

TRANSPORTATION CONFORMITY ANALYSIS

SMTC 2011-2015 Transportation Improvement Program and Long Range Transportation Plan 2011 Update

December 2011

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Table of Contents

Introduction.....	1
Onondaga County Air Quality History and Status of Applicable SIP.....	1
Interagency Consultation Process.....	2
Travel Demand Model Validation.....	2
Use of Latest Planning Assumptions.....	2
Latest Emissions Model.....	4
Identification of Exempt/Non-Exempt and Regionally Significant Projects.....	6
Results of the Regional Emissions Analysis.....	7
Public Involvement Process.....	7
Conclusions and Statement of Conformity.....	7
MPO Resolution.....	8

Appendix

APPENDIX A Air Quality Emissions Estimates

Table 1 SMTC December 2011 Regional Emissions Analysis Summary

Table 2 VMT and Emission Summary by Year

Table 3: 2011-2015 TIP Non-Exempt Projects

Table 4 Transportation Control Measures (TCMs) Update

Table 5 TransCAD Vehicle Miles Traveled (VMT) and Speed Outputs for Base and Future Years

Introduction

This regional emissions analysis and supporting documentation were prepared to comply with the requirements of the Federal Clean Air Act Amendments of 1990 (CAA) 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 Syracuse Metropolitan Transportation Council (SMTC) adopts or approves a Transportation Improvement Program (TIP) or Long Range Transportation Plan (LRTP) or a significant 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 the NYSDEC.

Onondaga County Air Quality History and Status of Applicable SIP

In 1990 the Clean Air Act was amended to include a carbon monoxide (CO) non-attainment classification scheme, which included a classification for low to moderate non-attainment. At that time, the non-attainment classification for areas of the City of Syracuse was expanded by the NYSDEC to include all of Onondaga County. In 1992, the Onondaga County non-attainment area was re-designated to attainment of the CO National Ambient Air Quality Standards (NAAQS). As part of the re-designation process a maintenance plan was developed for 1993 through 2003. The first Maintenance Plan expired in September 2003, and the NYSDEC released a new 10-year Maintenance Plan in December 2003, and subsequently revised it in February 2004. To date, Onondaga County continues to be classified as a CO maintenance area and is in attainment for all other criteria pollutants. The 1-hour CO concentration design value for Onondaga County is 2.8 parts per million (ppm), while the 8-hour CO concentration design value is 1.9 ppm.

The 2003-2013 State Implementation Plan for air quality for Onondaga County contains estimated existing and future emissions of CO as part of the Clean Air Act requirement to produce a "Maintenance Plan" when the NYSDEC demonstrated to the EPA that the City of Syracuse and Onondaga County had attained the 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 NAAQS.

As required by federal policy, the conformity analysis must meet various criteria and procedural requirements, including the use of the latest planning assumptions and the latest emissions model. These items are described below in further detail. During the development of the 2003-2013 SIP, and subsequent TIP and LRTP revisions, the SMTC worked closely with the Interagency Consultation Group (ICG). In New York State, the ICG consists of the following agencies as defined by 6 NYCRR Part 240.6:

- ❖ United States Department of Transportation
 - Federal Highway Administration (FHWA)
 - Federal Transit Administration (FTA)
- ❖ United States EPA;
- ❖ NYSDOT – Environmental Science Bureau (NYSDOT ESB); and
- ❖ NYSDEC.

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 procedures 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.

The involved Federal, State and local agencies have agreed that the updated SMTC travel demand model, regional emissions analysis that incorporates the latest planning assumptions, latest future emissions control programs estimated by the 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 the USDOT can make a conformity determination.

Travel Demand Model Validation

In 2010, the SMTC completed an update to the travel demand model that is used to forecast traffic volumes and speeds based on projected socioeconomic information. This was completed to align with both the LRTP 2011 Update and the Interstate 81 project currently in progress at the SMTC. The LRTP 2011 Update projects information out to 2035. The prior model incorporated a base and horizon year of 2003 and 2027, thereby requiring model adjustments and enhancements. The new SMTC travel demand model, with a 2007 base year and 2035 horizon year, was documented to portray how the model was developed, calibrated, and updated to estimate existing and future traffic volumes and speeds. This documentation was provided to the ICG for their concurrence that the model meets requirements to complete a transportation conformity analysis. The ICG concurred on December 15, 2010 that the revised and enhanced travel demand model is appropriate for use in future regional emissions analyses for transportation conformity.

The travel demand model runs used in this conformity determination commenced on November 28, 2011.

Use of Latest Planning Assumptions

All conformity determinations must be based on the latest available planning assumptions at the time of the conformity determination. Section 176(c)(1)(B)(iii) of the Clean Air Act 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.

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, including local economic development organizations and municipal representatives, and were approved for use by a technical committee consisting of SMTC member agencies in November 2010. Household data and population were obtained via the 2000 Census, the 2007 Census American Community Survey and 2009 parcel data for Onondaga County. Estimates were calculated for 2007, along with future household and population estimates for the 2035 horizon year. Interim year figures (i.e., 2013, 2020 and 2030) were also estimated for the Traffic Analysis Zone (TAZ) structure within the travel demand model.

Land use data at the TAZ level in the model (i.e., type of employers and number of employees) was similarly calculated for both the base and future scenarios utilizing assistance from a variety of economic development agencies and personnel, and local municipal officials.

Travel data for transit was included in the modeling, taking into account the Central New York Regional Transportation Authority (CNYRTA) fixed route service, as well as non-motorized travel (i.e., bicycling and walking).

“(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 current CNYRTA fare structure was increased in 2011. The transit authority continues to monitor the impact the new structure may have on its customers and will make adjustments to transit services as appropriate. This may include removing routes from the service area for operational and efficiency purposes that are determined to be underperforming due to low ridership. However, even with the fare increase, overall there has been no significant change in ridership. The transit percentage in the travel demand model files is around 1.2%. This percentage is based on observed data from a 2003 travel survey completed in Onondaga County.

“(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 current CNYRTA fare structure, as shown below, was increased in 2011. The transit authority continues to monitor the impact the structure may have on its customers and will make adjustments to transit services as appropriate. However, even with the fare increase according to the CNYRTA, overall there has been no significant change in ridership.

Passenger Type	Fare
Adult	\$2.00
Children (6-9 yrs.)	\$1.00
Senior/Disabled fare w/Medicare or Centro ID	\$1.00
Children under 6 accompanied by an adult	Free
Transfers	Free

According to the New York State Thruway Authority (NYSTA), fiscal year 2005 saw the first increase in Thruway tolls since 1988. In 2008, a multi-year increase was approved. The last increase occurred in January 2010.

For modeling purposes, tolls at each Thruway exit/entry plaza in and around the SMTC region were analyzed to calculate a rate in terms of dollars/time, which equates to \$10/hour or 16 cents/minute. This travel time impedance 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. If costs were reduced, the attractiveness of using the Thruway would likely improve.

“(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 3 of Appendix A 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.

“(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 morning, evening and daily periods 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 2007 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 the technical committee in November 2010.
- Future employment growth by TAZ as determined by local economic development experts and municipal officials in November 2010.
- 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.

Latest Emissions Model

To complete the required regional emissions analysis, the SMTC relied on emission factors tables provided by the NYSDOT ESB in April 2008. These tables were developed using the EPA’s motor vehicle emissions model, MOBILE 6.2.

The tables are based on the most recent modeling parameters established by the NYSDEC. The specific modeling inputs and parameters used to develop the emission factor tables for Onondaga County are noted below:

Evaluation Month: The month of January (i.e., winter conditions) was specified in the CO emission factor input files.

Vehicle Registration Distribution: Year 2007 registration data were used to model all future analysis years.

Vehicle Mileage Accumulation Rate: The default EPA mileage accumulation rate data (provided with the MOBILE 6.2 model) were used for all analysis years.

I/M Programs: NYSDEC inspection and maintenance (I/M) program data were used in the emission modeling. The NYSDEC file “NYVIP.d” contains data for the upstate New York program. This file was used for modeling all future analysis years.

Anti-Tampering Program: The anti-tampering program data described in the table below was used to model all analysis years:

Anti-Tampering Program Data	
Parameter	Years 2002-2035
Beginning Calendar Year	1984
Earliest Model Year	(Current year - 25 years)
Final Model Year	(Current year - 2 years)
Light-Duty vehicles subject to inspection	LDGV, LDGT1, LDGT2, LDGT3, LDGT4
Heavy-Duty vehicles subject to inspection	HDGV2B, HDGV3, HDGV4
Annual or Biennial	Annual
Compliance Rate	98%
Component Inspections (see MOBILE 6.2 user’s guide)	All expect tailpipe lead deposit test

Fuel Program, Fuel RVP and Fuel Oxygenate Date: 30 parts per million (PPM) average and 80 ppm maximum fuel sulfur levels, Reid Vapor Pressure (RVP) level of 12.5 psi, and 5% (ethanol) oxygenate content as provided by the NYSDEC were specified in the input files.

Temperature and Humidity: For the winter season, county-specific hourly temperatures and MOBILE 6.2 default humidity levels were used in the modeling.

Diesel Sale Fractions: Diesel sale fractions for NYSDOT Region 3 were used in the modeling. Year 2007 diesel sale fractions were used to model all future analysis years.

Vehicle Start Distribution: County-specific vehicle start distribution data as received from the NYSDEC in Spring 2009 were used in the modeling.

VMT by Hour: County-specific VMT data as verified by the NYSDEC in Spring 2009 were used in the modeling.

Low-Emission Vehicle (LEV) Standards: The following files were used to model the effects of implementing California’s LEV I/LEV II programs in New York State:

- L2CERT.d – Specifies the LEV II 50,000-mile certification standards
- L2EVAP.d – Specifies the phase-in schedule for the LEV II evaporative emission standards
- L2EXH.d – Specifies the phase-in schedule for the LEV II exhaust emission standards

- LEV2.d – Provides fleet penetration fractions for light-duty gasoline vehicles under the LEV I/LEV II programs.

Weighed Emissions by Vehicle Type: The emission factors for each individual vehicle type were weighted according to the NYSDOT Region 3 vehicle distributions by roadway functional classification and then summed to obtain combined emission factors.

These model parameters include the latest existing and future emissions control programs included in the NYSDEC's statewide mobile source emission inventory, and the latest MOBILE 6.2 input assumptions for the existing and future vehicle fleets traveling on roadways within Onondaga County. The MOBILE 6.2 parameters and external data files are available by contacting the NYSDOT ESB.

Identification of Exempt/Non-Exempt and Regionally Significant Projects

All federally-funded transportation projects in the Syracuse Metropolitan Planning Area must be included in the TIP. As part of the development of the 2011-2015 TIP, which was approved by the SMTC Policy Committee in July 2010, and required by 40 CFR Part 93, the SMTC staff evaluated the projects contained in the 2011-2015 TIP to determine their exempt or non-exempt status as defined by the criteria of the federal conformity rules and guidance. Generally, projects that improve the safety of the road network, preserve/maintain existing roads and bridges, contribute to minor increases in the efficiency of public transportation services, or enhance non-motorized travel are considered exempt. Non-exempt projects are those projects that do not meet the criteria of exempt projects as found in 40 CFR Part 93.126, 93.127 and NYCRR Part 240.27. Any project classified as non-exempt must be included in the regional emissions analysis to determine their impact on air quality.

A regionally significant project can be defined as any project, regardless of funding source, which is on a facility that serves regional transportation needs and that would normally be included in the metropolitan area's transportation network.¹ Through conversations with member agencies, there are no regionally significant projects within the SMTC planning area. However, the Carousel Center mall expansion, as determined through interagency consultation is incorporated in the regional travel demand model.

The ICG concurred with the exempt/non-exempt status of the numerous projects that comprise the 2011-2015 TIP on March 3, 2010. There have been no new non-exempt projects added to the capital program since that time. However, during the recent maintenance program update to the capital program, three non-exempt project schedules were adjusted. PIN 303769 was removed from the program, while the construction schedules for PINs 375479 and 375529 were moved to a later year than originally programmed, thereby necessitating a re-determination for transportation conformity purposes. The SMTC incorporates exempt and non-exempt projects from the TIP, in addition to the LRTP projects anticipated for future implementation within financial constraints of the LRTP that can be modeled in the regional emissions analysis. Please refer to the adopted 2011-2015 TIP available on the SMTC web site for a listing of the exempt projects. Appendix A lists the non-exempt projects from the 2011-2015 TIP and the future projects included in the LRTP 2011 Update.

¹ 23 CFR Part 450.104

Results of the Regional Emissions Analysis

Through ICG concurrence and in accordance with 40 CFR Part 93, the SMTC has completed the regional emissions analysis on the following years:

- 2013 – represents the last year of the 2003-2013 Maintenance Plan, a year with an emissions budget, and the first analysis year which no more than five years from the date of determination;
- 2020 – an intermediate year no more than ten years apart;
- 2030 – an intermediate year no more than ten years apart; and
- 2035 – the horizon year of the LRTP 2011 Update.

Appendix A shows the complete results of the regional emissions analysis of the SMTC's revised 2011-2015 TIP and LRTP 2011 Update using the latest emissions factors and the latest SMTC travel demand model forecast VMT. The SMTC staff applied the emission factors for CO to data from the travel demand model outputs in a spreadsheet based post-processor. The emissions post processor applies MOBILE 6.2 emission factors for CO to links within the travel demand model runs based on each link's VMT and speed. The link specific results are then summarized to arrive at totals for Onondaga County.

The existing and future estimated emissions are presented in Tables 1 and 2. This regional analysis demonstrates that with the adopted revised 2011-2015 TIP and update to the LRTP, CO emissions in future years will remain significantly 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 revised 2011-2015 TIP and LRTP 2011 Update will remain in conformity with the SIP.

Public Involvement Process

This conformity analysis was released for a 30-day public comment beginning December 30, 2011. In addition to the 30-day public comment period, this document was posted on the SMTC website, and a legal notice placed in the local newspaper.

Conclusions and Statement of Conformity

In conclusion, the SMTC revised 2011-2015 TIP and the LRTP 2011 Update complies with the requirements of the Clean Air Act, and is in conformance with the New York State Implementation Plan for air quality. Appendix A provides the documentation of the required regional emissions analysis conducted to determine air quality conformity. This analysis demonstrates that with the revised 2011-2015 TIP and LRTP, 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 2011-2015 TIP and LRTP 2011 Update remain in conformity with the SIP.

The ICG concurred on [date to be inserted] that this December 2011 conformity analysis meets applicable criteria.

MPO Resolution

A copy of the resolution will be within this documentation.

APPENDIX A
Air Quality Emissions Estimates

Table 1
SMTC December 2011 Regional Emissions Analysis Summary

Note: Motor Vehicle Emission Budgets (MVEB) from 2003-2013 SIP

2013 Build	VMT	CO Sum (g/day)		tons per day	MVEB = 357
24 hour	12,395,429.00	158,236,563.77	=	174.43	PASS
					PASS

2020 Build	VMT	CO Sum (g/day)		tons per day	MVEB = 357
24 hour	12,695,543.00	141,675,846.25	=	156.17	PASS
					PASS

2030 Build	VMT	CO Sum (g/day)		tons per day	MVEB = 357
24 hour	13,182,138.00	143,605,290.57	=	158.30	PASS
					PASS

2035 Build	VMT	CO Sum (g/day)		tons per day	MVEB = 357
24 hour	13,379,238.00	145,817,842.36	=	160.74	PASS
					PASS

Table 2
VMT and Emission Summary by Year
(Calculated with MOBILE 6.2 CO g/mi interpolated factors)

2013 24 Hour				
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum
11/12	61.5	3,689,502	13.69	50,501,903.38
14	27.7	1,339,574	12.22	16,368,254.71
16	27.2	2,096,853	12.23	25,652,899.60
17	27.1	659,996	12.39	8,174,314.46
19	19.6	1,355,982	12.85	17,424,911.09
11/12 ^a	30.2	216,483	11.83	2,560,993.89
14 ^b	27.5	42,009	12.23	513,560.03
01	66.4	588,765	13.20	7,771,698.00
02	45.8	280,649	12.62	3,543,025.24
06	48.7	153,563	12.82	1,968,923.36
07	35.5	363,221	12.06	4,381,171.70
08	37.5	222,397	12.19	2,711,019.43
09	33.2	1,370,246	12.03	16,479,126.49
01 ^c	28.6	11,896	11.20	133,182.86
02 ^d	27.8	4,293	12.01	51,579.54
TOTAL 24 HOUR				158,236,563.77
			tons/day	174.4259539

2020 24 Hour				
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum
11/12	61.5	3,796,313	11.97	45,453,255.55
14	27.9	1,414,470	10.68	15,107,105.39
16	27.3	2,101,835	10.69	22,478,704.96
17	27.1	667,078	10.84	7,229,791.36
19	19.7	1,348,773	11.21	15,120,554.59
11/12 ^a	30.2	219,924	10.35	2,276,213.40
14 ^b	27.6	43,800	10.69	468,116.88
01	66.3	629,619	11.53	7,259,507.07
02	45.7	290,561	11.03	3,205,062.17
06	48.3	158,428	11.18	1,771,446.84
07	35.4	373,453	10.53	3,933,356.38
08	37.5	226,927	10.65	2,416,772.55
09	33.2	1,407,048	10.51	14,783,009.11
01 ^c	27.9	12,715	9.80	124,637.52
02 ^d	27.5	4,599	10.51	48,312.50
TOTAL 24 HOUR				141,675,846.25
			tons/day	156.1708877

a Urban High capacity ramp
b Urban Low capacity ramp
c Rural High capacity ramp
d Rural Low capacity ramp
FC refers to a roadway's functional classification

Table 2, continued
VMT and Emission Summary by Year
(Calculated with MOBILE 6.2 CO g/mi interpolated factors)

2030 24 Hour				
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum
11/12	61.3	4,009,665	11.67	46,808,829.21
14	27.7	1,423,855	10.43	14,851,661.96
16	27.3	2,143,860	10.44	22,380,612.08
17	27.1	686,182	10.59	7,265,295.02
19	19.8	1,354,178	10.94	14,814,707.32
11/12 ^a	30.1	228,858	10.11	2,313,754.38
14 ^b	27.5	44,496	10.44	464,315.76
01	66.2	690,234	11.26	7,772,034.84
02	45.3	307,341	10.74	3,300,043.25
06	47.8	167,098	10.88	1,818,427.28
07	35.2	392,374	10.26	4,026,071.14
08	37.4	237,722	10.38	2,467,459.27
09	33	1,477,837	10.25	15,141,917.90
01 ^c	27.2	13,686	9.60	131,429.40
02 ^d	27.5	4,752	10.26	48,731.76
TOTAL 24 HOUR				143,605,290.57
			tons/day	158.297736

2035 24 Hour				
FC	Avg. Speed	VMT	CO (g/mi)	CO Sum
11/12	61.2	4,100,318	11.67	47,834,309.79
14	27.6	1,429,866	10.44	14,931,804.66
16	27.3	2,152,775	10.45	22,495,207.09
17	27.1	692,115	10.59	7,331,020.50
19	19.8	1,350,550	10.94	14,775,017.00
11/12 ^a	30	231,837	10.12	2,346,190.44
14 ^b	27.5	45,446	10.45	474,683.47
01	66.1	719,581	11.26	8,102,482.06
02	45.2	315,378	10.73	3,384,510.54
06	47.6	170,854	10.87	1,857,319.66
07	35.1	400,549	10.27	4,111,715.59
08	37.3	242,004	10.38	2,511,904.72
09	33	1,508,734	10.26	15,473,575.90
01 ^c	26.8	14,266	9.61	137,159.03
02 ^d	27.3	4,965	10.26	50,941.89
TOTAL 24 HOUR				145,817,842.36
			tons/day	160.7366568

a Urban High capacity ramp

b Urban Low capacity ramp

c Rural High capacity ramp

d Rural Low capacity ramp

FC refers to a roadway's functional classification

As described in this December 2011 regional emission analysis, the SMTC includes those projects identified through the interagency consultation process as non-exempt, in addition to various exempt and future proposed projects with sufficient detail within the travel demand model road network files. Below are those various non-exempt projects from the 2011-2015 TIP and anticipated projects from the LRTP 2011 Update that are included in this analysis. The LRTP 2011 Update projects were provided to the SMTC by the NYSDOT and the Onondaga County DOT. These projects are also listed below and provide cursory details of the future project, and the years in which they've been incorporated in the travel demand model files. The LRTP provides a long-term vision of the transportation system in the Syracuse metropolitan area. Should sufficient funding become available in the future and prioritized for allocation within fiscal parameters established in the LRTP, these are various projects with which the member agencies have identified for implementation consideration.

Table 3: 2011-2015 TIP Non-Exempt Projects

PIN	Project	General Scope	TCM	Completion Date	First Yr. Modeled
375285	Geddes/Genesee and Lodi/Salina Signal Interconnect	Upgrading of signals and inclusion in existing interconnect system.	NO	2012	2013
375479	N,S,E,W Interconnect Expansion	Upgrading of signals and inclusion in existing interconnect system.	NO	2017	2020
375529	Electronics/Henry Clay Signal Interconnect	Upgrading and interconnect of signals.	NO	2016	2020

Source: Syracuse Metropolitan Transportation Council 2011-2015 Transportation Improvement Program. "PIN" stands for project identification number; "TCM" indicates whether or not the project is a Transportation Control Measure.

LRTP 2011 Update Projects

1) Bear Street Extension: The current four lane configuration of Bear Street will be extended along a course turning generally northward after crossing Interstate 81 in an eastbound direction. Modeled in 2030 and 2035.

2) Third Lane of Frontage Road: Beginning at Exit 23B, the on ramp from Carousel Center Drive to the Interstate 81 Southbound Frontage Road (SR 936F), a third lane will be constructed southward to Bear Street. Modeled in 2020 and all subsequent years.

3) Genant Street: Genant Street will be upgraded and the I-81 southbound exit to Franklin St will be closed off. Genant St will be rebuilt so that it accesses the Franklin St ramp. Modeled in 2030 and 2035.

4) Girden Road Extension: Girden Road, running along the DeWitt-Manlius town line, will be extended southward beyond its current terminus at a dead end to the access road for the CSX Rail Yard. This road will act as the primary access to the facility for truck traffic from Interstate 481, generally replacing the current truck access off North Central Avenue near Fremont Road. The intersection of Girden Road and Kirkville Road will feature a traffic signal. Modeled in 2030 and 2035.

5) Onondaga Lake Parkway: The speed on Onondaga Lake Parkway will be reduced to 45 MPH all year. Currently the parkway is posted at 55 MPH during the most of the year and 45 MPH from Nov. 1st – March 31st. Modeled in 2013 and all subsequent years.

6) Routes 31/81 Interchange Improvements: To improve capacity issues there will be a complete interchange replacement. Modeled in 2020 and all subsequent years.

7) Soule Road & Route 31/Route 481 Interchange: Carling Road extension to Soule Road and reconfiguration of the Route 481 southbound on-ramp. Modeled in 2020 and all subsequent years.

8) Seventh North: The intersection of Seventh North/Buckley will be upgraded with the addition of southbound and eastbound lefts, and northbound and southbound throughs. Modeled in 2020 and all subsequent years.

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**TransCAD Vehicle Miles Traveled (VMT) and Speed Outputs for Base and Future Years**

FC Code	Road Type		2013	2020	2030	2035
			24 hour	24 hour	24 hour	24 hour
11/12	Interstate/Freeway	VMT	3,689,502.00	3,796,313.00	4,009,665.00	4,100,318.00
		Avg. Speed	61.50	61.50	61.30	61.20
14	Principal Arterial	VMT	1,339,574.00	1,414,470.00	1,423,855.00	1,429,866.00
		Avg. Speed	27.70	27.90	27.70	27.60
16	Minor Arterial	VMT	2,096,853.00	2,101,835.00	2,143,860.00	2,152,775.00
		Avg. Speed	27.20	27.30	27.30	27.30
17	Urban Collector	VMT	659,996.00	667,078.00	686,182.00	692,115.00
		Avg. Speed	27.10	27.10	27.10	27.10
19	Local	VMT	1,355,982.00	1,348,773.00	1,354,178.00	1,350,550.00
		Avg. Speed	19.60	19.70	19.80	19.80
	High Capacity Ramp	VMT	216,483.00	219,924.00	228,858.00	231,837.00
		Avg. Speed	30.20	30.20	30.10	30.00
	Low Capacity Ramp	VMT	42,009.00	43,800.00	44,496.00	45,446.00
		Avg. Speed	27.50	27.60	27.50	27.50
01	Interstate	VMT	588,765.00	629,619.00	690,234.00	719,581.00
		Avg. Speed	66.40	66.30	66.20	66.10
02	Principal Arterial	VMT	280,649.00	290,561.00	307,341.00	315,378.00
		Avg. Speed	45.80	45.70	45.30	45.20
06	Minor Arterial	VMT	153,563.00	158,428.00	167,098.00	170,854.00
		Avg. Speed	48.70	48.30	47.80	47.60
07	Major Collector	VMT	363,221.00	373,453.00	392,374.00	400,549.00
		Avg. Speed	35.50	35.40	35.20	35.10
08	Minor Collector	VMT	222,397.00	226,927.00	237,722.00	242,004.00
		Avg. Speed	37.50	37.50	37.40	37.30
09	Local	VMT	1,370,246.00	1,407,048.00	1,477,837.00	1,508,734.00
		Avg. Speed	33.20	33.20	33.00	33.00
	High Capacity Ramp	VMT	11,896.00	12,715.00	13,686.00	14,266.00
		Avg. Speed	28.60	27.90	27.20	26.80
	Low Capacity Ramp	VMT	4,293.00	4,599.00	4,752.00	4,965.00
		Avg. Speed	27.80	27.50	27.50	27.30