

New York Metropolitan Transportation Council

Addendum To 2005-2030 Regional Transportation Plan (Adopted August 4, 2005)

**To comply with the Planning Requirements
Of
Safe, Accountable, Flexible, Efficient, Transportation Equity
Act – A Legacy for Users (SAFETEA-LU)**

Adopted: April 19, 2007

Background

The Safe, Accountable, Flexible, Efficient Transportation Equity Act-A Legacy for Users (SAFETEA-LU) was signed into law by President George W. Bush on August 10, 2005. This Bill expanded the transportation planning requirements and presented States and MPOs with a valuable opportunity to strengthen their transportation plans and programs, as well as associated planning processes. However, it also established July 1, 2007 as the deadline by which State as well as MPO plans and programs must comply with the expanded planning requirements

The potential implication of not complying with this statutory deadline is that significant amendments to the existing plans and programs may not be allowed until the SAFETEA-LU-compliant Regional Transportation Plan (RTP) is in place.

Following discussions among member agencies and with USDOT, NYMTC concluded that the best approach in meeting the 2007 deadline, was to prepare an addendum to its current (August 4, 2005) RTP, bringing it into compliance with SAFETEA-LU. This addendum would, upon approval by USDOT, bring this RTP in compliance with SAFETEA-LU. Once this is achieved, the RTP and TIP would no longer face the risk of being frozen during the gap period between the 2007 deadline for compliance with SAFETEA-LU and the adoption of a new RTP in 2009.

SAFETEA-LU extended the RTP update cycle from three to four years for metropolitan planning areas that are designated as nonattainment or maintenance areas. Since the current RTP was adopted in August 2005, and under the four-year update provision, NYMTC would need to update its plan by no later than September of 2009.

The following technical memoranda constitute the addendum to the 2005-2030 Regional Transportation Plan:

- (1) Addressing Additions to and New Planning Factors
- (2) Environmental Mitigation
- (3) New Consultations
- (4) Operational and Management Strategies
- (5) Public Participation Plan & Visualization Techniques

Technical Memorandum 1

Addressing Additions to and New Planning Factors

Requirement:

23 U.S.C. 134(h)(1)(A)-(H) & 49 U.S.C. 5303(h)(1)(A)-(H)

(h) SCOPE OF PLANNING PROCESS.—

- (1) IN GENERAL.—The metropolitan planning process for a metropolitan planning area under this section shall provide for consideration of projects and strategies that will—
- (A) support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
 - (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;
 - (D) increase the accessibility and mobility of people and for freight;
 - (E) protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
 - (F) enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
 - (G) promote efficient system management and operation; and
 - (H) emphasize the preservation of the existing transportation system

NYMTC Action

Section 1.3 Paragraph 5 of the 2005-2030 Regional Transportation Plan will be amended to read:

As required by Federal regulation *eight* planning factors are considered in this update of the Plan, and are reflected in its vision, guiding principles and goals:

- (A) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- (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;
- (D) Increase the accessibility and mobility of people and for freight;
- (E) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- (F) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- (G) Promote efficient system management and operation; and
- (H) Emphasize the preservation of the existing transportation system.

New Planning Factor (C) - Security

New Planning Factor: *Increase the security of the transportation system for motorized and nonmotorized users;*

The 2005-2030 RTP recognizes the importance of safeguarding the personal security of users of the transportation network. In March 2003, NYMTC adopted a resolution which recognized the importance of security and emergency response measures to the region's transportation network and the importance of the transportation network to the successful implementation of security and emergency response measures of its members.

In the NYMTC region there are Federal, State, and City agencies which are responsible for security and which have developed plans to address safeguarding the transportation system and the personal security of all motorized and non-motorized users. Also, in keeping with the requirements of the U.S. Department of Homeland Security there is now a Regional Transit Security Working Group made up of designated transit providers which oversees transit security issues and coordinates transit security planning efforts.

NYMTC will continue to provide data and other relevant information to security agencies to support security initiatives and plans in the region as required by the Regional Transit Security Working Group and local first responders.

Addition to the Environment Planning Factor (E)

Protect and enhance the environment, promote energy conservation, improve the quality of life, and *promote consistency between transportation improvements and State and local planned growth and economic development patterns;*

In developing the 2005-2030 Regional Transportation Plan consistency between transportation improvements and State and local planned growth and economic development patterns was considered during the agency planning phase, resulting in various "Emphasis Areas." These are areas within the NYMTC region which members identified for future growth and development consistent with the RTP's five guiding principles of sustaining the transportation system, meeting the needs of customers, harmonizing the system with its surroundings, creating a state-of-the-art transportation system and meeting the challenges of growth.

In preparing for the agency planning process, NYMTC members reached out to municipalities and other local planning agencies to ensure that transportation improvements were consistent with local growth and economic development plans. This process will be strengthened in the next update of the RTP through the direct involvement of municipalities and other local planning agencies.

Planned growth and economic development patterns are major components of the socio-economic and demographic (SED) forecasts, which form the foundation of the modeling

process used to determine growth in the region. Additionally, NYMTC maintains a Development Inventory which contains planned growth areas considered by members when making transportation planning decisions and which is also used in the (SED forecasts.

NYMTC Principals are currently discussing linkages between the transportation system and desired growth areas and the results of these discussions will be used to guide the next RTP update.

Technical Memorandum 2 Environmental Mitigation

Requirement:

23 U.S.C. 134(i)(2)(B)(i)(ii) & 49 U.S.C. 5303(i)(2)(B)(i)(ii)

(2) TRANSPORTATION PLAN.—A transportation plan under this section shall be in a form that the Secretary determines to be appropriate and shall contain, at a minimum, the following:

(B) MITIGATION ACTIVITIES.—

- (i) IN GENERAL.—A long-range 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.
- (ii) CONSULTATION.—The discussion shall be developed in consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies.

NYMTC Action Mitigation

In the NYMTC region there are a number of ongoing environmental mitigation activities such as watershed, wildlife action, and eco-systems plans led by various Federal agencies, state and regional partnerships, and nongovernmental organizations. NYMTC will consult with these agencies to identify generic environmental techniques that could be used by member agencies in their planning efforts. In addition, a consultative process to engage the agencies involved will be established (as described below) through the Regional Transportation Plan (RTP) Committee which oversees the development the Plan. The development and documentation of environmental mitigation activities included in the next update of the RTP will occur within this framework. This process will include identification of environmentally sensitive areas and mitigation steps as available, and would ensure that the implementation of the RTP does not negatively impact or disrupt elements of the human and natural environment.

NYMTC members are already engaged in environmental mitigation activities at the planning and project-level through (a) the implementation of NEPA and SEQRA regulations and (b) Context Sensitive Solutions (CSS) which ensure that projects are in harmony with the community, and they preserve environmental, scenic, aesthetic, historic, and natural resource values of the area in which they are located. Environmental mitigation is a major consideration in major investment studies, planning studies and other planning efforts.

Consultation with Resource Agencies

For the next RTP update resource agencies not previously consulted will be contacted and invited to be part of the development process as an Advisory Group to the RTP Committee, so that they could be fully involved in the planning process, and their views

can be considered in restoring and maintaining the environmental functions of the Plan. The agencies include but are not limited to:

- NYS Office of Parks, Recreation & Historic Preservation
- Department of Environmental Conservation
 - Division of Fish, Wildlife & Marine Resources
 - Division of Lands & Forests
 - Division of Water
- NYS Department of State, Quality Communities Task Force
- Army Corps of Engineers
- Coast Guard
- USEPA (NEPA Section)
- Tribal Organizations
- NYS Department of State, Coastal Zone Management Office (CCM)
- NYC Office of Environmental Coordination
- NYC Department of Environmental Protection

One important aspect of the consultation process would be to clearly define/differentiate requirements at the regional or planning level versus those at (the more detailed) project-level.

Steps to be taken by July 2007

- (1) Finalize list of resource agencies to be consulted – January 2007
- (2) Send out letters to agencies – July 2007
- (3) First meeting with agencies – Fall 2007
- (4) Follow-up meetings scheduled as required.

Technical Memorandum 3

New Consultations

Requirement

(4) CONSULTATION.—

- (A) **IN GENERAL.**— In each metropolitan area, the metropolitan planning organization shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of a long-range transportation plan.

- (B) **ISSUES.**—The consultation shall involve, as appropriate —
 - (i) comparison of transportation plans with State conservation plans or maps, if available; or
 - (ii) comparison of transportation plans to inventories of natural or historic resources, if available.

NYMTC Action

NYMTC members consult with many resource agencies during the needs assessment stage of the RTP development. However while this has been effective in the past, the following steps will be pursued to enhance this process and fulfill the new legislative requirements:

- (1) Consultation will be formally documented
- (2) Resource agencies which have not been consulted in the past will be identified and brought into the process. These include but are not limited to:
 - NYS Office of Parks, Recreation & Historic Preservation
 - Department of Environmental Conservation
 - Division of Fish, Wildlife & Marine Resources
 - Division of Lands & Forests
 - Division of Water
 - NYS Department of State, Quality Communities Task Force
 - Army Corps of Engineers
 - Coast Guard
 - USEPA (NEPA Section)
 - NYS Department of State, Coastal Zone Management Office (CCM)
 - NYC Office of Environmental Coordination
 - NYC Department of Environmental Protection

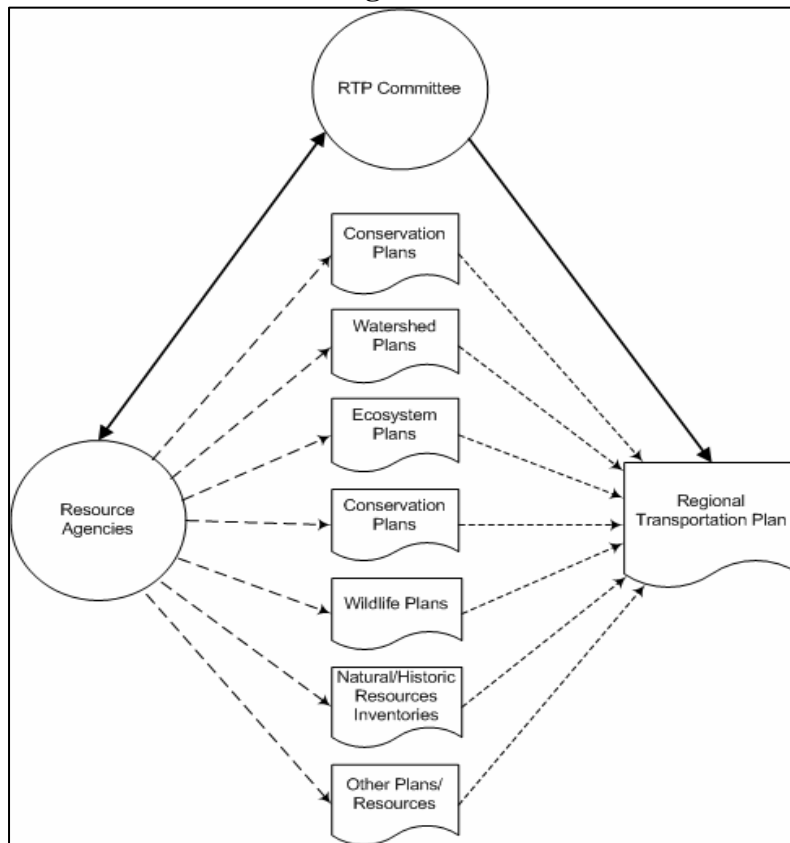
- (3) Comparisons with relevant plans will be done as required by the legislation (B (i) & (ii) above) e.g. RTP studies where applicable, proposals and projects could be mapped against existing conservation and resource maps on a regional scale to help identify any potential for conflict between the RTP and identified natural resources. Where this analysis has already been undertaken, such as in NEPA Environmental Impact Studies, the analysis from these studies will be used to satisfy the new legislative requirements.

- (4) Educational materials on the transportation planning/RTP process will be developed to assist with this consultation process

The agencies named in (2) above will perform as an advisory group to the RTP Committee, informing the planning process on issues affecting land use management, natural resources, environmental protection, conservation, and historic preservation at meaningful points in the development/update of the Plan.

As part of the consultation process, described in Figure 1, conservation plans, maps, and inventories of natural/historic resources will be acquired as a resource to help member agencies in planning activities. Geographic Information Systems (GIS) tools will be used as a resource to assist in presentation information and relationships in a meaningful way.

Figure 1



Steps to be taken by July 2007

- (1) Finalize educational material for resource agencies – December 2006
- (2) Finalize list of resource agencies to be consulted – January 2007
- (3) Send out letters to agencies – July 2007
- (4) First meeting with agencies – Fall 2007
- (5) Commence acquisition of resource agencies' plans (after first meeting)
- (6) Follow-up meetings scheduled as required.

Technical Memorandum 4 Operational and Management Strategies

Requirement

- (i) DEVELOPMENT OF TRANSPORTATION PLAN.—
 - (2) TRANSPORTATION PLAN.—A transportation plan under this section shall be in a form that the Secretary determines to be appropriate and shall contain, at a minimum, the following:
 - (D) OPERATIONAL AND MANAGEMENT STRATEGIES.—
Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.

NYMTC Action

Management and operations refer to a broad range of strategies which generally relate to existing technology or technological advances and tend to fall into the broad categories of Transportation Systems Management (TSM), Transportation Demand Management (TDM), and Intelligent Transportation Systems (ITS). These strategies are used to preserve, improve and enhance the existing multi-modal transportation system.

Many of these techniques/strategies are contained in NYMTC's Congestion Management Process "toolbox," (attached) and are being applied by members to reduce congestion and improve the effectiveness of the transportation system. Implementation is done through members' project development processes, and related investments are ultimately translated into the Transportation Improvement Program (TIP).

Additionally, NYMTC has the ITS Integration Strategy Plan that provides a roadmap and framework for members to efficiently and cost-effectively integrate ITS (including traffic management, transit management, traveler information, management & construction, and emergency management) into the regional transportation network. A Technology Scan Study will be underway in 2007 and it will also be used to inform the Regional Transportation Plan on existing and emerging ITS strategies which impact the regional transportation system.

The current Plan contains sections on TSM, TDM, and ITS which are discussed to varying degrees. In the revised RTP these sections will be more detailed to specifically indicate how these operational and management strategies preserve, improve and enhance the (multi-modal) transportation system and their relationship to other improvements in the financial plan. The data collection and sharing efforts which are important components of effective operational and management strategies will also be clearly identified.

Attachment to Technical Memorandum 4

CMS Toolbox

Table TLBX-1 - Potential Highway Strategies

Strategies/Projects	Congestion and Mobility Benefits	Implementation Costs and other Impacts	Implementation Timeframe
<p>1a. Increasing Number of Lanes without Highway Widening</p> <p>This takes advantage of “excess” width in the highway cross section used for break-down lanes or median.</p>	<ul style="list-style-type: none"> • Increase capacity 	<ul style="list-style-type: none"> • Construction and engineering • Maintenance 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and implementation)
<p>1b. Geometric Design Improvements</p> <p>This includes widening to provide shoulders, additional turn lanes at intersections, improved sight lines, auxiliary lanes to improve merging and diverging.</p>	<ul style="list-style-type: none"> • Increase mobility • Reduce congestion by improving bottlenecks • Increase traffic flow and improve safety 	<ul style="list-style-type: none"> • Costs vary by type of design 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years
<p>1c. HOV Lanes</p> <p>This increases corridor capacity while at the same time provides an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, and rideshare matching services.</p>	<ul style="list-style-type: none"> • Reduce Congestion by reducing VMT • Reduce regional trips • Increase vehicle occupancy • Improve travel times • Increase transit use and improve bus travel times 	<ul style="list-style-type: none"> • HOV, separate ROW costs • HOV, barrier separated costs • HOV, contraflow costs • Annual operations and enforcement • Can create environmental and community impacts 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and construction)
<p>1d. Super Street Arterials</p> <p>This involves converting existing major arterials with signalized intersections into “super streets” that feature grade-separated intersections.</p>	<ul style="list-style-type: none"> • Increase capacity • Improve mobility 	<ul style="list-style-type: none"> • Construction and engineering substantial for grade separation • Maintenance variable based on area 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and implementation)
<p>1e. Highway Widening by Adding Lanes</p> <p>This is the traditional way to deal with congestion.</p>	<ul style="list-style-type: none"> • Increase capacity, reducing congestion in the short term • Long-term effects on congestion depend on local conditions 	<ul style="list-style-type: none"> • Costs vary by type of highway constructed; in dense urban areas can be very expensive • Can create environmental and community impacts 	<ul style="list-style-type: none"> • Long-term: 10 or more years (includes planning, engineering, and construction)

Table TLBX-2 - Potential Transit Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>2b. Increasing Bus Route Coverage or frequencies where and when warranted by demand</p> <p>This provides better accessibility to transit to a greater share of the population. Increasing frequency makes transit more attractive to use.</p>	<ul style="list-style-type: none"> • Increase transit ridership • Decrease travel time • Reduce daily VMT 	<ul style="list-style-type: none"> • Capital costs per passenger trip • Operating costs per trip • New bus purchases likely 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and construction)
<p>2c. Implementing Park-and-Ride Lots</p> <p>These can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful for encouraging HOV use for longer distance commute trips.</p>	<ul style="list-style-type: none"> • Reduce congestion by increasing Vehicle occupancy rate • Increase mobility and transit efficiency 	<ul style="list-style-type: none"> • Structure costs for transit stations 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and construction)
<p>2d. Implementing Rail Transit- where and when warranted by demand</p> <p>This best serves dense urban centers where travelers can walk to their destinations. Rail transit from suburban areas can sometimes be enhanced by providing park-and-ride lots.</p>	<ul style="list-style-type: none"> • Reduce daily VMT 	<ul style="list-style-type: none"> • Capital costs per passenger • New systems require large up-front capital outlays and ongoing sources of operating subsidies, in addition to funds that may be obtained from federal sources, under increasingly tight competition. 	<ul style="list-style-type: none"> • Long-term: 10 or more years (includes planning, engineering, and construction)

Table TLBX-3 - Potential Bicycle and Pedestrian Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>3a. New Sidewalks and Designated Bicycle Lanes on Local Streets.</p> <p>Enhancing the visibility of bicycle and pedestrian facilities increases the perception of safety. In many cases, bike lanes can be added to existing roadways through restriping.</p>	<ul style="list-style-type: none"> • Increase mobility and access • Increase non-motorized mode shares • Separate slow-moving bicycles from motorized vehicles • Reduce incidents 	<ul style="list-style-type: none"> • Design and construction costs for paving, striping, signals, and signing • ROW costs if widening necessary • Bicycle lanes may require improvements to roadway shoulders to ensure acceptable pavement quality 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and construction)
<p>3b. Improved Bicycle Facilities at Transit Stations and Other Trip Destinations-where and when warranted by demand</p> <p>Bicycle racks and bike lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.</p>	<ul style="list-style-type: none"> • Increase bicycle mode share • Reduce motorized vehicle congestion on access routes 	<ul style="list-style-type: none"> • Capital and maintenance costs for bicycle racks and lockers, locker rooms 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and construction)
<p>3c. Design Guidelines for Pedestrian-Oriented Development.</p> <p>Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.</p>	<ul style="list-style-type: none"> • Increase pedestrian mode share • Discourage motor vehicle use for short trips • Reduce VMT, emissions 	<ul style="list-style-type: none"> • Capital costs largely borne by private sector; developer incentives may be necessary • Public sector may be responsible for some capital and/or maintenance costs associated with right-of-way improvements • Ordinance development and enforcement costs 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years

<p>3d. Improved Safety of Existing Bicycle and Pedestrian Facilities.</p> <p>Maintaining lighting, signage, striping, traffic control devices, and pavement quality, and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.</p>	<ul style="list-style-type: none"> • Increase non-motorized mode share • Reduce incidents 	<ul style="list-style-type: none"> • Increased monitoring and maintenance costs • Capital costs of sidewalk improvements and additional traffic control devices 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years
<p>3e. Exclusive Non-Motorized Rights-of-Way.</p> <p>Abandoned rail rights-of-way and existing parkland can be used for medium- to long-distance bike trails, improving safety and reducing travel times.</p>	<ul style="list-style-type: none"> • Increase mobility • Increase non-motorized mode shares • Reduce congestion on nearby roads • Separate slow-moving bicycles from motorized vehicles • Reduce incidents 	<ul style="list-style-type: none"> • ROW Costs • Construction and Engineering Costs • Maintenance Costs 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and construction)

Table TLBX-4 - Potential TDM Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>4a. Alternative Work Hours This allows workers to arrive and leave work outside of the traditional commute period. It can be on a scheduled basis or a true flex-time arrangement.</p>	<ul style="list-style-type: none"> • Reduce peak-period VMT • Improve travel time among participants 	<ul style="list-style-type: none"> • No capital costs • Agency costs for outreach and publicity • Employer costs associated with accommodating alternative work schedules 	<ul style="list-style-type: none"> • Employer-based • Short-term: 1 to 5 years
<p>4b. Telecommuting This involves employees to work at home or regional telecommute center instead of going into the office. They might do this all the time, or only one or more days per week.</p>	<ul style="list-style-type: none"> • Reduce VMT • Reduce SOV trips 	<ul style="list-style-type: none"> • First-year implementation costs for private-sector (per employee for equipment) • Second-year costs tend to decline 	<ul style="list-style-type: none"> • Employer-based • Short-term: 1 to 5 years
<p>4c. Pricing This involves pricing facilities to encourage off-peak or HOV travel, and includes time-variable road, and cordon (area) tolls, high-occupancy/toll(HOT) lanes and vehicle-use fees.</p>	<ul style="list-style-type: none"> • Reduce peak period VMT • Reduce SOV trips 	<ul style="list-style-type: none"> • First-year implementation costs for public -sector 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years
<p>4d. Ridesharing This is typically arranged/ encouraged through employers or transportation management agencies (TMA), which provides ride-matching services.</p>	<ul style="list-style-type: none"> • Reduce work VMT • Reduce SOV trips 	<ul style="list-style-type: none"> • Savings per carpool and vanpool riders • Costs per year per free parking space provided • Administrative costs 	<ul style="list-style-type: none"> • Employer-based • Short-term: 1 to 5 years

Table TLBX-5 - Potential ITS and TSM Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>5a. Traffic Signal Coordination</p> <p>This improves traffic flow and reduces emissions by minimizing stops on arterial streets.</p>	<ul style="list-style-type: none"> • Improve travel time • Reduce the number of stops • Reduce VMT, VHD and PHT by vehicle miles per day, depending on program 	<ul style="list-style-type: none"> • O&M costs per signal • Signalized intersections per mile costs variable 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years
<p>5b. Reversible Traffic Lanes</p> <p>These are appropriate where traffic flow is highly directional.</p>	<ul style="list-style-type: none"> • Increase peak direction capacity • Reduce peak travel times • Improve mobility 	<ul style="list-style-type: none"> • Barrier separated costs per mile • Operation costs per mile • Maintenance costs variable 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years
<p>5c. Freeway Incident Detection and Management Systems</p> <p>This is an effective way to alleviate non-recurring congestion. Systems typically include video monitoring, dispatch systems, and sometimes roving service patrol vehicles.</p>	<ul style="list-style-type: none"> • Reduce accident delay • Reduce travel time • Reduce VHT and PHT 	<ul style="list-style-type: none"> • Capital costs variable and substantial • Annual operating and maintenance costs 	<ul style="list-style-type: none"> • Medium- to Long-term: likely 10 years or more
<p>5d. Ramp Metering</p> <p>This allows freeways to operate at their optimal flow rates, thereby speeding travel and reducing collisions.</p>	<ul style="list-style-type: none"> • Decrease travel time • Decrease accidents • Improve traffic flow on major facilities 	<ul style="list-style-type: none"> • O&M costs • Significant costs associated with enhancements to centralized control system • Capital costs 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years
<p>5e. Highway Information Systems</p> <p>These systems provide travelers with real-time information that can be used to make trip and route choice decisions.</p>	<ul style="list-style-type: none"> • Reduce travel times and delay • Some peak-period travel shift 	<ul style="list-style-type: none"> • Design and implementation costs variable • Operating and maintenance costs variable 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years
<p>5f. Advanced Traveler Information Systems</p> <p>This provides an extensive amount of data to travelers, such as real time speed estimates on the web or over wireless devices, and transit vehicle schedule progress.</p>	<ul style="list-style-type: none"> • Reduce travel times and delay • Some peak-period travel and mode shift 	<ul style="list-style-type: none"> • Design and implementation costs variable • Operating and maintenance costs variable 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years

Table TLBX-6 - Potential Access Management Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>6a. Left Turn Restrictions; Curb Cut and Driveway Restrictions Turning vehicles can impede traffic flow and are more likely to be involved in crashes.</p>	<ul style="list-style-type: none"> • Increased capacity, efficiency on arterials • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents 	<ul style="list-style-type: none"> • Implementation and maintenance costs vary; range from new signage and striping to more costly permanent median barriers and curbs. 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and implementation)
<p>6b. Turn lanes and New or Relocated Driveways and Exit Ramps In some situations, increasing or modifying access to a property can be more beneficial than reducing access.</p>	<ul style="list-style-type: none"> • Increased capacity, efficiency • Improved mobility and safety on facility • Improved travel times and reduced delay for all traffic 	<ul style="list-style-type: none"> • Additional right-of-way costs • Design, construction, and maintenance costs 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and implementation)
<p>6c. Interchange Modifications Conversion of a full cloverleaf interchange to a partial cloverleaf, for example, reduces weaving sections on a freeway.</p>	<ul style="list-style-type: none"> • Increased capacity, efficiency • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents due to fewer conflict points 	<ul style="list-style-type: none"> • Design and construction costs 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and implementation)
<p>6d. Minimum Intersection/ Interchange Spacing. Reduces number of conflict points and merging areas, which in turn reduces incidents and delays.</p>	<ul style="list-style-type: none"> • Increased capacity, efficiency • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents 	<ul style="list-style-type: none"> • Part of design costs for new facilities and reconstruction projects. 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and implementation)
<p>6e. Frontage Roads and Collector-Distributor Roads Frontage roads can be used to direct local traffic to major intersections on both super arterials and freeways. Collector-distributor roads are used to separate exiting, merging, and weaving traffic from through traffic at closely-spaced interchanges.</p>	<ul style="list-style-type: none"> • Increased capacity, efficiency • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents due to fewer conflict points 	<ul style="list-style-type: none"> • Additional right-of-way costs • Design, construction, and maintenance costs 	<ul style="list-style-type: none"> • Medium-term: 5 to 10 years (includes planning, engineering, and implementation)

Table TLBX-7 - Potential Land Use Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>7a. Mixed-Use Development This allows many trips to be made without automobiles. People can walk to restaurants and services rather than use their vehicles.</p>	<ul style="list-style-type: none"> • Increase walk trips • Decrease SOV trips • Decrease in VMT • Decrease vehicle hours of travel 	<ul style="list-style-type: none"> • Public costs to set up and monitor appropriate ordinances • Economic incentives used to encourage developer buy-in 	<ul style="list-style-type: none"> • Long-term: 10 or more years
<p>7b. Infill and Densification This takes advantage of infrastructure that already exists, rather than building new infrastructure on the fringes of the urban area.</p>	<ul style="list-style-type: none"> • Decrease SOV • Increase transit, walk, and bicycle • Doubling density decreases VMT per household • Medium/high vehicle trip reductions 	<ul style="list-style-type: none"> • Public costs to set up and monitor appropriate ordinances • Economic incentives used to encourage developer buy-in 	<ul style="list-style-type: none"> • Long-term: 10 or more years
<p>7c. Transit-Oriented Development This clusters housing units and/or businesses near transit stations in walkable communities.</p>	<ul style="list-style-type: none"> • Decrease SOV share • Shift carpool to transit • Increase transit trips • Decrease VMT • Decrease in vehicle trips 	<ul style="list-style-type: none"> • Public costs to set up and monitor appropriate ordinances • Economic incentives used to encourage developer buy-in 	<ul style="list-style-type: none"> • Long-term: 10 or more years

Table TLBX-8 - Potential Parking Management Strategies

Strategies/Projects	Congestion Impacts	Implementation Costs	Implementation Timeframe
<p>8a. On-Street Parking and Standing Restrictions Enforcement of existing regulations can substantially improve traffic flow in urban areas. Peak-period parking prohibitions can free up extra general purpose travel lanes or special bus or HOV “diamond” lanes.</p>	<ul style="list-style-type: none"> • Increase peak-period capacity • Reduce travel time and congestion on arterials • Increase HOV and bus mode shares 	<ul style="list-style-type: none"> • Design, construction, and maintenance costs for signage and striping. • Rigid enforcement of parking restrictions. 	<ul style="list-style-type: none"> • Short-term: 1 to 5 years (includes planning, engineering, and implementation)
<p>8b. Employer/Landlord Parking Agreements Employers can negotiate leases so that they pay only for the number of spaces used by employees. In turn, employers can pass along parking savings by purchasing transit passes or reimbursing non-driving employees with the cash equivalent of a parking space.</p>	<ul style="list-style-type: none"> • Reduce work VMT • Increase non-auto mode shares 	<ul style="list-style-type: none"> • Economic incentives used to encourage employer and landlord buy-in 	<ul style="list-style-type: none"> • Metropolitan and Employer-based • Short-term: 1 to 5 years
<p>8c. Preferential or Free Parking for HOVs This provides an incentive for workers to carpool.</p>	<ul style="list-style-type: none"> • Reduce work VMT • Increase vehicle occupancy 	<ul style="list-style-type: none"> • Relatively low costs, primarily borne by the private sector, include signing, striping, and administrative costs 	<ul style="list-style-type: none"> • Metropolitan and Employer-based • Short-term: 1 to 5 years
<p>8d. Location-Specific Parking Ordinances Parking requirements can be adjusted for factors such as availability of transit, a mix of land uses, or pedestrian-oriented development that may reduce the need for on-site parking. This encourages transit-oriented and mixed-use development.</p>	<ul style="list-style-type: none"> • Reduce VMT • Increase transit and non-motorized mode shares 	<ul style="list-style-type: none"> • Economic incentives used to encourage developer buy-in 	<ul style="list-style-type: none"> • Long-term: 10 or more years

Technical Memorandum 5

Public Participation Plan & Visualization Techniques

Requirement:

23 U.S.C. 134(i)(5)(B)(i)(ii) (C)(ii) & 49 U.S.C. 5303(i)(5)(B)(i)(ii) (C) (ii)

(B) CONTENTS OF PARTICIPATION PLAN.—A participation plan—

- (i) shall be developed in consultation with all interested parties; and
- (ii) shall provide that all interested parties have reasonable opportunities to comment on the contents of the transportation plan.

(C) METHODS.—In carrying out subparagraph (A), the metropolitan planning organization shall, to the maximum extent practicable—

- (i) hold any public meetings at convenient and accessible locations and times;
- (ii) employ visualization techniques to describe plans; and

NYMTC Action

NYMTC is currently in the process of developing a participation plan which will include relevant visualization techniques, to meet this requirement. The participation plan will be adopted by July 2007. As required the participation plan will:

- be developed in consultation with interested parties –there is an extensive list of interested parties to be consulted
- identify procedures, strategies, and desired outcomes
- contain summary of comments and disposition on Plan and TIP
- indicate visualization techniques and electronic formats that would be used
- allow a minimum 45-day comment period for initial or revised Participation Plan proposed for MPO adoption.

NYMTC currently uses some visualization techniques in its public participation process including flowcharts and maps. However in keeping with SAFETEA-LU provisions (and understanding that the statute is not prescriptive) these will be supplemented by other techniques to ensure that information on the RTP is effectively communicated to the public and other interested parties. The additional methods will include computer simulation, drawings, sketches and scenario planning tools etc. A full list of techniques will be included in the Public Participation Plan.