. The goals of the Bicycle and Pedestrian Plan PIP are to create public awareness relative to the study's goals, objectives, and process, as well as publicize the public participation opportunities and activities available throughout the study; and involve the public throughout the planning process.

As detailed in Chapter 1, the PIP included the formation of the SAC and the stakeholder group to assist the SMTC in completing the project as well as to identify the various public outreach activities to be undertaken as part of the project. In addition to SAC, stakeholder and general public meetings and workshops, the SMTC also informed the public of its Bicycle and Pedestrian Plan efforts as well as upcoming meetings via numerous other methods, including the *In Motion* newsletter, dedicated solely to reporting the latest on the Bicycle and Pedestrian Plan; the *Directions* newsletter; the project specific Web Site, www.smtcmpo.org/bike-ped; and various press releases and flyers.

Study Area Boundaries

The study area for this project includes the entire SMTC MPO area. The boundary includes all of Onondaga County, portions of Oswego County (the Village of Phoenix, portions of the Town of Schroppel, and an area that extends north along Interstate 81 and United States Route 11), and a portion of Madison County (the Bridgeport area along Oneida Lake as well as a portion along I-90).

Chapter 2 – History

Bicycle and Pedestrian Related Plans/Studies

As an on-going activity of the Bicycle and Pedestrian Plan, the SMTC performed a literature review of previously completed relevant plans, studies and analyses in respect to the bicycle and pedestrian transportation needs of the MPO area.

Where appropriate, the SMTC utilized and built upon the information included in previously completed studies that were formulated within the MPO area. These reports are listed below (Chapter 2 provides additional details on each report):

- Bikeway System Plan for Onondaga County, SMTS (1976)
- City of Syracuse Element of the Onondaga County Bikeway System Plan, SMTC (1980)
- Pedestrian Circulation System Study Syracuse, NY, SOCPA (1981)
- Downtown Syracuse Pedestrian Study, SMTC (1986)
- Onondaga County BikeNet, Daniel Edelstein (1994)
- Onondaga County Settlement Plan (2001)

Chapter 3 – Existing Conditions

Identification of Pedestrian Facilities

Sidewalk Inventory

As part of the project, staff worked closely with the MPO's various municipalities to complete a generalized sidewalk inventory in the spring of 2002. The primary purpose of the inventory was to determine the location of existing and proposed sidewalks throughout the study area; therefore, a sidewalk conditions analysis was not completed as part of this study.

As of December 2002, the City of Syracuse Sidewalk Bureau reports that approximately 95-97% of the parcels within the City of Syracuse have a sidewalk on at least one side of the roadway. All sixteen of the MPO's villages, along with the Radisson Community, reported sidewalks within their municipality. In addition, all villages reported sidewalks on at least one side of their 'main streets,' with a majority of the village streets being adequately covered with sidewalks. Although eleven of the MPO's towns reported having some sidewalks, almost all towns noted minimal existing and proposed sidewalks (see sidewalk maps in Appendix B). As a result of the sidewalk data collection efforts and review of the resulting sidewalk maps, the SMTC has noted that there is a general lack of sidewalks in the suburbs in the MPO area. Specific sidewalk findings can be found in Chapter 3.

ADA Compliance

The Americans with Disabilities Act (ADA) of 1990 "guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications."¹ This Act requires that new and altered public sidewalks and street crossings be accessible so that people with disabilities can use the pedestrian routes that connect buildings, facilities, and transportation modes. Title II of the ADA covers new sidewalks and streets constructed by or on behalf of a State or local government. Enforced by the Department of Justice (DOJ), Title II regulation specifically requires that curb ramps be provided when sidewalks or streets are newly constructed or altered. ADA compliance is discussed in Chapter 3, and ADA compliant-design and associated resources are discussed in Chapter 7, *Bicycling, Walking, and Trails: Design Guidelines*.

New York State Vehicle and Traffic Law

Article 27 of the New York State Vehicle and Traffic Law (NYS V&T Law) identifies the rights and duties of pedestrians in New York State. A significant change to note to NYS Vehicle and Traffic Law in recent years involves Article 27, Section 1151, that notes that vehicular operators

¹ United States Department of Justice, *Americans with Disabilities Act – Questions and Answers*, August 23, 2002, <<http://www.usdoj.gov/crt/ada/q&aeng02.htm>> (February 2003).

must slow down or stop to yield to a pedestrian crossing the roadway within a crosswalk.² As of January 19, 2003, the law requires a motorist to yield the right of way to a pedestrian who is walking in any part of a crosswalk that is in the same roadway as the motorist, when a traffic signal is not present or operating. Prior to January 19, 2003, the law required that motorists yield the right of way only when the pedestrian is on the same half of the roadway as the motorist, or is so close on the opposite half as to be in danger.

Identification of Bicycle Facilities

Shared Roadways (Non-Designated On-Road Routes / Class III Facilities)

The majority of public roads within the MPO are accessible by bicycle on a shared-used basis (bicyclists and motorists must follow the rules of the road). In New York State, bicycling on interstate highways and expressways is prohibited by law. Therefore, except for interstate highways, expressways, and other roads where bicycling is prohibited by law via posting, bicycling is permitted on every street in the MPO area.

Bicycle Lanes (Designated On-Road Routes / Class II Facilities)

According to the AASHTO *Guide for the Development of Bicycle Facilities*, the purpose of bicycle lanes “should be to improve conditions for bicyclists on the street.” As AASHTO notes, bike lanes should be “established with appropriate pavement markings and signing along streets in corridors where there is significant bicycle demand and where there are distinct needs that can be served by them.”³ Within the MPO area, there is one officially designated bicycle lane that was installed in the fall of 2001 on Comstock Avenue between Colvin Street and Stratford Street in the City of Syracuse. Also, New York State Bike Route 5 is an officially designated bike route that follows Route 31 through the MPO area.

Bicycle Paths and Trails (Off-road routes / Class I Facilities or Trails)

Each cyclist has a different comfort level when bicycling on a high traffic road or a calm country road. Designated off-road routes give riders a sense of safety that they may lack when bicycling on the road. The bicycle and pedestrian off-road routes that are found at Onondaga Lake Park may be utilized for recreation and transportation purposes. For children, families, and the less experienced cyclist, off-road routes are a generally perceived as a safer means of transportation.

Bicycle Racks

The SMTC did not complete an MPO-wide inventory of bicycle racks as part of the Bicycle and Pedestrian Plan due to the resources that would have been required to accurately locate and inventory all bicycle racks within the MPO. However, in May 2002 the Syracuse-Onondaga Cycling Club completed an inventory of land-tied bicycle racks within the City of Syracuse Central Downtown Business District. Although not all-inclusive, SOCC noted several bicycle racks, the findings of which are noted within this report.

² New York State Department of Motor Vehicles, *New York State Vehicle and Traffic Law*, Albany, New York, 2003-2004 Edition, p. 451.

³ American Association of State Highway and Transportation Officials Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, AASHTO, 1999, p. 7-8.

Public transit services within the MPO area are provided by Centro, a subsidiary of the Central New York Regional Transportation Authority (CNYRTA). Nearly all Centro buses are equipped with bicycle racks, and when regular full-size buses are replaced, they are replaced with buses that are equipped with bicycle racks.

New York State Vehicle and Traffic Law

Article 34 of the New York State Vehicle and Traffic Law (NYS V&T Law) outlines the rules and regulations associated with operating bicycles and play devices in New York State. One of the most significant aspects of Article 34 is that it states that Bicyclists and in-line skaters must obey the same laws that apply to motorists – all traffic signals, signs and pavement markings, with some exceptions and rules. Bicyclists and in-line skaters are protected by the rules of the road and they must obey them, just as motorists must obey the rules of the road with respect to bicyclists and in-line skaters. If bicyclists and in-line skaters violate the law, they are subject to traffic tickets (parents can be held responsible for violations made by their minor children), just as motorists are.⁴ The law also requires that bicyclists ride and skaters glide **with** traffic.

An equally significant aspect is that New York State Law requires anyone under the age of 14 to wear an approved helmet when bicycling, in-line skating, skateboarding, or riding a non-motorized scooter.⁵ However, Onondaga County law requires that children **under the age of 18** wear an approved helmet when riding bicycles, scooters, in-line skates or skateboards. Any parent or guardian whose child violates the helmet law is subject to a \$50 fine.

Chapter 3 discusses such rules, regulations and equipment requirements that pertain to bicyclists and in-line skaters in NYS. See Appendix C for a copy of Article 34 from the 2003-2004 Edition of New York State Vehicle and Traffic Law.

Identification of Combined Bicycle and Pedestrian Facilities

Onondaga Creekwalk: Once expanded, the entire Creekwalk trail will be integrated with the Onondaga Lake Trail and the New York State Canalway Trail.

New York State Canalway Trail: The entire Erie Canalway Trail will eventually connect communities between Albany and Buffalo along the 524-mile Erie Canalway system.⁶ The Canalway Trail Planning Group meets approximately every two months at the Erie Canal Museum to discuss possible routes through the City of Syracuse.

Onondaga Lake Trail (“Loop the Lake Trail”): Over five miles of loop trail currently exist between the Salt Museum in Liverpool, and Nine Mile Creek in the Town of Geddes. Once complete, the circumferential trail will be approximately 13 miles in length. This trail will then serve as a central trail that other trails in the county can connect to (such as the Creekwalk and the Erie Canalway Trail).

⁴ New York State Governor’s Traffic Safety Committee – NYS Department of Motor Vehicles, *Bikes and In-line Skates Frequently Asked Questions*, December 30, 2002, <<http://www.nysgtsc.state.ny.us/bike-faq.htm#laws>> (September 17, 2003).

⁵ Ibid.

⁶ “Get Going,” *Leisure Trails of Onondaga County* 2002, *Syracuse New Times*, Summer 2002, p. 4, col. 1.

Bear Trap Creek Trail: The Bear Trap Creek Trail runs along the east side of Interstate 81 from near the New York State Thruway Exit 36 interchange at Seventh North Street to the Kmart Plaza in Mattydale. Constructed during Route 81 improvements in the 1980s, Bear Trap Creek Trail is a 1.5-mile long, 8-foot-wide paved trail, which ultimately, via the proposed Ley Creek Trail section, will connect the northern suburbs to the hub-trail activity in the Carousel Center/Regional Market/P&C Stadium district.⁷

Bicycle and Pedestrian Related TIP Projects

The bicycle and pedestrian facilities noted in Table 3.4-1 are bicycle and pedestrian improvement projects, and trails and park projects that have been funded and/or are scheduled to be funded through the 2001-2006 Transportation Improvement Program (TIP). The locations of the TIP projects are shown in Figure 3.4-1 along with the existing and proposed trail network in Onondaga County.

Transit

Centro operates the public transportation system in Onondaga, Oswego and Cortland Counties. Centro transports approximately 25,000 people per day in Onondaga County on over 100 transit routes with roughly 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.

General Demographics: Onondaga County (Census 1990 and 2000)

The following chart was created from demographic data obtained from the Census Transportation Planning Package (CTPP) for Onondaga County:

	1990	2000	% Change
Population	468,973	458,336	-2%
Number of Households (HH)	177,950	181,369	2%
HH with No Vehicle	23,741	22,882	-3.6%
Mean Vehicles per HH	1.54	1.52	-----

Between 1990 and 2000, the population in Onondaga County decreased by approximately 2%, while the number of households increased by almost 2%. The number of Onondaga County residents that do not have access to a vehicle has decreased by approximately 3.6 % since 1990. This may indicate that more people have been able to obtain a vehicle (or access to a vehicle) since 1990, or that those that have not had access to a vehicle have moved out of the County.

In addition, there has been a 5% decrease in the number of workers age 16 and older within Onondaga County. This could be attributed, in part, to the loss of 2.3% of the population between 1990 and 2000. The 2000 Census noted a slight increase (1%) in the number of people 16 years and older that drove to work alone. Although this may seem like a small increase, 75% of the working residents of Onondaga County drove to work alone in 1990 and 80% drove to

⁷ "Get Going," Leisure Trails of Onondaga County 2002, *Syracuse New Times*, Summer 2002, p. 5, col. 2.

work alone in 2000. The number of people who utilized public transportation, including taxi service, and carpooling as ways to get to work decreased by 45% and 23% respectively, between 1990 and 2000. As more individuals obtain cars and migrate to the suburbs, the reliance and dependability on the personal automobile and driving alone has grown. Since 1990, the number of people who rode a bicycle or walked to work decreased from 5.3% to 4.1%.

Although some of the population has migrated out of Onondaga County during the past ten years, it is interesting to note the population shift that has occurred between the city and the suburbs. The City of Syracuse saw a decrease in population of 10.6%, while the entire County lost only 2.3%. The suburban population within Onondaga County actually grew by 2.2% between 1990 and 2000. This trend is also supported by the increase in the number of households within Onondaga County that occurred between 1990 and 2000. See Chapter 3 for further demographic analyses.

Bicycle and Pedestrian Awareness Survey

As part of the Scope of Work for the Bicycle and Pedestrian Plan, the SMTC member agencies and staff determined that a Bicycle and Pedestrian awareness survey would be beneficial to the project. The awareness survey was developed as a tool to assist in determining the public's awareness of bicycle and pedestrian safety, the public's knowledge and opinion of the existing conditions for bicycle and pedestrian travel in Onondaga County, and how often the public is currently utilizing these systems. The results of this survey were utilized to assist the SMTC in developing recommendations for the overall Plan.

The survey was conducted from the Zogby International headquarters in Utica, NY on Saturday, September 14 and Sunday, September 15, 2002. Zogby staff interviewed 404 adults chosen at random in Onondaga County via telephone. A broad summary of the survey questions is noted below. Additional detailed analyses are presented in Chapter 3, Section 3.8.

Current Utility of Bike/Pedestrian Systems

Current access to bicycles and pedestrian facilities appears high in Onondaga County. Nearly 70% of Onondaga County residents walk or jog regularly, and over half (64%) of Onondaga County residents have access to a bicycle.

Perception of Current Systems

Sixty-one percent (61%) of Onondaga County residents generally felt that conditions in Onondaga County were pedestrian-friendly. Of the 34% of County residents that felt that conditions in the County are not friendly for pedestrian travel, respondents most often cited a lack of sidewalks or lack of sidewalks leading to desired locations (48%).

Alternately, more survey respondents felt that conditions in Onondaga County were unsuitable for bicycle travel (48%) than felt that conditions were bicycle-friendly (41%). Reasons most often noted include a lack of bike lanes or routes leading to desired locations (47%) or aggressive/inconsiderate motorists (17%). Perceived rider safety appears to have a significant impact on respondent comfort levels with the bicycle system.

Concerning multimodal opportunities, the Zogby survey asked respondents whether Centro buses in Onondaga County are equipped with bicycle racks. Only 27% of those surveyed answered this question correctly, acknowledging that the majority of buses are in fact equipped with bicycle racks.

In general, Onondaga County residents believe that the presence and condition of sidewalks and bicycle facilities in the County is lacking. There is a preference for designated pedestrian facilities such as sidewalks, and bicycle facilities such as bicycle lanes, protected from vehicular travel. Respondents also suggest a lack of awareness of some bicycle and/or pedestrian opportunities, such as the Centro bus bicycle rack program.

Traffic Laws and Safety Awareness

In Onondaga County, individuals under the age of 18 are required to wear a helmet when riding a bicycle, skateboard, scooter, or skating. Approximately 54% of County residents were aware of this law, while 46% of the population was misinformed about the helmet law or were not sure what the law stated. The results of this question and a series of safety-related questions indicate that Onondaga County residents should be better informed as to the pedestrian and bicycle rules, regulations and laws in Onondaga County. Educational outreach would most likely benefit the awareness of such laws.

Future Usage / Facilities

Asked where respondents would desire to travel by bike or on foot, Onondaga County residents would primarily like to be able to reach parks and recreational trails (28%). Others would like to be able to reach malls, shopping areas or supermarkets (15%), school or college (13%), or downtown (10%) by walking or cycling. Only 9% of respondents replied that they would like to commute to work by walking or cycling.

Parks and recreational trails were most favored by Onondaga County residents as the types of places to be reached by walking or bicycling. This reinforces the notion that walking is primarily utilized as a means of recreation and exercise, rather than as a mode of transportation. However, as shown in the variety of responses, there are several destinations that could benefit from bicycle and pedestrian access.

Additional information and analysis is available in Appendix D, which includes portions of the actual Zogby survey results. Results based on demographic profiles such as city versus suburban residents and analysis by age groups can be found in this appendix.

Bicycle and Pedestrian Collisions

As part of this project staff also 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. The SMTC found that the majority of high bicycle/motor vehicle and

pedestrian motor vehicle collision incidences occurred in the City of Syracuse at heavily traveled intersections.

Chapter 4 – Bicycle Suitability Map

A major component of the 2005 Bicycle and Pedestrian Plan was the development of a map that portrays the suitability of the existing transportation network for bicycle utility in Onondaga County and the City of Syracuse. Utilizing Geographic Information Systems (GIS), the SMTC prepared a countywide, city-inclusive suitability map of the bicycle transportation system, including streets, bikeways, designated paths, multi-use trails, recreational trails and any other bicycle and pedestrian related paths and/or trails.

Selection of Roads for Rating

The SMTC determined which roads to rate and include in the bicycle suitability map by starting with the Federal-Aid eligible road system in the City and County. Inappropriate and prohibited roads for bicycling were removed (i.e. Interstate Highways, Expressways, and other roads where bicycling is prohibited by law). Roads and routes identified from previously completed bicycle studies were reviewed and included as appropriate. Other logical and/or relevant roads were added, such as connector roads, and primary through streets that provided access to major points in the Syracuse Metropolitan Area and Onondaga County. Local and residential roads and streets were not marked for rating. Every road identified through this process was then rated. As mentioned above, except for Interstate Highways, Expressways and other roads where bicycling is prohibited by law, bicycling is allowed on every street.

Resulting Map

The final bicycle suitability map rates chosen streets on the existing road network as being ‘excellent’, ‘good’, ‘average’, ‘fair’, and/or ‘poor’ for bicycling (and primarily for bicycle commuters). The map does not designate particular bike routes but enables the general public to determine which roads are currently the most suitable for bicycle travel. Multi-use trails are also shown on the map. In addition to the road ratings and trails, the map includes various safety panels that highlight the various rules and regulations associated with bicycle travel.

The SMTC and volunteer cyclists rated 37% percent of the roads in the SMTC MPO area for inclusion in the Bicycle Suitability Map. Nearly 80% of these rated roads are considered suitable for bicycling (this percentage includes roads that were rated as excellent, good and average). It should be noted that seventy-five percent (75%) of the roads in the federal aid eligible system are bikeable, and that 98% of them were rated. Interstate highways, expressways, and other roads where bicycling is prohibited by law (i.e., I-81, I-690, I-481, etc.) were removed from this exercise. The sections below describe the overall bicycle suitability scores for the MPO area, including a breakdown by jurisdiction of road owners, as well as for the roads located within the City and the remainder of the County.

Roads that were rated in the MPO area were rated as being Excellent, Good, Average, Fair or Poor. High traffic, vehicle dominated corridors with little to no shoulder or separation from vehicles for bicyclists, and rough riding conditions for bicycle commuters (i.e. steep slopes, poor pavement condition, etc.) received the lower suitability ratings of Fair or Poor. Roads with low

vehicular traffic, slow moving traffic and some separation from vehicles typically received Excellent and Good ratings.

Chapter 5 – Bicycle and Pedestrian Issues

Through the course of completing the existing conditions inventory documented in Chapters 1-4, the public involvement process, and comments received throughout the course of this study, a number of bicycle and pedestrian transportation issues were identified.

Chapter Five focuses on the primary bicycle and pedestrian issues identified within the study area. The first section of the chapter discusses broad regional issues that relate to walking and bicycling. Then, specific Pedestrian Issues, Bicycle Issues, Greenway/Trail, and Transit issues are noted and examined via 5 major categories: Engineering, Education, Enforcement, Encouragement, and Economic Development. Issues relating to motorists are discussed within the Pedestrian and Bicycle Issues sections. It is important to note that all of the issues outlined in this chapter are primarily broad-based concerns that affect more than one or two areas within the SMTC MPO study area. Specific issues noted by the public are documented in Appendix A.

Regional Issues

This section outlines regional issues that affect pedestrian and bicycle travel within the SMTC MPO area. The regional issues of Safety, Health, Mobility, Environment, Economy and Quality of Life are examined. Then, the regional issues are tied to specific Pedestrian, Bicycle, Greenway/Trail and Transit issues in matrix format to illustrate their relationship with the regional issues.

Chapter 6 – Regional Priorities and Policy Recommendations

Regional Priorities

The issues section of the plan identifies Safety, Health, Environment, Mobility and Economy as key issues in the SMTC region. Each of these issues is critical to the region's quality of life, and as a result they form the basis of the community priorities for this plan as detailed below. As they are equally valuable in the SMTC region, the priorities of Safety, Health, Mobility, Environment, Economy, and Quality of Life are not listed in order of importance.

The SMTC and its member agencies support the adoption of a policy integrating walking and bicycling into highway, transit and related projects in order to achieve and maintain the above stated regional values. In 1999, the United States Department of Transportation (USDOT) established a national guideline calling for all transportation projects to include facilities for pedestrians and bicyclists as 'routine accommodations' unless there were documented reasons not to provide them. The core of this text is reproduced as a model for the SMTC region in Chapter 6.

Regional Recommendations

The purpose of this portion of the document is to provide regional guidelines and policies for the future, based on regional values in the SMTC area. The public input process for the plan has resulted in numerous ideas, potential projects and programs. In order to give form to these

concepts, Chapter 6 notes a series of recommended action items in the following categories: Engineering (facilities for bicyclists, pedestrian improvements, trails and greenways, and connections with transit), Education, Enforcement, Encouragement, and Economic Development.

These categories are based on the planning guidance issued in the National Bicycling and Walking Study (USDOT, 1993) and other accepted models of bicycle and pedestrian transportation planning. Within each category, targets and benchmarks have been established, followed by recommended projects and programs developed by the SMTC Bicycle and Pedestrian Plan Study Advisory Committee. The targets provide a broad statement about the overall purpose and relevance of the planning topic within the SMTC area. The benchmark provides a broad-based way in which to measure the success of the particular target. Recommended action items are listed for each section, along with the potential responsible lead agencies, respective performance measures, and the overall SMTC regional priorities that the item addresses.

Chapter 7 - Bicycling, Walking, & Trails: Design Guidelines

The purpose of Chapter Seven is to note and summarize preferred design guidelines for bicycle and pedestrian infrastructure and facilities in the SMTC area. Included in this chapter are generally accepted and representative implementation techniques for bicycle and pedestrian facilities in both New York State in particular, and the United States in general. This chapter is intended as a starting point for municipalities when trying to determine which bicycle and/or pedestrian facilities should be considered within their jurisdiction.

The first section of this chapter provides information on the most commonly utilized design guideline resources in New York State. Section 7.2 examines general design guidelines for pedestrian facilities (including broad information on the Americans with Disabilities Act), bicyclist facilities, greenways and trails, innovative treatments, traffic calming, and school zones. Section 7.3 describes additional resources that are useful in providing innovative solutions for a variety of bicycle and pedestrian related situations that may affect some local communities.

Conclusion

This multi-year, multimodal SMTC project has culminated in the development of a policy-level Bicycle and Pedestrian Plan. It is the SMTC's hope that this Plan will be utilized to guide future decision-making relative to bicycle and pedestrian facilities and amenities within the MPO area. The Plan identifies policies and general guidelines for bicycle and pedestrian planning; it is non-location specific so that it can be applied to the MPO region's varied communities. The SMTC's overall expectation is to educate local communities on the diverse options that are available for integrating bicycle and pedestrian planning into their municipalities' plans and projects.

CHAPTER 1 - INTRODUCTION

1.1 Background / Purpose / Goals and Objectives

Background

Over the past several years, the Syracuse Metropolitan Transportation Council (SMTC) has seen a significant increase in the number of bicycle and pedestrian related projects being submitted for Transportation Improvement Program (TIP) funding. Through the TIP development process many of the projects have been funded and considerable efforts have been made towards implementation. Many of these projects are an important aspect of the entire multimodal transportation system within Metropolitan Planning Organization (MPO) area.

The MPO area's last major bicycle and pedestrian plans were completed in the 1970's and 1980's. In 1976, the SMTC developed the *Bikeway System Plan for Onondaga County* and in 1980, the *City of Syracuse Element of the Onondaga County Bikeway System Plan*. The last major pedestrian studies were completed in 1981 by the Syracuse-Onondaga County Planning Agency, *Pedestrian Circulation System Study Syracuse, NY* and in 1986 by the SMTC, *Downtown Syracuse Pedestrian Study*.

As the SMTC is responsible for promoting a coordinated, continuous and comprehensive multimodal transportation planning process and is also charged with ensuring that the Greater Syracuse Area complies with Air Quality Standards, the SMTC proposed this project to develop a comprehensive policy-level Bicycle and Pedestrian Plan. The project was also strongly encouraged and supported by Onondaga County and the City of Syracuse as the results are expected to assist them with their bicycle and pedestrian endeavors. The project commenced in September 2001 and was completed with the release of this document in early 2005.

Purpose

The 2005 Bicycle and Pedestrian Plan has been designed as a policy level plan that seeks to preserve and enhance the area's bicycling and pedestrian network and to improve the safety, attractiveness, and overall viability of cycling and walking as legitimate transportation alternatives and adjuncts to the transportation system in the SMTC MPO area. The SMTC Bicycle and Pedestrian Plan is focused primarily on bicycling and walking as legitimate transportation alternatives.

As a policy-level plan, this document puts forth policies and guidelines to guide future bicycle and pedestrian facilities and amenities within the MPO area. The report is non-location specific so that it can be applied in the various municipalities represented within the MPO region. The document is to be construed as a planning tool, as opposed to an engineer's design report. In the end, each municipality (i.e., the facility and/or road owner) will determine if and what they want to implement, as final report recommendations are not mandated. The SMTC's overall expectation is that municipalities within the MPO will utilize this policy-level plan and the noted

recommendations as a starting point or as a guideline to follow when addressing bicycle and pedestrian planning options within their respective communities.

Goals and Objectives

The Goals and Objectives for the project were developed cooperatively by the SMTC staff, the Study Advisory Committee (SAC) and the public (see Section 1.3 for a discussion of the SAC).

To give this project direction, the following Goals were identified:

1. To encourage the use of bicycling and walking as legitimate modes of transportation.
2. To improve the safety of bicyclists and pedestrians.
3. To educate bicyclists, pedestrians, motorists, law enforcement officers, and others regarding traffic laws and safety measures.
4. To promote the improvement of travel and tourism and business opportunities along bicycle and pedestrian infrastructure.
5. To encourage planners and municipalities to develop bicycle and pedestrian resources.
6. To develop a methodology for tracking bicycle and pedestrian improvements.

The following Objectives were identified to assist in attaining the study goals:

- A. Create a plan that will encourage the development of a bicycle and pedestrian transportation network that facilitates quick and easy transportation to various destinations.
- B. Identify major existing and planned bicycle/pedestrian facilities and develop a method to eliminate gaps in the existing bicycle and pedestrian system.
- C. Work towards increasing the overall public awareness of existing and proposed bicycle/pedestrian facilities.
- D. Develop an approach to incorporate bicycle and pedestrian accommodations into highway improvement projects through the monitoring of such improvements to ensure that projects have been scoped to include bicycle and pedestrian facilities where appropriate.
- E. Encourage the creation of appropriate amenities, such as bicycle parking and bus stop shelters, to increase the convenience of bicycling or walking.

- F. Facilitate the publication of maps, such as a bicycle suitability map, that outline and promote the bicycle and pedestrian system, safety, and the appropriate use of available bicycle and pedestrian facilities.
- G. Encourage proper maintenance of the existing bicycle and pedestrian infrastructure, including the use of volunteers for this task.
- H. Encourage and enhance public support for alternative transportation-related public projects.
- I. Support the efforts of local municipalities in including bicycle and pedestrian facilities as components of their capital programs and site review approval processes.
- J. Develop a plan that encourages the improvement of infrastructure where bicycling or walking is considered unsafe.
- K. Identify safe and appropriate connections between various modes of transportation.
- L. Continue to support, and assist where possible, the efforts of various local agencies that provides safety equipment, such as bicycle helmets, to the public, especially those with limited financial resources.
- M. Encourage the creation of specific education programs, tailored to children, adults, and motorists outlining the rules for safe travel.
- N. Develop a method to educate law enforcement officers to recognize bicycle and pedestrian rules and regulations for proper enforcement of laws to bicycle and pedestrian law offenders, and to motor vehicle offenders that negatively impact bicyclists and pedestrians.
- O. Identify necessary bicycle and pedestrian accommodations at tourist and business locations.
- P. Propose ways to use the existing and proposed bicycle and pedestrian network as a tourist and recreational magnet.
- Q. Support the education of planners, civil engineers, and designers, and other officials on bicycle and pedestrian facilities and programs.
- R. Develop a permanent methodology for the Syracuse Metropolitan Transportation Council (SMTC) to coordinate planning of bicycle and pedestrian activities between all levels of government in the county.
- S. Develop a method to provide resources to planners and municipalities that facilitate proactive improvements to bicycle and pedestrian resources.

- T. Develop an approach and methodology for the creation of a SMTC citizen advisory group in such a manner as to allow the SMTC to ensure that actions and activities are consistent with the SMTC's needs as well as its member agencies' needs.
- U. Develop a method of collecting and updating data on bicycle and pedestrian activity.
- V. Develop a methodology to centralize bicycle and pedestrian data to provide easy access for officials at different levels of government.

The balance of this project's purpose is the achievement of these stated goals and objectives within the approved Scope of Work adopted by the SMTC.

1.2 Study Process

In order to complete the project, the following tasks were developed and accomplished:

Task 1	Problem Statement, Study Goal(s) and Objectives
Task 2	Public Involvement Plan (PIP)
Task 3	Existing Bicycle and Pedestrian Plans – Evaluation and Summary
Task 4	Data Compilation and Summary
Task 5	Bicycle and Pedestrian Existing Conditions/Suitability Map
Task 6	Identification of Known and Perceived Bicycle and Pedestrian Issues
Task 7	Recommendations and Implementation
Task 8	Study Documentation

1.3 Public Involvement Plan (PIP)

Engaging the public early and often in the planning process is critical to the success of any transportation plan or program, and is required by numerous state and federal laws that apply to Metropolitan Planning Organizations such as the SMTC. The goals of the Bicycle and Pedestrian Plan PIP are to:

- Create public awareness relative to the study's goals, objectives, and process, as well as publicize the public participation opportunities and activities available throughout the study; and
- Involve the public throughout the planning process.

As detailed below, the PIP included the formation of two groups to assist the SMTC in completing the project as well as identify various public outreach activities to be undertaken. A copy of the complete PIP for the Bicycle and Pedestrian Plan is included in Appendix A.

Study Advisory Committee (SAC)

A Study Advisory Committee (SAC) consisting of representatives from affected organizations, local governments and community representatives met numerous times throughout the project.

The SAC provided input and guidance to the SMTC Project Manager, the study process, study documentation and public meetings. See Appendix A for a listing of the SAC members and the agencies and/or organizations they are affiliated with, along with a copy of the minutes taken at SAC meetings.

Stakeholder Meetings

In addition to the SAC, a list of interested “Stakeholders” (individuals having significant interest in the study) is maintained by the SMTC. The Stakeholders are sent pertinent study information, kept apprised of significant study developments, and are notified of all public meetings.

Bicycle Suitability Map Meetings

The SMTC held a series of stakeholder meetings in July and October 2001 whereby stakeholders could take more of an active role in the study by volunteering to collect data for the Bicycle Suitability Map. The stakeholder meetings were held to inform volunteers on how to rate the roads and the safety precautions they should take while rating roads.

Focus Group Workshop – Issues

The SMTC held a focus group workshop, another stakeholder meeting, in July 2003 to solicit and discuss bicycle and pedestrian issues relevant to the development of this Plan. Following a brief presentation, workshop attendees separated into groups to develop a list of issues from the perspective of being a pedestrian, bicyclist, or motorist. Each group was given approximately 20 minutes to identify a list of issues from the perspective they were working on that were broad and nature and that could apply to more than one or two areas in the County. Each group then reported their findings to all of the workshop attendees. The issues noted at this workshop can be found in the focus group workshop minutes in Appendix A.

Focus Group Workshop – Recommendations

The Syracuse Metropolitan Transportation Council (SMTC) held a Focus Group Workshop on Thursday, April 29, 2004 at the North Syracuse Community Center in an effort to bring out and discuss bicycle and pedestrian recommendations that are relevant to the development of the SMTC’s Bicycle and Pedestrian Plan. Similar to the July 2003 workshop, following a brief presentation, workshop attendees separated into

Similar to the July 2003 workshop, following the presentation, workshop attendees separated into five groups (two bicycle, two pedestrian and one trail/transit) to develop a list of recommendations from the designated perspective. Each group was given approximately 30 minutes to identify a list of recommendations from the perspective they were working on. Participants were asked to focus on recommendation ideas that were broad based in nature so that the recommendations could apply to more than one or two areas in the County. Each group then reported their findings to all of the workshop attendees. The recommendation ideas shared at this workshop can be found in the focus group workshop minutes in Appendix A. The

suggested recommendation ideas formulated at this meeting were utilized as a starting point for the recommendations noted in Chapter 6.

Public Meetings

Throughout the course of the project, three public meetings were held. The public meetings were presented in a more formal manner than the focus group meetings.

Public Meeting #1

The first public meeting was held on February 7, 2002 at LeMoyne Manor in Liverpool to introduce the Bicycle and Pedestrian Plan to the public. There were approximately thirty people in attendance. The SMTC presented an outline of the Bicycle and Pedestrian Plan study process and solicited public input. The minutes from this meeting document the input received and can be found in Appendix A.

As indicated in the minutes, many individuals expressed their concerns with bicycle and pedestrian travel. The most often stated comment was that the plan should include considerations for improved bicycle and pedestrian access to major destinations, and that the establishment of dedicated bicycle lanes with appropriate signage should be included in the plan. Many individuals felt that the scope of the plan as presented was too generic because no specific locations will be evaluated for the designation of bicycle lanes.

Public Meeting #2

A second public meeting was held on May 28, 2003 at the Skydeck at Carousel Mall. Approximately twenty-eight people attended. The SMTC staff presented the existing conditions data, including the sidewalk inventory, bicycle and pedestrian collision data, the Bicycle Awareness Survey and the Bicycle Suitability Map. The minutes from this meeting document the input received from the public and can be found in Appendix A.

As indicated in the meeting minutes, the most often stated comment was that there is a need for connectivity between the major destinations in the MPO such as parks, shopping centers and colleges/universities. And, as also noted by the public at the first public meeting, the public continued to feel that the establishment of dedicated bicycle lanes with appropriate signage should be included in the plan.

Public Meeting #3

A third public meeting will be held once this document has been approved by the SMTC Planning and Policy Committees, so that the Final Report can be shared with the public.

Additional Outreach Efforts

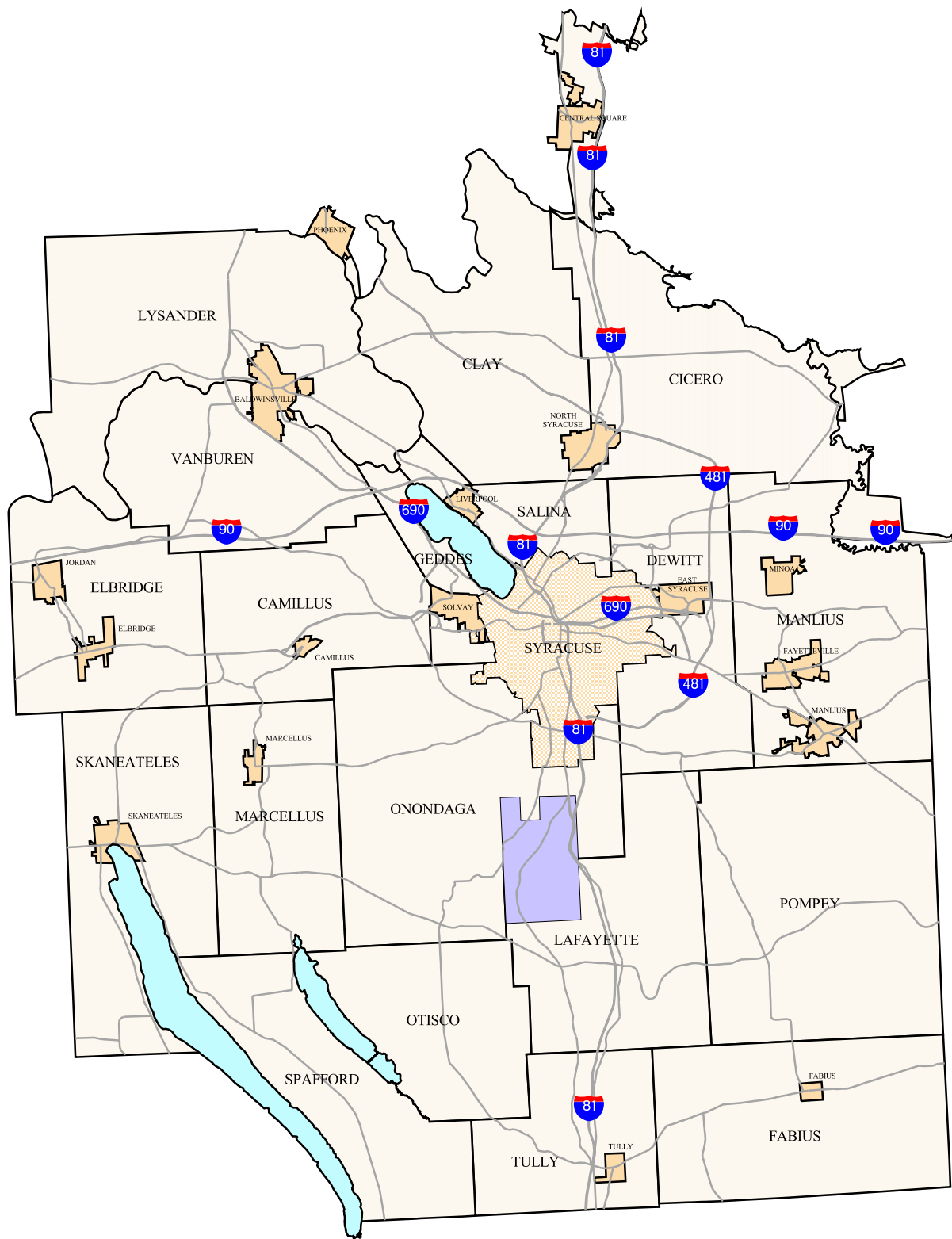
In addition to SAC, stakeholder, and public meetings and workshops, the SMTC informed the public of its Bicycle and Pedestrian Plan efforts as well as upcoming meetings via numerous

methods. *In Motion* ...is a project specific newsletter, dedicated solely to reporting the latest on the Bicycle and Pedestrian Plan. This newsletter is distributed to Stakeholders, SAC members and individuals receiving *Directions*, the newsletter of the SMTC, as well as being available via the SMTC website. *Directions* has also included news relative to the SMTC Bicycle and Pedestrian Plan at pertinent points throughout the study. A project specific Web Site, www.smtcmpo.org/bike-ped, was also developed. The Web Site describes the overall Plan, the goals and activities associated with the Plan, provides monthly updates, the latest headline news, and links to various bicycle and pedestrian resources. Finally, press releases and flyers were utilized to announce upcoming stakeholder meetings, and public meetings and workshops. See Appendix A for copies of the various newsletters and press releases.

1.4 Study Area Boundaries

The study area for this project includes the entire SMTC MPO area. In Spring 2003, the MPO area boundary was revised based on the 2000 Census. The former boundary included all of Onondaga County (including the City of Syracuse) and a small portion of Oswego (the 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 United States Route 11. The Madison County portion includes the Bridgeport area along Oneida Lake as well as a portion along I-90.¹ See Figure 1-1 for a map of the updated MPO study area.

¹ Syracuse Metropolitan Transportation Council, *L RTP 2004 Update* (Chapter III: MPA Updated Data and Trends), SMTC, Syracuse, New York, June 2004, p.36.



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0 1 2 Miles

MPO Area SMTC Bicycle and Pedestrian Plan

Figure 1-1



Basemap Copyrighted by NYSDOT, 2001
Data sources: SMTC, NYSDOT, 1999
Prepared by SMTC, 12/2004

- Towns
- Villages
- City of Syracuse
- Onondaga Nation
- Water
- Roads

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

CHAPTER 2 - HISTORY

(Bicycle and Pedestrian Related Plans/Studies)

As an on-going activity of the Bicycle and Pedestrian Plan, the Syracuse Metropolitan Transportation Council (SMTC) performed a literature review of previously completed relevant plans, studies and analyses in respect to the bicycle and pedestrian transportation needs of the Metropolitan Planning Organization (MPO) area.

2.1 Summary of Previously Completed Plans and Studies

Where appropriate, the SMTC utilized and built upon the information included in previously completed studies that were formulated within the MPO area. These reports are mentioned below (for further information on the plans below, contact the SMTC).

Bikeway System Plan for Onondaga County, SMTS (1976)

In March 1976 the Syracuse Metropolitan Transportation Study (SMTS), currently known as the Syracuse Metropolitan Transportation Council (SMTC), organized and led the creation of the *Bikeway System Plan for Onondaga County* in response to a federal requirement that bicycle and pedestrian projects be included in a comprehensive plan in order to obtain federal funding. The *Bikeway System Plan for Onondaga County* looked at the feasibility of developing a countywide plan to implement facility improvements, promote the use of safer bikeway facilities and to meet federal needs to identify the maximization of alternative forms of transportation.

The study resulted in both a conceptual plan and a short-term bikeway improvement plan. The conceptual plan is illustrated in a map of general route suggestions throughout the SMTC area and is intended as a guideline for future bikeway development projects in which no funding sources or specific project proposals were identified. The short-term bikeway improvement plan represents a route system that could realistically be implemented during the five years following the Plan (1977-1982). This system consisted of proposed bikeway projects to be phased over the five-year period to coordinate with planned highway improvements in order to maximize effectiveness. The plan proposed the installation of 144 miles of bikeway at a cost of over \$1.5 million dollars, although it was noted that all routes might not be realized due to various budgetary constraints.² The Bikeway Plan stated that modifications to the Plan itself should be made periodically through reevaluation of project progress and an annual assessment of bicycle usage. The 1976 Plan also called for the development of a Bicycle Registration Program in an effort to facilitate improved law enforcement and closer monitoring of existing bicycle activity.³

The following section notes the recommendations that have been implemented from this plan. The recommendations are noted by the generalized planning areas put forth in the 1976 Plan.

² Syracuse Metropolitan Transportation Study, *Bikeway System Plan for Onondaga County*, Syracuse, New York, March 1976, p. 53.

³ Ibid.

Manlius/DeWitt

The 1976 Plan noted that although the Erie Canal passes by the Green Lakes State Park entrance, there was not a bridge provided to allow cyclists to cross the canal and enter Green Lakes State Park. The SMTS recommended the building of a pedestrian/bicycle bridge from the Erie Canal towpath to the Green Lakes State Park entrance (the SMTS study noted that this was already planned by the New York State Parks and Recreation Commission).⁴ Within the last five to ten years, this bridge has been built, and there is now a connection between the Erie Canal State Park towpath and Green Lakes State Park.

The 1976 Plan also recommended the building of a trail along a spur of the Erie Canal that parallels Limestone Creek. This trail would link the Erie Canal trail to the center of the Village of Fayetteville. The 1976 Plan notes that the New York State Parks and Recreation Commission had already programmed this connection.⁵ This connection has also been built with the trail traveling into Fayetteville. The Village of Fayetteville Clerk's office indicated that this trail has existed in one form or another since the creation of the Old Feeder Canal (a spur that travels south from the Erie Canal) in the 1820's.

Onondaga Lake Park Area

The 1976 Plan noted that the completion of a trail around Onondaga Lake would provide many recreational opportunities as well as commuting potential for County residents that would prefer to bicycle and/or walk to work.⁶ Although not yet complete, various portions of the entire Loop the Lake Trail have been included in the SMTC Transportation Improvement Program (TIP) for the past several years. To date, the trail has been built primarily around the northern end of the lake. The trail currently runs between the Nine Mile Creek on the West side of the lake to just south of the Salt Museum in Liverpool on the East side of the lake. The most recent trail project has been the paving of the West Shore Recreation Trail.

The 1976 Plan also recognized that "the full potential of the trail around the lake (recreation or commuter/transportation based) would not be realized until interconnecting linkages are provided to allow direct access to the trail from the adjacent population concentrations."⁷ One of the connecting links noted within the Plan has been partially built: a trail from the Mattydale area to 7th North Street, which is a paved trail that parallels I-81 and Beartrap Creek. To fully connect the trail to Onondaga Lake, the partially completed bike trail between 7th North Street and Onondaga Lake that runs along Ley Creek will need to be completed (at this time, only small portions of this trail exist).

⁴ Syracuse Metropolitan Transportation Study, *Bikeway System Plan for Onondaga County*, Syracuse, New York, March 1976, p. 33.

⁵ Ibid, p. 34.

⁶ Ibid, p. 37.

⁷ Ibid.

Baldwinsville/Radisson

The 1976 Plan mentions a few options for connecting the Baldwinsville area to the area near Farrell Road.⁸ Although the recommendation for providing connecting trail links noted within the 1976 Plan have not been implemented, a similar project is underway. In November 2002, the Town of Lysander was selected to receive federal funding through the TEA-21 Transportation Enhancement Program (TEP) to build a trail along the Seneca River. The Town of Lysander applied for TEP monies to construct a connecting trail link between the Village of Baldwinsville, connecting town neighborhoods, along the Seneca River and tying to the Onondaga Lake Park trail network at Long Branch Park.

City of Syracuse

The 1976 *Bikeway System Plan for Onondaga County* does not provide great detail in its discussions regarding bikeways within the City of Syracuse (The City is primarily addressed through the 1980 *City of Syracuse Element of the Onondaga County Bikeway System Plan*). However, within the 1976 Plan, recommendations were noted for the Syracuse University area and the bikepath that existed along Onondaga Creek. The 1976 Plan recommended that a Class I trail (a separated path or trail exclusively for bicyclists and pedestrians) “be constructed from Skytop to Euclid Ave. along Colvin St. and Comstock Ave.”⁹ Although it is not a Class I trail, the City of Syracuse has recently striped a bike lane along Comstock Ave. between Euclid and Colvin, with plans to add a connection to the Skytop campus in the future. The 1976 Plan also notes the existence of a 2.5-mile bikepath along Onondaga Creek from Kirk Park to Atlantic Avenue.¹⁰ This bikepath has been virtually abandoned, and many of the bike signs that once existed along it were found in Onondaga Creek during a Creek clean up in 2002. Recommendations for this portion of what is now referred to as the Creekwalk, included repaving the path (as it was noted in the 1976 Plan that major portions of the path were in poor condition) and blocking it off from vehicular traffic. Another recommendation was to extend the bikepath from Atlantic Avenue to the southern City line. Although this section of the Creekwalk is not currently programmed for TIP money, the Kirk Park to Armory Square portion of the Creekwalk is slated to receive money for a design study within the 2001-2006 TIP.

Camillus

At the time of the development of the 1976 *Bikeway System Plan for Onondaga County*, the Town of Camillus had recently “purchased the Erie Canal from the western town line to Warners Road and had plans to develop the Canal and towpath as a linear park (much like the Erie Canal Park in DeWitt).”¹¹ In the 1976 Plan, the SMTS recommended that the towpath be developed into a paved trail along the entire length of the park. To date,

⁸ Syracuse Metropolitan Transportation Study, *Bikeway System Plan for Onondaga County*, Syracuse, New York, March 1976, p. 42.

⁹ Ibid, p. 47.

¹⁰ Ibid.

¹¹ Ibid, p. 48.

the Erie Canal Park within the Town of Camillus has been developed between the western County line and Warners Road.

City of Syracuse Element of the Onondaga County Bikeway System Plan, SMTTC (1980)

The 1980 *City of Syracuse Element of the Onondaga County Bikeway System Plan* was developed and designed to update the 1976 *Bikeway System Plan for Onondaga County* with the inclusion of City of Syracuse bikeway routes, as the previously completed plan did not outline an involved approach for bikeway development within the City of Syracuse. Between 1976 and 1980, there was a resurgence of interest to update the plan and include preliminary discussions for bicycle routes in an urbanized setting.

This study aimed to expand the route system throughout the City in order for it to benefit all residents and to alter the original suburban/rural bikeway evaluation process to account for the distinguishing factors affecting an urban bikeway system.¹² In general, the intense level of development, narrowness of residential streets, and steep grades were constraints to designating many routes as bikeways.¹³

The *City of Syracuse Element of the Onondaga County Bikeway System Plan* used many of the parameters determined by the county *Bikeway System Plan for Onondaga County*, thus the bikeway system was routed primarily based on recreation. However, commuter bikeways, bikeways to schools, and links to long distance bikeway networks were also identified.¹⁴ In order to properly serve the entire City with the new bikeway system, five bikeway planning areas (North-, South-, East-, West-Side and Downtown) and 18 sub-areas were established. Each sub-area contained at least one major attractor around that the bikeway would serve. A five-level functional classification system was then developed to determine the function of the bikeway in terms of arterials, major collectors, minor collectors, feeders, and local routes, which would then be used to determine phasing priorities of construction and general funding. The Plan recommended that the highest functional classes starting with arterials should be built first such that arterial routes would become the backbone of the bikeway system with local routes eventually reaching out from the arterials into the neighborhoods.¹⁵

The Plan's recommendations are detailed by planning area with information on the cost of each segment, scheduled year for implementation, and recommended funding agency included within the report. The following paragraph notes the recommendations that have been implemented from this plan.

One of the recommendations noted within this plan is the extension of the Onondaga Creek Trail from Atlantic Avenue to the southern City line.¹⁶ This recommendation called for the addition of bicycle/pedestrian pathways to the existing Creekwalk. This recommendation was also put forth

¹² Syracuse Metropolitan Transportation Council, *City of Syracuse Element of the Onondaga County Bikeway System Plan*, Syracuse, New York, July 1980, p. 3.

¹³ Ibid, p. 4.

¹⁴ Ibid, p. 5.

¹⁵ Ibid, pp. 8-10.

¹⁶ Ibid, p. 18.

in the 1976 *Bikeway System Plan for Onondaga County*. Although this recommendation has not been implemented, there are two projects currently on the TIP relating to the development of the Creekwalk along Onondaga Creek from Kirk Park to Onondaga Lake. The 1980 Plan also recommended the establishment of bicycle parking facilities in the downtown area, including existing parking lots or garages.¹⁷ Bicycle racks now exist in a few downtown locations as noted by the Syracuse Onondaga Cycling Coalition (SOCC) in Section 3.2.

Pedestrian Circulation System Study Syracuse, NY, SOCPA (1981)

The Syracuse-Onondaga County Planning Agency (SOCPA) prepared this study in February 1981 “as the first step in receiving approval from the Federal Highway Administration” to “expend funds totaling \$1.1 million dollars allocated by the SMTC’s Transportation Improvement Program (TIP) for the design and construction of a pedestrian bridge.”¹⁸ This study represented part of an overall project initiation package put forth by SOCPA to justify the desirability and feasibility of a grade-separated, weather protected Pedestrian Circulation System and to examine the location options for the placement of a pedestrian bridge in downtown Syracuse.

SOCPA’s report was prepared in two parts: “Part I, Impacts of the Pedestrian Circulation System, describes existing conditions (including existing pedestrian bridges and current planning) and analyzes the various impacts resulting from the completion of a Pedestrian Circulation System (PCS). Part II, East-West Linkage, presents several alternatives for the proposed east-west linkage of the PCS. It is this linkage that will be the subject of the design and engineering report.”¹⁹

The pedestrian bridge noted within SOCPA’s study was included within the 1980-1985 TIP as well as the 1981-1986 TIP. Upon reviewing these documents staff discovered that the project was eventually removed from the 1984-1989 TIP. The 1984-1989 TIP document states the pedestrian bridge linkage has been “deleted until such time as a comprehensive assessment of the overall system is completed.”²⁰

Downtown Syracuse Pedestrian Study, SMTC (1986)

The SMTC completed the *Downtown Syracuse Pedestrian Study* in March 1986 as a comprehensive review of pedestrian behavior in downtown Syracuse. At this time, many downtown office developments and other projects were in the final/preliminary development stage that would notably impact the downtown pedestrian environment. During this time, City of Syracuse officials recognized that pedestrians are significant elements in the urban environment and should be considered in new developments throughout the central business district (CBD).

¹⁷ Syracuse Metropolitan Transportation Council, *City of Syracuse Element of the Onondaga County Bikeway System Plan*, Syracuse, New York, July 1980, p. 22.

¹⁸ Syracuse-Onondaga County Planning Agency, *Pedestrian Circulation System Study Syracuse, New York*, February 1981, p. 1.

¹⁹ Ibid, pg. 2.

²⁰ Ibid p. 7.

The intent of this study was to obtain information about pedestrian behavior and their movements throughout the CBD provided by sampling eleven major employers in the area. Questions ranged from arrival/departure times, number of lunch trips per week, number of trips to downtown for leisure purposes, problems to the area, and improvements to make the CBD a better place for pedestrian activities.

Major findings from the 1986 survey include:

- The three most perceived problems with the downtown area included the lack of protection from weather, the dirty appearance of the streets/sidewalks and the fear of crime.
- The most important needs identified are for more shops, restaurants and stores; and for better protection from crime and a cleaner environment.

One of the major goals/objectives of this study was to “collect data for potential improvements to the pedestrian circulation system, particularly the pedestrian bridge system.”²¹ Based on survey responses dealing with pedestrian bridges, “the concept of a fully integrated circulation system among shops, offices, restaurants, etc. was not perceived.”²²

Onondaga County BikeNet, Daniel Edelstein (1994)

The *Onondaga County BikeNet* was completed in 1994 by Daniel Edelstein, a college student at Syracuse University. The report discusses general problems that are found between bicyclists, pedestrians and motor vehicles, how different transportation methods can positively impact the worlds changing natural and social environment, and the intent of a proposed BikeNet, which is to tie existing recreational and civic facilities together. Basically, the BikeNet would act as an alternative corridor for non-auto travel.²³

The report describes the BikeNet as a comprehensive system. “The approach used in developing the BikeNet is to create loops through major population centers for commuter access, as well as to provide access to recreational areas.”²⁴ Keeping the loops separated from vehicular traffic is given strong preference for maximizing the bike network.

The BikeNet report discusses prioritizing routes that connect existing isolated bike paths together and routes that allow the region to be traversed north-south and east-west.²⁵ By connecting these existing isolated routes, bicycle and pedestrian activity would increase. Another priority of the BikeNet is the “acquisition and protection of right-of-ways, which could be used by the system for future routes.”²⁶ Other elements discussed within BikeNet are parking, route signage and bicycle-safe sewer grates.

²¹ Syracuse Metropolitan Transportation Council, *Downtown Syracuse Pedestrian Study*, March 1986, p. 66.

²² Ibid, p. 67.

²³ Daniel N. Edelstein, *Onondaga County Bike Net*, Syracuse, New York, May 1994, pp. 1-4.

²⁴ Ibid, p. 4

²⁵ Ibid, p. 5.

²⁶ Ibid, p. 6.

The report also includes a discussion of various funding opportunities to assist in making the BikeNet a reality. Development of alliances with businesses, as well as federal, state and local funding opportunities are reviewed.²⁷ The report closes with descriptions and maps of a series of proposed and potential bikeways and bike routes in Onondaga, Madison, and Cortland counties. Although this report is not a planning or policy level publication of the SMTC itself, or one of its member agencies, it has been documented as a useful bicycle and pedestrian resource to the MPO area.

Onondaga County Settlement Plan (2001)

Created to assist in implementing the goals of Onondaga County's *2010 Development Guide* - to reinforce urban centers and neighborhoods and promote efficient expansion of infrastructure - the *Settlement Plan* both illustrates the possible utilization of New Urbanism development principles at several existing Onondaga County locations, and also provides the regulatory framework and planning tools (including transportation policies) for municipalities to foster desired development patterns. Critical to the Settlement Plan and New Urbanism is the creation and reinforcement of walkable, mixed-use, and transit-supportive neighborhoods and urban centers.

Although the Onondaga County Settlement Plan has not been officially adopted (as of January 2005), the policies and practices noted within the three documents of the Settlement Plan serve as a tool kit to assist Onondaga County in "returning to the traditional neighborhood pattern of growth."²⁸

²⁷ Daniel N. Edelstein, *Onondaga County Bike Net*, Syracuse, New York, May 1994, p. 6.

²⁸ Duany Plater-Zyberk & Company, *Onondaga County Settlement Plan*, Onondaga County, New York, February 2001, Executive Summary.

CHAPTER 3 – EXISTING CONDITIONS

3.1 Identification of Pedestrian Facilities

According to *Designing Sidewalks and Trails for Access*, the Best Practices Design Guide developed by the United States Department of Transportation’s Federal Highway Administration; a pedestrian is defined as “A person who travels on foot or who uses assistive devices, such as a wheelchair, for mobility.”²⁹ Detailed below are the definitions for various pedestrian facilities, as noted by the aforementioned Best Practices Design Guide:

Curb Ramp: A combined ramp and landing to accomplish a change in level at a curb. This element provides street and sidewalk access to pedestrians using wheelchairs.

Ramp: A slope transition between two elevation levels.

Sidewalk: The portion of a highway, road, or street intended for pedestrians.

Shared Use Path: A trail that permits more than one type of user, such as a trail designated for use by both pedestrians and bicyclists.

Trail: A path of travel for recreation and/or transportation within a park, natural environment, or designated corridor that is not classified as a highway, road, or street.³⁰

The above definitions are the basic pedestrian facilities that are discussed in the Existing Conditions portion of this document. For definitions of more specific and detailed pedestrian facilities, please refer to the Glossary in the *Designing Sidewalks and Trails for Access*, the Best Practices Design Guide developed by the United States Department of Transportation’s Federal Highway Administration. This document can be found via the following web address:<http://www.fhwa.dot.gov/environment/bikeped/access-1.htm>.

When planning for 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.”³¹ In addition, the American Association of State Highway and Transportation Officials (AASHTO) A

²⁹ Beneficial Designs, Inc., *Designing Sidewalks and Trails for Access, Part I of II: Review of Existing Guidelines and Practices*, U.S. Department of Transportation Federal Highway Administration, July 1999, p. 13.

³⁰ Ibid, Glossary pp. 113-20.

³¹ John D. Edwards, Jr., P.E., Editor, *Transportation Planning Handbook*, 2d ed., Institute of Transportation Engineers, Washington, D.C., 1999, p. 604.

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.”³²

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.

Sidewalk Inventory

As part of the Bicycle and Pedestrian Plan, in the spring of 2002 a generalized sidewalk inventory was completed for portions of the Metropolitan Planning Organization (MPO) area by the SMTC staff working with towns, villages, and communities. The primary purpose behind the sidewalk inventory was to determine the location of existing and proposed sidewalks throughout the study area; therefore, a sidewalk conditions analysis was not completed as part of this study. The SMTC staff did not complete a sidewalk inventory for the City of Syracuse due to the extensive existence of sidewalks in the City and the resources that would have been required to accurately inventory them. According to the City of Syracuse Department of Public Works Sidewalk Bureau, as of December 2002, approximately 95-97% of the parcels within the City of Syracuse have a sidewalk on at least one side.

Meetings with Municipalities

As an initial step in the sidewalk inventory process, the SMTC staff sent correspondence to and met with towns, villages and communities within the MPO area, asking for their participation in the sidewalk inventory.

Meetings were held over a three-month period with local government officials including Village Clerks, Village Trustees, Parks & Recreation Superintendents, Department of Public Works Superintendents, Highway Superintendents, Code Enforcement Officers, Town Supervisors and Village Mayors. The SMTC staff brought a map to each meeting outlining the respective town, village, or community, and with the assistance of a municipal representative, highlighted existing and proposed sidewalk locations on the map. Meeting face to face with the municipalities proved to be extremely useful to the sidewalk inventory process. The meetings provided an opportunity to educate and engage municipal representatives in the bicycle and pedestrian planning process.

Sidewalk Mapping

The SMTC created individual sidewalk maps for each town, village and community that had sidewalks within the MPO area using tax parcel information as well as road coverage information. When the sidewalk location phase was complete, sidewalk data was entered into the SMTC’s Geographic Information System (GIS), an intelligent computer mapping

³²American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, AASHTO, Washington, D.C., 2001, p. 96.

system. At the completion of the GIS data entry, individual maps were once again created for the municipalities for quality control purposes. The SMTC then made all of the necessary adjustments prior to finalizing the sidewalk inventory. Finalized sidewalk maps, along with a copy of the Bicycle and Pedestrian Plan will be sent to each municipality. Sidewalk maps are displayed in Appendix B.

Sidewalk Findings

City of Syracuse

As of December 2002, the City of Syracuse Sidewalk Bureau reported that approximately 95-97% of the parcels within the City of Syracuse have a sidewalk on at least one side.

MPO Villages

As of June 2002, all of the Villages within the MPO have sidewalks on select roadways:

- | | |
|----------------|---------------------------|
| ▪ Liverpool | ▪ Phoenix (Oswego County) |
| ▪ Manlius | ▪ Camillus |
| ▪ Minoa | ▪ Solvay |
| ▪ Skaneateles | ▪ East Syracuse |
| ▪ Fayetteville | ▪ Baldwinsville |
| ▪ Marcellus | ▪ North Syracuse |
| ▪ Jordan | ▪ Fabius |
| ▪ Tully | ▪ Radisson Community |
| ▪ Elbridge | |

MPO Towns

As of June 2002, the following Towns have sidewalks on select roadways:

- | | |
|------------|-------------|
| ▪ Elbridge | ▪ Onondaga |
| ▪ DeWitt | ▪ LaFayette |
| ▪ VanBuren | ▪ Cicero |
| ▪ Geddes | ▪ Clay |
| ▪ Camillus | ▪ Salina |

As of June 2002, the following Towns within the MPO reported having no sidewalks:

- | | |
|---|---|
| ▪ Town of Lysander | ▪ Town of Manlius (Village has sidewalks) |
| ▪ Town of Spafford | ▪ Town of Skaneateles (Village has sidewalks) |
| ▪ Town of Otisco | ▪ Town of Pompey |
| ▪ Town of Tully (Village has sidewalks) | ▪ Town of Fabius (Village has sidewalks) |
| ▪ Town of Marcellus (Village has sidewalks) | |

All sixteen of the MPO's villages, along with the Radisson Community, reported sidewalks within their municipality. In addition, all villages reported sidewalks on at least one side of their 'main streets,' with a majority of the village streets being

adequately covered with sidewalks. Although ten of the MPO's towns reported having some sidewalks, almost all towns noted minimal existing and proposed sidewalks (see sidewalk maps in Appendix B).

As a result of the sidewalk data collection efforts and review of the resulting sidewalk maps, the SMTC has noted that there is a general lack of sidewalks in the suburbs in the MPO area.

Sidewalk Maintenance

Each municipality in the MPO area has a set of ordinances, law, rules, and/or regulations that citizens must adhere to regarding sidewalk maintenance. It is the responsibility of the residents of Onondaga and Oswego County to know such regulations in the municipality that they reside in. For example, according to the "What Every City of Syracuse Resident Should Know" guide for the City of Syracuse, published in the spring of 2001, City residents are responsible for adhering to the following ordinance:

"Steps, sidewalks and similar areas must be kept in good repair and maintenance to assure safe travel under normal use and weather conditions. The owner, occupant or agent of any property, with a sidewalk parallel to any public street shall clear and keep cleared any snow or ice which has accumulated on the surface. This clearing of the snow and ice shall be completed by 6:00pm on the day following the accumulation. In addition, no person shall shovel, sweep, throw, plow, or otherwise deposit snow or ice into the street, sidewalk, or park located within the City."³³

City residents can report violations or obtain more information using the City's hotline at 448-CITY (448-2489). When a violation of the sidewalk ordinance is reported, City hotline employees will determine which department to forward the violation to (whether it is to the Department of Public Works, to Code Enforcement, etc.). That City department will then determine how to respond to the violation. Employees of the City's hotline track the number of phone calls and/or complaints by the City Department that the complaint pertains to, however, they do not track the number of phone calls received by specific complaint, such as the lack of snow removal from sidewalks.

When City hotline employees forward a complaint to the Syracuse Police Department Ordinance Enforcement Section, the Ordinance Enforcement Officers forward a letter (see Appendix C) to the property owner that is violating the ordinance noted above. The property owner will then have 24 hours to clear the snow and/or ice from their property. If the snow is not cleared, the City of Syracuse will have the snow and/or ice removed, and add the cost of removal to the owner's property taxes. The Ordinance Enforcement Section of the Police Department indicated that property owners that receive this letter typically comply with it. They also indicate that it is sometimes difficult to enforce this ordinance due to amount of manpower assigned to this task, as well as the wording of the ordinance itself. The ordinance states "This clearing of the snow and ice shall be

³³ "Damaged/Snow Covered Sidewalks: Section 27-72D", *What Every City of Syracuse Resident Should Know...*, City of Syracuse Office of Community Services/Print Services, City of Syracuse, Spring 2001.

completed by 6:00pm on the day following the accumulation.”³⁴ When it snows for several consecutive days, it is difficult to enforce the notion of clearing the snow by the afternoon of the day following the snowfall. The Ordinance Enforcement Section of the Police Department indicates that approximately 90% of the work it completes is complaint induced. They primarily receive complaints via the City hotline.

This is just one example of a municipal ordinance relative to sidewalks. Ordinances in all other municipalities are similar in nature and have similar requirements.

ADA Compliance

The Americans with Disabilities Act (ADA), a wide-ranging civil rights law that prohibits discrimination based on disability, was signed into law on July 26, 1990. The ADA Act of 1990 “guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications.”³⁵

The ADA requires that new and altered public sidewalks and street crossings be accessible so that people with disabilities can use the pedestrian routes that connect buildings, facilities, and transportation modes. Title II of the ADA covers new sidewalks and streets constructed by or on behalf of a State or local government. Enforced by the Department of Justice (DOJ), Title II regulation specifically requires that curb ramps be provided when sidewalks or streets are newly constructed or altered. Curb ramps should be designed to minimize the grade, cross-slope, and changes in level experienced by users. The transition between the ramp and the street surface should be flush. At some locations in the MPO area, there is a significant difference in elevation between the bottom of the curb ramp and the street surface, a violation of ADA standards. This height transition can create difficulties for individuals with disabilities.

The Legislation also addresses existing pedestrian facilities. Within the Legislation, the DOJ recognizes the unique and significant capital expenses involved in the installation of curb ramps where existing pedestrian routes cross curbs³⁶. Instead of requiring immediate retrofit of facilities, the Legislation has allowed for a phased approach, that takes fiscal restraints of communities into consideration.

City of Syracuse

The City of Syracuse Department of Public Works Sidewalk Bureau has indicated that it will take a minimum of ten years and approximately \$34 million to fully replace the curbs on City streets to bring them into compliance with the ADA Act. The Sidewalk

³⁴ “Damaged/Snow Covered Sidewalks: Section 27-72D”, *What Every City of Syracuse Resident Should Know...*, City of Syracuse Office of Community Services/Print Services, City of Syracuse, Spring 2001.

³⁵ United States Department of Justice, *Americans with Disabilities Act – Questions and Answers*, August 23, 2002, < <http://www.usdoj.gov/crt/ada/q&aeng02.htm> > (February 2003).

³⁶ Americans with Disabilities Act Home Page, *New or Proposed Regulations – Requirement for Curb Ramps*, April 17, 2002, < <http://www.ada.gov/newregs/curbrule.txt> > (February 2003).

Bureau also indicated that the City of Syracuse is required to place ADA compliant curb ramps within all newly constructed sidewalks. As far as the retrofitting of curb cuts within existing sidewalks is concerned, the City is not obligated to replace all of the existing curb cuts at one time, as this would be extremely cost prohibitive. The Sidewalk Bureau noted that as the City makes changes to existing sidewalks, they bring the sidewalks into ADA compliance.

The City of Syracuse is currently in the process of creating a database that will identify the condition of sidewalks and curbing at the corner of each City intersection and whether or not an ADA curb replacement is needed. This database will eventually tie into their computer mapping system and each City corner will be placed on the map through the use of a Global Positioning System (GPS) unit. As of January 2005, approximately 400 corners have been placed on the map.

Once the non-ADA compliant sidewalks, curbs and ramps are identified, the City will develop a priority listing for replacement based on population needs. For example, sidewalks, curbs and ramps will be brought into ADA compliance first near schools, public buildings, senior centers, buildings that serve physically challenged individuals and large apartment buildings.

The entire City has approximately 2000 intersections (8000 corners). The City's current budget allows for the replacement of approximately 200 intersections (800 corners) a year. The City of Syracuse Sidewalk Bureau estimates that there are between 300 and 400 intersections (1200 to 1600 corners) with no handicapped ramp or access at all. These locations will be brought into compliance first. In addition, the specific Department of Justice requirements for bringing sidewalks, ramps and curbs into ADA compliance change as we become aware of better materials to use for sidewalks, ramps and curbs. Therefore, the cost of bringing these facilities into compliance may increase. Where \$2500 might have covered the cost of a corner in the past, new requirements (i.e. new finishes and materials) could push the cost up to approximately \$3500 per corner. The City of Syracuse is further ahead than many cities, as a handicapped ramp replacement program has existed for about 20 years.

Each Town and Village within the MPO should have its own schedule or implementation plan for replacing non-ADA compliant sidewalks and curb ramps.

ADA compliant-design and associated resources are discussed in Chapter 7, *Bicycling, Walking, and Trails: Design Guidelines*.

New York State Vehicle and Traffic Law

Article 27 of the New York State Vehicle and Traffic Law (NYS V&T Law) identifies the rights and duties of pedestrians in New York State. Outlined below are some of the rules and regulations pertaining to pedestrians in NYS.

Pedestrian Traffic Signals

In New York State, pedestrians are required to obey traffic signals and/or traffic officers.

As indicated in the *State of New York Manual of Uniform Traffic Control Devices* (MUTCD), traffic control devices include signs, signals, markings and other devices placed by authority of a public body to regulate, warn, or guide highway traffic. The proper use of traffic control devices promotes safe, orderly, and convenient movement of traffic, both motorized and non-motorized, on the transportation system. For a more thorough description of the MUTCD, see <http://mutcd.fhwa.dot.gov/kno-overview.htm>.

The MUTCD indicates that in order to be effective, a traffic control device should meet five basic requirements. Each device should:

- Fulfill a need;
- Command attention;
- Convey a clear, simple meaning;
- Command the respect of road users; and
- Give adequate time for proper response.

Pedestrian traffic signals are found primarily in the urbanized areas of the MPO, including the City of Syracuse and major pedestrian crossing points in villages and towns.

There are two main types of pedestrian signals, those that have a pedestrian phase already built into the signal's cycle, and those with a pedestrian push button control. The push button allows pedestrians to request a pedestrian walk interval when a walk interval is not already provided via the signal's phasing. In addition, in some locations an exclusive pedestrian phase will occur so that pedestrians can move in all directions, while no vehicular movements are allowed. Within the County, the majority of intersections that have exclusive pedestrian phases are located near schools, housing complexes for the elderly, and shopping centers.

In the City of Syracuse, exclusive pedestrian phases are located at the intersections of:

- James St. and Lodi St.
- University Ave. and Waverly Ave.
- Glenwood Ave. and Stinard Ave.
- Warren St., Madison St. and Onondaga St.
- James St. and Homecroft Rd.
- Burt St. and Almond St.
- Comstock Ave. and Euclid Ave.
- Walnut Ave. and Waverly Ave.

In the remainder of Onondaga County, exclusive pedestrian phases are located at the following intersections:

- Soule Rd. at County Route 57
- Pinehollow Dr. at County Route 57
- Blackberry Rd. at County Route 57
- Bear Rd. at Buckley Rd.
- West Taft Rd. at the North Syracuse High School entrance
- Beverly Dr. at West Genesee St.
- Hinsdale Rd. at West Genesee St.
- Randall Rd. at Jamesville Rd.
- Fremont Rd. at Kirkville Rd.
- Vanida Dr. at West Genesee St.
- Fairmount Fair entrance at West Genesee St.

As noted in Section 1112 of the NYS V & T Law, when the pedestrian push button is pressed, or a traffic signal provides a walk phase, the white WALK message or “walking person” symbol indicates that a pedestrian may enter the roadway and cross in the direction of the indication. However, even with a WALK indication, there may be possible conflicts with turning vehicles. The flashing DON’T WALK or upraised “hand” symbol is used as a clearance interval in which pedestrians may complete their crossing, but should not start to cross. The DON’T WALK or upraised “hand” symbol, steadily illuminated, indicates that a pedestrian shall not enter the roadway. However, pedestrians who have already partially completed their crossing on the WALK or flashing DON’T WALK signal shall continue to a sidewalk or safety island while the steady DON’T WALK signal is showing.³⁷

Pedestrians’ Right of Way in Crosswalks

According to Article 27, Section 1151 of the NYS V&T Law, vehicular operators must slow down or stop to yield to a pedestrian crossing the roadway within a crosswalk.³⁸ As of January 19, 2003, the law requires a motorist to yield the right of way to a pedestrian who is walking in any part of a crosswalk that is in the same roadway as the motorist, when a traffic signal is not present or operating. Prior to January 19, 2003, the law required that motorists yield the right of way only when the pedestrian is on the same half of the roadway as the motorist, or is so close on the opposite half as to be in danger.

This section of the law indicates that pedestrians should not suddenly walk or run into path of a vehicle that is so close that it would be difficult for the driver to yield. Section 1151 also states that when a vehicle is stopped at a marked or unmarked crosswalk at an

³⁷ New York State Department of Motor Vehicles, *New York State Vehicle and Traffic Law*, Albany, New York, 2003-2004 Edition, p. 443.

³⁸ *Ibid*, p. 451.

intersection to allow a pedestrian to cross the street, the driver of any other vehicle approaching from the rear cannot overtake and pass the stopped vehicle.³⁹

In summary, Section 1151 states that it is the driver's responsibility to observe crosswalks, and when pedestrians are in the crosswalk, vehicles must slow or stop to allow the crossing to be completed safely.

Crossing Within a Crosswalk

Section 1155 of the NYS V&T Law indicates that when feasible, pedestrians should travel on the right half of crosswalks. Also, when crossing the street within a crosswalk, pedestrians should walk within the right half of the crosswalk to avoid potential conflicts and to keep the flow of pedestrian traffic moving within the crosswalk.⁴⁰

Crossing at other than Crosswalks

Section 1152 of the V&T Law indicates that pedestrians crossing a street at any place other than within a marked crosswalk, or within an unmarked crosswalk at an intersection, must yield to traffic on the street. And, as noted above, at marked crosswalks where there is not a traffic control signal or officer, pedestrians have the right of way. However, regardless of the right of way, motorists are required by law to take great care to avoid hitting pedestrians.⁴¹

In addition, pedestrians should not cross an intersection diagonally (often referred to as "jay walking") unless authorized by official traffic-control devices. Crossing diagonally is illegal in New York State and violators can be ticketed for doing so.

Sidewalks

Also according to the NYS V&T Law, pedestrians have the right of way on sidewalks. Drivers emerging from or entering an alleyway, building, private road or driveway must yield the right of way to any pedestrian approaching on any sidewalk extending across an alleyway, building entrance, road or driveway.⁴² Pedestrians are to use sidewalks whenever they are safely available.

Pedestrians on Roadways

Where sidewalks are provided and they may be used safely, it is unlawful for pedestrians to walk along/on a roadway. Where sidewalks are not available, pedestrians walking along/on a highway must (when feasible) walk only on the left side of the road or

³⁹ New York State Department of Motor Vehicles, *New York State Vehicle and Traffic Law*, Albany, New York, 2003-2004 Edition, p.451.

⁴⁰ Ibid, p.452.

⁴¹ Ibid, p. 451-452.

⁴² Ibid. 451.

shoulder, and face traffic that is approaching from the opposite direction. When a vehicle is approaching, a pedestrian should move as far to the left as is practicable.⁴³

This same law applies to individuals using electric wheelchairs (and “Rascals” as they are sometimes called). Electric wheelchairs should not be operated in the street (unless sidewalks are not available or not passable).

In addition, it is illegal for pedestrians to seek rides, or to solicit from or sell anything to an individual(s) in a vehicle.⁴⁴

Blind or Visually Impaired Pedestrians

Every driver of a vehicle must yield the right of way to a pedestrian crossing or attempting to cross the road when that pedestrian is accompanied by a guide dog or using a cane which is metallic or white in color or white with a red tip.⁴⁵ This is often referred to as the “White Cane Law.”

The majority of New York State’s Vehicle & Traffic Laws pertaining to the rights and duties of pedestrians are listed above. Specific information and wording can be found in Article 27 of the NYS V&T Law, which is included in Appendix C.

Designated Pedestrian Paths and Trails

Numerous State, County and local parks exist throughout the MPO region that contain trails for pedestrian use, and many for both bicycle and pedestrian use. Section 3.3 notes the major bicycle and pedestrian facilities within the MPO area, as well as the transportation and trails bicycle and pedestrian related projects that have been funded through the Transportation Improvement Program (TIP).

⁴³ New York State Department of Motor Vehicles, *New York State Vehicle and Traffic Law*, Albany, New York, 2003-2004 Edition, p. 452.

⁴⁴ Ibid.

⁴⁵ Ibid.

3.2 Identification of Bicycle Facilities

According to the *Guide for the Development of Bicycle Facilities*, published by the American Association of State Highway and Transportation Officials (AASHTO), the term “bicycle facilities” denotes improvements and provisions made to accommodate or encourage bicycling. The following section provides the definitions for various bicycle facilities as noted within the *Guide for the Development of Bicycle Facilities*.

Bicycle: Every vehicle propelled solely by human power upon which any person may ride, having two tandem wheels, except scooters and similar devices.

Bicycle Lane or Bike Lane: A portion of roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle Path, Bike Path, or Shared Use Path: A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.

Bikeway: A generic term for any road, street, path or way, which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Shared Roadway: A roadway, which is open to both bicycle and motor vehicle travel. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders.⁴⁶

Trail: A path of travel for recreation and/or transportation within a park, natural environment, or designated corridor that is not classified as a highway, road, or street.⁴⁷

For the purposes of this study, bicycle facilities are examined via the following categories: shared roadways, bicycle lanes, bicycle paths and trails, and bicycle racks.

Shared Roadways (Non-Designated On-Road Routes / Class III Facilities)

According to the AASHTO *Guide for the Development of Bicycle Facilities*, “most travel by bicycle in the United States occurs on streets and highways without bikeway designations (these types of facilities are also known as Class III facilities or routes). In

⁴⁶ American Association of State Highway and Transportation Officials Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, AASHTO, 1999, Definitions from Bicycle through Shared Roadway, p. 2-3.

⁴⁷ Beneficial Designs, Inc., *Designing Sidewalks and Trails for Access, Part I of II: Review of Existing Guidelines and Practices*, U.S. Department of Transportation Federal Highway Administration, July 1999, p. 119.

some cases, a community's existing street system may be fully adequate for efficient bike travel, and signing and striping for bicycle use may be necessary. In other cases, some streets and highways may be unsuitable for bicycle travel and it would be inappropriate to encourage bicycle travel by designating the routes as bikeways. Some routes may not be considered high bicycle demand corridors, and it would be inappropriate to designate them as bikeways regardless of roadway conditions (i.e. minor residential streets).⁴⁸

The majority of public roads within the MPO are accessible by bicycle on a shared-used basis (bicyclists and motorists must follow the rules of the road). New York State law prohibits bicycling on interstate highways and expressways. Therefore, bicycling is allowed on any street in the MPO area that is not an interstate highway, expressway, or other road where bicycling is prohibited by law via posting.

For the purposes of this Plan, an interstate highway is defined as a highway that travels through more than one state. Interstate highways are denoted via a shield that is red, white and blue in color. An expressway is defined as "a limited access, divided highway. Limited access means that there are no driveways or minor streets that intersect the highway, but access may be achieved at spaced traffic lights, interchanges, or stop signs."⁴⁹

Bicycle Lanes (Designated On-Road Routes / Class II Facilities)

According to the AASHTO *Guide for the Development of Bicycle Facilities*, the purpose of bicycle lanes (also known as Class II facilities or routes) "should be to improve conditions for bicyclists on the street." As AASHTO notes, bike lanes should be "established with appropriate pavement markings and signing along streets in corridors where there is significant bicycle demand and where there are distinct needs that can be served by them."⁵⁰

Bicycle lanes with adequate footage typically give riders a sense of ownership of the road without having to deal directly with traffic. Space is designated strictly for the use of bicyclists. An appropriate bike lane should be distinguished through pavement markings and signage on the side of the road to let motorists know they have to share the road.

Onondaga County

Within Onondaga County there is currently one officially designated on-road bicycle route. New York State Bike Route 5 runs in an east-west direction, following County Route 31 (generally) across the northern portion of Onondaga County. New York State Bike Route 5 is distinguished by posted bike route signs and in some locations it is also marked with painted shoulder stripes. New York State Bike Route 11 is in the process of

⁴⁸ American Association of State Highway and Transportation Officials Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, AASHTO, 1999, p. 7.

⁴⁹ aaroads.com, *Glossary*, March 15, 2003, < <http://www.aaroads.com/glossary.html> > (March 2003).

⁵⁰ American Association of State Highway and Transportation Officials Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, AASHTO, 1999, p. 7-8.

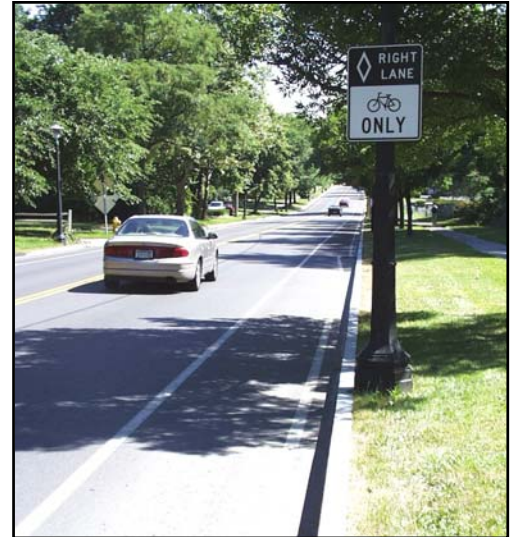
being developed and is planned to be complete by the end of 2005. Bike Route 11 follows US Route 11 through Onondaga County. Bike Route 11 will eventually traverse along US Route 11 from the Canadian line down to the Pennsylvania State line.

City of Syracuse

The City of Syracuse created its first bicycle lanes along both sides of Comstock Avenue between Colvin Street and Stratford Street in the City of Syracuse in Fall 2001.

The 4-foot wide bike lanes are designated through a series of pavement markings stating “Bike Only” at various increments along the lanes. In addition, steel posted signs indicating “Bike Lane Starts” and “Bike Lane Ends” exist at both intersections in both directions.

The City of Syracuse installed the bicycle lanes along Comstock Ave. as a traffic-calming device. Prior to the installation of the bike lanes, motorists treated the wide two-lane road as a four-lane road, traveling at speeds of up to 53 miles per hour in a 30 mile per hour speed zone. In addition, there was a lot of pedestrian traffic that had great difficulty crossing Comstock Ave. The City of Syracuse Police Department was notified of the speeding and set up a series of two to three speed traps over a week’s time (Monday through Friday) where over 100 tickets were issued.



After installing stops signs on Stratford St. (one block south of Euclid Ave.) and the bike lanes, speeds have reduced to 30 miles per hour, pedestrians can cross the street with much less difficulty, and bicyclists have their own lanes. The City of Syracuse Department of Public Works has indicated that the local bicycle groups utilize the lane often. Eventually, the City plans on extending the current bicycle lane so that it runs along Comstock Ave. from Euclid Ave. to Colvin St. where the lanes would then travel east along Colvin St. to the entrance of the Syracuse University South Campus at Skytop.

Oswego County

There are currently no designated on-road bicycle routes or lanes within the MPO area in Oswego County. However, New York State Bike Route 11 is in the process of being developed and is planned to be complete by the end of 2005. Bike Route 11 follows US Route 11 and will run through Oswego County. Bike Route 11 will eventually traverse along US Route 11 from the Canadian line down to the Pennsylvania State line.

Madison County

New York State Bike Route 5 travels east into Madison County following County Route 31 (generally) across the northern portion of Onondaga County and into Madison County.

New York State Bike Route 5 is distinguished by posted bike route signs and in some locations it is also marked with painted shoulder stripes.

Bicycle Paths and Trails (Off-road routes / Class I Facilities or Trails)

Each cyclist has a different comfort level when bicycling on a high traffic road or a calm country road. Designated off-road routes (also known as Class I Facilities or Trails) give riders a sense of safety that they may lack when bicycling on the road. The bicycle and pedestrian off-road routes that are found at Onondaga Lake Park may be utilized for recreation and transportation purposes. For children, families, and the less experienced cyclist, off-road routes are generally perceived as a safer means of transportation.

Numerous State, County and local parks exist throughout the MPO region that contain trails for bicycle use, and many for both bicycle and pedestrian use. Very few bicycle paths (see definition above) exist within the MPO area. Section 3.3 notes the major bicycle and pedestrian facilities within the MPO area, as well as the transportation and trails bicycle and pedestrian related projects that have been funded through the Transportation Improvement Program (TIP).

When planning for 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.”⁵¹ 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.”⁵²

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.

Bicycle Racks

Land-tied Racks

The SMTC did not complete an MPO-wide inventory of bicycle racks as part of the Bicycle and Pedestrian Plan due to the resources that would have been required to accurately locate and inventory all bicycle racks within the MPO. However, in May 2002

⁵¹ John D. Edwards, Jr., P.E., Editor, *Transportation Planning Handbook*, 2d ed., Institute of Transportation Engineers, Washington, D.C., 1999, p. 604.

⁵² American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, AASHTO, Washington, D.C., 2001, p. 96.

the Syracuse-Onondaga Cycling Coalition (SOCC) completed an inventory of land-tied bicycle racks within the City of Syracuse Central Downtown Business District.

Although not all-inclusive, SOCC noted several bicycle racks, the findings of which are reported in the following table:

LOCATION	# of BIKE SLOTS AVAILABLE
S. Salina St. & W Fayette St.	30
Warren St. Garage (300 block)	10
Sibleys Garage (S. Clinton St.)	10
S. Franklin St. Garage	8
Federal Building (Clinton & Washington St.)	1 unit – 10 slots 2 units – 8 slots
One Park Place	10
Syracuse Stage (corner of E. Genesee St. & Irving Ave.)	3 units – 10 slots each
Hotel Syracuse, Harrison St.	5
Trees between State Tower and City Place	18 trees
Atrium & Syracuse Building	None
500 South Salina St.	10
YMCA (Montgomery St. & E. Jefferson St.)	20-40 in summer

The SOCC notes that the racks listed in the chart above are older style racks for front wheel locking and that secure locking would reduce the number of slots by 75%.

In addition to SOCC's findings, bicycle racks can also be found in Franklin Square, the Inner Harbor and at many schools and colleges, including the Syracuse University and State University of New York (SUNY) College of Environmental Science and Forestry (ESF) campuses.

At the request of the SOCC, in late April 2002 the City of Syracuse "created a trust fund to accept donations toward bicycle racks that will be purchased and set up in strategic parts of the city."⁵³ At that time, \$180 had been donated toward the fund. The "SOCC continues to work with the City of Syracuse Department of Public Works (DPW) to locate the sites and raise money."⁵⁴

In addition, in May 2002 SOCC partnered with the Iroquois Chapter of the Sierra Club and submitted a proposal "to install about 20 bicycle racks around downtown to make it more cycle friendly."⁵⁵ The Sierra Club was awarded a \$3,350 grant by the

⁵³ "Donations go toward bicycle racks," *The Post Standard*, May 9, 2002.

⁵⁴ Ibid.

⁵⁵ Frank Brieady, "Updowntowners Give Away Grants," *The Post Standard*, May 8, 2002.

Updowntowners to accomplish this. This money was deposited in the City's Bike Rack Trust Fund. The Updowntowners "promotes downtown business, social and cultural activities and gives away forty percent of the proceeds from its summertime Parties in the Plaza at the James M. Hanley Federal Building"⁵⁶ in downtown Syracuse. The money is "distributed in lottery fashion with the winning applications drawn out of a bowl."⁵⁷

The SOCC wanted the racks to be manufactured locally to give local manufacturers the opportunity to work with a possible new product area. Through the City's Purchasing Department, ten bar racks were bid during Fall 2002, and the racks were delivered in March 2003. An additional seven wave racks were bid in mid-May 2003. As of June 2003, all non-government raised funds deposited in the City's Bike Rack Trust Fund have been used for bike racks. The City of Syracuse DPW has installed approximately ten bike racks in Downtown Syracuse as of December 2004 with more racks to be installed in the future.

Bicycle Racks on Buses

Public transit services within the MPO area are provided by Centro, a subsidiary of the Central New York Regional Transportation Authority (CNYRTA). Nearly all Centro buses are equipped with bicycle racks, and when regular full-size buses are replaced, they are replaced with buses that are equipped with bicycle racks. A demonstration of how to place a bicycle in a Centro bus rack can be found in Section 4.7 in Figure 4.7-1.

The above definitions are the basic pedestrian facilities that are discussed in the Existing Conditions portion of this document. For definitions of more specific and detailed pedestrian facilities, please refer to the Glossary in the *Designing Sidewalks and Trails for Access*, the Best Practices Design Guide developed by the United States Department of Transportation's Federal Highway Administration. This document can be found via the following web address: <http://www.fhwa.dot.gov/environment/bikeped/access-1.htm>.

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."⁵⁸ 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

⁵⁶ Frank Brieady, "Updowntowners Give Away Grants," *The Post Standard*, May 8, 2002.

⁵⁷ Ibid.

⁵⁸ John D. Edwards, Jr., P.E., Editor, *Transportation Planning Handbook*, 2d ed., Institute of Transportation Engineers, Washington, D.C., 1999, p. 604.

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.”⁵⁹

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.

New York State Vehicle and Traffic Law

Article 34 of the New York State Vehicle and Traffic Law (NYS V&T Law) outlines the rules and regulations associated with operating bicycles and play devices in New York State. Noted below are some of the rules and regulations pertaining to bicyclists and in-line skaters in NYS. See Appendix C for a copy of Article 34 from the 2003-2004 Edition of New York State Vehicle and Traffic Law.

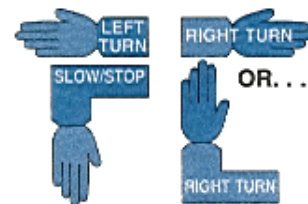
Traffic Laws Apply to Bicyclists and Skaters

Bicyclists and in-line skaters must obey the same laws that apply to motorists – all traffic signals, signs and pavement markings, with some exceptions and rules. Bicyclists and in-line skaters are protected by the rules of the road and they must obey them, just as motorists must obey the rules of the road with respect to bicyclists and in-line skaters. If bicyclists and in-line skaters violate the law, they are subject to traffic tickets (parents can be held responsible for violations made by their minor children), just as motorists are.⁶⁰

Signals to Use for Turns and Stops

When making turns and stops, bicyclists are required to indicate their intended moves to motorists and other roadway users through the use of hand and arm signals as shown in the diagram below (the diagram is provided through the NYS Governor’s Traffic Safety Committee Sharing the Road Safely Brochure⁶¹):

- Left turn: Extend the left hand and arm horizontally.
- Right turn: Extend the left hand and arm upward by bending the arm up at the elbow; or extend the right hand and arm horizontally.
- Stop or Slow: Extend the left hand and arm downward by bending the arm down at the elbow.



⁵⁹American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, AASHTO, Washington, D.C., 2001, p. 96.

⁶⁰New York State Governor’s Traffic Safety Committee – NYS Department of Motor Vehicles, *Bikes and In-line Skates Frequently Asked Questions*, December 30, 2002, <<http://www.nysgtsc.state.ny.us/bike-faq.htm#laws>> (September 17, 2003).

⁶¹*Sharing the Road Safely*, New York State Governor’s Traffic Safety Committee, March 1999, p. 4.

Ride with Traffic

The law requires that bicyclists ride and skaters glide **with** traffic. Moving **with** traffic makes bicyclists and skaters more visible and their movements more predictable to motorists. Traveling with traffic also prevents interference with the flow of traffic and pedestrians.⁶²

Riding on Roads, Shoulders, and Bike Lanes

“Bicyclists and skaters have the right to share the road on most public highways, but they are prohibited on interstate highways and expressways. Authorities with jurisdiction over other controlled-access highways may prohibit bicycles.”⁶³ Bicyclists and skaters should always check with local authorities before bicycling on major highways.

Where bicycling or in-line skating lanes are available, cyclists and skaters are required to use them. If there is not a lane available, or it is unusable due to parked cars or other hazards, skaters and cyclists may use the right shoulder, or the area near the right curb or edge of the road. Bicyclists and skaters can move farther left to avoid hazards or to turn left as long as they avoid undue interference with traffic.⁶⁴

Bicyclists and skaters are allowed to ride side-by-side on roadways, but must ride single file when being overtaken by other vehicles.

Individuals using electric wheelchairs, and/or “Rascals,” as they are sometimes called, should not operate these devices in the street (unless sidewalks are not available or not passable). Wheelchair operators are considered pedestrians, and should operate their wheelchairs on the sidewalk.

Helmets

New York State Law requires anyone under the age of 14 to wear an approved helmet when bicycling, in-line skating, riding a non-motorized scooter, or skateboarding.⁶⁵ However, Onondaga County law requires that children **under the age of 18** wear an approved helmet when riding bicycles, scooters, in-line skates or skateboards. Any parent or guardian whose child violates the helmet law is subject to a \$50 fine.



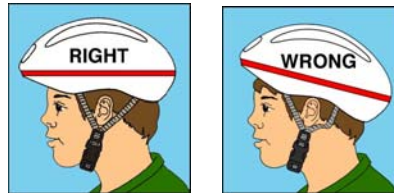
⁶² New York State Governor’s Traffic Safety Committee – NYS Department of Motor Vehicles, *Bikes and In-line Skates Frequently Asked Questions*, December 30, 2002, <<http://www.nysgtsc.state.ny.us/bike-faq.htm#laws>> (September 17, 2003).

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ Ibid.

Helmets significantly reduce the risk of sustaining a serious head injury. A helmet should fit squarely on top of the head in a level position and cover the top of the forehead extending down to about an inch above the eyebrows. The helmet should not be able to slide back and forth on the head or rock from side to side⁶⁶ (see helmet photos below, provided by the U.S. Consumer Safety Products Commission).



In the event of a crash, helmets should be replaced immediately, even if it seems that there is no apparent damage.

Bicycle Equipment Requirements

A bicycle must be equipped with the following:

- A brake capable of making bike tires skid on dry, level pavement.
- A bell, horn or other device that can be heard from at least 100 feet away. Sirens and whistles are not permitted.
- Bicycles driven between one-half hour after sunset and one-half hour before sunrise must be equipped with a white front headlight visible in darkness for at least 500 feet, and a red taillight visible for at least 300 feet.
- When driven at night (or when purchasing a new bike), a bicycle must have reflective tires, or wide-angle, spoke-mounted reflectors. Reflectors must be colorless or amber for front wheels, and colorless or red for rear wheels.⁶⁷

Other Bicycling Laws

- Bicyclists are required to report a bicycle accident to the New York State Department of Motor Vehicles within 10 days of the incident.
- Bicyclists are required by law to sit on the seat of the bicycle, not the handlebars or the fender. Feet are to be kept on the pedals and cyclists should never carry more people on the bike than the number for which it was designed.
- Bicyclists are required to keep at least one hand on the handlebar at all times.
- Bicyclists should never drive a bike with a motor attached on any public highway and never attach themselves or their bike to another vehicle on the road.
- Cyclists should never wear more than one earphone attached to a radio, tape player or other audio device.⁶⁸

⁶⁶ *Greater Rochester Area Bike Map*, Genesee Transportation Council, 1998 Edition.

⁶⁷ New York State Department of Motor Vehicles, *New York State Vehicle and Traffic Law*, Albany, New York, 2003-2004 Edition, p. 536.

The majority of New York State's Vehicle & Traffic Laws pertaining to bicycling are listed above. Specific information and wording can be found in Article 34 of the NYS V&T Law (See Appendix C).

3.3 Air Quality in Onondaga County

The Environmental Protection Agency has classified Onondaga County as a Carbon Monoxide (CO) maintenance area. This designation assumes that Onondaga County will remain below federal mandates for CO emissions. To help facilitate this process a maintenance plan was created that demonstrates Onondaga County will remain in attainment for a minimum twenty-year period. The CO Maintenance State Implementation Plan established a CO budget that the SMTC cannot exceed when it develops emissions estimates of draft Long-Range Transportation Plans and TIPs.⁶⁹

The SMTC recognizes the need for multimodal transportation alternatives within the MPO area. The use of alternative forms of transportation, including bicycling and walking, can play a role in assisting to reduce noxious gas emissions (CO, greenhouse gases) in the area. In addition, Onondaga County has begun to look at ozone emissions throughout the county. Similar to CO emissions, ozone emissions (Nitrous Oxide and Volatile Organic Compounds) can be reduced by decreasing the dependency on single-use motor vehicle travel and increasing the number of trips utilizing alternative travel methods such as bicycling, walking and mass transit.

In addition, the New York State Department of Transportation (NYSDOT) Environmental Analysis Bureau (EAB) and Interagency Consulting Group (ICG) encourage MPOs to implement non-motorized transportation options within their respective capital improvement programs (TIPs) as a way to offset vehicle emissions. The theory behind this is that every trip made via non-motorized travel is a motorized trip removed from the road.

The reduction in CO and ozone emissions can be viewed as a benefit to Onondaga County residents and their surrounding environment.

⁶⁸ New York State Governor's Traffic Safety Committee – NYS Department of Motor Vehicles, *Bikes and In-line Skates Frequently Asked Questions*, December 30, 2002, <<http://www.nysgtsc.state.ny.us/bike-faq.htm#laws>> (September 17, 2003).

⁶⁹ Syracuse Metropolitan Transportation Council FHWA/FTA Certification Review, November 2002, p. 67

3.4 Identification of Combined Bicycle and Pedestrian Facilities

Major Bicycle and Pedestrian Transportation Facilities in the MPO Area

Onondaga Creekwalk: The Onondaga Creekwalk currently exists from the Inner Harbor at Onondaga Lake to Franklin Square. The Creekwalk runs both north and south of the Inner Harbor. Heading north, an 8-foot wide paved trail runs along the west shoreline of the Inner Harbor and Barge Canal for almost $\frac{3}{4}$ of mile. The Franklin Square Creekwalk section to the south of the Inner Harbor travels approximately $\frac{3}{4}$ miles to its current endpoint at North Franklin Street. A steel walk-bridge crosses over Onondaga Creek to the east shore.⁷⁰ Once other sections are completed, the Creekwalk will provide an uninterrupted 2.3-mile pedestrian link between Onondaga Lake (and the Onondaga Lake Trail) to the north, and Armory Square in Downtown Syracuse to the south. Eventually, Creekwalk plans call for extending the Creekwalk to Kirk Park on the south side of Syracuse. Once expanded, the entire Creekwalk trail will be integrated with the Onondaga Lake Trail and the New York State Canalway Trail.



New York State Canalway Trail: Portions of the Erie Canalway Trail have been completed within Onondaga County that link to the end-to-end statewide Canalway Trail. In Onondaga County, the Canalway Trail is passable along the Erie Canal State Park in DeWitt, where the trail begins on Butternut Drive near the Dewitt Town Hall, and the eastern edge of the County, and also between the Erie Canal State Park in the Town of Camillus and the western edge of the County. 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



⁷⁰ "Get Going," Leisure Trails of Onondaga County 2002, *Syracuse New Times*, Summer 2002, p. 4, col. 1.

access roads, multi-use trails, and a waste settling bed. Once complete, the Canalway Trail will connect the DeWitt path in eastern Onondaga County to the Canalway Trail in western Onondaga County in the Town of Camillus. The entire Erie Canalway Trail will eventually connect communities between Albany and Buffalo along the 524-mile Erie Canalway system.⁷¹ The Canalway Trail Planning Group meets approximately every two months at the Erie Canal Museum to discuss possible routes through the City of Syracuse.

Onondaga Lake Trail (“Loop the Lake Trail”):

Over five miles of loop trail currently exist between the Salt Museum in Liverpool, and Nine Mile Creek in the Town of Geddes. Once complete, the circumferential trail will be approximately 13 miles in length. The Onondaga County Department of Parks and Recreation hopes to complete the trail around the remainder of Onondaga Lake within approximately five years. Once complete, the Onondaga Lake Trail will serve as a central trail that other trails in the county can connect to (such as the Creekwalk and the Erie Canalway Trail). Funding has been earmarked in the Transportation Improvement Program (TIP) to assist in the completion of the trail around the lake.



Bear Trap Creek Trail: The Bear Trap Creek Trail runs along the east side of Interstate 81 from near the New York State Thruway Exit 36 interchange at Seventh North Street to the Kmart Plaza in Mattydale. Constructed during Route 81 improvements in the 1980s, Bear Trap Creek Trail is a 1.5-mile long, 8-foot-wide paved trail, which ultimately, via the proposed Ley Creek Trail section, will connect the northern suburbs to the hub-trail activity in the Carousel Center/Regional Market/P&C Stadium district.⁷²



⁷¹ “Get Going,” Leisure Trails of Onondaga County 2002, *Syracuse New Times*, Summer 2002, p. 4, col. 1.

⁷² *Ibid*, p. 5, col. 2.

Bicycle and Pedestrian Related TIP Projects

The bicycle and pedestrian facilities noted in Table 3.4-1 are bicycle and pedestrian improvement projects, and trails and park projects that have been funded and/or are scheduled to be funded through the 2001-2006 Transportation Improvement Program (TIP). The locations of the TIP projects are shown in Figure 3.4-1 along with the existing and proposed trail network in Onondaga County.

Public's Perception of Pedestrian and Bicycle Safety and Travel in Onondaga County

The SMTC completed a bicycle and pedestrian awareness survey to determine the public's awareness of bicycle and pedestrian safety, their knowledge of the existing conditions of bicycle and pedestrian travel in Onondaga County, and how often the public is utilizing these systems. The results are found in Section 3.7 of this Plan.

Bicycle and Pedestrian TIP Projects

Project Name	Sponsor	Description	PIN	TIP Funding Source	Total Project Cost*	Project Status
1. Onondaga Lake Canalways Trail	Onondaga County Department of Transportation	Build a trail around Onondaga Lake. See description above.	375355	CMAQ/STP-Urban Funds	\$6.000	In progress
2. Creekwalk, Phase I, Armory to Carousel	City of Syracuse	Complete a walkway along Onondaga Creek. See description above.	375299	CMAQ/STP-Urban Funds	\$3.341	Final Design Stage
3. Clinton Square	City of Syracuse	Improving traffic flow, pedestrian safety and air quality in the vicinity around Clinton Square in downtown Syracuse.	380379	CMAQ/STP-Urban Funds	\$0.907	Complete
4. Creekwalk Study, Kirk Park to Armory	City of Syracuse	Complete a design study to extend the Creekwalk from Kirk Park to Armory Square	3T3306	CMAQ Funds	\$0.080	Preliminary Design Stage
5. West Genesee St Corridor Improvements	Town of Camillus	Implement design changes throughout the corridor to improve traffic flow, along with aesthetic improvements such as landscaping and sidewalks for pedestrian safety.	375392	STP-Urban Funds	\$1.093	In progress
6. Green Lakes Lakeside Trail	New York State Office of Parks, Recreation and Historic Preservation	Improve the trail surface and reduce erosion impacts of both Green Lake and Round Lake	375363	Recreation/Trails Funds	\$0.025	Complete

Table 3.4-1

Bicycle and Pedestrian TIP Projects

Project Name	Sponsor	Description	PIN	TIP Funding Source	Total Project Cost*	Project Status
7. Onondaga Lake West Shore Trail Paving	Onondaga County Department of Transportation	Paving the West Shore Trail of the Onondaga Lake Trail	395014	STP Enhancement Money	\$0.600	Complete
8. Village of Liverpool Commuter Corridor Beautification Project	Village of Liverpool	Landscaping, traffic calming, and sidewalk work	395015	STP Enhancement Money	\$0.382	Complete
9. Skaneateles Gateway West Project	Town of Skaneateles	Landscaping, traffic calming, and sidewalk work	395016	STP Enhancement Money	\$0.535	
10. Marcellus Main St. & North St. Streetscape & Sidewalk Improvements	Village of Marcellus	Streetscape and sidewalk project	395017	STP Enhancement Money	\$0.135	Complete
11. Marcellus Nine Mile Creekwalk	Village of Marcellus	Construct 6,000 feet of new trail connecting several community features, including the Town Park, several multi-family dwellings, a supermarket, the Village urban center and the Marcellus Central Schools	395028	STP Enhancement Money	\$0.268	In progress

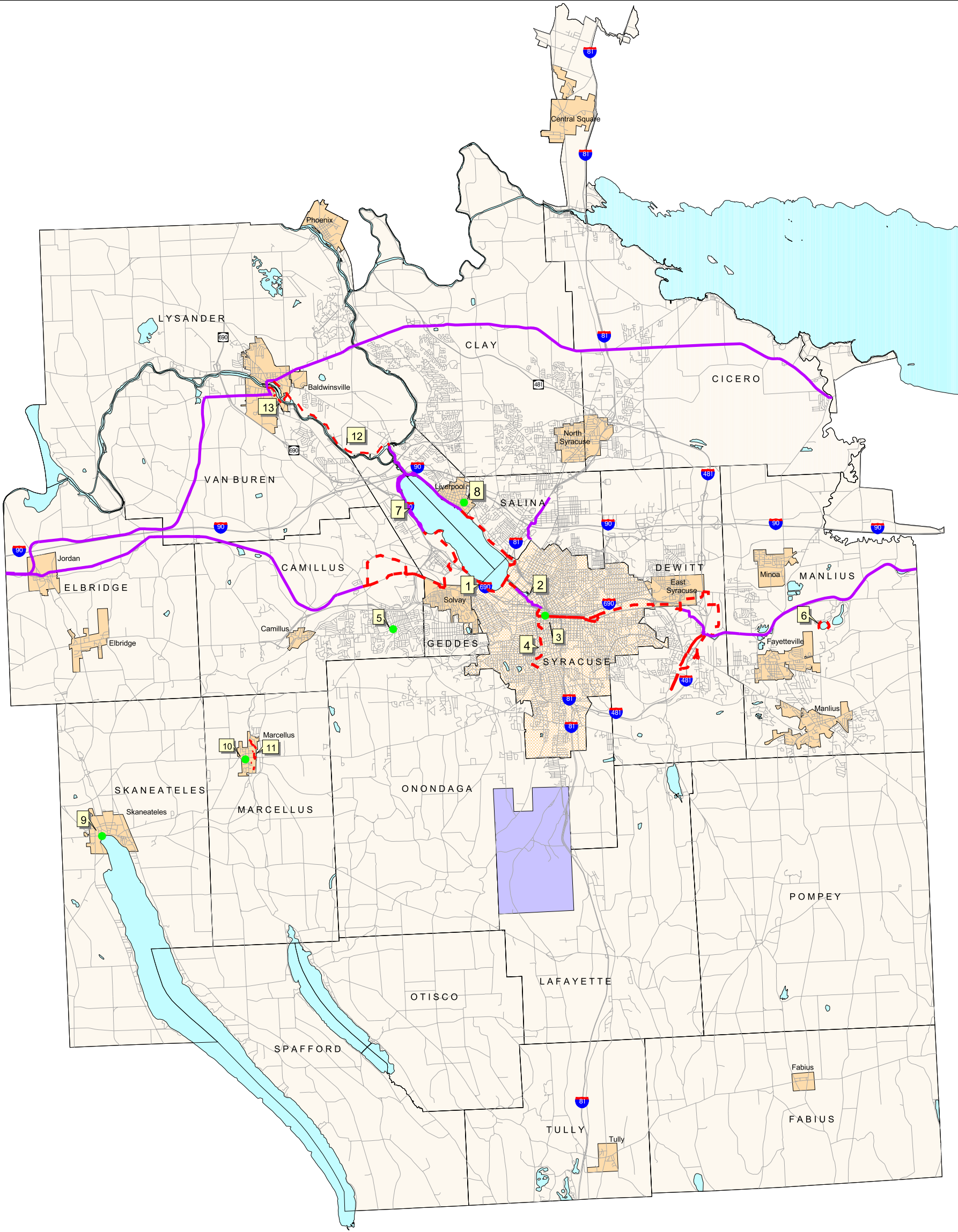
Table 3.4-1

Bicycle and Pedestrian TIP Projects

Project Name	Sponsor	Description	PIN	TIP Funding Source	Total Project Cost*	Project Status
12. Seneca River Trail	Town of Lysander	Construct a 2.8-mile trail from Baldwinsville's North Shore Trail and Village Center Walk, through town neighborhoods along the Seneca River and connecting to the Onondaga Lake Park trail network at Long Branch Park	395026	STP Enhancement Money	\$0.535	In progress
13. South Shore East Trail	Village of Baldwinsville	Construct a 3,700-foot linear trail linking Lions Community Park along the Erie Canal to the downtown business district	395029	STP Enhancement Money	\$.0396	In progress
14. CNG Buses	Centro	Purchase ## clean, natural gas buses that have bicycle carrying capabilities		CMAQ Funds	\$1.200	In progress
	Grand Total: Bicycle/Pedestrian TIP Projects				<u>\$15.1406*</u>	
	Grand Total: All TIP projects				<u>\$294.020*</u>	

**dollar amount in millions*

Table 3.4-1



Note: The numbered locations on this map are bicycle and pedestrian related TIP projects that correspond to the chart in Section 3.3.



100 Clinton Square
126 North Salina Street, Suite 100
Syracuse, New York 13202
(315) 422-5716
Fax: (315) 422-7753
www.smtcmpo.org

Bicycle/Pedestrian TIP Projects and Trail Network

SMTC Bicycle and Pedestrian Plan

0 2 4 Miles

Figure 3.4-1

Basemap Copyrighted by NYSDOT, 2001
Datasources: SMTC, NYSDOT, 1999
Prepared by SMTC, 12/2004



- Trail Network
 - Existing Trails
 - Proposed Trails
- Pedestrian Improvements/
Streetscape Projects
- Towns
- Villages
- City of Syracuse
- Water
- Roads

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

3.5 Transit

Centro

As previously noted, Centro, a subsidiary of the Central New York Regional Transportation Authority (CNYRTA) operates fixed route public transit systems including over 100 designated routes throughout Onondaga County and just beyond County limits. Many of these routes converge at a transit hub located in downtown Syracuse at the intersection of Fayette Street and S. Salina Street. From this hub, the routes diverge into various directions to serve localities, including various suburbs, throughout the MPO region. Other routes provide service across towns or circulate within the suburban areas without traveling into Syracuse. Additionally, locations such as the region's many shopping centers, the Regional Transportation Center, and other outlying centers of activity serve as convergence points for transit routes.

Centro service extends as far as the communities of Oswego and Auburn but is primarily concentrated on the City of Syracuse and its immediate suburban communities. Throughout most areas of the City of Syracuse, these routes operate with at least a thirty-minute headway, while in the suburban area most routes operate with a sixty-minute headway or more. 'Headway' is a term that refers to the frequency that the bus passes by a certain location. For example, if you are standing at a shelter where the bus has a thirty-minute headway and the last bus passed by 12 minutes ago, the next bus will be there in approximately 18 minutes.

Bus Routes & Stops

Centro bus routes were updated in November 2002. Many of the changes made involve re-identification of the routes to make them easier for the public to understand. Additionally, the updated Centro system provides service to areas that were not previously served (such as within suburbs). The new routes are displayed in Figure 3.5-1.

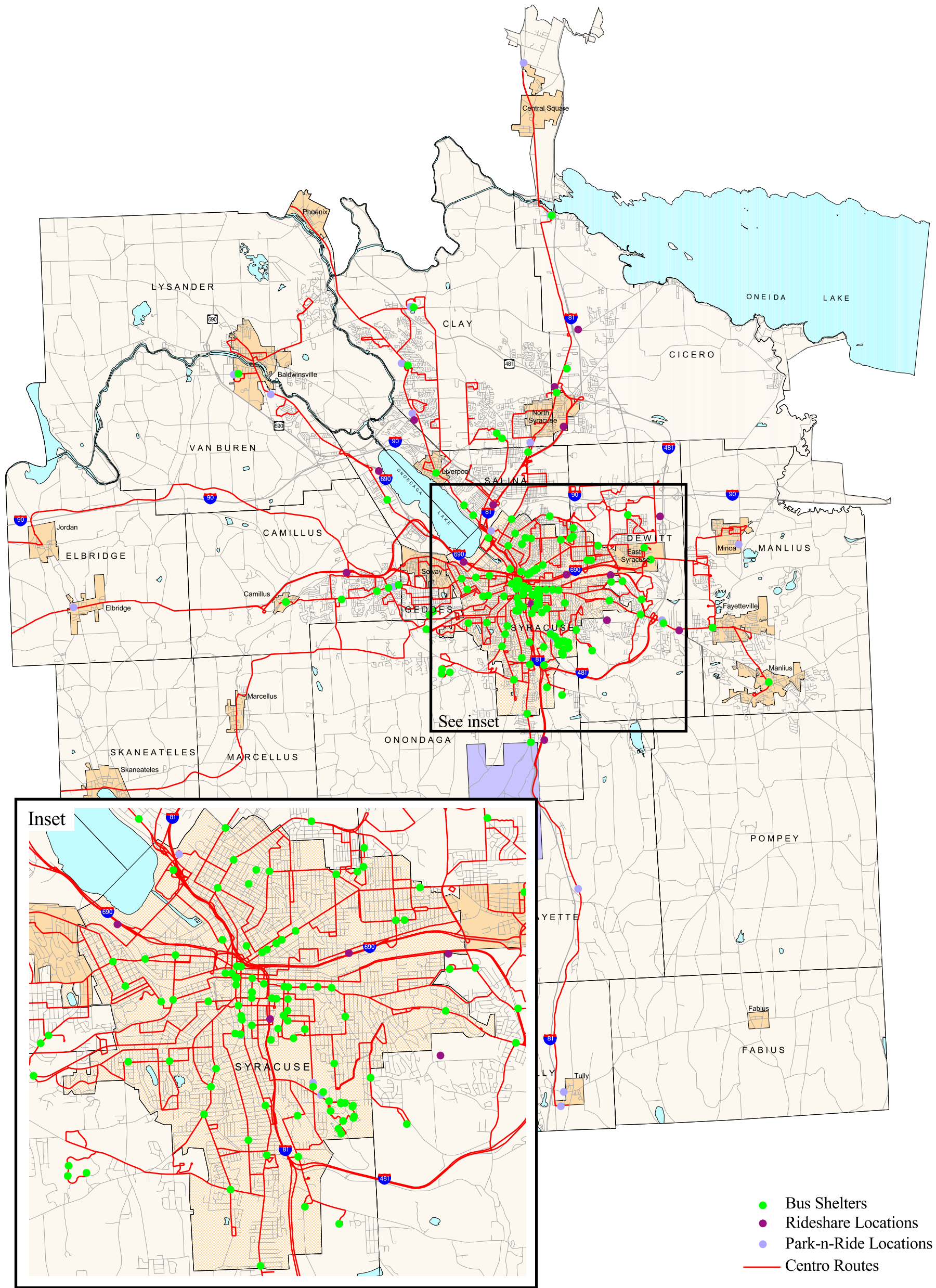
Centro bus stops, bus shelters and park-and-ride and rideshare locations can be found throughout the MPO area. Bus stops and shelters are designated with a blue Centro sign, shown here.

Bus shelter, park-and-ride, and rideshare locations are also displayed in Figure 3.5-1.



Fares

Fares to ride Centro are one dollar for travel within one fare zone with a fifty-cent charge for crossing into a new zone. Senior citizens and disabled citizens are charged sixty cents for riding on Centro with a ten-cent extension zone charge. Centro bus service operates primarily between five in the morning Eastern Standard Time (EST) and midnight EST



100 Clinton Square
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Centro Fixed Route Service

SMTC Bicycle and Pedestrian Plan

Figure 3.5-1

Basemap Copyrighted by NYSDOT, 2001
Datasources: SMTC, NYSDOT, 1999
Prepared by SMTC, 12/2004



- Towns
- Villages
- City of Syracuse
- Water
- Roads

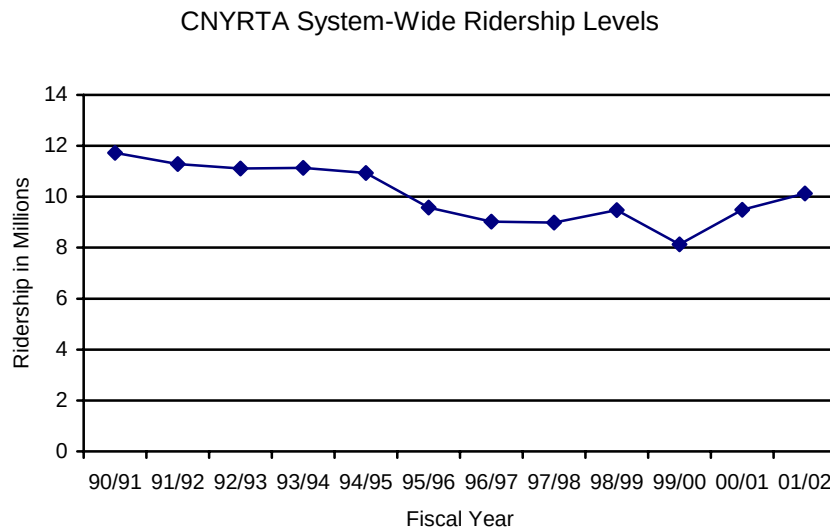
0 2 4 Miles

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

seven days a week. Children under the age of 6 and accompanied by an adult are free. The fare for children between the age of 6 and 9 is \$.50.

Ridership

General ridership numbers for routes within the MPO area are noted in the chart below.



The CNYRTA ridership numbers noted above were provided by Centro and represent their service within Onondaga County. Ridership is reported by fiscal year and includes paratransit service.

From the chart above, it is noted that Centro's Onondaga County ridership levels have primarily decreased between 1990 and 2000. The Census 2000 demographics indicated that the use of public transportation has decreased by almost 45% between 1990 and 2000. However, in the last two years, Centro has reported an increase in ridership numbers.

Bicycle Racks

The majority of Centro buses are equipped with bicycle racks, and when regular full-size buses are replaced, they are replaced with buses that are equipped with bicycle racks. See Section 4.7 for a description on how to use bus bicycle racks.

Call-A-Bus Service

The CNYRTA also operates Call-A-Bus service to provide transportation options to the elderly and disabled who meet the criteria of the Americans with Disabilities Act (ADA). The ADA requires Call-A-Bus to serve the same area and operate during the same hours and days as the Centro bus routes. Call-A-Bus service will travel up to three-quarters of a mile to either side of where the Centro bus routes run, however, service beyond this area

is not offered. Fares to ride Call-A-Bus are one dollar and twenty-five cents within one fare zone, with a fifty-cent charge for crossing into a new zone.

William F. Walsh Regional Transportation Center

In 1998, the CNYRTA opened the William F. Walsh Regional Transportation Center in Syracuse. Located adjacent to Interstate Route 81, the Central New York Regional Transportation Market, P & C Stadium, and Carousel Center, this intermodal facility brings together for the first time in the Central New York community, all ground transportation services, including intercity rail, intercity bus, local and regional bus, and taxi service. The CNYRTA simultaneously restructured a number of its bus routes in order to maximize direct service to the Center from points throughout the region, furthering the ease of intermodal passenger travel. From the Transportation Center, travelers can access Greyhound and Trailways intercity coach service, airport shuttle service to Hancock International Airport and ground transportation services, as well as Amtrak intercity passenger rail along the Empire Corridor. The Empire Corridor serves all the major upstate cities such as Albany, Syracuse, Rochester and Buffalo as well as destinations along the Hudson Valley.

With the concentration of the CNYRTA routes through the William F. Walsh Regional Transportation Center, a greater level of accessibility is provided to all intercity transportation options. Additional future opportunities may also exist for intermodal connectivity and accessibility upon the completion of the Ontrack railroad bridge over Park Street, allowing the Ontrack Shuttle and special events trains to access the Transportation Center. With the proposed development of the Carousel Center into DestiNY there may be further opportunities for intermodal connectivity and enhancement of access.

OnTrack

The Syracuse, Binghamton & New York Railway began operation of OnTrack in 1994 with a recreational rail shuttle service. The service connects the hamlet of Jamesville to the Carousel Center with stops in between serving Syracuse University and Downtown locations. A future extension is planned that will provide an additional stop at the William F. Walsh Regional Transportation Center, which will provide passenger service to the adjacent P&C Stadium and the Central New York Regional Market. The OnTrack Shuttle operates primarily from the Carousel Center to Syracuse University. Service is currently limited to eight trains in each direction, Wednesday through Sunday, on a seasonal basis. In addition, OnTrack operates special trains (Orange Express) for Syracuse University football and basketball games as well as major concerts. In these instances, the trains run from both Carousel Center and Armory Square to the Carrier Dome.

3.6 General Demographic Data & Utility of the Bicycle and Pedestrian System

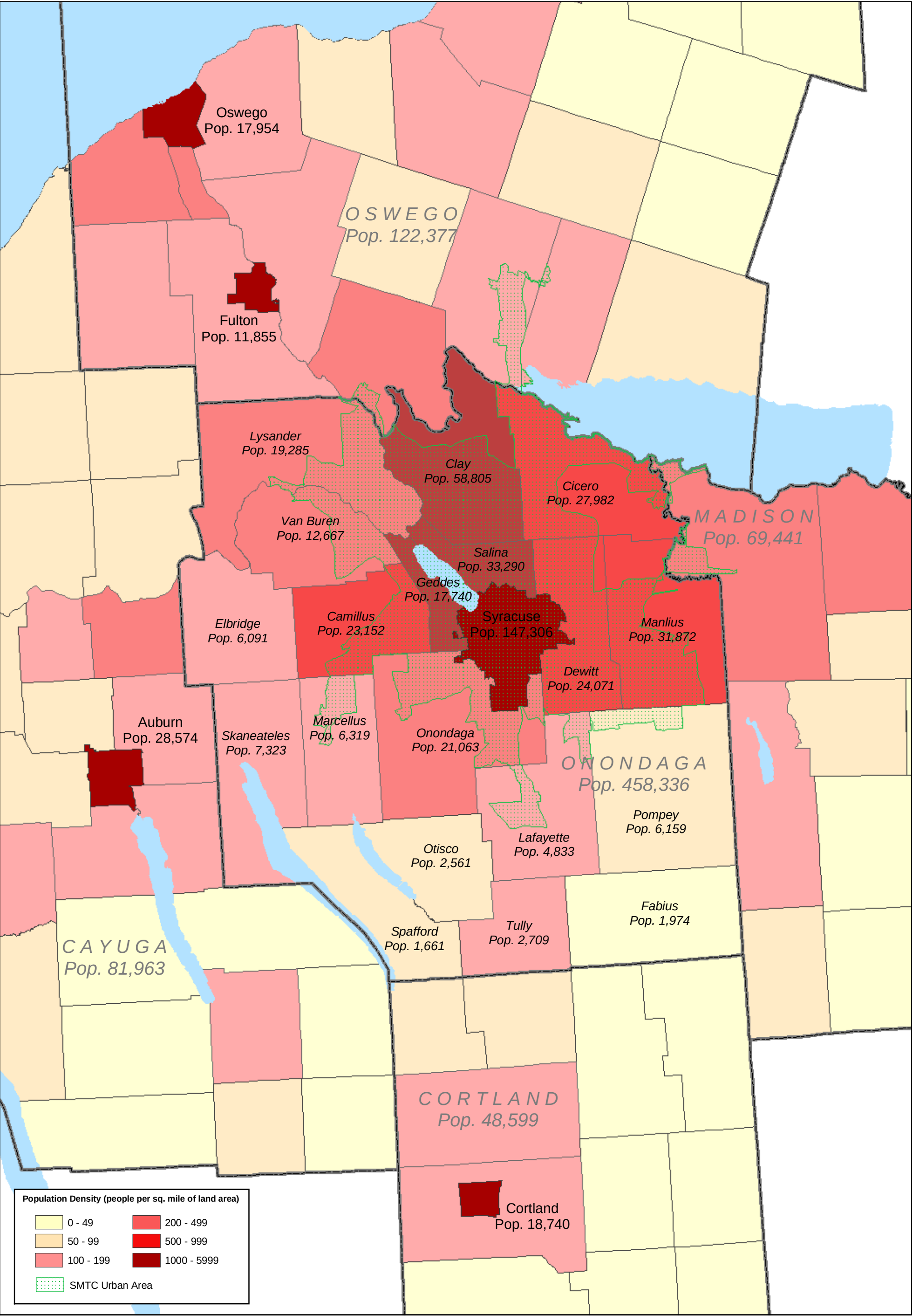
General Demographics: Onondaga County (Census 1990 and 2000)

The following chart was created from demographic data obtained from the Census Transportation Planning Package (CTPP) for Onondaga County:

Onondaga County General Demographics: 1990 and 2000 Census						
Subject	1990 Census		Census 2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
Total Population	468,973	100.0	458,336	100.0	-10,637	-2.3
Total Households (HH)	177,950	100.0	181,369	100.0	3,419	1.9
Mean number persons per HH	2.55	(x)	2.45	(x)	-0.09	(x)
No vehicle available	23,741	13.3	22,882	12.6	-859	-3.6
Mean vehicles per HH	1.54	(x)	1.52	(x)	-0.02	(x)
Workers 16 years and older	223,650	100.0	211,646	100.0	-12,004	-5.4
Means of Transportation to Work						
Drove alone	168,206	75.2	169,433	80.1	1,227	0.7
Carpooled	27,040	12.1	20,873	9.9	-6,167	-22.8
Public transportation (including taxi)	10,037	4.5	5,560	2.6	-4,477	-44.6
Bicycle or Walked	11,757	5.3	8,749	4.1	-3,008	-25.6
Motorcycle or Other Means	1,315	0.6	1,054	0.5	-261	-19.8
Worked at Home	5,295	2.4	5,977	2.8	682	12.9
Source: US Census Bureau						

Between 1990 and 2000, the population in Onondaga County decreased by approximately 2%, while the number of households increased by almost 2%. Figure 3.6-1 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 SMTTC's Urban Area boundary, the most populated areas of Onondaga County continue to be in the City of Syracuse and nearby towns to the north and east.⁷³ The average population density in Onondaga County is 588 people per square mile, which

⁷³ Syracuse Metropolitan Transportation Study, *Long Range Transportation Plan – 2004 Update*, Syracuse, New York, June 2004, p. 41-42.



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.⁷⁴

The number of Onondaga County residents that do not have access to a vehicle has decreased by approximately 3.6 % since 1990. This may indicate that more people have been able to obtain a vehicle (or access to a vehicle) since 1990, or that those that have not had access to a vehicle have moved out of the County.

There has been a 5% decrease in the number of workers age 16 and older within Onondaga County. This could be attributed, in part, to the loss of 2.3% of the population between 1990 and 2000. The 2000 Census noted a slight increase (1%) in the number of people 16 years and older that drove to work alone. Although this may seem like a small increase, 75% of the working residents of Onondaga County drove to work alone in 1990 and 80% drove to work alone in 2000. The number of people who utilized public transportation, including taxi service, and carpooling as ways to get to work decreased by 45% and 23% respectively between 1990 and 2000. As more individuals obtain cars and migrate to the suburbs, the reliance and dependability on the personal automobile and driving alone has grown. Since 1990, the number of people who rode a bicycle or walked to work decreased from 5.3% to 4.1%.

With the continued migration to suburban areas, it is difficult for transit providers to facilitate rides to multiple far-reaching destinations or to provide a suburban transit hub, primarily because it is typically faster for individuals to drive to a destination rather than wait for public transportation. Low-density commercial corridors typically found outside the city are primarily designed for high traffic volumes on roadways that are not often thought of as being comfortable for bicycling. High speeds, multiple traffic lights, travel lanes and vehicles turning in and out of commercial development locations typically deter many from commuting by bicycle. For the same reasons, these commercial corridors can make pedestrian travel virtually impossible when not developed in ways friendly to bicycle and pedestrian travel.

Population: City vs. Suburb

Although some of the population has migrated out of Onondaga County during the past ten years, it is interesting to note the population shift that has occurred between the city and the suburbs. The table at the top of the next page outlines the population in Onondaga County for 1990 and 2000.

⁷⁴ Syracuse Metropolitan Transportation Study, *Long Range Transportation Plan – 2004 Update*, Syracuse, New York, June 2004, p. 42.

County/City/Suburb Population 1990/2000			
Population	County Total	City	Suburbs
1990	468,973	163,860	305,113
2000	458,336	146,435	311,901
Change	-10,637 (-2.3%)	-17,425 (-10.6%)	+6,788 (2.2%)
<i>Source: US Census Bureau</i>			

The City of Syracuse saw a decrease in population of 10.6%, while the entire County lost only 2.3%. The suburban population within Onondaga County actually grew by 2.2% between 1990 and 2000. The largest suburban growth occurred primarily in the outer suburban ring in the Towns of Lysander, Cicero, Pompey, Fabius, Tully, and Otisco. The Town of Onondaga also saw a significant increase (14.5%) in population between 1990 and 2000. This trend is also supported by the increase in the number of households within Onondaga County that occurred between 1990 and 2000.

Means of Transportation to Work: City vs. Suburbs

The following table compares the means of transportation to work between the City of Syracuse and Onondaga County suburbs for the year 2000.

Means of Transportation to Work in Onondaga County (Census 2000) City vs. Suburbs			
	COUNTY TOTAL	City	Suburbs
Workers 16 and older	211,646 (100.0%)	59,041 (100.0%)	152,605 (100.0%)
Drove alone	169,433 (80.1%)	38,936 (65.9%)	130,497 (85.5%)
Carpooled	20,873 (9.9%)	8,114 (13.7%)	12,759 (8.4%)
Public transportation (including taxi)	5,560 (2.6%)	4,148 (7.0%)	1,412 (0.9%)
Walked	8,262 (3.9%)	5,960 (10.1%)	2,302 (1.5%)
Bicycled	487 (0.2%)	348 (0.6%)	139 (0.1%)
Motorcycled or Other	1,054 (0.5%)	330 (0.6%)	724 (0.5%)
Worked at Home	5,977 (2.8%)	1,205 (2.0%)	4,772 (3.1%)
<i>Source: US Census Bureau (CTPP Summary)</i>			

Approximately 54% of Onondaga County residents are workers age 16 and older, with 28% of the working population located within the City of Syracuse, and 72% residing in Onondaga County suburbs.

Of the working population located within the City of Syracuse, 66% drove alone to work in 2000, while nearly 86% of suburban residents drove alone. More City residents carpool, and walk or bike to work than suburban Onondaga County residents do. In addition, 7% of City residents use public transportation to get to work. Virtually no

suburban residents bike to work, and very few walk or utilize public transportation to get to work. Figure 3.6-2 shows an MPO area map that depicts the number of people that bicycled or walked to work in the year 2000 by Census block group. The locations where MPO residents walked or biked the most include: the City of Syracuse (primarily within the Syracuse University, SUNY ESF, and LeMoyne College areas), and the Villages of Skaneateles, Baldwinsville and Manlius.

What is a Block Group?

A census block group (BG) is a cluster of census blocks having the same first digit of their four-digit identifying numbers within a census tract. BGs generally contain between 600 and 3,000 people, with an optimum size of 1,500 people. BGs never cross the boundaries of census tracts. (http://www.census.gov/geo/www/cob/bg_metadata.html).

In 1950, 65% of Onondaga County's population lived in the City of Syracuse. In 2000, 32% of the population lived within the City. This illustrates the movement of the population from the City to the suburbs over several years, showing further reliability on the automobile. This captures the point that de-densification is contributing to the decrease in the ease of commuting by bicycling and/or walking due to the increased distances traveled on a daily basis.

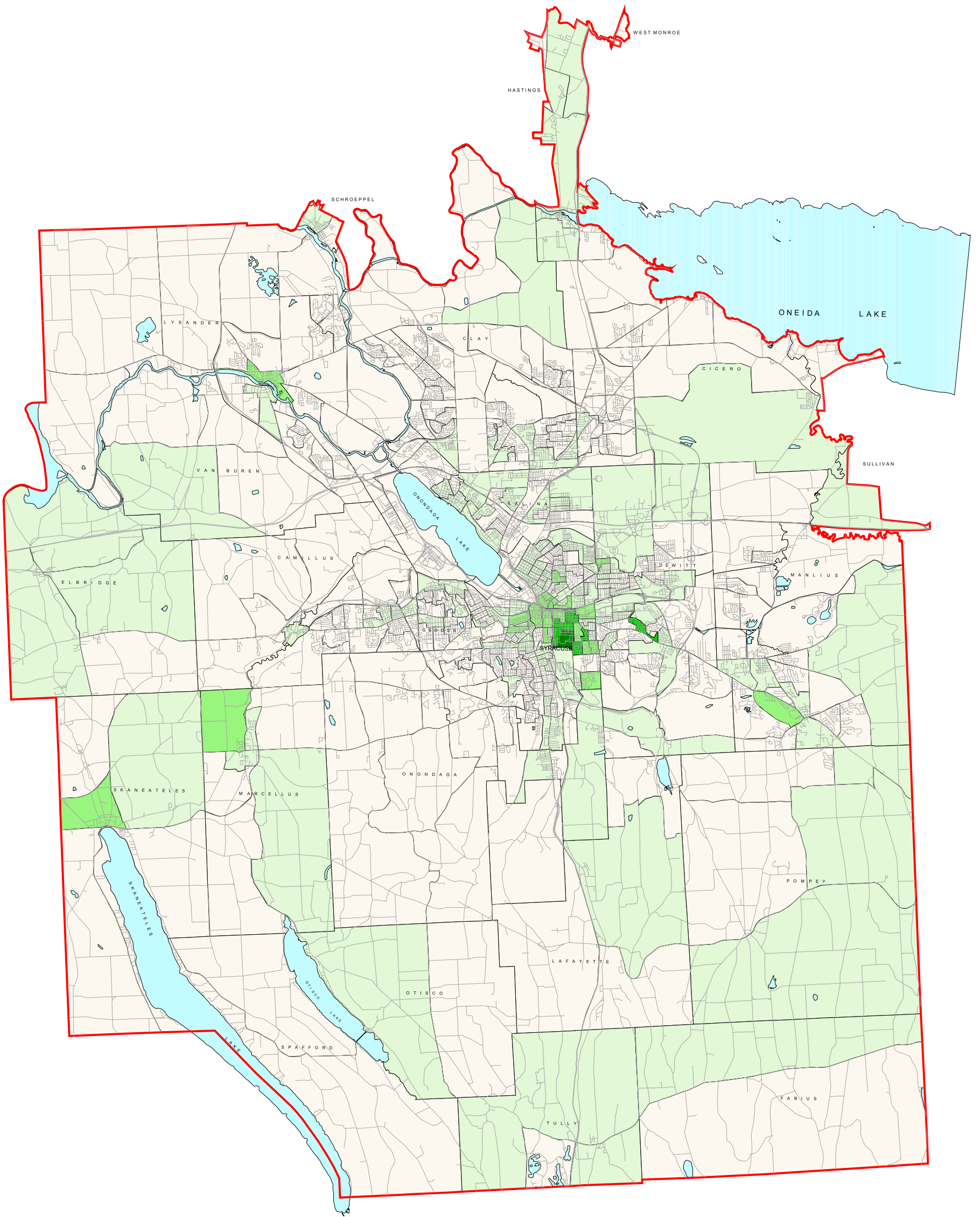
Means of Transportation to Work by Town: Travel Time to Work

The following table compares the means of transportation to work and the mean travel time to work between the City of Syracuse and each Town in Onondaga County for the year 2000.

Means of Transportation to Work in Onondaga County, 2000								
<u>Towns in Onondaga County</u>	<u>Total Workers</u>	<u>Drove Alone</u>	<u>Car Pool</u>	<u>Passenger Transportation</u>	<u>Other Means</u>	<u>Walked</u>	<u>Worked at Home</u>	<u>Mean Travel Time to work (Minutes)</u>
Camillus	10,993	9,769	1,373	376	42	256	276	19.8
Cicero	14,122	12,367	1,076	27	47	161	444	20.0
Clay	30,763	26,618	2,700	239	214	255	737	20.0
DeWitt	11,229	9,321	997	170	102	237	402	16.0
Elbridge	2,942	2,386	346	55	20	80	55	23.0
Fabius	980	803	95	4	3	23	52	25.0
Geddes	7,888	6,564	853	152	39	112	168	18.0
LaFayette	2,577	2,184	228	0	9	67	89	23.0
Lysander	9,863	8,540	756	43	59	82	383	23.0
Manlius	15,395	13,388	993	124	76	230	584	20.0
Marcellus	3,269	2,706	255	24	6	161	117	24.0
Onondaga	9,537	8,280	758	106	44	67	282	21.0

Means of Transportation to Work in Onondaga County, 2000 (...continued)								
<u>Towns in Onondaga County</u>	<u>Total Workers</u>	<u>Drove Alone</u>	<u>Car Pool</u>	<u>Passenger Transport -ation</u>	<u>Other Means</u>	<u>Walked</u>	<u>Worked at Home</u>	<u>Mean Travel Time to work (Minutes)</u>
Otisco	1,247	1,019	137	7	5	17	62	28.0
Pompey	2,945	2,397	187	0	0	98	263	25.0
Salina	16,495	13,891	1,561	243	138	317	345	18.0
Skaneateles	3,445	2,843	264	28	24	115	171	23.0
Spafford	870	708	90	0	3	5	64	33.0
Tully	1,371	1,072	128	3	11	61	96	25.0
Van Buren	6,145	5,197	593	67	36	89	163	22.0
City of Syracuse	59,041	38,936	8,114	4,148	678	5,960	1,205	17.0
<i>Source: US Census Bureau, 2000</i>								

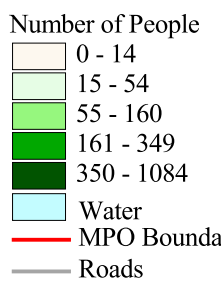
The mean travel time to work table shows that residents of the town of Spafford have the longest travel time to work with thirty-three minutes. The shortest travel time to work can be found in the town of DeWitt, whose residents generally travel sixteen minutes on average to work. Of the nineteen townships and one city in Onondaga County, the average travel time to work of all residents is approximately twenty-two minutes. Residents in the City of Syracuse travel seventeen minutes on average to work each day. Based on projections, as the general trend of constructing single-family housing developments continues in outlying suburban communities, the mean travel time to work is likely to increase.



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Means of Travel to Work Bicycling and Walking SMTC Bicycle and Pedestrian Plan

Figure 3.6-2



Basemap Copyrighted by NYSDOT, 2001
Datasources: SMTC, NYSDOT, 1999
Census 2000
Prepared by SMTC, 12/2004

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3.7 Bicycle and Pedestrian Awareness Survey

As part of the Scope of Work for the Bicycle and Pedestrian Plan, the SMTC member agencies and staff determined that a Bicycle and Pedestrian awareness survey would be beneficial to the project. The Bicycle and Pedestrian awareness survey was developed as a tool to assist in determining the public's awareness of bicycle and pedestrian safety, the public's knowledge and opinion of the existing conditions for bicycle and pedestrian travel in Onondaga County, and how often the public is currently utilizing these systems. The results of this survey were utilized to assist the SMTC in developing recommendations for the overall Plan.

Development of Survey Questions

A small group of Bicycle and Pedestrian Plan Study Advisory Committee (SAC) members aided in the development of the survey questions. The sub-committee met in March 2002 to discuss the purpose of the survey, the desired results and outcomes, and to brainstorm topic ideas with the SMTC staff. Topic ideas discussed included the following:

- County residents' understanding of traffic laws and safety issues
- County residents' perception of the current system
- Utility of bicycles and walking as modes of transportation and frequency of travel
- What would help to make the public bike and/or walk more often

From the list of topic ideas, a series of draft survey questions were developed.

In an effort to best implement the survey, requests for proposals were sent to various market research firms throughout New York State. Upon review of four proposals received, the SMTC contracted with Zogby International, a firm from Utica, New York, to conduct the bicycle and pedestrian awareness survey via telephone. The survey questions were then edited and formulated by the SMTC and a team from Zogby International into a more suitable format. Conducting a telephone survey via a market research firm enabled the SMTC to reach a wide range of populations throughout Onondaga County and obtain a more statistically valid sample of the population.

The awareness survey included 33 questions that relate to bicycle and pedestrian safety, laws and guidelines; how often and where county residents bicycle and walk; county residents' perception of the existing conditions for bicycle and pedestrian travel, and basic demographics (please refer to Appendix D for survey questions and excerpts from the Zogby report).

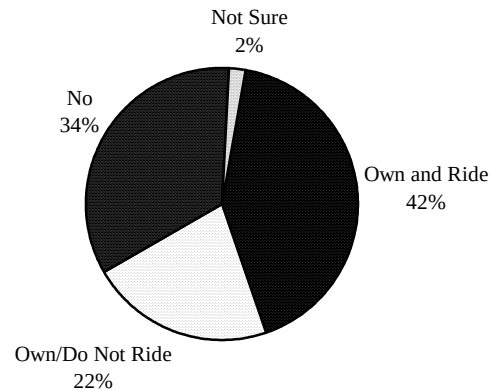
Survey Questions / Responses

Survey telephone calls were conducted from the Zogby International headquarters in Utica, NY on Saturday, September 14 and Sunday, September 15, 2002. Zogby staff

interviewed 404 adults chosen at random in Onondaga County. The margin of error for the survey results is +/- 5.0%. Slight weights were added to the age and gender categories to more accurately reflect the population in Onondaga County. Overall, the survey approximates the distribution of the population in general across Onondaga County.

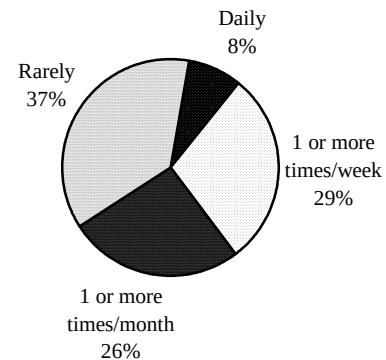
Zogby International provided the SMTC with the following synopsis of survey results detailed below by survey question.

1. Do you own a bicycle or do you ever ride a bicycle?



The respondents that own and ride their bicycles answered the following questions 1.a. through 1.f.

a. How often do you ride a bicycle?



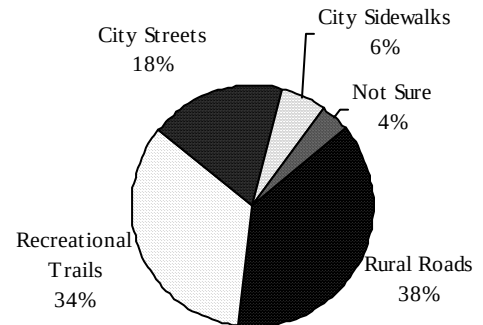
b. Which of the following best explains why you ride a bicycle?

Personal enjoyment	43%
Exercise	41%
Commute to stores/shopping	6%
Commute to work	4%
Commute to school	2%
For sport or competition	1%
Only means of transportation	1%
Other	1%
Not sure	1%

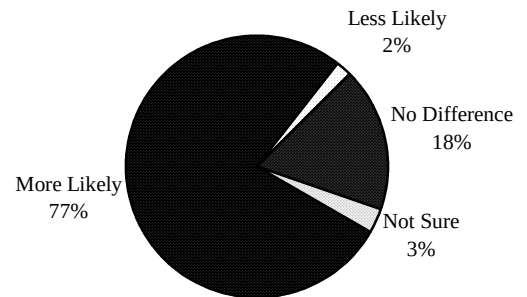
- c. *How far do you generally travel by bike on each occasion?*

Less than 1 mile	15%
1-5 miles	60%
6-10 miles	15%
11-20 miles	4%
20+ miles	5%
Not sure	2%

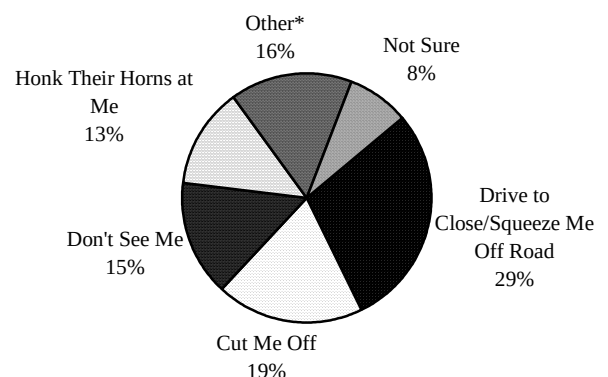
- d. *Which of the following describes where you bike most often?*



- e. *As a cyclist, would you be more likely or less likely to use a separate lane for bicyclists when riding alongside traffic, or would you say it makes no difference?*

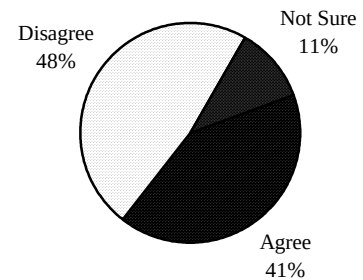


- f. *Please tell me if you encounter any of the following problems with motorists while riding your bike:*



All respondents were asked to answer questions 2-6.

2a. Do you agree or disagree that conditions in Onondaga County are friendly for bicycle travel?



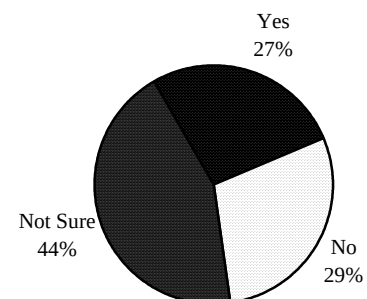
Question 2b was asked of those who disagreed:

2b. Of those that disagreed that conditions in Onondaga County are friendly for bicycle travel, the following **best** explains why they feel that way

Lack of bike lanes/routes to desired locations	47%
Too many aggressive/inconsiderate motorists	17%
Lack of off road trails designed for biking in the country	7%
Lack of motorist education about rules/regulations/laws affecting bicyclists	7%
Lack of bicycle racks/storage at sites	1%
Other*	8%
Not sure	13%

3. Are Centro buses in Onondaga County equipped with bicycle racks?

(Correct Answer: The majority of Centro buses **are** equipped with bicycle racks.)



4. Please tell me if you encounter any of the following problems with cyclists while driving your car:

Bicyclists do not obey traffic lights and signs	25%
Bicyclist ride on the wrong side of the street	23%
Bicyclists ride too close to you	19%
Bicyclists make illegal turns in front of you and/or cut you off	16%
Other*	11%
Do not drive	2%
Not sure	3%

5. Which **one** of the following three statements comes closest to your knowledge of safety laws in Onondaga County?

Knowledge of Helmet Law	%	Correct Answer
B: Only cyclists under the age of 18 in Onondaga County are required to wear helmets.	54	X
A: All cyclists in Onondaga County, adults and children, are required by law to wear helmets.	36	
C: Wearing helmets is optional when cycling in Onondaga County	5	
Not sure	6	

6. How often do you go walking or jogging?

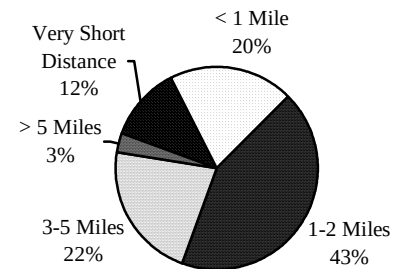
Daily	27.0%
One or more times a week	41.5%
One or more times a month	8.4%
Rarely	12.4%
Never	10.1%

Respondents that indicated that they walked or jogged answered the following questions:

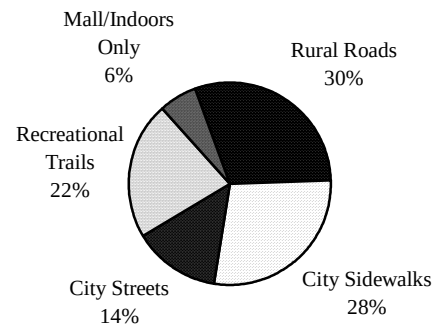
7. Which of the following best explains why you walk or jog?

Exercise	44%
Personal enjoyment	33%
Go to store/shopping	8%
For sport or competition (in a club or race)	4%
To get to school	3%
Out of necessity/only means of transport	3%
To get to work	2%
*Other	3%

8. How far do you generally walk/jog on each occasion?

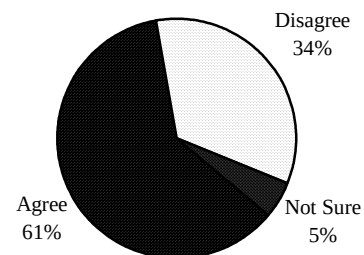


9. Which of the following describes where you are most likely to walk/jog?



All respondents were asked to answer the remaining survey questions:

10. a) Do you agree or disagree that conditions in Onondaga County are friendly to pedestrian travel?



Question 10b was asked of those who disagreed:

10 b). Which of the following **best** explains why you feel that way (disagree that conditions in Onondaga County are friendly to pedestrian travel)?

Lack of sidewalks or lack of sidewalks leading to desired destinations	48%
Sidewalks in poor condition	14%
Lack of motorist education about the rules, regulations, and/or laws affecting pedestrians	13%
Lack of off-road trails or sites designed for pedestrians/joggers	7%
Lack of traffic and/or pedestrian lights to allow pedestrians to cross at the intersections	1%
*Other	9%
Not sure	8%

11. What specific places in Onondaga County would you like to be able to reach by walking or cycling?

Parks/recreational trails	28%
Malls/shopping areas/supermarkets	15%
Schools/colleges	13%
Downtown	10%
Work	9%
Carousel Mall/DestiNY USA	9%
Doctor's offices/hospitals	8%
*Other	5%
Not sure	4%

12. Do you agree or disagree that a separate lane for bicyclists and/or joggers would improve safety on roadways?

Agree or Disagree		Breakdown of Responses	
AGREE	90%	Strongly Agree	73%
		Somewhat Agree	17%
DISAGREE	8%	Strongly Disagree	2%
		Somewhat Disagree	6%
NOT SURE	2%	Not Sure	2%

13. -18. Safety-related questions:

The SMTC was interested in determining what Onondaga County residents knew about some of the local laws pertaining to bicycle and pedestrian safety. The following chart summarizes the responses as well as the correct answers to the safety questions asked.

*If there is no crosswalk or pedestrian signal at an intersection, the motorist has the right of way.

** Bicyclists are required to ride **with** traffic.

Knowledge of Safety Issues	Yes	No	Not sure	Correct Answer
13. When crossing a street, is a pedestrian required to obey traffic signals?	99%	0%	1%	YES
14. Is a bicyclist required to obey the same traffic signals and traffic laws as drivers?	96%	2%	2%	YES
15. When a driver approaches an intersection or crosswalk, are they required to allow a blind pedestrian with a cane or guide dog to cross first?	85%	5%	9%	YES
16. When pedestrians walk or jog in the street, are they required to face traffic?	59%	29%	12%	YES
17. If there is no crosswalk at an intersection, does a pedestrian have the right of way?	53%	36%	11%	NO*
18. Is a bicyclist required to ride facing traffic?	24%	71%	5%	NO**

19. If you just started crossing an intersection and a “Don’t Walk” or red hand signal is flashing, is it okay to continue to cross the street, or are you required to go back to the curb and wait for traffic to stop?

Response		Correct Answer
Required to go back	57%	
Continue to cross	32%	X
Not sure	11%	

Summary of Survey Results

The following summarizes the findings of the Bicycle and Pedestrian Awareness Survey conducted in September 2002 by Zogby International. As previously stated, the purposes of the survey was to gain an understanding of the following:

- Utility of bicycles and walking as modes of transportation and frequency of travel
- County residents’ perception of the current system
- County residents’ understanding of traffic laws and safety issues
- What would help to make the public bike and/or walk more often

An analysis of the survey questions and additional detailed analysis provided by Zogby is presented below, based on these four topic areas. (Please refer to Appendix D for survey statistics not reflected in the section above.)

Current Utility of Bike/Pedestrian Systems

Current access to bicycles and pedestrian facilities appears high in Onondaga County. Nearly 70% of Onondaga County residents walk or jog regularly, and over half (64%) of Onondaga County residents have access to a bicycle.

Of those that **walk and/or jog**:

- 44% do so for exercise and 33% for personal enjoyment. Only 16% of County residents walk or jog as a means of transportation (i.e. commute to work, school, shopping, etc.).
- 32% walk or jog up to a mile and 43% walk or jog 1-2 miles on each occasion.
- 30% of walkers/joggers prefer to do so on rural roads, 28% on city sidewalks, and 22% on recreational trails.
- Those who jog or walk *daily* include at least one-third of 18-29 year-olds (36%) and 50-64 year-olds (33%). Adults 30-49 years old and college graduates (47% each) are the most likely to walk or jog *one or more* times a week.
- Approximately 31% of Syracuse residents and 28.2% of suburban residents walk daily. 43% of City residents and 41% of suburban residents walk or jog one or more times a week.

Nearly 70% of respondents walk or jog regularly, indicating the importance of providing appropriate pedestrian amenities in Onondaga County. However, walkers/joggers overwhelmingly walk for exercise or personal enjoyment, indicating that walking or jogging is not generally seen as a significant means of transportation, such as for commuting.

A larger percentage of city residents (31.5%) than suburban residents (8.2%) walk or jog for transportation purposes, likely reflecting the perception that cities are typically more “walkable,” due to dense, mixed-use development patterns and availability of sidewalks. Only 25% of walkers/joggers travel 3 or more miles on each occasion, thus limiting destination points to those within close proximity.

Residents of suburban Onondaga County (42%) are most likely to walk or jog on *rural roads*, while Syracuse residents (60%) are the most likely to walk or jog on *city sidewalks*. As will be discussed in the Issues portion of this document, many suburban municipalities lack sidewalk infrastructure, thus forcing the use of roads for walking or jogging. *Recreational trails* are utilized almost equally (an average of 21%) by City and suburban Onondaga County residents. The most likely to walk or jog on *recreational trails* are adults 18-29 years old (30%).

It is a positive indicator that many residents enjoy walking or jogging. This may provide an opportunity to combine multimodal transportation goals with the community’s recreational desires.

Of those that own and ride their bicycles:

- 37% ride daily or one or more times a week.
- They ride primarily for personal enjoyment (43%) and exercise (41%). Only 13% primarily ride their bike as a means of transportation (commute to work, school, stores, etc.).
- 75% of bicyclists generally ride 5 miles or less on each occasion.
- 31.3% of City of Syracuse residents and 46.2% of suburban county residents own and ride a bicycle
- City of Syracuse residents most often bicycle on city streets (40%) and recreational trails (33%). Close to half of the residents in the remaining portion of Onondaga County (48%) bike on rural roads, followed by 34% that bike on recreational trails.

Although some people do not use their bicycles regularly, over half (64%) of the population of Onondaga County has access to a bicycle. Despite higher density and mixed uses in the City, more residents in the remainder of the County own bicycles.

Despite longer travel distances, averaging up to five miles per trip, the majority of Onondaga County residents do not use bicycles for transportation and travel purposes (i.e. to get from one destination to another). Although many County residents have access to a bike, bicycling is not currently seen as a legitimate form of transportation for commuting purposes in Onondaga County. Bicycling is primarily perceived as a recreational activity.

As with walking and jogging, users will use the facilities provided to them. Recreational trails and rural roads are most often used for bicycling, though rural roads generally do not have designated bicycle facilities designated on them.

Perception of Current Systems

Sixty-one percent (61%) of Onondaga County residents generally felt that conditions in Onondaga County were **pedestrian-friendly**. Of the 34% of County residents that felt that conditions in the County are not friendly for pedestrian travel, respondents most often cited a lack of sidewalks or lack of sidewalks leading to desired locations (48%).

Those who say that *sidewalks are in poor condition* include 33% of Syracuse residents. Another 33% of Syracuse residents also feel that there is a lack of sidewalks or a lack of sidewalks leading to desired destinations. (This is interesting since approximately 95% of the city's parcels have sidewalks on at least one side.)

Alternately, more survey respondents felt that conditions in Onondaga County were unsuitable for bicycle travel (48%) than felt that conditions were **bicycle-friendly** (41%). Reasons most often noted include a lack of bike lanes or routes leading to desired locations (47%) or aggressive/inconsiderate motorists (17%). Perceived rider safety appears to have a significant impact on respondent comfort levels with the bicycle system.

When riding ones bike, *bicyclists* responded most that motorists drive too close or squeeze them off the road (29%); motorists cut them off (19%) or don't see the bicyclist (15%). Residents of Syracuse (22%) are the most likely to feel that conditions are not friendly for bicycle travel because of *aggressive and inconsiderate motorists*.

When driving, *motorists* in Onondaga County stated that bicyclists do not obey traffic lights and signs (25%), they ride on the wrong side of the street (23%) and ride too close to their vehicle (19%). Seven percent (7%) of the population indicated that they did not encounter problems with bicyclists. Of those that own and ride their bicycles, 77% said they would be more likely to use a separate lane when riding alongside traffic.

Concerning **multimodal opportunities**, the Zogby survey asked respondents whether Centro buses in Onondaga County are equipped with bicycle racks. Only 27% of those surveyed answered this question correctly, acknowledging that the majority of buses are in fact equipped with bicycle racks.

Those who said that Centro buses in Onondaga County *are equipped* with bicycle racks include more Syracuse residents (44%) than respondents in the rest of the county (19%); twice as many 30-64 year-olds (34% average) than 18-29 year-olds and seniors 65 and older (17% each); and more parents of children under 18 (32%) than people without children (24%).

In general, Onondaga County residents believe that the presence and condition of sidewalks and bicycle facilities in the County is lacking. There is a preference for designated pedestrian facilities such as sidewalks, and bicycle facilities such as bicycle lanes, protected from vehicular travel. Respondents also suggest a lack of awareness of some bicycle and/or pedestrian opportunities, such as the Centro bus bicycle rack program.

Traffic Laws and Safety Awareness

In Onondaga County, individuals under the age of 18 are required to wear a helmet when riding a bicycle, skateboard, scooter, or skating. Approximately 54% of County residents were aware of this law, while 46% of the population was misinformed about the helmet law or were not sure what the law stated.

The results of this question and a series of safety-related questions indicate that Onondaga County residents should be better informed as to the pedestrian and bicycle rules, regulations and laws in Onondaga County. Educational outreach would most likely benefit the awareness of such laws.

Nearly all respondents believed correctly that a pedestrian is required to obey traffic signals when crossing a street (99%) and that a bicyclist is required to obey the same traffic signals and traffic laws as drivers (96%). The majority of County residents also knew that a driver is required to allow a blind pedestrian with a cane or guide dog to cross first (85%).

Majorities agree correctly that pedestrians are required to face traffic when walking in the street (59%), but responded incorrectly in saying pedestrians have the right of way if there is no crosswalk at an intersection (53%). (Syracuse residents and 50-64 year-olds (58% average) are among the most likely to say that a pedestrian has the right of way if there is no crosswalk at an intersection.) According to New York State Traffic Law, when walking in the street, pedestrians *are required* to face traffic. In addition, if there is no crosswalk at an intersection, motorists actually have the right of way. The majority of Onondaga County residents are misinformed about this traffic law. (Section 1152 of the V&T Law indicates that pedestrians crossing a street at a point other than within a marked crosswalk or within an unmarked crosswalk at an intersection must yield to traffic on the street. At marked crosswalks where there is not a traffic control signal or officer, pedestrians have the right of way. However, regardless of the right of way, motorists are required by law to take great care to avoid hitting pedestrians.)

One in four incorrectly says a bicyclist is required to ride facing traffic (24%), while 71% say a bicyclist is not required to face traffic. New York State law requires that bicyclists ride and skaters glide with traffic, since moving with traffic makes bicyclists and skaters more visible, their movements more predictable to motorists, and prevents interference with the flow of traffic and pedestrians.

A majority of respondents (57%) say a pedestrian is required to go back to the curb and wait for traffic to stop when encountering a flashing “Don’t Walk” signal at an intersection. One in three (32%) say it is okay to continue to cross the street, and 11% are not sure. Pedestrian signals and push buttons are common in the City of Syracuse, as well as within most villages in Onondaga County. The majority of Onondaga County residents are not aware that once they begin to cross the street, they should continue to cross when encountering a flashing “Don’t Walk” symbol. The need for education on pedestrian signals and pedestrian safety in general is evident.

Based on the results of these traffic law and safety questions, the MPO area could benefit from educational outreach on bicycle and pedestrian safety.

Future Usage/ Facilities

Asked where respondents would desire to travel by bike or on foot, Onondaga County residents would primarily like to be able to reach parks and recreational trails (28%). Others would like to be able to reach malls, shopping areas or supermarkets (15%), school or college (13%), or downtown (10%) by walking or cycling. Only 9% of respondents replied that they would like to commute to work by walking or cycling.

Parks and recreational trails were most favored by Onondaga County residents as the types of places to be reached by walking or bicycling. This reinforces the notion that walking is primarily utilized as a means of recreation and exercise, rather than as a mode of transportation. However, as shown in the variety of responses, there are several destinations that could benefit from bicycle and pedestrian access.

When given the choice, approximately 90% of County residents agreed that a separate lane for bicyclists and/or joggers would improve safety on roadways in Onondaga County. Separate facilities are associated with a higher perception of safety. Majorities of people in all age groups indicated that they would be more likely to use a separate lane for cycling.

Additional information and analysis is available in Appendix D, which includes portions of the Zogby survey results. Results based on demographic profiles such as city versus suburban residents and analysis by age groups can be found in this appendix.

3.8 Bicycle and Pedestrian Collisions

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. The bicycle/motor vehicle and pedestrian/motor vehicle collision data for Onondaga County is summarized in line graphs in Figure 3.8-1 by the following categories:

Bicycle Collisions

- Number of reported bicycle/motor vehicle collisions per year
- Number of fatalities that occurred as a result of reported bicycle/motor vehicle collisions per year
- Number of injuries that occurred as a result of reported bicycle/motor vehicle collisions per year

Pedestrian Collisions

- Number of reported pedestrian/motor vehicle collisions per year
- Number of fatalities that occurred as a result of reported pedestrian/motor vehicle collisions per year
- Number of injuries that occurred as a result of reported pedestrian/motor vehicle collisions per year

Bicycle Collisions

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 Figure 3.8-1.

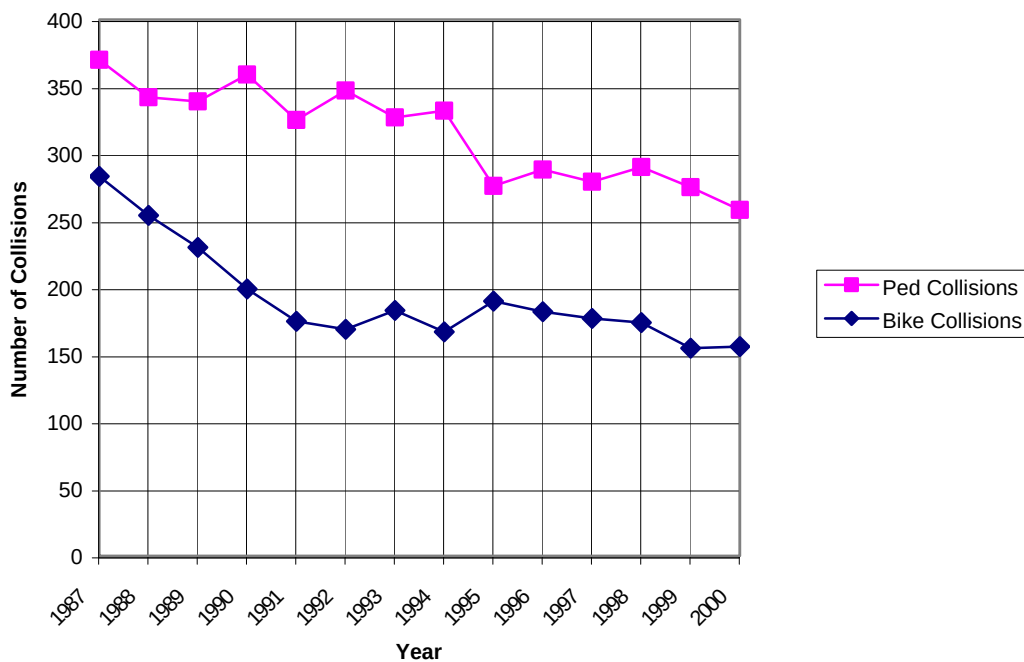
Bicycle Collisions 1987-2000

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.

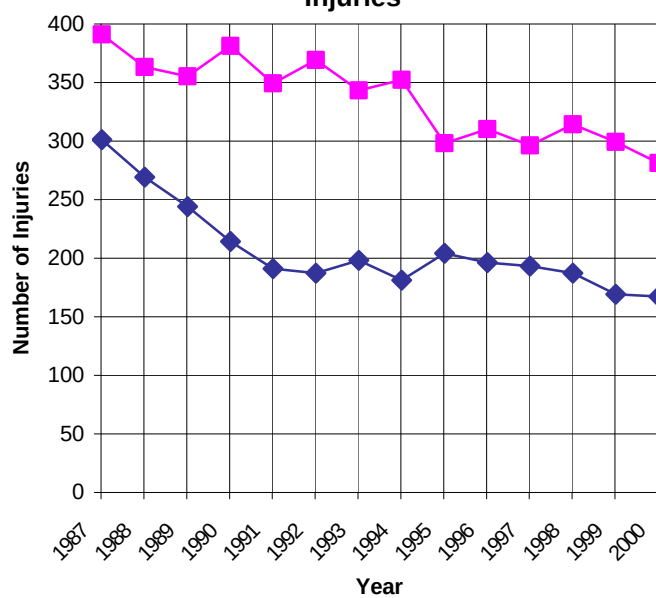
**NYSDMV Reported
Bicycle/Motor Vehicle and Pedestrian Motor/Vehicle
Collisions, Injuries and Fatalities
1987-2000**

Onondaga County

Collisions



Injuries



Fatalities

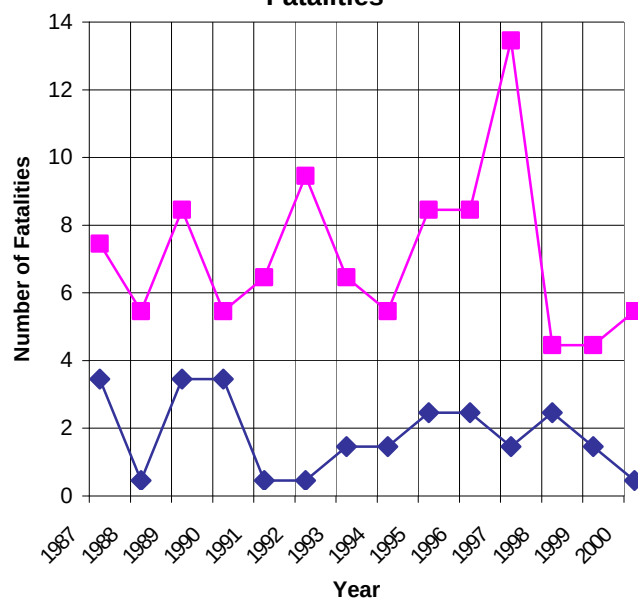


Figure 3.8-1

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 that of 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

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 Figure 3.8-1.

Pedestrian Collisions 1987-2000

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.

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.

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 New York State Department of Transportation (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

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. Figures 3.8-2 and 3.8-3 show the bicycle collision locations for collisions occurring in the City of Syracuse and the remainder of Onondaga County, respectively.

Top 10 Bicycle/Motor Vehicle Collision Locations:

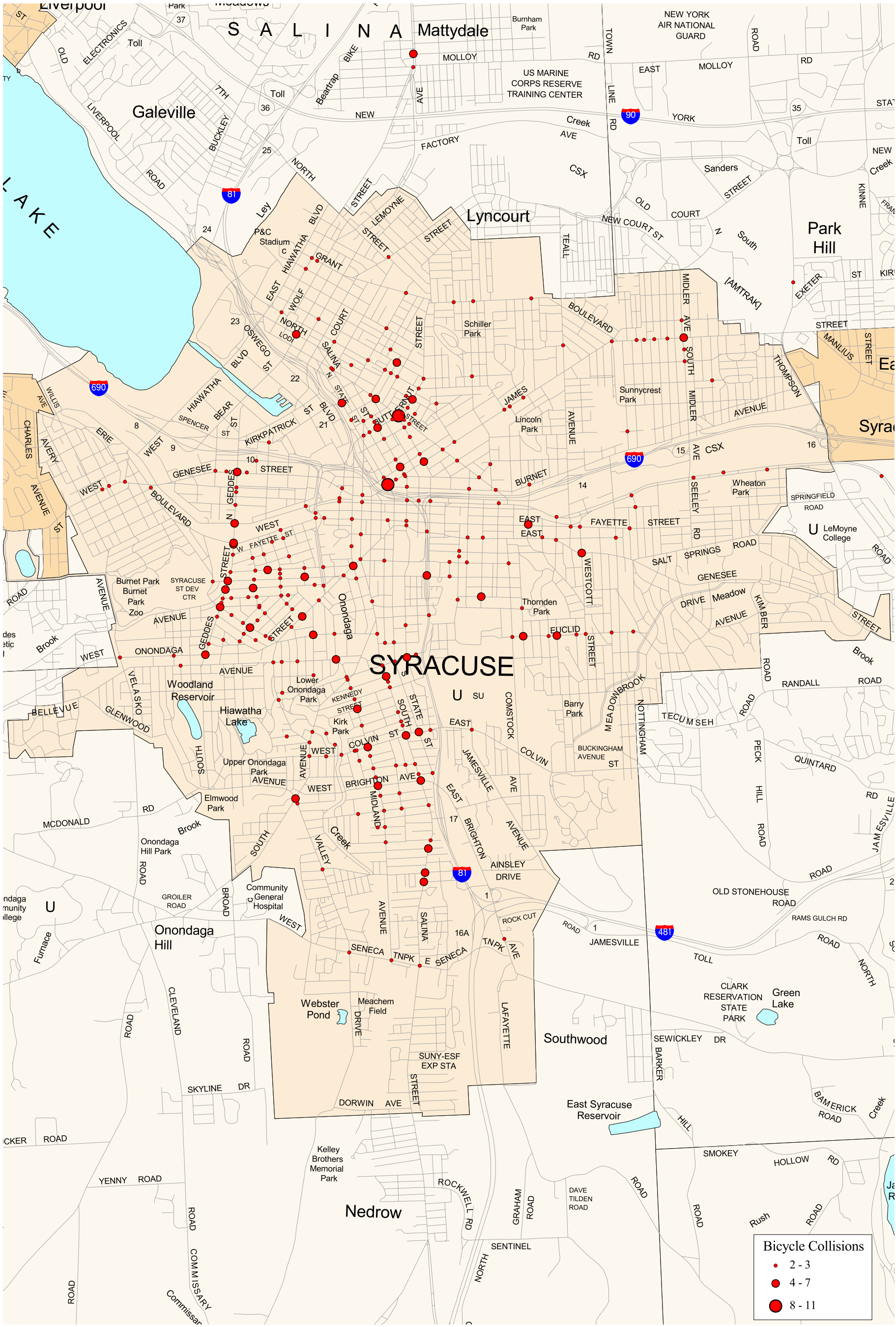
- 11 collisions: Lodi St./Butternut St./Catherine St. (City intersection)
- 8 collisions: James St./N. State St./S. State St. (City intersection)
Oswego St./E. Genesee St. (Village of Baldwinsville)
- 7 collisions: S. Clinton St./W. Onondaga St./Gifford St. (City intersection)
South Ave./Tallman St.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

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 St with Butternut St and Catherine St. 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



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Bicycle Collisions

City of Syracuse 1987-2000

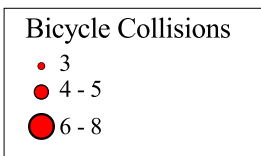
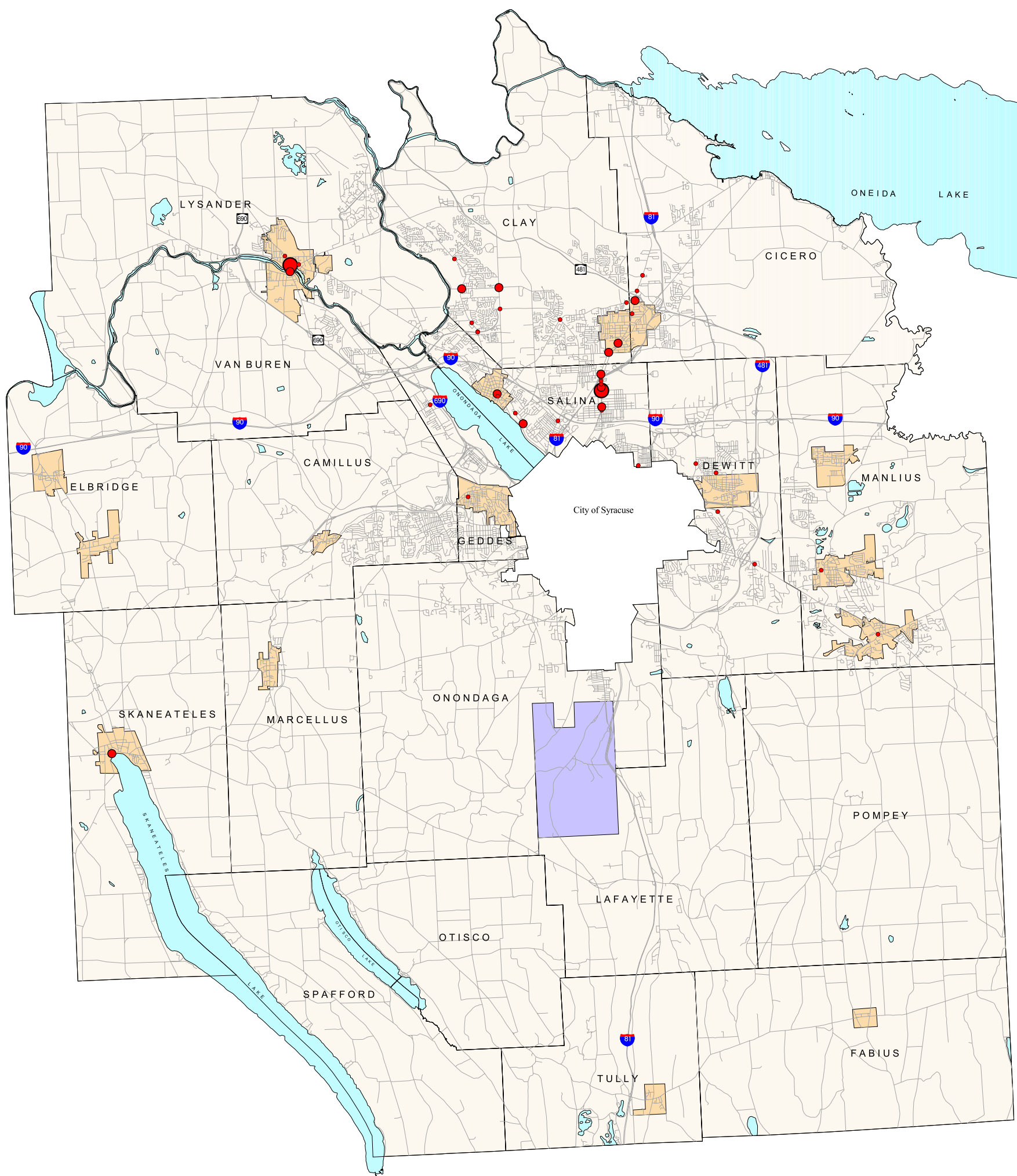
Figure 3.8-2

Basemap Copyrighted by NYSDOT, 2001
Datasources: SMTC, NYSDOT, 1999 and
CLASS 1987-2000
Prepared by SMTC, 04/2003



- Towns
- Villages
- City of Syracuse
- Water
- Roads

0 0.4 0.8 Miles
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0 2 4 Miles

Bicycle Collisions Onondaga County 1987-2000

Figure 3.8-3

Basemap Copyrighted by NYSDOT, 2001
Datasources: SMTC, NYSDOT, 1999 and
CLASS 1987-2000
Prepared by SMTC, 04/2003



- Towns
- Villages
- Onondaga Nation
- Water
- Roads

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reminder, only the collisions that had accurate location information listed on the accident report could be mapped. Figures 3.8-4 and 3.8-5 show the pedestrian collision locations for collisions occurring in the City of Syracuse and the remainder of Onondaga County, respectively.

Top Ten Pedestrian/Motor Vehicle Collision Locations:

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

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.

New York State Collision Data

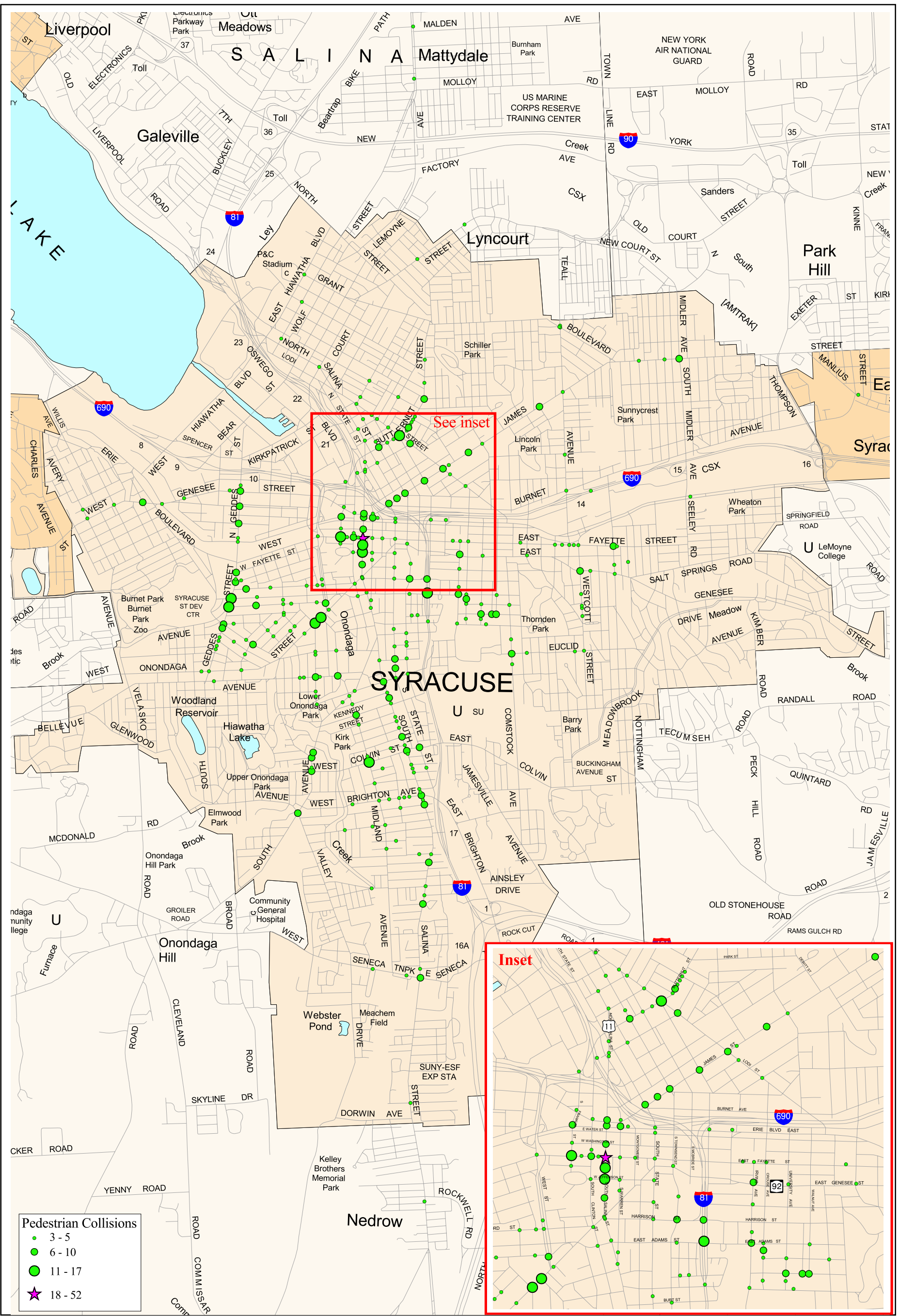
Using collision data gathered from the New York State Department of Motor Vehicles (NYSDMV) 144A, and the Institute for Transportation Safety Management Research (ITSMR), the SMTTC examined reported bicycle/motor vehicle and pedestrian/motor vehicle collisions in New York State for the years 1991-2000. Only those accidents reported to the NYSDMV are included in the data. The bicycle/motor vehicle and pedestrian/motor vehicle collision data for New York State is summarized in line graphs in Figure 3.8-6 by the following categories:

Bicycle Collisions

- Number of bicycle/motor vehicle collisions per year
- Number of fatalities that occurred as a result of bicycle/motor vehicle collisions per year
- Number of injuries that occurred as a result of bicycle/motor vehicle collisions per year

Pedestrian Collisions

- Number of pedestrian/motor vehicle collisions per year
- Number of fatalities that occurred as a result of pedestrian/motor vehicle collisions per year
- Number of injuries that occurred as a result of pedestrian/motor vehicle collisions per year



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Pedestrian Collisions City of Syracuse 1987-2000

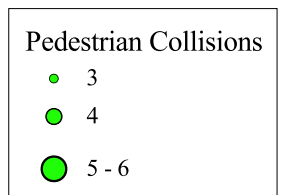
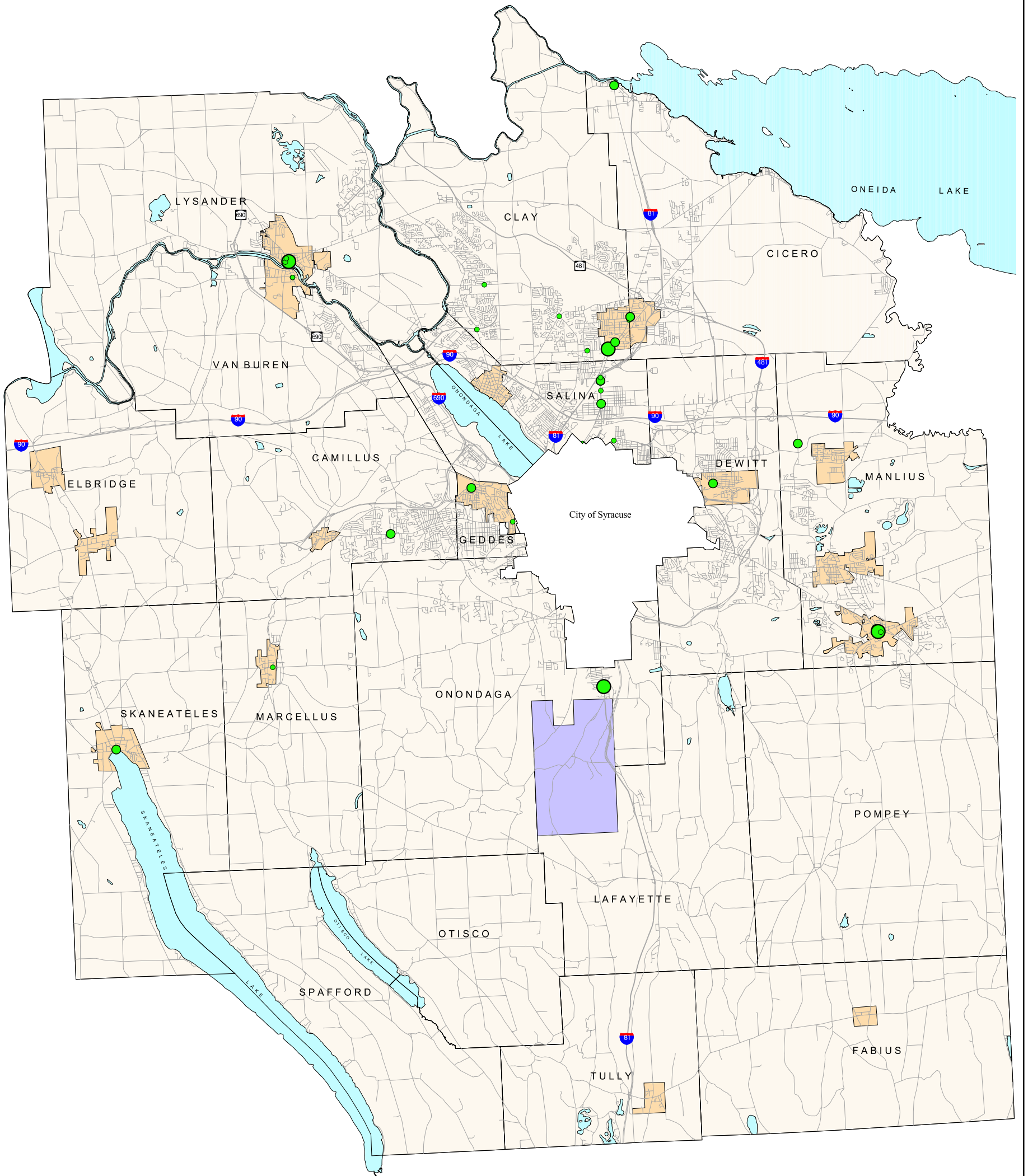
Figure 3.8-4



- Towns
- Villages
- City of Syracuse
- Water
- Roads

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Pedestrian Collisions Onondaga County 1987-2000

Figure 3.8-5



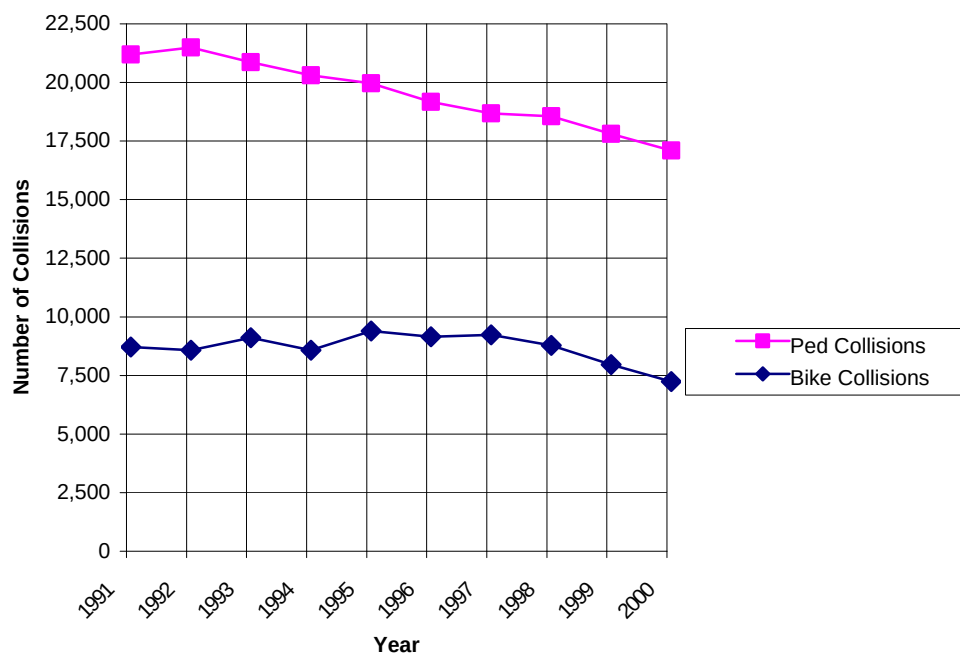
- Towns
- Villages
- Onondaga Nation
- Water
- Roads

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Datasources: SMTC, NYSDOT, 1999 and
CLASS 1987-2000
Prepared by SMTC, 04/2003

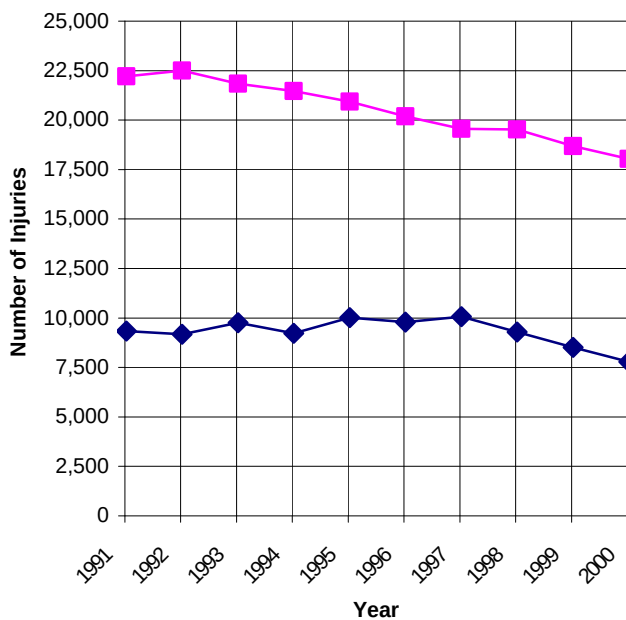
**NYSDMV Reported
Bicycle/Motor Vehicle and Pedestrian/Motor Vehicle
Collisions, Injuries and Fatalities
1991-2000**

New York State

Collisions



Injuries



Fatalities

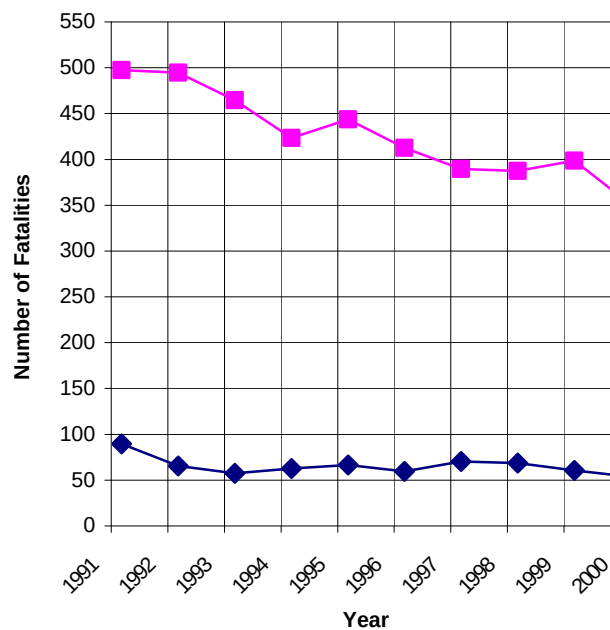


Figure 3.8-6

Bicycle Collisions

The following is a summary of NYSDMV bicycle collision data for New York State, including number of reported collisions, number of injuries, and number of fatalities between 1991 and 2000. See Figure 3.8-6.

Bicycle Collisions 1991-2000

Between 1991 and 1997 the number of bicycle/motor vehicle collisions oscillated between decreases and increases. In 1997, there were 9,059 reported bicycle/motor vehicle collisions. Between 1997 and 2000, there was a significant drop in the number (at least 450 each year) of collisions that occurred in New York State, with the least amount occurring in 2000 at 7,077. The highest number of reported bicycle and motor vehicle collisions occurred in 1995 at 9,231. In general, the last four years of collected data indicate a downward trend in the number of bicycle/motor vehicle collisions in New York State.

Bicycle Collision Injuries 1991-2000

The number of injuries occurring as a result of bicycle/motor vehicle collisions was also evaluated. The bicycle injury data mimics that of the number of collisions reported between 1991 and 2000, with a series of decreases and increases in the number of bicycle collision related injuries reported between 1991 and 1997. The highest number of bicycle/motor vehicle collision injuries occurred in 1991 at 9,347, while the least amount occurred in 2000, at 7,061. Each year between 1997 and 2000 there was a significant drop in the number (at least 726 per year) of bicycle/motor vehicle collision related injuries that occurred in New York State. Overall, the data indicates a downward trend in the number of bicycle/motor vehicle collision related injuries that occurred between 1997 and 2000.

Bicycle Collision Fatalities 1991-2000

Data on the number of fatalities occurring as a result of bicycle/motor vehicle collisions was also obtained. The highest number of bicycle/motor vehicle collision fatalities occurred in 1991, with 74 deaths. The fewest number of bicycle fatalities occurs in 2000, with 38 deaths. The largest decline in bicycle collision fatalities occurs between 1991 and 1993, which shows a drop of 32 fatalities. Between 1997 and 2000, the number of bicycle collision fatalities decrease by at least 2 fatalities per year.

Pedestrian Collisions

The following is a summary of NYSDMV pedestrian/motor vehicle collision data including number of injuries and number of fatalities in New York State between 1991 and 2000. See Figure 3.8-6.

Pedestrian Collisions 1991-2000

In New York State, there is a downward trend in the number of pedestrian/motor vehicle collisions that occurred between 1991 and 2000.

The highest number of pedestrian collisions occurred in 1992 at 21,332, while the fewest occurred in 2000 at 16,931. Other than an increase of 307 pedestrian/motor vehicle collisions between the years 1991 and 1992, there has been a decline in the number of collisions each year. The most significant drop in pedestrian collisions occurred between 1995 and 1996 when New York State experienced a decrease of 792 pedestrian collisions.

Pedestrian Collision Injuries 1991-2000

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 an overall downward trend in the number of injuries sustained in pedestrian/motor vehicle collisions between 1991 and 2000.

The highest number of pedestrian/motor vehicle collision related injuries occurred in 1992 at 21,789, while 17,320 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.

Pedestrian Collision Fatalities 1991-2000

The data on fatalities occurring as a result of pedestrian/motor vehicle collisions primarily follows the similar trend noted between the number of pedestrian collisions and number of injuries sustained as a result of pedestrian/motor vehicle collisions. There is a general downward trend in the number of pedestrian collision fatalities that occurred between 1991 and 2000 (with some annual variation).

The most pedestrian/motor vehicle collision fatalities in New York State occur in 1991 at 482 deaths, while the least occur in 2000 at 335 fatalities. The largest decrease in the number of pedestrian-related deaths within a year occurs between 1999 and 2000, with 48 less fatalities reported in 2000.

Onondaga County and New York State Collision Data Comparison

Between 1991 and 2000, New York State experienced a total of 193,477 pedestrian/motor vehicle collisions. Onondaga County reported 2,997 of those collisions, which is 1.5% of the New York State total. In the same time period, New York State reported a total of 85,071 bicycle/motor vehicle collisions, with Onondaga County pedestrian/motor vehicle collisions accounting for 1,728 of those collisions, which is 2% of the New York State total.

Onondaga County had approximately 1.6% of the State's total pedestrian/motor vehicle collision related injuries, and 1.7% of the fatalities.

Injuries and fatalities sustained as a result of bicycle/motor vehicle collisions in Onondaga County account for 2% each of the New York State totals.

CHAPTER 4 – BICYCLE SUITABILITY MAP

A major component of the 2003 Bicycle and Pedestrian Plan has been the development of a map that portrays the suitability of the existing transportation network for bicycle utility in Onondaga County and the City of Syracuse. Utilizing Geographic Information Systems (GIS), the Syracuse Metropolitan Transportation Council (SMTC) prepared a countywide, city-inclusive suitability map of the bicycle transportation system, including streets, bikeways, designated paths, multi-use trails, recreational trails and any other bicycle and pedestrian related paths and/or trails.

4.1 Selection of Roads for Rating

The SMTC determined which roads to rate and include in the bicycle suitability map by starting with the Federal-Aid eligible road system in the City and County. Inappropriate and prohibited roads for bicycling were removed (i.e., interstate highways, expressways, and other roads where bicycling is prohibited by law). Roads and routes identified from previously completed bicycle studies were reviewed and included as appropriate. Other logical and/or relevant roads were added, such as connector roads, and primary through streets that provided access to major points in the Syracuse Metropolitan Area and Onondaga County. Local and residential roads and streets were not marked for rating. Every road identified through this process was then rated. As mentioned above, bicycling is allowed on any street that is not an interstate highway, expressway, or other road where bicycling is prohibited by law.

4.2 Road Attribute Rating Questions – Development of Rating Booklets

To assist in the process of obtaining suitability ratings for Onondaga County roads, the SMTC developed questions to include in a ratings sheet in an effort to obtain qualitative and quantitative data for each road segment to be rated. The questions covered road attributes such as posted speed limits, shoulder width, shoulder striping, terrain, pavement quality, and the existence of sewer grates. There was also a question relative to the bicyclists' perceived safety/comfort level on the segment of road being rated. Volunteer bicyclists were encouraged to add comments they felt were pertinent to riding on a particular stretch of road. All of this information was recorded on road rating sheets completed by volunteer bicyclists.

The suitability ratings information was collected in two parts: the City of Syracuse, and the remainder of Onondaga County. Ratings were first completed for the City of Syracuse. The City ratings went well, and utilizing feedback received from volunteer cyclists, the SMTC changed ratings questions slightly for obtaining bicycle suitability information in the remainder of the County. The SMTC felt that it would be beneficial to rate one section of the County first to be sure that the questions were appropriate and that the process worked well prior to completing ratings in all of the County. Figure 4.2-1 contains the questions asked in the City and County roads pamphlets.

CITY RATING QUESTIONS

Bicycle and Pedestrian Plan Map #: _____

Road Name: _____

From: _____

To: _____

(4 Block Maximum)

Posted Speed Limit: _____

Circle ONE answer for the questions below

(Y = Yes; N= No)

1. Is there a shoulder stripe on the road you are rating? Y or N or Partially Striped
2. Is there additional room, other than the vehicle travel path, for your bike on the street when a vehicle (parked or moving) is present?
Y or N

If you answered YES to Question 2:

- a) How wide is the available space?
0 to 2 feet 2 to 4 feet Greater than 4 feet
- b) How favorable is the available space for riding?
Good Fair Poor

If you answered NO to Question 2:

- a) What is causing the space limitation?
(i.e. on-street parking, narrow street, both, etc.)

3. Are sewer/drainage grates present? Y or N
If Yes, do they hinder your ability to ride safely?
Y or N
4. What is the approximate number of driveways on the stretch of road you are rating?
0 1 to 4 5 to 8 Greater than 8

5. Describe your level of safety/comfort while riding on this road (circle one):

Use the rating scale 1-5, 5 being the most comfortable. 5 should remind you of a 'ride in the park'. 1 should be that you feel extremely uncomfortable and/or unsafe (See inside cover).

1 2 3 4 5

NOTES: _____

COUNTY RATING QUESTIONS

Bicycle and Pedestrian Plan Map #: _____

Road Name: _____

From: _____

To: _____

Posted Speed Limit: _____ (only fill in if posted)

Circle ONE answer for the questions below

(Y = Yes; N= No)

1. Is there a shoulder stripe on the road you are rating? Y or N or Partially Striped
2. Is there a shoulder (or particularly wide lane, other than the vehicle travel path) available for you to ride on? Y or N

If you answered YES to Question 2:

- a) Approximately how wide is the available space?
0 to 1.9 feet 2 to 4 feet Greater than 4 feet

If you answered NO to Question 2:

- b) What is causing the space limitation?
(i.e. on-street parking, narrow lane, bridge, etc.)

3. Is the road you are rating designated as a bike route with bike signs and/or markings? Y or N
4. How favorable is the pavement that you rode on?
Good Fair Poor
5. Are sewer/drainage grates present? Y or N
If Yes, do they hinder your ability to ride safely?
Y or N
6. Approximately how many intersections are on this stretch of road? _____

7. Circle all that apply to best describe the terrain:

Flat Somewhat Hilly Very Hilly

Not Steep Somewhat Steep Very Steep

8. Describe your level of safety/comfort while riding on this road (circle one):

Use the rating scale 1-5, 5 being the most comfortable. 5 should remind you of a 'ride in the park'. 1 should be that you feel extremely uncomfortable and/or unsafe (See inside cover).

1 2 3 4 5

NOTES: _____

4.3 Recruitment of Volunteers

SMTC staff solicited volunteer bicyclists to assist in the rating of roads for the bicycle suitability map. Letters and flyers were sent to local bike shops and two local bicycle groups. Flyers were posted at Syracuse University (SU) and the State University of New York College of Environmental Science and Forestry (SUNY ESF) campuses asking for volunteers to join in the rating process. In addition, two press releases were sent to local newspapers in an effort to recruit a broad population of volunteers. In all, approximately 25 volunteers participated.

Three volunteer meetings were held, two in July 2001 and one in October 2001, to explain the Bicycle and Pedestrian Plan project and the bicycle suitability map rating process to the volunteer bicyclists. Rating materials were distributed at these meetings including safety information, maps and rating sheets (which contained the pre-set rating questions noted above). Groups of 20-30 rating sheets were packaged together, and the inside covers of the booklets were used for explaining how to answer the questions. Staff sent volunteers out to rate City roads between July and August 2001, and County roads August 2001 through October 2001 (missed City areas were also rated August through October 2001 by volunteers). Once the volunteer rating process was complete, the SMTC staff filled in gaps by rating remaining roads in late fall 2001 and spring 2002. Every road identified for rating (see Section 4.1) received a bicycle suitability rating.

4.4 Methodology for Developing Overall Suitability Rating

While volunteer cyclists were collecting road segment data, the SMTC staff developed a Microsoft Access database to compile information. As completed rating sheets came into the SMTC office, staff entered the data collected by volunteer bicyclists into the database. Data entry work began in winter 2001-2002 and was completed in spring 2002. Staff entered the answers to all ratings questions as well as any comments noted by the volunteer bicyclists.

Weighting

Each question was then weighted. As discussed above, the City and County were evaluated with slightly different questions or criteria. The following illustrates the percentage weighting of each question, to equal 100%

Road Attribute Questions: City of Syracuse

In addition to Road Name and the Posted Speed Limit, Questions 1-4 were the Road Attribute Questions for the City (see Figure 4.2-1 for City questions). Each question was given a value out of 100 points, as all questions added together came out of a total of 100 points.

Road Attribute Questions: Remainder of Onondaga County

In addition to Road Name and the Posted Speed Limit, Questions 1-7 were the Road Attribute Questions for the County (see Figure 4.2-1 for County questions). Each question was given a

value out of 120 points, as all questions added together came out of a total of 120 points. After completing the city portion of the ratings, the SMTC altered the county questions slightly to accommodate for terrain and bike route signage, thus creating more questions.

The approximate percentage value that each question held in the overall rating score is listed in the following table:

ROAD ATTRIBUTE QUESTIONS		
Question	County	City
Value of posted speed limit	8.3%	10%
Existence of shoulder stripe on road	8.3%	10%
Existence of additional room on road/shoulder to ride on	37.5%	45%
How favorable the pavement is for riding	12.5%	15%
Existence of sewer grates & effect on ability to ride safely	8.3%	10%
Existence of driveways/intersections on road	4.2%	10%
Existence of designated bike route (County road segment question only)	4.2%	-----
Terrain (County road segment question only)	16.7%	-----
Total	100%	100%

Percentage values varied slightly between the city and county ratings due to the number of questions asked via the rating sheets. The weighted scores were added together for each segment of road, and for the City given a value out of 100 points, and for the County, a value out of 120 points. The County scores were then adjusted so that both the City and County scores were given a value out of 100 percent.

Level of Safety/Comfort Question

The final question in both the City and the County rating pamphlet asked volunteers to describe their level of safety/comfort while riding on a given stretch of road. Using the rating scale 1-5, 5 being the most comfortable, respondents were asked to circle their choice. Examples of what the SMTC felt a '5', '3' and '1' were, were included on the inside covers of the rating pamphlets.

Once the scores were entered into the database, the SMTC gave this question a value of 100 points (for both City and County locations). The SMTC assigned percentage scores out of 100 to each level of safety/comfort option, shown in the following table:

Level of Safety/Comfort	Percentage
1 (extremely uncomfortable)	55%
2	65%
3	75%
4	85%
5 (most comfortable)	95%

Notes

Volunteers were asked to note observations at the bottom of each rating sheet. In this section, volunteer cyclists were asked to record anything that they felt was significant for a cyclist to know while traveling on the stretch of road being rated. Volunteers were encouraged to record information such as if broken glass or debris was present, if they ‘felt’ unsafe (personal safety) in the general area they were riding in, the condition of the pavement, the road’s scenic quality, etc. Each note was recorded in the Access database.

Final Roads Ratings

To develop a final rating for each road segment, staff compared the road attribute scores with the level of safety/comfort scores on each stretch of road. If the sum of the road attribute questions was within + /– 9 points of the level of safety/comfort rating, the level of safety/comfort rating was kept as the final score for that stretch of road. Where the scores did not come within 9 points of each other, the SMTC staff reviewed each road segment, their associated scores, and the notes and comments associated with each segment. Based on this information, staff determined what the final rating for these segments would be.

The database was then linked to the SMTC’s GIS, resulting in a map that portrayed the suitability ratings associated with each rated road segment.

4.5 Suitability Ratings Review

Once the suitability ratings were mapped for each stretch of road, the SMTC staff reviewed the county and city maps in-house, and then sent them to interested SAC members, including: the New York State Department of Transportation (NYSDOT), City of Syracuse Department of Public Works (DPW), City of Syracuse Community Development, Onondaga County Department of Transportation (OCDOT), Onondaga County Parks, Syracuse-Onondaga County Planning Agency (SOCPA), Central New York Regional Transportation Authority (CNYRTA), Syracuse Onondaga Cycling Coalition (SOCC), and the Onondaga Cycling Club (OCC). Via the SOCC and OCC, the volunteers were able to review the draft results of their work. The SMTC held a meeting in August 2002 where SAC members could bring their comments to the table for discussion. In addition, SAC members could mail-in, phone-in, email, or drop off their comments. All comments made by the SAC were reviewed by the SMTC and changes were made to ratings where appropriate. The SMTC met separately with a few SAC members (OCDOT, NYSDOT, Onondaga County Parks, to name a few) to further clarify the rating process as well as some rating scores. Maps were re-printed once the changes were made and reviewed again in-house.

4.6 Map Layout

Throughout the process of developing the SMTC Bicycle Suitability Map, the SMTC followed the work of the Genesee Transportation Council (GTC), a sister Metropolitan Planning Organization (MPO), out of Rochester, New York. The GTC developed and produced a well-

received bicycle map for the Greater Rochester Area in 1998. There are very few maps left from the 1998 printing and GTC is in the process of updating the map. The bike map was practical and useful, containing maps of the multi-county area that the GTC MPO covers, as well as the City of Rochester. Safety panels on sharing the road and trail, and bus bike rack information were included on the map. The GTC utilized volunteers to rate roads in the GTC MPO area, but did not utilize a formal rating sheet or process for recording information noted by volunteers. The GTC contracted with Map Works, Inc., a map publication company out of Rochester, NY, to produce their final bike map.

The SMTC MPO followed the work and concepts utilized in the GTC bike map. The most major differences between the SMTC and GTC bicycle maps are process and methods utilized to gather road rating information, and the color and tone of the colors utilized for the suitability ratings.

Map Publication Company

In spring 2002 the SMTC contacted a number of map publication companies in order to received quotes to produce the SMTC bicycle suitability map. The SMTC hired MapWorks, Inc., a firm out of Rochester, NY, to produce the final map product and a contract was signed in late July 2002.

The SMTC met with Map Works, Inc. in August 2002 to clarify the information that both Map Works and the SMTC would be responsible for. Map Works provided the SMTC with their digital database so that the SMTC staff could enter the bicycle suitability ratings into the database for the 'City' side of the map. Mylar sheets were also provided by Map Works so that the SMTC could manually draw the ratings in on the 'County' side of the map. After numerous rounds of review between staff and the Plan's SAC on both sets of maps, all suitability scores were transmitted to MapWorks Inc. in late October 2002. In addition, after much SAC review, the map layout, which includes the safety panel information, map disclaimer and suitability ratings definitions, was transmitted to Map Works in early December 2002.

With input and collaboration with the SMTC, Map Works, Inc. produced draft map proof for the SMTC staff, the study's SAC and the SMTC Planning Committee's review. The final map was printed and delivered to the SMTC in early April 2003.

4.7 Resulting Map

The final bicycle suitability map rates chosen streets on the existing road network as being 'excellent', 'good', 'average', 'fair', and/or 'poor' for bicycling (and primarily for bicycle commuters). The map does not designate particular bike routes but enables the general public to determine which roads are currently the most suitable for bicycle travel. Multi-use trails are also shown on the map. In addition to the road ratings and trails, the map includes various safety panels that highlight the various rules and regulations associated with bicycle travel.

The following section outlines the specific portions of the bicycle suitability map. Please refer to the attached Greater Syracuse Area Bike Map for further details.

Bicycle Suitability Ratings Definitions

The methodology for developing the bicycle suitability ratings is found in Section 4.4 above. The SMTC staff and the Plan's SAC developed the definitions below for inclusion on the map. A general map disclaimer preceded the suitability definitions:

Commuter bicycle ratings for major roads in the City of Syracuse and Onondaga County are based on a variety of existing (2001/2002) road conditions and features such as posted speed limits, shoulder width, shoulder striping, terrain, pavement quality, safety/comfort level, and the existence of sewer grates, as recorded through road surveys completed by volunteer bicyclists. The definitions below outline the typical conditions for each suitability definition at the time of rating. Please refer to the disclaimer on the other side of this map prior to utilizing the suitability definitions below. Also, please keep in mind that the suitability ratings are subjective and that actual conditions may vary.

Excellent: Highly recommended for bicycle commuting. Low vehicular traffic and little interaction between bicyclists and other vehicles. Slow moving traffic and some separation from vehicles.*

Good: Recommended for bicycle commuting. Slightly more vehicular traffic and slightly higher level of interaction between bicyclists and other vehicles than roads rated "Excellent." Some separation from vehicles,* with vehicles typically moving faster than on "Excellent" rated roads.

Average: Acceptable for bicycle commuting. Moderately traveled with some possible interaction between bicyclists and other vehicles. Higher volumes of traffic with some separation from vehicles* traveling at slower speeds, or roads with lower volumes of traffic and no separation from vehicles.*

Fair: Only marginally suitable for bicycle commuting. Heavily traveled with some interaction between bicyclists and other vehicles. Little to no separation from vehicles* moving at faster speeds than roads rated "Average." "Fair" rated roads may have some pavement in poor condition and/or rough terrain.

Poor: Not suitable for bicycle commuting. Interaction between bicyclists and other vehicles occurs. Heavily traveled with fast moving traffic, little to no separation from vehicles,* and/or rough riding conditions for commuters (i.e. steep slopes, poor pavement condition, high vehicular volumes, etc.).

Multi-Use Trails: Off-road paths for walking, bicycling, and/or in-line skating, etc.

*Separation from Vehicles, for the purpose of this map, is defined as a shoulder, shoulder stripe, a similar type of buffer area, a designated bike lane, or an unusually wide travel lane.

Note: Traffic volumes may vary by time of day and/or depending on locally scheduled events (i.e. festivals, concerts, etc.).

Legal Requirements

The following legal requirements are further detailed on the Bicycle Suitability Map with the use of graphics (see the enclosed Bike Map for graphics):

Ride to the Right: Ride as close to the right side of the road as you safely can. Use the shoulder or a bike lane rather than the road whenever it is safe to do so. It's the law.

Use Hand Signals: Signal all turns and stops ahead of time. Look over your shoulder for any traffic, then make your intended move only when it is safe to do so.

Never Ride Against Traffic: Motorists are not looking for bicyclists riding on the wrong side of the street. Ride with traffic to avoid accidents.

Use Lights at Night: Always use a strong light colored headlight and a red taillight at night or when visibility is poor. Use bike reflectors and reflective clothing. See and be seen!

Earphones are Dangerous: It is illegal to use more than one earphone attached to a radio, tape player or other audio device while biking riding a scooter, skateboard or in-line skating on a public right-of-way (street or sidewalk). If you use an earphone, keep the volume sufficiently low to hear other road and pathway users.

One Person Per Bicycle: Riding double is only permitted when carrying a child, age one or older, in an approved carrier or when riding on a bicycle that is designed and equipped to carry more than one person (i.e. tandem bicycle).

Always Wear a Properly Fitted Helmet: In Onondaga County when riding bicycles, scooters, skateboards, or in-line skates, children **under the age of 18 are required by law to wear an approved bicycle helmet**. Any parent or guardian whose child violates this law is subject to a fine of up to \$50.

Every bicyclist, skateboarder, scooter operator or in-line skater, regardless of age or ability, should wear a properly fitted helmet that meets the standards of the United States Consumer Products Safety Commission (CPSC). The United States CPSC's bike helmet standard is law now for every helmet make after 1999. Helmets significantly reduce the risk of sustaining a serious head injury in the event of a crash.

A helmet should fit squarely on top of the head in a level position and cover the top of the forehead extending down to about one inch above the eyebrows. The helmet should not be able to slide back and forth or rock from side to side.

The Onondaga County Bicycle Safety Coalition sponsors a low cost helmet program throughout the county. For more information on this program and bicycle safety in general, please contact the Onondaga County Health Department at 315-435-3280.

Note: In-line skaters are subject to the same rules, regulations, and legal requirements as bicyclists.

For More Information on Legal Requirements, refer to Article 34 of the New York State Vehicle and Traffic Law, and local and municipal laws

Safety Panels

In addition to legal requirements, on-street bicycling and multi-use trails safety panels are included on the map. Each section outlines a series of safety guidelines for sharing the road when bicycling on roads and trails, and includes graphics for each guideline (graphics can be found on the enclosed bike map):

On-Street Bicycling – Share the Road

Ride in a Straight Line: Avoid dodging between parked cars. Ride in a straight line at least three feet away from parked cars. Watch for a car pulling out of a parking space.

Make Eye Contact: Confirm that you are seen. Establish eye contact with motorists to insure that they know you are on the roadway.

Be Careful at Intersections: The majority of accidents happen at intersections. Proceed with care. Vehicles making turns are particularly dangerous.

Scan the Road Behind: Look over your shoulder regularly or use a mirror to monitor traffic. Although bicycles have equal right to the road, be prepared to maneuver for safety.

Use Appropriate Lane: Avoid being in a right turn-only lane if you want to go straight through an intersection. Move into the through lane early. In narrow lanes or slow traffic, it may be safer to take the whole lane.

Lock Your Bike: Buy the best lock system you can afford: none is as expensive as a new bike. Lock the frame and rear wheel to a fixed object. If you have a quick release, lock the front wheel also.

Turning Left – 2 Options 1. AS A VEHICLE: Signal your intentions in advance. Move to the left turning lane, and complete the turn when it is safe.
2. AS A PEDESTRIAN: Ride to the far crosswalk, dismount and walk across.

Beware of Car Doors: Be wary of parked cars. Motorists can unexpectedly open doors. Be particularly careful if you see a motorist in the car. Ride a car's door width away.

Use Caution if Bicycling on Sidewalks: Bicycling on the sidewalk is a significant contributing factor in bicycle/motor vehicle collisions. **Remember** – motorists and pedestrians do *not* anticipate bicyclists traveling on the sidewalk. Therefore if you bicycle on the sidewalk, you **must yield to pedestrians and all vehicular traffic** (including at driveways). **Note: It may be illegal to ride on the sidewalk in some city, town and village locations (children are typically an exception).** Always check the local rules of the road before bicycling.

Multi-Use Trails – Share the Trail

Keep to the Right: All trail users should keep to the right except when passing or turning left. Move off the trail to the right when stopping. Never block a trail.

Signal to Others: Cyclists: when approaching others, sound your bell or call out a warning, then pass safely on the left. Pedestrians: move to the right when someone is overtaking.

Be Alert: Watch for hazardous conditions, such as poor pavement, fallen tree branches and other debris. Beware of slippery conditions caused by water, ice, loose gravel or sand.

Skaters Use Caution: In-line skaters; know how to use your equipment safely. Follow travel, passing, and speed rules as per bicyclists. Do not perform trick skating maneuvers on trails.

Be Careful at Crossings: Look both ways. Cyclists: yield to through traffic at intersections; pedestrians have the right of way. Pedestrians: exercise caution. Be aware of stopping limitations of bicyclists and skaters.

Stay on the Trail: Keep on designated trails to protect parks, natural areas and yourself. Riding off the trail is dangerous.

Dismount as Posted: Dismount and walk across roadways or other posted locations. When choosing a 'pedestrian style' crossing across the flow of traffic, cross only when it is safe to do so.

Be Visible: Ensure your visibility at night by wearing light-colored clothing with reflective material. Outfit your bicycle with lights as you would for riding on the roads.

Map Disclaimer

The map disclaimer was developed in concert with the SMTC staff and the Bicycle and Pedestrian Plan SAC. The disclaimer was then reviewed by an Onondaga County attorney. The disclaimer reads as follows:

Bicycling on Interstate Highways and Expressways is prohibited by law. Authorities with jurisdiction over other controlled-access highways may prohibit bicycles.

Commuter bicycle ratings for major roads in the City of Syracuse and Onondaga County are based on existing (2001/2002) road conditions and features such as posted speed limits, shoulder width, shoulder striping, terrain, pavement quality, safety/comfort level, and the existence of sewer grates, as recorded through road surveys completed by volunteer bicyclists. Please keep in mind that the suitability ratings are subjective.

The objective was to rate primary through streets that provide access to major points in the Syracuse Metropolitan Area and Onondaga County. Except for interstate highways, expressways, and other roads where bicycling is prohibited by law, bicycling is allowed on every street. Please note that bicyclists must share all roads rated on this map with other vehicles.

The ratings on this map may be used as a guide for selecting which roads to travel between different points. The streets have been color-coded to represent how suitable the conditions for bicycling are on a particular stretch of roadway for a typical commuter bicyclist. **Please remember that road conditions may change:** bicyclists must always be prepared for heavy volumes of traffic, traffic conflicts, potholes, loose debris, open car doors, other vehicles, pedestrians, and other road hazards. Bicyclists should also be aware that traffic volumes may vary by time of day and/or depending on locally scheduled events (i.e. festivals, concerts, etc.). Bicyclists must assess their own riding skills to determine if they possess sufficient ability to adapt to changing traffic patterns and road conditions.

Bicyclists must adhere to New York State and local bicycle laws (see reverse side of map), and assume responsibility for their own safety when using the road ratings on these maps. The Syracuse Metropolitan Transportation Council, its member agencies, staff and the project volunteers do not guarantee the safety of the rated road segments indicated on this map for use by bicyclists, and accept no responsibility for personal injuries or property damage resulting from the use of this map.

Other Information

In addition to the items noted above, the bicycle suitability maps includes a panel on how to use the bicycle racks that are provided on most Centro buses. Figure 4.7-1 is a replica of the bus bike rack panel included on the bike map.

Figure 4.7-1

Bike Racks on Buses - It's Real Easy



1

Hold your bike with one hand and lower the rack with the other.



2

Lift the bike onto one of the rack's wheel wells.



3

Pull the rack's support arm out and up over the front tire of your bike.



4

Your bike is now firmly secured. The only contact between the rack and your bike is the tire, thus protecting your bike from damage.

Bike racks are available on selected bus routes. Call CENTRO at (315) 442-3400 for more information.

4.8 Explanation of Map Results: What Does the Map Tell Us?

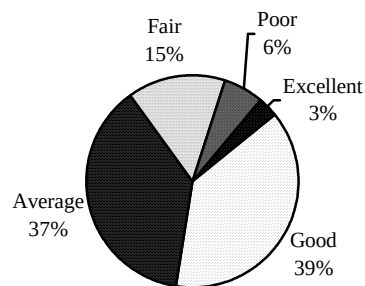
The SMTC and volunteer cyclists rated 37% percent of the roads in the SMTC MPO area for inclusion in the Bicycle Suitability Map. Nearly 80% of these rated roads are considered suitable for bicycling (this percentage includes roads that were rated as excellent, good and average). It should be noted that seventy-five percent (75%) of the roads in the federal aid eligible system are bikeable, and that 98% of them were rated. Interstate highways, expressways, and other roads where bicycling is prohibited by law (i.e., I-81, I-690, I-481, etc.) were removed from this exercise. The sections below describe the overall bicycle suitability scores for the MPO area, including a breakdown by jurisdiction of road owners, as well as for the roads located within the City and the remainder of the County.

As noted in the *Bicycle Suitability Ratings Definitions* section, roads that were rated in the MPO area were rated as being Excellent, Good, Average, Fair or Poor. High traffic, vehicle dominated corridors with little to no shoulder or separation from vehicles for bicyclists, and rough riding conditions for bicycle commuters (i.e. steep slopes, poor pavement condition, etc.) received the lower suitability ratings of Fair or Poor. Roads with low vehicular traffic, slow moving traffic and some separation from vehicles typically received Excellent and Good ratings.

All Roads Rated for Bicycle Commuting Suitability in MPO Area

As noted previously, 37% of the roads in the MPO area were rated for bicycle commuting suitability. The following pie chart depicts the breakdown of the roads that were rated by suitability scores in the SMTC MPO Area.

Rated Roads Within the SMTC MPO Area



Of the roads rated in the MPO area, the majority (76%) were rated as being Average or Good for bicycle travel. Few roads in the MPO area received Poor (6%), or Excellent (3%) ratings. Through examination of the road ratings data, it is apparent that the overall road network in the MPO area is suitable for bicycle commuting.

Suitability by Jurisdiction

The SMTC also reviewed the suitability scores by ownership of roads within the MPO area. The following table summarizes suitability percentages by jurisdiction.

City of Syracuse			Onondaga County	
Excellent	2%		Excellent	3%
Good	12%		Good	37%
Average	17%		Average	24%
Fair	7%		Fair	8%
Poor	4%		Poor	3%
<i>Total City Roads Rated</i>	42%		<i>Total County Roads Rated</i>	75%
No Data	57%		No Data	25%
Total	100%		Total	100%
New York State			Other/Local/Private	
Excellent	1%		Excellent	0%
Good	13%		Good	3%
Average	25%		Average	3%
Fair	8%		Fair	2%
Poor	5%		Poor	0%
<i>Total State Roads Rated</i>	52%		<i>Total Other Roads Rated</i>	8%
No Data	48%		No Data	92%
Total	100%		Total	100%

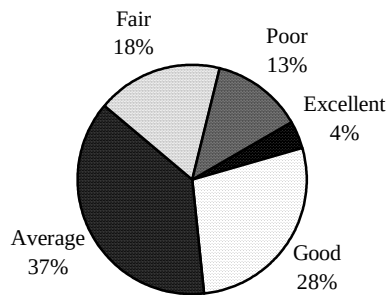
ALL ROADS	
Excellent	1%
Good	14%
Average	14%
Fair	6%
Poor	2%
<i>Total MPO Roads Rated</i>	37%
No Data	63%
Total	100%

Onondaga County was the jurisdiction with the most roads rated at 75%, followed by New York State owned roads at 52% and City of Syracuse owned roads at 43%. Within each jurisdiction, the majority of rated roads received an Average or Good rating. Onondaga County owned roadways were primarily rated as being Good. Very few local and private roads were rated because, for the most part, the SMTC did not rate roads down to the neighborhood and local level – this resulted in the large “No Data” category seen in the tables.

Roads Within the City of Syracuse

The following pie chart depicts the breakdown of the roads that were rated by suitability score in the City of Syracuse, regardless of road ownership.

Rated Roads Within the City of Syracuse



Through examination of the road ratings data, it is apparent that the overall road network in the City of Syracuse is suitable for bicycle commuting.

The majority (65%) of roads within the City of Syracuse limits were rated as being Average or Good for bicycle travel. Thirty-one percent (31%) of roads located within the City of Syracuse were rated as being Fair or Poor, a higher percentage of Fair and Poor roads than both the suburbs alone (19%) and the entire MPO area (21%). There is no one area in the City that contains all poor and/or all fair rated roads. However, there are many fair and poor rated roads contained by West St., Lodi St., Green St., Townsend St., and Fayette St.

The following sections identify major areas where roads were rated as being primarily poor, or primarily fair and poor, for bicycle travel. These areas are discussed by corridor and destination.

Major Corridors

Multiple corridors within the City of Syracuse serve as links between major City destinations, as well as travel arteries that run through the City, connecting it to outside municipalities.

The portion of W. Genesee St. from Clinton Square to the west City line and beyond received fair and poor ratings. As a major east-west access road between the outlying western municipalities and the City, volunteers rated this road poorly due to heavy traffic, minimal shoulder width and the changing terrain as one travels east into the City. There is not another major east-west running corridor on the west side of the City that has been rated.

N. Geddes St. between W. Fayette St. and Van Rensselaer St. was rated as being poor and fair due to the lack of an adequate shoulder available for bicyclists on a four-lane road and poor road condition. Geddes St. serves as a major north-south corridor on the west side of the City of Syracuse, providing a connection to I-690 and the Carousel Mall. There is not another major

north-south running corridor on the west side of the City that has been rated. However, as part of the redevelopment of the Lakefront, N. Geddes St. and several other Lakefront area roadways are slated for improvements including repaving and the potential addition of bicycle and pedestrian facilities, as the area is transformed from industrial uses to a mixed-use environment.

East Brighton Ave. between Midland Ave. and NYS Route 173 (E. Seneca Tnpk.) is rated as primarily fair and poor due to narrow lanes and heavy traffic. South Salina St. and N. State St. received only fair ratings in the southern part of the City, not providing the best alternative north-south route options for cyclists. However, a better alternate route for cyclists is Midland Ave., which received Average and Good ratings along its length between E. Brighton Ave. and NYS Route 173.

E. Genesee St. between State St. in Downtown Syracuse and the east City line, and beyond, is rated as being fair and poor along its entire length. E. Genesee St. is a major access route to outlying communities in the east. At peak hour times (i.e. the morning and evening commute hours), both travel lanes are traffic filled making it difficult for commuting bicyclists because of the lack of extra room available on the road's shoulders. As one travels farther east on E. Genesee St., the width of the travel lanes decreases. Other major corridors that travel east from the City's center include Erie Blvd. E. and Burnet Ave. Burnet Ave. is rated as being Average and Fair through the City. Burnet Ave. provides an alternate parallel route to E. Genesee St., but it is located on the opposite side of I-690. Erie Blvd. E. is not a good alternate route to E. Genesee St., as the entire eastern portion of the Erie Blvd. corridor is rated Poor. This is primarily due to the corridor's six travel lanes, heavy traffic, high speeds, large intersections, and little to no separation from motor vehicles for bicyclists, making bicycle commuting difficult along this corridor. However, within the City, Water St. provides an Excellent rated alternate to Erie Blvd.

The James St. corridor received primarily poor and fair ratings due to narrow multiple travel lanes, heavy traffic and high speeds. In the eastern central portion of the City, Meadowbrook Drive was rated as Good for bicycle commuting. Meadowbrook Drive is located in a residential area, with low to moderate traffic and available space for both motor vehicles and bicycles.

All of the corridors and road segments discussed above provide a connection between City destinations or between the City and neighboring municipalities. Bicyclists run into similar scenarios within each corridor, such as narrow lanes and heavy traffic. A bicyclist can typically expect heavy traffic on these roads, as they are utilized for commuting purposes into the City by many motorists.

Newer areas in and around the City typically received higher suitability ratings due to shoulder striping and better pavement conditions. The older city network scored well, although in some cases street widths, slopes and lack of shoulders brought ratings down. The older city network is primarily comprised of short blocks and provides many links, especially within City neighborhoods, where many alternative street options are available for bicyclists to choose from. In addition, as long as it is enforced, the odd/even parking that is found throughout the City could be seen as beneficial to bicyclists by keeping parked vehicles on one side of the street at all

times which opens up the remaining portion of the street for bicycle and motor vehicle travel. In all, roads located within the City of Syracuse received primarily Average and Good ratings.

Major City Destinations

Road conditions around major destinations throughout the City are generally in average condition for bicycle commuting. One major destination where roads received a Poor rating is the Carousel Center. This is particularly noteworthy given the proposed development of the DestiNY USA project. Hiawatha Blvd. is the primary access road leading traffic into and out of the Carousel Center mall, aside from Park St., which is also congested and rated as Poor. With four driving lanes available the tendency for motorists to drive above the speed limit on Hiawatha Blvd. is evident. Heavy traffic in each lane makes it difficult for bicyclists to navigate, as does the poor pavement condition along the western segment of the boulevard. West Hiawatha Blvd. is slated for road improvements and bicycle and pedestrian upgrades in the SMTTC TIP for \$1.75 million. From the City, Solar St. and Van Rensselaer St. provide good alternative routes towards the Carousel Center, but Hiawatha Blvd. still must be crossed in order to reach the mall parking lot. In addition, Solar St. is to be reconstructed as part of the redevelopment of the Lakefront, and Van Rensselaer St. has recently been reconstructed. However, for bicyclists traveling from the suburbs, there is not an Average, Good or Excellent rated direct road into the Carousel Mall.

The University Hill area is comprised primarily of Good and Average bicycle suitability ratings. The surrounding neighborhood makes these roads very accessible for bicycle travel. Euclid Ave. is used as one of the primary choices for Syracuse University and SUNY ESF bicycle commuters, and Comstock Ave. between Stratford St. and E. Colvin St. is marked and signed as a bicycle lane. One major concern noted by the volunteer cyclists is the availability of additional room on many University Hill area roads. When cars are park on both sides of the street, many times illegally, it is difficult for bicyclists to avoid the parked cars while continuing to move with traffic. Volunteer cyclists also noted that the hilly topography within the University area can be difficult to navigate, and impacts the connection between the University Hill and Downtown areas.

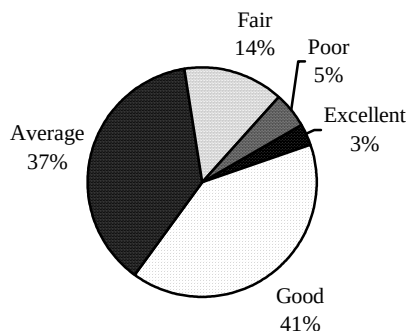
LeMoyne College is nestled in between Route 5 and E. Genesee St., corridors that received primarily poor and fair ratings. Although not as direct as Route 5 and/or E. Genesee St., other nearby roads such as Salt Springs Rd. and E. Fayette St. can provide bicyclists with an alternative for reaching the City from LeMoyne College.

Another major destination in Syracuse is the Downtown area (Salina St., Armory Square, etc.). Roads were rated as being Average and Fair through Syracuse's downtown, primarily due to narrow traffic lanes. The Rosamond Gifford Zoo, another major destination within the City limits, is surrounded by roads that received an Average suitability rating.

Roads Within the Remainder of Onondaga County

The following pie chart depicts the breakdown of the roads that were rated by suitability score in the remainder of Onondaga County, regardless of road ownership

Rated Roads Within the Remainder of Onondaga County



Excluding interstates, all major roads throughout Onondaga County were rated. There are very few Excellent rated roads in the remainder of Onondaga County, with no Excellent ratings noted in the southern half of the MPO. However, there were numerous roads rated as being Good or Average.

Major Corridors

NYS Route 31, (also marked as Bike Route 5) between River Rd. and Henry Clay Blvd., and along the area around Great Northern Mall is rated as being fair and poor. Multiple lanes, heavy traffic, high speeds, turning vehicles and little separation from motor vehicles, make bicycling here difficult. There is not another direct east-west linkage across the northern part of Onondaga County available to bicyclists.

US Route 11 between Bailey Rd. and NYS Route 31 received primarily fair and poor ratings along its length. This stretch of Route 11 is heavily traveled with fast moving vehicles and small road shoulders, again making commuting by bicycle more difficult. However, South Bay Rd. between Bailey Rd. and NYS Route 31 is primarily rated as being Average, offering an alternative to bicycle commuting on Route 11.

Both E. Genesee St. and NYS Route 5 from the eastern Syracuse city line to Lyndon Corners where the roads meet to form Route 5 are primarily rated as poor. The poor rating continues along Route 5 into the Village of Fayetteville. As major connector roads to the eastern suburbs, these corridors were rated poorly due to large traffic volumes, connection with Interstate 481 ramps, and turning vehicles maneuvering into and out of commercial sites. As these are the major corridors between the City and eastern suburbs, there is not another direct alternative route into the City that received a better rating.

Onondaga Lake Parkway (Route 370), from the Syracuse city line to Oswego Street in the Village of Liverpool received a Poor rating primarily because of its four lanes of traffic, which is heavy at peak hour times, and high speeds. Although there are two to four feet of shoulder space available for bicycling on the Parkway, the comfort level of cyclists on this road is low due to excessive vehicular speeds. Located nearby are two additional major roads that provide a Liverpool to Syracuse connection, Old Liverpool Road and Electronics Parkway, by way of 7th North St. Both roads have been rated Fair due to limited shoulder space and separation from vehicles for bicyclists, as well as fast moving vehicles on roads that become congested during peak travel times. Onondaga Lake Parkway and Old Liverpool Road both provide access into nearby Onondaga Lake Park. Because of the perceived dangers associated with bicycling on these roads, many park users drive their vehicles to the park with their bicycles in-tow.

In the Town of VanBuren, Canton St. between Warners Rd. and Connors Rd. is rated as Poor due to the existence of a narrow travel lane and lack of extra shoulder space, as well as the road's steep grade. A direct parallel route to Canton St. does not exist, however, there are some alternate options available for cyclists wanting to reach Camillus from the Village of Baldwinsville and/or Town of VanBuren.

All major access points into the City from the north received fair or poor ratings. In addition, connections across interstates tended to score poorly across the County.

Major County Destinations

The major shopping malls within the County are located in high traffic areas on roads that were rated poor for bicycle suitability.

As noted within the *Roads Within the City of Syracuse* section, Hiawatha Blvd. and Park St., the primary access roads leading traffic into and out of the Carousel Center, received a poor rating. For bicyclists living in the suburbs, there is not a direct route that provides an Average, Good or Excellent rated road into the Carousel Mall.

Route 31 along the entrance to the Great Northern Mall is also rated as being Poor. County residents living in nearby residential developments along Morgan Rd., Route 57, and Soule Rd. could bicycle to the Great Northern Mall using Morgan Rd., which received an Average rating by the volunteer bicyclists. However, to reach the mall's parking lot, Route 31 will have to be crossed, making the connection to the mall, and along Route 31 in general, from these residential neighborhoods difficult.

Shoppingtown Mall in DeWitt and Towne Center at Fayetteville are also surrounded by primarily poor and fair roads. Residents living nearby may be able to utilize residential streets for accessing these shopping areas, but crossing major corridors to reach their parking lots continues to be challenging.

In addition to shopping centers, some major industrial areas were also rated as being poor. The roads and land use surrounding Carrier and GM circles are industrial in nature and serve many

heavy vehicles, as well as turning vehicles, poor shoulder pavement conditions and lack of separation from motor vehicles for bicyclists, all making bicycle travel difficult in these areas.

In all, the majority of roads in the MPO area were rated as being Average or Good for bicycle travel. Few roads in the MPO area received Poor or Excellent ratings. Through examination of the road ratings data, although there are some obvious gaps, it is apparent that the overall road network in the MPO area is suitable for bicycle commuting.

CHAPTER 5 – BICYCLE AND PEDESTRIAN ISSUES

5.1 Introduction

Through the course of completing the existing conditions inventory documented in Chapters 1-4, the public involvement process, and comments received throughout the course of this study, a number of bicycle and pedestrian transportation issues were identified.

This chapter will focus on the primary bicycle and pedestrian issues identified within the study area. The first section discusses broad regional issues that relate to walking and bicycling. Pedestrian Issues, Bicycle Issues, Greenway/Trail, and Transit issues are then discussed in the following sections. Issues relating to motorists are discussed within the Pedestrian and Bicycle Issues sections. It is important to note that all of the issues outlined in this chapter are primarily broad-based concerns that affect more than one or two areas within the Syracuse Metropolitan Transportation Council (SMTC) Metropolitan Planning Organization (MPO) study area. Specific issues noted by the public are documented in Appendix A.

5.2 Regional Issues

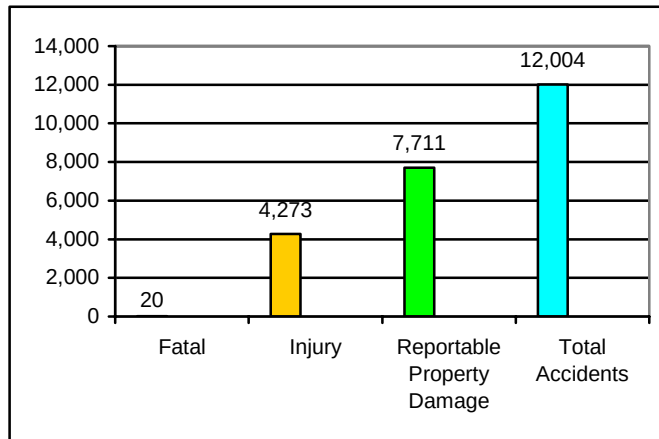
This section outlines regional issues that affect pedestrian and bicycle travel within the SMTC MPO area. Each of the regional issues is briefly described below. In the sections following this chapter, the Pedestrian, Bicycle, Greenway/Trail and Transit issues are shown in matrix format to illustrate their relationship with the regional issues.

5.2.1 Safety

In the SMTC region, pedestrian and bicycle fatalities represent almost 25% of all traffic fatalities and approximately 7% of all traffic related injuries. These statistics represent a significant share of traffic crashes, as well as significant costs to the region's citizens.

In Onondaga County in 2000, there were 20 fatal motor vehicle accidents in which 21 people were killed. Five (5) of the 21 were pedestrians, representing nearly 25% of those killed in motor vehicle accidents in 2000. There were no reported bicyclists killed in motor vehicle accidents in 2000 in Onondaga County. See Figure 5.2.1-1.

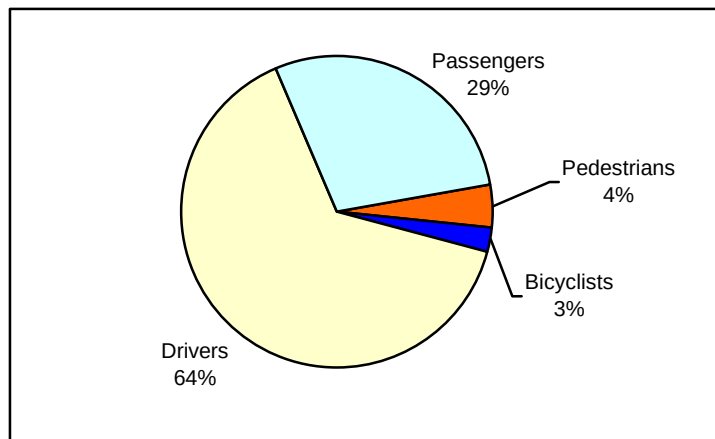
Figure 5.2.1-1
Number of Motor Vehicle Accidents by Type
Onondaga County, 2000



Source: NYS DMV Form 144A (Police Reported)

In Onondaga County in 2000, approximately 4% of individuals injured in a motor vehicle accident were pedestrians, while approximately 3% were bicyclists (see Figure 5.2.1-2).

Figure 5.2.1-2
Percent of Persons Injured in Motor Vehicle Accidents
Onondaga County, 2000



Source: NYS DMV Form 144A (Police Reported)

Although the percentages of bicycle and pedestrian injuries are small when compared to the percentage of drivers and passengers injured in motor vehicle accidents, the decline in the number of people walking and bicycling could be a probable cause.

Onondaga County has experienced a decrease in people walking to work by approximately 27% since 1990 (See Figure 5.2.3-1 in the Mobility section). This decrease could be attributed to several factors or a combination of factors, such as a decrease in the MPO's population over the past decade, the condition of pedestrian facilities, perceived safety, weather, and alternative mode choices. And while the numbers of Onondaga County pedestrians that walk to work has decreased over the past decade, the numbers of people bicycling to work has increased. The percentage of those bicycling to work has shown a nearly 25% increase, however, this is not statistically significant, as the total number of people bicycling to work only increased by 97 people since 1990. This small increase could be attributed to several factors, or a combination of factors, including the weather. A good weather day could have influenced the number of persons who biked to work on the day that census data was collected in Onondaga County.

5.2.2 Health

One topic not typically considered in the majority of transportation studies is that of the health benefits of a particular mode. In the case of bicycling and walking, there is a direct correlation between the utilization of those modes and a positive impact on health. One of the benefits of walking and bicycling is exercise, a key factor in helping to keep disease and illness at bay.

As a society, we are currently experiencing a national epidemic of obesity and heart disease. According to the Behavioral Risk Factor Survey Results report prepared by the Onondaga County Health Department's Bureau of Surveillance and Statistics, this "national epidemic of overweight and obesity extends to Onondaga County, with more than half (56%) of all survey respondent⁷⁵ being overweight or obese. The prevalence of overweight (persons) in Onondaga County is the same as in New York State and the United States, and it exceeds the Healthy People⁷⁶ target by 40%."⁷⁷

The National Center for Bicycling and Walking developed a guide for public health practitioners in which it is noted that "physical inactivity and obesity rank second to smoking in their contribution to total mortality in the United States. Nearly 80 percent of obese adults have diabetes, high blood cholesterol levels, high blood pressure, coronary artery disease or other ailments."⁷⁸

In New York State, 37% of fatalities are caused by some form of heart disease; more than AIDS, Cancer and Stroke combined (which account for 30% of New York State deaths). See Figure 5.2.2-1.

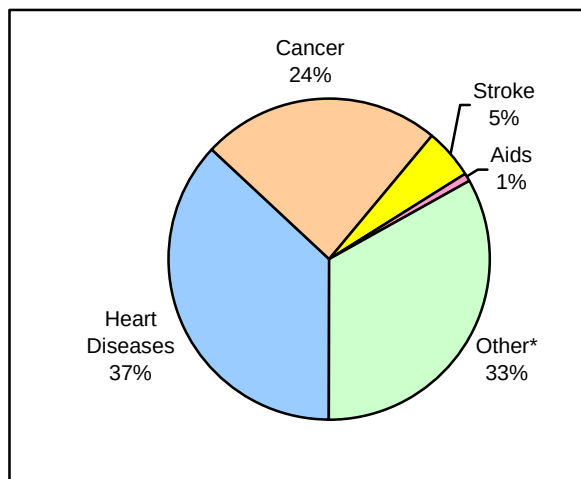
⁷⁵ Onondaga County Health Department – Bureau of Surveillance and Statistics, *Behavioral Risk Factor Survey Results Onondaga County, New York June-July 2002*, April 2003.

⁷⁶ Healthy People 2010 is a statement of national health objectives for the Nation to achieve over the first decade of the new century. It is designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats. Healthy People 2010 builds on initiatives pursued over the past two decades.

⁷⁷ Onondaga County Health Department – Bureau of Surveillance and Statistics, *Behavioral Risk Factor Survey Results Onondaga County, New York June-July 2002*, April 2003, p. 3.

⁷⁸ W.C. Wilkinson, N. Eddy, G. MacFadden, and B. Burgess, National Center for Bicycling and Walking, *Increasing Physical Activity Through Community Design: A Guide for Public Health Practitioners*, National Center for Bicycling and Walking, May 2002, p. 2.

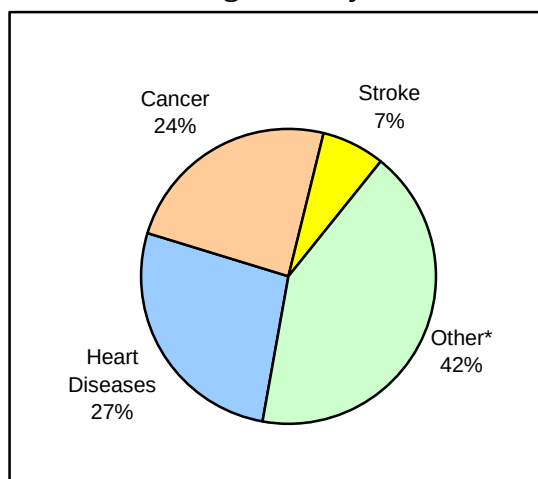
Figure 5.2.2-1
Selected Causes of Death
New York State, 2000



*Includes: accidents, cirrhosis, CLRD, diabetes, homicides and pneumonia
 Source: New York State Department of Health 2000 Vital Statistics

In Onondaga County, 27% of fatalities are caused by some form of heart disease, nearly as many fatalities that are caused by AIDS, Cancer and Stroke combined (which account for 31% of deaths in Onondaga County). See Figure 5.2.2-2.

Figure 5.2.2-2
Selected Causes of Death
Onondaga County, 2000



*Includes: AIDS, accidents, cirrhosis, CLRD, diabetes, homicides and pneumonia
 Source: New York State Department of Health 2000 Vital Statistics

Taking part in moderate physical activity, such as bicycling or walking, most days of the week has been acknowledged for quite some time to be an important component in maintaining a healthy lifestyle. The simple fact is that “exercise reduces the incidence of a myriad of illnesses,

including heart disease, diabetes, colon cancer, high blood pressure and obesity.”⁷⁹ And it is becoming widely recognized that a lack of physical inactivity can be caused by the inability for people to walk and bike as part of their daily routine. “We don’t walk or bicycle as much as we used to, partly because our communities – designed around the automobile – lack walkways and bikeways that would otherwise accommodate and encourage such activity.”⁸⁰

In addition, the number of children who bike or walk to school has significantly declined over the last twenty to thirty years. “Thirty years ago over 66% of all school aged children walked to school. Today, 13% of America’s children walk or bike to school.”⁸¹ This reduction can be attributed to a several factors, most notably suburban sprawl and the dependence on the automobile.

5.2.3 Mobility

A balanced system that includes transit, walking, bicycling and automobiles provides people with appropriate transportation choices.⁸²

The 2000 Census shows a significant decline in combined walking and bicycling for the SMTC region (see Figure 5.2.3-1).⁸³ Transit ridership follows a similar trend, and driving a single occupant motor vehicle remains the primary travel choice. It is also interesting to note that besides an increase in bicycling, the only category to show major gains in mode share was people working at home (an increase of 12.88%), including telecommuters.

⁷⁹ Rails-to-Trails Conservancy, *Health Fact Sheet*, 2/4/04

<<http://www.trailsandgreenways.org/resources/benefits/topics/health.asp>> (2004), p.2.

⁸⁰ W.C. Wilkinson, N. Eddy, G. MacFadden, and B. Burgess, National Center for Bicycling and Walking, *Increasing Physical Activity Through Community Design: A Guide for Public Health Practitioners*, National Center for Bicycling and Walking, May 2002, p. 3.

⁸¹ Safe Routes to Schools <<http://www.saferoutestoschools.org/about.html>> (3/26/2004) Data as provided by the US Centers for Disease Control and Prevention.

⁸² W.C. Wilkinson, N. Eddy, G. MacFadden, and B. Burgess, National Center for Bicycling and Walking, *Increasing Physical Activity Through Community Design: A Guide for Public Health Practitioners*, National Center for Bicycling and Walking, May 2002, p. 5.

⁸³ When examined in further detail, the Census reports a decline in the number of people walking to work, and an increase in the number of people bicycling to work. The percentage of those bicycling to work shows a nearly 25% increase, however, the actual numbers are so small (97 people) that it is not statistically significant.

Figure 5.2.3-1

Onondaga County Journey To Work Statistics, 1990-2000			
	Onondaga County		
	1990 Census	2000 Census	% Change
Workers (Ages 16 and Over)	223,650	211,646	-5.37%
Drove alone	168,206	169,433	0.73%
Carpooled	27,040	20,873	-22.81%
Public Transportation (including taxi)	10,037	5,560	-44.60%
Bicycle or Walked	11,757	8,749	-25.6%
Walked	11,367	8,262	-27.32%
Bicycled	390	487	24.87%
Worked at Home	5,295	5,977	12.88%
Motorcycled or Other	1,315	1,054	-19.85%
Source: CTPP, US Census Bureau, 2000			

Creating walkable communities can benefit the region if people working at home are able to walk or bicycle to destinations during the workday within their neighborhoods. In addition, the Census data only counts trips to work, and a significant amount of walking and bicycling is for other purposes, including going to school, shopping, recreation and other purposes. For children, seniors and others who do not have access to a car, walking and bicycling are primary travel choices.

According to a New York State fact sheet prepared by the Surface Transportation Policy Project (STPP), 35% of all trips under a half-mile are made in a vehicle in New York State. In addition, only 6.2% of commutes in New York State are completed on foot.⁸⁴

A national survey conducted by the STPP on attitudes toward walking finds that “the American public wants to walk more places more often, and is willing to invest in making it possible. According to the STPP, poll results show that if given a choice between walking more and driving more, 55 percent of adults choose walking more.”⁸⁵

5.2.4 Environment

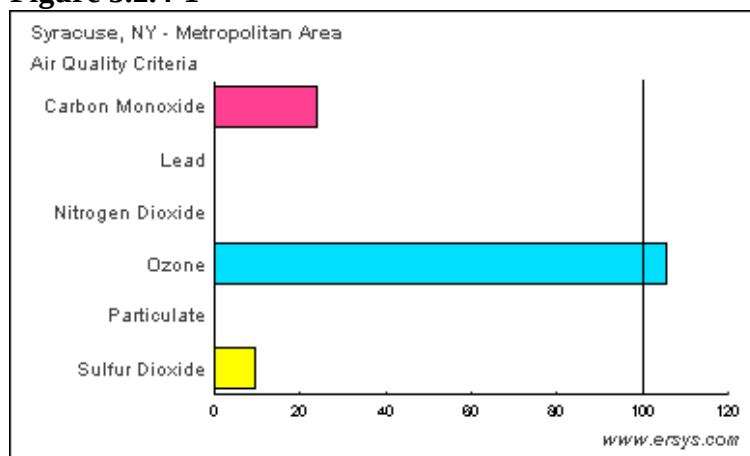
The SMTC region is a Carbon Monoxide maintenance area under the provisions of the Clean Air Act. Encouraging more trips by bicycling and walking can assist in improving air quality. Providing balanced transportation choices not only helps reduce the share of air and noise pollution attributed to transportation, but it can also provide citizens with a sense of “being part of the solution.” The following chart (see Figure 5.2.4-1) shows the ranking of the five major air pollutants monitored by the EPA. The chart shows the quantity of pollutant as a percentage to the

⁸⁴ Surface Transportation Policy Project, *Walking in New York*, 12/16/03, < <http://www.transact.org/report.asp?id=205>> (2003).

⁸⁵ Surface Transportation Policy Project, *Americans' Attitudes Toward Walking and Creating Better Walking Communities* 12/16/03, < <http://www.transact.org/report.asp?id=205>> (4/1/2003).

minimum allowed (before it is considered a serious health risk) by the EPA. It is interesting to note that in the majority of cases, Ozone is the major pollutant facing most cities.⁸⁶

Figure 5.2.4-1



*"A short 4-mile round trip by bicycle keeps about 15 pounds of pollutants out of the air we breathe."
(World Watch Institute)*

Sources: EPA - Air Quality Trends 2001; <http://www.ersys.com/usa/36/3673000/air.htm>

Children and the elderly are particularly sensitive to the harmful affects of air pollution, as are individuals with heart or other respiratory illnesses. In particular, ozone can cause "breathing difficulties, lung tissue damage, coughing and chest pains," and carbon monoxide can cause "chest pain in heart patients, headaches, and reduced mental alertness."⁸⁷ If more people in the Greater Syracuse Metropolitan area walk and bicycle more often, this may assist in improving air quality and its harmful health effects.

In the fall of 2003, Governor Pataki announced a new statewide program titled, the Clean Air School Bus Program, which is projected to improve the air quality of New York State's school aged children, and ultimately all state residents through the reduction of diesel bus emissions. "The Clean Air School Bus Program represents an important investment in New York's future. We will continue to do everything possible to eliminate the dangerous effects of diesel-related emissions that can harm the health of our children and our environment."⁸⁸ The program will allocate nearly \$5 million to 74 school districts across the state. School districts that are located solely in Onondaga County are slated to receive approximately \$463,600.00 or 9% of the entire program funding to retrofit 240 school buses.

Protecting parks and open space is another way in which to improve air quality. "Park resources can mitigate climate, air, and water pollution impacts on public health."⁸⁹ As of 2002, the City of Syracuse has approximately 80 parks and community centers accessible for public use, while the remainder of Onondaga County has a total of 13 state or county owned parks. There are also 55 parks under town/village ownership throughout Onondaga County. Besides parks, Onondaga

⁸⁶ Ersys.com, *Air Quality*, 2/6/04, <<http://www.ersys.com/usa/36/3673000/air.htm>> (2000-2001).

⁸⁷ San Luis Obispo County Air Pollution Control District, *Air Quality and Your Health*, 2/6/04, <<http://www.slocleanair.org/air/aq-health.asp>> (2004).

⁸⁸ Governor Announces Clean Air Initiative For School Buses, 9/17/2004, <http://www.state.ny.us/governor/press/year03/sept17_1_03.htm> (3/12/2004).

⁸⁹ Howard Frumkin, M.D., and Mary E. Eysenbach, American Planning Association, *How Cities Use Parks to Improve Public Health*, 2/6/04, <<http://www.planning.org/cpf/pdf/improvepublichealth.pdf>> (2003), p.3.

County also has several areas preserved as open space, such as the Cicero Swamp State Wildlife Management Area, Camillus Forest, Labrador Hollow State Unique Area, and Morgan Hill State Forest, to name a few.

In addition to air quality, improving upon the water quality in the SMTC region is also of significant importance to Onondaga County's environment. Onondaga County and the NYS Department of Environmental Conservation (DEC) have implemented a remediation plan for cleaning up Onondaga Lake. Through funding made available from the NYS Clean Water/Clean Air Bond Act, the remediation plan is projected to improve water quality for the lake's aquatic ecosystem that was damaged from years of industrial pollutants discarded into the lake.

5.2.5 Economy

Economic development in upstate New York is an important issue. In the information/service economy, knowledge based workers and employers can choose to locate and stay in regions that provide high-quality amenities. Pedestrian and bicycle facilities are among these amenities, as evidenced in successful regions including Seattle, Portland and Austin. Such facilities, including trails and greenways, "can increase perceived quality of life in a community, and consequently attract new businesses. Many companies seeking to relocate or establish a corporate headquarters have cited the availability of trails as a significant factor in their decision to choose one locale over another."⁹⁰

In addition, "countless communities across America have experienced an economic revitalization due in whole or in part to trails and greenways. Trails and greenway systems have become the central focus of tourist activities in some communities and the impetus for kick-starting a stagnating economy,"⁹¹ as noted in the following example.

- According to a 1998 study, the direct economic impact of the Great Allegheny Passage exceeded \$14 million a year – even though the trail was only half finished at that time. In Confluence, Pennsylvania, one of the project's first trailhead towns, the trail has encouraged the development of several new businesses and a rise in real estate values.⁹²

Pedestrian and bicycle amenities, including trails and greenways can also increase the natural surroundings and beauty of communities. "They also have been shown to bolster property values and make adjacent properties easier to sell."⁹³ The following examples highlight this concept:

- In a 2002 survey of recent home buyers sponsored by the National Association of Realtors and the National Association of Home Builders,

⁹⁰ Howard Frumkin, M.D., and Mary E. Eysenbach, American Planning Association, *How Cities Use Parks to Improve Public Health*, 2/6/04, <<http://www.planning.org/cpf/pdf/improvepublichealth.pdf>> (2003), p.3.

⁹¹ Ibid, p.2.

⁹² Rails to Trails Conservancy, *Economic Benefits of Trails and Greenways (Fact Sheet)*, 2/4/2004, <<http://www.trailsandgreenways.org/resources/benefits/topics/econrev.asp>> (2004), p.2.

⁹³ Ibid, p.3.

trail ranked as the second most important community amenity out of a list of 18 choices.⁹⁴

- Realizing the selling power of greenways, developers of the Shepard's Vineyard housing development in Apex, North Carolina added \$5,000 to the price of 40 homes adjacent to the regional greenway. Those homes were still the first to sell.⁹⁵

In addition, bicycle and pedestrian based tourism can benefit the SMTC region. The Erie Canalway Trail, the Onondaga Creekwalk, and the Loop the Lake Trail are the types of facilities that can play an important role in regional economic development. Throughout the country, bicycle and pedestrian tourists are making considerable contributions to local economies. "In some locations, the contribution made by these non-motorized tourists can be as much as tourists using motor vehicles. Studies show that where bicycle and pedestrian tourism is fostered and promoted, and where investments are made in bicycle and pedestrian facilities, the economic impact may be even greater. A thriving tourist industry, in turn, can attract and revitalize businesses, create jobs, and increase public revenue."⁹⁶

The development, upkeep, and promotion of bicycle and pedestrian facilities can create a positive image in a community as well as a perceived increase in quality of life. These in turn have an effect on the local economy. Well-connected and established bicycle facilities may encourage others to move to the SMTC MPO area and may encourage developers to locate their businesses here.

5.2.6. Quality of Life

One's personal satisfaction with the community they choose to live in and the general conditions under which they live represents their "quality of life."

Improving the "conditions for bicycling and walking have intangible benefits to the quality of life in cities and towns. In a growing number of communities, bicycling and walking are considered as indicators of a community's livability – a factor that has a profound impact on attracting businesses and workers as well as tourism. In cities and towns where people can regularly be seen out bicycling and walking, there is a palpable sense that these are safe and friendly places to live and visit."⁹⁷

A Vision Fair sponsored by the non-profit group, Forging Our Community's United Strength (FOCUS) Greater Syracuse, was held in Syracuse in 1998 where approximately 4,000 people voted to determine the best ways to improve Central New York. Voters "chose the construction

⁹⁴ Rails to Trails Conservancy, *Economic Benefits of Trails and Greenways (Fact Sheet)*, 2/4/2004, <<http://www.trailsandgreenways.org/resources/benefits/topics/econrev.asp>> (2004), p.2.

⁹⁵ Ibid.

⁹⁶ National Center for Bicycling and Walking, *The Economic Benefits of Bicycle- and Pedestrian-based Tourism, and the Economic Impacts of Trail Development*, 2/5/2004, <http://www.bikewalk.org/assets/Reports/economic_impact.htm>

⁹⁷ Pedestrian and Bicycle Information Center, *Benefits of Walking: Quality of Life Benefits*, 12/18/03, <<http://www.walkinginfo.org/pp/benefits/qualben/index.htm>> (2000).

of bicycle paths and hiking trails as their top priority for making the community a better place to live.”⁹⁸ Onondaga County’s parks and recreation commissioner noted, “It fits into people’s idea’s for health and fitness. It gives them a sense of community.”⁹⁹

Because each of the issues presented in this chapter can play a role in affecting one’s quality of life, this regional issue is not included in the matrices that follow.

⁹⁸ Rick Moriarty, Herald-Journal Metro, *Bike Paths Picked as Best Way to Help CNY*, May 5, 1998, p.G-2.

⁹⁹ Ibid.

5.3 Pedestrian Issues

This portion of Chapter 5 focuses on pedestrian transportation issues discovered throughout the development of this Bicycle and Pedestrian Plan. The issues are noted through six major categories: Engineering, Education, Enforcement, Encouragement, Economic Development and Other.

The individual pedestrian issues are tied to the regional issues in matrix format. It is important to note that the regional issues that are checked off within each matrix are somewhat subjective. For the most part, several of the individual issues could be tied to each of the regional issue categories. However, for the purpose of this analysis, the majority emphases of each particular issue are checked off (please note though, that because each of the issues presented in this chapter could affect one's quality of life, this regional issue is not included in the matrices that follow).

5.3.1 Engineering Issues

This section primarily outlines the physical facility issues, concerns and conditions associated with pedestrian travel within the MPO area. The issues are noted via a matrix through several categories that fall under the engineering heading. The matrix categories include: sidewalk/walkway related, street crossing related (ramps, crosswalks, signals), maintenance related, and access related. See Figure 5.3.1-1 for the pedestrian engineering matrix.



Poor sidewalk conditions can hinder pedestrian mobility.

Figure 5.3.1-1

PEDESTRIAN ENGINEERING ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
<i>Sidewalk/Walkway Related</i>					
- Lack of sidewalks throughout MPO, especially in suburbs and on main thoroughfares.	x		x		x
- Perceived personal safety issues because of a lack of sidewalks.	x				
- Paving over of sidewalk for driveways interrupts the pedestrian path.	x		x		
- Lack of separation between sidewalk and road in some places (photo example - Route 5 Wegman's in DeWitt).	x		x		
- Non-compliance with ADA (curb cuts, ramps, and improper sidewalk surfaces).	x		x		
- Lack of signage to make drivers aware of pedestrians.	x				
- Lack of adequate pedestrian-level lighting .	x				
- Lack of paved shoulders where no sidewalk exists.	x		x		
- Inconsistent shoulder widths, sidewalk widths, markings and signage.	x		x		
- Most zoning codes do not mandate sidewalks.	x				
- Pedestrian facilities need to be constructed throughout the City of Syracuse and Onondaga County to improve quality of life.	x		x		
<i>Street Crossing Related</i>					
- Lack of pedestrian crossing facilities (pedestrian signals, crosswalks).	x		x		
- Lack of pedestrian connection (bridges) over high traffic volume roads.	x		x		
- There is not sufficient signage installed to indicate pedestrian laws.	x				
- Not enough time for pedestrians to cross where pedestrian signals exist	x				
- Worn-away "zebra" stripes at crosswalks make it difficult to distinguish pedestrian path.	x				
- ADA ramps are not always symmetrical in crosswalks, possibly sending wheelchair users into the middle of an intersection.	x				
<i>Maintenance Related</i>					
- Winter sidewalk snow/ice removal (lack of and/or poor maintenance; snow banks piled high from plowing; meters covered with snow cannot be reached; commercial sites often use sidewalks for storage).	x		x		x
- Poorly maintained sidewalks (cracks, upheavals, stones, dirt, debris, overgrown vegetation, etc.).	x		x		
- Limited municipal budgets available for public sidewalk maintenance.	x		x		
- Reliance on adjoining property owners to maintain public sidewalks and right-of-way.	x		x		
- Water ponds and ice forms at the bottom of some curb ramps.	x		x		

Figure 5.3.1-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
PEDESTRIAN ENGINEERING ISSUES					
<i>Access Related</i>					
- Lack of continuity in pedestrian accesses (sidewalks, crosswalks, pedestrian signals).	x		x		
- Lack of pedestrian access to transit stops.	x		x		
- Interstates serve as barriers to pedestrian movement.			x		
- Wheelchair-users utilizing roads because of a lack of safe and/or clear sidewalks.	x		x		
- Non-compliance with ADA (curb cuts, ramps, and improper sidewalk surfaces).	x		x		
- Lack of pedestrian access/sidewalks leading to major destinations, such as shopping centers, malls, and plazas.	x		x		x
- There is no safe pedestrian access within the parking lots of malls and plazas.	x		x		
- It is difficult to reach the MPO's trails by walking or bicycling. A vehicle must typically be used to reach local recreational trails.	x	x	x	x	x

5.3.2 Education Issues

Many conflicts between pedestrians, bicyclists and drivers/motorists are caused or heightened by users of the transportation system that do not know, understand or follow the traffic rules and regulations set forth by State and local law. This section outlines the issues associated with a lack of knowledge and/or understanding of the “rules of the road” on the part of both pedestrians and drivers/motorists.

Figure 5.3.2-1

PEDESTRIAN EDUCATION ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Lack of motorists' knowledge and/or understanding of pedestrian laws is prevalent.	X				
- There is not sufficient signage installed to indicate pedestrian laws.	X				
- Lack of clarity on how to use/interpret pedestrian traffic signals.	X				
- Uncertainty of what pedestrians will do (cross in the middle of road).	X		X		
- Education of motorists on pedestrian rights is lacking.	X				
- Education on pedestrian responsibility is lacking.	X				
- Pedestrians stand too close to street curbs, especially at bus stop locations.	X		X		



A pedestrian crosses W. Genesee St. in Clinton Square, Syracuse (photo, left). Pedestrian push buttons typically display directions on how to use said device. In addition, the pictures aid in the correct operation of the push button (photo, right).

5.3.3 Enforcement Issues

There are several local and State laws pertaining to pedestrians and motorists that are required to be adhered to. Support from law enforcement agencies in enforcing these laws will assist in higher levels of safety for pedestrians and motorists. Enforcement issues relating to pedestrians and motorists are noted below.

Figure 5.3.3-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
PEDESTRIAN ENFORCEMENT ISSUES					
- Lack of enforcement of pedestrian traffic laws.	x				
- Speeding vehicles impeding upon the safety of pedestrians.	x				
- Lack of enforcement of local ordinances pertaining to clear sidewalks.	x		x		x

Lack of enforcement of local ordinances pertaining to clear sidewalks sometimes causes pedestrians to have to walk in the street.



5.3.4 Encouragement Issues

This section highlights the issues associated with encouragement and getting more people to walk in the MPO area. Many individuals will not consider walking, even for a short commute due to limited access to facilities and/or a lack of safe facilities. The following list outlines encouragement issues noted throughout the development of this study.

Figure 5.3.4-1

PEDESTRIAN ENCOURAGEMENT ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Lack of incentives to walk.	x	x	x	x	
- There are a lack of sidewalks leading to desired destinations.	x		x		x
- Lack of promotion of "pedestrian-ism".		x	x	x	
- Perceived and real safety concerns of walking in various neighborhoods and/or at night.	x				x
- Support for disabled and elderly pedestrians is lacking.	x		x		
- Specific bicycle and pedestrian County and City staff (where it is their responsibility/priority job to address bicycle and pedestrian activities) is lacking.	x		x		
- Citizen participation is not organized in regard to pedestrian related projects.			x		
- Lack of municipal encouragement to incorporate sidewalks/pedestrian paths within road reconstruction projects.	x		x		x
- With many people driving, a balance between various modes of transportation (pedestrian, bicycle, motor vehicle, & transit) is lacking.	x		x		x
- Transportation infrastructure in the study area does not lend itself to easy transition between various modes of transportation (i.e., from car to bike, and from car to pedestrian and vice versa).	x		x		

5.3.5 Economic Development Issues

The development, upkeep, and promotion of pedestrian facilities create a positive image in a community as well as a perceived increase in quality of life. These in turn have an effect on the local economy. Well-connected and established pedestrian facilities may encourage others to move to the SMTC MPO area and may even encourage developers to locate their businesses here.

Where walking conditions are less than satisfactory, people may be more likely to stay away, or search for a more pedestrian-friendly alternative. Well-kept and well-lit areas will keep people coming back to shop and contribute to the economic vitality of a community.

Figure 5.3.5-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
PEDESTRIAN ECONOMIC DEVELOPMENT ISSUES					
- Lack of pedestrian access (sidewalks, crosswalks, pedestrian signals) and continuity leading to major destinations, such as shopping centers, malls, and plazas.	x		x		x
- Perceived and real safety concerns of walking in various neighborhoods and/or at night.	x				x
- Lack of or inadequate pedestrian-level lighting within shopping districts.	x				x
- Lack of pedestrian access to transit stops.	x		x		x
- Inadequate signage directing pedestrians to shopping districts.			x		x



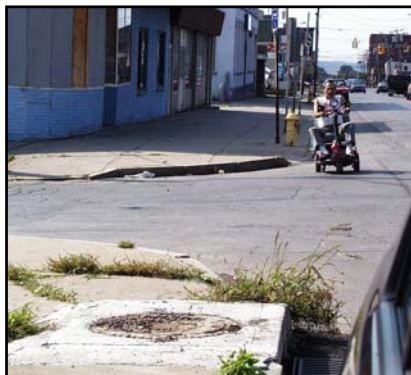
Lack of pedestrian access within parking lots

5.3.6 Other

Other pedestrian issues noted through the development of this plan include the following:

- As noted in the Existing Conditions chapters, there have been numerous pedestrian/motor vehicle accidents at the heavily traveled intersection of Fayette and Salina Streets in downtown Syracuse. This intersection serves as a transit hub for downtown Syracuse as numerous pedestrians walk within this area to utilize transit service and to reach downtown destinations such as restaurants, shops and employment centers.
- *ADA Compliance*

Non-compliance with the American's with Disabilities Act (ADA) of 1990 can lead to inadequate or a lack of curb cuts and ramps as well as improper sidewalk surfaces. Curb ramps should be designed to minimize the grade, cross-slope, and changes in level experienced by users. The transition between the ramp and the street surface should be flush. At some locations in the MPO area, there is a significant difference in elevation between the bottom of the curb ramp and the street surface, a violation of ADA standards. This height transition can create difficulties for individuals with disabilities.



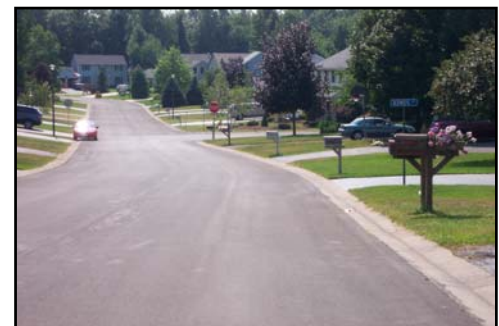
Wheelchair user riding in the road

- *Lack of Sidewalks within Suburban Developments*

As noted in Section 3.1 of this Plan, as a result of the sidewalk data collection efforts and review of the resulting sidewalk maps, the SMTC has noted that there is a general lack of sidewalks in the suburbs throughout the MPO area.

Many new developments in the MPO area are being built without sidewalks, some of which could be attributed to the following:

- Many suburban developments are self-enclosed with cul-de-sacs, thus not having walkable destinations.
- Suburban developments often load traffic onto arterials that are not pedestrian friendly.
- De-densification leads to greater distances between destinations (i.e., home to school).



Suburban setting in Onondaga County

- Separation of uses decreases the linkage between typical destinations (i.e., home and store, home and school).
- Zoning codes often do not mandate sidewalks.
- There are often limited municipal budgets for public sidewalk maintenance.
- Reliance on adjoining property owners to maintain public sidewalks and rights-of-way.
- Some citizens do not want sidewalks built within their development:
 - Perception that there is not a need.
 - Citizens have built into the municipal right-of-way.
 - Some property owners do not want pedestrians in their yard.
 - Initial building expenses (if assessed to taxes) and maintenance expenses.

Even in established urban settings, some of the above noted situations occur. All of the items noted above could lead to concerns in future years. There are often conflicting viewpoints among residents within a single development as to whether or not sidewalks should be installed. It is usually a matter of safety concerns versus the cost, maintenance, and upkeep of sidewalks.

5.4 Bicycle Issues

This portion of Chapter 5 focuses on bicycle transportation issues discovered throughout the development of this Bicycle and Pedestrian Plan. For the purpose of this analysis, all non-motorized wheeled users are included (i.e., bicyclists, rollerbladers, scooter users, and skateboarders). The issues are noted through five major categories: Engineering, Education, Enforcement, Encouragement, and Economic Development.

The individual bicycle issues are tied to the regional issues in matrix format. It is important to note that the regional issues that are checked off within each matrix are somewhat subjective. For the most part, several of the individual issues could be tied to each of the regional issue categories. However, for the purpose of this analysis, the majority emphases of each particular issue are checked off (please note though, that because each of the issues presented in this chapter could affect one's quality of life, this regional issue is not included in the matrices that follow).

5.4.1 Engineering Issues

This section primarily outlines the physical facility issues, concerns and conditions associated with bicycle travel within the MPO area. The bulleted issues are noted through several categories that fall under the engineering heading: infrastructure/facilities issues, street crossing issues (signals), maintenance issues, and access issues. See Figure 5.4.1-1.



Bicyclist on sidewalk

Figure 5.4.1-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
BICYCLE ENGINEERING ISSUES					
<i>Facility Related</i>					
- Lack of available travel space (i.e. shoulders) on roads.	x		x		
- Absence of designated on-road bike lanes/routes, and off-road trails/paths.	x		x		
- Some storm/sewer grates are not perpendicular to the direction of travel (bike wheels get caught in parallel gratings).	x				
- Inadequate bike parking accommodations (bike racks/storage facilities).			x		x
- Inconsistent shoulder widths, markings, signage.	x		x		
- Lack of shoulder striping to separate travel lanes between motorists and cyclists.	x		x		
- Lack of safe routes and safe places to bike.	x				
- Government entity/municipality (i.e. road owner) feeling that the striping of bike lanes carries with it additional liability above and beyond the liability associated with shoulder striping.	x				
- Bicycle facilities are desired to be constructed throughout the City of Syracuse and Onondaga County to improve quality of life.	x		x		
<i>Street Crossing Related</i>					
- Countdown lights for bikes at intersections are needed.	x		x		
- Signage for bicyclists at intersections is lacking.	x		x		
<i>Maintenance Related</i>					
- Maintenance of pavement and road shoulders is lacking (pot holes and ruts in pavement; debris in bicycle lane and/or shoulders is dangerous).	x		x		
- Worn shoulder stripes make it difficult to distinguish the travel lane.	x		x		
<i>Access Related</i>					
- Hilly terrain of city creates dangerous blind curves and hills.	x		x		
- Network for commuting cyclists is lacking.			x		
- Disconnect between municipalities and within municipalities (bike lanes just end).			x		
- Bicycle connectivity between major destinations is lacking.			x		x
- Connections need to be developed between sections of road for commuting purposes.	x		x		
- Interstates serve as barriers to bicycle movement			x		
- It is difficult to reach the MPO's trails by walking and bicycling. A vehicle must typically be used to reach local recreational trails.	x	x	x	x	x

5.4.2 Education Issues

Many conflicts between pedestrians, bicyclists and drivers/motorists are caused or intensified by users of the transportation system that do not know, understand or follow the traffic rules and regulations set forth by State and local law. This section outlines the issues associated with a lack of knowledge and/or understanding of the “rules of the road” on the part of both bicyclists and drivers/motorists. See Figure 5.4.2-1.

Figure 5.4.2-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
BICYCLE EDUCATION ISSUES					
- The promotion/awareness of bike safety rodeos is lacking.	x				
- Lack of awareness that Centro has bike racks on buses.			x		
- General lack of knowledge of laws, rules and regulations, on the part of motorists and bicyclists.	x				
- Education of motorists on the rights of bicyclists is lacking.	x				
- Education on bicyclists' responsibility is lacking (i.e., wrong way cycling,	x				
- Many bicyclists under the age of 18 are not wearing helmets when riding bicycles, scooters, in-line skates or skateboards.	x				
- Uncertainty of what bicyclists will do (cross in middle of road).	x		x		
- Lack of signage dedicated to bicycling and sharing the road.	x				
- Laws, rules and regulations concerning bicyclists vary from community to community (villages, towns, etc.).	x				

As noted in the SMTC Bicycle and Pedestrian Awareness Survey, 46% of the population was unaware of or not sure what the helmet law in Onondaga County states.



5.4.3 Enforcement Issues

There are several local and State laws pertaining to bicyclists and motorists that must be adhered to. Support from law enforcement agencies in enforcing these laws will assist in higher levels of safety for bicyclists and motorists. Issues relating to enforcement are noted in Figure 5.4.3-1.

Figure 5.4.3-1

BICYCLE ENFORCEMENT ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Law enforcement agencies should play a role in making motorists aware that they have to share the road.	x				
- Lack of enforcement of bicycle related traffic laws.	x				
- Speeding vehicles impeding on the safety of bicyclists.	x				



Children on a bicycle in Clinton Square -- Syracuse, NY

5.4.4 Encouragement Issues

This section highlights the issues associated with encouragement and getting more people to ride their bikes in the MPO area. Many individuals will not consider bicycling, even for a short commute due to limited access and/or a lack of safe facilities and safe and easy bicycle parking. The following list outlines encouragement issues noted throughout the development of this study:

Figure 5.4.4-1

BICYCLE ENCOURAGEMENT ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Lack of incentives to commute by bike.		x	x	x	
- Lack of places to rent a bike.			x		x
- Lack of bicycle racks and bicycle storage.			x		x
- Not enough Federal funding going towards bicycle travel.			x		
- Some people don't bike because of safety reasons, weather, they don't know how, security reasons, and lack of encouragement.	x		x		
- Specific bicycle and pedestrian County and City staff (where it is their responsibility/priority job to address bicycle and pedestrian activities) is lacking.	x		x		
- Perceived and real safety concerns of bicycling in various neighborhoods and/or at night.	x				
- Public Safety Announcements (PSAs) that promote safe bicycle riding are lacking.	x				
- Planners/officials don't understand the needs of cyclists.			x		
- The media is not as involved as it should be.					
- The promotion/awareness of bike safety rodeos is lacking.	x				
- In some municipalities, lack of municipal policy to incorporate bikeways within road reconstruction projects.	x		x		x
- With many people driving, a balance between various modes of transportation (pedestrian, bicycle, motor vehicle and transit) is lacking.	x		x		x
- Transportation infrastructure in the study area does not lend itself to easy transition between various modes of transportation (i.e. from car to bike, and from car to pedestrian, and vice versa).	x		x		

5.4.5 Economic Development Issues

The development, upkeep, and promotion of bicycle facilities create a positive image in a community as well as a perceived increase in quality of life. These in turn have an effect on the local economy. Well-connected and established bicycle facilities may encourage others to move to the SMTC MPO area and may even encourage developers to locate their businesses here.

Bicyclists may stay away from areas where biking conditions are less than satisfactory (i.e., lack of bicycle parking). Well-kept and well-lit areas will keep people coming back to shop and contribute to the economic vitality of a community.

Figure 5.4.5-1

BICYCLE ECONOMIC DEVELOPMENT ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Lack of bicycle access to major destinations, such as shopping centers, malls, plazas, educational and healthcare institutions, commercial areas, leisure areas, and attractions.	x		x		x
- There is very limited safe bicycle access within the parking lots of malls and plazas.	x		x		x
- Perceived and real safety concerns of bicycling in various neighborhoods and/or at night.	x				x
- Lack of or inadequate street lighting within shopping districts.	x				x
- Inadequate signage directing people to shopping districts.					x
- Lack of bicycle racks and bicycle storage.			x		x
- Lack of places to rent a bike.			x		x

“Little Italy” along North Salina Street in Syracuse (photo, right) has recently been renovated. Wider sidewalks, pedestrian level lighting, street benches and trash receptacles have been added.



5.5 Greenway/Trail Issues

Issues pertaining to greenways and trails within the study area are noted in Figure 5.5-1.

The individual greenway and trail issues are tied to the regional issues in matrix format. It is important to note that the regional issues that are checked off within each matrix are somewhat subjective. For the most part, several of the individual issues could be tied to each of the regional issue categories. However, for the purpose of this analysis, the majority emphases of each particular issue are checked off (please note though, that because each of the issues presented in this chapter could affect one's quality of life, this regional issue is not included in the matrices that follow).

Figure 5.5-1

GREENWAYS/RECREATIONAL TRAIL ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- The biking/walking trails within the MPO area are not linked/integrated.		x	x	x	x
- It is difficult to reach the MPO's trails by walking and/or bicycling. A vehicle must typically be used to reach local recreational trails.	x		x		x
- Citizen participation is lacking in the development of recreational trails.					
- There needs to be connectivity between major destinations and parks/trails.	x		x		x
- Existing trails should be linked together.	x		x		x
- Trail etiquette is lacking (i.e., people not cleaning up after their dogs, etc.).					
- Need more off-road routes and trails that are separated from traffic.	x		x		
- Lack of safe places to bike.	x		x		

According to the SMTC Bicycle and Pedestrian Awareness Survey, when asked where respondents would desire to travel by bike or on foot, Onondaga County residents would primarily like to be able to reach parks and recreational trails (28%).



5.6 Transit Issues

Broad based bicycle and pedestrian issues found in the study area that pertain to transit can be found in Figure 5.6-1. Individual transit issues are tied to the regional issues in matrix format. It is important to note that the regional issues that are checked off within each matrix are somewhat subjective. For the most part, several of the individual issues could be tied to each of the regional issue categories. However, for the purpose of this analysis, the majority emphases of each particular issue are checked off (please note though, that because each of the issues presented in this chapter could affect one's quality of life, this regional issue is not included in the matrices that follow).

Figure 5.6-1

TRANSIT ISSUES	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
- Some transit drivers may not be aware of when pedestrians have the right-of-way.	x		x		
- Some transit drivers may not be aware that bicyclists have a right to share the road.	x		x		
- Number of bus stop shelters and benches is limited (shelter from wind, snow, and rain should be available).	x				
- The majority of bus stops are located at the near side of intersections, which often results in buses obstructing traffic control devices.	x		x		
- Lack of a lead walk paved surface between the sidewalk and curb at bus stop locations forces individuals to walk and/or stand on muddy, wet or snow covered ground and is not accommodating to wheelchair accessibility.	x				
- As learned through the Bicycle and Pedestrian Awareness Survey, there is a lack of knowledge about the existence of bicycle racks on Centro buses.			x		
- The spreading out of destinations (sprawl) and lower density development patterns has made transit planning and widespread usage of transit difficult, as transit planning typically favors density.			x		
- Although Centro has made strides in supplying transit service between suburbs, it is difficult and somewhat inefficient to provide complete suburb-to-suburb transportation via the Centro transit system. This activity often requires transfers at the downtown Syracuse hub.			x		x

Figure 5.6-1

	REGIONAL ISSUES				
	Safety	Health	Mobility	Environment	Economy
TRANSIT ISSUES					
- There is little to no congestion in the Syracuse Metropolitan Area, so it is typically faster and more convenient for most MPO residents that own vehicles to travel to work in an automobile, a long-standing occurrence that the transit system has had to deal with in the Syracuse area.			x		
- There are perceived safety issues and concerns with bus travel.	x				
- Lack of use of OnTrack due to limited schedule.			x		
- Lack of awareness of whether or not bicycles are allowed on OnTrack.			x		

The aforementioned bicycle and pedestrian transportation issues were identified through the course of completing the existing conditions inventory documented in Chapters 1-4, the public involvement process, and comments received throughout the course of this study. The next portion of this document will include a wide variety of recommendations aimed at addressing the common bicycle and pedestrian issues found throughout the SMTC MPO study area.

CHAPTER 6 – REGIONAL PRIORITIES AND POLICY RECOMMENDATIONS

6.1 Regional Priorities

The issues section of the plan identifies Safety, Health, Environment, Mobility and Economy as key issues in the SMTC region. Each of these issues is critical to the region's quality of life, and as a result they form the basis of the community priorities for this plan as detailed below. As they are equally valuable in the SMTC region, the priorities are not listed in order of importance.

Priority: Safety

Priority Statement: The SMTC Region will strive to maintain (at a minimum) and improve upon a record of having less than 5% of the region's traffic crashes involving pedestrians or bicyclists.

Priority: Health

Priority Statement: The SMTC Region will strive towards being an ideal healthy community.

According to the New York State Cardiovascular Health Plan (*Cardiovascular Health in New York State: A Plan for 2004-2010*), in an ideal healthy community, people walk or bicycle whenever they can; physical activity is safe, inviting and commonplace.”¹⁰⁰ The vision of the developers of this Health Plan “is one of communities in which homes, neighborhoods, schools, workplaces and health care environments promote and sustain cardiovascular health.”¹⁰¹

Of Interest ...

The US Surgeon General recommends 30 minutes of physical activity on most days of the week for health and well-being.* In NY State:

- “More than 70% of adults do not meet the recommended levels of physical activity.
- Over 50% of adults are overweight or obese.
- Inactivity costs \$3 billion/year.
- A 5% increase in physical activity rates would save taxpayers \$150 million per year.”**

¹⁰⁰ New York State Department of Health, *Cardiovascular Health in New York State: A Plan for 2004-2010*, 9/04, p.3.

¹⁰¹ Ibid.

*Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Physical Activity and Health – A Report of the Surgeon General, <<http://www.cdc.gov/nccdphp/sgr/intro.htm>>, (11/17/99), 11/3/04.

**State University of New York at Albany, Initiative for Healthy Infrastructure, <<http://www.albany.edu/~ihi/>>, 1/3/05. Data were retrieved from the NYS Department of Health.

Priority: Environment

Priority Statement: The SMTC Region will strive to provide a clean and environmentally sound transportation system for current and future residents.

Priority: Mobility

Priority Statement: The SMTC Region will strive to meet or exceed its share of the New York State (NYS) Bicycle and Pedestrian Plan goal. Additionally, the SMTC Region will strive to increase the percentage of its residents who walk regularly for transportation and leisure.

The 1997 NYS Bicycle and Pedestrian Plan states that “NYS will meet or exceed the State’s share of the USDOT National Bicycling and Walking Study goal of doubling the amount of bicycling and walking in the US by increasing NYS bicycle and pedestrian commuter trips by 15% by the year 2015, and by trying to meet or exceed the national goal of 16% of all trips, including trips to school, shopping, and other travel destinations.”¹⁰²

According to the Census Transportation Planning Package (CTPP), 6.5% of NYS residents (including New York City residents) bicycled or walked to work in 2000. The CTPP also reported that 4.1% of Onondaga County residents bicycled or walked to work in 2000.¹⁰³

Priority: Economy

Priority Statement: The SMTC Region will strive to utilize walking and bicycling in the promotion of the region’s quality of life to attract and maintain residents, jobs and businesses.

Each of these priorities is cross-referenced in the regional recommendations section (Section 6.4) of the plan.

Overall

As noted in the issues section of this plan, one’s personal satisfaction with the community they choose to live in and the general conditions under which they live represents their “quality of life.”

Improving the “conditions for bicycling and walking have intangible benefits to the quality of life in cities and towns. In a growing number of communities, bicycling and walking are considered as indicators of a community’s livability – a factor that has a profound impact on attracting businesses and workers as well as tourism. In cities and towns where people can

¹⁰² New York State Department of Transportation, *Transportation Choices for the 21st Century: The New York State Bicycle and Pedestrian Plan*, 1997, Executive Summary.

¹⁰³ Census Transportation Planning Package, *2000 Profile Sheets*, 2/10/05, <<http://ctpp.transportation.org/home/ny.htm>>.

regularly be seen out bicycling and walking, there is a palpable sense that these are safe and friendly places to live and visit.”¹⁰⁴

By addressing the above noted priorities through the various recommendations presented in this plan, the quality of life and motivation for community members to bike or walk can increase. These five regional priorities are tied to the recommendations presented in Section 6.4.

¹⁰⁴ Pedestrian and Bicycle Information Center, *Benefits of Walking: Quality of Life Benefits*, 12/18/03, <<http://www.walkinginfo.org/pp/benefits/qualben/index.htm>> (2000).

6.2 Regional Policy Background (USDOT and NYSDOT Policy Statements)

The SMTC and its member agencies support the adoption of a policy integrating walking and bicycling into highway, transit and related projects in order to achieve and maintain the above stated regional values. In 1999, the USDOT established a national guideline calling for all transportation projects to include facilities for pedestrians and bicyclists as 'routine accommodations' unless there were documented reasons not to provide them. The core of this text is reproduced as a model for the SMTC region as follows:

Accommodating Bicycle and Pedestrian Travel: A Recommended Approach A US DOT Policy Statement

Integrating Bicycling and Walking into Transportation Infrastructure

Policy Statement

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.
- where sparsity of population or other factors indicate an absence of need. For example, the Portland Pedestrian Guide requires "all construction of new public streets" to include sidewalk improvements on both sides, unless the street is a cul-de-sac with four or fewer dwellings or the street has severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as in states such as Wisconsin. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate.

Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.

3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.

4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- planning projects for the long-term. Transportation facilities are long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case.
- addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
- getting exceptions approved at a senior level. Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO *Guide for the Development of Bicycle Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets*, and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".

Source: <http://www.fhwa.dot.gov/environment/bikeped/Design.htm>

It is important to note that at the State level, the New York State Department of Transportation (NYSDOT) has been a leader in implementing this kind of policy, and recently issued its own guidelines to its regions as a prototype for including walking and bicycling in all phases of regional development. This NYSDOT Guidance was released as an Engineering Instruction, EI # 04-011, dated 02/06/04, entitled "PROCEDURAL REQUIREMENTS FOR PEDESTRIAN ACCOMMODATION." The document includes adoption of the USDOT Bicycle Pedestrian Design Guidance, as well as a Pedestrian Generator Checklist to facilitate integration in all projects. The EI also includes the NYSDOT policy statement established in the 1997 New York State Transportation Plan, which says in part:

"As part of our mission as an intermodal transportation agency, NYSDOT must make bicyclists and pedestrians an integrated element of our intermodal transportation system. Bicyclists and pedestrians are significant partners in NYSDOT's efforts, providing cost-effective solutions to our State's mobility, safety and environmental goals. The 1990 Census shows that more than 7% of New York State commuters bicycle or walk to work, so it is important for us to take the lead in making these modes safer and more "user-friendly." As we move forward into the 21st Century, we have the ability to make our State's highways, structures and public transportation systems into one of the most efficient, intermodal transportation systems in the nation. To accomplish this, facilities

for pedestrians and bicyclists must be considered for incorporation into highway, bridge and transit projects and integrated throughout NYSDOT's policy, planning, implementation, and operations efforts."

NYSDOT Bicycle and Pedestrian Policy issued by the Commissioner of the New York State Department of Transportation, October 1996.

These state and national policy guidelines form the basis for the SMTC regional policy presented in the subsequent section, Section 6.3.

6.3 SMTC Regional Bicycle and Pedestrian Policy

Based on the aforementioned USDOT and NYSDOT policies, the SMTC Regional Bicycle and Pedestrian Policy was developed as a Resolution for the SMTC's Policy Committee and is shown on the next two pages.

**RESOLUTION
SYRACUSE METROPOLITAN TRANSPORTATION COUNCIL
POLICY COMMITTEE**

March 14, 2005

- WHEREAS,** Walking and bicycling are important modes of transportation which benefit the quality of life for the SMTC Region's communities, businesses, residents and visitors, and;
- WHEREAS,** Walking and bicycling are part of the solution for key regional issues including Safety, Health, Environment, Mobility and Economy, and;
- WHEREAS,** Federal and New York State policy guidelines provide a model for the integration of walking and bicycling into plans, programs, policies and projects, and;
- WHEREAS,** Recent trends for the SMTC Transportation Improvement Plan (TIP), allocate 5% to 10% of TIP money to bicycle and pedestrian related projects.

NOW THEREFORE BE IT RESOLVED,

That the SMTC Policy Committees hereby adopt as the following policy:

1. Bicycle and pedestrian ways should be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:
 - Bicyclists and pedestrians are prohibited by law from using the roadway.
 - The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use.
 - Where sparsity of population or other factors indicate an absence of need.
2. In rural and suburban areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day.
3. Highway and transit facilities should be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, and

bicyclists can travel safely and independently.

4. The design and development of the transportation infrastructure should improve conditions for bicycling and walking through the following additional steps:
 - Planning projects for the long-term. New facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.
 - Addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, the design of intersections and interchanges should accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
 - Designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO *Guide for the Development of Bicycle Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets*, the NYSDOT Highway Design Manual and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".
 - Local codes and ordinances. Local communities should adopt, where appropriate, codes and ordinances for sidewalks, shared-use paths, bikeways, bicycle parking and related improvements.
5. The SMTC should attempt to continue TIP funding at current levels (for bicycle and pedestrian projects) when possible.



Dale A. Sweetland
Chairperson
SMTC Policy Committee

March 14, 2005

Date



Carl F. Ford
Secretary
SMTC Policy Committee

3/14/2005

Date

6.4 Regional Recommendations

The purpose of this portion of the document is to provide regional guidelines and policies for the future, based on regional values in the SMTC area. The public input process for the plan has resulted in numerous ideas, potential projects and programs. In order to give form to these concepts, the following section develops a series of recommended action items in the following categories: Engineering (facilities for bicyclists, pedestrian improvements, trails and greenways, and connections with transit), Education, Enforcement, Encouragement, and Economic Development.

These categories are based on the planning guidance issued in the National Bicycling and Walking Study (USDOT, 1993) and other accepted models of bicycle and pedestrian transportation planning. Within each category, targets and benchmarks have been established, followed by recommended projects and programs developed by the SMTC Bicycle and Pedestrian Plan Study Advisory Committee. The targets provide a broad statement about the overall purpose and relevance of the planning topic within the SMTC area. The benchmark provides a broad-based way in which to measure the success of the particular target.

Recommended action items are listed for each section, along with the potential responsible lead agencies, respective performance measures, and the overall SMTC regional priorities that the item addresses.

Potential Implementing Lead Agency

The potential lead agencies noted within the recommendations tables are just that – possible agencies to take a lead role in implementing the recommendation. The list of agencies for each recommendation item is not necessarily all-inclusive. This list is intended to provide municipalities with a place to start if they wish to implement a particular recommendation. The following list defines the agencies noted in the recommendations tables:

AGENCY	DEFINITION
Business Associations	Private businesses working cooperatively in either a formal or informal association. The goals of this group can be varied and may include community development, economic development, quality of life and other factors that would positively impact the community.
Canal Corporation	New York State Canal Corporation
Centro	The public transportation system in the SMTC area
City DPW	City of Syracuse Department of Public Works
County/City/Municipal Parks Departments	Park Departments at the County, City and Municipal Levels
Law Enforcement Agencies	State (Troopers), county (Sheriffs) and municipal (village/town) law enforcement agencies
Local Municipalities	Villages and towns

AGENCY	DEFINITION
Local Schools	Public, private and parochial schools in the SMTC MPO area.
NYP&CA	New York Parks and Conservation Association
NYSDOT	New York State Department of Transportation
OCDOT	Onondaga County Department of Transportation
OCDH	Onondaga County Health Department (hosts traffic safety program funded by Governor's Traffic Safety Committee (GTSC))
OnTrack	A recreational rail shuttle service that connects Carousel Center to Syracuse University (service occasionally continues to Jamesville).
SMTC	Syracuse Metropolitan Transportation Council
SOC&PA	Syracuse-Onondaga County Planning Agency

Performance Measure

The recommended performance measures are included in this chapter as a way to measure the progress of a specific action item that has been implemented. Each municipality within the MPO area has the option of using the performance measures to help track their own progress, or to develop and keep track of their own measures, plans, and/or guidelines. The SMTC would like to work towards the municipalities reporting back to the MPO on the progress of their bicycle and pedestrian activities so that the SMTC can keep a log of all of the bicycle and pedestrian activities occurring within the MPO area through the use of these or similar performance measures.

Regional Priorities

The regional priorities that each recommendation addresses stem from the five regional priorities noted at the beginning of this chapter. As noted in Section 6.1, implementing any of the recommendations noted would positively affect the SMTC region's Quality of Life. Additional benefits, such as the motivation to walk or bicycle more, may also occur as a result of the implementation of recommendations noted here.

The SMTC's overall expectation is that municipalities within the MPO area will utilize or refer to this plan and the noted recommendations as a starting point or as an outline or framework when addressing bicycle and pedestrian planning options within their communities.

Please note that each recommended action item is further defined in Appendix E and can be identified within the Appendix via the Action Item Number.

6.4.1 Engineering

Engineering recommendations for facilities for Bicyclists, Pedestrians, Trails and Connections with Transit are noted below.

A. Bicycle Facilities

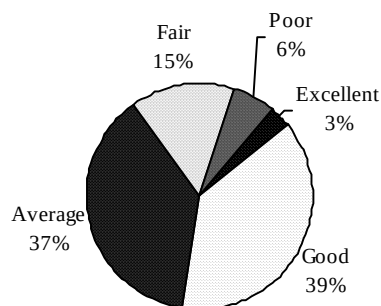
Target: Bicyclists will be able to travel the region and have access to destinations safely and conveniently.

Benchmark: In 2003, the SMTC produced the first *Greater Syracuse Metropolitan Area Bike Map*. Thirty-seven percent (37%) of all of the roads in the MPO area were rated for bicycle commuting suitability and recorded on the map. Nearly 80% of these rated roads are considered suitable for bicycling (this percentage includes roads that were rated as excellent, good and average). It should be noted that seventy-five percent (75%) of the roads in the federal aid eligible system are bikeable, and that 98% of them were rated. Interstate highways, expressways, and other roads where bicycling is prohibited by law (i.e., I-81, I-690, I-481, etc.) were removed from this exercise.

The SMTC will strive to maintain and/or increase the percentage of roads suitable for bicycling over time. In the future, another bike map or similar quantitative tool should be utilized to gauge the net change in the usability of the existing system. Appropriate facilities including paved shoulders, shared lanes, bike lanes and related features such as bike parking, signals and signage could be provided as determined and/or identified by local communities.

As noted in Chapter 4, 37% of all of the roads in the MPO area were rated for bicycle commuting suitability. The following pie chart depicts the breakdown of the roads that were rated by suitability scores in the SMTC MPO Area (see Existing Conditions Section 4.8 for further details).

Rated Roads Within the SMTC MPO Area



Engineering: Bicyclist Facility Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description (Recommendation)	Potential Lead Agency	Performance Measure	Regional Priorities
B1	Provide additional bike riding facilities	Local municipalities, NYSDOT, OCDOT, City DPW as appropriate	Miles of newly paved or repaved shoulders and/or bike lanes per year	Safety, Mobility, Environment
B2	Sign a system of on-road routes	To be determined	Miles of signed bicycle routes	Safety, Mobility, Health, Economy
B3	Increase supply of bicycle parking	Local municipalities, business associations	Number of new bike racks and/or bike lockers	Mobility, Safety
B4	Maintain roadways for safe bicycle travel (create a spot maintenance program)	Local municipalities, NYSDOT, OCDOT, City DPW	Number of improvements per year	Mobility, Safety, Environment
B5	Implement bicycle crash countermeasures as needed	To be determined	Number of locations per year	Safety, Health
B6	Update of SMTC bike map or use of quantitative tool to measure bicycle suitability	SMTC	Suitability ratings or other quantitative tool	Mobility, Safety

B. Pedestrian Facilities

Target: Streets and destinations will be accessible to pedestrians of all ages and abilities.

Benchmark: Maintain the percentage of existing sidewalks (95-97%) in the City of Syracuse, and each year, increase the number of intersections that are ADA compliant. See Section 3.1 in Chapter 3 of this document for more information on ADA compliant ramps. In addition, maintain existing sidewalks and increase the percentage of sidewalks in village and town centers, and in the MPO's suburbs, as appropriate. Appropriate facilities including sidewalks, paved shoulders, traffic-calmed areas, curb ramps, marked crosswalks, signage and related features should be provided as identified by local communities.



ADA compliant ramp in downtown Syracuse

Engineering: Pedestrian Facility Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
P1	Provide paved shoulder(s) when no sidewalk is available or feasible	Local municipalities	Miles of paved shoulders	Mobility, Safety
P2	Incorporate ADA compliant facilities	Local municipalities, NYSDOT, OCDOT, City DPW	Number of new or retrofitted locations	Safety, Mobility
P3	Provide crosswalks/improved crosswalks (appropriate signage, markings/signals)	Local municipalities, NYSDOT, OCDOT, City DPW	Number of new and/or improved crosswalks	Safety
P4	Incorporate traffic calming techniques if/where feasible	To be determined	Number of locations with traffic calming techniques installed	Safety

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
P5	Improve and increase sidewalk maintenance	Local municipalities, NYSDOT, OCDOT, City DPW	Miles of sidewalk	Mobility, Safety
P6	Implement Safe Routes to Schools programs	Local municipalities, local schools	Number of participating school districts	Safety, Health
P7	Works towards development of a “Complete the Streets” Program	To be determined	Development of outline for program	Mobility, Safety
P8	Require developers to include pedestrian facilities	Local municipalities	Creation of requirements/zoning for developers	Safety, Mobility
P9	Implement pedestrian crash countermeasures as needed	To be determined	Number of locations per year	Safety
P10	Ensure that local communities are aware of NYSDOT Pedestrian Engineering Instruction 04-011	NYSDOT	Distribution of Engineering Instruction (EI) 04-011	Safety, Mobility

C. Trails and Greenways

Target: To have a fully interconnected regional trail and greenway system connecting facilities and destinations including the Onondaga Lake (“Loop the Lake”) trail, the Onondaga Creekwalk and the Erie Canalway Trail.

Benchmark: Maintain existing shared use paths, hiking and bicycling trails and work to develop additional trails with or in local jurisdictions.

Engineering: Trail Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
T1	Develop regional trail system	County/City/Municipal Parks Departments, Canal Corporation, NYPCA	Miles of trail	Economy, Health, Mobility
T2	Increase number of trailheads	County/City/Municipal Parks Departments	Number of locations with trailheads	Health
T3	Trail amenities (signage, benches, etc.)	County/City/Municipal Parks Departments, Local municipalities, OCDOT, City DPW, Business associations, Trail clubs	Number of trail amenities	Health
T4	Trail connection projects	County/City/Municipal Parks Departments, Local Municipalities, OCDOT, City DPW	Number of trail connection projects	Mobility
T5	Regional trail promotion program	County/City/Municipal Parks Departments, Local municipalities, OCDOT, City DPW, Trail clubs	Number of people reached or number of park and recreation visitors	Economy

D. Connections with Transit

Target: To ensure that pedestrians and bicyclists who are transit users have safe, reliable access to all transit systems throughout the region.

Benchmarks: Transportation facilities should be accessible to all people. All improvements to the transportation system should comply with the ADA.



Handicapped accessible transit stop in Onondaga County.

Engineering: Transit Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
TRAN1	Increase the usage of bicycle racks on buses	Centro	Number of people using bike racks	Mobility
TRAN2	Increase ADA access at bus stops	Local Municipalities, City DPW, OCDOT, Centro	Percent of bus stops that are ADA compliant	Mobility
TRAN3	Improve bicycle access to Regional Transportation Center	Local municipalities, City DPW, OCDOT, NYSDOT	Number of improved roadways	Mobility
TRAN4	Complete/expand the use of OnTrack	OnTrack	Plan/program for expanding OnTrack	Mobility
TRAN5	Examine the possibility of further expansion of the existing transit system	Centro and others as appropriate	Plan/program for expanding transit system	Mobility

6.4.2 Education

Target: To ensure that people throughout the region know that bicyclists and pedestrians are afforded rights and responsibilities similar to that of motorists as users of the transportation system.

Benchmarks: Increase the current number of persons reached by bicycle and pedestrian safety education courses (and supplemental material shared in driver education courses) and increase the amount of bicycle and pedestrian safety education courses/instruction sessions within elementary schools. Strive to increase citizen understanding that bicycling and walking are legitimate forms of transportation through exposure to Share the Road campaigns.

Through funding provided by the Governor's Traffic Safety Committee (GTSC) the Traffic Safety Program, which is a program of the Onondaga County Health Department (OCHD), completed 32 pedestrian safety presentations reaching 1,081 children between October 1, 2002 and September 31, 2003. In that same time period, 56 bicycle and helmet related presentations were given to 1,893 children.

Pedestrian presentations/Safety Campaigns

A majority of the pedestrian presentations are given primarily to preschoolers, as well as some day care and nursery school aged children. The presentations typically share some basic rules on crossing the street through the "Willy the Whistle" video series. The videos teach children to stop at the curb, look left-right-left until no cars are coming, and then cross the street while continuing to search for vehicles until on the other side. In April 2002, the Greater Syracuse SAFE KIDS Coalition began its first annual "Spring into Pedestrian Safety" campaign in Onondaga County. The campaign seeks to heighten the awareness of pedestrian laws, as well as proper pedestrian safety. Also, in the summer of 2003, the OCHD facilitated 18 pedestrian safety programs for children with the Onondaga County Sheriff's Department in public libraries across the County.

Bicycle Presentations

Bicycle presentations typically included bicycle rodeos and general bicycle safety presentations. These presentations were conducted separately from bicycle helmet fitting and giveaways that the Onondaga Traffic Safety Program and various partners host (The Traffic Safety Program is part of the OCHD and is funded by the GTSC).

ThinkFirst Programs

In addition, ThinkFirst of Central New York sponsors traffic safety programs in the Onondaga County area. ThinkFirst is a not-for-profit organization dedicated to preventing traumatic brain and spinal cord injury. This is accomplished through development, implementation and support of educational programs completed free of charge in addition to support of community awareness activities and public policy initiatives.

Although the numbers fluctuate from year to year, ThinkFirst reaches approximately 5000 students in kindergarten through 12th grade per year. Middle and high school students account for 80% of students reached. ThinkFirst utilizes a comprehensive approach as pedestrian and

bicycle safety is mentioned in every presentation regardless of the main thrust of the presentation. This is a tool than can be expanded upon and added to as needed, as ThinkFirst is available to make presentations throughout the community.

Education Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
ED1	Provide public education programs to increase awareness of pedestrian and bicycle laws, safety issues, and regulations (helmet law, etc.) for children and adults.	Law enforcement agencies, local schools, local municipalities, bicycle clubs, OCHD Traffic Safety Program	Number of students/adults reached, Number of safety programs provided	Safety
ED2	Inclusion of safety education materials in routine public agency mailings, such as utility bills, driver education, etc. (also target large corporations, small business owner associations) and on public agency websites	Local municipalities, various public agencies, business associations	Number of participating agencies	Safety
ED3	Increase the number of local bike rodeos	Law enforcement agencies, local schools, local community	Number of rodeos offered within the region	Safety
ED4	Implement a community awareness campaign to better inform citizens of public resources and home and business owner responsibilities.	Local municipalities, City, County	Distribution of informational brochures	Safety
ED5	Educate municipalities on how to obtain funding for sidewalks and other pedestrian or bicycle facilities.	Local municipalities, SMTC	Sharing of information	Mobility, Economy
ED6	Create an inventory of existing trails and develop a SMTC regional trail map	SMTC, County/City/Municipal Parks Departments	Development of trail map	Mobility, Health
ED7	Educate public on Centro bike racks on busses	Centro, SMTC (through the Bike Map)	Number of people using the bike racks	Mobility, Health
ED8	Involve and educate local residents, business people, etc. about the importance of safe pedestrian travel and connections.	Local municipalities, SMTC, SOCPA, OCHD Traffic Safety Program	Number of informational sessions held	Safety, Mobility
ED9	Obtain and share information from other communities about liability concerns as they relate to bicycling.	SMTC, local municipalities, bicycle clubs	Distributed information	Mobility, Safety

6.4.3 Enforcement

Target: To make the SMTC area a place where motorists, bicyclists and pedestrians share the road safely.

Benchmarks: Increase targeted enforcement efforts/programs (especially at the start of the spring/summer/fall seasons, when more individuals are riding bikes and more children are walking or could be walking to school, etc.). This could be measured by the number of bicycle and pedestrian related targeted enforcement days held per year.

Enforcement Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
ENF1	Institute a regular review course for law enforcement personnel about the rights and responsibilities of bicyclists and pedestrians	Law enforcement agencies	Number of courses provided or number of personnel reached	Safety
ENF2	Increase enforcement of sidewalk maintenance responsibilities	Local municipalities	Number of tracked complaints	Safety, Mobility
ENF3	Increase enforcement of specific bicycle and pedestrian laws (in particular, the helmet law)	Law enforcement agencies	Number of warnings and/or tickets issued	Safety
ENF4	Increase use of bicycles by police, public safety officers	Law enforcement agencies, local municipalities	Number of officers using bicycles	Safety
ENF5	Provide a liaison between local law enforcement and the bike community	Law enforcement agencies, bicycle clubs	Discussions between the liaison and law enforcement	Safety, Mobility

6.4.4 Encouragement

Target: To further the acceptance of walking and bicycling as accepted modes of transportation and activity for residents, visitors, businesses, agencies, organizations and municipalities.

Benchmarks: This can be measured by keeping track of the number of programs and activities provided (and accounting for the number of people participating in such programs).



Children participating in *Walk Your Child to School Day* at the Edward Smith Elementary School, City of Syracuse (October 8, 2003).

Encouragement Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
ENC1	Encourage municipalities to design, develop, complete, and fund bicycle/pedestrian facilities	Local municipalities	Number of bike/pedestrian specific facilities	Mobility
ENC2	Promotion of existing local open space and recreational opportunities	City/County/Municipal Parks Departments, local environmental clubs	Number of visitors to local open spaces and recreational opportunities	Environment, Health
ENC3	Initiate "Safe Routes to School" programs at area schools	Local municipalities, local schools, law enforcement agencies, OCHD Traffic Safety Program, Greater Syr. SAFE Kids Coalition	Number of schools	Safety, Health
ENC4	Increased promotion of existing bicycle and walking encouragement programs (i.e., Bike Month, Bike to Work Week, Walk Your Child to School Day, Recycle-a-Bicycle).	Health department, Local municipalities, SMTC, bicycle clubs	Amount of participation (i.e., number of participants)	Mobility, Safety

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
ENC4	Increased promotion of existing bicycle and walking encouragement programs (i.e., Bike Month, Bike to Work Week, Walk Your Child to School Day, Recycle-a-Bicycle).	Health department, Local municipalities, SMTC, bicycle clubs	Amount of participation (i.e., number of participants)	Mobility, Safety
ENC5	Encourage employers to provide incentives to bike or walk to work	Employers, Health Insurance Providers	Number of employers that offer incentives; Number of employees that walk/bike to work	Health
ENC6	Increased bike storage (bike racks and/or lockers)	Local municipalities, employers, business associations	Number of new bike racks/lockers	Mobility
ENC7	Establish a bike/ped coordinator at the county and city levels (and eventually within each municipality).	To be determined	Person/position responsible for bicycle/pedestrian coordination	Mobility
ENC8	Continue widespread distribution of SMTC bike maps	SMTC with municipal level partners	Number of map reprints	Mobility, Safety
ENC9	Promote walking and bicycling trails	City/County/Municipal Parks Departments, local bicycle and/or walking clubs	Number of provided activities/promotional events	Health
ENC10	Encourage increased visibility of police presence (i.e. bike patrol on trails, law enforcement officers on bicycles)	Local municipalities, law enforcement	Number of officers dedicated to foot or bike patrol	Safety
ENC11	Place suggestion boxes at trailheads	County/City/Municipal Parks Departments	Amount of received input and suggestions	Safety, Mobility
ENC12	Promote bus/mass transit by encouraging elementary schools to use the public transit system for some field trips	Local Schools, Centro	Number of participating schools	Mobility
ENC13	Encourage Centro to provide buses with bike racks at large community events.	Centro, community event planners	Number of Centro riders using the bike racks	Mobility, Safety
ENC14	Encourage local municipalities to research and/or develop an overall master plan for their respective municipality	Local municipalities, SOCPA	Discussions about developing a master plan	Environment

6.4.5 Economic Development

Target: To encourage bicycle and pedestrian improvements in association with relevant economic development projects (i.e., if a commercial area is to be developed, include bicycle and pedestrian amenities, such as sidewalks and bike racks).

Benchmark: An increase in the number of projects implemented in the region that accommodate bicycle and pedestrian activity.

Economic Development Recommendations

(Action Items are further defined in Appendix E)

Action Item #	Action Item Description	Potential Lead Agency	Performance Measure	Regional Priorities
ECO1	Once trails are connected, provide signage to lead trail-goers to shopping, eating, and/or historical districts	County/City/Municipal Parks Departments, Local Municipalities, Business Associations	Provide adequate signage	Mobility, Economy
ECO2	Provide/increase bike parking and storage (racks, lockers, etc.) in and around commercial and public areas.	Local municipalities, employers, business associations	Number of new bike racks/lockers	Mobility, Economy
ECO3	Ensure that bike/ped facilities are well lit, maintained and signed as appropriate within commercial areas	Local municipalities, OCDOT, NYSDOT, City DPW	Improved bike/ped facilities	Safety, Economy
ECO4	Educate business owners, municipalities, and planning boards about the economic benefits of providing safe bike/ped facilities and amenities	Local municipalities (planning and zoning boards), business associations	Number of informational sessions held	Safety
ECO5	Encourage municipalities to require developers/new businesses to include bike/ped amenities and/or facilities in their designs	Local municipalities (planning boards, zoning boards)	Examination of new zoning codes and/or development regulations	Safety, Mobility
ECO6	Market mass transit to bicyclists (i.e. bicycle racks on Centro buses)	Centro	Development of a marketing strategy	Mobility
ECO7	Create attractive financial incentives to ride and utilize the transit system.	Centro, Employers of large businesses	Development of financial incentives	Mobility

CHAPTER 7

BICYCLING, WALKING, & TRAILS: DESIGN GUIDELINES

The purpose of this chapter is to note and summarize preferred design guidelines for bicycle and pedestrian infrastructure and facilities in the SMTC area. Included in this chapter are generally accepted and representative implementation techniques for bicycle and pedestrian facilities in both New York State in particular, and the United States in general. This chapter is intended as a place for municipalities to start when trying to determine which bicycle and/or pedestrian facilities should be considered within their jurisdiction.

The first section of this chapter provides information on the most commonly utilized design guideline resources in New York State. Section 7.2 examines general design guidelines for pedestrian facilities (including broad information on the Americans with Disabilities Act), bicyclist facilities, greenways and trails, innovative treatments, traffic calming, and school zones. Section 7.3 describes additional resources that are useful in providing innovative solutions for a variety of bicycle and pedestrian related situations that may affect some local communities.

7.1 Existing Design Guideline Manuals

In New York State, several useful resources already exist for the design of bicycle, pedestrian and trail facilities. The New York State Department of Transportation (NYSDOT) and other agencies have published guidelines that can facilitate local efforts to implement better roads, shared use paths and other facilities for non-motorized travel. However, these resources are not always readily available to citizens and local officials. This document describes the most commonly used signs, pavement markings and design guidelines used in New York State. The communities in the SMTC region can use the tools provided in these guidelines to implement local pedestrian, bicycle and trail improvements.

These guidelines are based primarily on the following reference sources: NYSDOT Highway Design Manual, Manual on Uniform Traffic Control Devices (MUTCD), American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, and the AASHTO Guide for the Development of Pedestrian Facilities (pending publication).

These documents contain the vast majority of the design guidelines necessary for providing safe, accessible, well-designed facilities for pedestrians and bicyclists. In general, the New York State guidelines take precedence over national guidelines, while the national documents tend to include additional content on topics not specifically addressed in the New York State manuals. The SMTC library has each of these documents, which local municipalities may use while at the SMTC. Each document is briefly described on the following pages.

7.1.1 NYSDOT Highway Design Manual (Chapter 18 – Facilities for Pedestrians and Bicyclists)

Chapter 18, Facilities for Pedestrians and Bicyclists, within the NYSDOT Highway Design Manual is the primary source of bicycle and pedestrian design guidance for New York State. This chapter sets forth policy, procedures and guidelines for on and off-road facilities. It includes, on its first page (p. 18-1) the following text:

“Despite the importance of walking and bicycling, many existing streets and highways do not adequately provide for these modes of travel. Therefore, the scoping and Design Approval Documents for projects that are used by pedestrians and bicyclists should identify their needs, the objectives for meeting those needs, the design criteria, and all feasible alternatives. Designers are responsible for assuring project designs provide for safe, convenient and cost effective pedestrian and bicycle travel consistent with the objectives and design criteria developed during project scoping or preliminary design.”

Source: NYSDOT Highway Design Manual, Chapter 18 - Facilities for Pedestrians and Bicyclists, Revision 29, December 17, 1996, pg. 18-1.

The most recent version of Chapter 18 is Revision 29, dated December 17, 1996. Chapter 18 of the NYSDOT Highway Design Manual is available on-line at:

http://www.dot.state.ny.us/cmb/consult/hdmfiles/chapt_18.pdf

7.1.2 Manual on Uniform Traffic Control Devices (MUTCD)

The Manual on Uniform Traffic Control Devices (MUTCD) establishes guidelines and warrants for signage, signals and pavement markings. There is a Federal MUTCD, and New York State has its own manual (NYS MUTCD) with unique features specific to applications within the state. Examples include a hierarchy of local, regional, state and national bicycle route signage, ‘shared roadway’ bike signs, and ‘yield to pedestrians’ devices and signage. According to the Cornell Local Roads Program,

“The NYS MUTCD is found in Volume 17B of the New York Codes, Rules and Regulations. Every municipality should have a copy. Anyone who uses or occupies a highway or road for purposes other than travel and who may affect traffic is required to comply with it. It is in compliance with the federal manual, but differs in some important ways. Failure to comply with it greatly increases the legal liability of municipalities in the event of an accident.”

Source: Cornell Local Roads Program

<http://www.clrp.cornell.edu/flaggingTutorial/Lesson1.htm>

The NYS MUTCD is not available on-line, but can be purchased from West Group (1-800-344-5009 or www.westgroup.com or [NYS MUTCD \(Volume 17B of NYCRR\)](#)).

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7.1.4 AASHTO Guides for Bicycle and Pedestrian Facilities

The American Association of State Highway and Transportation Officials (AASHTO) published a versatile and useful bicycle facility design guide, as well as a companion guide for pedestrian facilities.

AASHTO Guide for the Development of Bicycle Facilities

The most recent version of this bicycle guide is the 3rd Edition, dated 1999. The guide is described by AASHTO as follows:

“The guide is designed to provide information on the development of facilities to enhance and encourage safe bicycle travel. The majority of bicycling will take place on ordinary roads with no dedicated space for bicyclists. Bicyclists can be expected to ride on almost all roadways as well as separated shared use paths and even sidewalks, where permitted to meet special conditions. This guide provides information to help accommodate bicycle traffic in most riding environments. It is not intended to set forth strict standards, but, rather, to present sound guidelines that will be valuable in attaining good design sensitive to the needs of both bicyclists and other highway users.”

Source:

<https://www.transportation.org/publications/bookstore.nsf/ViewPublication?openform&ParentUNID=B727279D15B5225A862569AC006005E8>

AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities

The pedestrian guide was published in late 2004 and is described by AASHTO as follows:

“The purpose of this guide is to provide guidance on the planning, design, and operation of pedestrian facilities along streets and highways. Specifically, the guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way. Appropriate methods for accommodating pedestrians, which vary among roadway and facility types, are described in this guide. The primary audiences for this manual are planners, roadway designers, and transportation engineers, whether at the state or local level, the majority of whom make decisions on a daily basis that affect pedestrians. This guide also recognizes the profound effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.”

Source:

<https://www.transportation.org/publications/bookstore.nsf/ViewPublication?openform&ParentUNID=A2D8FAA3CCED1E0F85256F0A006E35C9>

The AASHTO Guide for the Development of Bicycle Facilities (AASHTO Document #BFG-3) and the AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities (AASHTO Document #GPF-1) are not available online, but can be purchased from the AASHTO bookstore at: <https://www.transportation.org/publications/bookstore.nsf>.

7.2 General Design Guidelines

The pedestrian, bicycle and trail facility examples noted within this chapter are the minimum standards that a community or municipality should work towards achieving when installing facilities. However, there will always be exceptions and innovative solutions to certain issues such as difficult terrain or lack of right-of-way. For example, a 4-foot wide sidewalk may have to be installed in lieu of a more desirable 5-foot wide sidewalk due to a lack of space, but having a 4-foot sidewalk is most likely better than having none at all.

Local conditions in the SMTC region often include rain and snow, low visibility conditions, urban, suburban and rural locations, steep topography and high traffic arterial streets. Consistent application of signage, pavement markings and design guidelines can make these conditions safer for pedestrians, bicyclists and motorists. Paved shoulders (top left photo below) provide a simple improvement for pedestrians and bicyclists under many of these conditions.



The photos above illustrate the varying weather conditions that pedestrians and bicyclists endure in New York State (Photos: J. Olson).

7.2.1 Pedestrian Facilities

Pedestrian facilities include sidewalks, crossings, signals, Americans with Disabilities Act (ADA) compliance, signage, pavement markings and streetscape amenities such as trees, benches and lighting. The Highway Design Manual and MUTCD cover many of these issues, with an emphasis on pedestrian safety features.

Sidewalks

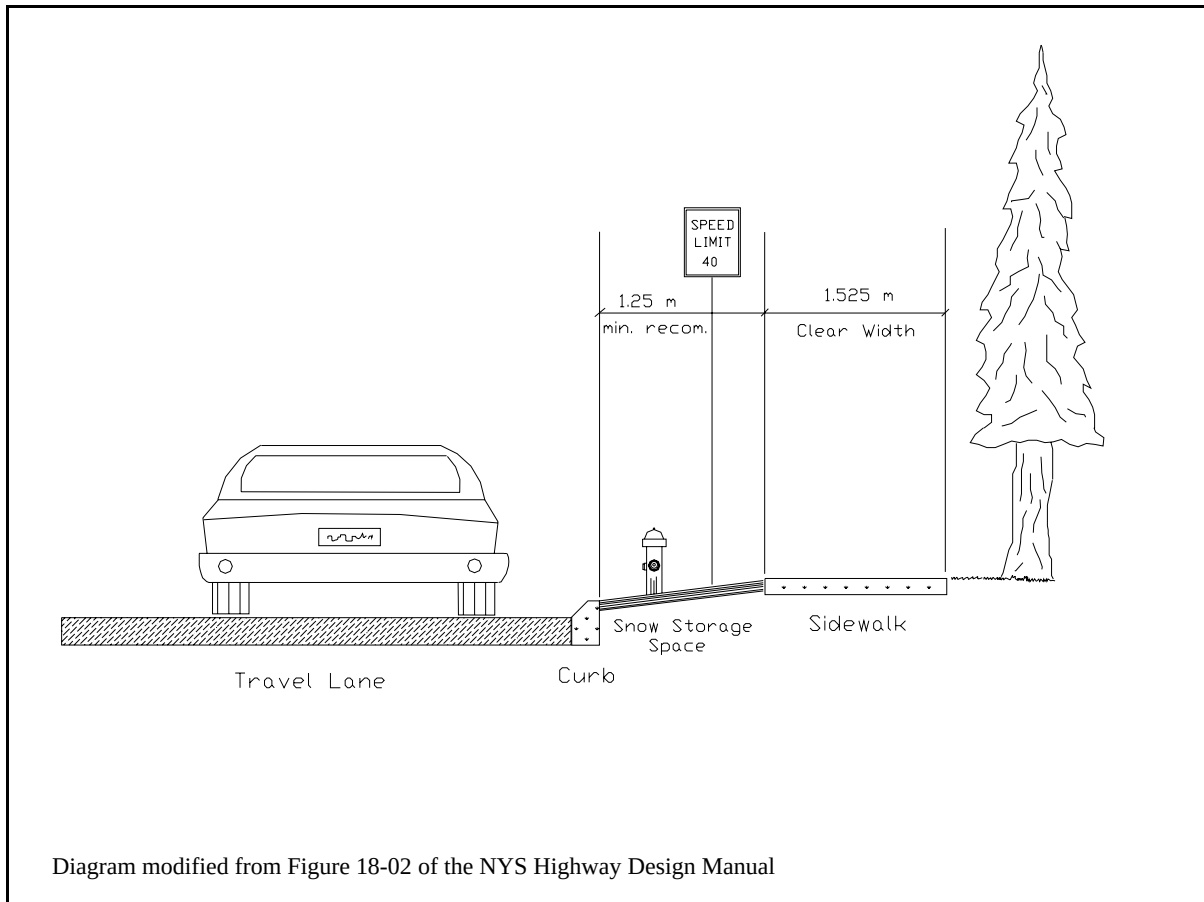
In many cases, sidewalks are the primary facility for pedestrians. Unfortunately, they are often treated as an “option” in many urban and suburban communities. NYSDOT’s Chapter 18 provides the following Guidelines for Installing Sidewalks in Developed Areas. Note that these are general, minimum guidelines for providing pedestrian facilities, and are often exceeded to enhance the built environment.

FACILITIES FOR PEDESTRIANS AND BICYCLISTS			18-13
Table 18-1 Guidelines for Installing Sidewalks in Developed Areas			
Type of Area (land use, roadway functional classification, or density of dwelling units)	Providing Sidewalks on New Urban and Suburban Streets	Providing Sidewalks on Existing Urban and Suburban Streets	
Commercial and industrial and public service areas -- all streets	Developed sides of these streets	Developed sides of these streets	
Residential -- arterials	Developed sides of these streets	Developed sides of these streets	
Residential -- collectors	Developed sides of these streets	For multi-family dwellings – needed on developed sides of these streets. For single-family dwellings – needed on at least one side of these streets.	
Residential -- streets with detached residences closer than 30 m apart	Developed sides of these streets	Desirable on both developed sides but needed on at least one side.	
Residential -- streets with detached residences an average of 30 to 60 m apart	Desirable on both developed sides but needed on at least one side.	Desirable on both developed sides but needed on at least one side.	
Residential -- roadways with residences further than 60 m apart (see note 5. below)	Needed on one side of these roadways, preferably the side where development occurs. See section 18.6.5	Needed on one side of these roadways, preferably the side where development occurs. See section 18.6.5	

Sidewalks are generally 5 feet wide, which is based on the width required for two people to walk side-by-side. While some guidelines allow for narrower sidewalks under some conditions, the illustration from Chapter 18 of the NYS Highway Design Manual on the following page shows the preferred relationship between the sidewalk, street, and buffer zones. Please note that when designing or installing sidewalks that the sidewalks must be consistent with ADA specifications. The Americans with Disabilities Act (ADA) section of this chapter notes resources for ADA-

compliant design. In addition, design guidelines are available from the United States Department of Justice at <http://www.usdoj.gov/crt/ada/stdspdf.htm>.

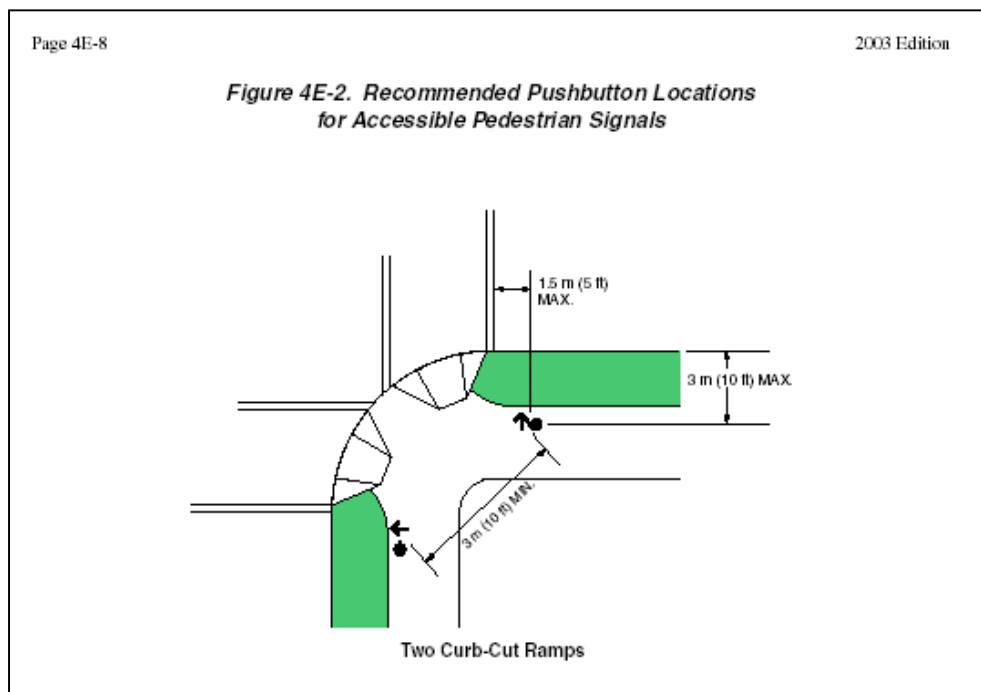
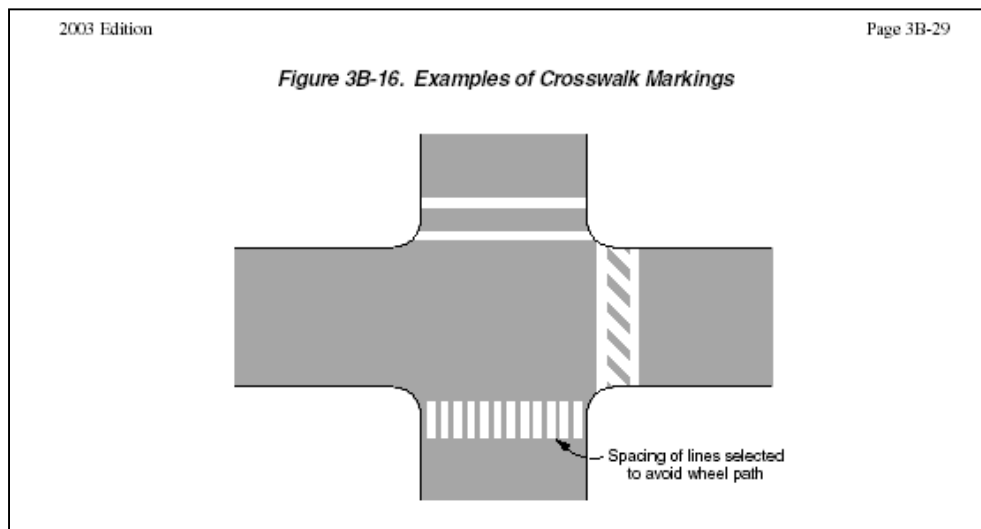
Sidewalk with Offset from Street



Pedestrian Crossings

Safe, attractive and accessible crossings are essential for creating walkable communities. However, good crossings require careful coordination of a variety of factors, including grades, utilities, signals, pavement markings, ADA compliance, drainage, landscape design, sight distances and signage. The following pedestrian sections illustrate the relevant portions of current State and National Guidelines.

The US MUTCD illustrates crosswalk marking types and the placement of pedestrian push buttons at curb ramps, as shown below.



Pedestrian Signs and Signals

Each pedestrian crossing can consist of unique characteristics based on features found in the Highway Design Manual and the MUTCD. Examples include actuated signals (US MUTCD, graphic to the right); yield markings (US MUTCD, graphic below), the standard pedestrian crossing sign and arrow (top left graphic on the next page), and countdown timers (Buffalo photo by J. Olson, top right on the next page).

Figure 4E-1. Typical Pedestrian Signal Indications

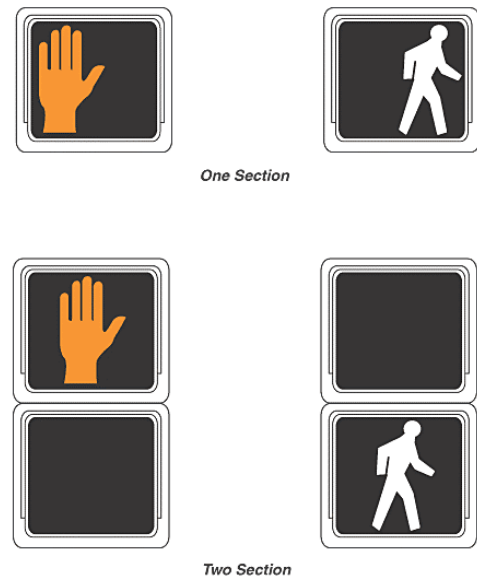
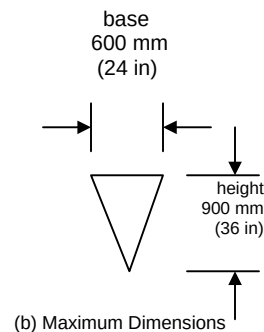
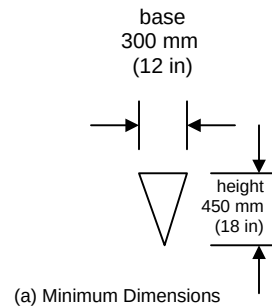
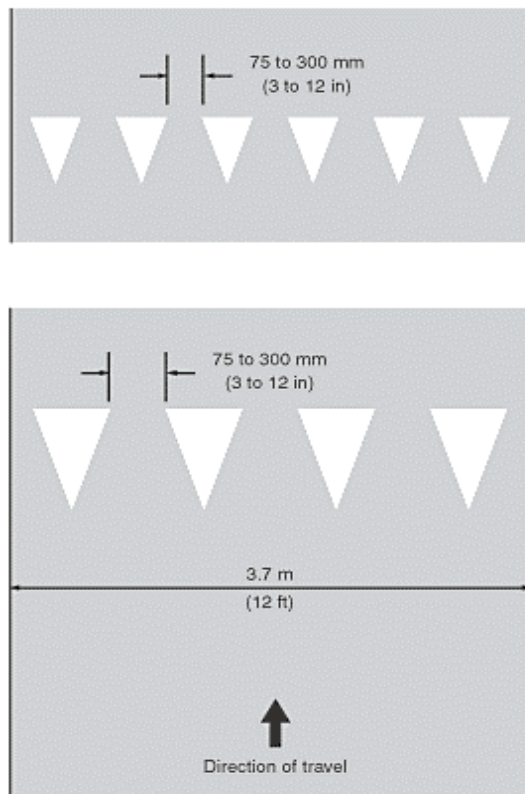


Figure 3B-14. Examples of Yield Line Layouts



Notes:
Triangle height is equal to 1.5 times the base dimension.

Yield lines may be smaller than suggested when installed on much narrower, slow-speed facilities such as shared-use paths.



Each pedestrian crossing can include unique features based on features found in the Highway Design Manual and the MUTCD. Examples include actuated signals and yield markings (shown on the previous page), and the standard pedestrian crossing sign and arrow (top left graphic) and countdown timers (Buffalo photo by J. Olson, top right). Note that pedestrian, bicycle and school zone crossings in strong fluorescent yellow-green provide enhanced visibility.

Yield to Pedestrians Signs

One of the most innovative features found in the New York State MUTCD is the “Yield to Pedestrians” signs and devices. These can be placed at intersections and mid-block crossings under conditions specified in the NYS MUTCD. These signs support the new Yield to Pedestrians section of the NYS Vehicle and traffic law, and have been shown to be an effective way to encourage motorists to yield the right of way to pedestrians in crosswalks (see signs R9-7 and R9-8 at the bottom of this page).

With the passage of a new pedestrian law, as of January 19, 2003, motorists must yield the right of way to a pedestrian who is walking in any part of a crosswalk that is in the same roadway as the motorist. The previous law indicated that motorists had to yield the right of way only when the pedestrian is on the same half of the roadway as the motorist. All of the old signs (“Yield to Pedestrian in Your Half of Crosswalk” – see photo, bottom left) need to be replaced with new signs (“Yield to Pedestrian in Crosswalk” – see photo, bottom right) reflecting the new law.

Old Pedestrian Law



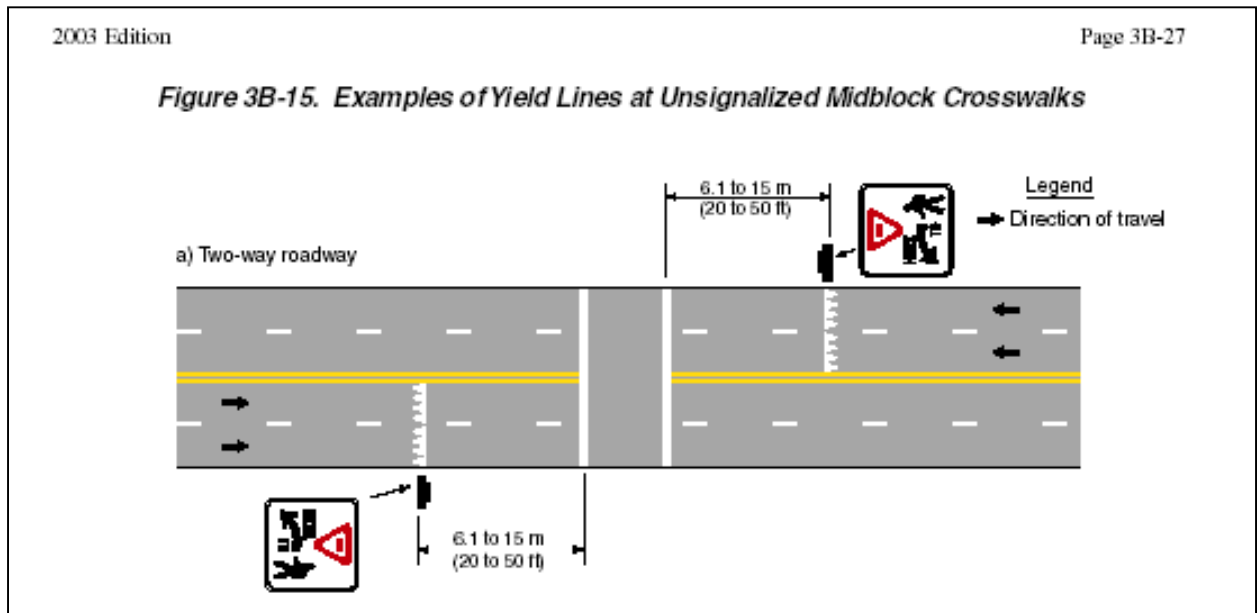
New Pedestrian Law



The signs to the right (R9-7 and R9-8) can be placed at intersections and mid-block crossings under conditions specified in the NYS MUTCD.



Figure 3B-15 from the US MUTCD (below), shows how the Yield to Pedestrian devices noted on the previous page can be combined with the new 'sharks tooth' triangular markings to provide safe mid-block pedestrian crossings.



The Americans with Disabilities Act (ADA)

The design of public infrastructure is required to comply with the Americans with Disabilities Act (ADA) of 1990. The ADA is civil rights legislation, not a just a design guideline or transportation agency regulation. NYSDOT's Highway Design Manual – Chapter 18 addresses ADA related issues, and there is a continually evolving base of information on this topic. Basic concepts included in ADA compliant design include slope, cross slope, signal timing and placement, crossing distances, visibility and auditory information to allow universal access to rights of way for people of all ages and abilities.

An excellent resource for ADA-compliant design is *Designing Sidewalks and Trails for Access*, published by the United States Department of Transportation (USDOT). This document describes the ADA compliance requirements as follows:

“...Under the ADA, services and facilities must be accessible to be nondiscriminatory, and the requirements for new construction and alterations are much more stringent than those for existing facilities. Sidewalks, and trails associated with covered services are subject to the requirements of the ADA...Newly constructed and altered sidewalks and trails should be accessible and useable by people with disabilities. In addition, covered entities are required for developing transition plans and implementing accessibility improvements, where needed, to existing facilities. High priority should be given to the accessibility of sidewalks and trails during planning and site development.”

Source: *Designing Sidewalks and Trails for Access, Best Practices Guide*, U.S. Department of Transportation, Publication No. FHWA-EP-01-027.

The most common ADA improvements are the provision of accessible curb ramps and pedestrian crossings. Excellent guidance on this topic is available from the Pedestrian and Bicycle Information Center, including the following:

“Curb ramps (wheelchair ramps) provide access between the sidewalk and roadway for people using wheelchairs, strollers, walkers, crutches, handcarts, bicycles, and also for pedestrians with mobility impairments who have trouble stepping up and down high curbs. Curb ramps must be installed at all intersections and midblock locations where pedestrian crossings exist, as mandated by federal legislation (1973 Rehabilitation Act). Wheelchair ramps must have a slope of no more than 1:12 (must not exceed 25.4 mm/0.3 m (1 in/ft) or a maximum grade of 8.33 percent), with a maximum side slope of 1:10, and must be designed in accordance with the ADA guidelines.”

Source: www.walkinginfo.org/de/curb1

Streetscape Amenities

There are numerous factors that make a street a great place to walk. Safety features are regulated by the MUTCD and the Highway Design Manual. However, there is another level of design that goes beyond these basic elements and creates a great public place. The placement and design of benches, street trees, lighting, public art, informational signage, architecture, and other factors all are part of good streetscape design. The following photos illustrate examples of the practice of streetscape design:



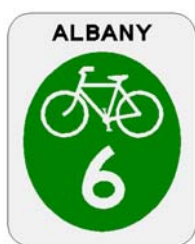
The Rochester ArtWalk (top left photo: J. Booth) shows how custom pavement patterns can create a great place; The famous Walker Evans photo (bottom left) of Saratoga Springs in 1931 shows how street trees, angled parking and architecture can define a Main Street; and the photo taken in Seattle (photo on right: J. Olson) illustrates a high level of detail with bronze street names inset into the curb ramps, and ‘piano key’ crosswalk markings designed to reduce maintenance while improving visibility – note how the gap in the marking pattern is aligned with the space where motorists and bicyclists drive through the pedestrian crossing.

7.2.2 Bicyclist Facilities

Facilities for bicyclists include paved shoulders, signed bike route systems, bike lanes, bicycle parking, signals, signage and crossings. Chapter 18 of the NYSDOT Highway Design Manual, the MUTCD and the AASHTO Guide provide guidelines for providing safe facilities. The core elements of these documents are highlighted in the following sections.

Bicycle Route Signage

For many years, bicycle routes consisted only of generic green signs which said “Bike Route.” These signs often provided very little information, and as a result, New York State has included a hierarchal system of bike facility signage that can be used to identify Local, Regional, State and National bicycle routes. These signs can be supplemented by panels that identify distance and destinations, street crossings, transit connections, and/or other information.



M6-2



M6-3



M6-4

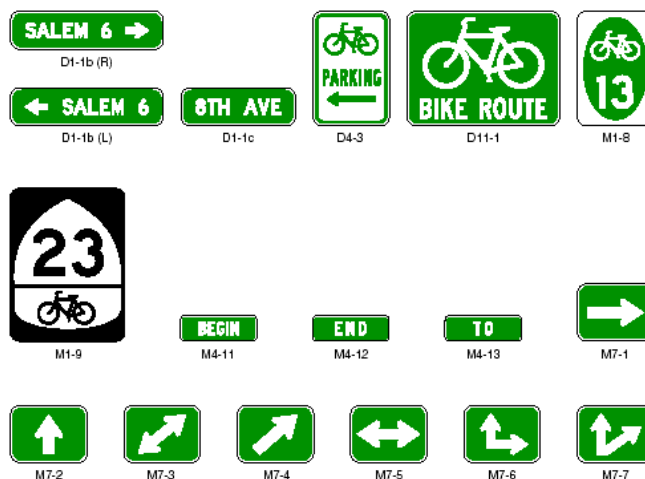


M6-5

Bike Route 5,
Onondaga County

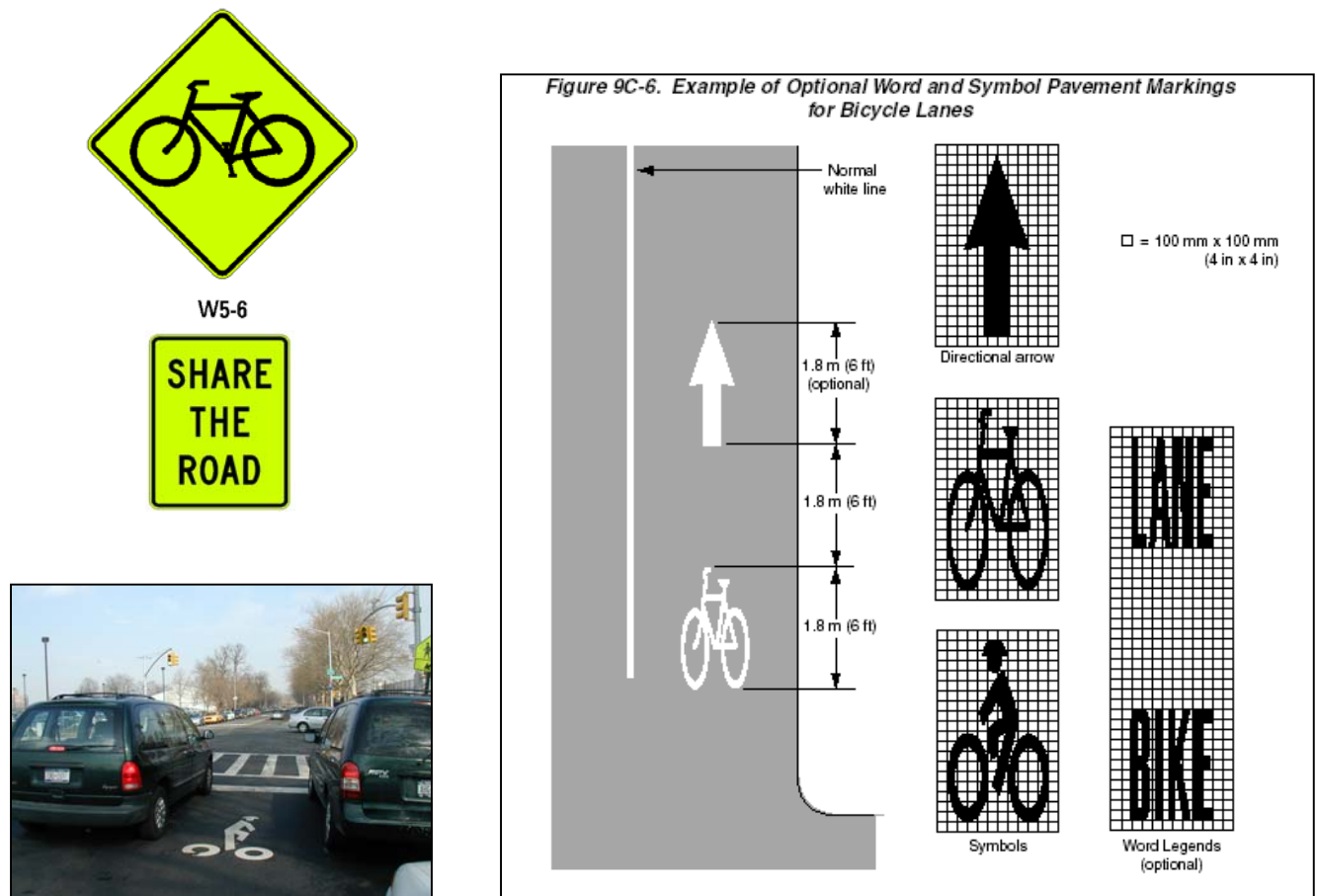


The New York State hierarchy of bicycle route signs includes local (M6-2 small green circle), regional (M6-3 green pentagon), state (M6-4 green oval) and national (M6-5 black inverted shield) route markers. These symbols can be applied in combination with supplemental panels (US MUTCD, right) to create a logical system of routes developed for bicyclists, just as a motorist has signs for local, county, state and interstate highways. Note that the state bike route sign (M6-4) shown above is utilized along State Bike Route 5 (Route 31 in Onondaga County).



On Street Bikeways

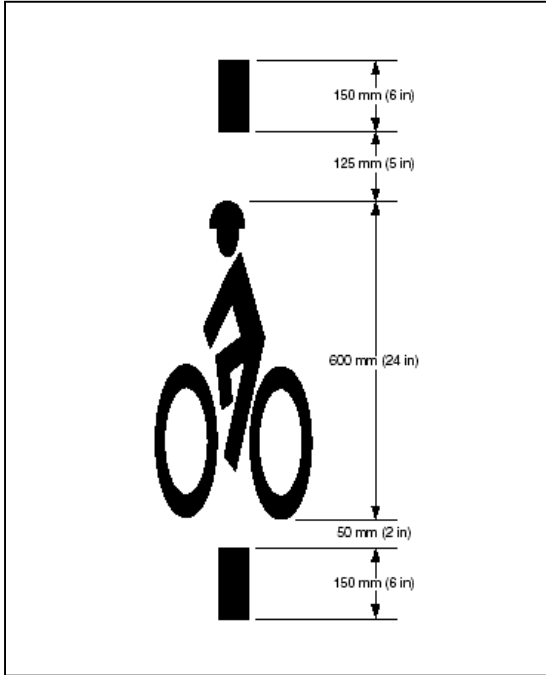
On-street bicycle facilities include a range of shared roadways, paved shoulders, signed routes and bike lanes. The existing design guidelines in New York State allow communities and regions to implement the appropriate features to meet local conditions. Examples of these treatments are illustrated below.



The NYS MUTCD is adopting the “Share the Road” signs as shown in the federal manual (top left). The bicycle symbols can be used in dedicated bike lanes (as shown in the US MUTCD, right), or as pavement markings along bicycle routes (bottom left, Bronx NY, photo: J. Olson) to indicate correct lane position and direction of travel for both motorists and bicyclists.

Note that while NY State and USDOT Guidelines provide good information on typical features, excellent sources are also available on *which* design to choose for a specific roadway based on local conditions. Fortunately, the Pedestrian and Bicycle Information Clearinghouse provides both a *Facility Selection Guide* and a *Bike Lane Design Guide*. These documents are available on line at <http://www.bicyclinginfo.org/de/index.htm>.

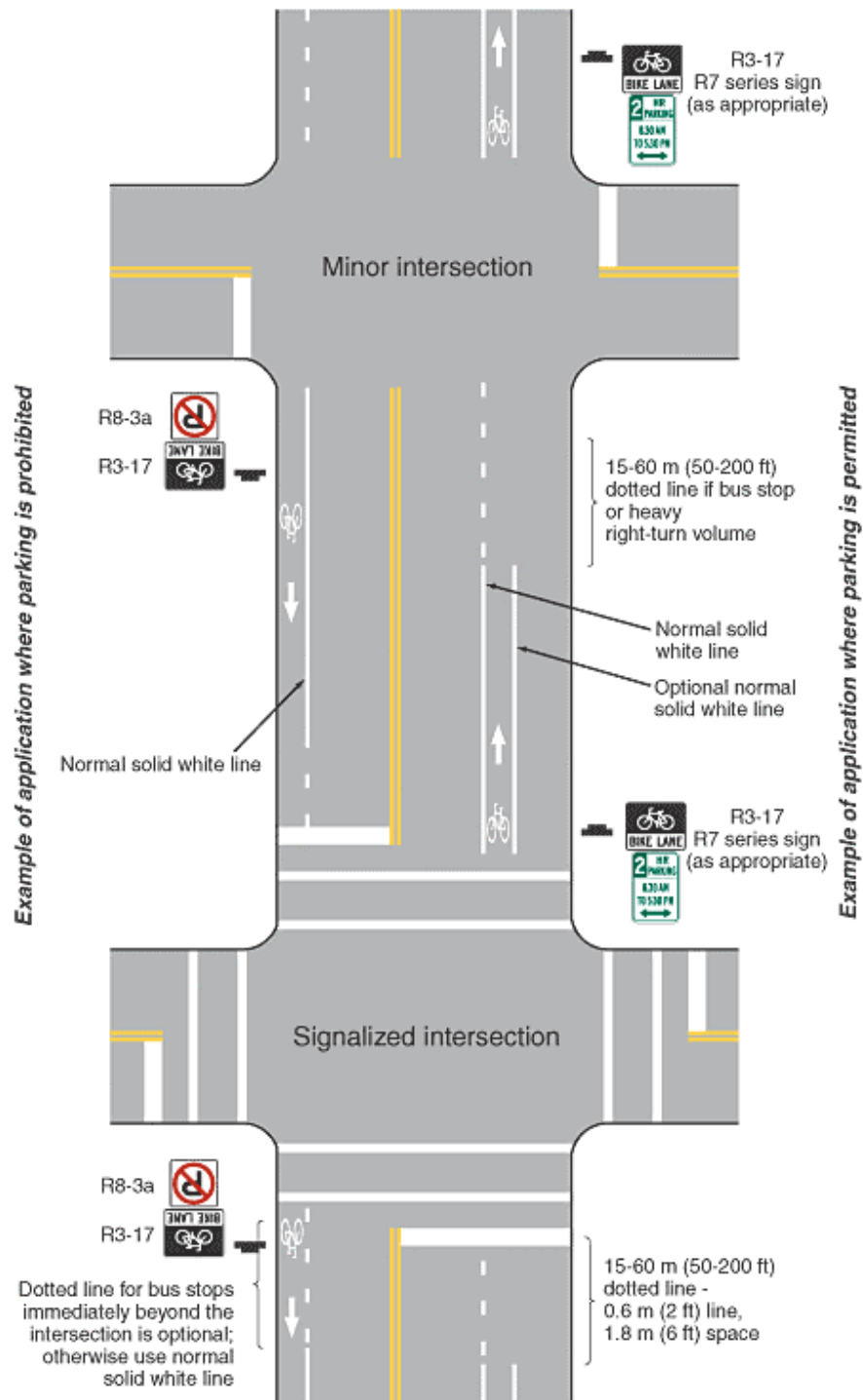
Bicycle Lanes and Signals



The US MUTCD now includes a standard symbol for marking the spot where a bicyclist should stand to activate a traffic signal sensor (US MUTCD figure 9C-7, top right Boulder, CO, photo: J. Olson). At Herald Square in New York City, Dutch – style bicycle signals are provided in the bicycle lanes (bottom right photo: J. Olson). The US MUTCD includes detailed examples of bike lane markings and signage (top left and next page).



Figure 9C-5. Example of Pavement Markings for Bicycle Lanes on a Two-Way Street



Typical Width of Bicycle Facilities

As noted previously, facilities for bicyclists can include a range of on-road facilities, such as shared roadways, paved shoulders, bike routes and bike lanes, as well as off-road facilities. Shared roadways and paved shoulders that are not marked for bicycling are also referred to as Class III facilities. Marked bike lanes and bike routes are also known as Class II facilities, and off-road facilities are also referred to as Class I facilities.

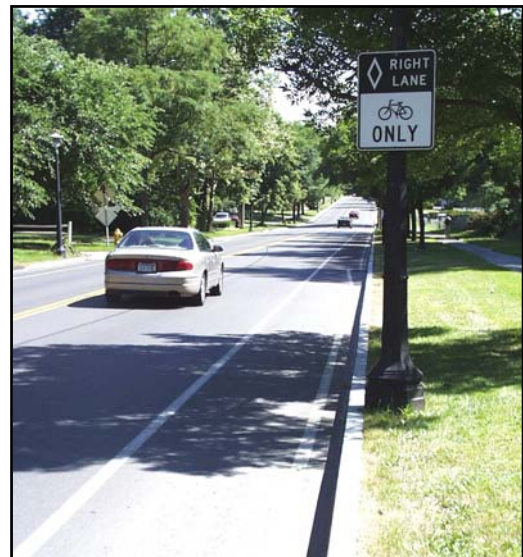
On-Street Facilities

When designing on-street bicycle facilities, it is typically suggested that the width of the facility be no less than 4 feet.

According to the ITE Transportation Planning Handbook, “A few extra feet of paved roadway shoulder can greatly benefit bicycle travel – as little as three feet of smoothly paved shoulder to the right of the edge line can enable the bicyclist to move out of the travel lane, given that this area does not include rumble strips, which make the shoulder impassable for bicyclists. Paved shoulders of four to six feet in width are preferred.”¹⁰⁵ There are several additional benefits to paved shoulders, such as added safety and easier maintenance. For a larger listing of benefits, see *Reasons for Highway Shoulders* and *Benefits of Urban Bike Lanes to Other Road Users* as prepared by Michael Ronkin (located at the end of the Recommendations Appendix). Bike lane widths should also be a minimum of 4 feet, according to the AASHTO *Guide for the Development of Bicycle Facilities*.¹⁰⁶

The City of Syracuse created its first bicycle lanes along both sides of Comstock Avenue between Colvin Street and Stratford Street in the City of Syracuse in Fall 2001 (see photo to the right)

The 4-foot wide bike lanes are designated through a series of pavement markings stating “Bike Only” at various increments along the lanes. In addition, steel posted signs indicating “Bike Lane Starts” and “Bike Lane Ends” exist at both intersections in both directions. See section 3.2 for more details on the Comstock Avenue bike lane.



For more information on on-street bicycle facilities, please go to the Design and Engineering page of the Pedestrian and Bicycling Information Center (www.bicyclinginfo.org) and click on On-Street Facilities.

¹⁰⁵ John D. Edwards (ed.), *ITE Transportation Planning Handbook*, Institute of Transportation Engineers, Washington, D.C., 2d edition, 1999, p. 608.

¹⁰⁶ AASHTO Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, American Association of State Highway and Transportation Officials, Washington, D.C., 1999, p.22.

Off-Road Facilities

When designing off-road facilities (also referred to as shared use paths, trails, bike paths, or Class I facilities) 10 feet or 3 meters is the recommended width for a two-way shared use path on a separate right of way.¹⁰⁷

Although off-road facilities are typically considered to be the most safe for bicyclists and pedestrians (particularly for children and family use), “shared use paths are an addition, and complimentary, to the roadway network: they are not a substitute for providing access to streets and highways. Even the most extensive trail network cannot provide access to all the origins and destinations in a community, and trail users have to be able to get to and from the trail on the regular street network.”¹⁰⁸ The AASHTO Guide for the Development of Bicycle Facilities specifically notes that, “shared use paths should not be used to preclude on-road bicycle facilities but rather to supplement a system of on-road bike lanes, wide outside lanes, paved shoulders and bike routes.”¹⁰⁹

There are several other critical factors concerning trail design, which can be found at www.bicyclinginfo.org (go to the Design and Engineering page and click on Shared Use Paths).

¹⁰⁷ Pedestrian and Bicycle Information Center, *Shared Use Paths (Trails): Design Details*, 12/15/04, <<http://www.bicyclinginfo.org/de/shared.htm>>.

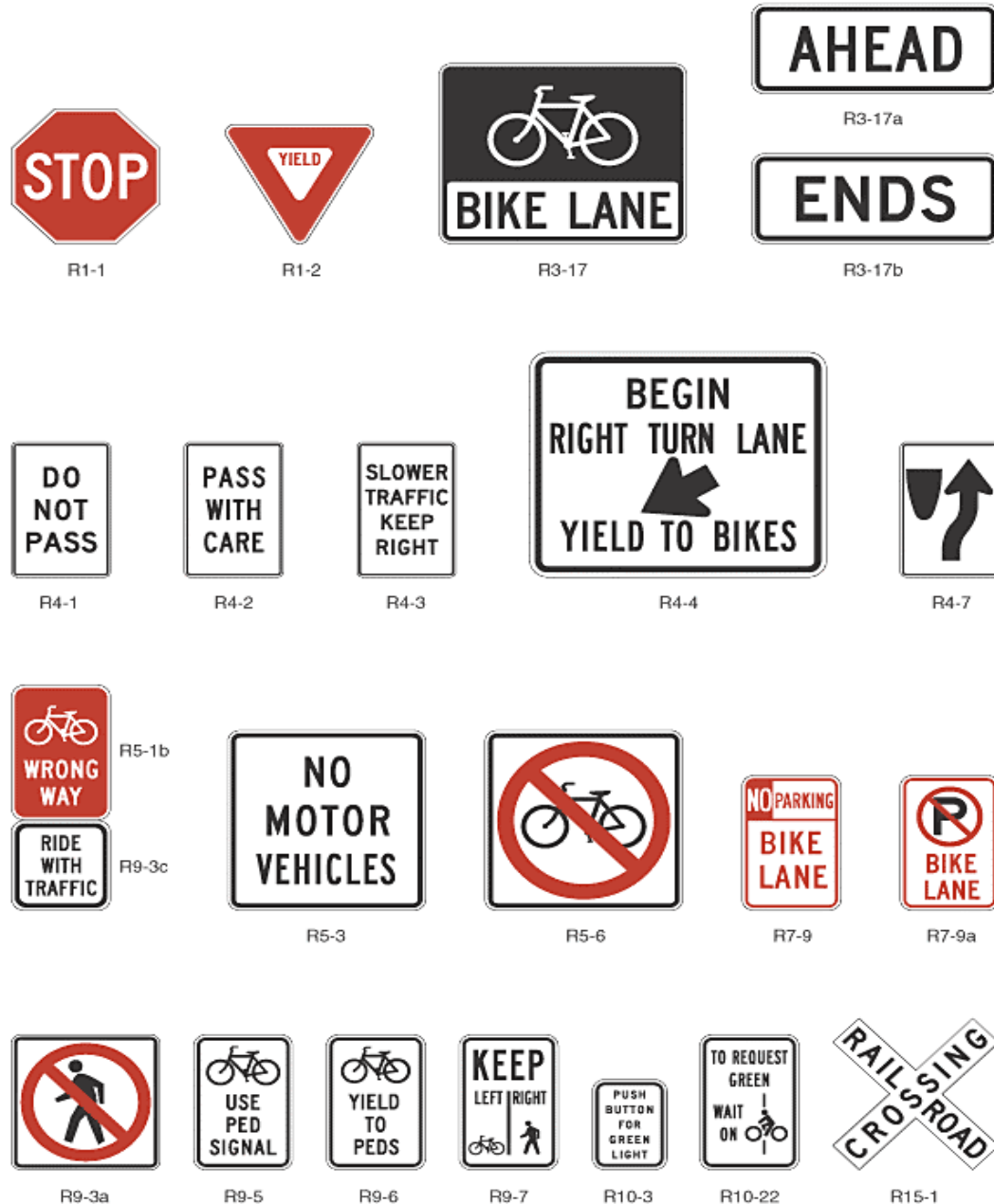
¹⁰⁸ Pedestrian and Bicycle Information Center, *Shared Use Paths (Trails): Introduction*, 12/15/04, <<http://www.bicyclinginfo.org/de/shared.htm>>.

¹⁰⁹ AASHTO Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, American Association of State Highway and Transportation Officials, Washington, D.C., 1999, p.33.

Bicycle Regulatory Signs

Just as there are regulations for motorists, there are regulations for bicyclists and appropriate signage to indicate legal roadway behavior. The following section from Part 9 of the US MUTCD illustrates the range of signage which can be applied to encourage bicyclists and motorists to ride in the proper direction, obey traffic controls and share roads and trails with other users.

Figure 9B-2. Regulatory Signs for Bicycle Facilities



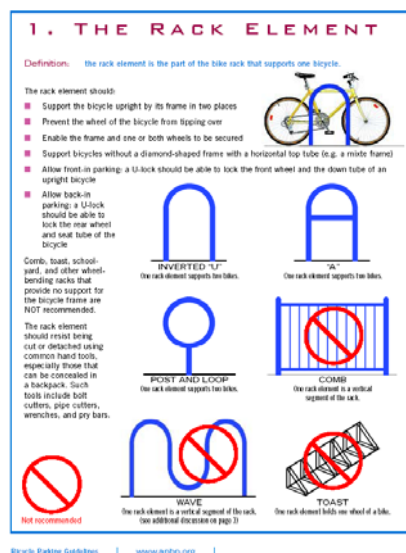
Bicycle Parking and Amenities

Travel by bicycle is similar in many ways to driving a car – you need safe routes to travel on, secure parking at the end of your trip, and amenities to make your trip enjoyable. Like streetscape design, these features are generally not detailed in the Highway Design Manual, MUTCD or AASHTO Guide. Fortunately, there are excellent resources available, and they can be used with creativity to provide excellent solutions.

One of the best resources for bicycle parking guidelines is available on-line from the Association of Pedestrian and Bicycle Professionals (APBP). The Pedestrian and Bicycle Information Center describes the basics of bicycle parking as follows:

“Bicycle parking needs to be visible, accessible, easy to use, convenient, and plentiful. Racks need to support the whole bike (not just one wheel) and enable the user to lock the frame and wheels of the bike with a cable or U-shaped lock. Parking should preferably be covered, well lit, and in plain view without being in the way of pedestrians or motor vehicles.”

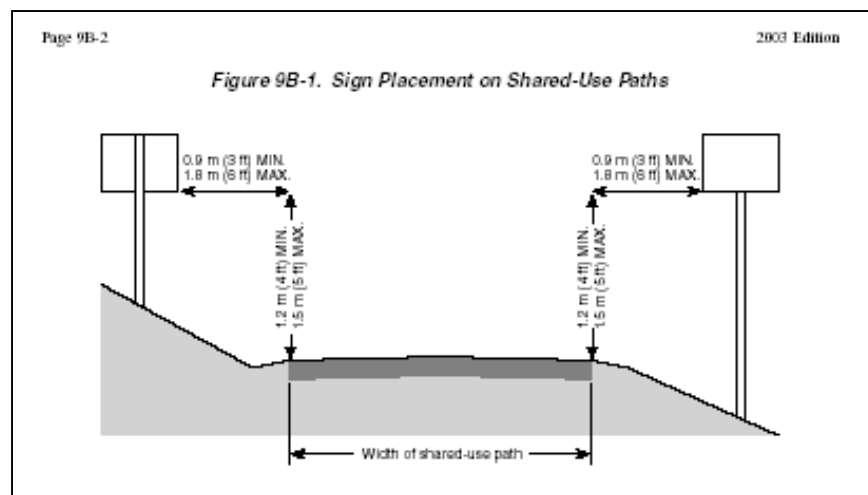
The APBP bicycle parking guidelines are available online at: <http://www.bicyclinginfo.org/de/park.htm>.



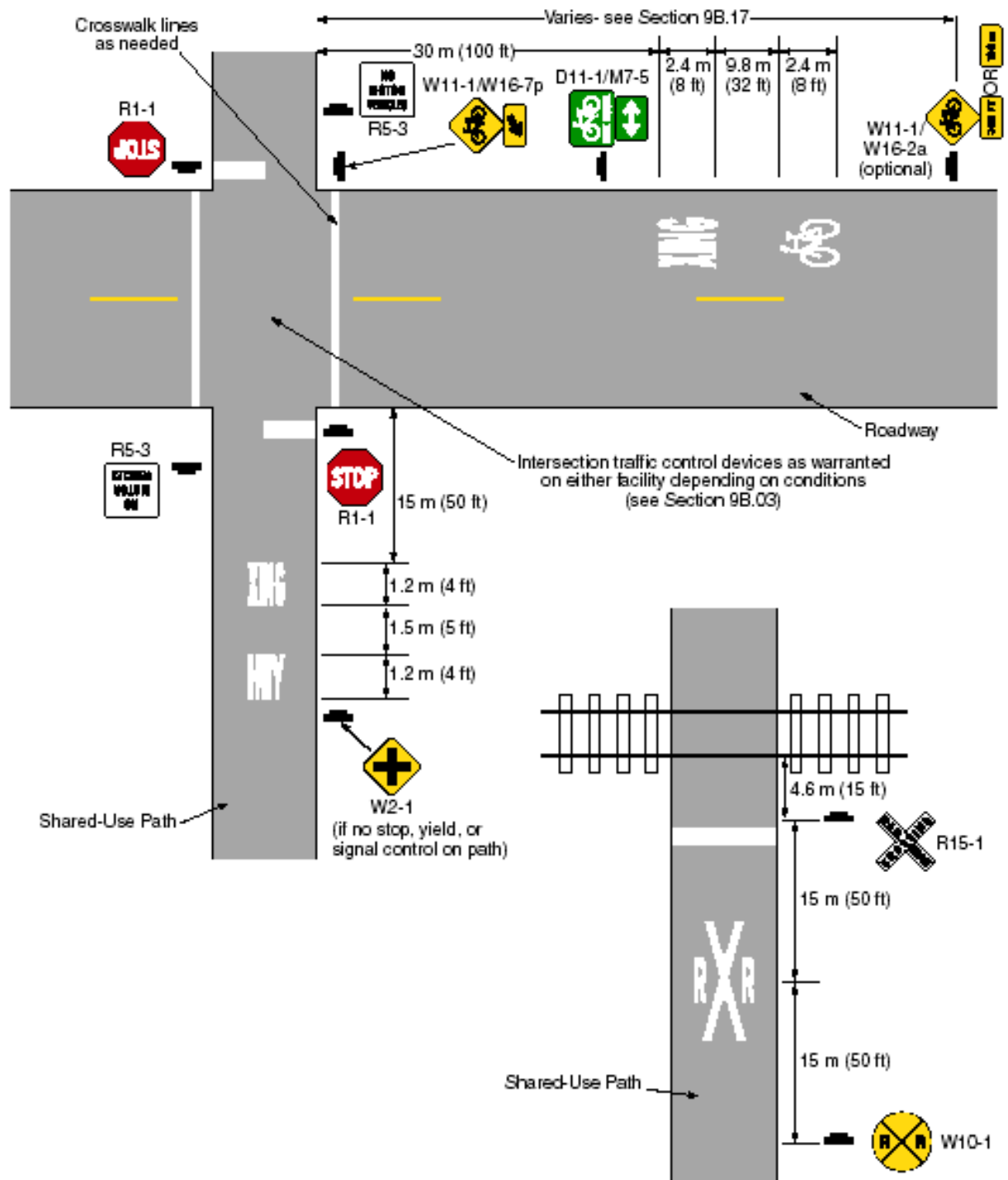
Bicycle parking can be easily customized to provide functional, context sensitive solutions. These examples show how local Syracuse icons can be easily integrated into standard bike racks (APBP Bicycle Parking Guide cover, left; Graphics, right: J. Olson).

7.2.3 Greenways and Trails

The SMTC region's developing greenway and trail system includes the Onondaga Lake Trail, the Onondaga Creekwalk, the Erie Canalway Trail, Bear Trap Creek trail (along a portion of I-81), and others (see the Existing Conditions portions of this document for more detail). Basic guidance for trail width, surfaces, geometric design, safety signage and pavement markings is included in the MUTCD, the AASHTO Guide, and the Highway Design Manual. Creativity and context-sensitive design can be applied to features such as historical interpretation, mile markers, gateways, overlooks, rest stops, benches and other amenities. Valuable resources for these features are available online from Parks and Trails New York at <http://ptny.logical.net/greenways/tools.shtml>.

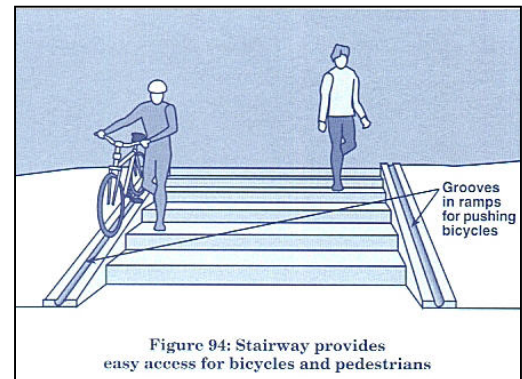
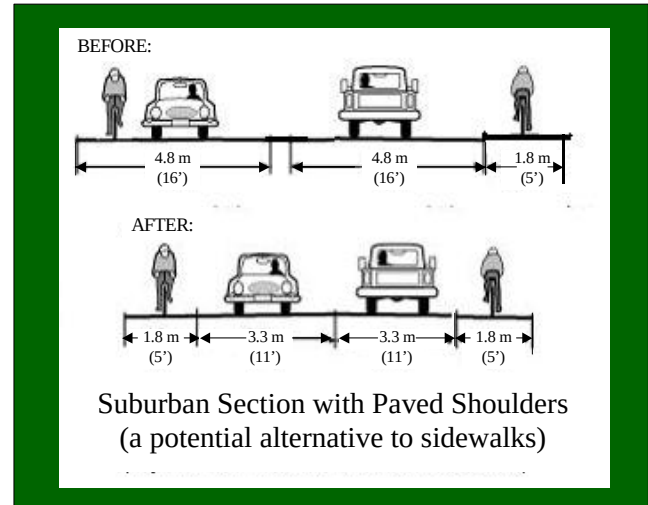


The MUTCD, AASHTO and NYSDOT guidelines can provide trail geometry (top left graphic) and safety signage (graphic, next page). Local conditions can be expressed in the design of trail features and amenities that make each trail a unique experience. Local history and art can be integrated into greenways and trails, as shown along the Erie Canal Trail (bottom left photo: J. Olson.).

Figure 9B-7. Examples of Signing and Markings for Shared-Use Paths

7.2.4 Innovative Treatments

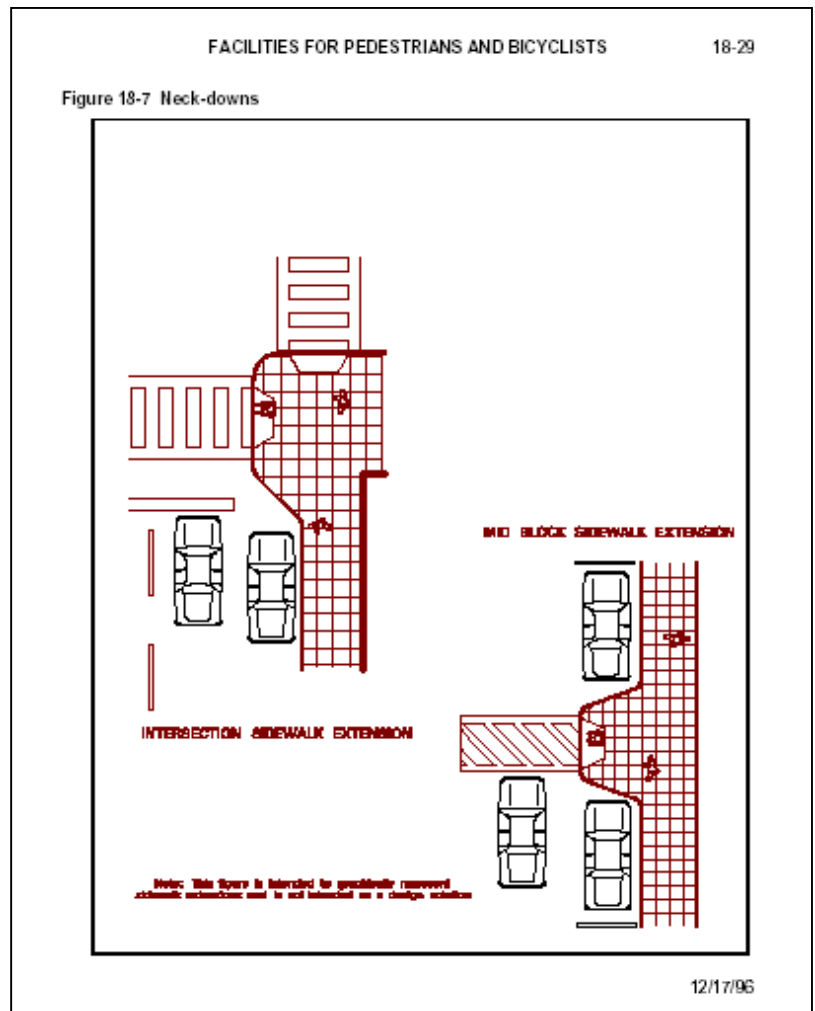
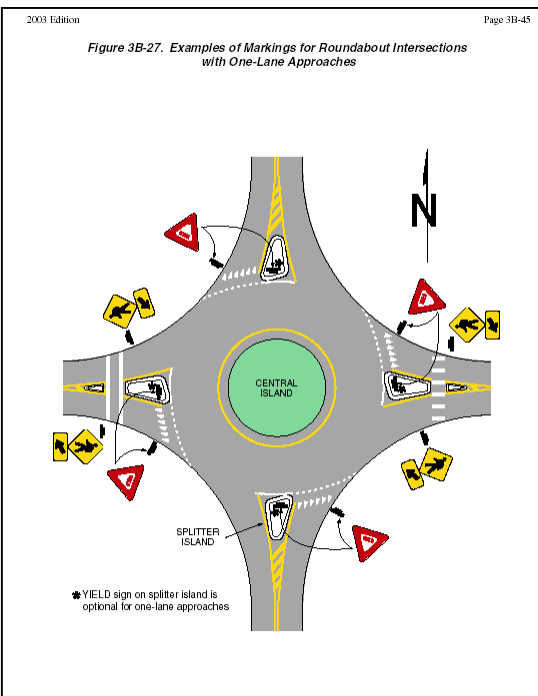
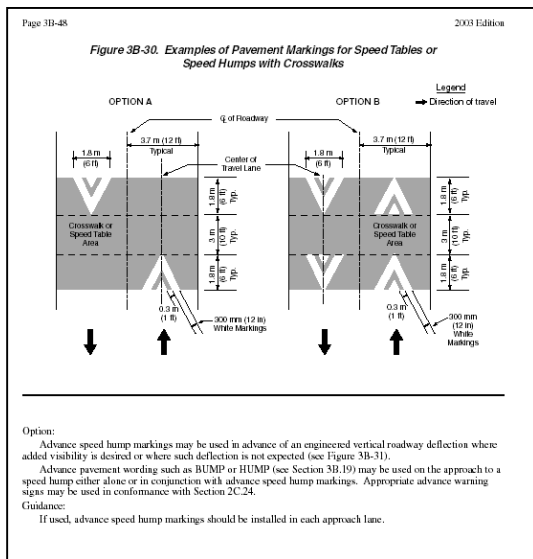
There are a number of ways in which design guidelines can be combined with ‘engineering judgment’ that provide innovative solutions based on existing design guidelines. The guidelines provided by the MUTCD and Highway Design manual are not intended to show every possible condition, and in many cases can be used with flexibility. The following examples show how guidelines can be used as the basis of innovative treatments for pedestrians and bicyclists.



The ‘bicycle box’ advanced stop marking allows cyclists to queue in front of motorists at intersections (bottom left - Cambridge, England, photo: J. Olson); Paved shoulders are a good solution for pedestrians and bicyclists in rural and suburban areas (top right graphic: J. Olson); ‘Adopt a Highway’ programs can be used for bicycle routes, as shown along Bike Route 17 near Binghamton, NY (top left photo: L. Rossi) and ‘Dutch Stairways’ can be provided to accommodate bicyclists and pedestrians (bottom right graphic: Oregon DOT Bicycle and Pedestrian Plan).

7.2.5 Traffic Calming

Traffic calming provides street designs that balance the needs of pedestrians, bicyclists and motorists. The MUTCD and NYS Highway Design Manuals have both been updated recently to include a variety of traffic calming features including speed humps, raised crossings, roundabouts, curb neckdowns and other devices. The NYSDOT Highway Design Manual includes a new Chapter 25: Traffic Calming, which provides guidelines on selecting traffic calming features for use on state and local roads. The facility selection tables are provided on the following page. Examples of traffic calming features that are included in the manuals are shown below.



Speed tables (top left) and Roundabouts (bottom left) are illustrated in the US MUTCD; curb neckdowns for both intersection and midblock conditions (right) are detailed in NYSDOT Chapter 18.

TRAFFIC CALMING

25-15

Table 25-1 Suitability of Traffic Calming Features for Speed Categories (continued)

Table 25-1 Suitability of Traffic Calming Features for Speed Categories (continued)							
TRAFFIC CALMING FEATURES	CATEGORY I (NEIGHBORHOOD) (25-39 km/h)	CATEGORY II (40-59 km/h)		CATEGORY III (60-79 km/h)	CATEGORY IV (≥ 80 km/h)	SPEED REDUCTION ¹	VOLUME REDUCTION ¹
		LOCAL ² STREETS OR ROADS	ALL OTHER STREETS OR ROADS				
CONSTRICTIONS							
Neckdowns, Chokers ⁵	SUITABLE	NOT RECOMMENDED	NOT PERMITTED		SLIGHT	NO	
1-Way Entry/Exit Choker, Half Closure, Semi-Diverter					YES	YES	
Curb Extensions at Intersections					SUITABLE*		SLIGHT
Pedestrian Refuge/Midblock Islands		SUITABLE					
Driveway Link	SUITABLE	NOT PERMITTED				YES	YES
Single Lane Slow Point							
Single Lane Angled Slow Point							
Two-Lane Slow Point		NOT RECOMMENDED					
Two-Lane Angled Slow Point							
NARROW PAVEMENT WIDTHS							
Pavement Narrowing	SUITABLE		NOT RECOMMENDED	NOT PERMITTED		POSSIBLE	POSSIBLE
ENTRANCE FEATURES							
Gateways	SUITABLE				NOT PERMITTED	YES	YES

¹ Suitable only with upstream parking.

See General Notes and Endnotes following this table.

TRAFFIC CALMING

25-16

Table 25-1 Suitability of Traffic Calming Features for Speed Categories (continued)

Table 23-1 Suitability of Traffic Calming Features for Speed Categories (Continued)							
TRAFFIC CALMING FEATURES	CATEGORY I (NEIGHBORHOOD) (25-39 km/h)	CATEGORY II (40-59 km/h)		CATEGORY III (60-79 km/h)	CATEGORY IV (≥ 80 km/h)	SPEED REDUCTION ¹	VOLUME REDUCTION ¹
		LOCAL ² STREETS OR ROADS	ALL OTHER STREETS OR ROADS				
RELATED STREETSCAPING							
Color Contrast or Patterns/Markings	SUITABLE					POSSIBLE	NOT LIKELY
Landscape Development							NO
Sidewalks, Shoulders						NO INFORMATION	
Street Furniture and Lighting						POSSIBLE	NOT LIKELY
Surface Textures							
Shared Zones	NOT RECOMMENDED		NOT PERMITTED				
UNCATEGORIZED MEASURES							
Supplementary Pedestrian Crossing Channelization Devices ⁶	SUITABLE	SUITABLE (40-49km/h) NOT PERMITTED (50-59km/h)		NOT PERMITTED		NO INFORMATION	
Back-In Diagonal Parking ⁷		NOT RECOMMENDED					
Reduced Intersection Radii							
Single-Lane Roundabouts				..	..	YES	NOT LIKELY
Multiple-Lane Roundabouts	..	..	..	..	NO INFORMATION		

¹ Any proposal for a roundabout should be developed on a case-by-case basis with input from the Design Quality Assurance Bureau.

See General Notes and Endnotes following this table.

7.2.6 School Zones

Children are dependent on walking and bicycling as their only independent means of transportation. There is a growing movement to create ‘Safe Routes to Schools’ so that the areas around our schools are safe places to walk and bicycle (see Action Item P6 in Appendix A for more details on the Safe Route to Schools program). Bicycle, pedestrian and traffic calming improvements are part of the solution. The MUTCD *Part 7: Traffic Controls for School Areas*, provides a wide range of school zone safety signs and pavement markings, as illustrated below.

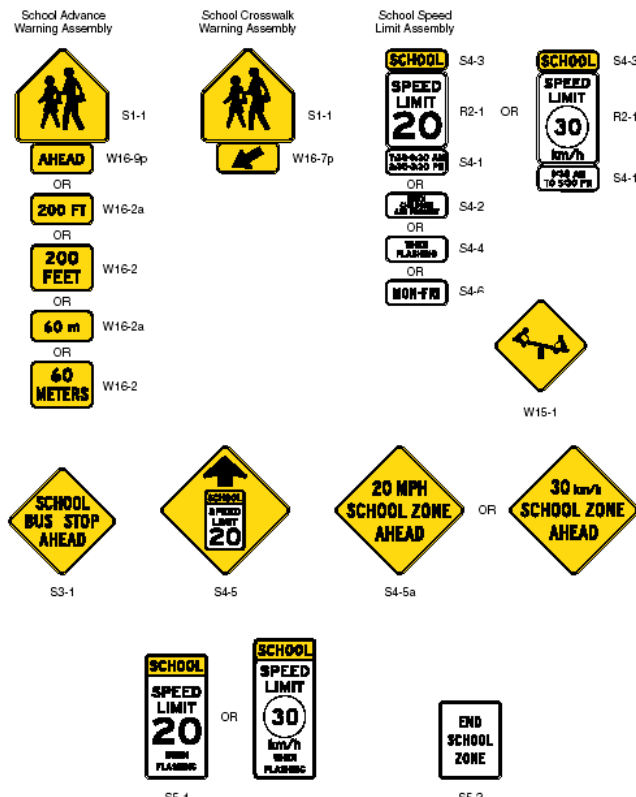
Part 7 Traffic Controls for School Areas



Figure 7C-1. Two-Lane Pavement Marking of “SCHOOL”



Figure 7B-1. School Area Signs



7.3 Additional Resources

The primary documents referred to in this document are the basic guidelines for developing bicycle and pedestrian improvements in the SMTC region. There are a growing number of innovative design guidelines that go beyond the basic information included in State and Federal manuals. In many cases, these following documents and resources are useful in providing innovative solutions for local communities.

NYBC The New York Bicycling Coalition (NYBC) provides an online guide called “*Improving Bicycling & Pedestrian Safety in New York State.*” This resource provides case studies, photo files and tools for creating bicycle-friendly communities. The NYBC also offers several pedestrian related planning tools.

Website: www.nybc.net

PTNY Parks & Trails New York (PTNY) is a great resource for developing Greenways and Trails. Their website includes an online guide for local communities, as well as a variety of tools for getting greenways on the ground in New York State.

Website: www.ptny.net

Pedestrian and Bicycle Information Center

<http://www.bicyclinginfo.org> Design and Engineering

“Designers and engineers have a diverse array of design elements and ever-developing technologies at their disposal. Use this section of the web site as a source for information on the design and engineering tools that promote bikeability.” Excellent bicycle lane and bicycle parking design guidelines are available from this source.

<http://www.walkinginfo.org> Design and Engineering

This site provides “...engineering treatments for pedestrians as they relate to pedestrian facility design, roadway design, intersection design, traffic calming, traffic management and signals and signs.”

The Oregon Bicycle and Pedestrian Plan

“This document is the planning and design manual for pedestrian and bicycle transportation in Oregon. It is published by the Oregon Bicycle and Pedestrian Program and was adopted by the Oregon Transportation Commission on June 14, 1995. The standards and designs shown in the plan are ODOT standards used on State Highway projects. These standards meet or exceed national standards as outlined in AASHTO (American Association of State Highway Transportation Officials) documents, the ADAAG (Americans with Disabilities Act Accessibility Guidelines) and other documents. These standards are recommended but not required for use by local jurisdictions in Oregon.”

Website: <http://www.odot.state.or.us/techserv/bikewalk/obpplan.htm>