New York State Department of Transportation

TIP/STIP Policy Guidance and Instructions
October 2013 to September 2017 STIP
October 2013 to September 2018 MPO TIPs

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232
www.nysdot.gov

JOAN MCDONALD
COMMISSIONER

ANDREW M. CUOMO
GOVERNOR

September, 2012

Comprehensive Program Team

TABLE OF CONTENTS

VIII. Appendices
   a. Bridge Model Detail
   b. Bridge Index - Factors and Scoring
   c. Pavement Model Detail
   d. Pavement Index – Factors and Scoring
   e. Bridge Beyond Preservation Form and Key
   f. Pavement Beyond Preservation Form and Key
   g. Narrative Beyond Preservation Form Questions
   h. Draft Marchiselli Guidance

I. Introduction

a. Comprehensive Program Update 2011

Prior to the onset of the Comprehensive Program Update (CPU) 2011, the New York State Department of Transportation (NYSDOT) conducted a comprehensive review of its capital planning and program development processes, and benchmarked several other states considered to be leaders in asset management. This review led to the implementation of a fundamental shift – a reengineering - in the way NYSDOT develops, programs and funds transportation infrastructure investments. Investments are now focused on asset management and infrastructure preservation strategies using sound engineering principles to guide investments for all modes. NYSDOT also has implemented new strategies to carefully select investments in projects that go beyond preservation.

NYSDOT discussed its *preservation first* strategies with our Metropolitan Planning Organization (MPO) partners during the CPU 2011 development process and has continued to dialogue with them on these concepts during routine MPO Directors' calls and through the Regions' participation in MPO Planning and Policy Committee meetings. Because we have just completed a program update process in 2011, this policy guidance will serve as an addendum to the CPU 2011 instructions which more fully address implementation of the Department's program including modal strategies, mandates and recent legislative directives related to smart growth and complete streets. This guidance can be seen at the following location on the P drive and is available upon request.

P:\Miscellaneous\Program Update 2011\Final Guidance Documents

Please note the NHS+ map now needs to include all principal arterials per MAP-21. Draft versions of the NHS+ statewide and regional maps can be found at the following location on the P drive and are available upon request.

P:\Miscellaneous\Program Update 2011\NHS+ Map\NHS+ With additional Principle Arterials

b. TIP/STIP Update

NYSDOT has initiated the process with the State's 13 MPOs to begin updating federally-required fiscally constrained Transportation Improvement Programs (TIPs). The TIPs combined with non-metropolitan programs in rural areas comprise the Statewide Transportation Improvement Program (STIP). The 2013 TIP/STIP Update will be the first update cycle that will reflect the State's "forward four" guiding principles;

- preservation first
- system not projects
- maximize return on investments
- make it sustainable.

NYSDOTs overall asset management strategy is to invest in the infrastructure with the right treatment, at the right time in the life of the investment, and in a location that considers the overall travel system. Recognizing the age, condition and utilization of the transportation infrastructure as a whole, this will require consideration of and investment in all modes of transportation, including facilities owned by entities other than NYSDOT. Customers do not view the transportation system from an ownership perspective, but rather from their ability to get from Point A to Point B. NYSDOT is responsible for the transportation system –all modes, so it is important that we make investments that best meet the overall needs of this integrated system today, while optimizing transportation for future generations to meet the needs of our customers and to move people and goods in support of the economy.

II. Planning Targets

a. Overview

NYSDOT just completed the CPU 2011 process which included a preservation first focus. We learned during this process that distributing planning targets by traditional fund source formulas did not allow the Regions to make equal progress towards meeting their preservation needs. Therefore the intent for this TIP/STIP update is to identify needs independent of fund source and distribute targets accordingly.

There are eight components to the distribution of planning targets. Target components were designed to address infrastructure need on a statewide and system level. The targets are divided into allocable and non-allocable categories. Allocable targets are distributed to each Region for programming. Programming of non-allocable funds will be managed centrally from the Main Office in conjunction with Regions and MPOs in compliance with federal and fund source requirements.

FHWA has indicated our planning target approach is consistent with the focus of MAP-21; meaning implementation of performance based planning/programming pursuant to system needs and with collapsing federal fund sources into fewer categories. The proposed approach is also in the mainstream of what other states are doing with regard to asset management.

Planning target concepts were developed in cooperation with a Planning Target Team composed of representatives from NYSDOT Main and Regional Offices, FHWA and MPO Directors and/or staff from five MPOs.

Pursuant to funding provided in the new transportation bill (MAP-21), funding levels for the TIP/STIP update are fairly flat; around $1.6B per year in 2013 and 2014. Planning targets reflect obligation authority for those levels for the remainder of the TIP/STIP period. In order to provide a smooth transition to new planning targets, existing planning targets will be maintained through the first year of the TIP/STIP; i.e. through October of 2014. Planning targets beyond October 2014 were developed as follows:

b. Allocable Target Components (post 10/1/14)

1. Regional Preservation:

Regions are being provided a component of their planning target allocation based on each Region's relative preservation need as determined by bridge and pavement condition models. This will facilitate implementation of a preservation first strategy which best maintains the highway system within available funding and allows us to preserve infrastructure before it becomes deficient. The preservation component of the planning target includes 60% of available State Dedicated Funds (SDF), National Highway Performance Program funds (NHPP under MAP-21 which includes former NHS, IM and HBP funds) and Surface Transportation Program (STP) funds excluding STP Off-System Bridge.

2. Regional Capital:

Regions are also receiving a target for capital system renewal projects that meet certain criteria; e.g. condition level and cost threshold. This target is also determined by bridge and pavement model outputs which identify each region's relative capital need. The regional capital target includes 10% of available SDF, NHPP and STP funds excluding STP Off-System Bridge. Regions and MPOs will use their CPU and Long Range Plan strategies to determine which projects to fund with this target.

3. STP Off-System Bridge:

In MAP-21 bridge funds are divided into two fund sources. The NHPP includes funds for on-system bridges while funds for off-system bridges are included in STP. The statewide level for STP off-system bridges is determined by MAP-21 requirements; i.e. 15% of HBRR funds based on 2009 levels adjusted for Obligation Authority. This amount is taken off the top of STP funds and distributed to Regions based on relative off-system bridge need as determined by the bridge model.

4. Highway Safety Improvement Program (HSIP):

A hybrid approach is being used to manage this program which has essentially doubled in size under MAP-21. Approximately half of the funds are provided to Regions according to existing allocation formulas. The remaining half will be administered centrally through initiatives managed by the Statewide Safety and System Optimization Team. A hybrid approach enables programming resulting from recent Regional/MPO solicitations to remain as is. The centrally managed portion allows us to focus the funds where the needs are greatest in the State and to use the funds more efficiently in support of the Strategic Highway Safety Plan (SHSP).

5. Congestion Mitigation Air Quality (CMAQ):

CMAQ is distributed to Regions according to existing allocation formulas through the duration of MAP-21, meaning through October of 2014. MAP-21 appears to allow us to obligate funds in current non-attainment areas even if they become in attainment as many of New York's are expected to do in July of 2013. CMAQ funds under MAP-21 come to the state based on the 2009 distribution. All of our current non-attainment areas contributed to the 2009 formula for distribution.

However, since we don't know what will happen with CMAQ eligibility after MAP-21, there is risk associated with upstate attainment areas programming these funds after October 1, 2014. It is logical after that point to have only those areas remaining in non-attainment program CMAQ funds; meaning only in the NYMTC and OCTC MPO areas and in Chautauqua County. NYMTC, OCTC and Chautauqua County will program at current levels of CMAQ funding for the entire TIP period. They will not program the entire state allocation of CMAQ. The balance of CMAQ funds will remain un-programmed post MAP-21 until the disposition of federal legislation is clear.

c. Non-Allocable Target Components

1. Statewide Prioritization Program:

It is vital to direct our limited capital construction resources to the most important projects in the State. In order to do that, funding prioritization decisions on major capital projects will be made centrally. The statewide capital prioritization program will include 25% of available SDF, NHPP and STP funds excluding STP Off-System Bridge. This target will fund larger capital infrastructure projects from a statewide candidate pool. The goal of the program is to address state of good repair of the existing infrastructure. Projects will be considered in the context of their importance to the state's overall transportation system and will involve critical assets serving key components of the system. Most of the funding (around 90%) will likely be directed to bridge rehab or replacements with the balance (around 10%) directed to structural pavement treatments such as multi-course overlays, heavy concrete pavement repairs or pavement reconstruction. This mix reflects the relative capital needs of these two asset classes. It is anticipated that a major share of these funds will likely go downstate due to the importance and condition of the infrastructure in that area. This provides some statewide balance since more of the preservation funding is distributed upstate.

The funding will come with the approved project and become part of the regional planning target. Funds can be used for all project phases. Please remember funds are not available until FFY 15. Phases funded in advance of this date must come from the Region's allocated planning target. Regions shall be responsible for managing within the approved statewide prioritization funding level to deliver the projects to the approved scope, schedule and cost. Cost increases will need to be covered by the project sponsors, whether regional or local. No additional funds

will be available from the statewide prioritization program to cover such cost increases.

The two remaining Statewide Significance (SWS) projects (Prospect Mountain and Hale Eddy to Hancock) will be taken off the top of this pot of funding. These projects have been a known priority of the Department since they were included in the 2005 Memorandum of Understanding (MOU). They will improve Route 17 to a limited access facility.

Project candidates will be solicited by Regions and MPOs and submitted to the Main Office. Projects will be selected by the Main Office according to a two-step process. Projects will first be placed in three tiers according to data driven quantitative criteria based on infrastructure need. (The Statewide Asset Management Teams have developed the quantitative criteria for this purpose in conjunction with the Planning Target Team). Criteria for this step reflect areas including capital work need, facility importance, restrictions, potential risk and cost. Detail on the bridge and pavement indices which include rating factors and scoring criteria can be seen in Appendices B and D. The second step of the selection process involves engineering judgment and the consideration of qualitative information such as user benefits and context not fully captured in the simple data in order to determine a final prioritization of projects. This review will be conducted by the statewide asset teams and the Comprehensive Program Team (CPT), with the resulting recommendations provided to the Commissioner for approval. It is anticipated that most of the projects in the upper tier will get funded. CPT will justify any project in the upper tier that does not get funded. It is anticipated that most projects in the lower tier will not get funded. CPT will justify any project in the lower tier that does get funded. Most of the evaluation time will be spent on the middle tier.

In order to keep the magnitude of project applications to a manageable size, Regions are being provided a dollar limit based on their relative portion of capital need. The total cost of project applications Regions submit should generally not exceed this dollar limit.

2. Reserve:

As in previous update cycles, a block of funds is reserved for emergencies and initiatives of the Commissioner. This funding may also be used in the future for competitive programs to fund progressive transportation projects addressing safety and systems operations, sustainability and economic development. The Reserve block will include 5% of state and federal funds.

3. Transportation Alternatives (TA) and Transportation Enhancements Program (TEP):

NYSDOT anticipates conducting project solicitations in 2013 for Transportation Enhancements (TEP) funding remaining from previous authorizations. Details on administration of this funding round will be provided in the future.

Transportation Alternatives is a new fund source under MAP-21 which combines the former TEP, SRTS and Recreational Trails programs. There are still many uncertainties on the state and federal level regarding how this program would and should be administered by a competitive solicitation process and in conjunction with the NYSMPOs. Therefore, we are considering how to administer the TA fund source at this time and will work with you in the coming months as federal guidance is made available on this program.

d. Transit Funding

There were several changes to FTA funded programs under MAP-21. Fact sheets on these changes are available on the FTA MAP-21 website:
http://www.fta.dot.gov/map21/index.html
Estimated MAP-21 funding levels by urbanized area for FTA funded programs are also available on this site. The NYSDOT Public Transportation Bureau will be discussing FTA program changes affecting the Department and the MPOs with you in the future as further guidance becomes available from FTA. NYSDOT will also be distributing under separate cover projected FTA funding for the post MAP-21 years to use in the TIP/STIP update.

III. Marchiselli Policy

Given the significant backlog of preservation, rehabilitation and replacement of transportation infrastructure needs that exist at the local level, NYSDOT has initiated a process with MPOs and municipalities to revise and align local transportation planning and project selection processes with engineering and economic-based preservation strategies. As part of this initiative, NYSDOT will provide priority consideration for State matching funds, under the Marchiselli program, to federal-aid projects that embrace the Department's asset management based preservation strategy. Municipally sponsored federal-aid projects considered to be beyond preservation treatments may be considered for Marchiselli funding on a case by case basis. Municipal requests for projects that are considered beyond preservation will be reviewed by NYSDOT's Comprehensive Program Team (CPT).

IV. Supplemental Guidance to the CPU 2011 Instructions

a. Regional Preservation Target:

Preservation actions shall be defined more broadly to include those activities identified in the 2011 CPU **along with the following additions.** Costs shall include all project costs (Preliminary Engineering, Right of Way, Construction and Construction Inspection) and both on-system and off-system projects.

Inspection
- Bridge, culvert and overhead sign structure inspection costs

Demand Response
- Where and when contracts
- JOC maintenance contracts
- Stream stabilization work

Ancillary Facilities (replacement of existing, not new)
- Pavement markings
- Guiderail
- Other SAFETAP required work
- Some large culvert replacements (see IV.C below for details)

SDF used to augment NPS Expenditures in areas including:
- Pavement (PM), Bridge (BM), Signs (SS), Signals Contracts (SL), Roadside Env. (EN), Drainage (DR), Guiderail (GR), Markings (MK)

Other operations costs including:
- O&M contracts for TMCs, replacement of critical existing ITS field equipment and HELP programs. New facilities or programs shall not qualify as preservation.

Repairs to the existing sidewalk network shall be considered as preservation while construction of new sidewalk is considered a capital improvement.

It is expected that the regions shall spend the Regional Preservation Target on qualifying work. Changes from this funding level (e.g. additional capital work) shall be subject to review by the CPT.

b. Regional Capital Target:

It is expected that this target will be used primarily for smaller capital projects with a heavy emphasis on bridge rehab or replacements due to the large unmet need in this area. Such projects which can be funded within this target and meet the following criteria shall not require a Beyond Preservation form submission, review or approval.

1. Bridge Replacement: Age ≥50 years at construction and condition rating ≤4.4.
2. Deck Replacement: Structural deck rating ≤4.
3. Pavement Demand Recovery: < $24M/yr statewide, International Roughness Index (IRI) >300, surface score≤4.

c. CMAQ

Projects must meet the eligibility requirements for this fund source. Please note no BP forms are required for CMAQ projects.

d. Structures

1. Unless otherwise stated, the concepts and criteria outlined for the 2011 CPU shall continue to apply. Primary changes include:
    a) Existing program through 10/1/14 accepted as it currently stands. New projects within this time frame are still subject to BP review if established criteria are not met.
    b) Revised planning targets provided beyond 10/1/14, with preservation targets as described above. Preservation target is still a combined target for different asset types.
    c) Definition of qualifying preservation treatments has been expanded.

2. Regions shall not be required to perform detailed condition forecasting as part of this exercise.

3. Bridges with AADT less than 2,000 and with detour lengths less than ten miles must be considered as potential closures before replacement or major rehabilitation is considered a key criteria

4. It is expected that the Regional Capital Target will be aimed primarily at smaller capital projects with a heavy emphasis on bridge rehab or replacements due to the large unmet need in this area. Such projects which meet the following criteria shall not require a BP form submission, review or approval. STP Off-System Bridge projects meeting the same criteria shall also not require a BP form submission.

    a) Bridge Replacement: Age ≥50 years at construction and condition rating ≤4.4.
    b) Deck Replacement: Structural deck rating ≤4.

5. All project candidates for Statewide Prioritization Program funds shall require submission of a BP form.

6. Large culvert replacements shall be considered as a preservation investment provided the following criteria are met:
    a) Primary member rating ≤4.
    b) Cost ≤$0.4M total project cost at a given site.

    Large culvert replacement projects which do not meet these criteria shall be considered as capital investments and should generally be funded from within the Regional Capital Target. Consideration of addressing U.S. Army Corps of Engineers Section 404 permit conditions should be factored into the cost estimate.

e. Pavement

Unless otherwise stated, the concepts and criteria outlined for the 2011 CPU continue to apply. There are two clarifications: (1) Two-course Hot Mix Asphalt (HMA) overlays on Interstates in Region 11 only will be considered a preservation treatment and are exempt from Beyond Preservation review; (2) Regions 1-9 will be allowed a needs-based portion of their preservation allocation to be applied to "Demand Recovery" pavements[1] as described below. The level of this portion will be noted in the planning targets for Regions 1-9.

In addition, the following extended guidance supplements the 2011 CPU.

1. Crack seal as many appropriate candidates as possible.
    a) In general, pavements are crack sealed 2-3 years after construction (rated 8), and once again after another 4-6 years of service (rated 7).
    b) Pavements rated 6 or lower usually have too much cracking to be effectively crack sealed. Other sealing or preservation treatments should be considered.
    c) Performing a comprehensive crack seal program is inherent in the treatment performance models and should be implemented as standard practice.

2. Address a controlled portion of "Demand Recovery" pavements.
    a) These are pavements usually not on the NHS+, with AADT < 2,000, Surface Rating of 4 or less and IRI > 300 in/mi that in reality must be addressed due to their poor serviceability and user needs.
    b) Treatment is triggered when IRI frequently exceeds 300 in/mi, or there are emerging issues with safe passage, or difficulty achieving effective snow and ice control due to very poor surface conditions.
    c) Note that once a pavement reaches poor condition, the trigger for treatment should be based on the IRI. Higher volume (2,000<AADT<8,000), higher speed (> 40 mph) roadways may warrant a lower trigger value (250 in/mi).
    d) Cold-In-Place Recycling (CIPR) is expected to be an effective treatment to recover full depth HMA, or composite pavements having sufficient overlay thickness, to a serviceable condition for 15 years or more. Other low-cost treatments *substantially less than major rehab or reconstruction*, such as the heavier preservation treatments listed in Table E1 of the 2011 CPU Instructions, may also be appropriate.
    e) When preservation needs are not fully funded, pavements with AADT < 2,000 should be allowed to deteriorate to the Demand Recovery threshold and then restored again with CIPR or similar treatments.
    f) Project selection and Program balance must not degenerate to a "worst-first" approach. The expectation is not more than 2 or 3 Demand Recovery projects per Region per year up to the needs-based

[1] Regions 10 and 11 do not have sufficient candidates for low volume Demand Recovery pavements.

funding limit. Project scope is limited primarily to the pavement and direct drainage.

3. Preserve the NHS+ System by preventing pavements from falling to Fair (Rating 6).
    a) Use thin overlays, single course HMA, mill & fill, Concrete Pavement Restoration (CPR) - Light and other Preservation treatments listed in 2011CPU Instructions Table E 1 as appropriate to the project conditions.
    b) Apply treatments at the end of the Treatment Window to optimize the return on investment of the prior treatment and the next treatment.

4. Consider the lowest life cycle cost treatments to maintain the higher volume Non-NHS+ system.
    a) Use mostly the lowest cost thin overlays up to single course HMA as preventive maintenance treatments.
    b) Use $/VMT as a general first guide for priority within the category.

5. Apply the "heavier" preservation treatments to preserve as much of the Non-NHS+ pavements as funding allows.
    a) Expected treatments include mill & fill, CIPR w/Single Course Overlay (SCO) and CPR-Light.
    b) Use $/VMT as a general first guide for priority within the category.

6. NHS+ Projects beyond preservation must compete and be justified according to the established procedure.

7. Projects beyond preservation and not on the NHS+ are not likely to be approved.

    a. Low volume poor pavements in this category should be managed to the Demand Recovery threshold.

f. <u>Safety</u>

The strategies and criteria outlined in the CPU 2011 guidance remain focus areas for meeting Safety goals. These include a mix of nominal and substantive safety measures to improve safety on the transportation system. To ensure clarity of the difference between these categories, consider the following definitions:

1. *<u>Nominal Safety</u> – nominal safety refers to whether or not a design (or design element) meets minimum design criteria based on national or state standards and guidance documents such as the AASHTO Green Book and the MUTCD.*[2]

Nominal Safety efforts include work to preserve/maintain infrastructure assets or to meet current design standards. Work includes, but is not limited to, bridge

[2] FHWA Highway Safety Improvement Program Manual, 2010 pg 2-1

preservation, pavement condition, pavement markings, signs, guiderail and work zone safety. This important work maintains the existing safety features of the transportation network. Bridge and pavement preservation goals can be found in other sections of this guidance. In addition, Regions should also present plans to maintain other safety appurtenances. These plans should specifically account for maintenance of signals, pavement markings, signs, and guiderail.

The recent increase in paving preservation projects has resulted in a backlog of SAFETAP recommendations in some Regions. These recommendations should be addressed in the program through the use of state forces and contracts as determined by the regional asset management teams. Contracts to address SAFETAP needs, as well as signs, guiderail and pavement markings, shall count towards the Regions preservation goal as outlined in section IV.a.

2. <u>*Substantive Safety*</u> *- refers to the actual or expected safety on a roadway. Substantive safety may be quantified in terms of:*
    a) Crash frequency (number of crashes for a given road segment or intersection over a specified time period);
    b) Crash rate (normalized to account for exposure);
    c) Crash type; and/or Crash severity (i.e., fatality, injury, or property damage only).[3]

Substantive safety efforts are those that are targeted to addressing known High Accident Locations (HALs), other site specific safety concerns, or measures taken system-wide to reduce specific crash types. Systematic improvements are implemented using a data driven approach using countermeasures of proven effectiveness.

All substantive safety measures will be implemented with the specific intent to reduce the frequency and severity of all crashes or a targeted crash type (i.e. lane departures, pedestrians, etc.). The CPU 2011 guidance outlines the strategies to be used in addressing the emphasis areas in New York's Strategic Highway Safety Plan (SHSP).

In addition, the recently enacted MAP-21 legislation will increase the level of HSIP funding available for NYS. As previously noted, the Department is working to develop a new approach to direct safety funds where they are most needed by targeting these additional funds for use at locations demonstrating the highest benefit-cost ratios to reduce severe crashes. Funding distributions for approximately half of HSIP will remain the same but additional (new) funds will be managed centrally from a statewide perspective and will be tied to the SHSP. No BP forms shall be required for HSIP projects funded from the Regions' distributed HSIP target. There will be a submission required for projects funded from the centrally managed portion of HSIP. Direction on submission of those forms (which have yet to be developed) will be provided at a later date.

[3] FHWA Highway Safety Improvement Program Manual, 2010 pg 2-1

g. System Optimization

The strategies and criteria outlined in the CPU 2011 guidance remain as the focus areas for the Department's goal of *Optimizing the Transportation System*. In particular, those areas highlighted under III.E.6 in CPU 2011 guidance remain paramount to System Optimization. In further clarifying the strategies that will lead NYS toward this end, the following should be included as key elements of System Optimization strategies:

- Critical Partnerships with other transportation operators (highway, transit, freight) should be central to the Regional plan - Transportation Systems Management (TSM) strategies must be based on a holistic system approach;
- Transportation Management Centers will continue to be the focal point of information sharing and management of the local transportation system. Adequate funding to fully operate and maintain the State's investment in the TMC, as well as the ancillary field equipment, must be identified;
- Initiatives to consolidate additional functions at the Regional TMCs, such as traffic signal callouts and other traditional Highway Maintenance functions shall be considered as a resource-saving initiative; and
- Opportunities to implement Travel Demand Strategies, including elements associated with transit initiatives should be considered in the plan.

Key corridors that run between Regional boundaries remain essential to the statewide network. As such, system optimization strategies must acknowledge these corridors and identify necessary investments to improve the operation of the overall network. This includes improved congestion and incident detection systems, better communications with first responders, effective incident response initiatives, and improved methods of disseminating information to the traveling public.

Regions should refrain from implementing significant changes to TMC operations, such as closing a TMC completely or significantly expanding the oversight and operations of the TMC (beyond internal resource consolidation opportunities). Over the next year, the Department will be developing a comprehensive Statewide TMC Strategic Assessment that will solidify a direction and focus for the Transportation Management Centers in the state. This assessment is expected to identify areas where efficiencies for operating the system can be achieved within the Regions, while highlighting the need to maintain a level of awareness on the operation of the transportation system as a whole.

As this strategy is developed and matured over the next several months, it is important that resources within the Regions not be re-directed in conflict with the developing statewide strategy.

h. Sustainability

Unless otherwise stated, the concepts and criteria outlined in the 2011 CPU continue to apply. As emphasized in the 2011 instructions, it is important to consider how transportation supports a sustainable society, and to develop a program of project investments that balances the triple bottom line of economic, social and environmental elements with current fiscal constraints. Sustainability considerations should be

incorporated both at the project and the program levels, within the Forward Four context. The guidance below introduces "optimizing sustainable user benefits" concepts, emphasizes "systems not projects" precepts and outlines a new "Exemplary Sustainable Project" solicitation program.

1. Optimizing Sustainable User Benefits:

Considering and optimizing all user benefits is key to selecting, funding and programming projects. This includes looking for and incorporating multi-modal considerations and options into all project decisions. Optimizing sustainable user benefits is not just about preserving highway and bridge condition, it is also about reducing congestion and delay, providing traveler safety, improving environmental resource conditions, enhancing community character, providing access to recreation and tourism and preserving and improving a complete transportation system including existing pedestrian, bicycle, transit and freight infrastructure linkages. A robust preservation program uses an intentional mix of 1R, 2R, 3R projects to accomplish sustainability goals and objectives. When forced to choose between competing projects, generally select projects that are warranted by the condition needs and will provide the most user benefits while also supporting other sustainability principles.

2. System not Projects - Corridor Considerations

The precepts in the 2011 Guidance provide a foundation for sustainable considerations, including recognizing the relative and cumulative value of transportation assets; preserving and prioritizing critical linkages for people and goods to access communities, employment centers and distribution centers; optimizing the system through such investments as technology and transportation demand management strategies; and looking at all modal connections.

As described in the Forward Four, while the capital program is made up of individual projects, these projects must consider the transportation system as a whole. To address the needs of system users and society, NYSDOT will consider an individual project in the context of how it contributes to or improves the larger transportation system. For this program development process, the system approach and consideration of critical linkages should be analyzed in the context of significant transportation corridors. Investments should occur along corridors (regional or local) that provide access to critical destinations. Criteria to consider for selecting corridors:

- Corridors vary in size and scope within the context of the region/area. For example, a "corridor" may be a larger interstate corridor, or it may be a localized corridor within a specific community. A corridor could also be defined as a collection of assets that provide access to specific important destinations such as a tourist destination, employment center, business, critical facility, market or community.

- Corridors should include the multi-modal assets that support access to identified destinations of importance (e.g., markets for goods, communities, tourist destinations, etc. to enhance business opportunity that maintain and support the economy).
- Corridor investment should consider a range of corridor strategies, and could encompass activities including but not limited to integrated corridor management, bus rapid transit (BRT), managed use lanes, operations innovations, improved access to local, regional and statewide trail systems, travel demand management (TDM) techniques, travel corridor unit management planning (such as Adirondack Travel Corridor Unit Management Plan – TCUMP), habitat connectivity, and advanced mitigation planning. Safety will always be an overarching consideration.
- Corridors could cross geographic boundaries. The transportation system does not end at regional or metropolitan boundaries. For corridors that cross such boundaries, strategies should work across jurisdictions and boundaries to ensure continuity, connectivity and coordination.
- Corridors should be analyzed from a sustainability perspective rather than strictly from a primary asset perspective. Project proponents should ask what assets need to be maintained, repaired, and enhanced where, when and for whom. Then ask how we can achieve this to obtain the greatest sustainable user benefits while minimizing cost. Corridor management strategies addressing these questions will be developed, reviewed and adjusted over time resulting in programming better statewide and regional sustainable transportation projects. These project considerations can be reflected in the narrative question BP form in Appendix G.

3. Exemplary Sustainable Projects:

While sustainability considerations should be built into all projects, NYSDOT will be developing a separate funding solicitation process to select projects that may be considered "Exemplary Sustainable Projects." In the context of the capital program, these exemplary projects may be modest "beyond preservation" projects or projects not included in a Regional program based on current asset management criteria/conditions. However, because the project combines a number of sustainability elements which individually may not meet criteria for inclusion in the program, *collectively – considering the context of the place, corridor, linkages, systems, etc.*, will provide a more complete transportation solution and better contribute to the environmental and economic well being of the community.

The types of projects expected to be "exemplary" would be projects that are identified as part of a corridor management strategy, meet several of the economic, social and environmental criteria, or demonstrate high sustainable user benefits (social, economic or environmental) while minimizing the overall cost. These projects would be priority projects likely included either partially or fully in the Region's capital program.

The Department is currently developing criteria that will be used to evaluate exemplary projects submitted for funding consideration based primarily on how their transportation contributions supports sustainability principles.

V. Deliverables

a. Statewide Prioritization Program

1. Parameters:

In order to keep the magnitude of project applications to a manageable size, Regions are being provided a dollar limit based on their relative portion of capital needs. The total cost of the project applications Regions submit should generally not exceed this dollar limit.

2. Schedule:

Regions and MPOs will be soliciting candidate projects for this program between September and November of 2012. All applications must be provided to the respective RPPM's Office for submission. RPPMs will need to submit the applications to the Main Office by November 9, 2012. Applications will consist of completed BP forms. We will be providing a link to Regional folders on the P Drive Temporary Data Exchange where applications can be submitted.

3. Beyond Preservation Forms:

Each project submission will require completion of a Beyond Preservation (BP) Form. There are separate BP forms and instruction keys for bridge and pavement projects. These can be seen in Appendices E and F. Additional supplemental narrative information on the projects must be provided in the Narrative BP Form in Appendix G. Some automatic populating of the bridge BP form will be available for bridge projects based on the Bridge Identification Number (BIN). Automatic population of much of the Pavement BP forms will be possible for projects in PSS with an active PIN. Instructions for using the electronic files necessary for automatic populating will be transmitted under separate cover.

b. Fiscally Constrained Programs

A critical outcome of the TIP/STIP update process is the delivery of approved, fiscally constrained TIPs in the summer of 2013 as indicated in the schedule below. These will be combined with the federal-aid programs in non-metropolitan areas to comprise each Region's portion of the STIP. The RPPM is responsible for the fiscal constraint of the entire Region's portion of the STIP. **Regional portions of the STIP must be constrained in order for the statewide roll-up of the STIP to meet federal fiscal constraint requirements.** TIP/STIP project costs should incorporate inflation and be reflected in Year of Expenditure (YOE) dollars.

NYSDOT will be providing follow-up technical TIP/STIP guidance to Regions and MPOs in mid-October to address regulatory and process requirements for TIPs and the STIP as is normally done. This guidance will cover the steps and items necessary to secure STIP approval on October 1, 2013 such as how to demonstrate fiscal constraint, YOE and other required elements (certifications, resolutions etc.). It will also address the process, milestones and deadlines to build the regional portions of the STIP in eSTIP.

VI. TIP/STIP Update Schedule

a. Sequence

Planning Targets are being distributed for April 1, 2012 – September 30, 2018. Targets include SDF and Federal fund sources.

This time period covers all of State Fiscal Year (SFY) 2012-13 through SFY 2017-18 plus 6 months beyond.

In Federal Fiscal Year (FFY) terms, the period covers the last six months of FFY 12 plus all of FFY 13 through FFY 18.

The STIP update covers October 1, 2013 – September 30, 2017 (4 Years)

TIP updates cover October 1, 2013 – September 30, 2018 (5 Years)

April 1, 2012 – September 30, 2013

- Current STIP is in effect
- We do not believe TIP amendments or administrative modifications will be required to convert from SAFETEA-LU fund sources to MAP-21 fund sources. Fund source conversions will occur when NYSDOT requests federal authorization. This will be handled by NYSDOT Main Office.
- Regional allocations/target distribution methods for SDF and federal-aid remain as is; are provided from a known point (4/1/12) so we can compare actual expenditures to original allocations.
- Regions will be provided with a rollover amount for each fund source. This is the amount a Region has either under or overspent their planning targets as of 4/1/12. Regions must reflect these rollover amounts in their fiscal constraint determinations.
- All projects programmed (i.e. added by amendment) after 10/1/12 recast in MAP-21 fund sources (NHPP; STP, etc)
- CMAQ allocation remains as is
- HSIP allocation remain unchanged at current levels, equal amount retained for statewide use from 10/1/12 through 9/30/13
- TEP solicitation using funds from prior authorizations (SAFETEA-LU)

October 1, 2013 - September 30, 2014

- Regional allocations/targets remain as is
- Old allocation formulas/distribution methodology converted to MAP-21 fund sources (NHPP; STP, etc)
- CMAQ/HSIP as previous year

October 1, 2014 - September 30, 2018

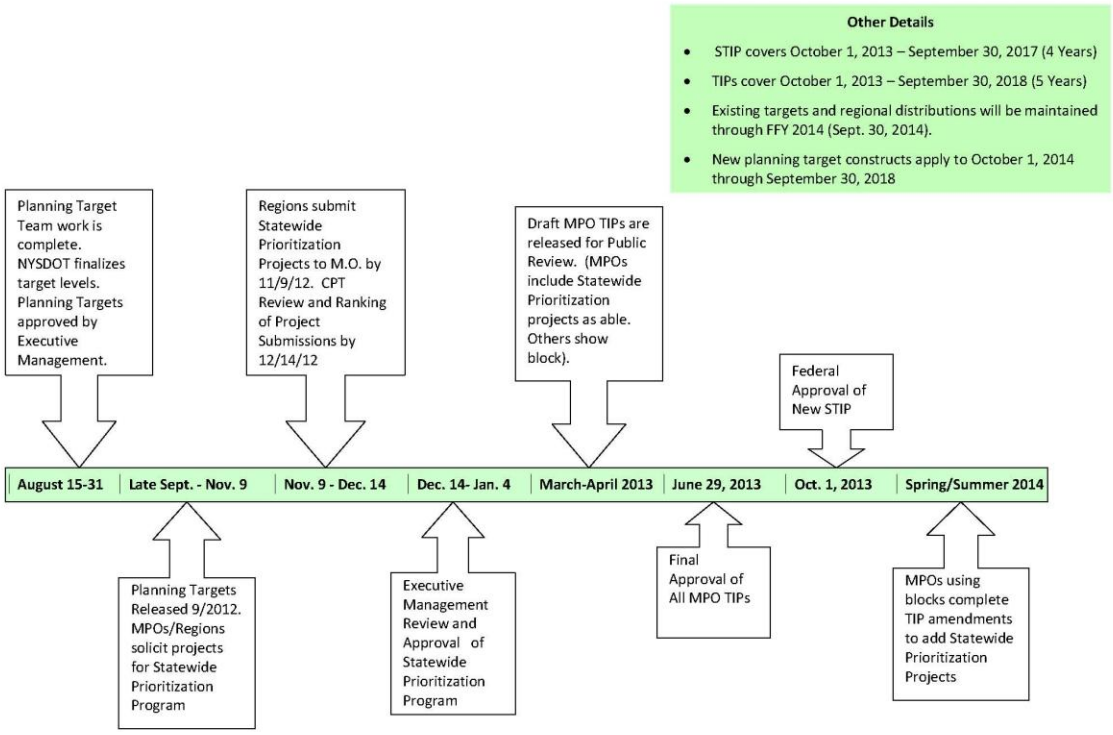
- New planning targets to regions based on revised strategy
- New Statewide Prioritization Program projects for FFY 2015 through FFY 18
- CMAQ provided only to NYMTC, OCTC and Chautauqua County based on their previous shares under SAFETEA-LU
- HSIP function as previous
- Transportation Alternatives solicitation detail will be provided

b. Transportation Conformity Considerations and the TIP/STIP Schedule

Due to implementation of the 2008 ozone standards by the United States Environmental Protection Agency (USEPA), only the NYMTC and OCTC MPOs and Chautauqua County will be subject to transportation conformity requirements for ozone after July 20, 2013. SMTC will still be subject to conformity requirements for carbon monoxide (CO) until September of 2013. These aforementioned MPOs will need to conduct the required air quality conformity analyses of their TIPs and have their conformity determinations approved by USDOT prior to the TIPs' inclusion in the STIP scheduled to be approved October 1, 2013. The Interagency Consultative Group (ICG) has agreed to allow the MPOs who will no longer be subject to conformity requirements after July of 2013 (CDTC, GBNRTC, GTC and PDCTC) to approve TIPs prior to July but make them effective after July 20, 2013 so that they do not have to conduct TIP conformity analyses.

As can be seen on the schedule below, projects from the Statewide Prioritization Program will be approved in early January. This should provide enough time for most of the MPOs to include those projects in draft TIPs going out for public review in the spring. If this schedule does not provide enough time for MPOs subject to conformity, they can add a block for the statewide prioritization program on the TIP and amend specific projects into the TIP after the STIP is approved.

STIP Update Timeline



VII. Questions

Comments or questions on any of the materials in this document can be directed to the following e-mail address: stip.update.2013@dot.ny.gov

Appendix A: Bridge Model Detail

All bridges in New York State are inspected at least biennially, and the Bridge Model uses the resulting bridge component condition ratings to establish appropriate levels of bridge work needed to eliminate the deficiencies for each bridge in the population (Regional or Statewide) being investigated. The work type selection criteria were established with the intent of finding the most cost effective bridge improvement projects. Identified work levels vary from cyclical preservation work to complete bridge replacement based on conditions.

The Bridge Needs model begins by looking for preservation projects first from the set of predetermined work needs and then identifying higher cost work needs. The initial criteria used to determine the work needs within the model is safety, including critical condition of key elements and hydraulic scour vulnerability. Estimated costs are based on historical construction contracts and State crew projects, and the output of the model is the cost required to satisfy all identified needs. The project costs reflect variation by bridge type and region, and also include a factor to reflect the fact that overall project costs generally exceed the bridge only cost. Condition forecasts are based on element specific deterioration curves that were established based on historical records of the performance of different materials and geographic locations.

Appendix B: Bridge Index – Factors and Scoring

The bridge index is intended to provide a purely quantitative, data driven first pass indicator of the relative need and importance of a major rehabilitation or replacement project for a given bridge. It *MUST* be accompanied by engineering judgment and review of qualitative issues such as user benefits and context not fully captured by the available data in order to make a final decision with respect to work scope and priority. Qualitative issues are addressed on the narrative question BP form in Appendix G.

The bridge index is composed of four broad categories including capital need, facility importance, restrictions and potential risk. Within each of these broad categories there are one or more parameters that contribute to the potential index score. The table below details these factors along with an example calculation. The charts and tables on the following pages provide additional detail.

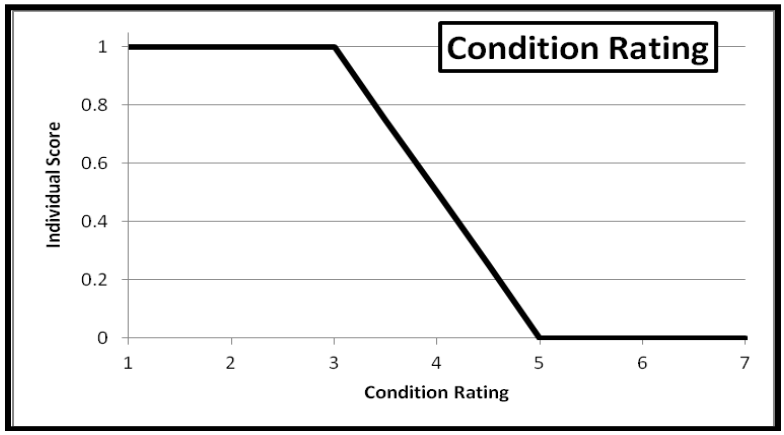
These scores will be used to help sort projects submitted for consideration under the statewide prioritization portion of this TIP/STIP update. An initial review of potential candidates suggests the following broad ranges of suitability:

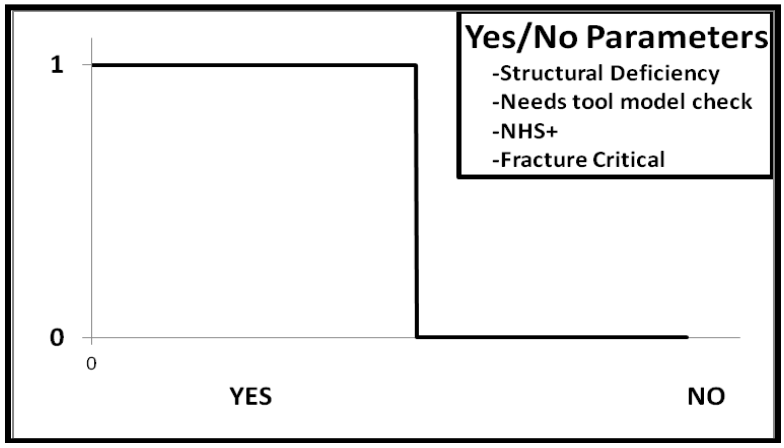
- Low: Bridges typically not well suited for capital investment based on life cycle and importance.
- Medium: Bridges requiring more engineering judgment to determine best work scope and priority. Some will be high priority capital projects while others may not be.
- High: Bridges becoming a higher priority for capital investment.

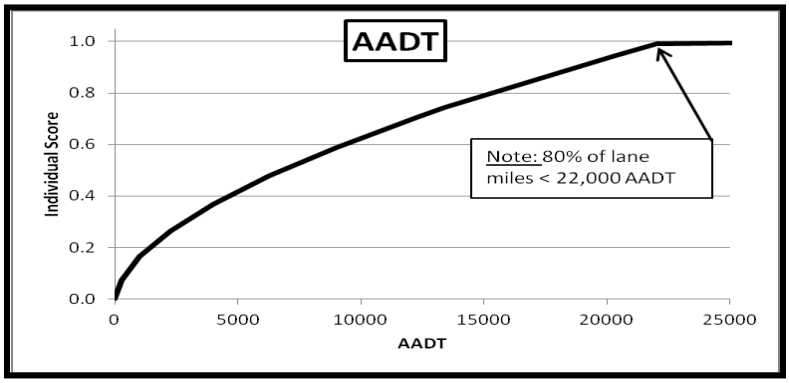
There will be exceptions to these ranges. Actual project candidates will be sorted into three tiers prior to the qualitative review step, and the numerical limits of these tiers will depend on what is submitted.

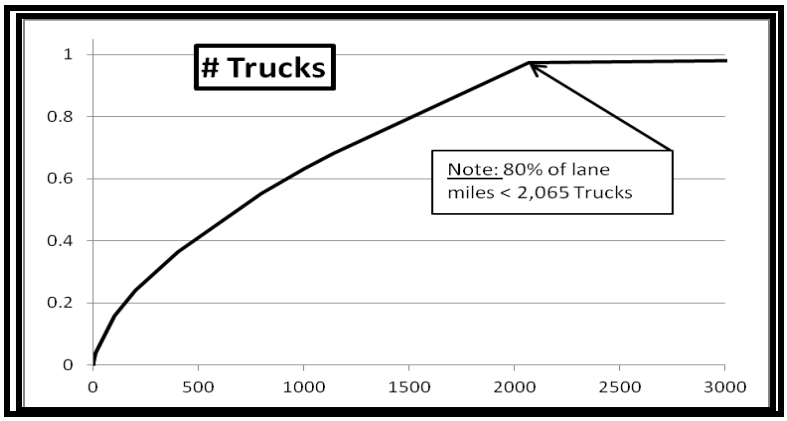
BRIDGE INDEX (0 to 100)					**Example Calculation**	
CATEGORY	CATEGORY POINTS	INDIVIDUAL PARAMETER	PARAMETER POINTS		Parameter Value	Points
CAPITAL NEED	47.5	Condition Rating	27.5		4.321	9.3
		Structural Deficiency	5		Yes	5
		Bridge Needs Tool (Rehab/Replace)	15		Replace	15
FACILITY IMPORTANCE	27.5	Functional Class	12.5		16	7.5
		NHS+	5		No	0
		AADT	2.5		5000	1.0
		# Trucks	2.5		500	1.0
		Detour Length	5		7	1.5
RESTRICTIONS	5	Postings	5		No	0
POTENTIAL RISK	20	Fracture Critical	5		Yes	5
		Material Type	5		1	0.5
		Design Type	5		18	3.5
		Hydraulic Vulnerability	5		3	2.5
		TOTAL	100		TOTAL	51.8

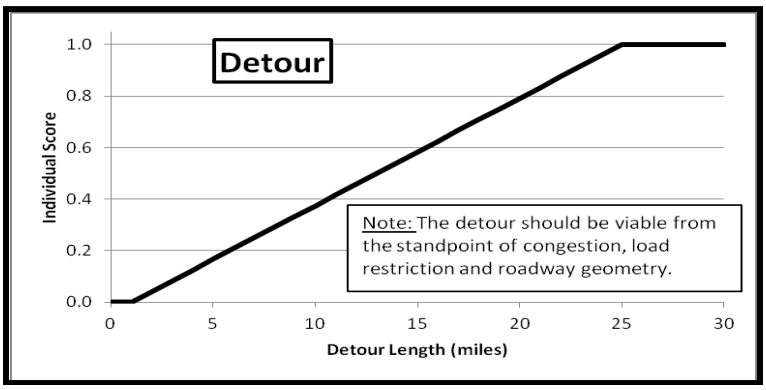
The figures and tables below illustrate the underlying basis for each individual parameter that contributes to the bridge index. They illustrate the fraction (0 to 1, or 0 to 100%) of the potential bridge index points earned within each parameter.











Functional Class		
FC Descriptions	**FC Codes**	**Score**
00-Not Specified or multi	00	0%
01-Rural Interstate	01	100%
02-Rural Princ Arterial - Expwy	02	80%
04-Principal Arterial Other	04	80%
06- Rural Minor Arterial	06	60%
07-Rural Major Collector	07	40%
08-Rural Minor Collector	08	20%
09-Rural Local	09	10%
11-Urban Interstate	11	100%
12-Urban Princ Art (Expwy)	12	80%
14-Urban Princ Art (Other)	14	80%
16-Urban Minor Arterial	16	60%
17-Urban Collector	17	30%
19-Urban Local	19	10%

Hydraulic Vulnerability	Score
1 - Safety Priority Action	100%
2 - Safety Program Action	75%
3 - Capital Program Action	50%
>3 Insp. Program/ No Action	0%

Posting	Score
Closed	100%
Weight	100%
R	25%
None	0%

Superstructure Design Type (RC15)	
Value	**Score**
01 – Slab	0%
02 - Slab, Voided	100%
03 - Box, Adjacent	100%
04 - Box, Spread	70%
05 - Tee Beam	30%
06 - I-Beam (P/S)	70%
07 - Box, Channel (P/S)	70%
08 - Segmental Box	70%
09 - Rolled Beam, Multi-Girder	0%
10 - Rolled Beam - Deck with Floorbeam System	70%
11 - Rolled Beam - Thru with Floorbeam System	70%
12 - Rolled Beam - Jack Arch	0%
13 - Plate Girder - Multi-Girder	0%
14 - Plate Girder - Deck with Floorbeam System	70%
15 - Plate Girder - Thru with Floorbeam System	70%
16 - Plate Girder - Jack Arch	0%
17 - Truss, Deck	70%
18 - Truss, Thru - (Overhead Bracing)	70%
19 - Truss, Thru - (No Overhead Bracing)	70%
20 - Truss, Combination - (Thru and Deck)	70%
21 - Truss, "Kit Bridge"	70%
22 - Thru Arch	50%
23 - Thru Arch - Tied	50%
24 - Deck Arch - Open Spandrel	50%
25 - Deck Arch - Closed Spandrel	30%
26 - Metal Pipe Arch - (Pipe)	100%
27 - Frame	20%
28 - Frame with Floorbeam System	20%
29 - Movable, Bascule	100%
30 - Movable, Lift	100%
31 - Movable, Swing	100%
32 - Orthotropic	30%
35 - Inverset - Plate Girder	0%
36 - Inverset - Rolled Beam	0%
37 - Suspension	80%
38 - Single Box	30%
39 - Tunnel	50%
40 - Single Box Culvert	0%
41 - Multiple Pipe Culvert (FHWA)	50%
42 - Single/Multiple Pipe Culvert (FHWA/NYS)	50%
43 - Multiple Box Culvert	30%
44 - Timber Beam	30%
XX - Other	0%
UU - Unknown	0%

Material Type (RC15)	
Value	**Score**
1 - Steel	10%
2 - Weathering Steel	0%
3 - Special Steel	0%

4 - Hybrid Steel Section	0%
5 - Corrugated Steel as used for culverts	50%
6 - Wrought Iron or Cast Iron	100%
7 - Aluminum	60%
8 - Timber	30%
9 - Masonry	80%
A - Concrete, Unreinforced	80%
B - Concrete, Reinforced	20%
C - Concrete, Unknown	50%
D - Prestressed Concrete, Post-Tensioned	50%
E - Prestressed Concrete, Pre-tensioned	50%
F - Prestressed Concrete, Unknown	50%
X – Other	0%

Appendix C: Pavement Model Detail

Asset condition information is the most important factor in a needs-based approach to allocations. Pavement condition information is collected annually on the State highway system by a windshield survey which produces the 1 to 10 Surface Rating, and by a high-speed profiler that measures ride quality (IRI). This data is readily available on the State system, but is not widely available for Local roads.

The Pavement Model selects and prioritizes pavement segments according to a preservation-first strategy and then calculates the work that needs to be done segment by segment to achieve the desired results. The decision trees in the Model allow for some customization to accommodate conditions unique to each individual Region, such as weather, traffic volumes and availability of contractors. These considerations help make the Model results more specific and realistic.

The Model will adjust the timing for treating a pavement based on actual performance data, and uses costs related to the bid history and project location in the State. Most importantly, ride quality is considered in the decision process which improves customer satisfaction with the highway system.

To estimate needs for the Local road system when no condition information was available, simplified life cycle models were developed for rural, urban and NYC local roads. The typical treatment pattern over the life of each pavement was combined with inventory mileage by functional class to estimate the Local preservation and capital needs for each Region.

Appendix D: Pavement Index – Factors and Scoring

The Pavement Prioritization Index provides a quantitative benchmark to aid the evaluation of the priority of pavement projects among each other. The Index creates a data-driven framework for an objective and consistent first-cut review of candidate projects. It *MUST* be accompanied by engineering judgment and review of qualitative issues not fully captured by the available data in order to make a final decision with respect to work scope and priority. Qualitative issues are addressed on the narrative question BP form in Appendix G. The final decision on which Projects best meet the strategy and priorities of the Department is based on consideration of all the information provided.

The Pavement Index is derived from weighted scoring of eight factors grouped into three main categories: Pavement Condition, Project Cost and Scope, and Facility Importance. Only projects that meet certain minimum criteria will go through the scoring process. This Triage evaluation is to help identify and sort out projects that do not align well with the basic precepts of the Forward Four strategy.

To pass the "Triage Gate," a Project must be part of the NHS+ population of roads, must be a Beyond Preservation Project at the time of construction, and must be in the proper Window of Opportunity for treatment of its condition. Projects meeting the minimum criteria go on to be scored according to the factors in each Category as shown in the Tables below. A descriptive data key follows.

Pavement Condition (25% of Total Score)

If actual pavement condition data is not available, such as on many Local roads, the required data values can be estimated using the Tables and descriptions below.

- Surface Ratings and Dominant Distress can be determined using the picture scales in the NYSDOT Pavement Condition Rating Manual (https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/pavement/nlp_cond_assess_manual.pdf)
- Ride Quality (IRI values) can be approximated by objective evaluation: Smooth is a comfortable ride with little notice of roughness (use IRI = 120 in/mi); Rough is an uncomfortable ride but still tolerable (use IRI = 220 in/mi); Very Rough is a very uncomfortable ride, is difficult to travel at the posted speed (use IRI = 300 in/mi).
- Regional Materials Engineer, Regional Pavement Management Team or NYSDOT Main Office Pavement Management should be consulted if there are questions about what values to use.

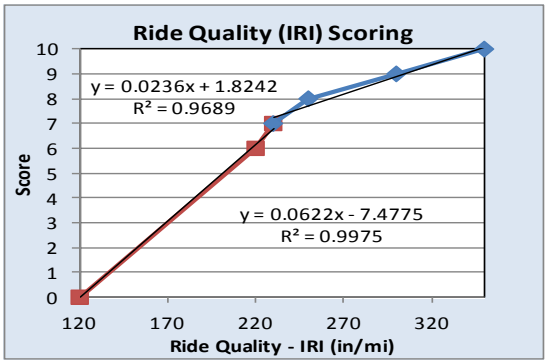
Surface Rating (10%)		
Rating	Definition	Score
10	Good	0
9		0
8		0
7		0
6	Fair	8
5	Poor	10
4		10
3		10

Dominant Distress			
	Distress	Extent	Score
None	None		0
Ai	Alligator Crack - Isolated	< 20%	2
Ag	Alligator Crack - General	> 20%	6
Si	Spalling-Isolated	< 20%	2
Sg	Spalling-General	> 20%	8
Wl	Widening Dropoff - Lowh		4
Wh	Widening Dropoff - High		10
F	Faulting		4

Subjective IRI Values

Ride Quality (IRI) (10%)		
Value	Definition	Score
0 120	Smooth	0
220 230	Rough	6 7
250 300 350	Very Rough	8 9 10

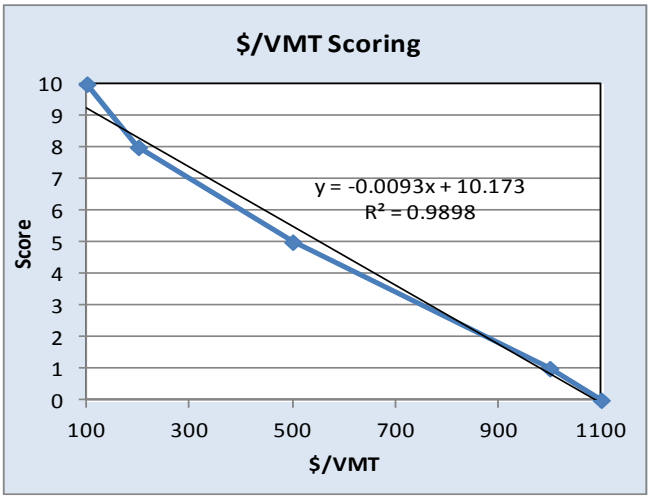
Actual Measured IRI

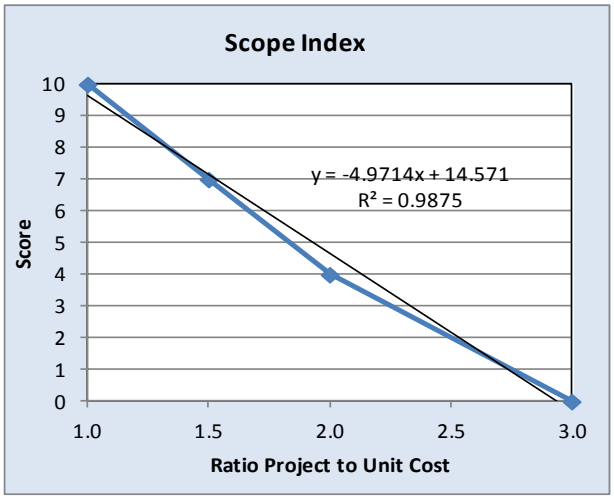


<u>Cost Effectiveness and Scope Index</u> (30% of Total Score)

<u>Cost Effectiveness</u> is defined as the construction cost to build the project ($) divided by the amount of traffic using the road (VMT = Vehicle Miles Travel).

<u>Scope Index</u> is a measure of how much the Project scope is focused on the pavement. Scope Index is calculated by dividing the estimated construction cost per lane mile of the project divided by the typical cost for the project proposed. A ratio much higher than 1 would indicate there is a significant amount of additional work included in the Project scope than just pavement.





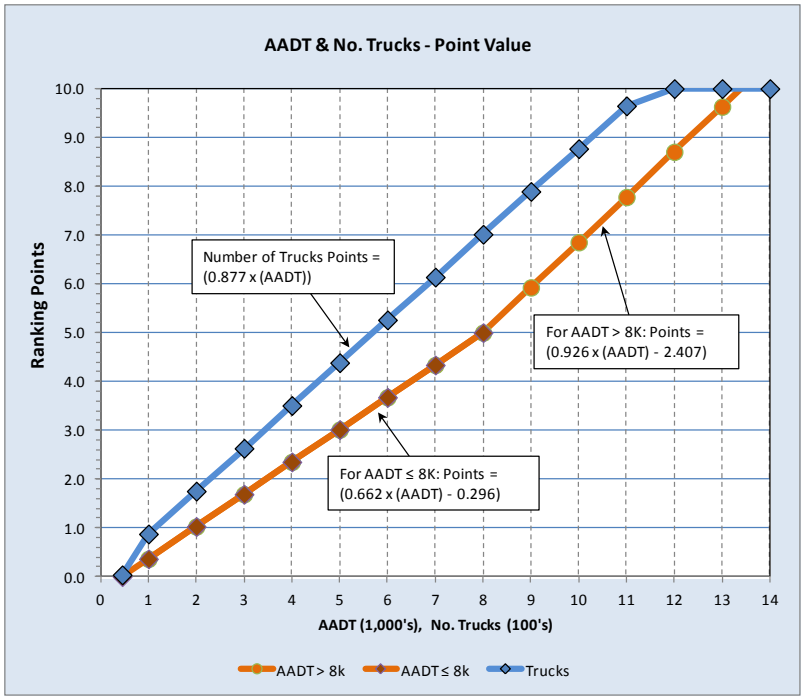
Score = 10.173 - 0.0093 x ($/VMT)

Score = 14.571- 4.971 x (Project to Unit Cost)

Facility Importance (45% of Total Score)

Functional Class (25%)		
FC Descriptions	**FC Codes**	**Score**
00-Not Specified or multi	00	0
01-Rural Interstate	01	10
02-Rural Princ Arterial - Expwy	02	8
04-Principal Arterial Other	04	8
06- Rural Minor Arterial	06	6
07-Rural Major Collector	07	4
08-Rural Minor Collector	08	0
09-Rural Local	09	0
11-Urban Interstate	11	10
12-Urban Princ Art (Expwy)	12	8
14-Urban Princ Art (Other)	14	8
16-Urban Minor Arterial	16	6
17-Urban Collector	17	3
19-Urban Local	19	0

AADT (15%); # Trucks (5%)



Appendix E: Bridge Beyond Preservation Form and Key

Beyond Preservation Project Review
STRUCTURES — Form BP-1SM

Filename →	.	Fund Allocation Type:	Select
BIN	Title:	Enter	
Enter BIN ↑ Description →	Enter		

Project Identification	
PIN:	
BIN:	BIN
NHS +:	Select
Funct. Class:	Select

Structure Features	
Carried:	Enter
Crossed:	Enter
Design Type:	Select
Material Type:	Select

Project Admin	
County:	Select
Owner:	Select
AADT:	Enter
% Trucks:	Enter
# Trucks:	0

Cost ($M) & Schedule	
Constr Cost:	Enter
Total Cost:	Enter
Replct Cost:	Enter
SFY Let:	Select
Let By:	Select

Structure Details	
Year Built:	Enter
Deck Area (sf):	Enter
Flags:	Select
Detour (mi):	Enter
Detour AADT:	Enter
Model Recmnd:	Select

SAMT Review Routing	
Pavement:	Select
Structure:	Select
Safety:	Select
Mobility:	Select
Sustainblty:	Select
Mandate:	Select
Lead Team:	**Select**

Fund Source ($M)	
Select	Enter
Select	Enter
Select	Enter
Select	Enter
Select	Enter
Select	Enter
Total $M	$0.000

Rating Details	
Condition Rating:	Enter
Sufficiency Rating:	Enter
Structural Deficient:	Select
Hydraulic Vulner. Rating:	Select
Primary Member Rating:	Select
Fracture Critical:	Select
Load Posting:	Select

Review Tracking	
BP Form Completed by/Date:	
Reviewed by RSMT Date:	
Reviewed by SSMT Date:	
Reviewed by SPMT Date:	
Reviewed by Safety Date:	
Reviewed by Sustain/Others Date:	
CPT Endorsement Date:	

Bridge Ranking Index	
Capital Need:	0.00
Facilty Importance:	
Restrictions:	0.00
Potential Risk:	
Bridge Index:	**0.00**
Priority Tier:	**Select**

Notes:

BRIDGE BP FORM KEY

User input sections highlighted in blue.

PROJECT IDENTIFICATION: This section

PIN	Project Identification Number. A unique identifier used by NYSDOT for capital projects.
BIN	Bridge Identification Number. A unique identifier used by NYSDOT for every bridge in the state.
NHS+	National Highway System Plus. An expanded list of key routes including the formal National Highway System along with other regionally significant routes.
Funct. Class:	Functional classification.

COST ($M) & SCHEDULE

Constr. Cost	Project construction cost in millions.
Total Cost	Total project cost including all phases such as scoping, design, ROW acquisition, construction and construction inspection. Cost in millions.
Replct Cost	Bridge construction replacement cost
SFY Let	State Fiscal Year of proposed letting.
Let By	Entity that will let project.

SAMT REVIEW ROUTING

This section is for internal NYSDOT tracking use as part of the BP review process.

REVIEW TRACKING

This section is for internal NYSDOT tracking use as part of the BP review process.

PROJECT ADMIN

Reg/Co	NYSDOT Region and County code.
Owner	The formal owner of the structure.
AADT	Average annual daily traffic.
#Trucks	Number of trucks.
Project Type	Either funded from the Regional Allocation or Statewide Competition.

FUND SOURCE ($M)

Various fund source acronyms. Sponsor should work with RPPM to complete.

STRUCTURE FEATURES

Carried	Facility carried by the structure.
Crossed	Primary feature crossed by the structure.
Design Type	Structural design type of the structure (e.g. multigirder, truss, . . .)
Material Type	Material type of the structure (e.g. steel, timber, . . .)
Needs Tool Rec	NYSDOT Needs Tool work type recommendation.

STRUCTURE DETAILS

Year Built	The year that the structure was built.
Deck Area (SF)	The deck area of the structure.
Flags	The database code for inspection flags.

Detour (mi)	Detour length. The sponsor shall evaluate potential detour routes and fill in this parameter with the shortest viable detour length irrespective of ownership. The detour should be viable from the standpoint of congestion, load restriction and roadway geometry. If the detour route is not the shortest, the applicant must explain why in the narrative portion of the BP form.
Detour AADT	The pre-existing AADT on the detour route.

RATING DETAILS

Condition Rating	Weighted average condition rating (NYSDOT ratings. 1 to 7)
Sufficiency Rating	Federal sufficiency rating (0 to 100)
Structural Deficient	Federal assessment of structural deficiency (Yes/No)
Hydraulic Vulner. Rating	NYSDOT hydraulic vulnerability rating (1 to 6)
Primary Member Rating	NYSDOT primary member rating from last inspection (1 to 7)
Fracture Critical	Fracture critical status (Yes/No)
Load Posting	Load posting status (Closed/Weight/R)

BRIDGE RANKING INDEX

Capital Need(0 to 47.5)	Indicator of capital action need including replacement or major rehabilitation. Contributing factors include condition rating, needs tool recommendation and structural deficiency status.
Facility Importance(0 to 27.5)	Indicator of facility importance. Contributing factors include functional class, NHS+ status, AADT, number of trucks and detour length.
Restrictions(0 to 5)	Indicator of operational restrictions including closure, weight posting or 'R' posting.
Potential Risk(0 to 20)	Indicator of potential risk of structure. Contributing factors include fracture critical status, material type, design type and hydraulic vulnerability
Bridge Index(0 to 100)	Overall quantitative bridge index composed of sum of Capital Need, Facility Importance, Restrictions and Potential Risk.
Priority Tier	Beyond preservation candidates are sorted into three tiers based on their quantitative index scores. A 'top' tier for higher priority capital work, a 'bottom' tier for lower priority capital work, and a 'middle' tier in which a greater degree of engineering judgment is required to assess capital need.

Appendix F: Pavement Beyond Preservation Form and Key

Beyond Preservation Project Review
PAVEMENT

Form BP-1PM

Filename →	.	Fund Allocation Type:	Select
Enter PIN	Title:	Enter	
Enter PIN ↑ Description →	Enter		

Project Identification

GIS Code:	Enter
BIN:	Enter
NHS:	Select
NHS+:	Select
Funct. Class:	Select

Location/Traffic

Begin Descr:	Enter			
End Descr:	Enter			
BMP:	Enter		Enter	BMP
CLMiles:				Lane Mi
Lanes:	Select		Enter	AADT
% Trucks:	Enter			# Trucks

Project Admin

PIN:	Enter PIN
County:	Select
Owner:	Select
Sponsor:	Select
On-System:	Select

Cost & Schedule

Constr ($M):	Enter
Total ($M):	Enter
Let Yr (yyyy):	Select
Let By:	Select

Condition/Distress Information

Current Rating:	Select	
Dom Distress:	Select	
Rut Depth (in):	Select	
Avg IRI (in/mi):	Select -->	Select

SAMT Review Routing

Pavement:	Select
Structure:	Select
Safety:	Select
Mobility:	Select
Sustainblty:	Select
Mandate:	Select
Lead Team:	**Select**

Fund Source ($M)

Select	Enter
Select	Enter
Select	Enter
Select	Enter
Select	Enter
Select	Enter
Total ($M)	**$0.000**

Work History and Timing

Last Work Yr/Type:	Select	Select
Plnd Work Yr/Type:	Select	Select
Current Pavement Type:		Select
Estim. Years at Current Rating:		Select
Years until Work is Triggered:		
Letting Year at Start of Window:		
Years Letting could be Deferred		

Review Tracking

	Name	Date
BP Form Completed by/Date:	Enter	Enter
Reviewed by RSMT - Date:		
Reviewed by SSMT - Date:		
Reviewed by SPMT - Date:		
Reviewed by Safety - Date:		
Reviewed by Sustain/Others - Date:		
CPT Endorsement - Date:		

Cost Effectiveness/Scope Index

$/VMT:		
Typical Unit $K/LM:		
$K/LM : Unit $/LM		

Pavement Ranking Index

Pavement Condition:	
Cost and Scope:	
Facility Importance:	
Pavement Index:	
Priority Tier:	**Select**

Notes

PAVEMENT BP FORM KEY

The minimum user inputs needed for review and ranking of projects are highlighted below. Some data is not available for projects from Local sponsors. Surrogate values will be developed in these cases.

Project Identification

GIS Code	Code indicating Route, Region, County and County Order. Used to link background data files.
BIN	Bridge Identification Number. A unique identifier used by NYSDOT for every bridge in the state. It is not expected to have a bridge on a pavement project, but may be possible in rare cases.
NHS/NHS+	National Highway System Plus. An expanded list of key routes including the formal National Highway System along with other regionally significant routes.
Funct. Class:	Functional classification.

Cost ($M) and Schedule

Constr. Cost	Project construction cost in millions.
Total Cost	Total project cost including all phases such as scoping, design, ROW acquisition, construction and construction inspection. Cost in millions.
SFY Let	State Fiscal Year of proposed letting.
Let By	Entity that will let project.
On-System	Project is part of the State maintained highway system.

SAMT Review Routing

This section is for internal NYSDOT tracking use as part of the BP review process.

Review Tracking

This section is for internal NYSDOT tracking use as part of the BP review process.

Project Admin

PIN	Project Identification Number. A unique identifier used by NYSDOT for capital projects.
County	County in which the Project is located.
Owner	The formal owner of the facility.
Sponsor	The entity submitting the Project. Information entered by drop-down menu.
Project Type	Either funded from the Regional Allocation or Statewide Competition.

Fund Source ($M)

Various fund source acronyms. Sponsor should work with RPPM to complete.

Location/Traffic

BMP	Begin milepoint of the Project.
EMP	Ending milepoint of the Project.
Begin	A landmark or physical feature at the beginning of a highway segment.
End	A landmark of physical feature at the end of a highway segment.
Lanes	Predominant number of travel lanes through the Project limits.
Lane Miles	Number of lanes x's length of Project.
AADT	Annual Average Daily Traffic (AADT, two-way).
% Trucks	The percent of AADT that is classified as trucks.
# Trucks	The number of trucks on the facility.

Condition/Distress Information

Current Rating	The latest available NYSDOT Surface Distress Rating Index.
Dom Distress	A distress in the pavement that requires a higher level of treatment to repair.
Rut Depth	The depth of ruts in the pavement.
Avg IRI (in/mi)	A measure of the ride quality or smoothness of the pavement. Units are inches of bounce per mile; the higher the number the rougher the road surface. For locations without actual IRI measures, criteria will be developed to assess a pavement as "smooth," "fair" or "rough."

Work History

Last Work	The year and type of work last performed on the pavement.
Plnd Work Type	(Planned Work Type): The work code and letting year of the planned work according to PSS.
Yrs at Rating	The number of consecutive years the pavement has been rated the same as the Current Rating.
Treat Window	(Treatment Window): The period of time in the life cycle of a pavement when it is appropriate to apply a specified treatment. Generally it is most cost effective to apply a treatment as close to the end of the Window (last 3rd) as possible without going past.

Cost Effectiveness/Scope Index

$/VMT	The Project cost divided by the vehicle miles of travel through the project limits. This gives an indication of the cost/benefit of doing the work for the number of people using the facility.
Unit $K/LM	The cost per lane mile to perform the work, in thousands of dollars.
$K/LM:Unit $/LM	The ratio between the reported Project cost per lane mile to perform the work divided by the typical cost per lane mile. Provides an indication of the amount spent on items beyond the core asset.

Pavement Ranking Index

Pavement Condition	A weighted index using Surface Rating, Dominant Distress and Ride Quality to assess the condition of a pavement.
Cost and Scope	Indicators of the cost-effectiveness of the project in terms of users served.
Facility Importance	Indicator of facility importance. Contributing factors include functional class, AADT, and number of trucks.
Pavement Index	Overall quantitative index to assess the priority among proposed pavement projects. Includes factors for pavement condition, cost and scope and facility importance.

Priority Tier	Beyond preservation candidates are sorted into three tiers based on their quantitative index scores. A ‘top’ tier for higher priority capital work, a ‘bottom’ tier for lower priority capital work, and a ‘middle’ tier in which a greater degree of engineering judgment is required to assess the need and benefit of a project.

Appendix G: Narrative Beyond Preservation Form Questions

Beyond Preservation Project Review NARRATIVE SHEET					
Section A: Project Description					
Project Type ("X" one):	**X**	**← System Renewal**		**← Modernization**	
Project PIN:	**000000**	**Project Name:**	**Example Project**		
Project Scope:					
Project Objective:					
Section B: Project Context					
1. Describe how the proposed project provides critical links to the area the project serves (examples are multi-modal connections, large residential areas, emergency routes, freight routes, employment centers etc). Discuss type and magnitude of link.					
2. Describe other factors influencing the priority of this project such as preserving, enhancing or supporting significant economic competitiveness, social equity/community viability and environmental conditions.					
3. How is this project part of an overall corridor strategy? How does the project serve users between communities, within a community (residential, business, commuters) or both? Explain.					
4. Describe unique mobility requirements. Specifically, describe if/how the project improves the convenience, access, connectivity and/or completes a gap to public transportation, bicycle/pedestrian network, or multimodal system.					

Section C: Safety and System Optimization Considerations
1. If the project involves safety improvements, indicate if it addresses a High Accident Location (PIL/SDL) within the project limits. Identify the crash rate and expected reduction in crashes as applicable. Indicate if a Highway Safety Investigation has been conducted for this location and provide the study number. Identify the benefit/cost ratio for the safety improvements if known.
2. What is the risk, cost and impact to the community if the bridge and pavement at this location is closed or restricted? Describe any special community concerns for addressing safety at this location.
3. Describe any ITS-related, mobility and/or optimization benefits derived from this project. Indicate if the project maintains or improves information detection and dissemination capabilities (include how this impacts/supports 511). Describe any reduction in delay or improved LOS for the site.
Section D: Cost Effectiveness and BP Data
1. Describe any cost-sharing, special or innovative fund sources, local matches, leveraging of private funds, etc. that are contributing to the funding of this project.
2. How has the project scope been focused to achieve the most cost effective solution?
3. Have you checked the data loaded to the BP Form for accuracy and completeness? Please identify and explain any data modifications. Please explain if the shortest detour length is not used.

Appendix H: Draft Marchiselli Program Guidance

The Municipal Streets and Highway Program,[4] commonly referred to as the Marchiselli Program, was created as a means of assisting municipalities in financing the non-federal share of federally aided transportation projects. Under the program, Municipal Sponsors progressing projects on local highway systems through a federal aid highway program may be eligible for State reimbursement of up 75% of the non-federal share. The *Marchiselli Program* is the primary State aid matching program for locally administered FHWA-funded projects. ***Marchiselli Program funding is subject to annual appropriation in the State budget; is limited to projects that are consistent with statewide infrastructure investment strategies; and may not be available to offset a Sponsor's non-federal project share at the maximum 75%. NYSDOT will still seek federal funds for any project which a Sponsor chooses to advance without Marchiselli funds if that project has been approved for federal funds by the Metropolitan Planning Organization (MPO).***

Marchiselli Program funds may only be used for construction, reconstruction or improvement of local highways, bridges or highway-railroad grade crossings off the State Highway System. Eligible project phases include scoping, design, right-of-way incidentals, right-of-way acquisition, and construction (including construction supervision and inspection). NYSDOT reviews proposed Marchiselli Program projects to ensure compliance with eligibility criteria. The following is required for all Marchiselli Program activities:

1) Project must be eligible to receive federal aid and must be included on the federally-required Statewide Transportation Improvement Program (STIP).
2) Sponsor must be a Municipality (County, City, Town or Village).
3) Project must have a ten (10) year minimum service life.
4) Proposed work must fall under one of the eligible project types.

Eligible projects must be located within the municipal highway or street right-of-way (ROW).

<u>Eligible project types:</u>

- Street and highway resurfacing, rehabilitation, reconstruction and construction.
- Bridge demolition, replacement, rehabilitation, reconstruction and construction.
- Sidewalks and curbs on highway or bridge projects.
- Shared use paths and pedestrian bridges, including sidewalk connections relating directly thereto.
- Pedestrian/bicycle paths when such facilities are located *within* an existing highway or street (ROW).
- Signs, signals, and lighting on eligible highway or bridge projects.
- Drainage systems on eligible highway or bridge projects.

[4] Chapter 330 of the Laws of New York of 1991

Ineligible project types:

- Recreational Pedestrian/bicycle paths regardless of location.
- Parking lots (regardless of purpose).
- Bus shelters or other transit structures.
- Mobile or portable traffic management or monitoring systems which are not dedicated for use exclusively on a specific local road, bridge, or at-grade railroad crossing.
- Betterments.
- Interest costs on bonded indebtedness for eligible projects.
- Projects funded with monies from the Emergency Relief Program, Safe Routes to School Program, and Transportation Enhancement Program.
- Federal discretionary program funding and earmarks made available through the High Priority Projects Program (HPP) and the Transportation Improvements (TI) Program authorized in SAFETEA-LU or its successors.

Period of Availability

Any federally-aided municipal transportation project approved by NYSDOT to receive Marchiselli funding must be initiated pursuant to an executed State-Local Agreement (SLA) within two years of State authorization by the NYSDOT subject to State appropriation of funds. Failure to execute the aforementioned agreement will result in rescission of the initial State authorization for such project phase(s). Furthermore, any project approved by the State for Marchiselli funds with an executed SLA which has not proceeded under the current phase under agreement within two years of the authorization will be rescinded unless a waiver is obtained from NYSDOT. Sponsor may re-apply for Marchiselli funding when the project is ready to advance.

NYSDOT is implementing these limitations on the period of availability to ensure that locally-administered projects are delivered on time and within scope and available funds. These funds are intended to stimulate the State's economy. NYSDOT will provide technical assistance to municipalities, including project tracking support. Sponsors must inform NYSDOT immediately of changes in project scope, schedule and cost for Marchiselli-approved activities. Failure to do so may impact a Sponsor's eligibility for future Marchiselli funding.

Applicant Eligibility Priority Selection Criteria

Given the age, condition and utilization of the current transportation infrastructure, the repair, rehabilitation and strategic replacement of existing facilities is needed at all levels of government to support the mobility needs of travelers and remain economically competitive in a constantly changing global marketplace. To guide transportation infrastructure investment decisions, NYSDOT has transitioned from facility replacement to asset management-based preservation strategies (referred to as the Forward Four). Priority consideration for Marchiselli program funds will be provided to municipalities that embrace similar engineering and economic-based preservation strategies that optimize infrastructure investment. Additional information on NYSDOT's Forward Four strategy is available at https://www.dot.ny.gov/divisions/operating/opdm/local-programs-bureau/srts/repository/guiding%20principles.pdf

Examples of Preservation Project Types:

- Single course hot mix overlay w/repairs and Truing & Leveling (T&L)
- Mill and fill
- Cold Recycling with overlay
- Element-specific work for bridges (joint replacement, bearing replacement, steel repair, rehab backwalls, columns, piers, etc.)

NYSDOT will consider the use of Marchiselli funds for federally-aided municipal projects that are considered to be beyond or more than a true preservation treatment. For these projects which a municipal sponsor would like to apply for Marchiselli funding, the project sponsor should contact the appropriate Regional Local Project Liaison (RLPL) who will submit the appropriate information for review to NYSDOT Comprehensive Program Team (CPT) for review and approval/disapproval.

Presentation of Municipal Projects on the Federally-Required TIP/STIP

New federally-aided municipal transportation projects must appear on the federally required TIP and STIP with a 100% local match (non-State). As State Marchiselli funds are considered part of the local match identified on TIPs and STIP a modification to the TIPs and STIP are not required when Marchiselli funds are identified for a project.