7 ENVIRONMENT

7.1 GOAL
To provide a clean and environmentally sound transportation system for current and future residents.

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

7.2 TRENDS
Global trends such as declining oil supplies have the potential to impact the way MPOs plan for transportation infrastructure investments during the next twenty to twenty-five years. Fuel costs have the potential to increase exponentially as the global demand for oil exceeds peak oil production. The SMTC acknowledges these trends and their potential to influence transportation policies and land use decisions, specifically as they relate to developing a socially, financially, economically, and environmentally sustainable transportation infrastructure.

The SMTC recognizes that an effective way to protect the environment is to promote sound infrastructure investments that encourage multimodal and walkable communities. As such, the SMTC strives to balance the transportation and land use cycle through sound design of infrastructure and land use patterns. To strike a balance between transportation and land use, the SMTC works with its member agencies to plan for and implement Smart Growth planning principles.

Smart Growth planning principles discourage the development of transportation infrastructure and land use patterns that cater solely to single occupancy vehicle designs. In addition to accommodating automobiles, Smart Growth encourages additional mobility options through sound growth patterns and infrastructure design. An example of an environmentally sound growth pattern includes developing walkable communities where people don’t need their car to access multiple destinations. Promoting mobility choice (i.e., cars, buses, bikes, motorcycles, mass transit, etc.), walkability, and multi-modal community development patterns is an effective way to protect the environment by reducing vehicle miles traveled (VMT). Reducing VMT helps preserve the environment by reducing oil consumption, which results in less air and water pollution, fewer cars on the road (i.e., less congestion), and less noise pollution.
7.3 ENVIRONMENTAL MITIGATION ACTIVITIES

Environmental mitigation is the process of consistency of transportation planning with applicable federal, state and local energy conservation programs, environmental goals, and objectives. Environmental mitigation is incorporated into the current LRTP’s goals for establishing project priorities. As required through SAFETEA-LU, the LRTP should include a discussion about environmental mitigation as follows:

*The metropolitan transportation plan shall... include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.*

The SMTC member agencies are already engaged in environmental mitigation activities at the planning and project level through the implementation of (a) National Environmental Policy Act (NEPA) and State Environmental Quality Review Act (SEQRA) regulations and (b) Context Sensitive Solutions (CSS) which ensure that projects are in harmony with the community, and that they preserve environmental, scenic, aesthetic, historic, and natural resource values of the area in which they are located.

The SMTC’s LRTP is essentially a policy level document that does not specifically contain many significant projects in the out-years for which potential mitigation activities would be appropriate. Specific mitigation measures will be examined at the project phase via the SEQR/NEPA process and are therefore beyond the scope of this document. However, environmental mitigation is a major consideration in local major investment studies, planning studies, and other planning efforts.

In addition, the SMTC works with various agencies in regards to air quality and conformity. Air quality, as it pertains to the operations of the SMTC and its member agencies includes the state and federal requirements for transportation conformity¹, project level analysis for Congestion Mitigation/Air Quality (CMAQ) funding, and requirements for the State Energy Plan (SEP) and Greenhouse Gas analysis. The Interagency Consultation Group (ICG) is federally mandated to exist as part of the conformity rule. The ICG operates on a consensus basis and is required to approve

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¹ Transportation conformity ("conformity") is a way to ensure that Federal funding and approval is applied to those transportation activities that are consistent with air quality goals. Conformity applies to transportation plans (such as the SMTC Long Range Transportation Plan [LRTP]), Transportation Improvement Programs [TIPs], and projects funded or approved by the Federal Highway Administration [FHWA] or the Federal Transit Administration [FTA] in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide. These areas are known as "non-attainment areas" or "maintenance areas," respectively. Transportation projects must demonstrate conformity in order to be funded.
the SMTC’s conformity analysis. This group consists of the following agencies: the SMTC, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the New York State Department of Transportation Environmental Science Bureau (NYSDOT ESB), the New York State Department of Environmental Conservation (NYSDEC), and the Environmental Protection Agency (EPA). The SMTC is in constant communication with the ICG to ensure that conformity is met. Also, the NYSDOT ESB is responsible for making sure that the SMTC adheres to the State Energy Plan and related Greenhouse Gas analysis requirements, as these are State mandated activities. The SMTC through consultation with its various member agencies and the previously outlined consortium of interested parties actively solicits input into this policy level plan. Detailed mitigation efforts are beyond the scope of this plan as no project details exist.

The SMTC also currently works with several regulatory agencies through the SMTC committee structure, including the Central New York Regional Planning and Development Board and New York State 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. Also, SAFETEA-LU includes an additional consultation section requiring the MPO to consult “with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate: (1) Comparison of transportation plans with State conservation plans or maps, if available; or (2) Comparison of transportation plans to inventories of natural or historic resources, if available.” This effectively requires involvement of these agencies in the long range planning process for the same reasons they are involved in project development (Environmental Impact Statement) work. As part of the public outreach for the LRTP 2011 Update, the SMTC has also completed outreach to the agencies noted below (contact information for these agencies can be found in Appendix E) to appropriately address this consultation requirement. Outreach efforts included a letter sent to all agencies soliciting written comments, as well as an invitation to the LRTP 2011 Update Public Meeting to address any concerns relevant to the mitigation efforts as outlined in SAFETEA-LU. Outreach was completed to the following agencies (some of these agencies are SMTC Member Agencies):

- NYS Office of Parks, Recreation and Historic Preservation
- Central New York Regional Planning and Development Board*
- Onondaga Nation
- NYS Department of Environmental Conservation*
- Army Corps of Engineers
- Cornell Cooperative Extension – Onondaga County
- Cornell Cooperative Extension – Madison County
- Cornell Cooperative Extension – Oswego County
- Onondaga County Office of the Environment
- Onondaga County Health Department
- Onondaga County Council on Environmental Health
The LRTP takes into account potential environmental impacts when adopting the Plan. If impacts are found, then consideration is given to how such impacts might be mitigated. The SMTC’s plans identify as best as possible the impact of proposed transportation projects on environmental factors such as wetlands, watercourses, historic districts, etc. Most environmental mitigation is detailed in the project design phase, and the SMTC member agencies encourage and support this activity. Air and noise analysis are issues evaluated both at the regional planning level and at a project’s design stage.

Consultation as necessary will be undertaken with environmental protection agencies (including the NYSDEC), wildlife management authorities, and land management and historic preservation...
interests. The SMTC maintains a GIS that supports its transportation planning by having readily available data layers including watersheds, wetlands, aquifers, and rare and endangered species.

Mitigation is normally evaluated during the design of a project and the selection of project alternatives. However, mitigation actions can also be stand-alone projects intended to offset or replace a certain environmental function(s) that was lost as a result of construction of the transportation project. Examples include storm water management facilities, wetland replacement projects, stream restoration projects, reforestation projects, construction of sound walls, replacement of parklands, and wildlife crossing structures. A typical highway runoff mitigation situation occurs when the runoff from a section of roadway is causing erosion and sedimentation problems that are impacting a wetland and/or a lake. Possible mitigation would be to rebuild and/or repair drainage ditches. If it is discovered that the time of year of a roadway’s construction may impact some endangered species, the project’s construction schedule is adjusted to minimize its impact on the nesting habits of the species. Archeologists are called in during the construction phase of a project in the event that a potential historic site, previously unknown, is uncovered.

The SMTC also recognizes that, in order for the environmental mitigation projects to continue to provide the long term functionality that was intended when they were first constructed, they must be properly maintained, and when necessary rehabilitated or reconstructed. Some examples of the NYSDOT projects that include environmental mitigation are the Baldwinsville Bypass Project-Phase I (completed), I-690 over CSX Railroad (completed), Rt. 370 Parkway Project (in planning stages), Rt. 31 Widening Project/Mud Creek Bridge (completed), I-81 Bridge over Oneida River/Fishing Access (completed). These environmental mitigation efforts are considered to be assets, just as more traditional highway elements such as pavements, bridges, and drainage structures are considered assets, and as such their maintenance and long term preservation lend themselves to an asset management approach.

A wider, safer highway for motorists can create a problem for native animals. Temporary and permanent fencing is employed where appropriate to divert animals to safer areas away from construction and from the roadway itself. Wildlife crossings are also designed into the new highways to provide alternatives for animals wanting to cross the roadway. In addition to the mitigation measures associated with fauna, mitigation can also apply to the protection of flora, such as the preservation of the unique landscape. If such a situation is encountered, the mitigation will be considered during the design of the highway project.

Environmental mitigation measures can be funded with federal, state, and local monies. From the federal standpoint, such activities can be a part of the actual construction activity (normal federal-aid monies) or can be with FHWA Transportation Enhancement Program (TEP) funding for stand-alone projects. In both cases, the types of actions eligible for funding are generally the same, although TEP projects have more latitude in eligibility as long as the site can relate to a transportation facility.
Congress included the language on TEP projects as a means of stimulating additional efforts to create an improved transportation environment and system, while making a contribution to the surrounding community. This is done through implementation of the specific activities listed in the legislation. Enhancement measures in the activities listed, which go beyond what is customarily provided as environmental mitigation, are considered as transportation enhancements.

The types of projects that could be considered as environmental mitigation projects include eligible activities that can be funded under the Transportation Enhancement Program [23 U.S.C. 101(a)(35)] such as:

- Acquisition of scenic easements and scenic or historic sites,
- Scenic or historic highway programs (including the provision of tourist and welcome center facilities),
- Landscaping and other scenic beautification,
- Historic preservation,
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals),
- Preservation of abandoned railway corridors (including the conversion and use of the corridors for pedestrian or bicycle trails),
- Archaeological planning and research,
- Establishment of transportation museums, and
- Environmental mitigation
  - to address water pollution due to highway runoff; or
  - reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.

All of the environmental mitigation considerations can philosophically fit into the SMTC’s environmental justice concerns, since the organization is an integral part of the environment and the condition of the environment impacts us. Specific measures dealing with the mitigation of the transportation system impacts on the human environment are noise abatement, air quality, and using alternative power systems (solar) for providing on-going electricity for transportation infrastructure.

### 7.3.1 Environmentally Sensitive Areas

As part of the 2011 LRTP Update, the SMTC has identified areas within the MPO boundary that may be environmentally sensitive. State and Federal Wetland areas within the SMTC MPO boundary are shown on Map 7-1. Map 7-2 shows Flood Zones and Other Environmentally Sensitive Areas, including historic sites, recreation areas, schools, and cemeteries.

Map 1-3 from Chapter 1 shows the locations of major transportation planning projects carried out under the SMTC’s UPWP since the 2007 LRTP Update. Maps 1.4a and 1.4b, also from Chapter 1, show Transportation Improvement Program capital project locations. The environmentally sensitive areas shown on Maps 7-1 and 7-2 can be compared to the locations of the major
transportation planning projects, as well as to TIP project locations. The SMTC is aware of these areas and will take special precautions if and when projects are taking place in these locations.

One of the most significant local environmental projects at this time is the cleanup of Onondaga Lake. Many pollution abatement and cleanup efforts are focused on this lake to enhance its role as an important aesthetic and recreation resource for Central New York.\(^2\) The Onondaga Lake Improvement Project is engaged in a series of projects to improve water quality. Project details can be found at \url{http://www.lake.onondaga.ny.us}.

\(^2\) Onondaga Lake Improvement Project, Onondaga County Department of Water Environment Protection, \url{http://www.lake.onondaga.ny.us/ol1.htm} (accessed April 6, 2007).
Flood Zones and Other Environmentally Sensitive Areas
Long-Range Transportation Plan 2011 Update

Legend
- Interstates
- Recreation Areas
- Streams
- Syracuse
- Schools
- Village
- Cemetery
- Historic Site
- Town

Map 7-2

Q3 Flood Data Specifications:
- A: Area Inundated by 100 Year Flood (without Base Flood Elevation [BFEs])
- AE: Area Inundated by 100 Year Flood (Determined BFEs)
- AH: Area Inundated by 100 Year Flood with Ponding of 1 to 3 Feet (Determined BFEs)
- AO: Area Inundated by 100 Year Flood with Sheet Flow on Sloping Terrain and Flood Depths of 1 to 3 Feet
- X500: Area Inundated by 100 Year Flood and 500 Year Flood

INSET

*Adapted FIRM product developed and distributed by FEMA. Q3 Flood Data are developed by scanning and vectorizing the existing hardcopy FIRM to create a raster product suitable for viewing or printing, as well as a thematic vector overlay of flood risks. Q3 Flood Data capture all FIRM data in the raster file, but vectorize only certain features.
7.3.2 EMISSIONS (CARBON MONOXIDE, OZONE)

Transportation Conformity

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

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

The SMTC LRTP is a blueprint that guides investment in the surface transportation system in our metropolitan area, and is therefore required to be in conformity with the regional air quality plan or SIP. This is due to Onondaga County being designated a “maintenance” area for Carbon Monoxide (CO). Regarding ozone emissions, in 2010 the EPA proposed to strengthen the national air quality standard from its current 0.075 parts per million (ppm) to a range within 0.060-0.070 ppm. According to the EPA, “the proposed revisions are based on scientific evidence about ozone and its effects on people and sensitive trees and plants.”3 The EPA intends to issue a final decision in July 2011 as to the new standard. To date, Onondaga County is presently in conformance with all applicable standards relative to ozone. Should the federal government officially strengthen this threshold, it is probable that Onondaga County, based on prior emissions data, would eventually be reclassified as a non-attainment area. This reclassification would then require the monitoring and analysis of said emissions as per the federal transportation conformity regulations.

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

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1 http://www.epa.gov/glo/actions.html
Budgets are developed as part of the air quality planning process by the NYSDEC and approved by the EPA. The FHWA, FTA, and the NYSDOT ESB participate with NYSDEC and EPA as members of the Interagency Consultation Group that approves the budgets.

**Carbon Monoxide Non-Attainment Background**

In the late 1970s, a CO monitor was placed in downtown Syracuse by the NYSDEC. The location of the monitor, at the intersection of East Adams Street and Almond Street, indicated that there were CO concentrations in excess of the EPA standards. Subsequently, parts of Syracuse were designated non-attainment for CO. In 1990 the Clean Air Act was amended to include a CO non-attainment classification scheme, which included a classification for low to moderate non-attainment. At that time, the nonattainment classification was expanded by NYSDEC to include all of Onondaga County. In 1992, the SMTC non-attainment area was re-designated to attainment of the CO National Ambient Air Quality Standards (NAAQS). As part of the re-designation process a maintenance plan was developed for 1993 through 2003. A new 10-year maintenance plan was initiated in 2004.

Under Section 175A of the Clean Air Act of 1990, the individual states are required to provide for the maintenance of the NAAQS once an area is re-designated to attainment. The maintenance plan includes an attainment inventory, demonstration of continued attainment, and budgets for years leading to the end of this plan (in 2013). A 1990 base year is included for comparison for emission reductions as provided by the conformity regulation. The emission budgets are also provided by the transportation conformity regulation. The SMTC created a new travel demand model with 2003 as the base year and 2027 as the horizon year to more accurately reflect trends for the previous 2007 LRTP Update. For this current 2011 LRTP Update, the SMTC again underwent a model recalibration process to further refine and enhance the original model. This new model structure utilizes 2007 as the base year and 2035 as the horizon year.

The first Maintenance Plan expired in September 2003, and the NYSDEC released a new 10-year maintenance plan in December 2003, and subsequently revised it in February 2004. The conformity analysis performed by the SMTC as part of the 2011 LRTP Update indicates that the SMTC area will continue to attain emission levels in conformance with requirements. As indicated previously, the conformity test for the SMTC maintenance area must demonstrate that, once a project is built, the cumulative emissions impacts of a proposed project on a regional basis:

1.) Will remain below budgets established for selected future years as determined by the Onondaga SIP and the Interagency Consultation Group (specifically 2013), and
2.) That TCMs are being implemented in a timely manner.

All of the SMTC TCMs have been implemented and no new TCMs have been included in the Onondaga County SIP. The conformity analysis for this LRTP 2011 Update (see Appendix B) shows that SMTC is well below the budgets, as well as below for all future years analyzed.
The SIP and the conformity determination, while integrated, both have separate time frames as far as each year is examined. The current 10-year SIP addresses the time frame up to the end of the maintenance period in 2013, while conformity must look out at least 20 years, which is 2035 for this LRTP 2011 Update. As the SMTC LRTP is a policy or “visioning” document, it does not contain specific projects.

The projects included in the TIP, all of which are consistent with the goals and objectives of the original LRTP and subsequent updates are considered to be the project list for the LRTP. The policies contained in this LRTP 2011 Update support the intentions of the Clean Air Act Amendments (CAAA) in maintaining the NAAQS. The LRTP goals, directives, recommendations and policies are in conformance with the SIP requirements.

7.3.3 **Oil and Alternative Energy**

According to the 2009 NYS Energy Plan, the Middle East produced about 67 percent (i.e., 910 billion barrels) of the total world reserve for crude oil in 2007. The United States, in comparison, produced only 1.6 percent (i.e., 21 billion barrels) of the worldwide total. Numerous global events such as ongoing tensions in the Middle East, military action in Iraq, and increased world demand have contributed to rising petroleum costs, U.S. national security concerns, and global economic instability. New York State is doing its part to help reduce U.S. dependency on foreign oil sources.

The 2009 NYS Energy Plan identifies New York State as the fifth largest petroleum fuel market in the United States with the state’s transportation sector consuming about 75 percent of all petroleum fuels consumed within the state. In 2007, New Yorkers consumed approximately 5.8 billion gallons of gasoline, which was 4.1 percent of total U.S. consumption. It is the State’s desire to reduce dependency on petroleum products through strategic transportation infrastructure investments.

The New York State 2009 Energy Plan establishes an Energy Policy that identifies clean energy strategies, which include investing in energy and transportation infrastructure. The 2009 Energy Plan states that “ongoing investments in transportation infrastructure are necessary to maintain the system in good working order, and additional investments can be used strategically to reduce vehicle congestion, expand mass transit and encourage more efficient transportation systems.”

New York State also considers the use of electricity as a transportation energy source as one method to reduce Greenhouse Gas (GHG) emissions. According to the 2009 Energy Plan, “Expanding electrification of the transportation sector will help achieve GHG reduction goals by transitioning demand from high carbon-intensity liquid fuels, such as gasoline, to electricity generated from low-carbon-intensity energy sources such as hydro, wind, solar-PV or nuclear power. Electricity produced from low carbon energy sources can power vehicle batteries or light rail.”

The 2009 Energy Plan promotes this transition by supporting research and development for hybrid electric battery technology and energy storage technologies. The 2009 Energy Plan also recommends that the State “Develop a Climate Action Plan in accordance with Executive Order 24. The Climate
Action Plan will identify additional strategies and actions, including likely major infrastructure investments, as well as the benefits and costs of each, consistent with a long-term GHG reduction goal of 80 percent below 1990 levels by 2050. It should also identify appropriate mid-term targets.”

**Metropolitan Planning Organization Roles & Responsibilities**

Metropolitan Planning Organizations (MPOs) are positioned to play a role in protecting and enhancing environmental quality and standards. According to the 2009 NYS Energy Plan:

> The effect of sprawling development patterns on driving rates in this country is well-documented. Since 1980, VMT nationwide have increased three times as fast as population, and twice as fast as vehicle registrations; between 1970 and 1998, VMT increased 132 percent. Between 1983 and 2001, VMT increased 226 percent, 64 percent of which are attributable to land use, while the population increased only 22 percent. The 1980s saw an increase in VMT four times faster than the driving population; in just seven years between 1983 and 1990, VMT increased 40 percent. Between 1983 and 1995, the average commute increased 37 percent, from 8.6 miles to 12.6 miles. Without changes in land use and transit, driving will increase 59 percent between 2005 and 2030, far outpacing a 23 percent population increase and causing a 41 percent increase in transportation-based GHGs.

> Compact development patterns can reduce VMT by up to 40 percent. By reducing VMT, Smart Growth also reduces transportation-based GHG emissions, which directly helps mitigate climate change. Smart Growth alone can reduce GHG emissions from current trends 7 to 10 percent by 2050; with both land use changes and stringent fuel-efficiency standards, GHG emissions could be reduced to 1990 levels by 2030. Smart Growth also reduces petroleum use. If just 10 percent of new housing were built in Smart Growth communities, it would save 4.95 billion gallons of gasoline, 59.5 million metric tons (66.6 million long, or U.S. tons) of carbon dioxide emissions and $220 billion in household expenses over 10 years.

> Transit Oriented Development (TOD) is compact, walkable/bikable, mixed-use communities planned on a traditional village scale and built around a transit station. This development reduces VMT and transportation-based greenhouse emissions by reducing car travel and offering alternative mobility choices such as walking, biking, and public transit. One study found that residents of TODs drive 45 percent less than residents of conventional car-dominated neighborhoods, and save approximately 512 gallons of fuel and $1,400 in fuel cost annually.

A MPO has the ability to work with its member agencies and promote sound land use and transportation policies. A good example is the MPO located in the Albany region, Capital District Transportation Committee (CDTC). The CDTC conducted the “Linkages” program, which is entirely devoted to integrating transportation policy and land use planning at the regional level. According to the 2009 NYS Energy Plan, the “DOT already works hand-in-glove with MPOs in regions in which they exist. This collaboration provides the foundation for further infrastructure-based land use planning, and land use-based infrastructure planning. Federal, State, regional and
local entities can support regional land use and transportation planning by working closely with regional planning councils and, where applicable, county planning boards. Such collaboration is particularly useful in regions of the State not represented by an MPO.”

The SMTC’s 2011 Greenhouse Gas and Energy Analysis are found in Appendix F.

7.3.4 CLEAN COMMUNITIES

The Clean Cities Program (locally known as Clean Communities of Central New York) is sponsored by the U.S. Department of Energy. The program strives to advance the nation’s economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. The Central New York Clean Cities Coalition (CCCNY) is one of 90 local coalitions that develops public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction awareness. The CCCNY focuses its efforts on five main technology areas:

- **Alternative Fuels & Vehicles:** According to the Energy Policy Act (EP Act) of 1992, natural gas, biodiesel, ethanol, hydrogen, electricity, propane, and methanol are the clean, domestically-found alternative fuels. By converting to alternative fuels, we are contributing to oil independence, cleaner air quality, and combating climate change.

- **Fuel Blends:** Blending alternative fuels with conventional fuels allows unmodified vehicles to reduce petroleum consumption and emissions.

- **Fuel Economy:** Fuel economy refers to the amount of fuel needed to move a vehicle a given distance. Better fuel economy can save money, reduce emissions that advance global warming, reduce oil dependence, and increase energy sustainability.

- **Hybrid Electric Vehicles:** HEVs combine the electrical benefits of high fuel economy and low emissions with the power, range, and convenience of conventional vehicles, while generally emitting fewer pollutants and greenhouse gases.

- **Idle Reduction:** Idling vehicles wastes several billion gallons of fuels and emits large amounts of air pollution and greenhouse gases each year. Thirty seconds of idling can use more fuel than turning off and restarting the engine, so if you are stopping for more than thirty seconds, turn off the engine.

CCCNY has recently been awarded funding through the US DOE’s Clean Cities/Economic Stimulus Program, bringing over $5 million of investment in clean fueled vehicles, infrastructure, and jobs to Central NY. This funding supports programs such as CuseCar, a not-for-profit community car sharing program; solar charging stations; and electric vehicle charging stations.
7.4 PLANNING EFFORTS

7.4.1 MEMBER AGENCY ACTION PLANS RELATED TO THE ENVIRONMENT GOAL

Part of the process for updating the 2020 LRTP during 2001 included the identification of action plans that had been implemented under each of the six goals since 1995, including community economy. This 2011 Update emulates the 2001, 2004, and 2007 LRTP Updates by addressing and updating the implementation actions associated with the Plan’s specific goals and objectives (the 1998 Update did not address implementation actions). The identification of implemented action plans involved discussions with the member agencies responsible for their respective TIP projects. In the section that follows, the implemented community environment related action plans are presented. The implemented action plans are summaries rather than complete descriptions. In many cases, overlap exists because a particular action plan may apply to multiple goals.

Action Plans Implemented:

- The CNYRTA now has 120 of the 188 buses (64%) in operation in the urbanized area during its “peak of the peak” period (i.e., the morning rush hour) powered by low-emission compressed natural gas (CNG). CNYRTA will acquire 133 hybrid diesel-electric replacement buses by 2010. When these buses operate in diesel mode they will run on ultra low sulfur fuel and will meet all future EPA environmental goals. The Clean Communities of CNY (part of the national Clean Cities Program) has a program that encourages other fleets to pursue alternative fuel electric or natural gas vehicles, including the State, Onondaga County, City of Syracuse, school districts, municipal governments, and the local business community. The NYSDOT has begun converting its motor pool fleet to CNG.

- The CNYRTA has acquired land and is in the construction process to move its Common Center in the City of Syracuse to an alternate weather-protected location where buses can load and transfers may be made out of the general traffic flow. This project will be completed in winter 2011/2012.

- In May 2009, the CNYRTA implemented service changes and a fare increase in response to a budgetary shortfall. In the January and April 2011, further service reductions are planned in response to ongoing reductions in State aid and shortfalls in Mortgage Recording Tax fees. These changes are imperative to ensure that the Authority remain fiscally solvent.

- The CNYRTA has reviewed the factors affecting mode choice in the SMTC urbanized area in its continuing efforts to increase transit ridership. Several factors continue to impact the agency’s ability to increase ridership including a low density regional development pattern that minimizes opportunities for creating the type of critical mass needed to support transit service; low levels of congestion at peak hours compared to other large urban areas; city and suburban parking policies that result in providing the public with large areas of inexpensive automobile parking space; time and cost.
differentials that often favor single occupancy commuting; generally improving air quality; and a high capacity roadway network. Service reductions scheduled for implementation in January and April 2011 will largely target routes serving suburban & exurban areas where ridership is poor.

- In 2009, the CNYRTA initiated a study to determine the potential benefits, costs, and feasibility of implementing a new system of park-and-ride lots in suburban Syracuse transit corridors. This study will be completed in early 2011.

- The CNYRTA has committed to acquire low emission buses as part of the region’s effort to comply with the provisions of the Clean Air Act. The majority of the CNYRTA’s fleet is powered by compressed natural gas. In addition, a limited number of hybrid-electric vehicles have been acquired. No further hybrid-electric vehicles will be purchased as their additional cost, in a severely constrained fiscal environment, has been found to exceed their minor environmental benefit. In addition, where diesel fueled vehicles are employed, a bio-fuels mix is utilized.

- The CNYRTA is committed to ensuring that no person is excluded from participation in, or denied the benefits of its services on the basis of race, color, or national origin as protected by Title VI of the Civil Rights Act of 1964, as amended. The CNYRTA’s plan to distribute its resources in full compliance with Title VI has been approved by the Federal government.

- The CNYRTA policy will continue to promote bicycle use through purchase of buses equipped with bicycle racks.

- In response to the provisions of the Federal Clean Air Act, the CNYRTA provides enhanced mass transit service to the Carrier Dome as part of the region’s Traffic Mitigation and Air Quality Plans for that facility.

- The Clean Communities of CNY is supporting National Grid’s Electric Car Joint Venture project promote electric car use in Syracuse and New York State.

- The SMTC is promoting strategies in the Clean Communities of CNY Plan through the participation of its member agencies.

- As indicated previously, the SMTC and its member agencies are promoting multimodalism in their transportation projects by planning and implementing enhanced transit, carpooling, bicycling, and walking opportunities.

- The SMTC member agencies are implementing measures contained in the New York State Implementation Plan Resignation Request for Onondaga County as an Attainment area for Carbon Monoxide. The City of Syracuse continues to strengthen the operation of the coordinated signal system through additional staffing and personnel training to operate the system. Improved management of special events traffic has improved traffic flow and safety, especially for Carrier Dome events at Syracuse University. Also, the
Onondaga County Department of Transportation has engaged the SMTC to analyze all of the county owned traffic signals for the purpose of improving traffic signal timing and associated traffic operations.

- Between 1990 and 2005, the total daily carbon monoxide (CO) emissions from mobile sources have been reduced by 54% (Source: April 2004 Conformity Emissions Analysis).

- New Intelligent Transportation Systems (ITS) technologies for snow and ice conditions have been implemented, such as the NYSDOT project installing variable message signs for travel weather conditions monitoring. As of January 2011, there are sixteen such signs in Onondaga County that advises motorists of lake effect snow conditions.

- The New York State Thruway Authority also has four signs within Onondaga County. Two are eastbound and two are westbound along the Thruway. The City of Syracuse and Onondaga County have instituted improved inter-municipal coordination and cooperation for snow and ice removal on arterial highways within the City of Syracuse.

- The NYSDOT is putting greater emphasis on the calibration of its salt spreading equipment to ensure better control of the rate at which the material is applied. In addition, the field supervisors have temperature sensors in their vehicles to measure road surface temperature. These actions provide for a more efficient application and reduce the overall amount of road salt and sand used on the roadways.

- The NYSDOT Region 3’s Regional Strategy outlines ongoing and future efforts relating to environmental practices and policies that Region 3 is involved in.

- The NYSDOT Region 3 promotes and implements many environmental practices in an effort to create a more sustainable transportation system. There are many ongoing efforts being implemented by Region 3. These include the use of biological methods for invasive plant material controls, wetland monitoring, use of vegetation as a snow drifting barrier, planting native plants and grasses, implementation of an annual vegetation management project, ongoing staff training efforts, reusing and recycling of project materials, making the best use of existing resources including time and energy, improving coordination efforts with other agencies, promoting community partnerships, and continued organizational efforts.

- The NYSDOT recognizes transportation project designs, operations and maintenance practices that incorporate a high level of environmental sustainability, through its GreenLITES (Green Leadership In Transportation Environmental Sustainability) transportation environmental sustainability rating program. The NYSDOT developed the GreenLITES certification program to:
  - recognize and increase the awareness of the sustainable methods and practices in project designs and daily operations, and
  - to expand the use innovative alternatives which contribute to improving transportation sustainability.
GreenLITES is a self-certification program that distinguishes transportation projects and operations based on the extent to which they incorporate sustainable choices. This is primarily an internal management program for the NYSDOT to measure performance, recognize good practices, and identify improvements. It also provides the Department with a way to demonstrate to the public how we are advancing sustainable practices.

The NYSDOT project designs and operations are evaluated for sustainable practices and based on the total credits received; an appropriate certification level is assigned. The rating system recognizes varying certification levels, with the highest level going to designs and operational groups that clearly advance the state of sustainable transportation solutions.

In Region 3, the following certified projects have been completed:
- Currently, 397 out of the 426 Traffic Signal Controllers (94%) have been converted over to the 2070 Controller.
- All Traffic signal's red and green indications have been converted from incandescent bulbs to LEDs.
- There are a total of 28 closed loop systems that display real time traffic conditions that enable traffic engineers to monitor current conditions and make real signal timing changes, check time clock functions, observe traffic operations, and be notified of maintenance alerts. A minimum of two new closed loop systems are being installed annually.
- Optimized signal timings at various locations in the region to improve traffic flow progression, delay and fuel emissions.
- The regional signal shop has implemented a combination of energy efficient light fixtures.
- Energy Conservation Awareness Training for employees has also been conducted focusing on how to reduce energy consumption in the department.

- Solar Charging Stations/Electric Vehicle Charging Stations: The SMTC must anticipate infrastructure needs as auto manufacturers continue to retool and produce vehicles that require new energy refueling stations designed to recharge batteries.

- CuseCar: CuseCar is a not-for-profit, community car-sharing program that provides its members access to a fleet of alternative fuel vehicles on an hourly basis – without the worry and expense of car ownership. The SMTC and its member agencies will continue to support innovative transportation alternatives.

- Clean Communities of CNY is also supporting National Grid’s Electric Car Joint Venture project to manufacture and promote electric car use in Syracuse and New York State. The SMTC is promoting strategies in the Clean Communities of CNY Plan through the participation of its member agencies.
Onondaga County has launched an aggressive stormwater management initiative, the *Save the Rain* campaign, aimed at utilizing green infrastructure solutions to reduce stormwater flows in locations vulnerable to combined sewer overflow occurrences, as well as throughout communities in Onondaga County. The program encourages the use of natural and engineered solutions such as, but not limited to, vegetated rooftops and swales, rain gardens, pervious pavements, and other green infrastructure elements.

Onondaga County, through its Office of the Environment, is currently completing a Climate Action Plan for County operations. The plan will include a baseline greenhouse gas emissions inventory, and identification of measures the County can take to reduce its carbon footprint, including an analysis of the County's vehicle fleet and travel.

Onondaga County is in the process of creating a new County sustainability plan with a focus on settlement patterns that will foster sustainability and provide a region of opportunity for future generations. The plan will guide decision making for County government and will serve as a decision making tool for individuals, businesses and municipalities.

This plan will be closely linked with several other very significant and important efforts that are intertwined with the County’s settlement patterns, including the creation of the County’s Climate Change Action Plan and the update of the Syracuse Metropolitan Transportation Council’s Long Range Transportation Plan. The plan will also be integrated with rapidly shifting Federal and State policies, which have a substantial impact on settlement patterns.

The City of Syracuse has plans to develop a Climate Action Plan that will look at specific actions that the City can take to minimize its contributions to greenhouse gas emissions.

The City of Syracuse is currently refining its Land Use Plan that will serve as a guide for decision makers as future projects and development proposals are brought to the City’s attention.

The NYSDOT Region 3 is working towards enhanced future environmental practices in an effort to create a more sustainable transportation system. Future efforts include tracking and maintaining stormwater pollution control devices and wetland facilities, maintaining corridor management plans, environmental regulation training for staff, considering future land uses within projects, exploring innovative recycling opportunities, evaluating the use of salt brine from wells, explore implementing private and public partnerships in the form of a highway work permit for vegetation management, and expanded use of the E-track database to track environmental progress on projects.