

South Side Transportation Study

Final Report

October 1999



South Side Transportation Study

Final Report

October 1999

SMTC Unified Planning Work Program Task 13.02

Financial assistance for the preparation of this document was provided, in part, by the U.S. Department of Transportation's Federal Highway and Federal Transit Administrations and the New York State Department of Transportation. The Syracuse Metropolitan Transportation Council (SMTC) is solely responsible for its content.

For further information contact:

*Vicky Hilleges, Senior Transportation Planner (or)
Wayne Westervelt, Communications/Public Information Specialist
Syracuse Metropolitan Transportation Council
126 N. Salina Street, 100 Clinton Square, Suite 100
Syracuse, NY 13202; (315) 422-5716*

South Side Transportation Study
TABLE OF CONTENTS

Page No.

CHAPTER 1 - INTRODUCTION 1

1.1 Study Process and Public Involvement Plan 1

1.2 Study Background / Goals and Objectives 2

 Vision Statement 2

 Goals 2

 Objectives 3

 Study Area Boundaries 3

CHAPTER 2 - TRANSPORTATION NETWORK 5

2.1 Roadways 5

 Truck Routes 5

2.2 Transit 5

 ReMap 7

2.3 Rail 11

 Passenger 11

 Freight 11

2.4 Bicycle/Pedestrian Facilities 11

 Bicycle Routes 11

 Sidewalks 11

 Recreational Trails 14

CHAPTER 3 - INFRASTRUCTURE CONDITIONS 16

3.1 Bridges 16

3.2 Pavement 18

 State 18

 City 18

3.3 Sidewalks 21

3.4 Infrastructure Improvements 21

CHAPTER 4 - DEMOGRAPHICS AND LAND USE 26

4.1 Demographics 26

4.2 Land Use 32

CHAPTER 5 - TRAFFIC DATA 35

5.1 Traffic Data 35

 PM Peak Hour and AADT Volumes 35

 Areas of Concern 35

 Additional Studies 42

 Origins and Destinations 42

CHAPTER 6 - TRANSPORTATION SURVEYS 44

6.1 SMTC Public Transportation Survey 44
 6.2 Resident Survey 45
 6.3 Summary 46

CHAPTER 7 - TRANSPORTATION AND MOBILITY ISSUES 47

7.1 Introduction..... 47
 7.2 Mobility 48
 Transit 48
 Passenger Rail 49
 City of Syracuse School District Busing..... 50
 7.3 Facilities 51
 Pavement 51
 Sidewalks 52
 Recreational Trails..... 53
 7.4 Traffic and Safety 53
 Truck Route Designations 53
 High Accident Locations 54
 Commuter Traffic..... 56
 Areas of Concern..... 56

CHAPTER 8 – DESCRIPTION AND EVALUATION OF ALTERNATIVES 62

8.1 Introduction..... 62
 8.2 Mobility 62
 Alternative #1 - Shopper & Special Event Shuttles..... 62
 Alternative #2 - Job Access and Reverse Commute Initiatives..... 63
 Alternative #3 - OnTrack Marketing, Signage & Passenger Amenities..... 63
 Alternative #4 - City of Syracuse School District Transportation Committee 64
 8.3 Facilities 64
 Alternative #5 - South Salina Street Corridor Study..... 65
 Alternative #6 - Sidewalk Inventory & Community Education 65
 Alternative #7 - Creekwalk..... 66
 8.4 Traffic and Safety 66
 Alternative #8 - City of Syracuse Truck Route Study..... 66
 Alternative #9 - Traffic Calming 66
 Alternative #10 - Pavement Striping 67

CHAPTER 9 - RECOMMENDATIONS AND IMPLEMENTATION PLAN..... 68

9.1 Introduction..... 68
 9.2 Recommendations and Implementation Plan 68
 9.3 Conclusion..... 70

LIST OF TABLES

Table 2-1 Centro Routes 8
 Table 2-2 Centro Ridership 10
 Table 3-1 Vehicular Bridges over Onondaga Creek..... 16
 Table 3-2 Pedestrian Bridges..... 16

Table 3-3	1998/1999 City Street Reconstruction Projects.....	24
Table 4-1	Mode of Transportation to Work.....	32
Table 7-1	Street Segment Accident Rates	54
Table 7-2	Intersection Accident Rates.....	54
Table 7-3	Pedestrian Accidents	55
Table 9-1	Funded Projects	68

LIST OF FIGURES

Figure 1-1	Study Area Map.....	4
Figure 2-1	Functional Classification of Roads	6
Figure 2-2	Centro Routes	9
Figure 2-3	Railroad.....	12
Figure 2-4	Sidewalks	13
Figure 2-5	Recreational Trails	15
Figure 3-1	Bridge Locations and Condition Ratings	17
Figure 3-2	1998 NYSDOT Pavement Conditions	19
Figure 3-3	City Pavement Conditions	20
Figure 3-4	Sidewalk Conditions	22
Figure 3-5	Infrastructure Improvements.....	23
Figure 4-1	Population Density Per Square Mile.....	27
Figure 4-2	Median Household Income by Total Workers in Household.....	28
Figure 4-3	Total Households	29
Figure 4-4	Aggregate Vehicles	30
Figure 4-5	Mobility Limitations	31
Figure 4-6	Employment by TAZ.....	33
Figure 4-7	Land Use	34
Figure 5-1	1997 Seasonally Factored AADT	36
Figure 5-2	1997 PM Peak Hour Volumes	37
Figure 5-3	Traffic Accident Locations	39
Figure 5-4	Trip Density	43

APPENDICES

APPENDIX A.....	Public Involvement Plan
APPENDIX B.....	Block and Resident Survey Summary
APPENDIX C	Road Map
APPENDIX D	Public Transportation Survey Summary
APPENDIX E.....	Accident Rate Calculations
APPENDIX F.....	Correspondence

CHAPTER 1 - INTRODUCTION

1.1 Study Process and Public Involvement Plan

This study was undertaken to identify the major transportation needs of the residents of the South Side of Syracuse, New York. The study was completed in three phases with a technical memorandum prepared to document each phase. This report is a compilation of the three technical memorandums and addresses comments received throughout the study.

A Study Advisory Committee (SAC) was formed to provide guidance and review the progress of this study. The SAC consisted of representatives from the following agencies (see Appendix A for a member listing).

- City Community Development
- Syracuse Onondaga County Planning Agency (SOCPA)
- Syracuse Department of Public Works (DPW)
- New York State Department of Transportation (NYSDOT)
- Central New York Regional Transportation Authority
- City Department of Aviation
- City Planning
- Communities United to Rebuild Neighborhoods (CURN)
- Syracuse United Neighbors (SUN)
- Fair Housing Council of Central New York

In addition to the SAC, a list of interested stakeholders was compiled. These individuals were invited to participate in the planning process, but did not have a vote in the final decisions made by the SAC. The following organizations were represented (see Appendix A for a member listing):

- Living Waters Church of Living Christ
- Ministerial Alliance
- Loretto
- Onondaga County Legislature, 22nd and 23rd districts
- Syracuse Common Council
- Mayor, City of Syracuse
- Syracuse Housing Authority
- ARISE, Inc.
- South Side News Stand
- PEACE, Inc.
- Syracuse City School District
- Atlantic States Legal Foundation, Inc.
- Brighton Family Center
- Urban League
- Southwest Community Center
- Center for Community Alternatives (CCA)
- Community Representatives

This project included three public workshops. Public Workshop #1 was held prior to the completion of Technical Memorandum #1 in an effort to give citizens the opportunity to identify transportation issues. Public Workshop #2 was held after the completion of Technical

Memorandum #1 to give citizens the opportunity to comment on the existing conditions report and to provide input on transportation issues that were identified. The third Public Workshop was held following the completion of Technical Memorandum #3. The recommendations were presented and citizens had the opportunity to provide comments. A copy of the complete Public Involvement Plan is included in Appendix A.

1.2 Study Background / Goals and Objectives

The South Side Transportation Study is a multi-modal study of the transportation needs of the South Side of the City of Syracuse and the neighboring urban area. The South Side of the City has long been recognized as a socioeconomically diverse environment, with a mix of residential, business, recreational and educational uses. It was suggested by community leaders and recognized in the SMTC's recertification review process that attention to the transportation needs of this part of the community is needed.

Vision Statement

The Transportation Equity Act for the 21st Century (TEA 21) affirms the nation's priorities to build a strong America: improve safety, protect public health and the environment, and create opportunity for all Americans. "The transportation act is about more than concrete, asphalt, and steel; it is about people, and about providing them with the opportunity to lead more fulfilling lives."

In the spirit of TEA 21, and with the intention of taking advantage of available funding, the South Side Transportation Study was undertaken to identify the major transportation needs of the residents in this area. The study addresses infrastructure needs in terms of pavement and bridges and safety deficiencies of the transportation network. It also includes an assessment of the residents' ability to reach desired destinations to meet educational, employment, medical, social and recreational needs. A primary goal was to develop projects to ensure that the South Side is connected to the regional transportation system.

Goals

To give the study direction, the following goals were identified:

Mobility

- Recommend alternatives that improve mobility and ensure that the South Side is adequately served by the regional transportation system.

Traffic & Safety

- Recommend alternatives that enhance the safety of the people using the transportation system.

Facilities

- Recommend projects that will provide safe, clean, well maintained and efficient transportation infrastructure including attention to neighborhood beautification; and
- Recommend projects that will encourage the expanded use of bicycle and pedestrian traffic.

Objectives

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

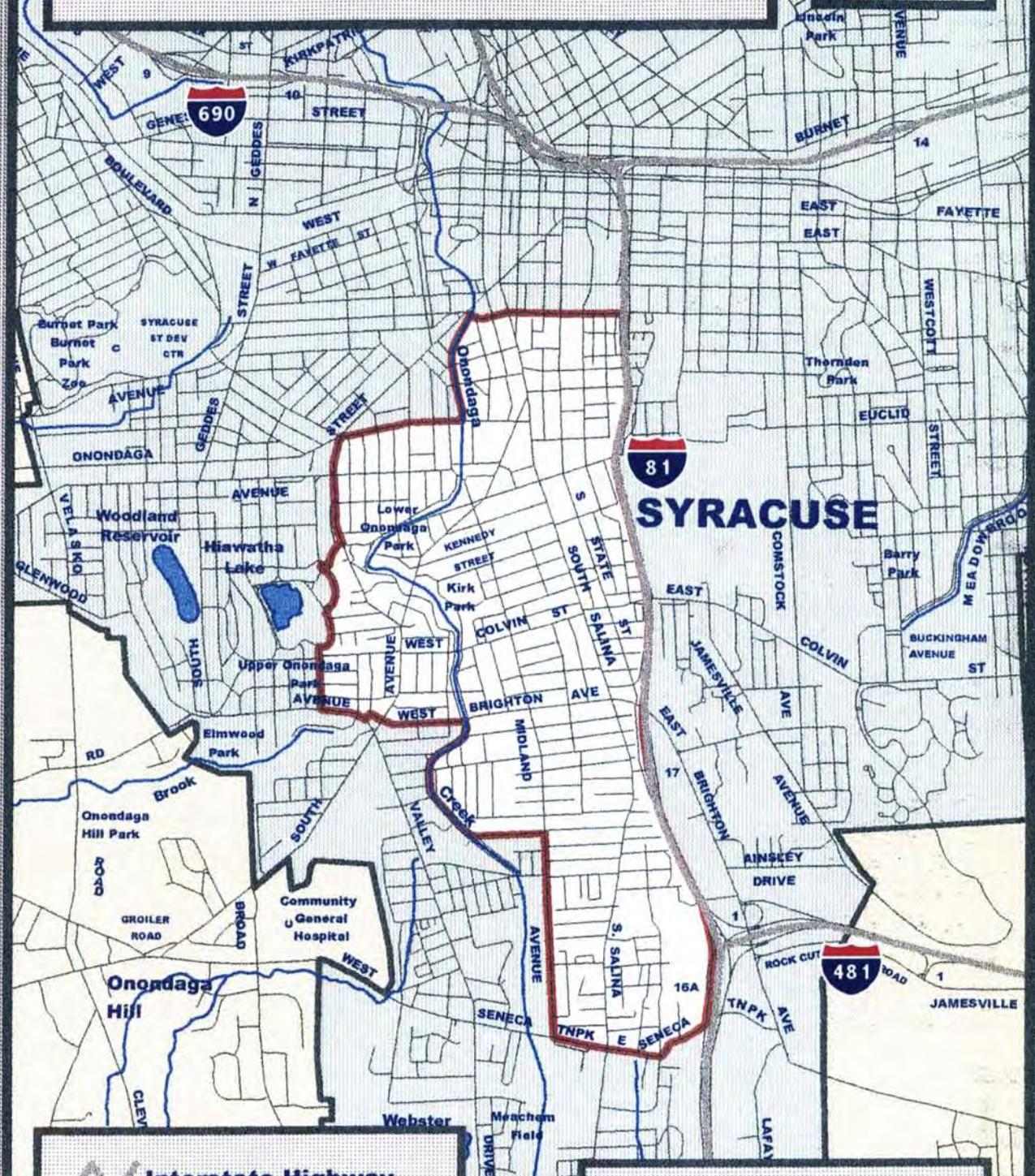
- Create an effective public involvement forum to give involved agencies and the public the opportunity to take part in the planning process;
- Develop criteria to measure and compare alternative solutions;
- Complete an infrastructure condition analysis;
- Identify major destinations and evaluate the ability of individuals to reach those destinations;
- Identify road segments and intersections that require a site specific analysis and complete the analysis;
- Develop and evaluate alternatives to improve mobility, traffic and safety, and infrastructure; and
- Complete the study in order to take advantage of available funding.

Study Area Boundaries

The study area, shown in Figure 1-1, is bounded by Adams Street on the north, Interstate 81 on the east, Seneca Turnpike (SR 173) to the south, and Midland Avenue, Onondaga Creek, Hiawatha Lake, and Onondaga Avenue to the west. The study area was defined by reviewing existing predefined boundaries such as county legislative districts, Tomorrow's Neighborhoods Today (TNT) sector boundaries, census tracts, transportation analysis zones (TAZs), and median household incomes. The study area is primarily located within county legislative district 23 and TNT Sector 3, with small portions in county legislative and city common council districts 20 and 22 and TNT Sector 4. Since demographic and transportation data are available by Census tracts and TAZ's, these boundaries were the physical limits used to define the study area.

South Side Transportation Study

Figure 1-1



- Interstate Highway
- Study Area
- City of Syracuse

Study Area

SMTC

0 0.5 Miles

Syracuse Metropolitan Transportation Council November, 1998
Basemap Copyrighted by New York State Department of Transportation

CHAPTER 2 - TRANSPORTATION NETWORK

Several modes of transportation exist within the study area. These modes include streets, transit, rail, and bicycle/pedestrian facilities.

2.1 Roadways

The existing roadway network is a grid pattern with primary roadways running in an east-west, north-south direction. Figure 2-1 shows the functional classification of the roads within the study area. Principal arterials serve major traffic flows between important activity centers, while minor arterials connect and augment the principal arterial system. Collector roads link local streets with the arterial road system.

Principal arterials in the study area include Adams Street, and the portion of U.S. Highway 11 along South State Street from Adams Street to Raynor Avenue, a small portion of Raynor Avenue, and South Salina Street to Brighton Avenue. Brighton Avenue east of South Salina is also considered a principal arterial. These arterials provide a major connection between the City of Syracuse Central Business District (CBD) and locations south of the city including connection to Interstates 81 and 481.

Minor arterials running north/south in the study area include those portions of South State Street and South Salina Street not designated as principal arterials, Midland Avenue, South Avenue, and Onondaga Avenue. East-west minor arterials include West Colvin Street, West Brighton Avenue and Seneca Turnpike (SR 173). Collector roads within the study area include the northern portion of South Avenue and Tallman Street and Bellevue Avenue running in an east-west direction.

South Avenue and Cortland Avenue are used as primary commuter routes between locations southwest of the study area, primarily Onondaga Hill and southwest suburbs, and the CBD. Brighton Avenue and Colvin Street are used to commute between areas east and west of the study area.

Truck Routes

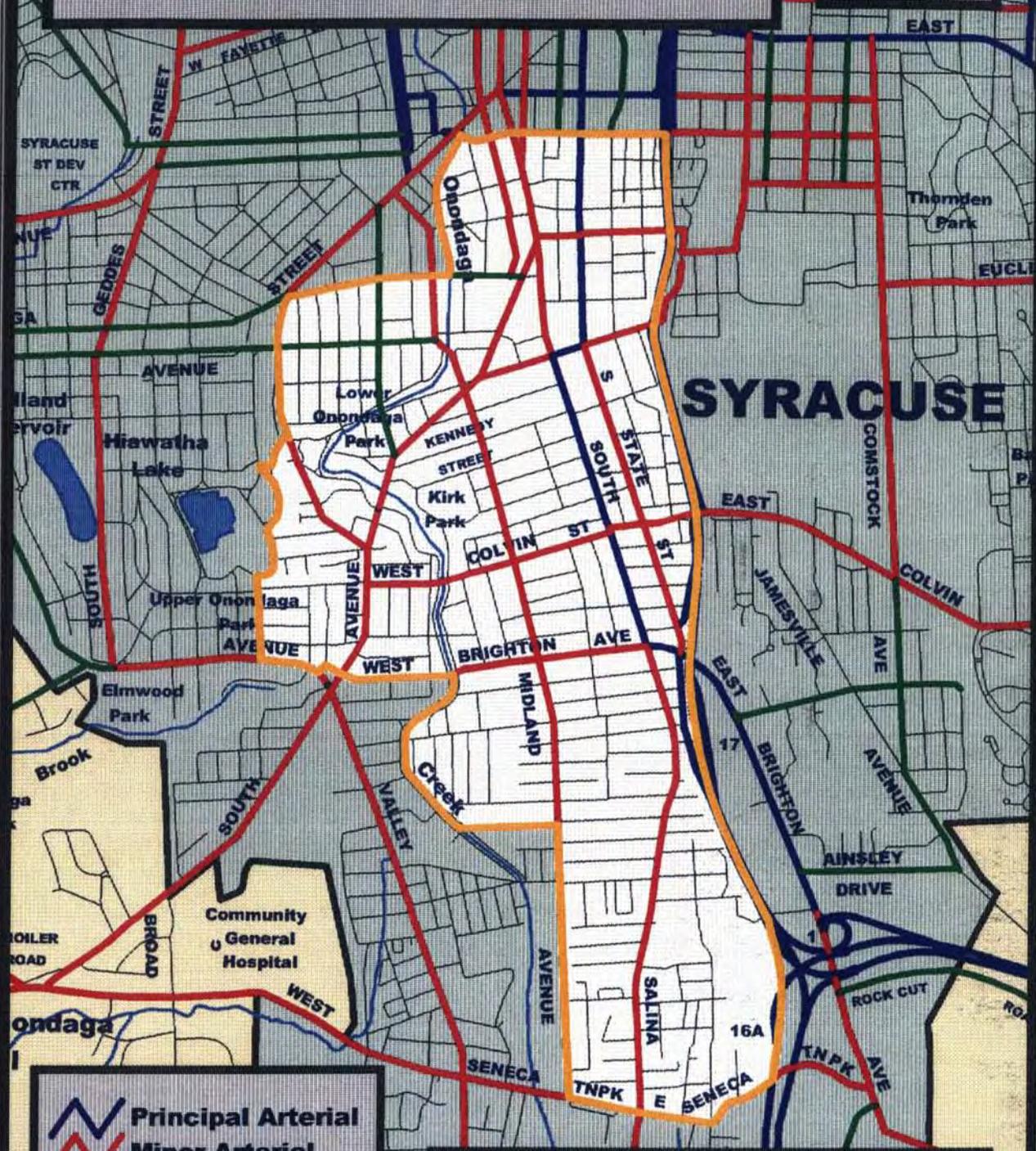
There are no primary truck routes within the study area. Consultation with the City of Syracuse revealed that there is not a designated truck route system within the City. Since the start of this project, a Truck Route Study for the City of Syracuse has been funded through the 1999-2000 SMTTC Unified Planning Work Program (UPWP) and is currently underway.

2.2 Transit

Transit services within the study area are provided by the Central New York Regional Transportation Authority (CNYRTA whose public transportation service is known as Centro). Transit operations were evaluated to determine bus availability and ridership information. The local transit system is based on a hub and spoke system where the bus service originates and ends in downtown Syracuse. Outlying areas are serviced on radial routes from the City. However, three cross-town routes have been implemented system wide. One of the three cross-town routes, "Valley Direct", operates within the study area linking the western portion of the study area with the Valley Plaza area. This route eliminates the need to go downtown and then transfer to another bus.

South Side Transportation Study

Figure 2-1



-  Principal Arterial
-  Minor Arterial
-  Collector
-  Study Area
-  City of Syracuse

Functional Classification of Roads

SMTC

Syracuse Metropolitan Transportation Council November, 1998
Basemap Copyrighted by New York State Department of Transportation
Data Source: New York State Department of Transportation



The four primary routes that operate within the study area are South Avenue/Valley Drive, South Salina/Nedrow, Midland Avenue, and East Colvin. In addition, the Stolp-Strathmore route passes through the northwest portion of the study area with a stop at Bellevue and Onondaga Avenues. All of the primary routes that run within the study area, except East Colvin, operate above Centro's standards of 2.7 passengers per mile and 33 passengers per hour. Table 2-1 provides a summary of these routes and Figure 2-2 illustrates the route locations. Table 2-2 presents ridership information for each of the routes. Regular fares for all routes within the study area are \$1.00, with \$0.50 fares for senior citizens and children under nine. No Park-N-Ride Lots operate within the study area.

The federal Americans with Disabilities Act (ADA) requires public transportation systems to provide transit access to their regular route service by means of complementary paratransit service. Centro's Call-A-Bus (C-A-B) program provides service to ADA-certified individuals living within three-quarters of a mile of a fixed route. There are 403 registered C-A-B riders within the study area. The cost per ride is \$1.25.

In order to help meet the (special) needs of individuals living on the South Side, Centro operates three shopper shuttles. Every Wednesday, a bus takes senior citizens from Bernadine Apartments to Green Hills Grocery Store (3 to 4 trips). On Thursday, a bus takes seniors from Valley Vista Apartments to Wegmans in Dewitt (3 to 4 trips). In addition to shopper shuttles targeted to assist senior citizens, Centro also operates a free shopper shuttle to Wegmans on Onondaga Boulevard each Monday morning and Friday evening. The shuttle picks up and drops off at a variety of locations throughout South Side neighborhoods.

Centro also provides transportation to school for some students through a bus pass program with the Syracuse City School District. Students living within the study area may be bused to schools inside or outside the study area, or students outside the study area may be bused to schools within the study area.

ReMAP

In response to the significant demographic shifts and changing population dynamics within the Central New York community (city to suburbs), the Board of Directors of the Central New York Regional Transportation Authority (CNYRTA) initiated a strategic planning project. The Regional Mobility Action Plan (ReMAP) involves research to determine the community's transportation needs, deficiencies in the current system, opportunities to coordinate services with other agencies, long-term funding and implementation. A draft report outlining service and coordination recommendations was completed in May 1999.

Although ReMAP has a regional perspective, new services resulting from the project may benefit residents of the South Side. Possible new services that are being evaluated and may benefit South Side residents include:

- enhanced trunk routes
- small collector/feeder routes
- reverse direction express services to jobs outside the city
- vanpooling and ride matching
- establishment of a mobility manager to coordinate a variety of transportation programs

**TABLE 2-1
CENTRO ROUTES**

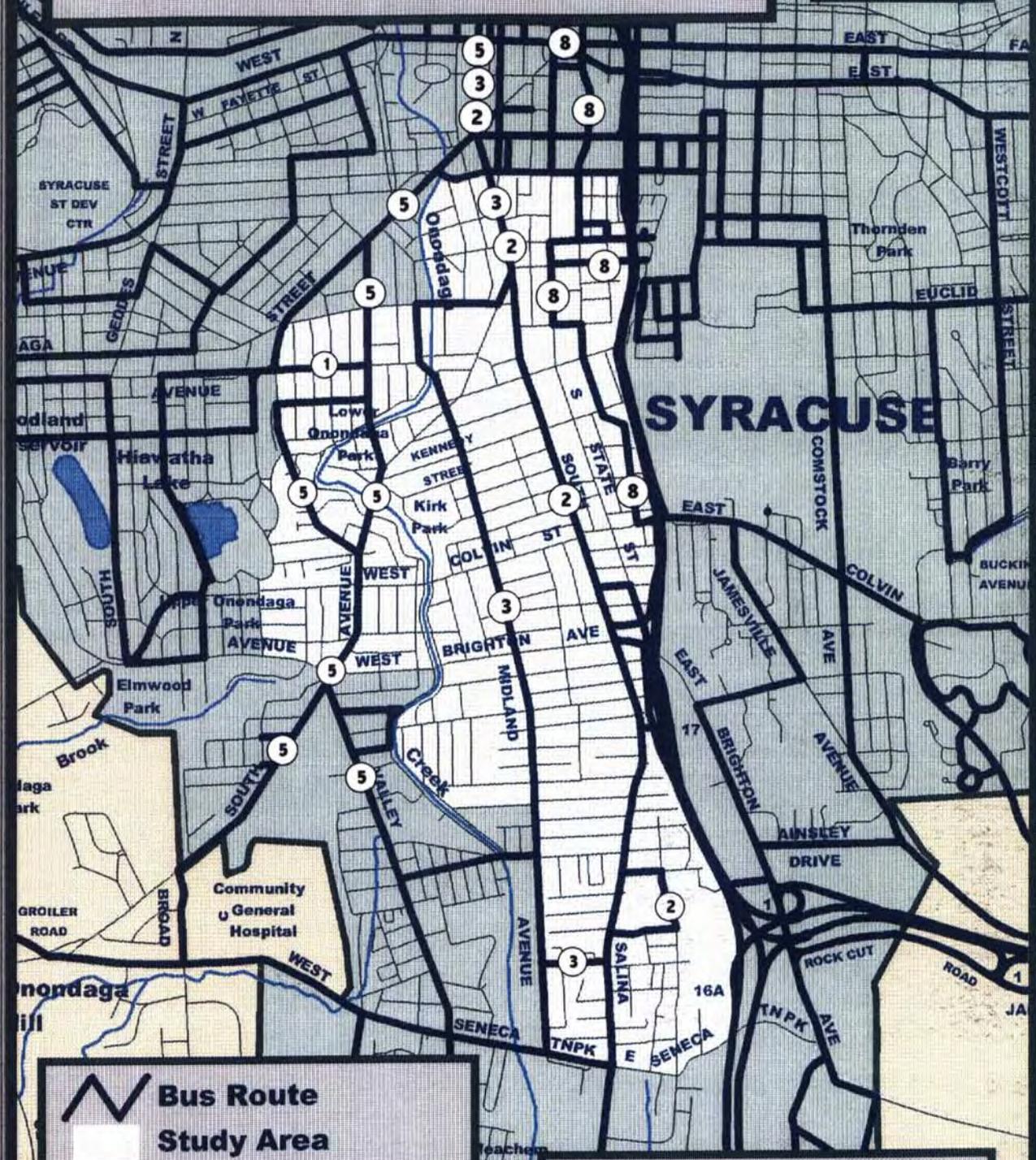
Route Name	Rte. #	From	To	# Bus Stops	Weekday Start	Weekday End	Total Trips	Approx. Time Interval	Sat. Start	Sat. End	Total Trips	Approx. Time Interval	Sunday & Holiday Start	Sunday & Holiday End	Total Trips	Approx. Time Interval
Valley Direct		Midland Ave & Tallman St	Salina St & Tallman St	9	8:52 AM	4:34 PM	6	70	8:37 AM	5:27 PM	8	70				
Valley Direct		Salina St & Tallman St	Midland Ave & Tallman St	9	8:51 AM	4:29 PM	7	70	8:36 AM	5:25 PM	8	70				
Midland Avenue	3A	Midland & Matson	Downtown & Shop City	5	5:28 AM	6:41 PM	11	30	6:08 AM	6:55 PM	1					
Midland Avenue	3B	Valley Vista Apts	Downtown & Shop City	6	7:31 AM	6:14 PM	5	30								
Midland Avenue	3F	Valley Plaza	Downtown & Shop City	8	9:08 AM	5:06 PM	7	70	6:58 AM	6:05 PM	10	70				
Midland Avenue	3A	Downtown & Shop City	Midland & Matson	3	5:40 AM	7:00 PM	11	30	5:40 PM	5:57 PM	1					
Midland Avenue	3B	Downtown & Shop City	Valley Vista Apts	3	7:11 AM	5:30 PM	6	30								
Midland Avenue	3F	Comm./Van Duyn Hosp.	Valley Plaza	5	8:14 AM	4:22 PM	6	70	6:05 AM	6:38 PM	11	70				
South Ave/Valley Dr	5B	Comm./Van Duyn Hosp.	Shop City	6	7:02 AM	12:28 AM	3	60	7:05 AM	12:30 AM	9	70	11:07 PM	11:50 PM	1	
South Ave/Valley Dr	5C	Van Duyn Hospital	Downtown & Shop City	7	6:10 AM	11:00 PM	16		8:44 AM	6:04 PM	4		3:29 PM	4:34 PM	1	
South Ave/Valley Dr	5H	Van Duyn Hospital	Downtown & Shop City	5	7:42 PM	8:53 PM	1		7:36 PM	11:05 PM	3	60	7:43 AM	11:08 PM	9	60
South Ave/Valley Dr	5J	Community College	Downtown & Shop City	7									12:00 PM	12:48 PM	1	
South Ave/Valley Dr	5L	Van Duyn Hospital	Downtown & Shop City	7	7:01 AM	5:50 PM	7									
South Ave/Valley Dr	5B	Downtown & Shop City	Comm./Van Duyn Hosp.	3	6:11 AM	6:57 AM	1		6:30 AM	6:39 PM	7	60-70	6:10 AM	6:30 PM	1	
South Ave/Valley Dr	5C	Downtown & Shop City	Community College	5	5:31 AM	7:15 PM	13		8:00 AM	5:05 PM	4		11:30 AM	12:00 PM	1	
South Ave/Valley Dr	5H	Downtown & Shop City	Community Hospital	4	6:50 PM	11:57 PM	3		7:10 PM	12:00 AM	5	60	6:50 AM	11:59 PM	10	60
South Ave/Valley Dr	5J	Downtown & Shop City	Community College	5	5:50 PM	10:05 PM	3						2:35 PM	3:39 PM	1	
South Ave/Valley Dr	5L	Downtown & Shop City	High Acres	6	6:45 AM	5:54 PM	7									
S.Salina/Nedrow	2A	Valley Plaza	Downtown	4	6:57 AM	5:15 PM	11						11:10 PM	11:30 PM	1	
S.Salina/Nedrow	2K	Valley Plaza	Downtown	5	7:28 AM	4:10 PM	10	40-70	8:54 AM	5:35 PM	8	70	12:50 PM	5:40 PM	3	
S.Salina/Nedrow	2N	Nedrow	Downtown	5	5:16 AM	12:30 AM	28	30-60	6:58 AM	11:28 PM	14	30-60	6:51 AM	10:40 PM	12	60
S.Salina/Nedrow	2R	Salina & Brighton	Downtown	3	10:30 AM	2:50 PM	8	45								
S.Salina/Nedrow	2A	Downtown & Shoppingtown	Valley Plaza	3	5:45 AM	5:55 PM	9						7:45 PM	10:30 PM	2	
S.Salina/Nedrow	2K	Downtown	Valley Dr & Brooklea Dr	4	7:42 AM	4:30 PM	10	70	8:30 AM	5:02 PM	8	70	12:30 PM	5:23 PM	3	
S.Salina/Nedrow	2N	Downtown & Shoppingtown	Nedrow	3	5:45 AM	12:50 PM	30	30-60	6:30 AM	23:55	17	30-60	6:25 AM	12:00 AM	12	60
S.Salina/Nedrow	2R	Downtown	State & Brighton	2	10:45 AM	2:30 PM	7	45								
East Colvin	8G	Loretto	Downtown	4	5:38 AM	6:05 PM	11	40-60								

Notes: From/To locations vary on some routes depending on the day of week and time of day.
Average time intervals were not calculated for those routes with extremely variable time gaps between trips.
Based on Centro schedules effective 9/8/98

Source: Central New York Regional Transportation Authority (CNYRTA)
SMTC

South Side Transportation Study

Figure 2-2



- Bus Route
- Study Area
- City of Syracuse
- Bus Route Number

CENTRO Routes

SMTC

0 0.5 Miles

Syracuse Metropolitan Transportation Council November, 1998
Basemap Copyrighted by New York State Department of Transportation
Source: Central New York Regional Transportation Authority

**TABLE 2-2
CENTRO RIDERSHIP**

Route	Weekday						Saturday						Sunday					
	Total Inbound Riders	Inbound Trips	Avg. Riders	Total Outbound Riders	Outbound Trips	Avg. Riders	Total Inbound Riders	Inbound Trips	Avg. Riders	Total Outbound Riders	Outbound Trips	Avg. Riders	Total Inbound Riders	Inbound Trips	Avg. Riders	Total Outbound Riders	Outbound Trips	Avg. Riders
2A	306	13	24	196	11	18										50	2	25
2N	695	26	27	798	26	31	346	17	20	469	19	25	218	13	17	174	12	15
2N-EX	51	2	25	50	3	17												
2K	128	5	26	148	5	30	162	8	20	131	7	19	49	3	16	57	3	19
2P	41	3	14	51	2	25												
2R	154	11	14	126	9	14												
2K3F	165	6	28	182	6	30												
13F	6	2	3	5	2	3												
5A	71	4	18	28	2	14							27	3	9	36	3	12
5B	31	3	10	9	1	9	135	10	14	119	8	15	5	1	5	3	1	3
5C	317	15	21	268	13	21	64	4	16	85	4	21	14	1	14	12	1	12
5C-EX	55	2	28	70	2	35												
5D	174	7	25	72	5	14	17	1	17									
5E	224	8	28	136	7	19				12	1	12	6	1	6			
5H	17	1	17	41	3	14	28	3	9	98	5	20	78	9	9	100	10	10
5J				81	3	27							17	1	17	12	1	12
5L	196	7	28	314	9	35												
3A	329	12	27	125	12	10	5	2	3	40	1	40						
3B	85	6	14	148	6	25												
3F	112	6	19	181	6	30	155	11	14	174	12	15						
8G	178	11	16	127	11	12												

Note: Ridership data is for the period 1/21/98 - 1/22/98

Source: Central New York Regional Transportation Authority (CNYRTA)
SMTC

2.3 Rail

Passenger

Rail passenger service in the study area is provided by the New York Susquehanna & Western Railway (NYS&W) subsidiary, Ontrack. At the start of this project, Ontrack provided service from Carousel Center to Armory Square north of the study area, then traversed an elevated right of way through the study area to a station located at Raynor Avenue. The platform is located outside the study area, but can be accessed by South Side residents. In the summer of 1999 a new passenger boarding platform was opened at East Colvin Street. During the summers of 1995 and 1996 Ontrack also provided service to Jamesville Beach County Park. That service has been discontinued, but the platform is still used for special events such as fall foliage trips. Figure 2-3 shows the location of the railroad tracks, as well as the existing and new boarding platforms located at Raynor Avenue and East Colvin Street, respectively.

The schedule, as of November 1998, for the City Express service to Carousel Center includes eight daily round trips between the hours of 11:15 AM and 6:20 PM utilizing an eighty seat Budd Rail Diesel Car (RDC). The service averages 500 passengers per week during the summer and 700 passengers per week when the universities are in session. The fare to ride the train is \$1.50 per boarding. The Orange Express service that runs for special events at the Carrier Dome averages 2,000 passengers per event and costs \$3.00 round trip from Armory Square and \$4.00 round trip from Carousel Center.

Construction to extend the rail line from Carousel Center to the new William F. Walsh Regional Transportation Center (RTC), P&C Stadium, and the Regional Market is anticipated to be complete by the spring of 2000. The new boarding platform at East Colvin Street will provide South Side residents with direct access to the University area, Armory Square, Carousel Mall, recreational activities at Jamesville Beach, and once construction is complete, the RTC, P&C Stadium, and the Regional Market.

Freight

Freight traffic consists of six through trains per week moving between New Jersey and points west of Chicago. There are no stops within the study area.

2.4 Bicycle/Pedestrian Facilities

Bicycle Routes

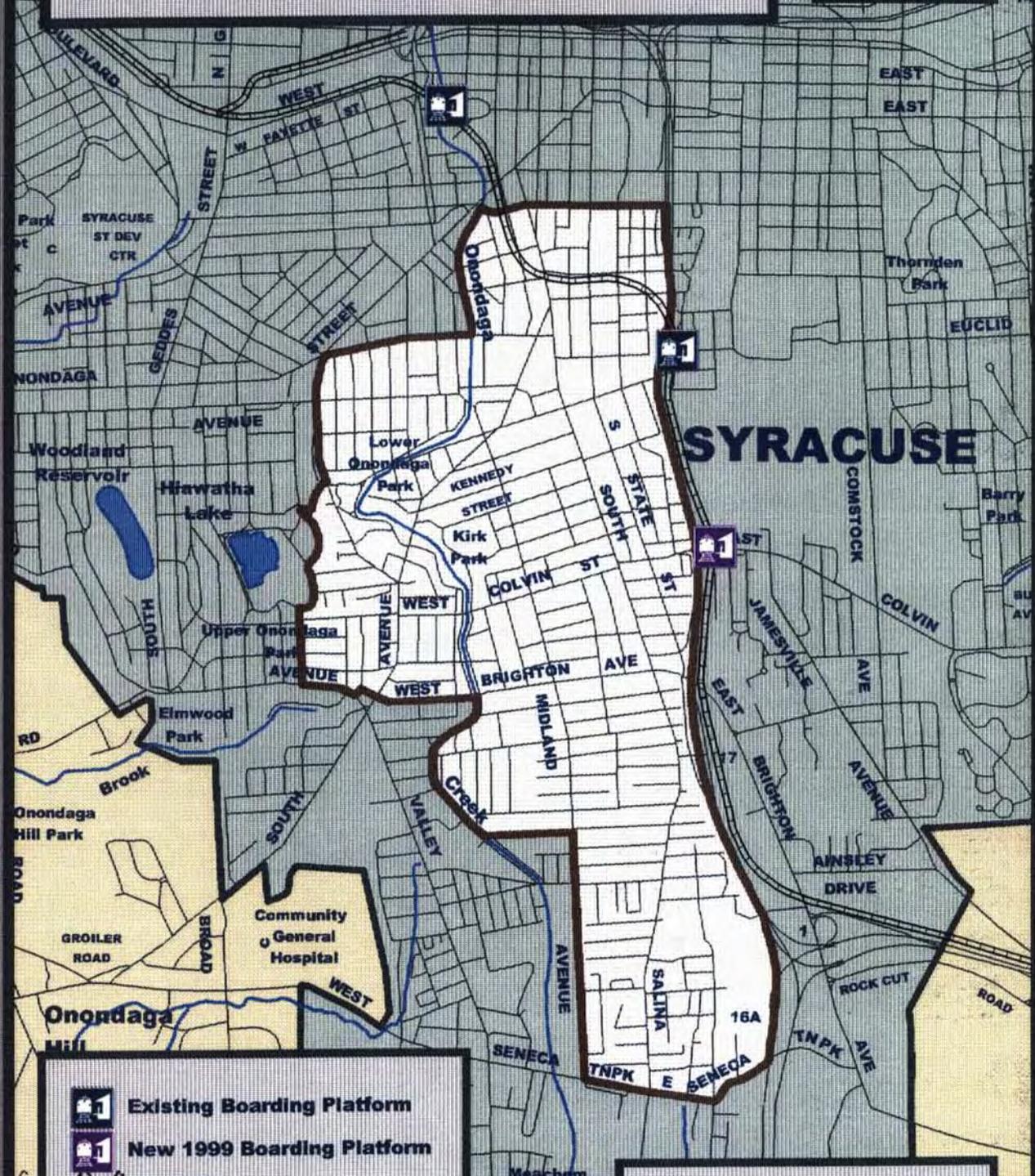
There are no designated New York State or City Bike Routes within the study area.

Sidewalks

Pedestrian facilities in the form of sidewalks are prevalent throughout the South Side. See Figure 2-4 for the location of sidewalks within the study area.

South Side Transportation Study

Figure 2-3



	Existing Boarding Platform
	New 1999 Boarding Platform
	Rail Line
	Study Area
	City of Syracuse

Railroad

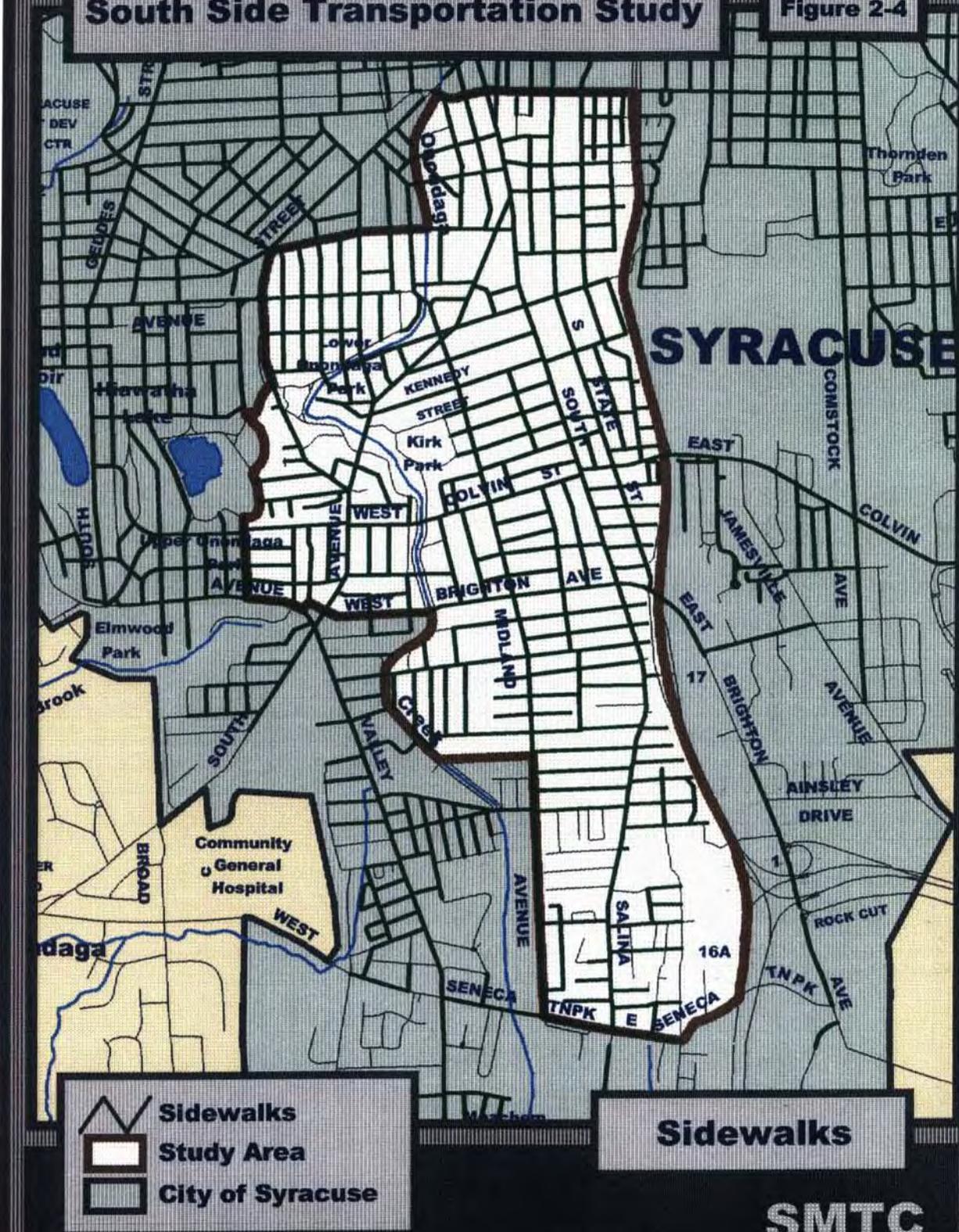
SMTC

0 0.5 Miles



South Side Transportation Study

Figure 2-4



Sidewalks

SMTC

Syracuse Metropolitan Transportation Council January, 1999
Basemap Copyrighted by New York State Department of Transportation
Source: 1997 South Side Transportation and Land Use Survey

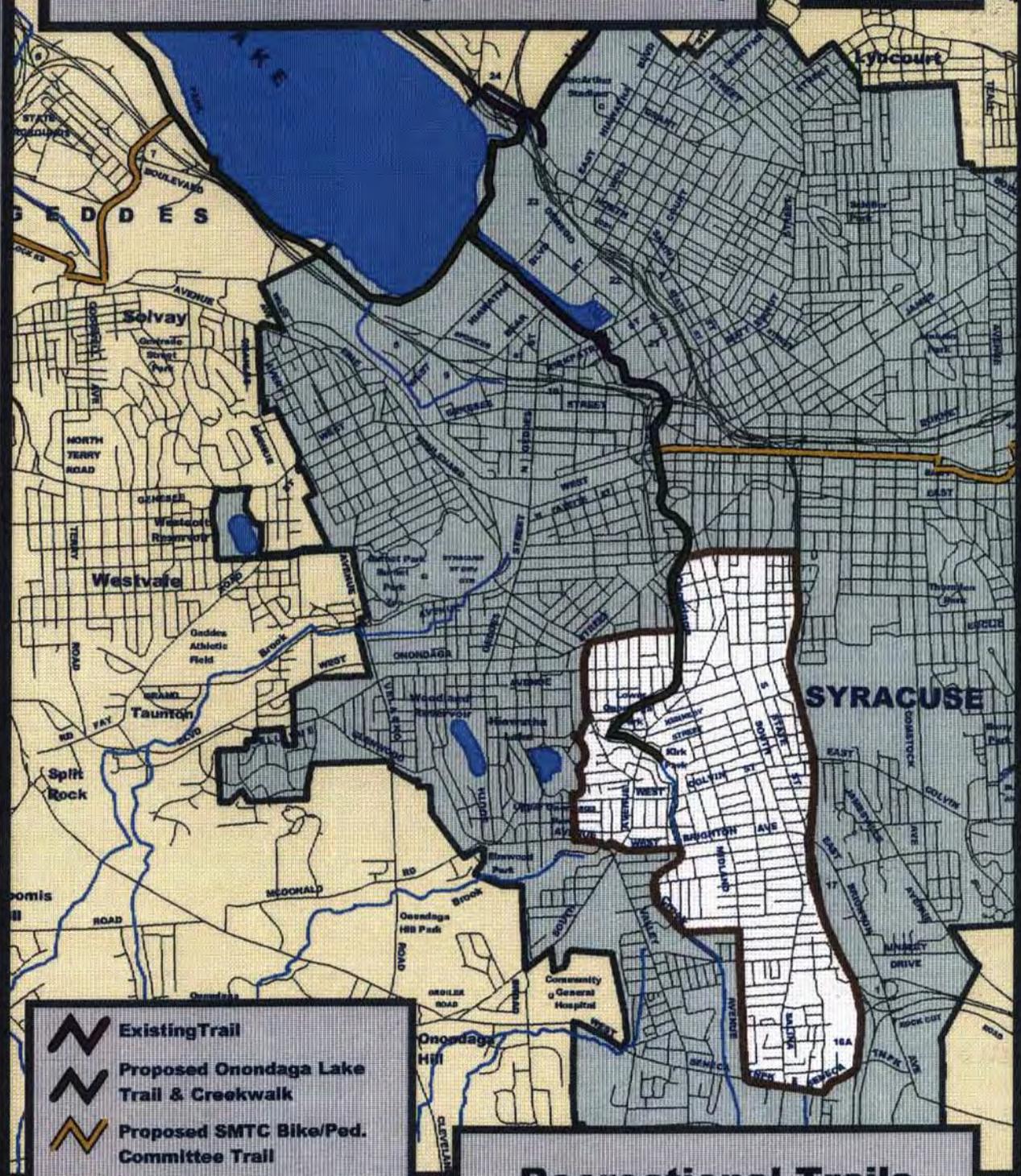
Recreational Trails

A feasibility study to look at extending a 1.89-mile section of creekwalk along Onondaga Creek from Armory Square to Kirk Park is in the 1999-2004 SMTC Transportation Improvement Program. Figure 2-5 shows existing and proposed trail locations.

The SMTC Bicycle/Pedestrian Advisory Committee has been assessing alternatives to connect the Erie Canal Trail that exists both east and west of the city. In the event that the creekwalk is extended into the study area, it may provide access to the Erie Canal Trail and destinations north of the study area including Carousel Mall and Onondaga Lake Park.

South Side Transportation Study

Figure 2-5



-  Existing Trail
-  Proposed Onondaga Lake Trail & Creekwalk
-  Proposed SMTC Bike/Ped. Committee Trail
-  Study Area
-  City of Syracuse

Recreational Trails

SMTC

0 1 Miles

CHAPTER 3 - INFRASTRUCTURE CONDITIONS

3.1 Bridges

There are thirteen vehicular bridges and four pedestrian bridges located within the South Side study area all spanning Onondaga Creek except two pedestrian bridges that span South McBride Street. Tables 3-1 and 3-2 list the bridge location, the New York State (NYS) Bridge Identification Number (BIN), the date of the last inspection and the condition rating. Figure 3-1 graphically depicts the bridge locations and condition ratings. The condition rating is the weighted average of all the rated elements on the bridge. Bridges with a condition rating of 5.000 or less are considered deficient by the state's definition. Of the seventeen bridges, two vehicular bridges, Oxford Street and Temple Street, and two pedestrian bridges, Onondaga Park and Kirk Park, are considered deficient.

Table 3-1
Vehicular Bridges over Onondaga Creek

Bridge Location	BIN	Year of Last Inspection	Condition Rating (CR)
W. Newell St	2208330	1996	6.745
W. Brighton Ave	2208340	1996	6.343
Elmhurst Ave	2208350	1997	6.441
W. Colvin St	2208360	1996	5.906
Route 175	2208380	1996	6.066
Rich St	2208400	1996	5.578
South Ave	2208410	1996	6.250
Midland Ave	2208420	1996	5.609
Oxford St	2208430	1989	1.854
Tallman St	2208440	1996	5.515
W. Taylor St	2208450	1997	6.453
Temple St	2208460	1997	2.932
W. Adam St	1060720	1996	5.483

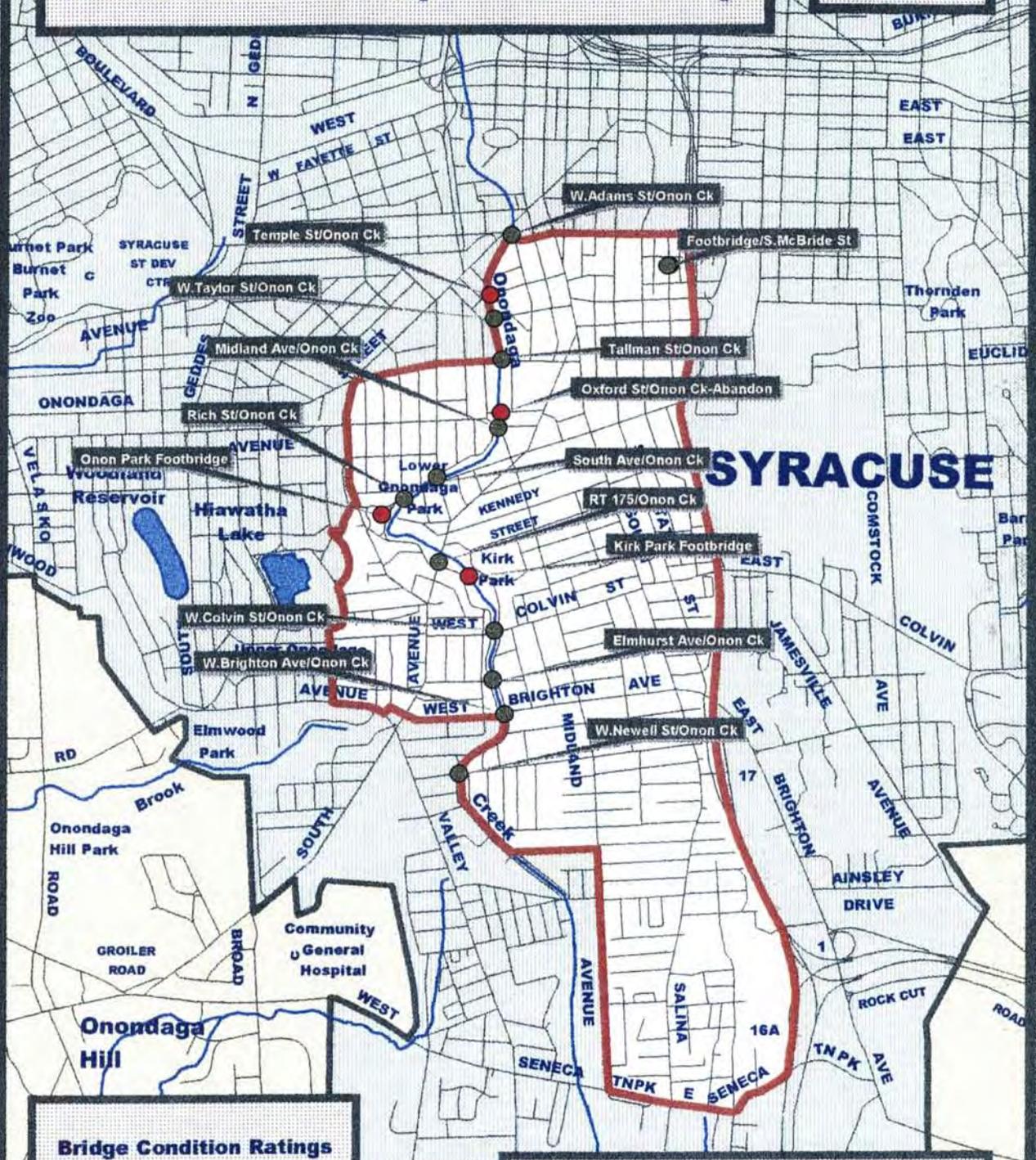
Table 3-2
Pedestrian Bridges

Bridge Location	BIN	Year of Last Inspection	Condition Rating (CR)
Kirk Park/Onon Crk*	2208370	1978	3.983
Onondaga Park/Onon Crk	2208390	1978	3.526
Over S. McBride St	2263157	1978	6.000
Over S. McBride St	2263158	1978	5.885

*Kirk Park bridge was inspected by the City of Syracuse in 1995 and received a general recommendation rating of 3.
Source: New York State Department of Transportation, City of Syracuse

South Side Transportation Study

Figure 3-1



- Bridge Condition Ratings**
- < 5.000
 - 5.000-7.000
 - Study Area
 - City of Syracuse

Bridge Locations and Condition Ratings

SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source: New York State Department of Transportation

0 0.5 Miles



The Oxford Street bridge is currently abandoned and has a condition rating of 1.854. Abandoned is a term used by the state to identify bridges that have been closed to vehicular traffic for five or more years and no longer require inspection.

The Temple Street bridge is a multi girder bridge constructed in 1930. The primary and secondary members as well as the bridge seats and abutments all received poor ratings during the 1997 inspection. These elements are weighed heavily, resulting in a condition rating of 2.932. The bridge has been posted for three tons, the lowest posting weight possible, since 1987.

The Kirk Park pedestrian bridge was inspected in 1995 by the City of Syracuse, and was given a general recommendation rating of 3. Repairs are needed to the main girders at the abutments and the bearings. General rehabilitation of the bridge is needed.

Onondaga Park pedestrian bridge is scheduled for inspection by the City of Syracuse this year but was last inspected in 1978. At that time, it had a condition rating of 3.526. Consultation with the City of Syracuse indicates that the bridge is most likely in need of general rehabilitation.

3.2 Pavement

State

State pavement condition is assessed using the New York State Department of Transportation's (NYSDOT) Pavement Condition Rating Manual. The surface rating scale is "1" (very poor) to "10" (excellent). Pavement receiving a rating of five or less is considered poor. The location and 1998 condition ratings of pavement rated by the state within the study area are shown in Figure 3-2. Portions of Route 11 (South State Street and South Salina Street) and a portion of Route 175 (South Avenue) have condition ratings of five indicating that pavement distress is frequent and moderate to severe. Although the NYSDOT rates this pavement, maintenance of these streets is the responsibility of the City of Syracuse.

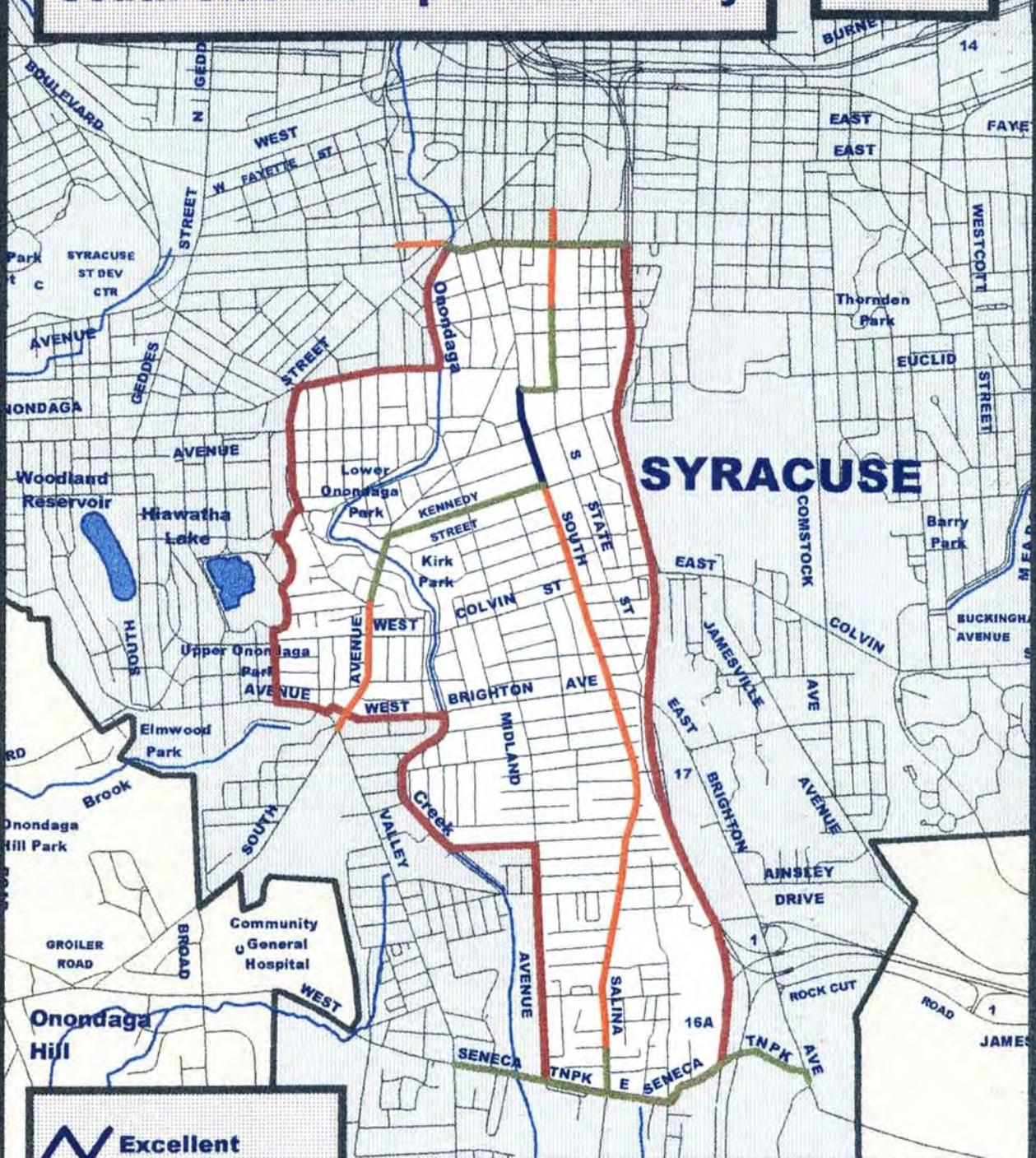
City

The City of Syracuse uses the same method as the NYSDOT to rate pavement conditions. Figure 3-3 shows the most recent pavement condition ratings that were provided by the City of Syracuse for the study area. Of the road segments that information was provided for, twenty percent have a rating of five or less and are considered to be in poor condition. The following road segments were on the City Street Reconstruction List for 1998/1999 and work is complete. New pavement condition ratings are not yet available for these segments, therefore Figure 3-3 may not accurately depict their condition.

- S. McBride Street from Adams Street to Raynor Avenue
- S. Salina Street from McLennan Avenue to Newell Street
- Kennedy Street from Midland Avenue to South Avenue
- W. Newell Street from Midland Street to Onondaga Creek

South Side Transportation Study

Figure 3-2



 Excellent
 Fair
 Poor
 Study Area
 City of Syracuse

1998 NYSDOT Pavement Condition

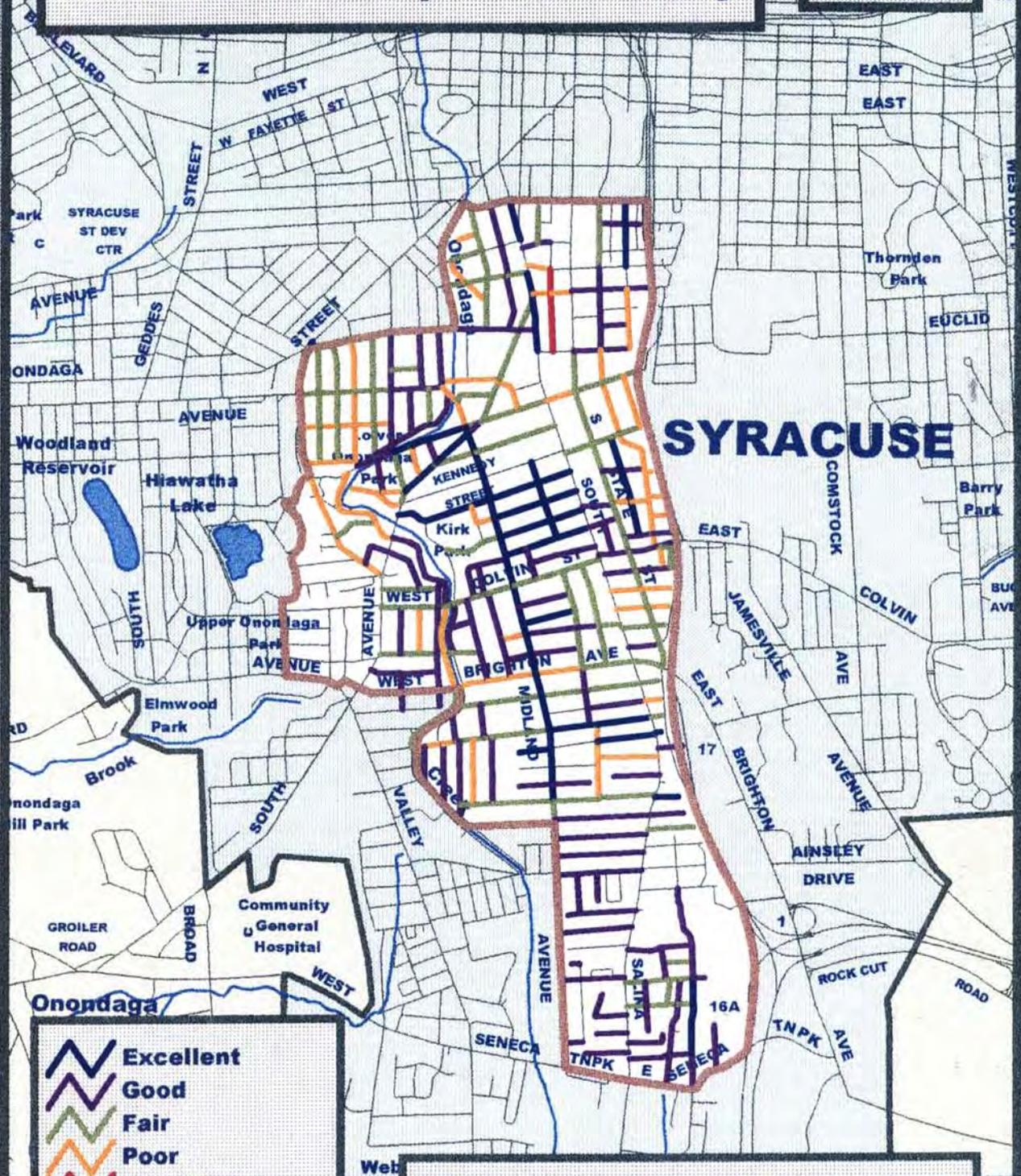
SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source : New York State Department of Transportation



South Side Transportation Study

Figure 3-3



Legend:

- Excellent
- Good
- Fair
- Poor
- Very Poor
- Study Area
- City of Syracuse

City Pavement Conditions

SMTC

Syracuse Metropolitan Transportation Council November, 1998
Basemap Copyrighted by New York State Department of Transportation
Data Source: City of Syracuse



3.3 Sidewalks

The City of Syracuse currently does not have a sidewalk condition-rating program, and therefore no information on sidewalk conditions was available from the city. However, in 1997 a student of the Maxwell School of Citizenship and Public Affairs at Syracuse University completed a study titled *South Side Transportation and Land Use Survey* for the Syracuse Metropolitan Transportation Council (SMTC). The survey included a sidewalk condition rating for eighty-seven block segments throughout the South Side study area. See Appendix B for a summary of the block survey. Figure 3-4 shows the condition ratings assigned to each of the block segments.

Fifty-five percent of the sidewalks surveyed are constructed of concrete, forty percent are constructed of both asphalt and concrete, and the remaining five percent are made of asphalt. Of the sidewalks surveyed, the following conditions were noted:

Poor:	36%
Fair:	23%
Good:	23%
Excellent:	14%
No Sidewalk:	4%

The following conditions were also noted on the blocks surveyed:

- 79% of the blocks surveyed had curbs
- 66% of the curbs surveyed had wheelchair accessibility ramps
- 86% of the wheelchair accessibility ramps were in good condition

3.4 Infrastructure Improvements

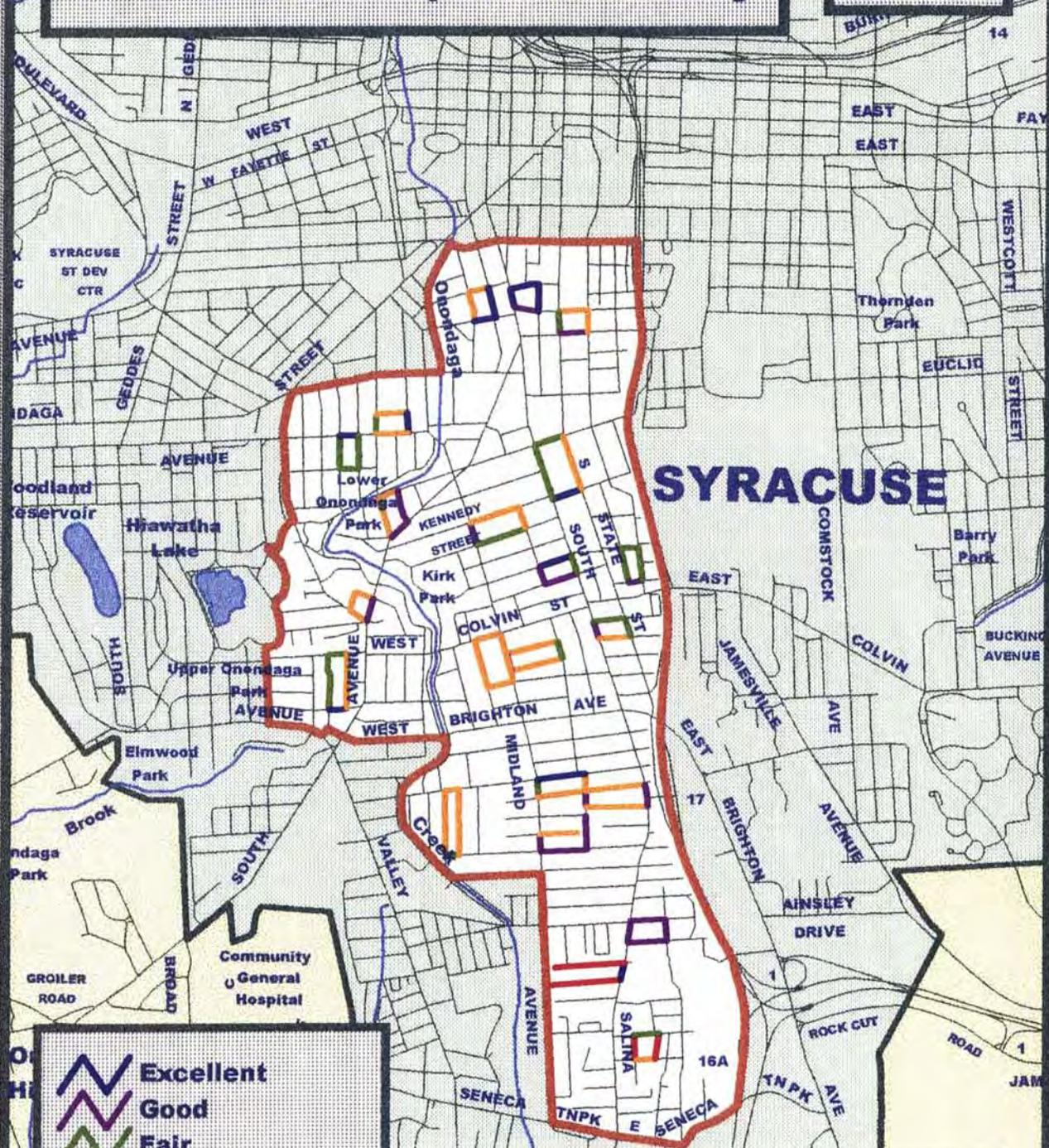
A number of infrastructure improvements are currently planned for the South Side Study Area. There are three primary categories of improvements: City of Syracuse Department of Public Works (DPW) projects, Transportation Improvement Projects (TIP), and Lake Improvement Projects. Figure 3-5 shows the location of the projects.

City of Syracuse, DPW

Table 3-3 provides a list of Street Reconstruction Projects currently approved by the City Common Council for 1998/1999. Some of these projects may be in the process of being completed or are completed. In addition, Rockland Avenue from Hunt to South Avenue is being paved.

South Side Transportation Study

Figure 3-4



-  Excellent
-  Good
-  Fair
-  Poor
-  No Sidewalk
-  Study Area
-  City of Syracuse

Sidewalk Conditions (Survey)

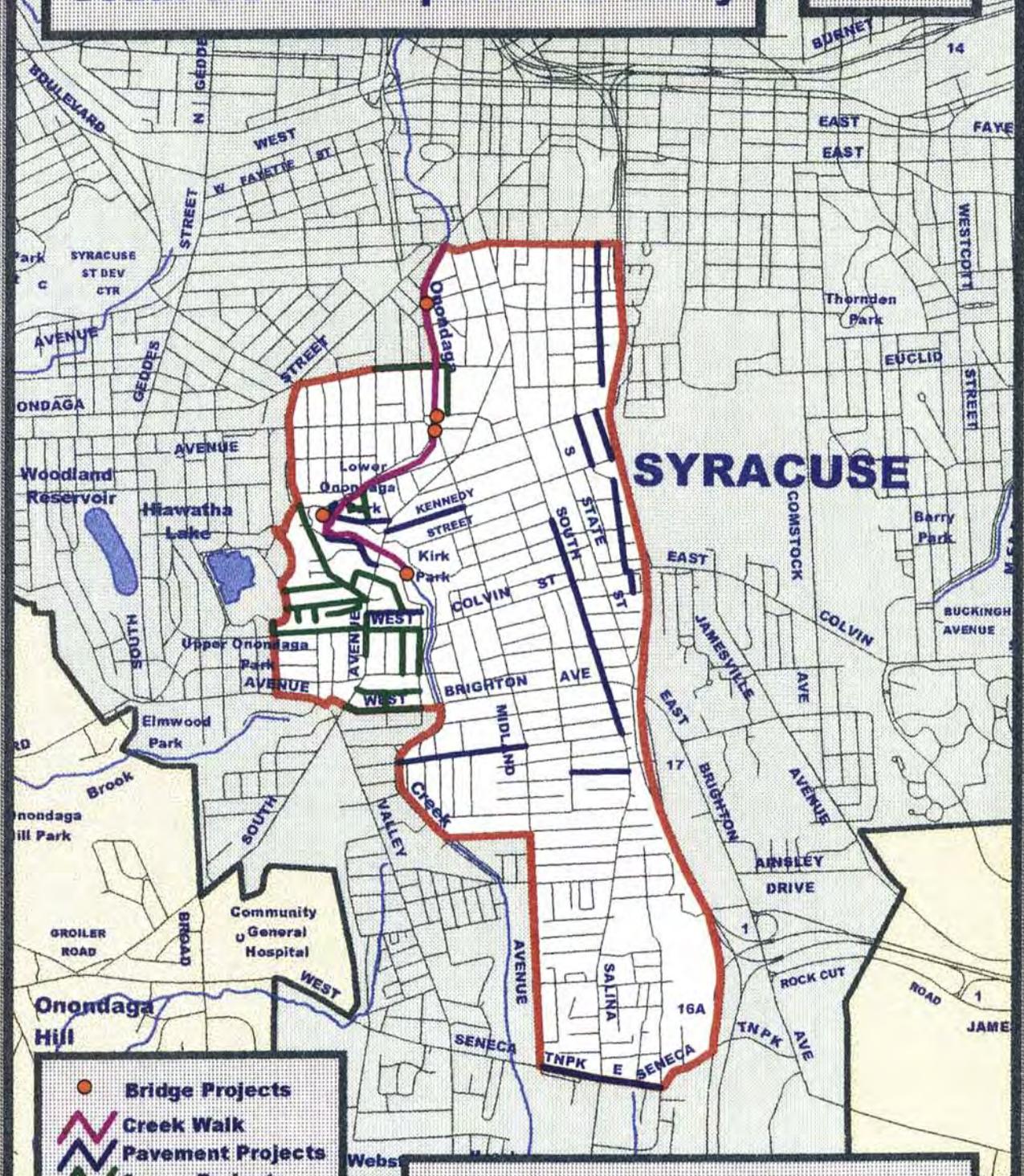
SMTC

0 0.5 Miles

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Source: 1997 South Side Transportation and Land Use Survey

South Side Transportation Study

Figure 3-5



Legend

- Bridge Projects
- Creek Walk
- Pavement Projects
- Sewer Projects
- Study Area
- City of Syracuse

Infrastructure Improvements

SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source : SMTC, SOCPA, and City of Syracuse



**Table 3-3
1998/1999 City Street Reconstruction Projects**

Street Name	From	To
W. Calthrop Ave.	S. Salina St.	McKinley
Garfield Ave.	Oakwood	Elk
Leon St.	Raynor	E. Kennedy
S. McBride St.	Adams	Raynor
Oakwood Ave.	Castle	Kennedy
Onondaga Park Drive	Rich	South Ave.
S. Salina St.	McClennan	Newell
Crescent Ave.	South Ave.	Dead end
Kennedy St.	Midland	South Ave.
W. Newell St.	Midland	Onondaga Creek

Source: City DPW

City Capital Improvement Program projects include:

- Design of the Oxford Street Bridge Demolition (2001/2002 with construction occurring sometime thereafter)
- Temple Street Bridge Replacement (sometime after 2003/2004)
- Onondaga Creek Pedestrian Bridges Rehabilitation (per recommendations in inspection reports)

Transportation Improvement Projects (TIP)

Transportation Improvement Projects (TIP) for the period 1999-2004 include the following:

- **Midland Avenue Bridge Rehabilitation** including a new deck and wearing surface, repair to bridge approaches, joint seals and bank protection along Onondaga Creek
- **Feasibility Study for Onondaga Creekwalk** between Armory Square and Kirk Park

Lake Improvement Projects

There will be one major and several smaller projects occurring on the South Side over the course of the next fourteen years. The major project involves the construction of a Regional Treatment Facility (RTF) and about one and one-half miles of large diameter conveyance pipe. Much of the construction will occur in existing Rights-of-Way (ROW) along Onondaga Creek. However, street crossings will occur as well as short sections running parallel and with street ROW. The first phase conveyance (Tallman to Oxford) was started in the Spring of 1999 and the entire project will be completed by May 2007. The Lake Improvement Project Office is working with residents of the South Side and the City regarding the potential for developing a creekwalk as part of the sewer construction restoration.

The several smaller projects include the construction of new dedicated sanitary sewers in certain streets currently served by combined sewers, new lateral house connections and restoration of the

combined sewers to operate as dedicated storm sewers. The Lake Improvement Project Office is coordinating with the City regarding capital program infrastructure improvements and development opportunities. This may result in new street pavement, curbs, sidewalks, water lines, and landscaping for affected streets. The sewer separation projects have not been designed or scheduled yet but are anticipated to occur over the next ten years.

Southeast Gateway Project

The Southeast Gateway Project, sponsored by the Office of Economic Development, is a planned revitalization effort for a 12-acre area bordered by Taylor Street on the north, South Salina Street on the west, W. Kennedy Street on the south and I-81 on the east.

The goal of the project is to create an Urban Renewal Master Plan. Planned infrastructure improvements may include a passenger rail boarding platform at Taylor Street, and curb, sidewalk, and street improvements.

CHAPTER 4 - DEMOGRAPHICS AND LAND USE

4.1 Demographics

The following demographic information is based on 1990 census data. More recent data is currently unavailable.

Population

The population of the City of Syracuse peaked in 1950 at 220,583 and has decreased steadily to a population of 163,860 in 1990. After 1970, the older towns surrounding the city also began decreasing in population. While the City's population has decreased, population within Onondaga County has experienced growth in the northern, eastern, and western parts.

Figure 4-1 shows population density per square mile by Traffic Analysis Zones (TAZ). Traffic analysis zones are similar to census tracts with some census tracts broken into smaller areas. Population densities are generally higher in the central and eastern portions of the study area, with TAZ 287 having the highest population density of 16,314 per square mile.

Income

Median household incomes within the study area range from \$7,303 in TAZ 267, to \$23,415 in TAZ 292. As shown in Figure 4-2, the median incomes generally increase as you move to the south and west within the study area.

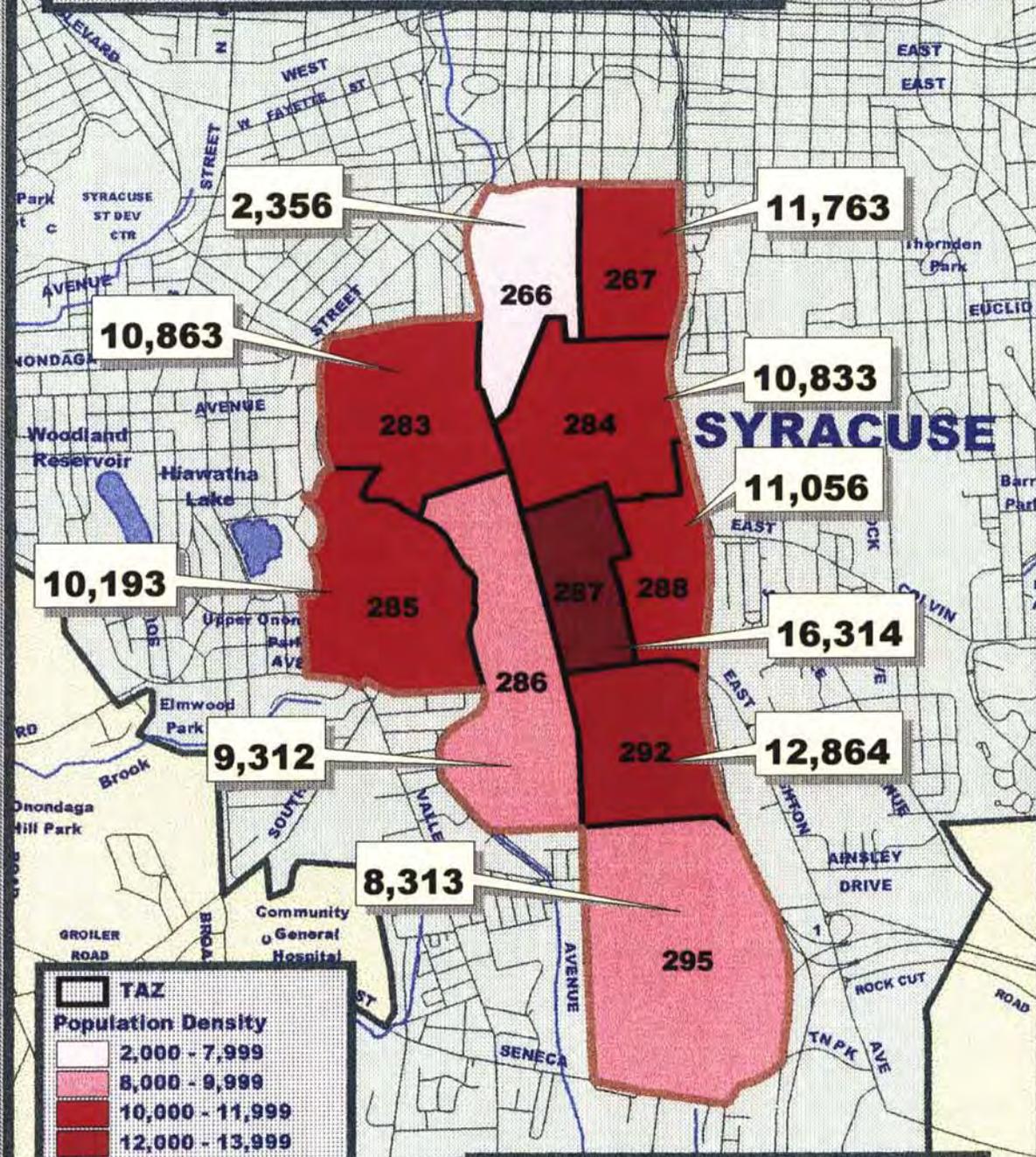
Households, Vehicles, and Mobility

The number of households with no vehicles ranges from 18 percent in TAZ 285 to 83 percent in TAZ 267. In general, the number of households with no vehicles is greater in the northeast portion of the study area. Figures 4-3 and 4-4 show the total number of households and vehicles by TAZ. These figures show high numbers of households and vehicles in the southern and western portions of the study, specifically TAZs 295, 286 and 285. The average number of vehicles per household by TAZ within the study area ranges from 0.24 to 1.20 with the overall average being 0.94. This is similar to other areas of the city including the north side, which has an average number of vehicles per household of 1.01. Suburban areas have a significantly higher average number of vehicles per household. For example, the average number of vehicles per household in the northern suburbs is 1.7.

Figure 4-5 shows the percent of persons 16 years and older with a mobility limitation by TAZ. The high mobility limitation shown in TAZ 295 is primarily the result of a cluster of senior citizen housing in that area.

South Side Transportation Study

Figure 4-1



TAZ

Population Density

- 2,000 - 7,999
- 8,000 - 9,999
- 10,000 - 11,999
- 12,000 - 13,999
- 14,000 - 17,000

Study Area

City of Syracuse

Population per square mile

Population Density Per Square Mile

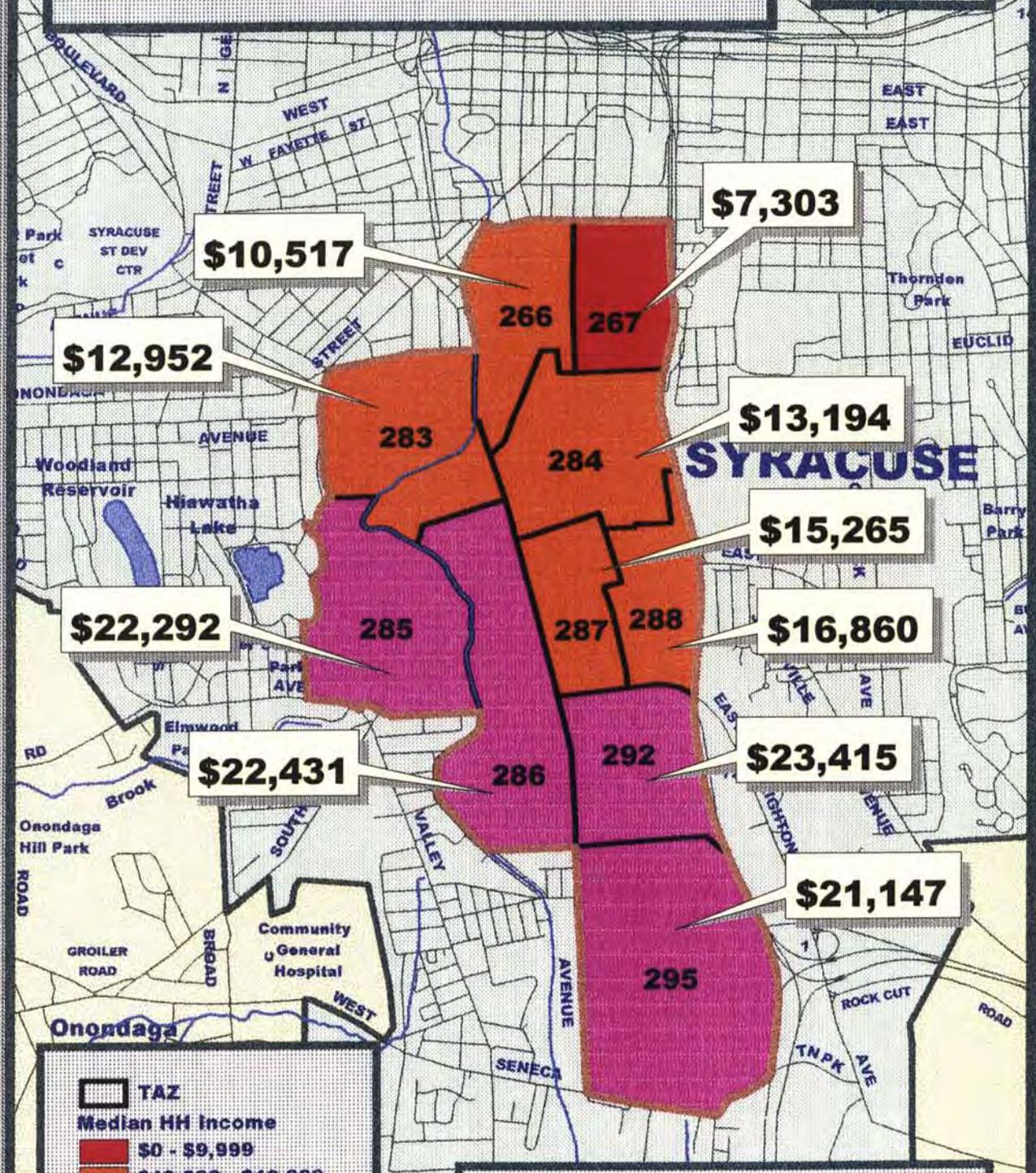
SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source : 1990 Census Transportation Planning Package



South Side Transportation Study

Figure 4-2



Legend

- TAZ
- Median HH Income**
- \$0 - \$9,999
- \$10,000 - \$19,999
- \$20,000 - \$24,999
- Study Area
- City of Syracuse

Median Household Income by Total Workers in Household

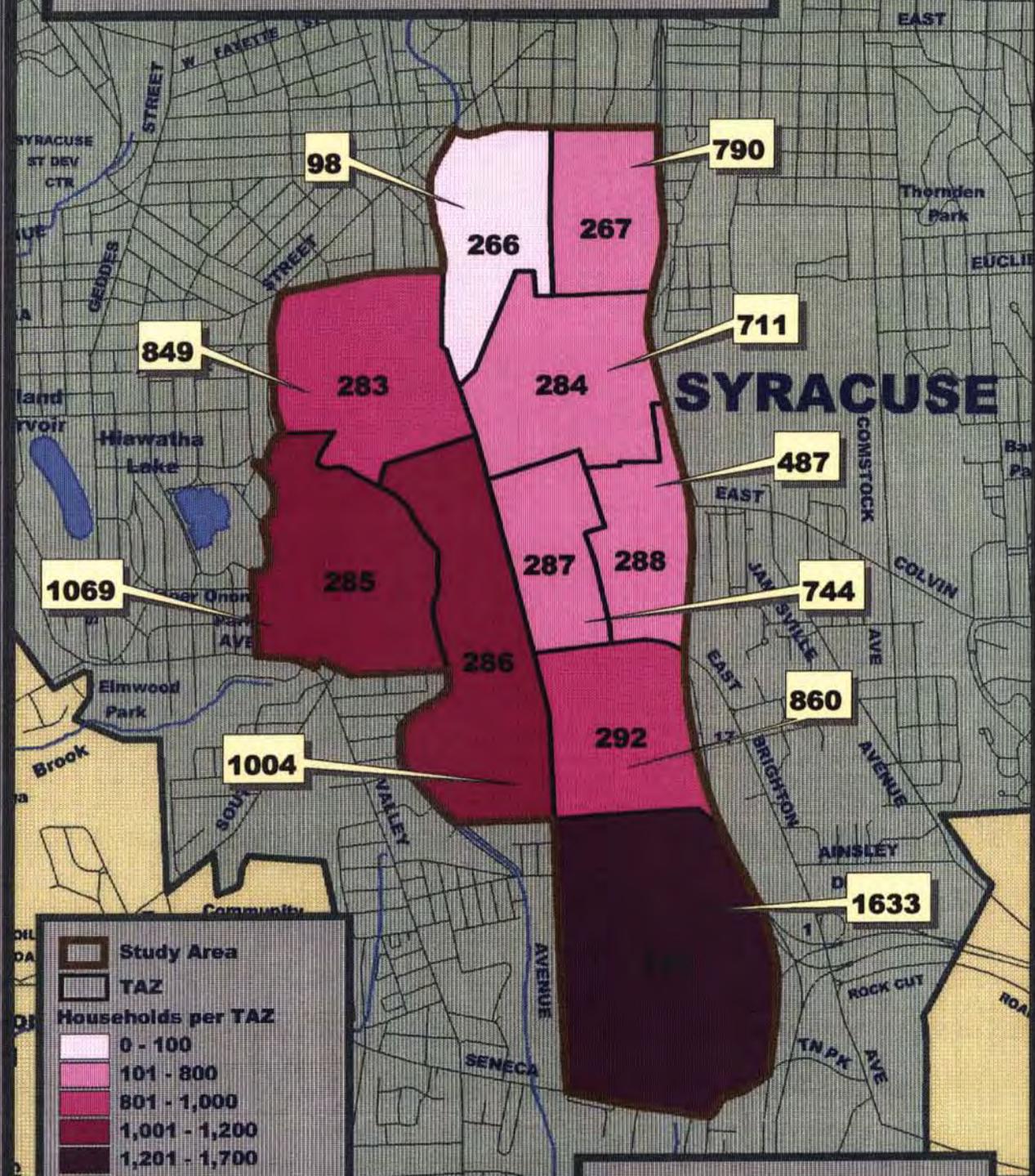
SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Source: 1990 Census Transportation Planning Package

0 0.5 Miles

South Side Transportation Study

Figure 4-3



Study Area

TAZ

Households per TAZ

- 0 - 100
- 101 - 800
- 801 - 1,000
- 1,001 - 1,200
- 1,201 - 1,700

Study Area

City of Syracuse

Number of HH

Total Households

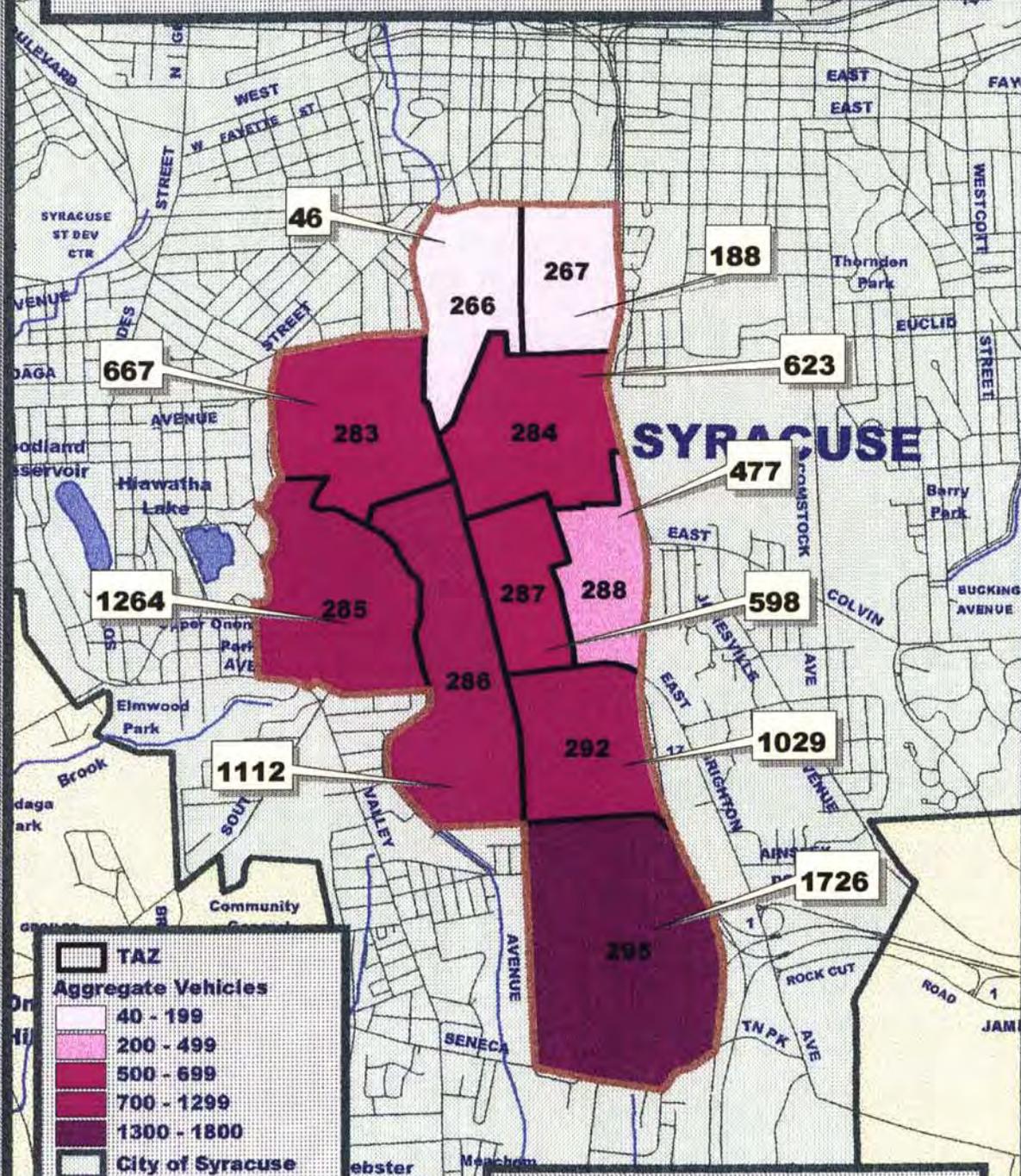
SMTCC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source : Syracuse Onondaga County Planning Agency

0 0.5 Miles

South Side Transportation Study

Figure 4-4



TAZ

Aggregate Vehicles

- 40 - 199
- 200 - 499
- 500 - 699
- 700 - 1299
- 1300 - 1800

City of Syracuse

Study Area

Number of Vehicles per TAZ

Aggregate Vehicles

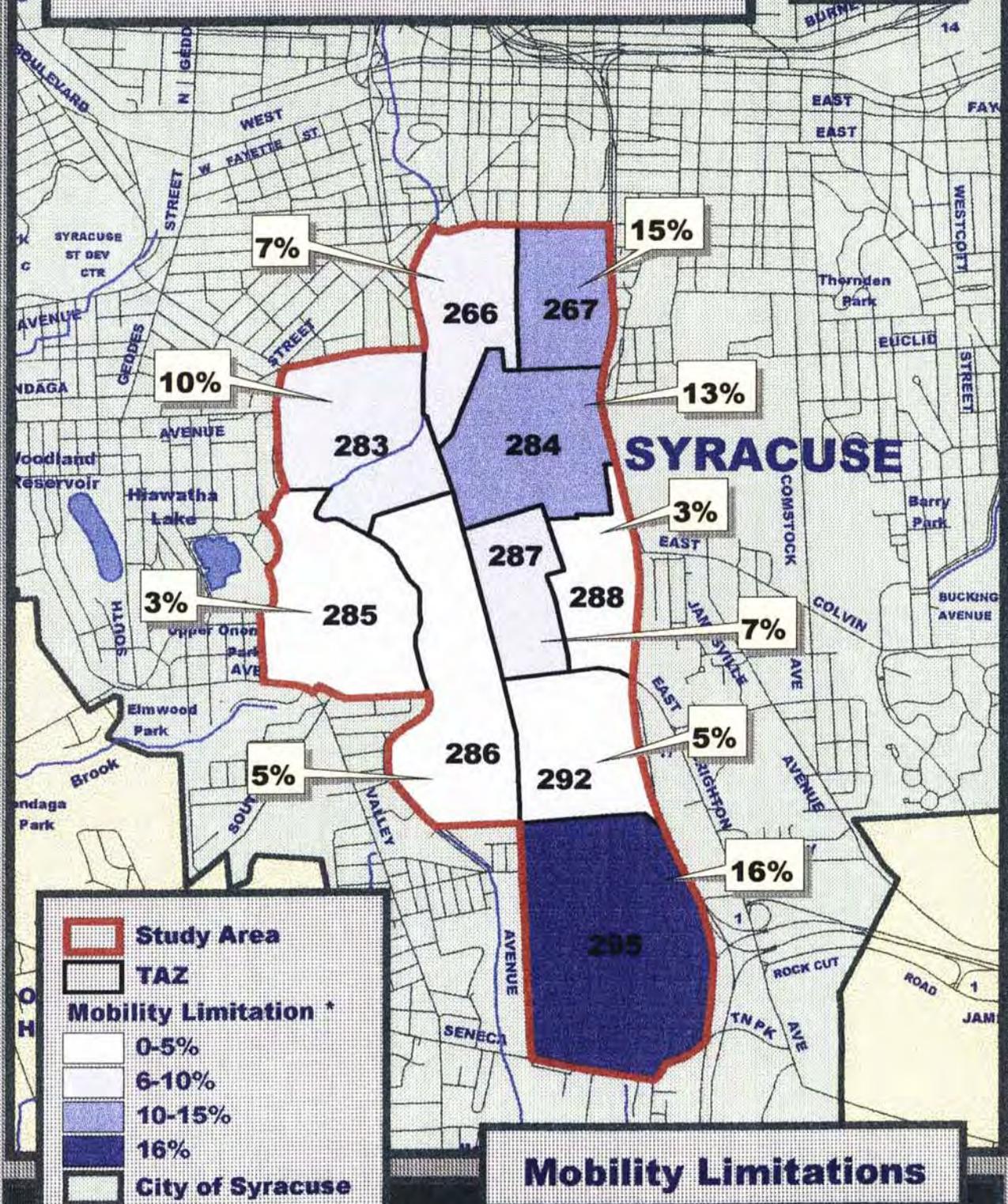
SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source : 1990 Census Transportation Planning Package



South Side Transportation Study

Figure 4-5



- Study Area
- TAZ
- Mobility Limitation ***
- 0-5%
- 6-10%
- 10-15%
- 16%
- City of Syracuse

* Percent of persons 16 years and older with a mobility limitation

Mobility Limitations

SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Source: 1990 Census Transportation Planning Package

0 0.5 Miles

Employment

Table 4-1 shows the mode of transportation used by individuals to get to work by TAZ. Driving alone is the primary mode of transportation to work. Carpooling, taking the bus, and walking are the next most popular modes of transportation, respectively. The exceptions are zones 266 and 267 where the primary mode of transportation to work is walking.

**Table 4-1
Mode of Transportation to Work**

TAZ	Drove Alone	Car-pool	Bus	Walk	Worked at Home	Taxi	Bicycle	Rail	Other Means
295	1,068	204	143	52	31	8	0	0	0
292	637	169	152	32	6	10	0	0	0
286	685	248	126	31	16	0	0	0	0
288	235	159	194	9	0	0	11	7	0
287	405	154	70	35	8	0	0	0	0
284	425	120	212	94	12	0	0	0	19
267	112	74	17	198	10	0	0	0	0
266	26	10	0	57	0	0	0	0	0
283	352	153	189	30	0	0	0	0	0
285	715	237	224	7	25	0	0	0	0

Source: Census Transportation Planning Package
Syracuse Metropolitan Transportation Council

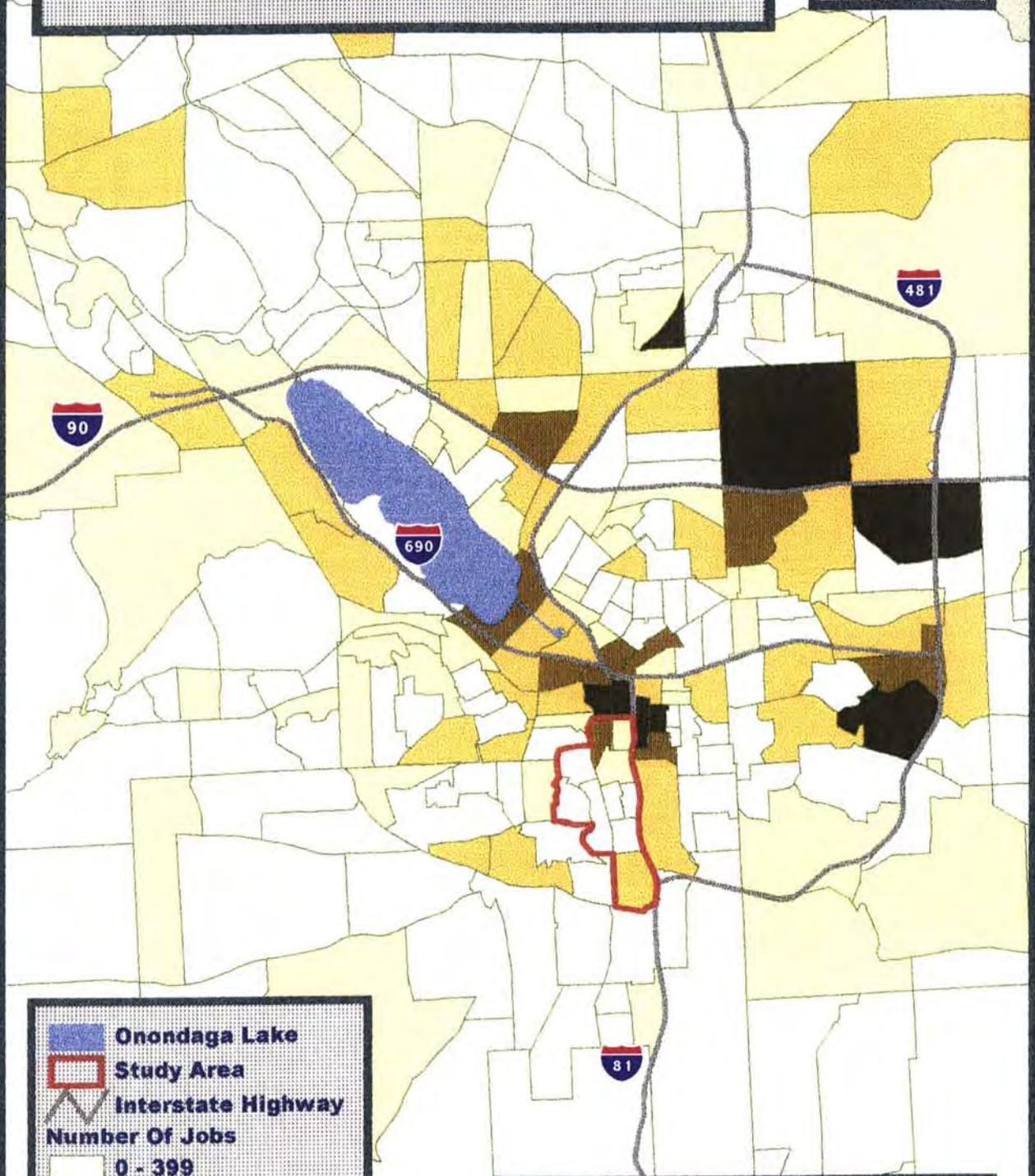
Figure 4-6 shows employment densities within the study area and a portion of Onondaga County. The study area contains over 7,000 jobs with the greatest concentrations of employment existing in TAZs 266 and 288. The highest density employment areas outside the study area include the Central Business District (CBD) and the northern and eastern suburbs. Employment concentrations affect the traffic on area roads as employees from within and outside the study area travel to their places of employment.

4.2 Land Use

Land use within the study area and surrounding areas is shown in Figure 4-7. Land use within the study area is primarily residential with commercial properties predominately located in the northern portion of the study area and along S. Salina Street and South Avenue. Areas to the north and east of the study area, the Central Business District and University Area, are primarily commercial and community services. Areas west and south of the study area are mostly residential. This land use pattern supports the statement made earlier that South Side roads carry significant commuter traffic traveling through the study area from residential areas on the west and south to employment and community service areas to the north and east.

South Side Transportation Study

Figure 4-6



Onondaga Lake
 Study Area
 Interstate Highway

Number Of Jobs

	0 - 399
	400 - 999
	1,000 - 2,499
	2,500 - 5,999
	6,000 - 12,000

Employment By TAZ

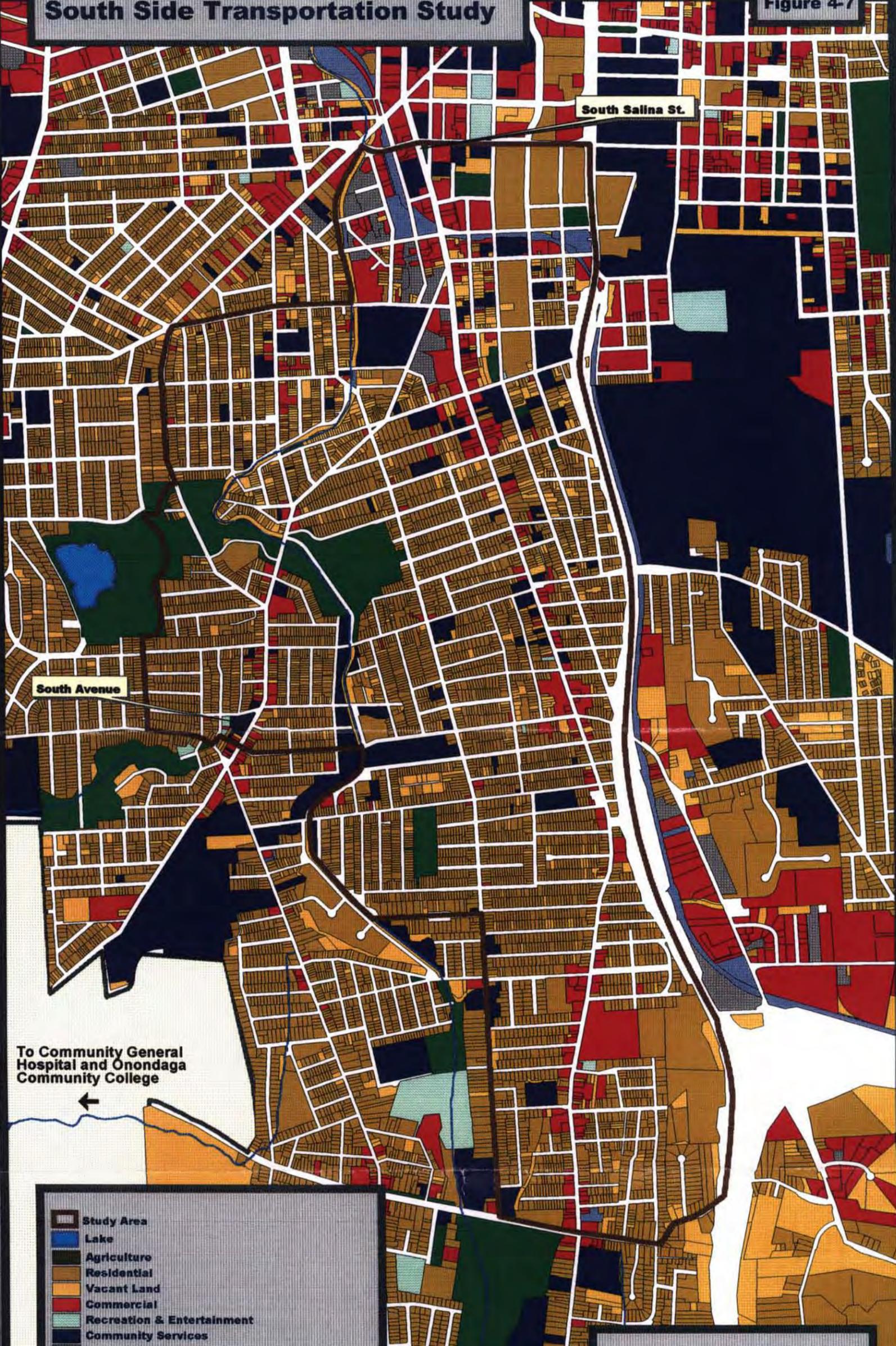
SMTC

0 2 Miles

Syracuse Metropolitan Transportation Council November, 1998
Source: New York State Department of Transportation

South Side Transportation Study

Figure 4-7



- Study Area
- Lake
- Agriculture
- Residential
- Vacant Land
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Service
- Forested, Conservation Lands, & Public Parks
- City of Syracuse

Land Use

SMTC

0 0.5 Miles

Syracuse Metropolitan Transportation Council November, 1998
Data Source: Syracuse-Onondaga County Planning Agency

CHAPTER 5 - TRAFFIC DATA

5.1 Traffic Data

PM Peak Hour and AADT Volumes

A planning level analysis of the traffic volumes shown in Figures 5-1 and 5-2 indicate that all of the segments except three operate at a Level of Service (LOS) D or better. LOS D or better is considered acceptable in an urbanized area. The three exceptions, which operate at a LOS E, are:

- South Salina Street between Brighton Avenue and McAllister Avenue
- South Salina Street between Walrath Road and Filmore Avenue
- West Seneca Turnpike between Midland Avenue and South Salina Street

Areas of Concern

At the time that it was recommended that this study be undertaken, special event traffic from the Carrier Dome was being routed through the study area. Special event traffic is no longer routed through the study area and therefore, is no longer an area of concern.

Ten locations were identified through the public involvement process as needing analysis. Following is a list of the locations and specific concerns regarding each location. A road map is included in Appendix C for reference.

Location

S. Salina St. between Ballantyne Rd. and Florence Ave.
 Seneca Tnpk. between Midland Ave. and S. Salina St.
 S. Salina St. and Seneca Tnpk.
 Kirk Park area
 W. Newell St. and Richardson Ave.
 South Ave. and Cortland Ave.
 Colvin St. and Garfield Ave.
 Furman St. and Midland Ave.
 Furman St. and S. Salina St.

Concern

Traffic patterns
 Pavement striping
 LOS & accidents
 Traffic speeds
 Traffic speeds
 Alignment & accidents
 Alignment & accidents
 Alignment & accidents
 Alignment & accidents

In addition, the need for pedestrian crossings was noted at the intersections of S. Salina St. and Brighton Ave., and S. Salina St. and Castle Street. Field investigation revealed that new pedestrian crosswalk striping is needed at S. Salina St. and Brighton Ave. due to a pavement overlay on S. Salina Street. However, pedestrian crosswalks are present at S. Salina St. and Castle St.

South Salina Street between Ballantyne Road and Florence Avenue

Land use along S. Salina St. between Ballantyne Rd. and Florence Ave. is exclusively commercial. Field investigations revealed that there are ten curb cuts (access points) along the west side and five along the east side of S. Salina Street. This does not include the signalized access to Valley Plaza at Dawes Ave. or the intersections of S. Salina St. with Filmore Ave. or

South Side Transportation Study

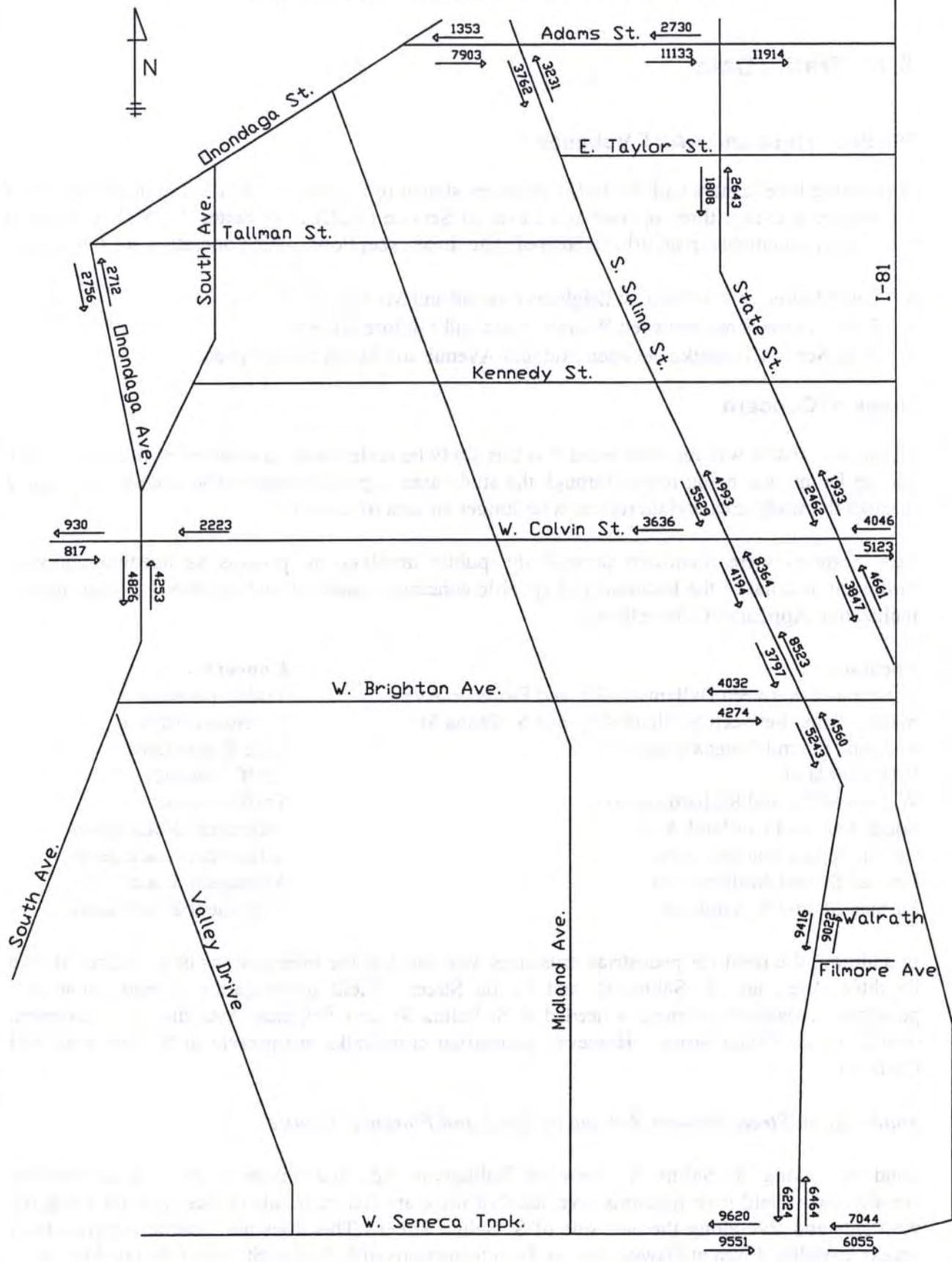


Figure 5-1

1997 Seasonally Factored AADT

Source: NYS DOT

South Side Transportation Study

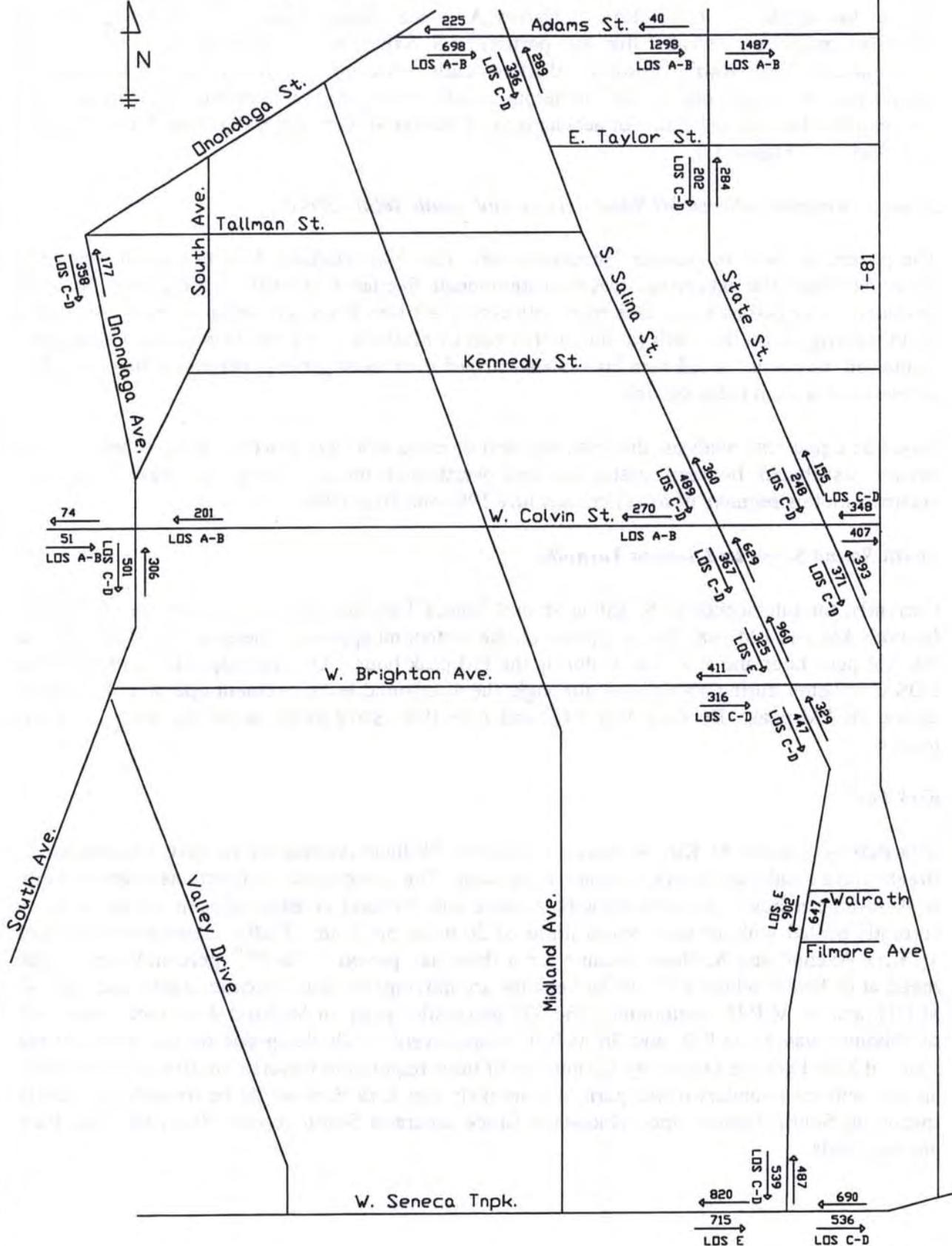


Figure 5-2

1997 PM Peak Hour Volumes (4 - 5 PM)

Source: NYSDOT

Anderson Avenue. S. Salina St. is a two lane undivided urban road with a southbound left turn lane at the signalized intersection of Dawes Ave. and Valley Plaza. The planning analysis discussed previously revealed that this portion of S. Salina St. is operating at a LOS E. The combination of high traffic volumes and fifteen curb cuts along a portion of road approximately three tenths of a mile long creates numerous conflict points for vehicles and pedestrians. This may explain the high incidence of accidents on S. Salina St. between Ballantyne Rd. and Dawes Ave. shown in Figure 5-3.

Seneca Turnpike between Midland Avenue and South Salina Street

The pavement width on Seneca Turnpike is forty feet from Midland Ave. to a point west of S. Salina St. where the pavement flares to accommodate five lanes of traffic at the intersection. The pavement is striped as a two lane road with center left turn lanes providing access to Meachem Field parking lot on the south (at the intersection of Midland Ave.) and Bob Cecile Community Center on the north. A left turn lane is also striped over an at-grade concrete median providing access to Meachem Field ice rink.

Based on a planning analysis, this road segment operates at a LOS E with traffic volumes almost evenly distributed between eastbound and westbound travel. Thirty-five traffic accidents occurred on this segment of road between July 1993 and June 1996.

South Salina Street and Seneca Turnpike

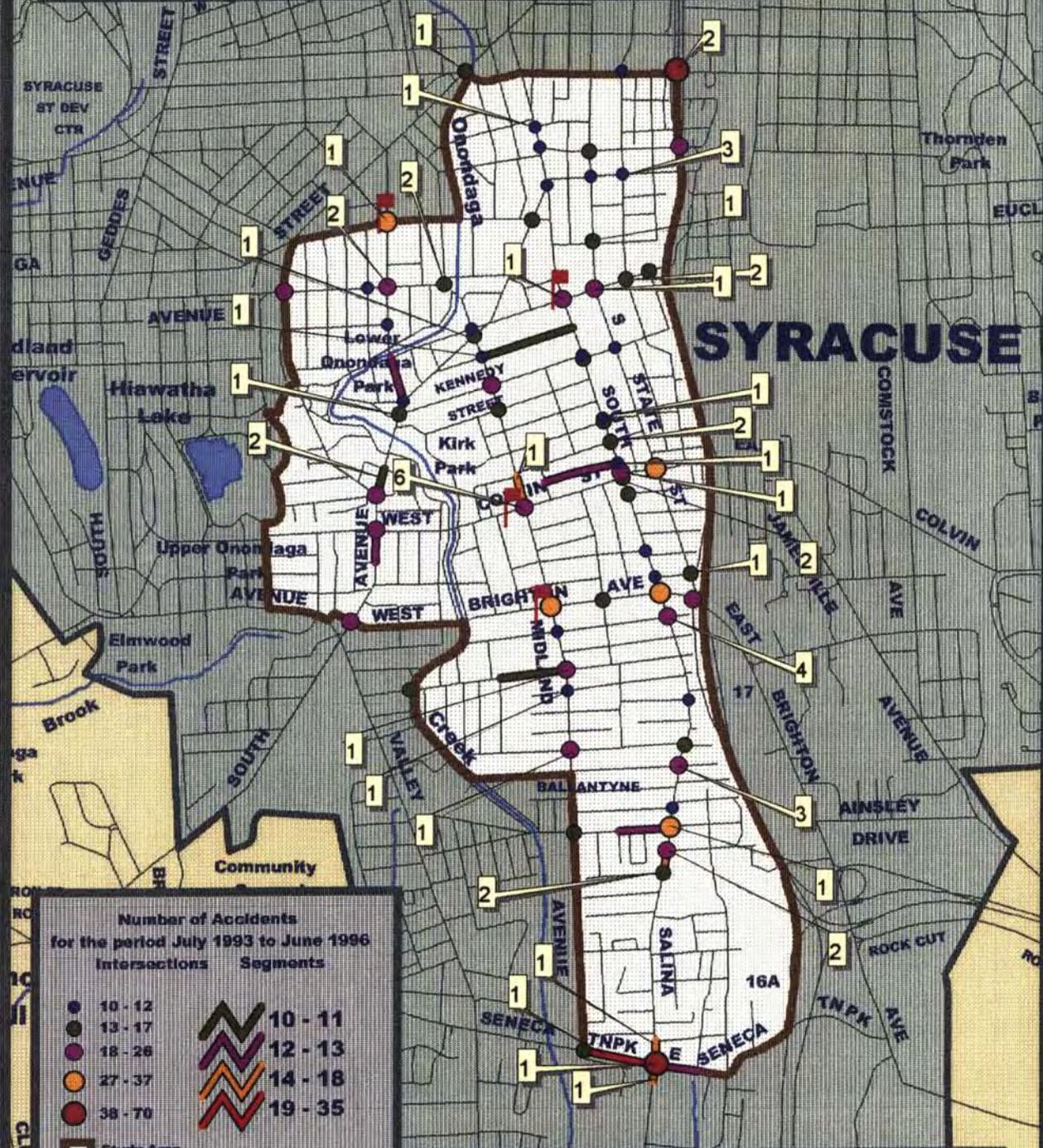
Currently, the intersection of S. Salina St. and Seneca Turnpike operates at an overall LOS of C for both AM and PM peak hours. However, the eastbound approach operates at a LOS E during the AM peak hour and at a LOS D during the PM peak hour. All other approaches operate at a LOS C or better during both peaks, although, the westbound left movement operates at a LOS E during the PM peak. Between July 1993 and June 1996, sixty traffic accidents occurred at this location.

Kirk Park

Kirk Park is bounded by Kirk Avenue on the north, Midland Avenue on the east, five residential streets to the south, and South Avenue on the west. The speed limit on all streets within the city is 30 miles per hour. A curve on Kirk Avenue and Midland Avenue adjacent to the park are currently posted with advisory speed limits of 20 miles per hour. Traffic counters were placed on Kirk Avenue and Midland Avenue for a three-day period. The 85th percentile speed (the speed at or below which 85% of the vehicles are moving) on Kirk Avenue, eastbound, was 33 M.P.H. and 38 M.P.H. westbound. The 85th percentile speed on Midland Ave. northbound and southbound was 37 M.P.H. and 36 M.P.H., respectively. Vehicle speeds on the streets to the south of Kirk Park are limited by the number of turns required to traverse the five streets making up the southern boundary of the park. It is unlikely that Kirk Park would be impacted by traffic speeds on South Avenue since Onondaga Creek separates South Avenue from the Kirk Park playing fields.

South Side Transportation Study

Figure 5-3



Number of Accidents for the period July 1993 to June 1996

Intersections	Segments
● 10 - 12	⚡ 10 - 11
● 13 - 17	⚡ 12 - 13
● 18 - 26	⚡ 14 - 18
● 27 - 37	⚡ 19 - 35
● 38 - 70	

■ Study Area
 ■ City of Syracuse
 ■ High accident locations to be analyzed in separate study

of Pedestrian Accidents

Traffic Accident Locations

SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source: SMTC & NYSDOT

0 0.5 Miles

West Newell Street and Richardson Avenue

West Newell Street is a long linear street with little grade change that spans the eastern and western boundaries of the study area. The street geometry makes it possible to drive above the city speed limit of 30 miles per hour. Traffic counters placed on West Newell Street for a three-day period indicate that the 85th percentile speed is 38 M.P.H. in the eastbound direction and 32 M.P.H. in the westbound direction. Traffic speeds are of a concern in this area since McKinley playground is located south east of the West Newell Street / Richardson Avenue intersection. Richardson Avenue is a short street that intersects West Newell Street on the north. Vehicle speeds on Richardson Avenue are limited by the length of the street.

South Avenue and Cortland Avenue



Top: Looking north on South Avenue
Bottom: Looking south from Cortland Avenue

As shown in the above photographs, the alignment of the Crescent, South, and Cortland Avenues intersection is a three-pronged "y", with Cortland Ave. veering off to the east. Eleven accidents occurred at this location during the three-year period from July 1993 to June 1996. Physical realignment of the intersection does not seem feasible given residential and commercial properties along the roadways, however, additional pavement striping may help guide drivers through the intersection.

Colvin Street and Garfield Avenue

Limited site distance from both approaches of Garfield Avenue at the intersection with Colvin Street has been identified as being a problem. On the southbound approach to the intersection, site distance is limited by hedgerows on both the northeast and northwest corner properties (see following photos). Site distance is limited by a dead end residential street entering the intersection east of the northbound approach (see photo). This alignment makes it difficult for drivers to know how far to pull into the intersection to view oncoming traffic. Removal or extensive trimming of the hedges on the southbound approach and pavement striping to delineate where drivers should stop on the northbound approach may improve site distance at the intersection.



Top: Looking east on Colvin Street from Garfield Avenue (north)
Middle: Looking west on Colvin Street from Garfield Avenue (north)
Bottom: Looking east on Colvin Street from Garfield Avenue (south)

Intersections of Furman Street and Midland Avenue & Furman Street and S. Salina Street

Field investigation did not reveal any site distance issues at either of these intersections. Twelve traffic accidents occurred at the Midland Ave. intersection, while less than ten accidents occurred at the S. Salina St. location during the three year period July 1993 to June 1996.

Additional Studies

Four intersections within the study area were identified as high accident locations and were analyzed in a separate study to identify the types of accidents and to recommend intersection improvements. The intersections are shown in Figure 5-3 along with other locations at which more than ten accidents occurred during the three-year period July 1993 to June 1996. The *High Accident Location Analysis Report*, prepared by SMTC for the City of Syracuse, was completed in April 1999. A brief summary of the findings and recommendations follows:

South Ave. and Tallman St.

A high number of accidents at this location were caused due to driver inattention. The report recommends that the City consider moving on street parking further away from the intersection.

S. Salina St. and Castle St.

The accident analysis did not reveal any significant factors that contribute to the intersection's accident profile. Therefore, no recommendations for improvements were made.

Midland Ave. and Colvin St.

A number of pedestrian accidents occurred at this location. The report recommends the installation of pedestrian buttons and lights at this intersection.

Midland Ave. and Brighton Ave.

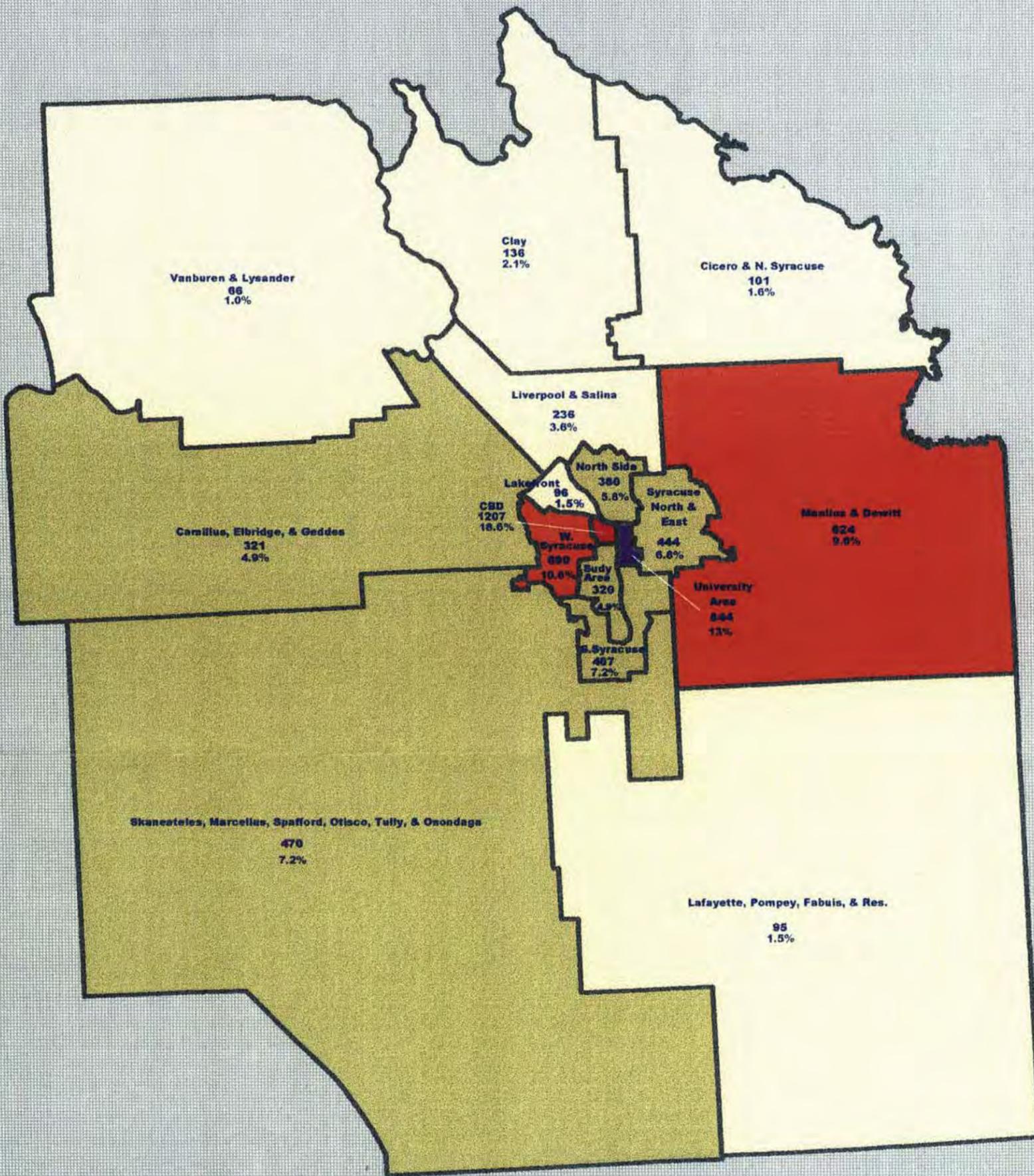
A number of accidents were associated with motorists "jumping" the green or trying to "make it through" the yellow. It was recommended that an all red interval, following each yellow interval, be added to the traffic signal timing.

Origins and Destinations

The Trip Density graphic shown in Figure 5-4 illustrates the origins and destinations of vehicle trips during the PM peak hour traveling to and from the study area within Onondaga County. The majority of trips (1,207 or 18.6%) occur between the study area and the Central Business District (CBD) of the City of Syracuse. The next most popular destination is the University area with 844 or 13% of all trips. The west side of Syracuse and Manlius/Dewitt also claim a significant number of trips at 1,207 or 18.6% and 624 or 9.6% of all trips, respectively. The high volume of trips to the Manlius/Dewitt area may be due to the high employment density depicted in Figure 4-6.

South Side Transportation Study

Figure 5-4



Total PM Trips

- 0 - 250
- 251 - 500
- 501 - 750
- 751 - 1000
- 1000 & above

Trip Density

0 5 Miles



SMTC

Syracuse Metropolitan Transportation Council November, 1998
 Basemap Copyrighted by New York State Department of Transportation
 Data Source: SMTC Travel Demand Model

CHAPTER 6 - TRANSPORTATION SURVEYS

6.1 SMTC Public Transportation Survey

In an effort to obtain input from the public, a transportation survey was distributed at the first public meeting. With assistance from the Office of Neighborhood Planning, the surveys were also distributed to a variety of agencies serving South Side residents to be filled out as part of the agencies' in-take process. Of the approximate six hundred surveys that were distributed, forty surveys were completed. See Appendix D for a complete summary of the survey responses. Following is a brief summary of the responses.

Is transportation a problem in your daily life (Do you have trouble getting from Point A to Point B?)

Yes: 53%
 No: 43%
 No response: 4%

Do you own a car or have access to a car for transportation?

Yes: 23%
 No: 75%
 No response: 2%

How do you typically get to desired destinations?

60% of the individuals who completed surveys typically use the bus.

If you use public transportation (i.e. CENTRO), can you easily travel to the following destinations?

Work (58% of the individuals who completed surveys used public transportation to get to work)

Yes: 38%
 No: 20%

Shopping (55% of the individuals who completed surveys use public transportation to get to shopping)

Yes: 35%
 No: 20%

Medical Care (63% of the individuals who completed surveys used public transportation to get to medical care)

Yes: 48%
 No: 15%

School (28% of the individuals who completed surveys used public transportation to get to school)

Yes: 23%

No: 5%

Social/Recreational (48% of the individuals who completed surveys used public transportation to get to social and/or recreational activities)

Yes: 23%

No: 25%

Housing (31% of the individuals who completed surveys used public transportation to get to housing)

Yes: 23%

No: 8%

The most common comments received related to the need for more frequent bus service and the addition of service after 6:00 PM and on weekends.

If your destination was within walking or biking distance, would you walk or bike?

Yes: 68%

No: 23%

Did not respond: 9%

Sidewalk conditions or lack of adequate crosswalks and physical disability were noted as the two primary reasons why an individual would not walk or bike.

Are there any intersections or areas on the City's South Side that you feel need transportation improvements and/or road improvements?

Yes: 43%

No: 45%

If yes, what location? Improvement Needed?

Six individuals stated that improvements were needed on S. Salina Street, although the only specific improvements noted were better pedestrian crossings at Castle Street and Brighton Avenue.

6.2 Resident Survey

In 1997, a student of the Maxwell School of Citizenship and Public Affairs at Syracuse University completed a study titled *South Side Transportation and Land Use Survey* for the Syracuse Metropolitan Transportation Council (SMTTC). The study included a face-to-face survey of 43 South Side residents to obtain their input on a variety of transportation related issues. Appendix B includes a copy of the resident survey with a summary of the responses.

Following is a partial summary of the results:

- 46% of the respondents feel they can get around in and outside their neighborhood easily.
- 79% of the respondents have access to a car.
- 49% of the respondents most frequently visit a grocery store in their neighborhood.
- 83% of the respondents use a car to go grocery shopping.
- 46% of the respondents most frequently go to a healthcare provider located outside their neighborhood.
- 75% of respondents use a car to get to their healthcare provider.
- 46% of the respondents' most important destination is located outside their neighborhood.
- 68% of the respondents use a car to get to their most important destination.
- 51% of the respondents feel the bus service in their neighborhood is good.
- 38% of the respondents feel that more mass transit is extremely needed in their neighborhood.
- Western Lights and the P&C at Valley Plaza were the most common grocery shopping locations of respondents.
- The most common recommendations for improving bus service included more frequent bus runs and more runs after 6:00 PM, weekends, and holidays.

6.3 Summary

It is important to keep in mind that the sample population questioned in both of the above surveys does not necessarily represent the target population. There were no identifying questions on the survey; therefore, there is no way to tell if the sample and the target populations match. However, both surveys indicate a need for more frequent bus service and the need for bus service after 6:00 PM and on weekends.

CHAPTER 7 - TRANSPORTATION AND MOBILITY ISSUES

7.1 Introduction

Three categories of transportation/mobility issues were identified at the start of this study. These issues provided guidance in determining the type of data that needed to be collected and areas to focus on. The issues were identified through a variety of sources including:

- City-Wide EZ/EC Proposals for Tomorrow's Neighborhoods Today (TNT) Plans
- TNT Meeting Minutes
- Sector 3 TNT 1998-2002 Goals Document
- Report to the Center for Education and Development of Affordable Residences, Inc. by the Maxwell School of Citizenship & Public Affairs, 1998
- Analysis of Impediments to Fair Housing Choice, 2/96
- Goals obtained through the FOCUS (Forging our Community's United Strength) vision fair process
- Miscellaneous letters
- Input from Study Advisory Committee (SAC) members and Syracuse Metropolitan Transportation Council (SMTC) staff

The transportation and mobility issues originally identified fell into three categories and included:

Mobility

- Commuting during non-traditional hours
- Reverse commuting from City to suburbs for access to jobs
- Access to fair housing, shopping
- Ontrack platform that serves the South Side

Traffic & Safety

- Safety deficiencies (high accident locations)
- Existing traffic patterns on South Salina St. between Ballantyne Road and Florence Ave.
- Traffic speeds in Kirk Park area and W. Newell St. and Richardson Ave.

Facilities

- Bridge, pavement, and sidewalk conditions
- Desire for Creekwalk, bicycle, and pedestrian facilities

Through the course of the study and the public involvement process, the above issues were further defined and modified. In some cases, action has already been taken to address an issue or action is planned for the future.

7.2 Mobility

Transit

Issues

A review of Centro bus routes and the results of a public transportation survey completed earlier in the study, revealed six specific needs relating to transit. The needs include:

- more frequent bus service during current operating hours
- bus service after 6:00 PM
- additional weekend bus service
- access to shopping
- commuting from the City to the suburbs during non-traditional hours (evenings and weekends)
- greater advertising of currently available Centro service
- a community shuttle to provide children with access to special events or programs

Opportunities

The Central New York Regional Transportation Authority (CNYRTA), whose public transportation service is known as Centro, has initiated a strategic planning project. The Regional Mobility Action Plan (ReMAP) project involves research to determine the communities transportation needs, deficiencies in the current system, opportunities to coordinate services with other agencies, long-term funding, and implementation.

Although ReMAP has a regional perspective, new services resulting from the project may benefit residents of the South Side. Possible new services that are being evaluated include:

- enhanced trunk routes
- small bus collector/feeder routes
- reverse direction express services
- van pooling and ride matching
- establishment of a mobility manager

The Centro shopper shuttles, identified previously, that provide South Side residents with transportation to and from grocery stores have been in many cases successful, and set an example for possible new and/or expanded services.

Increased advertising of Centro services has the potential to benefit both the potential rider and Centro. The individual is made aware of a service that may provide access to a desired

destination, and Centro has the benefit of increasing ridership and consequently financial sustainability.

Constraints

Although the CNYRTA has initiated the ReMAP project to identify solutions to regional transportation issues, the project is regional in nature and may not focus on the specific needs of South Side residents. The CNYRTA is aware of the issues identified above, but new or additional services would need to be financially supported in order to be initiated.

Passenger Rail

Issues

Passenger rail service in the study area is provided by the New York Susquehanna & Western Railway (NYS&W) subsidiary, Ontrack. Current service runs between Carousel Center and a boarding platform located at Raynor Avenue, which primarily serves the University Area. The Raynor Avenue boarding platform is located just outside the northeast portion of the study area. The following needs were identified regarding passenger rail:

- a boarding platform to serve South Side residents
- increased hours of operation and more frequent service
- greater advertising of available services

Opportunities

A new boarding platform was constructed at East Colvin St. and opened to the public in the spring of 1999. This platform will serve residents of the South Side, providing direct access (no transfers required) to the University Area, Armory Square, Carousel Mall, and Jamesville Beach (for recreational activities). Construction to extend the rail line from Carousel Center to the new William F. Walsh Regional Transportation Center (RTC), P&C Stadium, and the Regional Market is anticipated to be complete in the spring of 2000.

The proposed extension of passenger rail service to the areas noted has the potential to provide South Side residents with access to employment, educational opportunities, health care, shopping, recreation and the RTC. However, normal hours of operation are limited to between 11:15 AM and 6:20 PM. Hours of operations have been temporarily expanded to address concerns about traffic congestion resulting from a six-month construction project on I-81. In order for rail to be a viable means of transportation, the increased hours of operation and frequency of service would need to be maintained.

Increased advertising of existing and future Ontrack services is required to make people aware that passenger rail is a transportation alternative. Advertising has the potential to benefit both the individual and Ontrack. The individual is made aware of a service that may provide access to a desired destination, and Ontrack has the benefit of increasing ridership and, consequently, financial sustainability.

Constraints

As noted under opportunities, the use of passenger rail as a viable means of transportation depends in part on the hours of operation, the frequency of service, and whether people know the service exists. Ridership would have to be significant enough to make the service financially beneficial.

City of Syracuse School District Busing

Issues

At the second public meeting, a number of residents brought up their concern regarding the City of Syracuse School District busing policy. School busing is ninety percent (90%) reimbursed by the state with the remaining ten percent covered by the City. State education law dictates that school busing be provided only to those students outside a one and a half mile radius for grades Kindergarten through eight, and outside a two mile radius for grades nine through twelve. Safe passage of children to school, who live within the noted radius, is the responsibility of the parent. Parents of Elmwood Elementary School children living within the one and a half-mile radius stated their desire to have transportation provided for their children due to a number of transportation related issues. The issues include:

- excessive speeds of vehicles traveling through the area
- poor sidewalk conditions
- perceived crime (especially in and around vacant and boarded-up houses)
- the presence of dangerous dogs in the area
- security needs at bus stops

Opportunities

Parents or children can make a special request for transportation by filling out a form that can be obtained from the school the child attends and submitting it to the Syracuse City School District Transportation Office. Transportation is provided on a space available basis to the nearest bus stop. No new bus stops are created as a result of the special request process. If the transportation office denies the request, there is an appeals process where the applicant can petition to have transportation provided.

Regardless of whether or not transportation is provided for all children, steps can and should be taken to make walking within the vicinity of schools less hazardous. The City of Syracuse has received \$5,000,000 in federal funds to assess vacant housing to develop a plan that will allow for either demolition or rehabilitation of the houses. Improvements to housing, providing better sidewalk conditions, making transportation modifications to existing streets surrounding schools to decrease traffic speeds, increasing enforcement, and increasing security at bus stops would benefit all pedestrians.

Constraints

The main constraint to providing busing within the noted radii is financial resources. There are exceptions to the noted busing policy. The City and board of education have designated certain "no walk zones" in areas of high traffic volumes such as Interstate 81, where busing is

provided and the cost is covered by the City School District. However, due to the subjective nature of crime and sidewalk conditions, "no walk zones" are not created for these reasons.

Improving sidewalk conditions is also a challenge since maintenance and clearing of sidewalks is the responsibility of the property owner and not the City. Sidewalks will be further discussed in Section 7.3, Facilities.

7.3 Facilities

Pavement

Issues

Based on the New York State Department of Transportation (NYSDOT) Pavement Condition Rating Manual, the majority of pavement rated by the NYSDOT within the study area, including much of S. Salina Street, is in poor or fair condition. Approximately twenty percent of the City of Syracuse rated pavement is in poor or very poor condition. In addition, responses to the public transportation survey supported the need for transportation improvements on S. Salina St.

Opportunities

Lake Improvement Projects that will be occurring over the next fourteen years have the potential to result in new street pavement, curbs, and sidewalks for impacted streets within the study area.

Unimproved streets which are defined as streets without curbs and no concrete base are evaluated every four years based on their pavement rating to determine if a slurry seal is needed. Improved streets are evaluated annually based on their pavement rating to determine if they will be included on the street reconstruction list. However, if a resident feels their street, improved or unimproved, is in poor condition and improvements are necessary, they can call the City's complaint line (448-City) and voice their concerns.

Poor pavement conditions on S. Salina St. combined with a number of other conditions including extensive curb cuts (commercial driveways), high traffic volumes, poor levels of service, and high accident locations make the street a good candidate for additional study. A corridor study of S. Salina St. would provide the opportunity to make comprehensive long-term improvements rather than spot improvements.

Constraints

It is important that the City and the Lake Improvement Project Office continue to coordinate activities to ensure that the City takes advantage of infrastructure improvement and development opportunities.

City budget constraints limit the extent of pavement improvements.

Sidewalks

Issues

The South Side study area is made up of pedestrian and transit dependent neighborhoods. However, the City of Syracuse currently does not have a sidewalk condition rating program since maintenance and clearing of sidewalks is the responsibility of the property owner. A survey was completed by a student of the Maxwell School of Citizenship at Syracuse University in 1997 for eighty-seven block segments throughout the study area. The survey indicated that thirty-six percent of the sidewalks inventoried were in poor condition and twenty-three percent of the sidewalks were in fair condition. In addition, the public transportation survey indicated that sidewalk conditions or lack of adequate crosswalks was noted as a primary reason why individuals did not walk to desired destinations (within walking distance). Residents who attended the second public meeting for the study also noted poor sidewalk conditions as a reason why they did not want their children to have to walk to school.

Due to the pedestrian nature of the South Side, snow and ice conditions on sidewalks are also an issue. Comments received through the public involvement process revealed that sidewalks are often not cleared of snow and ice and commercial establishments sometimes clear snow from their parking lots into the sidewalk or other areas that impede or restrict pedestrian flow and visibility.

Another issue related to sidewalks and pedestrian flow is the lack of connection between sidewalks and bus stops. The lack of a connecting hard surface between the sidewalk and the curb at bus stops forces individuals to walk in mud, snow, ice, or other undesirable conditions.

Opportunities

Pedestrian enhancements that address sidewalk/crosswalk conditions, that improve the link to transit, and keep the sidewalks clear of snow and ice, would preserve and improve the pedestrian and transit nature of the South Side. Currently, the City has a complaint driven sidewalk assessment program where residents can call the City complaint line (448-City) if they have an issue with a particular section of sidewalk. Once the City receives a complaint, they will visit the site to determine the condition and if necessary, the City Code Enforcement Office can cite the homeowner. The homeowner is then required to hire a contractor to make sidewalk repairs or arrange with the City to do the repairs. If the City repairs the sidewalk, the cost may be assessed to the homeowner and included in the taxes.

Constraints

Sidewalk maintenance and snow removal are the responsibility of the property owner. This policy makes providing well-maintained sidewalks, clear of obstructions, difficult and restricts the ability to make area wide improvements. It is unlikely that the current sidewalk policy will change due to City manpower and financial constraints.

Recreational Trails

Issue

Development of a recreational trail within the study area is desirable. A feasibility study to look at extending a 1.89-mile section of creekwalk along Onondaga Creek from Armory Square to Kirk Park is in the current 1998-2002 SMTC Transportation Improvement Program.

Opportunities

The Lake Improvement Project Office is working with residents of the South Side and the City regarding the potential for developing a portion of the creekwalk as part of the sewer construction restoration projects. Assuming the proposed portions of the creekwalk north of study area are also constructed, the trail would ultimately provide access to the inner harbor development, including Carousel Mall and Onondaga Lake Park. The creekwalk would also provide access to a new portion of the Erie Canal Trail (proposed by the SMTC Bike/Pedestrian Committee) that would connect existing trails to the east and west of the City.

Constraints

Constraints to the completion of the creekwalk in the area will be identified in the aforementioned feasibility study. However, the cost of acquiring sufficient right of way may be a limiting factor.

7.4 Traffic and Safety

Truck Route Designations

Issue

Currently the City of Syracuse does not have a truck route designation system in place. Citizen complaints regarding truck traffic on residential streets, often result in "No Truck" signs being erected without regard to an overall plan. The City does not have an inventory of existing signage that prohibits trucks or designates truck routes.

Opportunities

A truck route designation system would ensure that trucks are using the most suitable streets available to handle trucks. This would benefit truck drivers traveling through the area and would reduce the number of trucks traveling on inappropriate routes that may create conflict with local residential vehicle traffic and pedestrians. A comprehensive truck route designation system ideally would accommodate truckers without disrupting neighborhoods. A Truck Route Study for the City of Syracuse has been funded through the 1999-2000 SMTC Unified Planning Work Program (UPWP) and is currently underway.

Constraints

Developing a truck route designation system would require a significant amount of field investigation and inventory. Due to the extent of work required, the project may need to be segmented and completed over a number of years. Public information would be important to

limit the negative response to the project or to specific activities such as the removal of existing "No Trucks" signs.

High Accident Locations

Issues

Figure 5-3 showed street segments and intersections where more than ten accidents occurred in the three-year period from July 1993 to June 1996. Accident rates were calculated using a planning level analysis at locations where traffic volumes were available. See Appendix E for accident rate calculations. The following table shows accident rates at five locations. The accident rate is equal to the accidents per million vehicle-miles of travel (MVM).

**Table 7-1
Street Segment Accident Rates**

Street Name	Location	Accident Rate (MVM)
South Ave.	Between W. Colvin St.& Eastman Ave.	14.53
S. Salina St.	Between Filmore Ave. & Dawes Ave.	10.60
S. Salina St.	Between Seneca Tnpk. & Orlando Ave.	18.51
E. Seneca Tnpk.	Between S. Salina St. & Seneca St.	7.55
W. Seneca Tnpk.	Between S. Salina St. & Midland Ave.	7.94

Source: Syracuse Metropolitan Transportation Council (SMTC)

The mean accident rate for this type of street segment was obtained from the New York State Department of Transportation (NYSDOT) Safety Information Management System (SIMS). All five street segments exceed the mean accident rate of 4.04 MVM.

Table 7-2 shows accident rates for five intersections. The accident rate is equal to the number of accidents per million vehicles entering the intersection annually (MEV).

**Table 7-2
Intersection Accident Rates**

Intersection	Accident Rate (MEV)
South Ave. & W. Colvin St.	1.60
State St. & E. Colvin St.	1.92
S. Salina St. & Colvin St.	0.82
S. Salina St. & Brighton Ave.	1.79
S. Salina St. & Seneca Tnpk.	1.81

Source: Syracuse Metropolitan Transportation Council (SMTC)

The mean accident rates for these types of intersections were obtained from the NYSDOT Safety Information Management System (SIMS). The mean accident rate for an intersection similar to S. Salina St. & Seneca Tnpk. is 0.61 MEV. The mean accident rate for the four other intersections is 0.78 MEV. All five locations exceed the mean accident rates.

Based on the fourth edition of the *Traffic Engineering Handbook*, pedestrian accidents account for 15% to 45% of all traffic accidents worldwide with rates in North America being among the lowest. Assuming pedestrian accidents represent 15% of all traffic accidents in North America, six locations within the study area meet or exceed that threshold. Table 7-3 lists the locations and associated percent of pedestrian accidents per total accidents.

**Table 7-3
Pedestrian Accidents**

Location	Percent of Total Accidents
Intersection of Oakwood Ave. & Burt St.	27
Intersection of Oakwood Ave. & E. Castle St.	15
Intersection of Midland Ave. & W. Colvin St.	23
Intersection of S. Salina St. & Dawes Ave.	15
Intersection of S. Salina St. & LaFayette Ave.	22
South Ave. between Onondaga Ave. & Bissell St.	20

Source: Syracuse Metropolitan Transportation Council (SMTC)

Opportunities

Five of the locations noted in the above tables as exceeding mean accident rates are on S. Salina St. with two additional locations on S. Salina St. exceeding pedestrian accident percentages. As discussed previously under pavement, S. Salina St. is a good candidate for a corridor study to look at infrastructure and traffic conditions.

Biennially, ten high accident locations within the City of Syracuse are selected by the City for an in depth accident analysis. In 1998, four of the intersections analyzed were within the South Side study area. Opportunities exist for additional evaluation of South Side intersections in future years.

Constraints

Since the City's review of high accident locations only occurs every two years, is limited to ten locations, and includes locations throughout the City, other intersections may take precedence (due to a number of factors such as severity or types of accidents) over South Side locations. Therefore, there is no guarantee that the locations identified above, noted as exceeding the mean accident rates will be analyzed under the existing program in the near future.

It is also important to note that accident rates were only completed for locations where data was available. Additional locations may exist that exceed mean accident rates.

Commuter Traffic

Issue

Land use within the study area is primarily residential with commercial properties predominately located in the northern portion of the study area and along S. Salina St. and South Avenue. Land use to the north and east of the study area, the Central Business District and University Area, are primarily commercial and community services. Areas west and south of the study area are mostly residential but also include two large community service areas, Onondaga Community College and Community Hospital. Commercial and community service land uses are high traffic generators. South Side streets carry significant commuter traffic traveling through the study area from residential areas on the west and south to employment and community service areas to the north and east, as well as traffic from the north and east travelling to community service areas to the south and west. Commuter traffic traveling through the study area divides residential neighborhoods and creates conflict between motorist and pedestrians, especially in areas surrounding schools and parks.

Opportunities

Limiting commuter traffic traveling through the study area would help protect and improve the livability of neighborhoods and would assist in the preservation and enhancement of the pedestrian nature of this area.

Constraints

South Side streets are highly accessible and convenient. Unless other more convenient routes are made available or steps are taken to make South Side streets less accessible and/or convenient (possibly through speed enforcement or traffic calming devices), commuting patterns will remain the same.

Areas of Concern

Based on the existing conditions analysis there are a number of locations where specific transportation issues exist. Following is a list of the locations and issues.

Location	Issue
S. Salina St. between Ballantyne Rd. & Florence Ave.	LOS, accidents & traffic patterns
S. Salina St. and Seneca Tnpk.	LOS & accidents
Seneca Tnpk. between Midland Ave. & S. Salina St.	LOS, accidents & striping
Kirk Park area, W. Newell St. & Areas Surrounding Schools and Parks	Traffic speeds
South Ave. and Cortland Ave.	Alignment & accidents
Colvin St. and Garfield Ave.	Alignment & accidents

In addition, new pedestrian crosswalk striping is needed at S. Salina St. and Brighton Ave. due to a pavement overlay on S. Salina Street.

South Salina St. between Ballantyne Road and Florence Avenue

Issues

S. Salina St. is a two lane undivided urban road with a southbound left turn lane at the signalized intersection of Dawes Ave. and Valley Plaza. A planning analysis revealed that this portion of S. Salina St. is operating at a Level of Service (LOS) E, below what is considered to be an acceptable LOS in an urbanized area. The combination of high traffic volumes and fifteen curb cuts (access points) along a portion of road approximately three tenths of a mile long creates numerous conflict points for vehicles and pedestrians. This may explain the high accident rate on S. Salina St. between Filmore Ave. and Dawes Ave., discussed previously under High Accident Locations.

Recent proposals for commercial development to the north and south of Valley Plaza have the potential to increase traffic congestion and conflicts between vehicles and pedestrians on adjacent streets and within the plaza. Community representatives are concerned that the proposed development will have a negative impact on adjacent residential streets and neighborhoods and detract from the pedestrian nature of the community. Comments received from the public indicate that a more specific site plan review process and guidelines, as well as some modifications to existing zoning are needed.

Opportunities

As noted previously under High Accident Locations, S. Salina St. is a good candidate for an additional study to address a number of issues including pavement conditions, high accident locations, capacity, access management, zoning and site review guidelines. A comprehensive look at these issues, with a focus on protecting and enhancing adjacent neighborhoods and the pedestrian nature of this area may prevent additional degradation of conditions.

Constraints

Proposed development may be approved and constructed before an additional study to identify appropriate action can be completed. Access management practices, and site review guidelines to protect and enhance the quality of life of individuals living in adjacent neighborhoods are easier to implement before development occurs rather than after.

South Salina St. and Seneca Turnpike

Issues

Currently, the intersection of S. Salina St. and Seneca Turnpike operates at an overall LOS of C for both AM and PM peak hours. However, the eastbound approach operates at a LOS E during the AM peak hour and at a LOS D during the PM peak hour. All other approaches operate at a LOS C or better during both peaks, except for the westbound left movement that operates at a LOS E during the PM peak.

As indicated previously under High Accident Locations, this intersection has an accident rate of 1.81 MEV, which exceeds the mean accident rate for similar intersections of 0.61 MEV.

Opportunities

A study of South Salina St. (as discussed previously) that includes a capacity and accident analysis may result in recommendations for improving this intersection.

Constraints

Without additional knowledge of the type and cause of accidents at this location, it is difficult to make recommendations for decreasing the number of accidents.

Seneca Turnpike between Midland Avenue and South Salina Street

Issues

The pavement width on Seneca Turnpike is forty feet from Midland Ave. to a point west of S. Salina St. where the pavement flares to accommodate five lanes of traffic at the intersection. The pavement is striped as a two lane road with center left turn lanes providing access to Meachem Field parking lot on the south (at the intersection of Midland Ave.) and Bob Cecile Community Center on the north. A left turn lane is also striped over an at-grade concrete median providing access to Meachem Field ice rink.

Based on a planning analysis, this road segment operates at a LOS E with traffic volumes almost evenly distributed between eastbound and westbound travel. The accident rate for this segment of road is 7.94 which exceeds the mean accident rate of similar road segments of 4.04 MVM

Opportunities and Constraints

A project to widen Seneca Turnpike to eliminate congestion included in the 1998-2002 Transportation Improvement Program (TIP) has been deferred. The City of Syracuse is currently evaluating pavement marking improvements for this road segment.

Kirk Park, West Newell St., and Elmwood School Areas

Issues

The speed limit on all streets within the City is 30 miles per hour (M.P.H.). A curve on Kirk Avenue and Midland Avenue adjacent to Kirk Park are currently posted with advisory speed limits of 20 miles per hour. The 85th percentile speed (the speed at or below which 85% of the vehicles are moving) on Kirk Avenue, eastbound, is 33 M.P.H. and 38 M.P.H. westbound. The 85th percentile speed on Midland Ave. northbound and southbound is 37 M.P.H. and 36 M.P.H., respectively. Fourteen accidents occurred at the intersection of Kirk Avenue and Midland Avenue for the three-year period July 1993 to June 1996. None of the accidents were pedestrian related.

The 85th percentile speed on West Newell St. is 38 M.P.H. in the eastbound direction and 32 M.P.H. in the westbound direction. Traffic speeds are of a concern in this area since McKinley playground is located south of West Newell St. between Richardson Avenue and Midland Avenue. Ten accidents (zero pedestrian related) occurred on this segment of road for the three-year period July 1993 to June 1996. Twenty-one accidents occurred at the intersection of West Newell St. and Midland Avenue during the same period, one of which was a pedestrian accident.

In addition to the two previously mentioned areas, citizens at the December 15, 1998 public meeting noted that excessive speeds are also an issue in the area surrounding Elmwood School. Residents believe that excessive speed and through traffic, utilizing South Side streets presents a direct threat to their children's safety and the quality of life within the community.

Opportunities

Keeping vehicle travel speeds within the desired range increases safety and enhances the pedestrian nature of the South Side community. Preserving and/or enhancing the pedestrian nature of the community increases the mobility of people, particularly children and the elderly, who would otherwise have difficulty getting around. Potential solutions to controlling excessive speeds include better enforcement of speed regulations and/or the implementation of a neighborhood traffic calming program. Traffic calming is the redesign/reconstruction of roadways and roadsides to physically and mentally encourage "calmer" (slower) traffic speeds. Traffic calming devices include sidewalk extensions, pedestrian islands, raised crosswalks, vertical and horizontal deflections, and visual modifications.

Constraints

Speed limits are imposed in order to promote lower relative speed conditions, better traffic flow, and to reduce accidents. However, if drivers do not consider speed regulations to be reasonable, the limits will be disobeyed and lose much of their value. High speeds and/or large variations in speeds may be caused by improper speed regulations or the lack of effective enforcement of speed laws.

Typically, residents request some form of traffic management measure such as an all way stop, reduced speed limit, or a turn prohibition when they perceive that traffic speeds are unsafe. However, these measures are usually ineffective at correcting these types of problems.

Additional information and analysis of the types of accidents that have occurred at these locations is needed to determine if the cause of the accidents is linked to traffic speeds. Better enforcement of speed regulations may be limited by the number of enforcement officers available and financial restrictions.

Opponents of traffic calming programs state that these devices impair emergency vehicle access and snow removal. If a traffic calming program were considered for areas surrounding schools and parks on the South Side, emergency vehicle access and snow removal would need to be taken into consideration.

South Avenue and Cortland Avenue Intersection

Issue

The alignment of the Crescent, South, and Cortland Avenues intersection is a three-pronged "y", with Cortland Avenue veering off to the east. Eleven accidents occurred at this location during the three-year period from July 1993 to June 1996.

Opportunities & Constraints

Physical realignment of the intersection does not seem feasible given residential and commercial properties along the roadways, however, additional pavement striping may help guide drivers through the intersection.

Colvin Street and Garfield Avenue Intersection

Issue

Limited site distance from both approaches on Garfield Avenue at the intersection with Colvin St. has been identified as being a problem. On the southbound approach to the intersection, site distance is limited by hedgerows on both the northeast and northwest corner properties. Site distance is limited by a grade change and a dead end residential street entering the intersection east of the northbound approach. This alignment makes it difficult for drivers to know how far to pull into the intersection to view oncoming traffic.

Opportunities

Regular trimming of the hedges on the southbound approach and pavement striping at both approaches to delineate where drivers should stop may improve site distance at the intersection.

Constraints

Consultation with the City revealed that the hedgerows in question have been trimmed in the past to improve site distance. Regular trimming of the hedgerows is necessary for it to be a long-term solution to the problem.

South Salina St./West Calthrop Avenue/I-81 access Intersection

Issues

An expressway market with two access driveways is located at the South Salina St./I-81 access intersection with West Calthrop Avenue located south and adjacent to the market. A field investigation completed in January 1999, with approximately eighteen inches of snow on the ground, confirmed that there is a conflict between pedestrian flow and vehicular traffic. Pedestrians wishing to proceed along the east side of S. Salina St. must cross four lanes of traffic accessing I-81. A second option for the pedestrian is to cross three or four lanes of traffic on S. Salina St. (depending on where they cross) to proceed along the west side of the street. Eleven accidents occurred at the intersection of West Calthrop Ave. and S. Salina St. between July 1993 and June 1996 (zero pedestrian accidents). Eastbound traffic on West Calthrop Ave. is limited to right turns only onto S. Salina Street. This eliminates some of the conflict, but the combination of turning and through traffic at the overall location makes pedestrian travel difficult. The condition is made worse by the lack of snow removal on sidewalks, causing pedestrians to walk in the street.

Opportunities

As discussed previously, a corridor study of S. Salina Street would be beneficial to further evaluate conditions along this street, including the interrelationship of land use (access management) and traffic flow. Improved pedestrian facilities, including the clearing of snow

from sidewalks, would reduce some of the conflict. Increased enforcement of sidewalk clearing may improve the percentage of sidewalks available to pedestrians and decrease the number of people forced to walk in the street during winter conditions.

Constraints

Field investigation of this location was limited due to the amount of snow on the ground, preventing identification of pavement striping and sidewalk locations. Additional information is needed to do further analysis. Enforcement of sidewalk clearing is limited due to City manpower and financial constraints.

CHAPTER 8 – DESCRIPTION AND EVALUATION OF ALTERNATIVES

8.1 Introduction

This chapter provides a description and evaluation of alternative solutions for addressing the transportation and mobility issues identified on the South Side of Syracuse. Ten alternative solutions were generated with the assistance of the Study Advisory Committee (SAC). The alternatives vary in scope from isolated maintenance to broad area wide improvements.

The following criteria, similar to that used to assess grant proposals for the Transportation Equity Act for the 21st Century (TEA-21), will be used to evaluate each of the alternatives.

Does the alternative:

1. Ensure cost and time efficient access to jobs, services, and centers of trade?
2. Enhance the integration and connectivity of the transportation system, across and between modes?
3. Improve the efficiency of the transportation system?
4. Reduce the impacts of transportation on the environment including neighborhoods and the community?
5. Reduce the need for costly future public infrastructure replacement?
6. Encourage private sector development patterns?
7. Increase the safety and security of the transportation system for motorized and nonmotorized users?

The purpose of the evaluation is to assist in developing an appropriate set of recommendations and an implementation plan for addressing South Side transportation and mobility issues.

8.2 Mobility

The following four alternatives were developed to improve mobility and ensure that the South Side is adequately served by the regional transportation system.

Alternative #1 - Shopper & Special Event Shuttles

Description

This alternative was developed in response to the need for access to shopping and to provide access for children to special events, as well as make people more aware of the services currently available. The alternative consists of the following:

- Modify shopper shuttles based on community need (i.e., coincide shopper shuttles with the receipt of food stamps)
- Encourage continued and new private sponsorship of shopper shuttles
- Encourage private or corporate citizen sponsorship of a community shuttle to provide children with access to special events or programs
- Investigate nontraditional marketing services such as distributing Centro promotional materials regarding services, specifically shopper shuttle services and the Valley Direct Service, to community organizations such as Jobs Plus and Communities United to Rebuild Neighborhoods (CURN)

Evaluation

This alternative addresses each of the seven evaluation criteria.

Alternative #2 - Job Access and Reverse Commute Initiatives

Description

Alternative #2 was developed to address the need for commuting from the city to the suburbs and for commuting during nontraditional hours. The alternative consists of the following:

- Support and work collaboratively with the Central New York Regional Transportation Authority (CNYRTA) to complete and implement the Regional Mobility Action Plan (ReMAP) project
- Support and work collaboratively with the CNYRTA to develop, adopt, and implement a Regional Job Access and Reverse Commute Transportation Plan

Evaluation

This alternative addresses each of the seven evaluation criteria. The CNYRTA was awarded a \$500,000 Federal Transit Administration (FTA) grant and \$45,000 was allocated in the SMTC 1999-2000 UPWP to develop a Regional Job Access and Reverse Commute Transportation Plan. A \$600,000 NYS Temporary Assistance to Needy Families (TANF) Transportation grant was also awarded jointly to CNYRTA and Onondaga County Department of Social Services to provide increased access to employment related transportation.

Alternative #3 - OnTrack Marketing, Signage & Passenger Amenities

Description

Since the completion of Technical Memorandum #2 in January 1999, the boarding platform at East Colvin Street that provides South Side residents with access to rail service has been constructed and is now open. In response to concerns about traffic congestion resulting from a six-month construction project occurring on I-81, OnTrack is providing free commuter shuttles from Jamesville Beach to the downtown Armory Square station. The shuttle, which makes intermediate stops at the Village of Jamesville, Rock Cut Road, Colvin Street, and Syracuse University, is financially supported by the Interstate Maintenance Funds project. The train operates mornings from 6:30 AM to 8:25 AM and afternoons from 1:15 PM to 6:40 PM. It is not

known whether the increased service times will continue beyond the construction season but it is anticipated that service to the East Colvin street platform will continue after the construction season is complete.

Prior to the construction season, OnTrack primarily provided access to recreational and retail services. Regardless of whether or not OnTrack continues with the commuter shuttle beyond the construction season or returns to the previous service schedule, the following improvements are suggested:

- Improve signage directing people to the facilities
- Improve advertising of available services
- Passenger amenities at the Colvin Street station including shelter from the weather, seating, and lighting

Evaluation

Combined, these improvements would enhance passenger rail service within the community and would meet all seven evaluation criteria.

Alternative #4 - City of Syracuse School District Transportation Committee

Description

In response to the issue of providing safe transportation for children living within a one and a half mile radius of their school for grades K - 8, or a two mile radius for grades 9 through 12, the following alternative was developed:

- Assemble a committee of individuals to discuss traditional and non-traditional approaches to this issue and to develop a long-term solution that includes how the transportation will be financed. The committee should include but is not limited to representatives from the City of Syracuse school district, City of Syracuse police department, SMTC, CNYRTA (Centro), not for profits currently providing transportation, and parents of children living in the district.

Evaluation

This issue generated the greatest and most heated public comment of any of the topics discussed during this study. The evaluation criteria are not applicable to this alternative; however, creating a forum to discuss a long-term solution to providing safe transportation for children to school should be of highest priority.

8.3 Facilities

The following three alternatives were developed in an effort to provide a safe, well maintained, and efficient transportation infrastructure and to encourage walking and bicycling.

Alternative #5 - South Salina Street Corridor Study

Description

In response to a number of issues identified during this study including traffic volumes that exceed capacity, high accident locations, poor pavement conditions, excessive curb cuts, and the degradation of the livability and pedestrian nature of the community, the follow alternative was developed.

- Complete a corridor study of South Salina Street between Taylor Street on the north and Seneca Turnpike on the south. The South Salina Street Corridor Study will identify current and future transportation needs, identify and evaluate alternative solutions, and recommend a schedule of improvements for implementation. The study will examine pavement and sidewalk conditions, high accident locations, access management (traffic flow), capacity (Level of Service), and the need for pedestrian amenities. Particular attention will be given to preserving and enhancing the pedestrian and transit oriented nature of the neighborhoods.

Evaluation

This alternative meets all of the seven evaluation criteria and was recognized by members of the Study Advisory Committee (SAC) as being a high priority. For this reason, the South Salina Street Corridor Study was funded through the SMTC 1999-2000 Unified Planning Work Program (UPWP) and data collection is currently underway.

Alternative #6 - Sidewalk Inventory & Community Education

Description

The need for well maintained sidewalks clear of obstructions was identified through the public transportation survey and during one of the public meetings. Poor sidewalk conditions were noted as one of the primary reasons why individuals will not walk to desired destinations and why parents did not want their children walking to school. Recognizing that sidewalk maintenance and clearing is the responsibility of the property owner, the following alternative, consisting of two action items, was developed.

- Support Tomorrow's Neighborhoods Today's (TNT) current effort to develop a brochure to educate community members on code violations. Increasing property owners' awareness of their responsibility is an important step towards improving sidewalk conditions including snow removal.
- Provide the City with a sidewalk condition inventory so that they can notify and work with property owners of sidewalks in need of repair to make needed improvements. Since sidewalks are not the responsibility of the City, it is recommended that the inventory be completed by a grassroots or community organization such as TNT.

Evaluation

Although the alternative itself does not meet the evaluation criteria, the desired outcome, well maintained sidewalks clear of obstructions, would address all seven criteria.

Alternative #7 - Creekwalk

Description

Construction of a creekwalk from Carousel Mall to Armory Square (1.57 miles) is scheduled to begin in the 2000-2001 fiscal year. A feasibility study to look at constructing a 1.89 mile section of creekwalk along Onondaga Creek from Armory Square to Kirk Park is in the 1999-2004 SMTC Transportation Improvement Program (TIP). To ensure that a recreational trail is available to residents of the South Side and to provide pedestrian and bike access to the inner harbor development, including Carousel Mall, and Onondaga Lake Park, the following alternative was developed.

- Support the extension of the creekwalk into the study area.

Evaluation

This alternative addresses each of the seven evaluation criteria.

8.4 Traffic and Safety

To enhance the safety of the people using the transportation system the following three alternatives were developed.

Alternative #8 - City of Syracuse Truck Route Study

Description

To address the need for an appropriate truck route designation system that would accommodate truckers without disrupting neighborhoods, the following alternative was developed:

- Complete a study that reviews and recommends improvements to existing and evaluates new truck routes within the City of Syracuse including a complete inventory of truck related signage.

Evaluation

This alternative meets all of the seven evaluation criteria and was recognized by members of the Study Advisory Committee (SAC) as being a high priority. For this reason, the City of Syracuse Truck Route Study was recommended and approved for inclusion in the SMTC 1999-2000 Unified Planning Work Program (UPWP).

Alternative #9 - Traffic Calming

Description

In response to a number of issues including excessive vehicle speeds near schools and parks, high accident locations, the use of residential roads by commuter traffic, and the need for pedestrian amenities including security at school bus stops, the following alternative was developed:

- Develop a traffic calming management plan for the area bounded by Kennedy Street on the north, W. Newell Street on the south, South Avenue on the west and up to but not including S. Salina Street on the east. The plan should pay particular attention to those locations near schools and parks and should include a strong public involvement process, education, and enforcement
- Consider implementing traffic calming strategies during Lake Improvement Projects that require street rehabilitation
- Consider implementing traffic calming strategies when completing City capital program infrastructure improvements

Evaluation

This alternative meets each of the seven evaluation criteria.

Alternative #10 - Pavement Striping

Description

Alternative ten has been developed to address specific areas of concern. One area of concern identified was Seneca Turnpike between Midland Avenue and S. Salina Street. A project to widen Seneca Turnpike to eliminate congestion, originally included in the 1998-2002 Transportation Improvement Program (TIP), has been deferred. The City of Syracuse is currently evaluating pavement marking improvements in this area. The following alternative was identified to address two other areas:

- Pavement striping at the intersection of South Avenue and Cortland Avenue to guide drivers safely through the three pronged "y" intersection.
- Pavement striping consisting of stop bars at both Garfield Avenue approaches to Colvin Street, to address limited site distance.

Evaluation

Although this alternative does not address all seven evaluation criteria, it would improve the efficiency and increase the safety of the transportation system.

CHAPTER 9 - RECOMMENDATIONS AND IMPLEMENTATION PLAN

9.1 Introduction

Since the start of this project, progress has been made to improve transportation and mobility for residents of the South Side. Improvements include:

- the opening of a passenger platform at Colvin Street to give residents rail access to recreational, employment, and retail opportunities
- shopper shuttles that provide residents with access to grocery stores

Although these improvements were not a result of this study, these are the types of projects that the Study Advisory Committee (SAC) support and encourage. It is imperative that the involved agencies work together with community-based organizations and residents to make continued progress and to ensure that those projects that are implemented are successful.

9.2 Recommendations and Implementation Plan

Based on the evaluation in the previous chapter, it is recommended that each of the ten alternatives be implemented. Four of the recommended projects have received funding, with work on three of the projects currently underway. The project description, the amount and source of funding, and the project start date are outlined in Table 9-1.

**Table 9-1
Funded Projects**

Project Description	Amount of Funding	Source of Funding	Scheduled Start Date
Job Access & Reverse Commute Initiatives	45,000	SMTC 1999-2000 UPWP	1999
	600,000	NYS TANF Grant	
	500,000	FTA Job Access & Reverse Commute Grant	
South Salina Street Corridor Study	80,000	SMTC 1999-2000 UPWP	1999
Creekwalk Feasibility Study	80,000	SMTC 1999-2004 TIP	2002
City of Syracuse Truck Route Study	50,000	SMTC 1999-2000 UPWP	1999

Implementation of the remaining six recommendations requires varying amounts of investment ranging from the investment of time to form an appropriate City of Syracuse School District Transportation Committee to the allocation of funds to complete a traffic calming management plan. Following are recommendations for implementing the remaining projects.

Shopper & Special Event Shuttles

The following actions are recommended for implementation:

- Support and encourage Centro and community organizations to work together to improve and develop community shuttles to provide access to shopping and special events
- Provide community organizations with copies of this report to make them aware of the recommendations

OnTrack Marketing, Signage & Passenger Amenities

It is OnTrack's choice, as a privately owned entity, to pursue funding and implement improvements; however, the following action is recommended:

- Provide the owners of OnTrack with a copy of this study to make them aware of the recommendations to improve signage, advertising, and passenger amenities

City of Syracuse School District Transportation Committee

The cost of organizing a committee to discuss school transportation issues is insignificant. The following actions are recommended for implementation:

- Provide the City of Syracuse School District with a copy of the Final Report of this study noting school transportation issues
- Identify and contact the appropriate individuals to be involved in discussing current and/or future long-term options for school transportation
- Organize a meeting of the above individuals to identify possible solutions, funding, and implementation strategies

Sidewalk Inventory & Community Education

The cost of carrying out this recommendation is minimal. The following actions are suggested to implement this recommendation:

- Provide TNT with a copy of the Final Report of this study to make them aware that SMTC supports their effort in developing a brochure to educate the community on code violations
- Work with representatives of TNT to identify a community group to complete a sidewalk inventory of the South Side study area to be provided to the City
- Consider evaluating sidewalk conditions along with the housing stock assessment currently being completed by the Department of Community Development, Division of Neighborhood Planning.

Traffic Calming

Based on similar projects completed in other areas, the approximate cost for completing a traffic calming management plan is \$60,000. The following actions are suggested to implement this recommendation:

- Allocate funds in the 2000-2001 SMTC UPWP to complete a Traffic Calming Management Plan for the noted area
- Request that the City consider traffic calming strategies when coordinating with the Lake Improvement Project Office regarding street rehabilitation resulting from lake improvement projects
- Request that the City consider traffic calming strategies when planning capital program infrastructure improvements within the South Side study area

Pavement Striping

The cost of providing pavement striping at two intersections is minimal. In order to implement the recommendation, the following action to place:

- SMTC requested that the City Department of Public Works complete the noted striping as part of their annual maintenance

9.3 Conclusion

Implementation of the projects outlined in this document have been recommended to improve transportation and mobility for the residents of the South Side of Syracuse. They not only require a commitment of government agency time and funds but a commitment from community organizations and residents as well. Recommendations such as improved sidewalk conditions and the traffic calming management plan require input and support from the community to be successful.

APPENDIX A
Public Involvement Plan

APPENDIX B

Block and Resident Survey Summary

APPENDIX C

Road Map

APPENDIX D

Public Transportation Survey Summary

APPENDIX E
Accident Rate Calculations

APPENDIX F
Correspondence