











Long Range Transportation Plan 2007 Update



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



Syracuse Metropolitan Transportation Council

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Appendix A

Public Involvement Plan LRTP 2007 Update

Long-Range Transportation Plan (LRTP) 2007 Update

PUBLIC INVOLVEMENT PLAN

1. Goals

- **A.** Create public awareness relative to the study's goals, objectives, and process, as well as publicize the public participation opportunities and activities available throughout the study;
- **B.** Involve the public in the transportation planning process so that transportation plans, policies and investments embrace the concerns of the traveling public, rural and urban neighborhoods, economic development interests, and other societal concerns. All public involvement processes shall provide opportunities for greater public participation in decisions relating to human health and the environment. Outreach and involvement will be extended to all affected and interested groups and individuals minority, elderly, lowincome, tribal governments, and others (Environmental Justice).

2. Formation of Study Advisory Committee and Interested Stakeholder Group

The PIP includes the formation of two groups to assist the SMTC in this effort.

A. Study Advisory Committee (SAC) – The SMTC Planning Committee will be acting as members on the SAC. The project's process will require active and consistent involvement from the Planning Committee voting members, who have significant interest and responsibility in transportation planning and programming.

The SAC's role will be to advise the SMTC on the technical content of deliverables, and to provide needed input and decision-making throughout the project.

B. Stakeholders – A broader group of interested individuals with significant relations and interest in the LRTP Update process will be maintained by the SMTC. Because of the impact the LRTP Update has on the community, the entire SMTC database will be treated as the LRTP Update stakeholders group. The stakeholders will be sent pertinent study information, kept apprised of significant study developments, notified of all public meetings, and encouraged to provide feedback and comment regarding the **LRTP 2007 Update.**

3. Meetings, Public Presentations, and Public Comment

In contrast to its typical approach of holding three formal public information meetings during specific stages during the planning process, the SMTC intends to broaden the exposure and increase the outreach of the LRTP 2007 Update by participating in an <u>indeterminate number of meetings</u>, workshops and focus groups, at which the LRTP 2007 process will be presented.

The SMTC will reach out to a wide variety of individuals and organizations in an effort to be added to a meeting agenda where the LRTP 2007 process can be presented, and comments and feedback can be solicited. The SMTC anticipates working with various neighborhood associations, community groups, business associations, chambers of commerce, planning federations, the City of Syracuse's Tomorrow's Neighborhoods Today (TNT), FOCUS Greater Syracuse, Leadership Greater Syracuse, towns and villages throughout the MPO area, and more to effectively promote the LRTP 2007 Update.

Public Meeting (January/February 2007)

The SMTC will hold one public information meeting, at which it will present the draft final **LRTP 2007 Update** to the public. This meeting will also mark the commencement of a 30-day public comment period. All comments received at the public meeting, and during this subsequent comment period will be considered for inclusion in the final **LRTP 2007 Update** that will be presented to the SMTC Planning and Policy Committees in the first quarter of 2007.

All substantive public comments will be included in report appendices. All SAC and public meetings will be held in a handicapped accessible facility in compliance with the Americans with Disabilities Act. The SMTC will make every effort to respond to those who need a sign language interpreter, assistive learning system, or any other accommodations to facilitate the public's participation in the transportation planning process.

4. Miscellaneous Public Involvement Efforts

To further increase its outreach to the public, the SMTC will be initiating and conducting a variety of public involvement activities:

A. LRTP 2007 Update "UPDATE": The SMTC will consider producing and publishing a 4-page newsletter, solely dedicated to promoting the LRTP 2007 Update project in place of its regularly produced newsletter DIRECTIONS, or as a two-page insert that accompanies the DIRECTIONS newsletter.

In addition to providing informational updates on the issues, efforts and ongoing tasks of the project, the newsletter will include information on how to contact the SMTC to arrange for and schedule public presentations and workshops, as well as how the public can participate and submit comments.

- **B. LRTP 2007 Update Project Web Site:** The SMTC will establish a project web site (a sub-web site, structured within the SMTC web site at www.smtcmpo.org) that will provide general information about the **LRTP 2007 Update** planning process, announce upcoming meeting dates, provide updates on the activities and progression of the project, and allow the public to participate, comment or ask questions (via the web site).
- C. Material Distribution at Locations/Events Within Study Area: If deemed necessary (at the discretion of the SAC and/or other appropriate SMTC committees), the SMTC may distribute miscellaneous project specific information at various sites throughout Onondaga County or events (e.g., Onondaga Lake Parkway Sunday's, Corporate Challenge, Clinton Square events, Syracuse Lakefront/Inner Harbor). This information may include one or more of the following: newsletter, meeting notice, comment card, and/or public opinion surveys.
- **D. Assistance from SAC, and Overall Community:** The SMTC will be asking the SAC members to assist them in better notifying citizens and the community about the LRTP Update. Such a request is imperative in order to get the "grassroots community" involved. By helping to distribute flyers/announcements, and speaking to the members of the community about the **LRTP 2007 Update**, the SAC will serve to further promote public involvement in areas (and to individuals) that were not reached through the standard outreach. As part of this effort, the SMTC will attempt to get articles published in newsletters and publications across Onondaga County, including the City of Syracuse.
- **E. Outreach to Municipalities:** A direct outreach effort will be made to municipalities throughout Onondaga County. Newsletters, flyers, press releases, meeting announcements, etc. will be sent to all town supervisors, and village/city mayors, in an effort to keep the entire community informed and involved.

The SMTC may determine that it needs to schedule individual meetings with towns, villages, etc., and their respective planning representatives to discuss conditions and issues of interest, relating to the LRTP 2007 Update.

- **F. Posting Information at Public Libraries:** Meeting notices and study-specific material previously mentioned will also be posted at all libraries in the Onondaga County Public Library system.
- G. Encouragement of Public Comment/Participation: All citizens (especially those who are not able to attend public presentations or participate in direct contact with the SMTC staff) are encouraged to submit comments to the SMTC at any time (written correspondence or e-mail/web site communication). This message will be publicized and made clear throughout the study's project schedule, verbally, and on all study material and publications. The public is also welcome to attend any of the publicized SMTC Executive, Planning and Policy Committee meetings in which the LRTP 2007 Update may be on the agenda as a discussion item.
- **H. Public Presentations:** The SMTC will pursue a variety of speaking engagements to share, promote, and publicize the efforts of the **LRTP 2007 Update** (e.g., TNT meetings; FOCUS core group meetings; Town and Village Board meetings, etc.). Such speaking engagements will be considered for full workshop presentations, as mentioned in Item 3 on page 2.

5. <u>Press Releases/Media Coverage</u>

The SMTC will issue news releases (announcing the details of all public meetings) to all major and minor newspapers, television stations, and radio well in advance. If necessary, the SMTC will also send additional news releases, or take the initiative to prompt media coverage on pertinent developments pertaining to the LRTP 2007 Update.

The SMTC will also explore new venues such as the Pennysaver in "helping get the word out." Press releases and articles prepared for the SMTC newsletter DIRECTIONS (pertaining to the LRTP 2007 Update) will also be submitted to widely distributed publications including, but not limited to, the Pennysaver.

6. Conclusion

It is important for the SMTC and its member agencies to understand public attitudes and values in the early stages of the **LRTP 2007 Process**, as well as solicit input from affected citizens and community representatives. It is the SMTC's belief that the public involvement plan set forth, one that solicits input frequently, will bring people inside and provide the opportunity for the public to develop greater awareness and active involvement. This public involvement plan is an all-encompassing guide that is intended to serve three purposes:

- To provide a documented process to guide the SMTC in involving the public;
- To guarantee to the citizens an open, fair, and equitable process; and
- ❖ To harmonize transportation plans, policies and investments with environmental concerns, reflecting an appropriate consideration of economic and social interests.

June 15, 2005

Appendix B

Public Involvement Plan Supporting Documents



LRTP 2007 Update — Public Opinion Survey

Your input as a resident of the Greater Syracuse Metropolitan Area is vital in determining the future vision of the transportation system. Your opinions are essential in assisting the SMTC in the development of a long-range transportation plan, most specifically the *LRTP 2007 Update*. Please complete the enclosed Public Opinion Survey, sharing your thoughts about the current and future needs of transportation throughout the Greater Syracuse Metropolitan Area.

1.	What is your opinion of the existing bridge and road conditions in the area? Road conditions: Excellent Fair Poor Bridge conditions: Excellent Fair Poor						
2.	. Do you experience any significant commuting issues (i.e., automobile access and movement) in the area? Yes No Explain:						
3.	. Do you perceive there to be traffic congestion problems in the Syracuse Metropolitan Area? Yes No If yes, where (what location)?						
4.	What do you believe is needed to stimulate more bicycle and pedestrian transportation?						
5.	In your opinion, is public transit serving the needs of the community? Yes No What would encourage you to utilize public transit more often?						
6.	6. What would encourage you to use different forms of transportation more often? Air Transportation						
7.	What activities would you participate in to improve air quality?						
8.	How does freight movement (air, rail, and truck) affect you and your community?						
9.	O. What growth (i.e. development) trends do you want (or not want) to see in the community?						
10	10. Additional comments:						
11	. Name (optional)						
	Address (optional)Address (optional)						

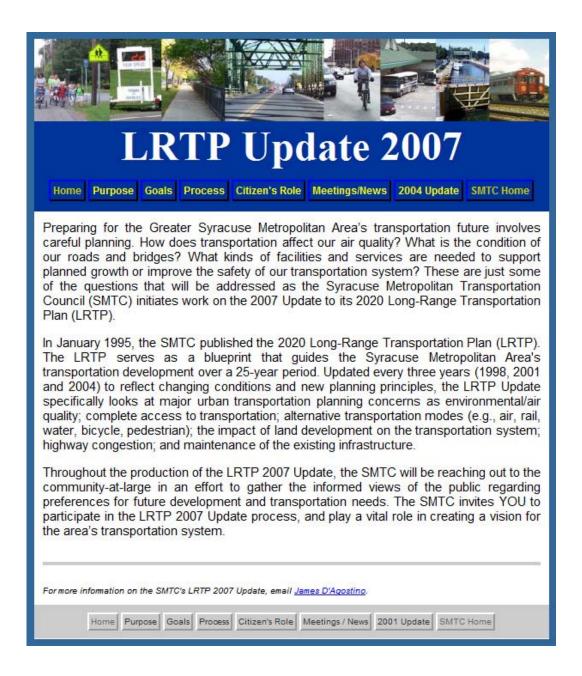
Thank you for your interest and assistance! Please fax (315-422-7753) or mail (SMTC, 100 Clinton Square, 126 N. Salina St., Suite 100, Syracuse, N.Y. 13202) your completed survey to the SMTC. If you have any questions, please contact the SMTC's James D'Agostino at (315-422-5716), or e-mail: jdagostino@smtcmpo.org

Place Stamp Here

Syracuse Metropolitan Transportation Council 126 North Salina Street 100 Clinton Square, Suite 100 SYRACUSE NY 13202

Learn more about the <u>Long Range Transportation Plan 2007</u> <u>Update</u> and how **YOU** can participate.

www.smtcmpo.org/LRTPUpdate/



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Appendix B

Contact Information for Environmental Agencies

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NYS Office of Parks, Recreation & Historic Preservation

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Anthony Opalka

Historic Preservation Program Analyst

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Commissioner

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USDA Natural Resources Conservation Service

Lafayette Service Center 2751 US Rte. 11 La Fayette, NY 13084-9626 Phone (315) 677-3552

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North East Foresters Association

Rob Davies Director NEFA NYS DEC 625 Broadway Albany, NY 12233-4250

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Appendix C

Discussion on Sprawl

Appendix C Discussion of Sprawl for LRTP 2007 Update

Definition: Sprawl is a term used to describe a suburban pattern of land development that is low density and separated into single use pods frequently accessed by cul-de-sacs or single use driveways. Despite trends toward smaller households, bigger houses on larger lots predominate. Long distances between destinations, lack of a network of thoroughfares (connected to other thoroughfares at both ends), and failure to permit construction of sidewalks makes suburban areas almost completely dependent on automobile travel.

The complex function of urban streets is vastly simplified in suburbia: single use functions of either land access or high speed traffic mobility are provided instead of the mixture of traffic mobility, parking, transit stops, sidewalks and other pedestrian amenities in addition to land access.

The quality of housing and private space is very high but urban designers note the disappearance of civic places and decreased quality of public spaces including the street which lacks connectivity, sidewalks and street trees.

Causes: The causes of sprawl are complex. Subsidized extension of water, sewer and highways in the 1960's and 70's to accommodate postwar population booms created cheap land that could be developed for urban uses; cheap fuel makes longer commutes affordable; increasing per capita wealth and the willingness to spend time and both public and private resources on transportation; an evolving value system favoring private spaces over civic spaces all contribute.

Demographic changes including more, smaller households for smaller families, larger numbers of single adults, including seniors, living alone create market demand. Preference of lending institutions for new, single use developments over older city neighborhoods, and decades of institutionalized redlining of cities and older suburbs shifted affordable housing demand to the urban-rural fringe.

Suburban zoning calls for "coarse grained" land use patterns (large areas of single land use, market value, and density) and strict separation of residential, retail, office and industrial land uses from each other.

Greenfields with large lots and utilities are faster and easier to develop than urban brownfields and obsolete buildings. Regulations at every level favor greenfields. Distribution of goods and services – by both the private businesses and public organizations – emphasizes economies of scale above all other values. A lack good urban design standards in town codes also contributes to the metropolitan product called sprawl.

Effects: Sprawl increases the geographic size of the urbanized area and infrastructure that must be maintained, despite decreasing population and household densities. This is true in Onondaga County, with a decreasing metro are population as well.

Strip retail developments along major arterials, concentration of high traffic generating uses including big box education, health care, and religious facilities, but particularly big box retail stores serve to concentrate trips to a few locations and peak time periods.

Very low density of trip ends and very long transit route effectively diminish a significant transportation forl for transit. The lack of a collector road and street network, sidewalks, and bicycle facilities requires near total dependence on automobiles and relatively few arterial roads to carry most traffic.

The futility of "the congestion/build cycle" of suburban arterials (congestion results in constructions of new highway capacity; increased capacity draws more intense retail development and traffic until the highway is again congested) is not well understood by municipalities charged with land use decisions.

The separation of municipal land use authority from state and county responsibility to fund, design and construct new highway capacity exacerbates the problem.

State highways, designed to carry traffic between regions, are lost in places to strip retail arterials where congestion, frequent traffic signals, and traffic cued for turns all but eliminate through traffic mobility.

Corporate site plans, signs, and architecture designed to compete for the attention of motorists form the visual character of "suburban main streets" – four to nine lane arterials lined with bigboxes.

Commute times increase as speed limits and average travel speeds are decreased. Trip lengths increase as more and more households seek to move beyond congestion. Per capita and total VMT, energy consumption, air pollution all increase.

Cities and older, first ring suburbs suffer depopulation, property abandonment and disinvestments, and loss of tax base to maintain aging infrastructure.

The community suffers the collective loss of institutions and civic places, a sense of place, a sense of community.

APPENDIX D

2007-2012 TIP and LRTP 2007 Update CONFORMITY ANALYSIS

SMTC LRTP 2007 Update 2007-2012 TIP Conformity Analysis April 2007

Introduction

This regional emissions analysis and supporting documentation were prepared to comply with the requirements of the Federal Clean Air Act Amendments of 1990 and the associated Federal and State Transportation conformity regulations. The regulations, both the Environmental Protection Agency's (EPA) transportation conformity rule (40 CFR Parts 51 and 93) and the New York State Department of Environmental Conservation's (NYSDEC) transportation conformity regulation (6 NYCRR Part 240) require that each time the SMTC adopts or approves a TIP or LRTP or an amendment to the TIP or LRTP, it be determined that the proposed action is in conformity with the applicable State Implementation Plan (SIP) for air quality prepared by NYSDEC.

The remainder of this Appendix presents the results and documentation of the regional emissions analysis and the air quality determination conducted for the SMTC's LRTP 2007 Update and the 2007-2012 TIP.

Status of Applicable SIP

The 2003-2013 State Implementation Plan for air quality for Onondaga County contains estimated existing and future emissions of carbon monoxide (CO) as part of the Clean Air Act requirement to produce a "Maintenance Plan" when the NYSDEC demonstrated to the EPA that Syracuse and Onondaga County had attained the National Ambient Air Quality Standards (NAAQS). This Maintenance Plan establishes a comparison between existing "base year" emissions (per the Clean Air Act this year is 1990) and future estimated emissions. The Maintenance Plan must demonstrate that emissions of CO in future years will remain below the levels established in the base year when the standards are first attained, therefore assuring the continued maintenance of the standards, or NAAOS.

The Onondaga County SIP of 1992, which established the 1993-2003 Maintenance Plan, used a now outdated version of EPA's emissions model, "Mobile" version 4.1. In addition, the NYSDEC changed some of the proposed future emission control programs, most notably the vehicle inspection and maintenance program that was anticipated in the Maintenance Plan. It has now been changed to a "gas-cap integrity test" to check for emissions leaks, as part of the New York State annual vehicle safety and emissions inspection program. It includes testing of the vehicle's emissions control equipment for evidence of tampering, and will include testing of new vehicle on-board diagnostic systems related to the vehicle's emissions control system.

The conformity analysis must use the latest planning assumptions and the latest emissions model, both of which have changed significantly and are reflected in the Mobile 6 model and the 2003-2013 SIP. During the development of the 2003-2013 SIP, the SMTC worked closely with the Interagency Consultation Group (ICG) consisting of representatives of the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), EPA, NYSDEC and the New York State Department of Transportation Environmental Analysis Bureau (EAB).

The involved Federal, State and local agencies have agreed that the updated regional emissions analysis that incorporates the latest planning assumptions, latest future emissions control programs estimated by NYSDEC, and the latest EPA emissions model must be used to demonstrate conformity of the SMTC TIP and LRTP with the SIP.

Use of Latest Planning Assumptions

All conformity determinations must be based on the latest available planning assumptions in at the time of the conformity determination. Section 176(c)(1)(B)(iii) of the Clean Air Act (CAA) states that "...[t]he determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates." The CAA requires that transportation investments be based on the most recent information that is available in order to protect the public health over the long-term. This conformity analysis commenced on April 9, 2007 and includes the utilization of emission factors NYSDOT provided on April 12, 2007.

The latest planning assumptions requirements apply to all assumptions used in demonstrating conformity, including assumptions that are used in transportation demand and emissions modeling. Examples of assumptions are land use, vehicle age and fleet mix, and the most recent information regarding implementation of control measures in approved SIPs (i.e., inspection and maintenance and fuels programs, transportation control measures).

Specific latest planning requirements are outlined in 40 CFR 93.110 (b)-(f):

"(b) Assumptions must be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO. The conformity determination must also be based on the latest assumptions about current and future background concentrations."

SMTC Action: The data forecasts used in the model are derived from several datasets. Current population estimates were initially obtained via the 2000 Census and estimates were calculated for 2003 (base year), along with future population estimates for the horizon year (2027) being forecasted by a working group of local professionals with

experience in demographic analysis. This working group included the Syracuse-Onondaga County Planning Agency (SOCPA), New York State Department of Transportation (NYSDOT), SMTC and others.

Land use data in the model (i.e., type of employers and number of employees) was similarly calculated for both the base and future scenarios utilizing the abovementioned working group with the addition of key economic development agencies and personnel, and local municipal officials.

Travel data for transit was included in the modeling, taking into account Central New York Regional Transportation Authority (CNYRTA) fixed route service, as well as bicycling and walking. CNYRTA's paratransit service (Call-a-Bus) is treated as shared ride trips.

The CO emissions estimates for Onondaga County were developed using the NYSDOT April 2007 emissions factors. These emissions factors were applied to Vehicle Miles Traveled (VMT) and future forecasts of VMT produced by the SMTC's travel demand model.

"(c) The conformity determination for each transportation plan and TIP [transportation improvement program] must discuss how transit operating policies (including fares and service levels) and assumed transit ridership have changed since the previous conformity determination."

SMTC Action: The CNYRTA has not had a fare increase since 1995. In November 2002, service was added as part of a major restructuring of bus lines and service hours. As a result of the route restructuring, CNYRTA's ridership is up approximately 4% overall. Finally, CNYRTA will continue to pursue the service concepts proposed in the ReMAP Study completed in 1999 to the extent possible, given adequate funding. These concepts include small bus community circulators in suburban settings, express services between downtown and outlying locations and the development of key hubs. There has been limited success to date with some of those service concepts.

"(d) The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time."

SMTC Action: The CNYRTA has not had a fare increase since 1995. According to the CNYRTA, there would be no fare increase in the foreseeable future as fares are raised only as a last resort. CNYRTA ridership is up approximately 4% overall over the previous year. CNYRTA will continue to pursue the improved service concepts proposed

3

¹ All key modeling assumptions used to develop the emissions factors tables (vehicle registration distribution, inspection/maintenance program, diesel fractions, fuel parameters, temperature and humidity, vehicle emission standards) are described in detail in the NYSDOT's publication "MOBILE6.2 Emissions Factors for Regional, Mesoscale, and CMAQ Project Emissions Calculations Part A". This file is available for download via the SMTC website: www.smtcmpo.org

in the ReMAP Study. A goal of the LRTP is for increase utilization of transit. To achieve that goal, SMTC will examine, as yet undefined projects, to implement that strategy.

For modeling purposes, the current tolls at each exit/entry plaza in and around the SMTC region were analyzed to calculate a per mile rate in terms of dollars/time. The average rate calculated is 3.3 cents/mile. This rate was then converted into travel time impedance at the rate of \$15/hour or 25 cents/minute. \$15/hour was consistently applied at all points in the model for value of time (VoT). This Cost per Link variable is essentially a detractor to using the Thruway. In 2006, Thruway tolls were increased. According to the New York State Thruway Authority, the last toll increase was in 1988 and no increases are planned in the foreseeable future. If costs were reduced, it's anticipated that the attractiveness of using the Thruway would improve for local commuting traffic.

"(e) The conformity determination must use the latest existing information regarding the effectiveness of the transportation control measures (TCMs) and other implementation plan measures, which have already been implemented."

SMTC Action: Table 4 presents the status of the official Transportation Control Measures contained in the original 1993-2003 SIP for Syracuse and Onondaga County. The referenced Federal and State air quality conformity regulations require that each time the SMTC adopts or approves a new TIP or LRTP, a determination that all required TCMs are being implemented in a timely fashion be made. As the TCM table shows, all of the required TCMs have been completed and are shown for informational purposes only. As required by law, the TCMs were included in the model network run and the emissions analysis shows a continued reduction in CO emissions.

"(f) Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by 93.105."

SMTC Action: The SMTC utilizes the TransCAD travel demand modeling platform to generate VMT and speed data for a 24 hour period. The SMTC model operates in TransCAD software and incorporates the four-step modeling process (Trip Generation, Trip Distribution, Mode Choice and Assignment) and provides for future-year scenario modeling based on the horizon year roadway network characteristics as well as the previously mentioned land use and population projections that were developed for use in the modeling process. The 2003 population and employment data, along with the current road network conditions were used for the base year calibrations.

The future year (horizon year) of the modeling efforts are characterized by the inclusion of the following assumptions:

- Future household growth by TAZ as determined by working group of local demographic experts.
- Future employment growth by TAZ as determined by local economic development experts and municipal officials.

■ Future road network changes as determined by the Transportation Improvement Program and the Capital Plans of appropriate SMTC member agencies as well as the SMTC's LRTP.

Interagency Consultation Process

The conformity process requires a high degree of coordination between Federal, State and local entities and therefore has rules for the establishment of formal procedure for Interagency Consultation to ensure that all groups are involved. Consultation also ensures that air quality concerns are addressed throughout the planning process so that the resulting conformity determinations meet federal criteria before presentation to FHWA/FTA for approval. Procedures for the ICG in the State of New York are contained in 6 NYCRR Part 240.6 As previously mentioned, the ICG consists of representatives of the FHWA, FTA, EPA, NYSDEC and the EAB.

The involved Federal, State and local agencies have agreed that the updated regional emissions analysis that incorporates the latest planning assumptions, latest future emissions control programs estimated by NYSDEC, and the latest EPA emissions model must be used to demonstrate conformity of the SMTC TIP and LRTP with the SIP. The latest planning assumption requirement must be met before USDOT can make a conformity determination. This conformity analysis was reviewed by ICG on May 30, 2007 and was found to be conforming to federal criteria.

Results of the Regional Emissions Analysis

The following attached pages show the complete results of the regional emissions analysis of the SMTC's LRTP 2007 Update and the 2007-2012 TIP, using the latest emissions factors and the latest SMTC transportation demand model results. The existing and future estimated emissions are presented in Table 1 and Table 2, and the non-exempt transportation projects included in the analysis are presented in Table 3. This analysis demonstrates that with the adopted update to the LRTP and the 2007-12 TIP, CO emissions in future years will remain well below the levels established for each applicable milestone year in the SIP Motor Vehicle Emissions Budget. Therefore, continued maintenance of the CO NAAQS is assured, and the SMTC LRTP 2007 Update and the 2007-2012 TIP remain in conformity with the SIP.

Public Involvement Process

In addition to the 30-day public comment period for the LRTP 2007 Update and the 2007-2012 TIP (of which the Conformity Analysis was included) that started on April 27, 2007 and ended May 25, 2007, these documents were posted on the SMTC website, legal notice was placed in the local newspaper and a public meeting was held on May 14, 2007 to discuss the LRTP 2007 Update, the 2007-2012 TIP and the April 2007 Conformity Analysis. No public comments were received relative to these documents.

Conclusions

In conclusion, the SMTC LRTP 2007 Update and the 2007-2012 TIP have complied with the requirements of the Clean Air Act, and are in conformity with the New York State Implementation Plan for air quality. The following pages provide the documentation of the required regional emissions analysis conducted to determine air quality conformity. This analysis demonstrates that with the adopted SMTC LRTP and 2007-2012 TIP, CO emissions in future years will remain below the levels established for each applicable milestone year in the SIP Motor Vehicle Emissions Budget. Therefore, continued maintenance of the CO NAAQS is assured, and the SMTC LRTP 2007 Update and the 2007-2012 TIP remain in conformity with the SIP.

Table 1

SMTC LRTP 2027/2007-12 TIP Mobile 6 Regional Emissions Analysis Summary

April 2007

Note: MVEB = DEC 2003 Budget Note: Emissions with NYSDOT M6 Tables

2003 Base Year	VMT	CO Sum (g/day)		
24 hour	10,978,715.19	371,932,311.25 =	409.99 tons per day	SIP N/A

2009 Build	VMT	CO Sum (g/day)		
24 hour	11,183,231.04	179,803,081.60 =	198.20 tons per day	MVEB = 372
				PASS

2013 Build	VMT	CO Sum (g/day)		
24 hour	11,383,785.16	147,731,124.89	= 162.85 tons per day	MVEB = 357
				PASS

2020 Build	VMT	CO Sum (g/day)		
24 hour	11,840,143.60	132,588,995.67 =	146.15 tons per day	MVEB = 357
				PASS

2027 Build	VMT	CO Sum (g/day)		
24 hour	12,820,275.94	139,294,623.59	= 153.55 tons per day	MVEB = 357
				PASS

Table 2
SMTC LRTP 2027 + 2007-2012 TIP with Mobile 6
April 2007

	2003 24 Hour						
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum			
11/12	48.47	4,125,578.58	34.73	143,281,344.26			
14	32.06	1,257,594.47	33.05	41,563,497.07			
16	30.56	1,806,867.95	33.04	59,698,917.17			
17	33.45	729,299.17	33.44	24,387,764.16			
19	26.63	371,914.51	33.76	12,555,833.82			
11/12*	33.28	273,042.80	32.31	8,822,012.87			
14**	16.21	43,097.78	36.77	1,584,705.45			
01	49.75	717,690.89	32.82	23,554,615.04			
02	43.5	296,081.00	34.08	10,090,440.45			
06	47.64	178,834.01	34.89	6,239,518.70			
07	42.34	372,432.59	34.09	12,696,226.87			
08	41.6	278,145.23	33.95	9,443,030.49			
09	42.89	506,941.76	34.19	17,332,338.61			
01*	36.26	16,056.97	30.71	493,109.44			
02**	15.95	5,137.49	36.78	188,956.84			
TOTAL 24	TOTAL 24 HOUR			371,932,311.25			
				409.9851932			

	2013 24 Hour					
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum		
11/12	48.03	4,260,811.83	13.27	56,540,973.03		
14	31.96	1,308,474.96	12.72	16,643,801.43		
16	30.33	1,875,626.13	12.71	23,839,208.12		
17	33.22	761,468.24	12.92	9,838,169.72		
19	26.58	380,662.73	13	4,948,615.44		
11/12*	32.97	281,626.97	12.38	3,486,541.88		
14**	15.48	44,729.67	13.99	625,768.04		
01	49.33	745,739.95	12.38	9,232,260.63		
02	43.27	310,425.56	13.05	4,051,053.52		
06	47.32	184,569.97	13.36	2,465,854.86		
07	41.99	390673.19	13.06	5,102,191.87		
08	41.35	292,973.43	13.02	3,814,514.09		
09	42.80	523,939.72	13.12	6,874,089.09		
01*	36.11	16,705.55	11.59	193,617.33		
02**	15.14	5,357.25	13.9	74,465.84		
TOTAL 24	TOTAL 24 HOUR			147,731,124.89		
			tons/day	162.8456898		

	2027 24 Hour					
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum		
11/12	46.26	4,762,237.40	11.06	52,670,345.64		
14	31.37	1,435,232.69	10.72	15,385,694.41		
16	29.60	2,085,979.47	10.72	22,361,699.96		
17	32.49	869,968.44	10.88	9,465,256.61		
19	27.20	424,441.95	10.93	4,639,150.51		
11/12*	32.02	305,760.73	10.42	3,186,026.81		
14**	14.56	47,104.25	11.84	557,714.30		
01	46.84	885,156.09	10.26	9,081,701.51		
02	42.35	357,483.89	10.93	3,907,298.93		
06	46.17	209,956.43	11.15	2,341,014.18		
07	40.53	463955.17	10.89	5,052,471.76		
08	40.93	344,918.82	10.92	3,766,513.51		
09	42.04	602,999.89	10.98	6,620,938.82		
01*	34.99	19,136.81	9.7	185,627.09		
02**	12.06	5,943.91	12.31	73,169.54		
TOTAL 24	HOUR			139,294,623.59		
			tons/day	153.546039		

^{*}Urban or Rural High Capacity Ramp **Urban or Rural Low Capacity Ramp

	2009 24 Hour					
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum		
11/12	48.23	4,202,423.51	16.47	69,213,915.29		
14	31.97	1,279,421.97	15.7	20,086,924.86		
16	30.46	1,839,421.53	15.7	28,878,917.99		
17	33.27	743,836.39	15.89	11,819,560.21		
19	26.67	377,920.33	16.03	6,058,062.87		
11/12*	33.17	276,271.20	15.38	4,249,051.08		
14**	15.64	44,375.30	17.5	776,567.69		
01	49.56	729265.42	15.59	11,369,247.92		
02	43.41	303,692.58	16.15	4,904,635.14		
06	47.41	182,231.13	16.52	3,010,458.33		
07	42.10	383291.72	16.13	6,182,495.44		
08	41.48	285,877.43	16.08	4,596,909.00		
09	42.90	513,562.74	16.21	8,324,852.00		
01*	36.23	16,377.08	14.63	239,596.73		
02**	15.63	5,262.72	17.46	91,887.05		
TOTAL 24	HOUR			179,803,081.60		
	tons/day 198.1989704					

		2020 24 Ho	ur			
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum		
11/12	47.48	4,426,345.25	11.43	50,593,126.15		
14	31.82	1,344,667.82	11	14,791,346.06		
16	30.11	1,942,690.43	10.99	21,350,167.87		
17	32.99	795,164.87	11.17	8,881,991.61		
19	26.69	393,862.97	11.23	4,423,081.11		
11/12*	32.73	288,980.44	10.7	3,092,090.71		
14**	14.97	45,887.91	12.08	554,325.95		
01	48.59	790047.32	10.65	8,414,003.93		
02	42.99	325,930.43	11.27	3,673,235.96		
06	46.98	191,728.96	11.52	2,208,717.63		
07	41.53	414403.07	11.25	4,662,034.52		
08	41.30	306,097.73	11.31	3,461,965.36		
09	42.55	551,329.70	11.32	6,241,052.23		
01*	35.78	17,467.67	9.99	174,502.05		
02**	14.13	5,539.02	12.16	67,354.54		
TOTAL 24	HOUR			132,588,995.67		
		tons/day	146.1543495			

Table 3

Non-Exempt Projects Included in the Analysis								
PIN	Project	General Scope	TCM?					
375285	Geddes/Genesee Sts Signal Interconnection	Upgrading of signals and inclusion in existing interconnect system.	No					
375272	Lodi St/North Salina St. Signal Improvements	Upgrading of signals and inclusion in existing interconnect system.	No					
375479	N,S,E,W Interconnect Expansion	Upgrading of signals and inclusion in existing interconnect system.	No					

Source: SMTC, 2007-2012 TIP. "PIN" stands for project identification number; "TCM" indicates whether or not the project is a Transportation Control Measure.

Table 4

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

Table 5

SMTC LRTP 2007 Update TransCAD Vehicle Miles Traveled (VMT) and Speed Outputs for Base and Future Years

FC Code	Road Type		2003 24 hour	2009 24 hour	2013 24 hour	2020 24 hour	2027 24 hour
11/12	Interstate/Freeway	VMT	4,125,578.58	4,202,423.51	4,260,811.83	4,426,345.25	4,762,237.40
		Avg. Speed	48.47	48.23	48.03	47.48	46.26
	Principal Arterial	VMT	1,257,594.47	1,279,421.97	1,308,474.96	1,344,667.82	1,435,232.69
14		Avg. Speed	32.06	31.97	31.96	31.82	31.37
	Minor Arterial	VMT	1,806,867.95	1,839,421.53	1,875,626.13	1,942,690.43	2,085,979.47
16	Timol / trollar	Avg. Speed	30.56	30.46	30.33	30.11	29.6
	Urban Collector	VMT	729,299.17	743,836.39	761,468.24	795,164.87	869,968.44
17	0.24.1 00.100.0	Avg. Speed	33.45	33.27	33.22	32.99	32.49
19	Local	VMT	371,914.51	377,920.33	380,662.73	393,862.97	424,441.95
		Avg. Speed	26.63	26.67	26.58	26.69	27.2
	Low Capacity Ramp	VMT	43,097.78	44,375.30	44,729.67	45,887.91	47,104.25
		Avg. Speed	16.21	15.64	15.48	14.97	14.56
	High Capacity Ramp	VMT	273,042.80	276,271.20	281,626.97	288,980.44	305,760.73
		Avg. Speed	33.28	33.17	32.97	32.73	32.02
	Interstate	VMT	717,690.89	729,265.42	745,739.95	790,047.32	885,156.09
01		Avg. Speed	49.75	49.56	49.33	48.59	46.84
	Principal Arterial	VMT	296,081.00	303,692.58	310,425.56	325,930.43	357,483.89
02	Tincipal Arterial	Avg. Speed	43.50	43.41	43.27	42.99	42.35
	Minor Arterial	VMT	178,834.01	182,231.13	184,569.97	191,728.96	209,956.43
06		Avg. Speed	47.64	47.41	47.32	46.98	46.17
	Major Collector	VMT	372,432.59	383,291.72	390,673.19	414,403.07	463,955.17
07	Wajor Concolor	Avg. Speed	42.34	42.1	41.99	41.53	40.53
	Minor Collector	VMT	278,145.23	285,877.43	292,973.43	306,097.73	344,918.82
08	IVIII OI COIIECIOI	Avg. Speed	41.60	41.48	41.35	41.3	40.93
	Local	VMT	506,941.76	513,562.74	523,939.72	551,329.70	602,999.89
09		Avg. Speed	42.89	42.9	42.8	42.55	42.04
	Low Capacity Ramp	VMT	5,137.49	5,262.72	5,357.25	5,539.02	5,943.91
		Avg. Speed	15.95	15.63	15.14	14.13	12.06
	High Capacity Ramp	VMT	16,056.97	16,377.08	16,705.55	17,467.67	19,136.81
	Thigh Capacity Italiff	Avg. Speed	36.26	36.23	36.11	35.78	34.99

Appendix E

SMTC Energy and Greenhouse Gas Analysis Process

SMTC ENERGY and GREENHOUSE GAS ANALYSIS PROCESS

Detailed below are the steps that were taken in an effort to complete the energy and greenhouse gas analysis required for the Syracuse Metropolitan Transportation Council's (SMTC) Long-Range Transportation Plan (LRTP) 2007 Update and the 2007 – 2012 Transportation Improvement Program (TIP).

The detailed results of the analysis can be found in the following steps. The steps that were followed are consistent with the guidance documents listed below, as amended through consultation with the New York State Department of Transportation's Environmental Analysis Bureau (NYSDOT-EAB).

- Air Quality Analysis of Transportation Improvement Programs, Regional Transportation Plans, and Capital Project programs Technical Guidance to Assist Metropolitan Planning Organizations and Department of Transportation Regional Offices Meet the Objectives of the 2002 New York State Energy Plan (January 21, 2003);
- Development of Revised NYSDOT Energy Analysis Guidelines (Draft), Subtask 12a: Energy Analysis Guidelines for TIPs and Plans (June 21, 2002); and
- Development of Revised NYSDOT Energy Analysis Guidelines (Draft), Subtask 12b: Greenhouse Gases (CO₂) Emissions Estimates for TIPs and Plans (June 21, 2002)

Step #1 – Identification of all Non-Exempt and Regionally Significant Projects

The first step in this process was determining which projects would be subject to analysis. All of the projects included in the 2007-2012 TIP and the LRTP 2007 Update were reviewed for their significance in affecting energy consumption as per the guidance provided in 6 NYCRR Part 240.6 (h)(2). In general, projects that maintain current levels of service or capacity, such as safety improvements, resurfacing, bridge repair, or bus replacements were considered exempt from the analysis. Similarly, projects that result in operations improvements, but without an increase in capacity (such as intersection widening) were also considered exempt and excluded from the analysis.

A Regionally Significant project is, according to 6 NYCRR Part 240.2 (38), "a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from an area outside the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including, at a minimum, all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel."

Non-exempt projects include highway and road projects that increase capacity by at least

one travel lane, and transit projects that change capacity on a fixed route system. The non-exempt determination was made if the project type is not found in the list of exempt projects derived from "Table 2- Exempt Projects" in 40 CFR Part 93.126, 93.127 and NYCRR Part 240.27.

As mentioned above, the project list for the SMTC's energy and greenhouse gas analysis consisted of the projects included in the 2007-2012 TIP and the LRTP 2007 Update. Three projects from the 2007-2012 TIP, noted below, were categorized as non-exempt projects. However, these projects were unable to be analyzed utilizing the indirect energy lane-mile approach, consistent with *Subtask 12a: Energy Analysis Guidelines for Tips and Plans* because the projects entail signal improvements only, with no additional lane miles of construction.

- Geddes/Genesee Streets Signal Interconnection Update signals and inclusion in existing traffic interconnect system.
- Lodi/North Salina Streets Signal Improvements Update signals and inclusion in existing traffic interconnect system.
- N, S, E, W Signal Interconnect Expansion Update signals and inclusion in existing traffic interconnect system.

The LRTP 2007 Update includes four projects that are considered essential to the region's transportation system in order to service anticipated future development, although these projects are not programmed on the current TIP. One of these projects is a pavement rehabilitation and streetscaping project, one is a new construction project, and the remaining two are widening projects, as noted in the list below. All four of these projects were included in the energy and greenhouse gas analysis.

- North Salina Street Lane Reduction Reduce North Salina Street between East Division Street and Isabella Street from two lanes in each direction to one lane in each direction with a center left turn lane. The project is expected to include new pavement overlay but maintain the current pavement width.
- Bear Street Extension Extend Bear Street from the Interstate 81 bridge to Hiawatha Boulevard, intersecting Hiawatha Boulevard at its current intersection with North Salina Street. The extension will consist of four travel lanes.
- Third Lane of Frontage Road Add a third travel lane to the Interstate 81 Frontage Road (SR 936F) from Exit 23B to Bear Street.
- Additional Travel Lane on NY 31 Add a second travel lane in each direction plus a center left-turn lane on NY 31 from Morgan Road to Henry Clay Boulevard.

Step #2 – Travel Demand Modeling

To determine the impact of future projects in the Syracuse Metropolitan Planning Area (MPA), the SMTC uses TransCAD travel simulation software. Like most other programs of this type, the model consists of a road network, land-use and employment data, trip generation, trip distribution, and trip assignment. The results generated by the program are then compared to known travel counts to calibrate the model. The SMTC travel demand model is calibrated based on 2003 base year traffic conditions and 2000 Census information that was forecasted for 2003 (base year) and 2027 (horizon year). Background documentation and technical information related to the SMTC Model are available at the SMTC.

The analysis includes a year 2027 No-Build scenario and a year 2027 Build scenario (as 2027 is the horizon year of the SMTC LRTP). The No-Build scenario includes the 2003 roadway network with 2027 land-use characteristics, while the Build scenario consists of the 2027 network and 2027 land-use characteristics.

Step #3 – Off-Line Model Analysis

A quantitative analysis was also undertaken to account for the visions of the 2027 LRTP that could not be modeled in TransCAD. Inclusion of transit and bicycle/pedestrian transportation modes is beyond the capabilities of the software. Using information developed by the SMTC and its member agencies, the SMTC calculated the reduction of vehicle miles traveled (VMT) as a result of transit and bicycle and pedestrian system improvements envisioned in the LRTP. Additionally, the SMTC accounted for reductions of volatile organic compounds, carbon monoxide, and oxides of nitrogen as a result of converting Centro's existing compressed natural gas (CNG) buses to diesel-electric hybrid buses. These calculations incorporated emission factors provided by Cummins, Inc., the manufacturer of the hybrid propulsion systems.

These off-model VMT reductions were then factored into the TransCAD outputs to better demonstrate the Build scenario provided for in the LRTP. This process differed from that used in the Air Quality Conformity determination where only the results of VMT from TransCAD were utilized. VMT reductions were included to account for expected increases in bicycle and pedestrian trips (VMT reduction of 0.2% in 2027) and in transit ridership (increase of approximately 33,000 daily riders with an average trip length of 5 miles in 2027). The results can be found in Table 1.

Step #4 - Regional Emissions Modeling

As stated earlier, TransCAD estimates the number of vehicle miles traveled (VMT) for various scenarios provided for in the planning process. To calculate the regional emissions that will result from the transportation system envisioned in the LRTP Build scenario, this VMT information is utilized in conjunction with the latest MOBILE6 emission factors. MOBILE6 was developed by the US Environmental Protection Agency (EPA).

Emission estimates were determined using the VMT data and MOBILE6 emission factors. This process involves the utilization of traffic volume and speed data provided by the SMTC, the most recent vehicle fleet characteristics, and other traffic and meteorological parameters established by NYSDOT in cooperation with the New York State Department of Environmental Conservation (NYSDEC). MOBILE6 incorporates these parameters to develop estimated emission factors.

For this analysis the SMTC utilized emissions factors by road type and speed for Volatile Organic Compounds (VOC), Nitrogen Oxides (NO_x) and Carbon Monoxide (CO) for both the Build and No-Build scenarios. The SMTC then calculated the number of grams of pollutant produced for each scenario. An additional emissions reduction was included to account for the conversion of Centro's compressed natural gas (CNG) fleet to hybrid diesel-electric buses by 2027 (emissions data for CNG and hybrid buses were provided by Centro). These results can be found in Table 1.

Step #5 – Direct Energy Analysis

Direct energy represents the energy consumed by vehicles using a transportation facility (for this analysis, "facility" is defined as the roadway segments in the SMTC's regional travel demand model). Direct vehicle energy was calculated using the VMT Fuel Consumption Method as described in Subtask 12a: Energy Analysis Guidelines for TIPs and Plans. The calculations were based on VMT (not seasonally-adjusted) reported by the 2027 No-Build and Build scenarios and a calculated vehicle type. Vehicle classification data were based on aggregating data obtained from NYSDOT's Mobile 6 Region 3 1999 Summer Time Emissions Factors. NYSDOT Region 3 includes the majority of the Syracuse MPA. Therefore, it was determined those factors would accurately reflect vehicle distribution for the model. The classification data in the MOBILE6 table is based on 28 vehicle classifications, determined by EPA, which is not directly comparable to the three vehicle types used in the direct energy analysis guidance. For this analysis, it was assumed that, taken together, vehicle classifications 1-5, 14-16, and 28 are equivalent to "light duty vehicles", classifications 6-9 and 17-20 are equivalent to "medium trucks", and classifications 10-13 and 21-27 represent "heavy trucks". Since the table lists percentages of type of vehicle by functional class, an average of all functional classes was calculated and then summarized to represent the percentage by the three vehicle types required for energy analysis. Each of the three vehicle types have a fuel economy rate per year based on the fuel type used.

For each scenario, the total VMT was multiplied by the percentage of each vehicle type to determine vehicle type VMT. That vehicle type VMT was then divided by the fuel economy rate to calculate the number of gallons of fuel used. These fuel consumption values were then converted to British Thermal Units (BTUs) by multiplying each gallon by 125,000. Finally, the total direct energy consumption (in BTUs) was summarized for all vehicles in each scenario. These results can be found in Table 2.

Step #6 – Indirect Energy Analysis

Indirect energy represents the energy required to construct and maintain the transportation system. For this analysis, per EAB guidelines, only the energy used in construction activities for Regionally Significant or Non-Exempt projects, including new construction, reconstruction, rehabilitation, and widening was analyzed. Certain non-exempt projects, such as ridesharing, include no energy-consuming construction or maintenance activities, and therefore, an indirect energy calculation is not applicable. The intent of the indirect energy calculations is to measure the energy used in the construction of the projects included in the 2027 Build scenario. The indirect energy value of the 2027 No-Build scenario is zero; therefore, it is not possible to compute the percentage difference between the two scenarios.

Indirect vehicle energy was calculated using the Lane Mile Approach as described in *Subtask 12a: Energy Analysis Guidelines for TIPs and Plans*. As previously mentioned, the three non-exempt projects on the 2007-2012 TIP are signal interconnect projects that do not lend themselves to analysis using the lane mile approach. However, one rehabilitation project, two road widening projects, and one new construction project from the LRTP 2007 Update were included in the indirect energy analysis. The number of lane miles for each project was multiplied by a rate of Construction Energy Consumed per lane mile (from Table 4 of *Subtask 12a*) and the total Construction Energy Consumed, in BTU's, was calculated. Results of this analysis are shown in Table 3.

Step #7 – CO₂ Emissions Estimates from Direct Energy Consumption

Carbon dioxide (CO₂) is a product of fossil fuel combustion, as well as other processes. It is considered a greenhouse gas, as it traps heat radiated by the Earth into the atmosphere and thereby contributes to the potential for global warming. Carbon dioxide emissions were calculated as described in *Subtask 12b: Greenhouse Gases (CO₂) Emissions Estimates Guidelines for TIPs and Plans*. The carbon dioxide emissions from direct energy consumption were based on the results calculated previously in Step 5.

Subtask 12b, Table 1 lists Carbon Emission coefficients based on vehicle type. The Direct Energy consumed (by vehicle type) was multiplied by the Carbon Emission Coefficients for both gasoline and diesel engines and then by a factor representing the amount of carbon that is oxidized. This process created a value representing total tons of carbon dioxide emitted. The results can be found in Table 4.

Step #8 – CO₂ Emissions Estimates from Indirect Energy Consumption

The indirect energy consumed as a result of the Build scenario was determined in Step 6 above. *Subtask 12b, Table 1* lists Carbon Emission coefficients based on vehicle type. Similar to Step 7 above, the indirect energy consumed was multiplied by the Carbon Emission Coefficients for diesel vehicles and then by a factor representing the amount of carbon that is oxidized, resulting in the total tons of Carbon emitted. The results can be found in Table 5.

Step #9 - Documentation

A summary of the results of the quantitative analyses is presented in Table 6. These results indicate that the Build scenario of the LRTP 2007 Update and supporting TIP will result in a decrease in VMT and associated decreases in VOC, NO_x, CO, CO₂, and the amount of direct energy used by vehicles in the Syracuse MPA over the No-Build scenario.

VMT Calculations

2027 No Build

Functional Classification	Daily VMT	Avg speed	CO rate	CO Sum	VOC rate	VOC Sum	NOx rate	NOx Sum
Functional Classification	Daily VIVII	(mph)	(g/mi)	(g/day)	(g/mi)	(g/day)	(g/mi)	(g/day)
11/12 Interstate/ Freeway	4,768,316.12	46.25	11.06	52,713,955.68	0.21	989,418.23	0.23	1,108,640.86
14 Principal arterial	1,429,353.54	31.21	10.71	15,315,285.08	0.23	325,296.98	0.20	282,416.37
16 Minor arterial	2,081,040.01	29.58	10.72	22,308,777.24	0.23	482,112.33	0.20	416,208.00
17 Urban collector	871,021.20	32.42	10.88	9,480,673.49	0.23	196,110.52	0.18	156,783.82
19 Local roads	428,289.06	27.22	10.93	4,681,728.65	0.24	103,274.95	0.19	79,476.26
14 Low capacity ramp	47,102.81	14.47	11.86	558,452.23	0.38	18,024.25	0.25	11,553.09
11/12 High capacity ramp	304,846.39	32.03	10.42	3,176,499.40	0.24	71,924.88	0.22	67,066.21
1 Interstate	884,273.17	46.83	10.26	9,074,703.21	0.22	191,308.39	0.31	271,745.37
2 Principal arterial	357,747.90	42.36	10.93	3,909,079.79	0.21	73,438.10	0.21	76,816.02
6 Minor arterial	208,543.40	46.21	11.16	2,326,347.74	0.20	41,202.65	0.22	46,385.58
7 Major Collector	464,425.85	40.50	10.89	5,057,631.85	0.21	97,063.86	0.20	93,350.74
8 Minor collector	345,600.85	40.93	10.92	3,772,568.29	0.21	71,931.41	0.20	69,764.94
9 Local roads	604,428.52	41.98	10.98	6,636,049.31	0.21	124,531.47	0.20	123,284.22
2 Low capacity ramp	5,911.31	12.19	12.28	72,572.27	0.44	2,618.61	0.28	1,669.69
1 High capacity ramp	19,109.86	34.98	9.70	185,369.31	0.24	4,587.58	0.28	5,350.76

TOTAL 12,820,010.01 139,269,693.53 g/day 2,792,844.20 g/day 2,810,511.93 g/day 153.52 tons/day 3.08 tons/day 3.10 tons/day

2027 Build

Functional Classification	Daily VMT	Avg speed	CO rate	CO Sum	VOC rate	VOC Sum	NOx rate	NOx Sum
Functional Classification	Daily VIVII	(mph)	(g/mi)	(g/day)	(g/mi)	(g/day)	(g/mi)	(g/day)
11/12 Interstate/ Freeway	4,762,237.40	46.26	11.06	52,649,716.08	0.21	988,058.21	0.23	1,107,326.25
14 Principal arterial	1,435,232.69	31.37	10.72	15,379,181.66	0.23	326,183.73	0.20	283,126.75
16 Minor arterial	2,085,979.47	29.60	10.72	22,361,009.99	0.23	483,136.92	0.20	417,195.89
17 Urban collector	869,968.44	32.49	10.88	9,469,561.51	0.23	195,757.88	0.18	156,594.32
19 Local roads	424,441.95	27.20	10.93	4,639,815.05	0.24	102,372.75	0.19	78,775.10
14 Low capacity ramp	47,104.25	14.56	11.84	557,554.61	0.38	17,925.02	0.24	11,511.87
11/12 High capacity ramp	305,760.73	32.02	10.42	3,186,026.81	0.24	72,144.52	0.22	67,267.36
1 Interstate	885,156.09	46.84	10.26	9,084,556.43	0.22	191,471.11	0.31	272,073.29
2 Principal arterial	357,483.89	42.35	10.93	3,905,886.23	0.21	73,394.55	0.21	76,748.69
6 Minor arterial	209,956.43	46.17	11.15	2,341,552.29	0.20	41,499.83	0.22	46,681.87
7 Major Collector	463,955.17	40.53	10.89	5,053,413.55	0.21	96,935.24	0.20	93,286.38
8 Minor collector	344,918.82	40.93	10.92	3,765,121.32	0.21	71,789.52	0.20	69,627.20
9 Local roads	602,999.89	42.04	10.98	6,622,292.14	0.21	124,172.87	0.20	123,057.09
2 Low capacity ramp	5,943.91	12.06	12.31	73,161.82	0.45	2,654.09	0.28	1,685.37
1 High capacity ramp	19,136.81	34.99	9.70	185,629.72	0.24	4,593.71	0.28	5,358.31

TOTAL 12,820,275.94 139,274,479.22 g/day 2,792,089.93 g/day 2,810,315.74 g/day 153.52 tons/day 3.08 tons/day 3.10 tons/day

2027 Build with off-model assumptions

Eupoti	onal Classification	(Model) Daily	Avg speed	VMT	reductions	Reduced	CO rate	CO Sum	VOC rate	VOC Sum	NOx rate	NOx Sum	
runcu	onai Ciassilication	VMT	(mph)	Bike/ped*	Transit**	VMT	(g/mi)	(g/day)	(g/mi)	(g/day)	(g/mi)	(g/day)	7
11/12	Interstate/ Freeway	4,762,237.40	46.26	0.00	-61,016.25	4,701,221.15	11.06	51,975,140.71	0.21	975,398.69	0.23	1,093,138.61	
14	Principal arterial	1,435,232.69	31.37	0.00	-18,388.94	1,416,843.74	10.72	15,182,135.63	0.23	322,004.50	0.20	279,499.18	
16	Minor arterial	2,085,979.47	29.60	-15,822.34	-26,726.65	2,043,430.49	10.72	21,904,898.96	0.23	473,282.08	0.20	408,686.10	
17	Urban collector	869,968.44	32.49	-6,598.79	-11,146.49	852,223.17	10.88	9,276,405.15	0.23	191,764.89	0.18	153,400.17	
19	Local roads	424,441.95	27.20	-3,219.43	-5,438.17	415,784.35	10.93	4,545,173.94	0.24	100,284.59	0.19	77,168.28	
14	Low capacity ramp	47,104.25	14.56	0.00	-603.52	46,500.72	11.84	550,410.93	0.38	17,695.35	0.24	11,364.38	
11/12	High capacity ramp	305,760.73	32.02	0.00	-3,917.56	301,843.17	10.42	3,145,205.79	0.24	71,220.17	0.22	66,405.50	
1	Interstate	885,156.09	46.84	0.00	-11,341.08	873,815.02	10.26	8,968,160.40	0.22	189,017.88	0.31	268,587.35	
2	Principal arterial	357,483.89	42.35	0.00	-4,580.27	352,903.62	10.93	3,855,841.99	0.21	72,454.18	0.21	75,765.34	
6	Minor arterial	209,956.43	46.17	0.00	-2,690.07	207,266.36	11.15	2,311,551.11	0.20	40,968.11	0.22	46,083.76	
7	Major Collector	463,955.17	40.53	0.00	-5,944.43	458,010.73	10.89	4,988,666.60	0.21	95,693.25	0.20	92,091.15	
8	Minor collector	344,918.82	40.93	0.00	-4,419.28	340,499.54	10.92	3,716,880.64	0.21	70,869.72	0.20	68,735.10	
9	Local roads	602,999.89	42.04	0.00	-7,725.95	595,273.95	10.98	6,537,443.91	0.21	122,581.90	0.20	121,480.42	
2	Low capacity ramp	5,943.91	12.06	0.00	-76.16	5,867.75	12.31	72,224.43	0.45	2,620.08	0.28	1,663.77	
1	High capacity ramp	19,136.81	34.99	0.00	-245.19	18,891.62	9.70	183,251.33	0.24	4,534.86	0.28	5,289.65	
	TOTAL	12,820,275.94	•	-25,640.55	-164,260.00	12,630,375.39		137,213,391.56	g/day	2,750,390.25	g/day	2,769,358.76	g/
						Hybrid bus em	nission reductions***	-248,030.00	g/day	-75,090.00	g/day	-698,090.00	g/d

Emission Factors (rates) from:

MOBILE6.2 Emission Factor Tables for Regional, Mesoscale, and CMAQ Project Emission Calculations - Part A (NYSDOT EAB)

*bike/ped reduction assumes decrease of 0.2% VMT in 2027 build scenario =

-25,641 miles/day

-164,260 miles/day

Adjusted total

136,965,361.56

150.98

g/day

tons/day

2,675,300.25

2.95

g/day

tons/day

2,071,268.76 g/day

tons/day

2.28

^{**}transit reduction assumes 32,852 daily riders with 5 mile average trip length in 2027 build scenario =

^{***}Emission reductions resulting from Centro conversion from CNG to diesel-electric hybrid vehicles based on Centro data

Table 1 - Emissions Analysis SMTC Long-Range Plan *2027* Energy Analysis

Scenario	Daily	VOC	NO _X	СО
333.13.13	VMT	(grams)	(grams)	(grams)
2027 No-build	12,820,010	2,792,844	2,810,512	139,269,694
2027 Build	12,820,276	2,792,090	2,810,316	139,274,479
2027 Build with off-model transit and				
bike/ped assumptions	12,630,375	2,675,300	2,071,269	136,965,362

Table 2 - Direct Vehicle Energy SMTC Long-Range Plan 2027 Energy Analysis

Total Light Duty Vehicles								
Scenario	VMT	% of Total	VMT	Fuel	Fuel Used	Direct Energy	% Change	
				Economy*	(gallons)	Consumption (btu)		
2027 no-build	12,820,010	91.94%	11,786,076	21.25	554,639	69,329,859,996	-1.48	
2027 build	12,630,375	91.94%	11,611,736	21.25	546,435	68,304,327,155	-1.40	

	Total			Medium	Trucks		
Scenario	VMT	% of Total	VMT	Fuel	Fuel Used	Direct Energy	% Change
				Economy*	(gallons)	Consumption (btu)	
2027 no-build	12,820,010	2.51%	321,355	8.61	37,323	4,665,431,439	-1.48
2027 build	12,630,375	2.51%	316,601	8.61	36,771	4,596,420,003	-1.40

Total Heavy Trucks								
Scenario	VMT	% of Total	VMT	Fuel	Fuel Used	Direct Energy	% Change	
				Economy*	(gallons)	Consumption (btu)		
2027 no-build	12,820,010	5.56%	712,579	6.00	118,763	14,845,393,532	-1.48	
2027 build	12,630,375	5.56%	702,038	6.00	117,006	14,625,799,282	-1. 4 0	

	Total	Total All Vehicles									
Scenario	VMT	% of Total VMT Fuel Fuel Used				Direct Energy	% Change				
				Economy*	Consumption (btu)						
2027 no-build	12,820,010	100.00%	12,820,010	n/a	710,725	88,840,684,966	-1.48				
2027 build	12,630,375	100.00%	12,630,375	n/a	700,212	87,526,546,440	-1.40				

Notes:

*From Table 2 - Fuel Correction Factors NYSDOT Subtask 12a: Energy Analysis Guidelines for TIPs and Plans

2027 Build scenario includes off model transit and bike/ped assumptions.

% of total: Vehicle split was estimated based on aggregating the 27 vehicle types from the 1999 Summer Time Vehicle Distributions Region 3, April, 2004 NYSDOT and then averaging their percentages.

Vehicle Type VMT: Calculated by multiplying the percentage of each vehicle type by the total VMT.

Fuel Used: Calculated by dividing Vehicle VMT by the fuel economy.

Direct Energy Consumption: Calculated by multiplying the rate of 125,000 BTU per gallon by the fuel used .

Table 3 - Indirect Energy SMTC Long-Range Plan 2027 Energy Analysis

Roadway Construction Energy Consumed

Project Description*	Type of Improvement	Distance (miles)	Lanes	Lane Miles	Urban / Rural	Constr. Energy per Lane Mile (rate)	Constr. Energy Consumed (BTUs)
Bear Street Extension	New construction (4 lanes)	0.4	4	1.4	Urban	15.24	21,336,000,000
Third Lane of Frontage Road	Widen from 2 to 3 lanes	0.1	1	0.1	Urban	6	600,000,000
Additional Travel Lane on NY 31	Widen from 2 to 5 lanes	1.0	3	3.06	Urban	6	18,360,000,000
North Salina Street Lane Reduction	Restoration and rehabilitation	0.2	3	0.6	Urban	2.76	1,656,000,000
						TOTAL	41,952,000,000

Projects with no construction

Project Description	Type of Improvement
NYSDOT Bridge Painting 2008	Maintenance
NYSDOT Bridge Painting 2009	Maintenance
NYSDOT Bridge Painting 2010	Maintenance

Notes

*There are no non-exempt construction projects in the SMTC 2007-2012 TIP. The projects listed are included in SMTC's long-range planning and are considered essential transportation projects to service anticipated development, although they are not programmed on the current TIP.

Indirect vehicle energy was calculated using the Lane Mile Approach as described in Subtask 12a: Energy Analysis Guidelines for TIPs and Plans. Table 4 of Subtask 12a provides a table that associates a rate of Construction Energy Consumed per lane mile based on several types of improvements. The number of lane miles for each project was then multiplied by that rate, and a rate of Construction Energy Consumed in BTU's was calculated.

Table 4- ${\rm CO_2}$ Emissions Estimates from Direct Energy Consumption SMTC Long-Range Plan 2027 Energy Analysis

	Dii	rect Energy (BTUs)		Carbon Emission Coefficients *			Metric Tons Carbon Emitted** (100% oxidation)			Total Metric Tons Carbon Emitted***			Total Tons Carbon Emitted****			
Scenario	Light Duty	Medium	Heavy	Light Duty	Medium	Heavy	Light Duty	Medium	Heavy	Light Duty	Medium	Heavy	Light Duty	Medium	Heavy	All
	Vehicle	Truck	Truck	Vehicle	Truck	Truck	Vehicle	Truck	Truck	Vehicle	Truck	Truck	Vehicle	Truck	Truck	Vehicles
2027 no-build	69.329.859.996	4.665.431.439	14.845.393.532	19.34	19.95	19.95	1.341	93	296	1,327	92	293	1.463	100	323	1.887
2027 110-build	69,329,639,996	4,000,431,439	14,045,393,532	19.34	19.95	19.95	1,341	93	290	1,327	92	293	1,403	102	323	1,007
																ı
2027 build	68,304,327,155	4,596,420,003	14,625,799,282	19.34	19.95	19.95	1,321	92	292	1,308	91	289	1,441	100	318	1,860

Difference: 2027 no-build minus build

-28

2027 Build scenario includes off model transit and bike/ped assumptions.

As per NYSDOT Subtask 12b: Greenhouse Gases (CO2) Emissions Estimates Guidelines for TIPs and Plans:

^{*} For this analysis, all Light Duty Vehicles are assumed to use gasoline and all trucks are assumed to use diesel

^{**} Metric Tons C emitted (assuming 100% oxidation) = Total direct energy for roadway projects (BTUs) x Carbon emission coefficient (10 ⁶ metric tons of Carbon/10¹⁵ BTU)

^{***} a small portion (1%) of total carbon does not oxidize during combustion

^{**** 1} metric ton = 1.102 tons

Table 5 - CO₂ Emissions Estimates from Indirect Energy Consumption SMTC Long-Range Plan *2027* Energy Analysis

Scenario	Indirect Energy (BTUs)	Carbon Emission Coefficient	Metric Tons Carbon Emitted	Total Metric Tons Carbon Emitted	Total Tons Carbon Emitted
2027 build	41,952,000,000.00	19.95	836.94	828.57	913.09

Table 6 - Summary SMTC Long-Range Plan *2027* Energy Analysis

		Air P	ollution Emi	ssions	Ene	rgy		se Gas (CO ₂) ssions
Scenario	VMT	VOC g/day	NO _x g/day	CO g/day	Direct (BTUs)	Indirect* (BTUs)	Direct (tons)	Indirect (tons)
2027 No-Build	12,820,010	2,792,844	2,810,512	139,269,694	88,840,684,966	0	1,887	0
2027 Build (with off-model assumptions)	12,630,375	2,675,300	2,071,269	136,965,362	87,526,546,440	41,952,000,000	1,860	913
Change (Build - No Build)	-189,635	-117,544	-739,243	-2,304,332	-1,314,138,526		-28	
Percent Change (Build - No Build)	-1.48%	-4.21%	-26.30%	-1.65%	-1.48%		-1.48%	

^{*} The intent of the indirect energy and greenhouse gas calculations was to measure the impact of the construction of the projects in the SMTC Long-Range Plan. The indirect energy used in the 2027 No-Build scenario is zero (as is the greenhouse gas emissions arising from the indirect energy used); therefore it is not possible to compute the percentage difference between the two scenarios.

Appendix F

References

References for LRTP 2007 Update

- 1996 New York NPTS: A Comparison Study, Table 6.5 Daily Vehicle Miles Travel Statistics of New York State MPO Drivers by MSA size, pages 6-12.
- A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, Washington, D.C. 2001, Page 96.
- Central New York Regional Planning & Development Board:

Central New York Comprehensive Economic Development Strategy Annual Report, June 2003. Central New York Comprehensive Economic Development Strategy, June 2002. Central New York Canal Plan, 1993.

- Airport Master Plan Update. Phase 1 Report. City of Syracuse, Department of Aviation and Syracuse Hancock International Airport, C&S Companies, December 2002.
- Federal Highway Administration's Conditions and Performance Report, Chapter 2. For further information, visit the website: http://www.fhwa.dot.gov/environment/flex/ch03.htm
- *Transportation Planning Handbook,* 2nd Edition, Institute of Transportation Engineers, John D. Edwards, Jr., P.E., Editor, Washington, D.C., 1999, Page 604.

New York State Canal System Traffic Reports, New York State Canal Corporation, 1996-2001.

Traffic Report. New York State Canal Corporation, 1999, Page 7.

Employment in New York State, New York State Department of Labor, Division of Research and Statistics, Local Area Unemployment Statistics Program, April 2003.

New York State Department of Transportation, CLASS Data.

New York State Department of Transportation, Planning Strategy Group, 2001 & 2003, WEFA, 2001.

New York State Department of Motor Vehicles, www.nydmv.state.ny.us/stats.htm

Resources for Seniors in Onondaga County, Onondaga County Department of Aging & Youth, 2000, Page 47.

Syracuse Metropolitan Transportation Council:

2020 Long Range Transportation Plan, January 1995, Page 28.

Bridge and Pavement Condition Management System

City of Syracuse Truck Route Study, May 2000.

Congestion Management System

DeWitt Comprehensive Plan Transportation Study, April 2001.

James Street Corridor Study, March 2001.

Safety Improvement Analysis

Seneca Turnpike Corridor Study, March 2002.

Soule Road Break-In-Access Study, June 2003.

South Salina Street Corridor Study, February 2001.

Taft Road/Northern Boulevard Study, May 2001.

The Liverpool Area – Onondaga Lake Parkway Transportation Study, February 2000.

The South Side Transportation Study, October 1999.

University Hill-Special Events Transportation Study, February 2000.

Access Management Manual, Transportation Research Board of the National Academies, 2003.

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

Transportation & Environmental Justice Case Studies, United States Department of Transportation Federal Highway Administration, Federal Transit Administration. December 2000, Page ii.

United States Census Bureau:

US Census Bureau 2000: SF1 Table P18, SF1 Table P12, SF 3 Table P1, SF3 Table P30, SF3 Table P30, SF 1 Table DP-1, SF 3 Table DP-3, Summary Population and Housing Characteristics Table 15.

CTPP 2000, Table 1-102.

US Census Bureau 1990: STF1 Table P015, STF1-P11.

April 1, 2002 "Population Estimates".

US Census Bureau 1990 and 2000: Census of Population and Housing.

County Business Patterns 2001.

Population of Counties by Decennial Census 1900-1990, 2000.

Economics and Statistics Administration, "County Business Patterns 2001", 2003.

Census 2000: Residence MCD to Workplace MCD/County Flows for New York: 2000.

Amtrak

Central New York Regional Transportation Authority

Syracuse Onondaga County Planning Agency, Municipal Building Permit Data, 2007.

Appendix G

Senior Facilities

Appendix G- Senior Facilities

Name	Address		Telephone Number	Facility Type
H&R Enterprises	113 Josephine St		452-1198	Adult Family-Type Homes
Latz Home	251 W Calthrop Ave	Syracuse	476-5076	Adult Family-Type Homes
Muhlegg Rest Home	929 W Onondaga	Syracuse	425-1306	Adult Family-Type Homes
Sedgwick Heights (Adult Home & Asst Living)	1100 James St		424-0316	Adult Homes
Greenpoint Special Needs	150 Old Liverpool Rd	Liverpool	451-4567	Adult Homes
Crossroads (Adult Supportive Residence)	120 Gifford St	Syracuse	472-6251	Adult Homes
Evergreen Manor Home for Adults	4181 Barker Hill Rd	Jamesville	492-0141	Adult Homes
Highland Home for Adults	212 Highland Ave	Syracuse	474-2563	Adult Homes
Kalet's Home for Adults	504 Delaware St	Syracuse	479-7514	Adult Homes
Manlius Adult Home	215 Pleasant Dr	Manlius	682-6725	Adult Homes
Eastside Manor Assisted Living Community	7164 E Genesee	Fayetteville	637-5127	Adult Homes
Westside Manor Adult Residence	4055 Long Branch Rd	Liverpool	451-3221	Adult Homes
Bellevue Manor Assisted Living Community	4330 Onondaga Blvd	Syracuse	468-5108	Adult Homes
Sunnyside Home for Adults	7000 Collamer Rd		656-8606	Adult Homes
Alterra Clare Bridge	5125 Highbridge		637-2000	Assisted Living Programs
Alterra Wynwood of Manlius	100 Flume Rd	Manlius	682-9261	Assisted Living Programs
Sedgwick Heights (Adult Home & Asst Living)	1100 James St	Syracuse	424-0316	Assisted Living Programs
Buckley Landing (Loretto Enriched & Asst Liv)	7430 Buckley Rd	N Syracuse	452-1207	Assisted Living Programs
Heritage Apts (Loretto Enriched & Asst Living)	750 E Brighton Ave	Syracuse	492-1329	Assisted Living Programs
Park Terrace at Radisson	2981 Town Center Rd	Baldwinsville	638-9207	Assisted Living Programs
ERIE at Toomey Abbott Towers	1207 Almond St	Syracuse	475-6181	Enriched Housing
The Nottingham	1301 Nottingham Rd	Jamesville	445-9242	Enriched Housing
Greenpoint Senior Living Community	150 Old Liverpool Rd	Liverpool	453-7911	Enriched Housing
Buckley Landing (Loretto Enriched & Asst Liv)	7430 Buckley Rd	N Syracuse	452-1207	Enriched Housing
Heritage Apts (Loretto Enriched & Asst Living)	750 E Brighton Ave	Syracuse	492-1329	Enriched Housing
Mahan-Gorham Manor	220 E Main St	Elbridge	689-0072	Enriched Housing
Bernardine Senior Apartments	417 Churchill Ave	Syracuse	469-7786	Enriched Housing
James Geddes	418 Fabius St	Syracuse	475-6181	Enriched Housing
Alterra, Villa Summerfield	100 Summerfield Village Ln	Syracuse	492-4041	Independent Living
Alterra Wynwood of Manlius	100 Flume Rd	Manlius	682-9261	Independent Living
Toomey Abbott Towers	1207 Almond St	Syracuse	475-6181	Independent Living
The Nottingham	1301 Nottingham Rd	Jamesville	445-9242	Independent Living
Greenpoint Senior Living Community	150 Old Liverpool Rd	Liverpool	453-7911	Independent Living
Old Erie Place Senior Building	20 Beaver St	Jordan	689-3172	Independent Living
Old Erie Place Family Units	20 Beaver St	Jordan	695-2347	Independent Living
Woodsboro Apts	3490 Meadowbriar Ln	Baldwinsville	635-6125	Independent Living
Meadows at Radisson	3490 Meadowbriar Ln	Baldwinsville	635-6125	Independent Living
Jewish Home of Central NY	4101 E Genesee St	Dewitt	446-9111	Independent Living
Clinton Plaza	550 S Clinton St	Syracuse	475-2141	Independent Living
Harrison House	80 Presidential Plaza		422-3226	Independent Living
Townsend Towers	500 Harrison St	Syracuse	478-2045	Independent Living
Cherry Hill	1700 E Genesee St	Syracuse	422-2029	Independent Living
Mount St James	338 Jamesville Ave		478-0731	Independent Living
Sunset Terrace	1813 E Fayette St		422-5694	Independent Living

Rolling Green Estates	2005 E Fayette St	Syracuse	475-5027	Independent Living
Kennedy Square	929 E Fayette St	Syracuse	474-1051	Independent Living
Name	Address	Town/Village	Telephone Number	Facility Type
Onondaga Blvd Senior Apts	4624 Onondaga Blvd	Syracuse	422-0347	Independent Living
Greeley Apts	700 W Onondaga	Syracuse	424-1821	Independent Living
Providence House	1700 W Onondaga	Syracuse	471-8427	Independent Living
Solvay Senior Apts	200 Russet Ln	Solvay	475-6181	Independent Living
AHEPA-37 Apts	100 Ahepa Circle	Syracuse	475-3818	Independent Living
Bishop Ludden	817 Fay Rd	Syracuse	468-6043	Independent Living
Academy Court	1119 N Townsend St	Syracuse	479-8612	Independent Living
Bishop Harrison Apts	300 Pond St	Syracuse	476-8630	Independent Living
St Joseph Manor	900 Tyson PI	Syracuse	437-7441	Independent Living
Nichols Brick School Terrace	311 North Ave	Syracuse	463-5881	Independent Living
Courtvard at James	708 James St	Syracuse	479-8612	Independent Living
Moses Dewitt House	212 N Townsend St	Syracuse	470 0012	Independent Living
Ludovico Apts	340 Winton St	Syracuse	422-0475	Independent Living
Salina School	512 LeMoyne Ave	Syracuse	472-8234	Independent Living
Joslyn Court	4338-4344 S Salina St	Syracuse	424-1821	Independent Living
Willow Wood Gardens	Route 11	Lafayette	699-5204	Independent Living
Festival Garden Apts	6162 Rt 20	Lafayette	696-6883	Independent Living
Cobblestone Square	6112 South Bay Rd	Cicero	699-5204	Independent Living
Sacred Hearts Apts	8365 Factory St	Cicero	699-1509	Independent Living
Bay Shore North Apts	5580 Bartell Rd	Brewerton	428-9099	Independent Living
Long Manor	5500 Miller Rd	Brewerton	668-9871	Independent Living
Rogers Senior Apts	5490 Miller Rd	Brewerton	676-4174	Independent Living
Bessie Riordan School Apts	211 East Molloy Rd	Mattydale	424-1822	Independent Living
Malta House	212 N Main St	N Syracuse	454-0697	Independent Living
Maloney Manor	104 Parkway Dr	N Syracuse	451-9039	Independent Living
Centerville Court	Sandra Lane	N Syracuse	458-7867	Independent Living
Greenway	8664 Oberon Dr	Baldwinsville		Independent Living
Mercer Mill	400 Land Rush Way		635-2338	Independent Living
St Mary's Apts	100 LaMadre Ln	Baldwinsville	638-2003	Independent Living
Union School Conversion	100 24.1144.10 2.11	Camillus	635-6595	Independent Living
Applewood Manor	5554 W Genesee	Camillus	468-4556	Independent Living
Nine Mile Landing	3 Austindale	Marcellus	673-9326	Independent Living
Village Landings Apts	55 Jordan Ave	Skaneateles	685-5632	Independent Living
Gateway	79 Fennel St	Skaneateles	685-3088	Independent Living
Wedgewood Apts	RD #1	Kirkville	633-2735	Independent Living
Barrett Manor	4615 Southwood Heights Dr	Jamesville	469-1533	Independent Living
Bennett Manor	100 Bennett Manor Dr	E Syracuse	437-4864	Independent Living
St David's Court	99 Deerfield Rd	E Syracuse	434-9406	Independent Living
Barrett Dewitt Manor	1400 Kinne St	E Syracuse	424-1821	Independent Living
Springfield Gardens	76 Canton Dr	Dewitt	446-6140	Independent Living
Valley Vista Apts	122 Seneca Trnpk	Syracuse	469-4100	Independent Living
Villa Scalabrini	825 E Willow St	Syracuse	472-3142	Independent Living
YMCA Apartments	340 Montgomery St	Syracuse	474-6851	Independent Living

Pompei North Apartments	143 Mary St	Syracuse	472-2614	Independent Living
	501 S Crouse St	Syracuse	475-6390	Independent Living
	818 Salt Springs Rd	Syracuse	463-5881	Independent Living
	Address			Facility Type
Brighton Towers Inc.	821 E Brighton Ave	Syracuse	469-6919	Independent Living
Pitcher Hill Apartments	114 Elbow Rd	N Syracuse	469-0697	Independent Living
Fairmount Gardens Senior Apts	4913 W Genesee St	Camillus	488-1932	Independent Living
	501 Edgerton St	Minoa	656-7121	Independent Living
Redfield Village Apartments	380 Salt Springs St	Fayetteville	637-8280	Independent Living
Limestone Garden Apts Senior	7626 Highbridge Rd	Manlius	682-7001	Independent Living
	700 Conifer Dr		635-7515	Independent Living
Lord's Hill Apartments	2467 Rt 80	Lafavette	696-8115	Independent Living
	460 N Franklin St	Syracuse	474-5774	Independent Living
Tully Senior Housing (the Meadows Apts)	1 Village View Dr	Tully	696-6883	Independent Living
Baldwinsville County Club Apts	101 Village Blvd, S	Baldwinsville		Independent Living
Eastwood Heights	1025 Sunnvcrest Rd	Syracuse	475-6181	Independent Living
Vinette Towers	947 Pond St	Syracuse	475-6181	Independent Living
	810-812 Lodi St	Syracuse	475-6181	Independent Living
Fahev Court	100 Pastime Dr	Syracuse	475-6181	Independent Living
Almus Olver Towers	300 Burt St	,	475-6181	Independent Living
		Syracuse	475-6181	·
	312 Gifford St	Syracuse	475-6181	Independent Living Independent Living
James Geddes	338 Gifford St	Syracuse		3
	427 Tully S	Syracuse	475-6181	Independent Living
	830 James St	Syracuse	422-2173	Independent Living
Loretto Daybreak Adult Medical Day Program	100 Malta Ln	N Syracuse	452-5800	Independent Living Services
Vivian Teal Howard Day Away RHCF	116 E Castle St	Syracuse	475-1641	Medical Model Adult Day Care
	4101 E Genesee St	Dewitt	446-9111	Medical Model Adult Day Care
Mcauliff Health & Dental Center	700 E Brighton Ave	Syracuse	492-6430	Medical Model Adult Day Care
	813 Fay Rd	Syracuse	488-2951	Medical Model Adult Day Care
	405 Gifford St	Syracuse	476-3157	Medical Model Adult Day Care
St Josephs Continuing Day Treatment	742 James St	Syracuse	448-2700	Medical Model Adult Day Care
Loretto Daybreak Adult Medical Day Program	300 Catherine St	Syracuse	474-8226	Medical Model Adult Day Care
Loretto Daybreak Adult Medical Day Program	161 Intrepid Ln	Syracuse	498-4405	Medical Model Adult Day Care
Vivian Teal Howard Day Away RHCF	116 E Castle St	Syracuse	475-1641	Nursing Home
The Nottingham	1305 Nottingham Rd	Jamesville	446-0123	Nursing Home
	4101 E Genesee St	Dewitt	446-9111	Nursing Home
Loretto Geriatric Center	700 E Brighton Ave	Syracuse	469-5561	Nursing Home
	7740 Meigs Rd	Baldwinsville	638-2521	Nursing Home
	813 Fay Rd	Syracuse	488-2951	Nursing Home
	4800 Bear Rd	Liverpool	457-9946	Nursing Home
5 - 1 - 3 - 1 - 1	217 East Ave	Minoa	656-7277	Nursing Home
	4001 E Genesee St	Syracuse	446-8310	Nursing Home
	4600 S Wood Heights Dr	Jamesville	469-1300	Nursing Home
James Square Health & Rehabilitation Centre	918 James St	Syracuse	474-1561	Nursing Home
Rosewood Heights Health Center	614 S Crouse Ave	Syracuse	474-4431	Nursing Home
Van Duyn Home & Hospital	5075 W Seneca Trnpk	Syracuse	435-5511	Nursing Home

Summerfield Village	100 Summerfield Village Ln	Syracuse	492-4041	Retirement Community
Alterra Clare Bridge	5125 Highbridge	Fayetteville	637-2000	Retirement Community
Alterra Wynwood of Manlius	100 Flume Rd	Manlius	682-9261	Retirement Community
Lorretto Communities Sedgwick Heights	1100 James St	Syracuse	234-1100	Retirement Community
Name	Address	Town/Village	Telephone Number	Facility Type
The Nottingham Retirement Community Inc.	1301 Nottingham Rd	Jamesville	445-1531	Retirement Community
Greenpoint Senior Living Community	150 Old Liverpool Rd	Liverpool	453-7911	Retirement Community
Buckley Landing	7430 Buckley Rd	N Syracuse	452-1207	Retirement Community
McHarrie Towne	7740 Meigs Rd	Baldwinsville	638-1172	Retirement Community
The Oaks at Dewitt	18 Arbor Ln	Dewitt	449-3309	Retirement Community
Parkrose Estates Retirement Community	7251 Janus Park Dr	Liverpool	452-9500	Retirement Community
Jewish Community Center	5655 Thompson Rd	Syracuse	445-2360	Senior Center
Northeast Senior Center	716 Hawley Ave	Syracuse	472-6343	Senior Center
Salvation Army Adult Community Center	677 South Salina St	Syracuse	479-1309	Senior Center
Canton Woods Senior Center	76 Canton St	Baldwinsville	638-4536	Senior Center
Camillus Senior Center	25 1/2 First St	Camillus	672-3163	Senior Center
Carriage House Foundation	343 Green St	Syracuse	479-6681	Senior Center
Cicero Senior Center	5924 Lathrop Dr	Cicero	452-3298	Senior Center
Clay Senior Center	4492 Route 31	Clay	652-3800	Senior Center
Clover Corner Senior Center	401 South Ave	Syracuse	474-6823	Senior Center
Eastwood Senior Center	401 S Midler Ave	Syracuse	437-4011	Senior Center
Fayetteville Senior Center	584 E Genesee St	Fayetteville	637-9025	Senior Center
Ida Benderson Senior Center	205 S Salina St	Syracuse	473-4434	Senior Center
Manlius Senior Center	1 Elmbrook Dr	Manlius	682-7889	Senior Center
Onondaga Senior Center	4834 Velasko Rd	Syracuse	469-3464	Senior Center
Pioneer Homes Coffee House	1001 S McBride St	Syracuse	473-8431	Senior Center
Robert Cecile Senior Center	174 W Seneca Turnpike	Syracuse	473-2678	Senior Center
Salina Civic Center	2826 LeMoyne Ave	Mattydale	455-7096	Senior Center
Westside Senior Center	135 State Fair Blvd	Syracuse	466-5711	Senior Center
Kirkpatrick Program Alzheimer's Assoc of CNY	441 W Kirkpatrick	Syracuse	472-4204	Social Model Adult Day Care
Loretto Adult Day Community	700 E Brighton Ave	Syracuse	474-8226	Social Model Adult Day Care
Salvation Army Adult Community Center	677 South Salina St	Syracuse	479-1309	Social Model Adult Day Care
St Francis Adult Day Service	1108 Court St	Syracuse	424-1003	Social Model Adult Day Care

Appendix G- Senior Transportation Services

Name	Address	Town/Village	Telephone Number
Alzheimer's Association	441 W Kirkpatrick St	Syracuse	472-4204
Jewish Community Center	5655 Thompson Rd	Dewitt	445-2040 x104
Northeast Community Center	716 Hawley Ave	Syracuse	472-6343
Salvation Army	677 S Salina St	Syracuse	479-1309
Baldwinsville Sr Express, Sr. Center	76 Canton St	Baldwinsville	638-4536
St. Camillus Transportation Services	813 Fay Rd	Syracuse	488-2951 x242
A&E Transport	966 Spencer	Syracuse	422-1021
ABLE Medical Transportation	1543 S Salina St	Syracuse	472-3393
ADAM'S APPLE Services, Inc.	824 Court St	Syracuse	424-0781

Affordable Medical Transportation	836 N State St	Syracuse	471-0007
ANTS (Area North Transportation Service)	Salina Civic Center, 2826 LeMoyne Ave	Mattydale	455-7096
Baldwinsville Volunteer Transportation	520 Oswego St	Baldwinsville	638-0251
Centro Call-A-Bus	PO Box 820	Syracuse	442-3434 (info.)
Disabled American Vets Transportation Program	800 Irving Ave	Syracuse	477-4549
Empire Transportation	PO Box 132	Baldwinsville	484-6261
I'm Smart	484 W Onondaga St	Syracuse	471-3251
F-M FISH	PO Box 272	Fayetteville	637-8158
Jim Johnston HomeBound Transportation	165 Martin St	Syracuse	455-9626 or 474-7011
Skaneateles FISH	26 Fennell St	Skaneateles	685-6679
Suburban Transportation	PO Box 236	E Syracuse	437-0058
TLC Medical Transportation	638 Burnet Ave	Syracuse	422-0211

Appendix H

Onondaga County Settlement Plan Transportation Policies

THE ONONDAGA COUNTY TRANSPORTATION POLICY

This section of the *Plan* describes the policies that will govern the County's planning of its own transportation infrastructure, and which are recommended for use by individual municipalities as well. It focuses upon the provision and maintenance of a transportation infrastructure that supports the health of neighborhoods, primarily by encouraging pedestrian life.

Land-use patterns and transportation policy are inextricably intertwined. and it is impossible to affect one without addressing the other head-on. Many of the changes in the American built environment over the past fifty years can be linked to transportation planning practices that unintentionally ran counter to the formation and preservation of community. These practices were not designed to undermine community life, but they were the result of transportation policies that could have produced no other outcome. By preferencing vehicular mobility over both accessibility and livability, transportation policy allowed the ever-increasing demands of the automobile to be the primary determinant of regional and neighborhood structure. The results include highways built atop previously viable communities, and standards for residential streets that induce speeds that are too high to support pedestrian life. While this outcome is universally criticized, the policies that created it still hold sway in professional circles, especially in the fields of transportation planning, road design, public works, and emergency services. For that reason, a policy statement is necessary to serve as a foundation for future public decisionmaking on transportation-related issues in Onondaga County.

The policies that follow draw from a collection of recent documents created to reintroduce the goal of community health into transportation planning. They include the *Traditional Neighborhood Code* included herein, the *Charter of the Congress for the New Urbanism*, and the Institute of Transportation Engineers' *Traditional Neighborhood Development Street Design Guidelines*, A *Recommended Practice*. The author of this third document, Chester Chellman, co-authored the Policies that follow. They are organized from general to the specific, beginning at the scale of the region, focusing next on the individual neighborhood, and finally addressing the detailing of the streets themselves.

In endorsing the *Settlement Plan*, Onondaga County will use this Transportation Policy as a guide to inform and direct its own transportation planning. Not all of these policies concern issues that are within the control of the County, however. These are included nonetheless in hope that the County's municipalities, developers, school boards, and other concerned parties might incorporate them into their own planning decisions. Indeed, municipalities that wish for a future in which transportation investments improve neighborhood livability should adopt this Transportation Policy into their local plans.

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I. THE REGION

The structure of the region and the livability of its neighborhoods is determined in significant measure by the structure of its transportation network. The policies below address those issues that must be considered when planning transportation at the regional scale.

I.1 Intermodal Balance

Transportation planning should seek to attain a healthy balance between transportation modes, including cars, transit, bicycles, and walking.

Like most places, Onondaga County has for many years focused on the private automobile as the primary means of transportation. More recently, the true costs of a car-dominant society have become apparent, as described in this *Settlement Plan*. While it is unrealistic to suggest that the car will soon cease to be necessary in Onondaga County, the costs of automotive orientation could be mitigated by focusing County policy on achieving a better balance among the full range of transportation modes. This focus on intermodal balance should underlie all regional-scale planning in the County.

I.2 Mobility vs. Accessibility -- The Role of Land Use

Transportation planning should maintain as its primary goal the enhancement of all people's access to their daily needs.

Transportation planning has for years focused primarily on "automobility": the provision of roadways to allow easy automotive access to destinations. Lately, the emphasis has shifted from automobility to mobility, the provision of multiple modes of transportation to provide such access. But most recently, planners have come to realize that mobility is secondary to accessibility: the ability to access ones daily needs with the minimum amount of travel and cost. In many cases, access is best enhanced not through the provision of mobility but through the avoidance of single-use zoning in favor of a fine-grained mix of land uses. The first consideration should be how to enhance access without necessarily enhancing mobility.

I.3 Induced Traffic

All new roadbuilding and road-widening proposals should be evaluated in light of the phenomenon of Induced Traffic.

Induced Traffic is a recently-documented phenomenon acknowledged by transportation experts but often not considered in local planning decisions. It pertains to how most roadbuilding efforts intended to reduce traffic congestion fail to do so because the new roadway capacity is quickly absorbed by those drivers who were choosing not to drive because of the congestion. It was demonstrated in a study covering thirty California counties between 1973 and 1990 which found that, for every 10 percent increase in roadway capacity, traffic increased 9 percent within four years time. If Induced Traffic were fully considered as part of federal policy, many investments in new roadway infrastructure would perhaps be directed instead towards the repair of existing roadways or to other civic infrastructure. As a matter of policy, all new roadway construction designed to increase capacity should be studied in light of Induced Traffic.

I.4 The Highwayless Town

High-speed roadways should not be allowed to pass through neighborhoods.

Norman Bel Geddes, the designer of the U.S. Interstate system, declared in 1939, "Motorways must not be allowed to infringe upon the city." Where they do provide access to the city and other neighborhoods, highways must take on the low-speed geometries of avenues and boulevards, so as to not destroy pedestrian viability. As is evident, this rule was often forgotten throughout the United States, most obviously with the insertion of elevated interstates through city centers. Also quite damaging, though less obvious, has been the repeated widening of state and county roads to accommodate through-commuting to the detriment of local pedestrian life. This latter practice must be avoided -- and in some cases reversed, as in Liverpool -- if the County's neighborhoods are to thrive. High-speed roadways are often appropriate, but not within neighborhoods.

I.5 The Townless Highway

Rural highways should be kept free of roadside development.

As the highway should not enter the town, so should the town not allow itself to grow along the highway. Where high-speed roads pass through the countryside, roadside development should be discouraged, since it impedes through-traffic and blights the countryside. Roads intended for through-traffic should be acknowledged as such and protected from such use wherever possible. As discussed in the *Regional Plan*, any development along such roads should be concentrated in Hamlets at intersections. The *Plan* describes at length how such development can be encouraged.

I.6 Regional Facilities vs. Local Needs

Roads should be planned to serve regional transportation goals, but these goals should not be allowed to trump the local need for healthy neighborhoods.

As described in *The Highwayless Town* (I.5), regional transportation goals must be questioned if they cause high-speed roadways to pass through neighborhoods. Most often, the proper solution is not the victory of the neighborhood or of the regional roadway, but the placement of the roadway at the neighborhood edge such that all needs are met. It must be remembered that ease of movement is of little value in the absence of worthy destinations.

I.7 Transit vs. Parking

The provision of parking facilities in urban centers should be considered in light of the fact that ease of parking discourages the use of transit.

While large-scale parking lots and on-site parking requirements may be appropriate for certain urban locations, they should not be considered in ignorance of their effect on transit ridership. Clearly, any new large parking lot, roadway, or other facility which eases automotive commuting will reduce demand for transit. Where efforts are underway to increase transit ridership, and such transit indeed provides a viable alternative to driving, parking facilities should not be encouraged.

I.8 Park and Ride

Due to the ineffectiveness of park-and-ride programs, transit planning should focus on receiving riders as pedestrians.

A 1978 study found that park-and-ride lots in and near Syracuse reduced weekday vehicle-miles traveled by less than 1%. This is not surprising, as park-and-ride programs have rarely proven effective outside of the most heavily urbanized areas. In most places, for transit to be well-used, riders must start as pedestrians. The best way to achieve this end is to reinforce the neighborhood structure of areas around transit stops, such that they contain the widest possible range of uses in a walkable environment. Once again, transportation needs can best be addressed in the context of land-use practices.

I.9 Bicycle Network

Most destinations within the County should be accessible via bicycle in a thorough network of bike trails, bike lanes, and bike routes.

Bike *trails* are dedicated travel paths detached from high-speed roadways. Bike *lanes* are dedicated lanes within moderate-speed roadways. Bike *routes* -- the majority of thoroughfares -- are low-speed streets that bicycles share with other traffic. While not every thoroughfare can or should provide bicycle access, the bicycle network of trails, lanes, and routes should provide access throughout the County. *The emphasis need not be on creating many expensive bike trails and lanes; a few key routes, combined with low-speed neighborhood streets, can constitute an effective network.* This network should be supplemented by the provision of secure bicycle parking facilities at major civic, work, and retail destinations. While bicycle ridership is not widespread in Onondaga County, the County's transportation decisions should acknowledge that such ridership is unlikely to increase in the absence of an effective bicycle infrastructure.

I.10 Freight Movement

Rail and Canal shipment of goods should be encouraged for freight movement, and large trucks should be discouraged from within neighborhoods.

It has been calculated that shipping goods by rail requires one fifteenth the amount of fuel that is needed to do so by truck. Given the economic and environmental inefficiency of trucking -- and its contribution to traffic congestion -- alternative modes of shipping should be encouraged. To the contrary, the U.S. Government, primarily through the construction and maintenance of roads, subsidizes the trucking industry approximately \$300 billion per year. Given the circumstances, the County should make efforts to make rail and barge shipment more attractive. For local truck deliveries, where the presence of large trucks can damage neighborhood walkability, municipalities can choose to demand the use of smaller vehicles by distributors.

II. THE NEIGHBORHOOD

Central to the Onondaga County Settlement Plan is a focus on the preservation and enhancement of neighborhoods. This objective in no way runs counter to the provision of an effective transportation network. However, to avoid undermining neighborhood health, transportation planning must be informed by a thorough understanding of the structure and function of neighborhood environments.

II.1 The Neighborhood Structure

Transportation planning decisions should be made based upon an understanding of the traditional neighborhood as the fundamental pattern of settlement.

Often, transportation decisions that damage neighborhoods are the result not of misplaced priorities -- regional facilities trumping local needs (1.7) -- but of an innocent misunderstanding of the neighborhood structure: the location of its center and edges. This is particularly likely in areas where that structure has already been undermined by previous planning efforts. To avoid this error, transportation planners working in settled areas should begin their investigations by mapping the locations of existing neighborhood centers and edges. Once this structure is fully apprehended, planners can work with confidence that their efforts do not compromise pedestrian viability. Indeed, the proper identification of a neighborhood edge could perhaps serve to justify the improvement of a roadway to a higher-volume standard.

II.2 School Transportation

School planning decisions within the County should be made with due consideration to the burden placed upon roadways by school buses and parental drop-offs.

One need only drive to work on a school holiday to recognize what a great percentage of commuting-time trips are the result of children not being able to walk to school. The traditional concept of the neighborhood school within walking distance has until recently been forgotten in a nationwide trend towards large-scale education warehouses. Decisions to consolidate schools at an anti-pedestrian scale are often made in ignorance of the cost of busing -- estimated at \$400 per student annually -- and the undue burden that regional school commuting places on roadways. To the degree that the County is able to influence educational facility policy. it should encourage the preservation and creation of smaller schools within walkable neighborhoods.

II.3 Avoiding Cul-de-sacs

Cul-de-sac (dead-end) streets are to be discouraged, as they overburden adjacent roads, damage social capital, and limit emergency-vehicle access.

While cul-de-sacs provide an environment of minimal traffic, they create a larger system in which very few roads carry the majority of the traffic and quickly become overburdened. They also limit emergency vehicle access, since there is only one path to each destination, and add to the costs of policing, school busing, snow plowing and mail delivery. Finally, sociological studies have demonstrated conclusively that fewer neighborhood social ties are generated when pedestrian through-motion (from both ends of a street) is not possible. For these reasons, new thoroughfares within the county should connect to other thoroughfares at both ends unless prohibited by impassible site conditions.

II.4 Block Size

Within new developments, blocks should generally be small, typically less than 2000 feet in circumference.

Pedestrian activity is encouraged by a porous network of multiple paths between destinations. The most walkable towns and cities have small blocks; for example, Portland, Oregon has blocks 800 feet in circumference. While it is less expensive to build long blocks with fewer connections, these create inferior communities. Where long blocks are unavoidable due to natural conditions, mid-block pedestrian cut-throughs should be encouraged.

II.5 The A/B Network

Transportation planning should be made in light of an understanding of each thoroughfare's classification as Pedestrian Priority or Vehicular Priority.

As previously described, streets within neighborhoods should be designed primarily to support pedestrian life, while streets outside (and between) neighborhoods may be designed primarily as automotive corridors. Pedestrian-friendly thoroughfares can be classified as "A Streets", while automotive corridors can be classified as "B Streets." A large number of B Streets is possible, as long as the A streets form a continuous network of uninterrupted walkability. Once this A/B mapping is made, wise planning decisions can be made about which thoroughfares are able to accept vehicular-oriented or pedestrian-oriented improvements.

II.6 Traffic Calming

Traffic Calming should be considered to retrofit streets which are plagued by speeding, but new thoroughfares can avoid the need for such efforts by being designed to lower-speed specifications.

An entire discipline within transportation engineering has arisen in order to compensate for the widespread error of placing high-design-speed streets in otherwise walkable neighborhoods. Traffic Calming includes the construction of speed bumps, speed tables, chicanes, bulb-outs, roundabouts, and other impediments to through traffic in streets which are typically too wide. These expensive remedies are indeed useful in situations in which speeding is a problem, and should be considered fully. But greater efforts should be made to build and protect streets and intersections which result naturally in slower driving speeds. These are addressed more fully in Policies II.7 and III.1 - III.9.

II.7 Traditional Intersection Design

Traditional intersection design should be considered as a way to calm traffic in new neighborhoods.

Forks, staggered intersections, triangles, and other quirky traditional street configurations were once a mainstay of neighborhood design. More recently, with the prioritization of through-travel over walkability, these low-speed, low-volume intersections were ruled out in favor of a limited selection of simple configurations -- essentially right-angle crosses and T's. These intersections are indeed simpler, but their contribution to vehicular or pedestrian safety has not been proven. While it would be equally unjustified to discard such intersections in favor of quirky traditional configurations, traffic engineers should not rule out the latter as legitimate options within neighborhoods unless they can demonstrate a likelihood of increased risk.

II.8 Rear Lanes

In the construction of new neighborhoods of moderate density or higher, rear lanes should be built to avoid a streetscape of garage doors.

The city of Portland, Oregon recently outlawed "snout houses" -- houses whose front facade consists primarily of garage doors -- citing their contribution to an unfriendly, sociofugal environment. Also common in Onondaga County, the garage-front house is the inevitable result of placing a 24'-wide garage on a 50' lot. While a larger lot can absorb a garage more easily, lots 50' wide or less should be accessed by a narrow rear alley (typically 12' of pavement in a 24' right-of-way) to avoid the snout-house syndrome.

II.9 Nature Preservation/Celebration

The trajectory of new thoroughfares should be based upon the preservation of natural features and the display of site amenities to their best advantage.

Too often, new streets are laid with inadequate consideration given to the preservation of natural topography, trees, and other site features. Instead of laying streets "lightly on the land," developers resort to mass grading, which kills trees and promotes erosion. Similarly, the beauty of a site is often hidden from view by, for example, placing the best views behind private houses rather than leaving them accessible to all. Builders that wish to maximize the value of their properties will place their new thoroughfares in a way that both preserves and celebrates nature.

II.10 On-Site Parking

While necessary in the auto-oriented suburbs, the on-site parking requirement can be harmful to downtown areas that wish to encourage pedestrian activity.

The renowned planner Neil Pierce has noted, "no great city has ever protected parking as an important right." As already discussed, the generous provision of parking discourages the use of alternative modes of transportation and also tends to create an unpleasant streetscape lined by parking lots. It also can result in empty sidewalks, since all visitors park directly adjacent to their destinations. In areas where transit and pedestrian activity are present but in need of enhancement, municipalities should consider eliminating requirements for on-site parking provision.

II.11 Reduced Parking Requirements

Reduced parking requirements should be considered for new developments that mix uses.

Suburban parking ratios of spaces-per-square-foot are necessary in areas where everyone drives, but they also tend to create environments in which no one will walk. Conversely, if one creates transit-viable environments in which walking is a pleasure, fewer parking spaces will be necessary. In encouraging pedestrian-friendly mixed-use areas, municipalities should lower these ratios to fully take into account shared parking (II.12), on-street parking, and reduced auto-dependence.

II.12 Shared Parking

Shared parking, the greatest contribution to reduced parking needs, should be taken fully into account.

As noted above, mixed-use areas benefit from shared parking, in which complementary schedules allow spaces to do double or triple duty. For example, a single space may serve an office worker during the day, a resident overnight, and shoppers during rush hour. Interestingly, in a truly urban environment, these could all be the same person, who then might not need to own a car at all. The parking efficiency of mixing complementary uses has been estimated as high as 170%, allowing the elimination of potentially three-fifths of the spaces planned. Municipalities should offer such reductions as an incentive for the creation of mixed-use environments. The Settlement Plan's TND Code includes a table for calculating shared parking ratios.

III. THE STREET

When one thinks of a neighborhood, one thinks first of its streets. Far from being simply conduits for vehicles, a neighborhood's streets are its public spaces. As such, their design must take into consideration the needs of all of their users, particularly pedestrians. The policies that follow address the design of streets within neighborhoods with the goal of enhancing neighborhood livability.

III.1 Vehicular / Bicyclist / Pedestrian Balance

Street design should reflect the goal of accommodating pedestrians and bicyclists as well as automobiles.

In recent years, streets have been designed by traffic engineers with the sole objective of moving cars. As a result, pedestrian and bicycle use suffered, as did the performance of businesses along them. It must be remembered that, in addition to being traffic ways, streets are also the location of American civic life. Within neighborhoods, streets should be designed with the interdisciplinary goal of supporting the widest variety of uses, not just driving. In most cases, this approach means providing narrow (slower speed) travel lanes, on-street parking, continuous tree cover, and ample sidewalks.

This policy, like many below, is reflected in the Thoroughfare Standards (Table B2) of the TND Code. Please refer to these for further illustration.

III.2 Design Speed

Thoroughfares accessible to pedestrians should have a design speed under 45 mph, and thoroughfares within neighborhoods should have a design speed under 30 mph.

Pedestrians do not feel comfortable walking where cars are speeding. Further, most drivers will not obey speed limits if a street is designed for higher speeds. The only sure way to control speeds in pedestrian environments is through the width, curvature, and detailing of the vehicular cartpath. While higher speeds should be allowed in strictly automotive environments, low-speed geometrics should be used to control speeds within neighborhoods.

III.3 Street Widths

The widths of new and reconfigured streets should reflect their desired design speed.

Far from increasing safety, wider driving and parking lanes ease vehicular motion and encourage speeding on residential streets. Within neighborhoods, driving lanes should not exceed 10' in width, and parking lanes should not exceed 7' in width (including the gutter). In certain conditions, 8' and 9' driving lanes should also be considered.

III.4 Shared Lanes

In limited-density residential neighborhoods, individual striped lanes should be replaced by a single shared lane that accommodates travel in both directions.

The standard highway engineers' manual, the AASHTO "green book," recommends shared lanes "where single-family units prevail," and describes them as containing a single 12' center lane flanked by parking lanes. By this measure, a roadway in a residential neighborhood should be 19' wide if it has parking on one side, 26' wide with parking on both sides. These measurements are often fought by fire departments, who demand a 20'-clear travel lane for their trucks, in order to speed response time. This objection was refuted by the recent Swift Report (of Longmont, Colorado), which demonstrated over an eight-year study how narrower streets increase public safety, and how fire response time was a statistically insignificant factor in this relationship. For this reason, new streets whose primary purpose is to provide access to single-family houses within neighborhoods should employ the single shared travel lane.

III.5 Curb Radii

Within neighborhoods, the radius of curvature of the curb at intersections should generally not exceed 15'.

Current roadbuilding ordinances tend to promote large curb radii, which ease large-vehicle access, but increase pedestrian crossing distances while allowing cars to speed around corners. For this reason, curb radii on new or rebuilt streets should be no larger than necessary to accommodate the largest vehicle that will typically use the street, which is most often a garbage truck. Within neighborhoods, where low-speed travel is encouraged, such vehicles can be expected to temporarily cross into the opposing travel lane in order to make a tight turn -- particularly fire trucks with sirens. As long as such access is provided, curb radii of 15, 10, and even 5' are often appropriate.

III.6 Parallel Parking

Except in rural areas, all new and rebuilt streets should contain parallel parking on at least one side.

Parallel parking protects pedestrians from traffic, causes cars to drive more slowly, reduces requirements for on-site parking, and increases pedestrian activity. Depending on the use and density of the neighborhood, parallel parking should be provided on one or both sides of the street, marked or unmarked. (Typically, when a shared travel lane (III.4) is used, the parking lanes are not marked.) All main streets in retail areas should of course have parking on both sides, and head-in parking may be justified in downtowns.

III.7 One-Way Streets

One-way streets should generally be avoided, particularly multiple-lane one-ways.

Like most American cities, Syracuse has reconfigured many of its downtown streets to one-way in order to speed through-traffic. The reversal of such reconfiguration is the first step that many American cities take in order to revitalize struggling downtown areas. Multiple-lane one way streets damage pedestrian life by encouraging speeding, and damage businesses by distributing evening traffic unevenly. One way streets are only justified when the paved surface (including parking) is too narrow to accommodate the level of through-traffic desired.

III.8 Curving Streets

Street curves, rather than being randomly imposed, should result from topography and not create undue disorientation.

Contemporary subdivisions tend to include randomly curving streets that disorient drivers. These are provided in order to terminate vistas, but that goal is better achieved through the use of traditional intersections, such that relatively straight streets aim at site features or notable buildings. On steep topography, however, curving streets are necessary to avoid mass grading, and these should be allowed to curve very tightly in recognition of design speeds as low as 10 mph.

III.9 Signal Timing

Most traffic signals within neighborhoods should be timed on cycles no longer than 60 seconds.

Current traffic management practice encourages the lengthening of traffic light cycles in order to limit interruptions to through traffic. While this approach is appropriate for highways, it causes great pedestrian and driver frustration in urban areas, discouraging walking and promoting speeding and "road rage." Just as maximum through-flow is not the only criteria for street design, it is not the only criteria for traffic management. Within neighborhoods, signal timing should be limited to encourage walking and ease driver frustration.

III.10 Skywalks

Skywalks and underground passages should not be provided when sidewalk access is safe and convenient.

A futuristic idea that has come and gone, skywalks and other sidewalk substitutes are only appropriate when no other safe passage is possible, as they create a redundant system than robs sidewalks of pedestrian life and undermines retail viability.

III.11 The Transect

New and rebuilt streets should be detailed in a manner that reflects their relative position in the Urban-Rural Transect.

Illustrated in the *Settlement Plan (page 13)*, the Transect describes how every aspect of the built environment changes as one moves from the country to the city. Sidewalks become wider, trees become more regular in their species and placement, open swales become closed curbs, parking spaces are striped, and building setbacks shorten as one nears a downtown area. Current subdivision guidelines tend to impose a universal standard that neglects these transformations, an error that should be avoided in new street construction.

III.12 Sidewalks

Within neighborhoods, most thoroughfares should include sidewalks on both sides.

In some cases, a low-traffic road can support both cars and pedestrians within the same paved area. Such a road is called a *Woonerf*, and is built with such a low design speed that such interaction makes sense. In other cases, low-density roads at the edges of neighborhoods, a one-sided sidewalk may be appropriate due to extremely light pedestrian load. But otherwise, all residential and commercial thoroughfares within neighborhoods need sidewalks on both sides. Sidewalks should normally be 5' wide in residential areas, increasing in width with residential density, and reaching a minimum 10' width on retail streets.

III.13 Crossings

All high-traffic areas expected to support pedestrian life should have marked pedestrian crossings.

While most intersections within downtown Syracuse are well marked, other heavily-used crossings within the County do not provide adequate indication of the pedestrian right-of-way. Any intersection that receives both heavy vehicular traffic and heavy pedestrian traffic should be striped; where crossing is deemed a hazard, they should be signalized. Bricked crosswalks may be appropriate in the most urban areas, but it is better to stripe many crossings than to brick only a few.

III.14 Street Trees

All streets should be lined with trees in order to enhance the experience of both pedestrians and drivers.

With the exception of very narrow urban streets and passages with inadequate space, all streets and paths should be lined on both sides with deciduous trees at an average spacing distance no greater than 30' on center. In suburban areas, such trees should be located in a continuous tree strip between the curb and the sidewalk; in urban areas, such trees should be planted in sidewalk grates. This suggestion is perhaps not compelling from a transportation-planning point of view, but it is very important from a livability and tourism point of view.

III.15 Lighting

Streetlighting in pedestrian areas should respond to the Transect, and should achieve desired lighting levels through the use of smaller light standards.

While infrequent powerful lights are the most efficient way to provide night illumination, they create an environment that discourages pedestrian activity and can thus contribute to crime. The solution is to use small light standards — typically 8' to 15' tall — in a frequency appropriate to the urbanity of the location. In a city center, a 30' on-center spacing may be appropriate; in rural suburbs, lights may be limited to intersections; in the country, lights may be eliminated entirely. Only in strictly vehicular areas are large, powerful light standards appropriate.

III.16 Shielded Parking

Parking lots and structures should be shielded from view of sidewalk, by habitable building or, where this is not possible, by attractive walls or greenery.

There is little greater deterrent to pedestrian life than an exposed parking lot or structure. All new parking structures should be designed to face the street with habitable building -- typically retail -- on at least the ground story. Upper stories, when not lined by apartments or offices, should be detailed in a manner befitting occupied buildings. All new surface parking lots should be hidden behind at least a thin layer of buildings; where this is not possible, the inferior solution of a decorative wall or shrub is preferable to no edge at all.

III.17 Parking Lot Quality

Surface parking lots should contain trees in ratio adequate to provide significant shade.

While they are a detriment to street life, parking lots are still public spaces and should be detailed as such. The most efficient way to enhance the parking environment is to provide trees between parking rows as along a street, at a typical distance of 30' on center. An alternative solution places tree-lined pedestrian passageways at cross-grain to the parking rows. Either approach contributes tremendously to the parking experience.

Appendix I SAFETEA-LU Action and Resolution

Syracuse Metropolitan Transportation Council

Action Plan for Addressing SAFETEA-LU Requirements in the Long-Range Transportation Plan 2007 Update

February 2007

The Long-Range Transportation Plan (LRTP) 2004 Update for the Syracuse Metropolitan area was adopted by the Syracuse Metropolitan Transportation Council (SMTC) Policy Committee on June 30, 2004 via SMTC Resolution No. 2004-03.

Since that time, a new transportation bill was signed into law by President Bush on August 10, 2005: the Safe, Accountable, Flexible, Efficient Transportation Equity Act, a Legacy for Users (SAFETEA-LU). This new legislation puts forth a new set of requirements that must be adhered to in the development of the SMTC's LRTP 2007 Update.

As the LRTP 2004 Update is minorly deficient in meeting SAFETEA-LU requirements, the LRTP 2007 Update, which is currently being developed, will have to address these new requirements. To bring the LRTP 2007 Update into compliance with SAFETEA-LU requirements, the SMTC proposes the action plans found on the following pages.

FHWA SUMMARY GUIDELINES	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
Safety and security of the transportation system are separate planning factors that are to be considered during the metropolitan planning process	The factors that must be considered in the planning process were increased by splitting safety and security into separate factors: "(B) increase the safety of the transportation system for motorized and nonmotorized users. (C) increase the security of the transportation system for motorized and nonmotorized users."	SAFETY The SMTC addresses safety within its LRTP 2007 Update. SMTC staff currently participates in the NYSMPOs Safety Working Group, which has identified several goals and objectives to advance safety initiatives including providing input on the development of the State's Strategic Highway Safety Plan (SHSP).
		SMTC participated in the NHI Safety Conscious Planning Course, as well as in a statewide "Shared Cost Initiative" that will include the development of a standardized safety audit priority list, and development of statewide accident rates for non-state highways.
		The NYSDOT, in conjunction with SMTC and its member agencies, developed a strategic plan for deployment of ITS for the Syracuse Metropolitan Area (primarily Onondaga County). This includes ITS projects such as Variable Message Signs along I-690, I-81, etc. – to indicate weather conditions as well as upcoming traffic conditions to motorists.
		SECURITY Transportation system security will be addressed as a separate factor in the SMTC's LRTP 2007 Update.
		SMTC is coordinating with member agencies regarding their security plans. These plans will be identified as appropriate within the LRTP 2007 Update. As a medium sized MPO, the LRTP 2007 Update will merely reference security plans from SMTC member agencies where they exist in lieu of the creation of SMTC's own security plan.
LRTP will be updated every four years (unless the MPO	Congress has attempted to bring into sync TIP development (which had been on a maximum	The SMTC MPA is a maintenance area and SMTC currently updates the LRTP every 3 years. In keeping with SAFETEA-

FHWA SUMMARY	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
GUIDELINES		
chooses to do so more frequently) in non-attainment and maintenance areas. Attainment areas remain on a 5-year update cycle.	two-year cycle), long-range plan development (which had been on a three-year non-attainment, five-year attainment cycle) and air quality conformity (which is triggered either by TIP, long-range plan or air quality plan adoption). As part of this the law now states that the transportation plan shall prepare and update the plan every four years (or more frequently if the MPO elects to).	LU guidelines the SMTC plans to update the LRTP every four years and is actively working to tie the LRTP process with the TIP process in terms of schedule and format.
Include a discussion of potential environmental mitigation activities along with potential sites to carry out the activities to be included. The discussion is to be developed in consultation with Federal, State, and Tribal wildlife, land management, and regulatory agencies.	Plan must include "a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities"	One of the goals of the SMTC's LRTP 2004 Update is "to provide a clean and environmentally sound transportation system for current and future residents." This will continue to be a goal of the LRTP 2007 Update. Several Action Plans have been implemented to date (see pg 26 of LRTP 2004 Update). SMTC's LRTP 2007 Update is non-project specific. As such, detailed mitigation activities cannot be supplied at this time. Environmental mitigation activities must be tied to the capital project implementation process. However, the SMTC does consult with the NYSDEC and CNY Regional Planning and Development Board on a regular basis, and they are active members of the SMTC Committee structure. As such, these organizations will review the LRTP 2007 Update. In addition, as part of the LRTP 2007 Update, SMTC will identify areas within the MPO boundary that may be environmentally sensitive (a GIS map will be developed that provides this information). The SMTC is cognizant of these areas and will take special precautions if projects are taking place in these locations. The SMTC currently works with several regulatory agencies through the SMTC Committee Structure, including the CNY Regional Planning and Development Board and NYS

SYRACUSE METROPOLITAN TRANSPORTATION COUNCIL Action Plan for Addressing SAFETEA-LU Requirements in the Long-Range Transportation Plan 2007 Update

FHWA SUMMARY	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
GUIDELINES		Department of Environmental Conservation, (both of which are voting members represented through this committee structure). In addition, the SMTC has continually sought participation from the Onondaga Nation. The SMTC also intends to complete outreach to relevant federal, state, and local agencies [including the NYS Office of Parks, Recreation and Historic Preservation; Various divisions/programs of the NYS DEC (SMTC's MPO boundary falls into NYSDEC Region 7 which has the following programs: Environmental Permits, Environmental Remediation, Fisheries, Forestry, Water and Wastewater, Wildlife) – Region 7 of the NYS DEC is an SMTC member agency; NYS Department of State; Environmental Protection Agency; and Army Corps of Engineers, as appropriate.] In addition, NYSDOT Region 3's "Regional Strategy – October 2006" outlines ongoing and future efforts relating to
		environmental practices and policies that Region 3 is involved in.
Transit operators are to be included in the cooperative development of funding estimates for the financial plan section of the LRTP.	Development of estimates of funds that will be available to support plan implementation must be a cooperative effort among MPO, State and transit operators.	The SMTC complies with the SAFETEA-LU provision by working closely with transit operators to identify transit needs and funding estimates for the LRTP. The Central New York Regional Transportation Authority (CENTRO) participates as a voting member on our Planning, Policy and Executive Committees. Chapter 8 (Financial Plan) of the LRTP includes estimated transit fund allocations and projected expenditures for the
MPOs are required to consult, as appropriate, with State and local agencies responsible for land use management, natural resources and environmental protection, conservation and	Expands environmental planning factor to include: "(E)promote consistency between transportation improvements and State and local planned growth and economic development patterns;"	In the LRTP 2004 Update, SMTC addresses land use via the Community Land Use Goal: "To promote the development of an efficient urban area and a sense of community through transportation planning." Each of the 4 objectives under this goal support this. This goal and its objectives will be carried forward under the LRTP 2007 Update.

FHWA SUMMARY	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
GUIDELINES	SIN BIEN BOTHO VISIONS	SMITE TIETTOTY I ZMY TOT ZMIT 2007 ET BITTE
historic preservation concerning the development of a long- range transportation plan.		Through various projects and outreach efforts undertaken within the UPWP, the SMTC consults with appropriate state and local agencies. The SMTC continually strives to connect the goals of state and local development patterns through its planning efforts.
	The discussion of potential environmental activities"shall be developed in consultation with Federal, State, and tribal wildlife, land management and regulatory agencies.	During the development of the LRTP 2004 Update and through the LRTP 2007 Update, the SMTC consulted with State, local municipalities and economic development agencies regarding land use patterns and plans. Additionally, there are representatives from the Syracuse-Onondaga County Planning Agency, NYS DEC, Empire State Development Corporation, CNY Regional Planning and Development Board, and Onondaga County Planning Board that are represented through the SMTC Committee Structure.
		The SMTC also intends to seek the participation of the following federal, state and local agencies as appropriate: the NYS Office of Parks, Recreation and Historic Preservation; Various divisions/programs of the NYS DEC (SMTC's MPO boundary falls into NYSDEC Region 7 which has the following programs: Environmental Permits, Environmental Remediation, Fisheries, Forestry, Water and Wastewater, Wildlife) – Region 7 of the NYS DEC is an SMTC member agency; NYS Department of State; Environmental Protection Agency; and Army Corps of Engineers. The SMTC will also continue to seek the participation of the Onondaga Nation. As part of the SMTC's transportation forecasting efforts, the SMTC worked closely with various agencies in an effort to predict changes in travel patterns and the utilization of the transportation system's relationship between regional development, demographics, and transportation supply. This information is being used in the development of the LRTP 2007 Update.

FHWA SUMMARY GUIDELINES	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
Representatives of users of pedestrian walkways, bicycle transportation facilities, and the disabled are specifically added as parties to be provided with the opportunity to participate in the planning process.	List now includes: "representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled"	The SMTC continually incorporates Environmental Justice within its planning process. As part of the recently completed Bicycle and Pedestrian Plan, the SMTC completed considerable outreach to the bicycle/pedestrian community and various community organizations. In coordination with the CNYRTA, the SMTC is also in the process of preparing a coordinated Public Transit-Human Services Plan that will address the transportation needs of the disabled.
The MPO is to develop a participation plan in consultation with interested parties that provides reasonable opportunities for all parties to comment.	MPOs must develop and use a participation plan that is "developed in consultation with all interested parties "to comment on the content of the transportation plan." The intent is to afford parties who participate in the MPO planning process a specific opportunity to comment on the plan prior to its approval.	The SMTC already has a formal public participation plan in place. The SMTC is updating this plan as necessary to enhance its community outreach and adhere to SAFETEA-LU requirements. In addition, the SMTC develops public involvement plans for each of the location-specific studies on the UPWP. This plan is reviewed and agreed upon by Study Advisory Committee members. The LRTP 2007 Update had a significant public participation element from Summer 2005 through Summer 2006 that included wide-range outreach to diverse community organizations as detailed within the document. The draft LRTP 2007 Update will be sent to interested parties for review and comment. The final LRTP 2007 draft will be available for public comment for a 30-day period (at the SMTC and through the public library system) and presented to the Policy and Planning Committees. In addition to SMTC member agency review, the SMTC also intends to seek comments on the LRTP 2007 Update from the following federal, state, and local agencies as appropriate: the NYS Office of Parks, Recreation and Historic Preservation; Various divisions/programs of the NYS DEC (SMTC's MPO

FHWA SUMMARY GUIDELINES	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
		boundary falls into NYSDEC Region 7 which has the following programs: Environmental Permits, Environmental Remediation, Fisheries, Forestry, Water and Wastewater, Wildlife) – Region 7 of the NYS DEC is an SMTC member agency; NYS Department of State; Environmental Protection Agency; and Army Corps of Engineers. The SMTC will also continue to seek comments from the Onondaga Nation.
To carry out the participation plan, public meetings are to be: conducted at convenient and accessible locations, at convenient and accessible times; employ visualization techniques to describe plans; and make public information available in an electronically accessible format, such as on the web.	MPOs shall publish or otherwise make readily available for public review, transportation plans, "including (to the maximum extent practical) in electronically accessible formatssuch as the World Wide Web"	An online survey was developed and posted on the SMTC website which was also available at each public outreach meeting. SMTC utilizes visualization techniques at the planning project level. As the SMTC's LRTP is non-project specific, it is difficult to utilize visualization techniques in the same manner. However, SMTC utilizes numerous maps, graphs and charts to assist in describing various points within the Plan. In addition, the SMTC will participate in a proposed statewide Shared Cost Initiative (SCI) program that will include training in visualization techniques for MPO staff. SMTC continues to hold public meetings and follow the guidelines set forth in the 2007 LRTP Update Public Involvement Plan.
		The SMTC has received accolades from the FHWA on the content of our website. This website comprehensively presents the body of work of the SMTC and is freely accessible to all.
The Plan is to be published and made electronically, such as on the web.	MPOs shall also "make public information available in electronically accessible format and means, such as the World Wide Web, as appropriate.	SMTC already complies. Final plans and reports such as the LRTP, TIP, and UPWP studies are electronically available on the SMTC website (www.smtcmpo.org) for public review.

FHWA SUMMARY	SAFETEA-LU PROVISIONS	SMTC ACTION PLAN for LRTP 2007 UPDATE
GUIDELINES		
Congress has removed the	Requirement for a "congestion management	The SMTC participated in a Shared Cost Initiative with the
requirement for "congestion	<u>process</u> that provides for effective management	NYSMPOs to develop a Menu of Options for the Congestion
management system that	and operation".	Management Process. The SMTC will revisit the way the
provides for effective		CMS (now called CMP) is completed in the coming program
management" and replaced it		year.
with a requirement for a		
"congestion management		
process that provides for		
effective management and		
operation".		

RESOLUTION SYRACUSE METROPOLITAN TRANSPORTATION COUNCIL POLICY COMMITTEE

March 12, 2007

- WHEREAS, The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) contains several planning factors/guidelines for Metropolitan Planning Organization (MPO) consideration within a Long-Range Transportation Plan (LRTP); and
- WHEREAS, Those SAFETEA-LU LRTP guidelines include:
 - Safety and security are now separate planning factors that must be considered during the metropolitan planning process;
 - The LRTP can now be updated every 4 years (as opposed to every 3 years);
 - LRTP must now include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities;
 - Transit operators are to be included in the cooperative development of funding estimates for the financial plan portion of the LRTP;
 - The environmental planning factor is now expanded to include "...promote consistency between transportation improvements and State and local planned growth and economic development patterns". In addition, the discussion of potential environmental activities should be developed in consultation with Federal, State, and tribal wildlife, land management and regulatory agencies;
 - Representatives of users of pedestrian walkways, bike transportation facilities and the disabled were added as parties to be provided with the opportunity to participate in the planning process;
 - The MPO is to develop a public participation plan in consultation with interested parties that provides opportunity for all to comment;
 - Public meetings must be held at convenient and accessible locations/times, include visualization techniques to describe the LRTP, and make public info available electronically, such as on the web;
 - A Congestion Management Process (previously referred to as a Congestion Management System) is now required; and
- WHEREAS, To bring the LRTP in compliance with SAFETEA-LU legislation, the LRTP 2007 Update must be adopted and adhere to those planning factors/guidelines referenced above by July 2007; and
- WHEREAS, If the MPO cannot meet the July 2007 deadline, a one year extension may be granted assuming a good faith effort is put in place prior to July 2007 to bring the LRTP in line with SAFETEA-LU requirements; and

Long-Range Transportation Plan 2007 Update Action Plan

- WHEREAS, Anticipating the occurrence of the LRTP 2007 Update approval schedule to go beyond July 2007, the Syracuse Metropolitan Transportation Council (SMTC) in consultation with the Federal Highway Administration and the New York State Department of Transportation has prepared an Action Plan for addressing the SAFETEA-LU requirements in the LRTP 2007 Update; and
- WHEREAS, The Action Plan specifies particular approaches that the SMTC will utilize to proceed towards SAFETEA-LU compliancy in the LRTP 2007 Update, thereby providing a good faith effort on behalf on the MPO; and

NOW THEREFORE BE IT RESOLVED, that the SMTC Policy Committee adopts the above action, thereby approving the LRTP 2007 Update Action Plan.

Dale A. Sweetland

Chairperson

SMTC Policy Committee

Carl Ford

Secretary

SMTC Policy Committee

March 12,2007 Date

Date