

**Capital District
Transportation Committee**

**TRANSPORTATION
IMPROVEMENT
PROGRAM (TIP) 2016-21**

For Planning Committee Review

April 27, 2016

This Capital District Transportation Committee (CDTC) report was prepared in cooperation with local governments, regional agencies, New York State agencies, and the Federal Highway Administration and Federal Transit Administration of the United States Department of Transportation. The contents do not necessarily reflect the official views or policies of these governmental agencies.

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**RESOLUTION #16-X - RESOLUTION OF CAPITAL DISTRICT
TRANSPORTATION COMMITTEE REGARDING SELF-
CERTIFICATION**

WHEREAS, the Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization (MPO) responsible for the performance of the transportation planning process for the Capital District Transportation Management Area (TMA), which includes the Albany and Saratoga Springs urbanized areas and the remainder of Albany, Rensselaer, Saratoga and Schenectady Counties (with the exception of the Town of Moreau in Saratoga County), and

WHEREAS, it is the responsibility of the CDTC to ensure that said policy, planning, and programming process is consistent with applicable Federal and State Law, and is also consistent with local area objectives, and

WHEREAS, it is recognized that the Federal Regulations (23 CFR 450) for metropolitan transportation planning were revised, the revisions becoming effective on October 28, 1993, in response to the passage of the Intermodal Surface Transportation and Efficiency Act (ISTEA), and

WHEREAS, the State and the MPO must now certify prior to TIP submission, that the MPO planning process is being carried out in conformance with all applicable requirements of specific Federal Acts and Regulations.

NOW THEREFORE BE IT RESOLVED, that the Capital District Transportation Committee does hereby affirm that:

1. the CDTC's metropolitan transportation planning process includes activities to support the development and implementation of a transportation plan and TIP and subsequent project development activities including the environmental impact assessment process, and,
2. the CDTC's planning process is consistent with Federal Laws, Acts, and Regulations pertaining to involvement of appropriate public and private transportation providers, and,
3. any problem identified through this certification review or FHWA's Program Management Review will be addressed by the appropriate CDTC member agencies, and,

BE IT FURTHER RESOLVED, that the CDTC does hereby certify that the CDTC planning process is being carried out in conformance with all applicable requirements of:

1. 23 U.S.C. 134, 49 U.S.C. 5303, and 23 CFR 450 Subpart C;

Resolution #16-x
Continued

2. In nonattainment and maintenance areas, section 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;
4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
5. Section 1101(b) of the SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
6. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-Aid highway construction contracts;
7. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) and 49 CFR parts 27, 37 and 38;
8. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
9. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.

BE IT FURTHER RESOLVED, that the CDTC does hereby request that New York State join this affirmation and certification and forward this joint State and MPO finding to both FHWA and FTA.

Kathy M. Sheehan, Mayor of The City of Albany
Chairman, Capital District Transportation Committee

June 2, 2016

**RESOLUTION #16-X - RESOLUTION OF THE CAPITAL DISTRICT
TRANSPORTATION COMMITTEE ENDORSING THE
TRANSPORTATION IMPROVEMENT PROGRAM**

WHEREAS, Title 23, Code of Federal Regulations, Part 450; and title 49, Code of Federal Regulations, Part 613, require the development of a Transportation Improvement Program (TIP); and,

WHEREAS, the Capital District Transportation Committee (CDTC) has been designated by the Governor as the Metropolitan Planning Organization for the Capital District metropolitan area; and

WHEREAS, the adopted "metropolitan area boundary" for CDTC's Transportation Management Area includes the Census-defined Albany and Saratoga Springs urbanized areas; and,

WHEREAS, the central cities of the Albany and Saratoga Springs urbanized areas are represented on CDTC's Policy Board; and,

WHEREAS, the Capital District Transportation Committee, in cooperation with the New York State Department of Transportation, has reviewed and documented compliance of the CDTC planning process with all existing federal rules and regulations; and,

WHEREAS, the Capital District Transportation Committee, in accordance with Federal requirements for a Transportation Improvement Program, has developed an integrated program of federally funded highway, transit and other transportation projects for the Capital District metropolitan area; and,

WHEREAS, the Transportation Improvement Program shows reasonable estimates of project cost and staging, and the procedure for project selection at the State level for projects is incorporated into this TIP; and

WHEREAS, the procedure to update the project cost, scope and schedules of the TIP is contained in the TIP; and,

WHEREAS, the Transportation Improvement Program includes projects consistent with the *New Visions* long-range Regional Transportation Plan for the Capital District metropolitan area; and,

WHEREAS, it is recognized the Transportation Improvement Program document includes for informational purposes significant Thruway, state, local, and privately funded projects in addition to those metropolitan projects within the legal programming and responsibility of the Capital District Transportation Committee; and,

WHEREAS, the Planning Committee, at its May 4, 2016 meeting, recommended approval by the Capital District Transportation Committee of the 2016-21 Transportation Improvement Program for the Capital District metropolitan area.

THEREFORE BE IT RESOLVED, the Capital District Transportation Committee endorses the five-year Transportation Improvement Program for the fiscal period 2016-17; and,

BE IT FURTHER RESOLVED, that the Capital District Transportation Committee endorses the 2016-21 TIP as consistent with all current plans and programs and recommends the initiation of those projects and plans so specified; and,

BE IT FURTHER RESOLVED, that projects listed in the committed column of the TIP are automatically incorporated into the 2016-17 element if they are not obligated by September 30, 2016, as long as fiscal constraint is demonstrated; and

BE IT FURTHER RESOLVED, that the Capital District Transportation Committee provides latitude to the New York State Department of Transportation with regard to assigning fund sources to particular projects in order to obligate funds and implement the program, as described in CDTC's official policy on TIP changes (see Table 2, "Guidelines for TIP Changes") in the 2016-21 TIP document; and

BE IT FURTHER RESOLVED, that the Committee directs the Secretary to submit this resolution and appropriate documentation of the program through the New York State Commissioner of Transportation to the Federal Highway Administration and Federal Transit Administration as (1) amendments to the existing State Transportation Improvement Program as necessary and appropriate, and (2) a component of the new State Transportation Improvement Program to cover Federal Fiscal Years 2016-17 through 2019-20.

Kathy M. Sheehan, Mayor of The City of Albany
Chairman, Capital District Transportation Committee

June 2, 2016

**SECTION I -
NARRATIVES**

INTRODUCTION AND OVERVIEW

Overview of the Capital District Transportation Committee

The Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization (MPO) for the Capital District Transportation Management Area (TMA) which includes the metropolitan area of Albany, Rensselaer, Saratoga and Schenectady counties, with the exception of the Glens Falls urban area, which extends into northern Saratoga County. As the MPO, CDTC, in cooperation with the New York State Department of Transportation (NYSDOT) and the Capital District Transportation Authority (CDTA), is responsible for carrying out the continuing, comprehensive, coordinated transportation planning process for the Capital District region. Part of the planning responsibility is the maintenance of a long-range Regional Transportation Plan (RTP). CDTC's most recent RTP is called *New Visions*. Additionally, the Committee is responsible for maintaining short-range Transportation Improvement Programs (TIP's) for the metropolitan area's major highway and transit facilities.

The CDTC Policy Board is composed of representatives of local governments and transportation agencies. Its membership includes the chief elected officials of each of the region's eight cities and four counties and members representing the area's towns and villages. Representatives of NYSDOT, CDTA, the Capital District Regional Planning Commission (CDRPC), the New York State Thruway Authority, the Albany County Airport Authority, and the Albany Port District Commission complete the roster. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) serve as advisory members to the Committee. Through this intergovernmental forum, local and regional transportation issues are discussed, and transportation policies and programs are developed. Further information concerning the organizational structure of CDTC, its responsibilities and the responsibilities of member organizations, is presented in CDTC's Continuing Operations Plan (Prospectus) and in *A Reference Guide to the CDTC*, March 2014.

Overview of the Transportation Improvement Program

One of the important responsibilities of CDTC is to program for the implementation of the products of the planning process through development of a staged multi-year program of transportation improvements (the Transportation Improvement Program or TIP). Federal regulations require that transit, highway and other transportation improvement projects within the Capital District metropolitan area be included in this TIP if these projects are to be eligible for federal capital or operating funding from Titles I, III and IV fund sources (see appendix C for a list of these fund sources). The program should also include, for informational purposes, non-federally funded projects and New York State Thruway Authority projects located in the region. Sufficient information must be given in project listing to:

- ◆ identify each project;

- ◆ estimate total costs and the amounts of federal, state, and local funds proposed to be obligated by project phase during the program period by federal fiscal year against those costs;
- ◆ designate the proposed type of federal funds to be used by the project;
- ◆ identify the responsible party for project implementation;
- ◆ note the exempt/non-exempt status for air quality conformity purposes, and
- ◆ identify the planning reference from which each project was derived (23 USC §134 (a)(h) or FTA §8(a)(h)).

Appendix C contains a complete list of all funding programs required to be included in the TIP. All projects in the CDTC TIP are located within a defined metropolitan area boundary, for which the air quality designation is consistent throughout. Therefore, individual project listings do not specify location in terms of metropolitan versus non-metropolitan or attainment versus non-attainment designation.

In addition, the TIP should indicate present estimates of total TIP costs and revenues for the program period. The TIP must be constrained to estimates of federal-aid revenue attributable to the CDTC area by federal fiscal year (10/1 to 9/30). Meeting this requirement has necessitated adjustments to project schedules, and certain assumptions regarding the use of flexibility among federal-aid fund sources. Project Selection Procedures, presented on page 45, provide flexibility necessary when CDTC's TIP is incorporated in the State Transportation Improvement Program (STIP).

The TIP must also meet the requirements established by the 1990 amendments to the Clean Air Act (42 USC Sections 7140 et seq.) regarding the conformity of transportation plans and programs. This Air Quality Conformity finding begins on page 57. Federal regulations also require that the TIP be approved by CDTC as the MPO for the Capital District metropolitan area, undergo a minimum 30-day public comment period, and that a public meeting be held (23 CFR §450.324(c)).

The public review period was from March 29, 2016 until May 29, 2016. A summary of those comments appears in Appendix F.

THE NEW YORK STATE DOT FORWARD FOUR INITIATIVE

Introduction

In May 2012, the New York State Department of Transportation informed MPO members of new policies it was instituting for the spending of transportation funds on their roads and requested that those policies to be implemented for all federal-aid spending by the MPO's, such as CDTC. The policies are referred to as the "Forward Four", which refers to four forward looking principles: Preservation First; System Not Projects; Maximize Return on Investment; and Make It Sustainable. How these principles potentially affect the programming of federal funds on the TIP is summarized below with excerpts from the Program Update Guidance and Instructions SFY 2012 to SFY 2016 published by the New York State Department of Transportation, August, 2011, which was reiterated in the TIP/STIP Policy Guidance and Instructions, For the Update Period Beginning October 2016.

Principal One: Preservation First

The primary focus is on system preservation and safety. Expected resources will not support a "build new" or "worst first" approach but must have a "preserve what we have" approach. A preservation first strategy focuses on preventive, corrective and demand work using Asset Management principles and data driven decision making. The highest priority is to preserve the functionality of the existing highway system. It is very important to recognize that a preservation first strategy is a long term commitment and will take years before we fully achieve the desired results. Inherent in this approach is a short term decline in conditions as resources are concentrated on stabilizing the backlog of preservation candidates. Once these assets are in the lower-cost preservation cycle, the future year savings are applied to other candidates to bring them into a state of good repair.

Principal Two: System Not Projects

Where warranted, we must also strategically advance a limited number of system replacement and expansion projects that promote economic development, livability, and system connectivity.

Principal Three: Maximize Return on Investment

We will replace bridges and highways only when absolutely necessary. We will perform focused rehabilitation work, fixing only those elements in need of repair, when we determine we can buy significant life with limited investment. We will do preservation work timed appropriately within the "window of opportunity". We will target safety improvements based on accident data that identifies locations where the largest reduction in accident can be achieved for the least dollars. We will constrain the scope of work to what is required to

achieve the full remaining life of the asset and include mobility and modernization projects only when it makes strategic and economic sense.

Principal Four: Make It Sustainable

We will focus on ways to preserve our existing transportation system; incorporate sustainability considerations into our decisions and actions; and support opportunities for innovation, economic growth and development. This must be done in a fiscally responsible manner by considering life cycle cost as well as fiscal cycles.

Strategies and Priorities

In addition to the four principals summarized above, the NYSDOT guidance includes strategies and priorities that, if followed by the MPO, would have a practical impact on programming the TIP. The NYSDOT guidance is a change from past update efforts to one where the focus is on preserving and extending the life of our assets, maintaining and operating our system in a safe and reliable manner, and recognizing the importance of location or system criticality to its users. The guidance provides the following hierarchy of priorities, which is expected to guide actions and influence programming decisions:

- 1) Demand Response: Safety of the system is the key component. Keep the system safe and reliable through: demand and corrective maintenance to structures; demand maintenance to pavement and roadside appurtenances; and response and restitution of system closures/restrictions due to human and/or natural emergencies.
- 2) Preservation: Preserve the system through preventive maintenance and additional corrective maintenance actions.
- 3) Enhance Safety: Enhance the safety of the system through nominal and substantive safety countermeasures, including “systematic” improvements and spot locations.
- 4) System Renewal: Strategically address system critical bridge replacements/major rehabs, pavement rehabs and reconstructions. System renewal projects are considered “Beyond Preservation” projects.
- 5) Modernization: Improve the system through strategic added capacity projects (e.g., HOV lanes), major widening, addition of lanes, rest areas, or other enhancements to existing facilities. Modernization projects are considered “Beyond Preservation” projects.

FAST ACT

Overview

On December 1, 2015, the Fixing America's Surface Transportation Act, (FAST Act) was signed into law, funding surface transportation programs for federal fiscal years (FFY) 2016-17 through 2020-21. Overall funding in the law starts at about 5% higher than in FFY 2015-16 and increases slightly more than 2% each year after that.

CDTC's 2016-21 TIP Update was underway when the FAST Act became law. The five years of the FAST Act coincide with the five years of the CDTC 2016-21 TIP. Fund sources changed very little.

As it pertains to the CDTC TIP, the FAST Act differs from MAP-21 in some minor ways.

Safety Funding

Federal legislation includes several ways to use the Highway Safety Improvement Program (HSIP) funding. The below describes how this funding is used under the FAST Act for highways. The fund source for this in CDTC's TIP is "Safety".

The FAST Act (FAST Act § 1113; 23 U.S.C. 148) continues the overarching requirement from MAP-21 that HSIP funds be used for safety projects that are consistent with the State's data driven, comprehensive strategic highway safety plan (SHSP) and that correct or improve a hazardous road location or feature or address a highway safety problem. States are required to have a safety data system to perform problem identification and countermeasure analysis on all public roads, adopt strategic and performance-based goals, advance data collection, analysis, and integration capabilities, determine priorities for the correction of identified safety problems, and establish evaluation procedures. HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means (23 USC 148(c)(2)(B)).

Under MAP-21, the HSIP statute listed a range of eligible HSIP projects. However, the list was non-exhaustive, and a State could use HSIP funds on any safety project (infrastructure-related or non-infrastructure) that met the overarching requirement. In contrast, the FAST Act limits HSIP eligibility to only those listed in statute—most of which are infrastructure-safety related. In addition, the FAST Act specifically identifies the following activities on the inclusions list:

1. Installation of vehicle-to-infrastructure communication equipment.
2. Pedestrian hybrid beacons.
3. Roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.
4. Other physical infrastructure projects not specifically enumerated in the list of eligible projects.

The FAST Act continues the prohibition on the use of HSIP funds for the purchase, operation, or maintenance of an automated traffic enforcement system (except in a school zone). [FAST Act § 1401] Workforce development, training, and education activities remain an eligible use of HSIP funds [23 U.S.C. 504(e)] except as provided in 23 U.S.C. 120 and 130, the Federal share is 90%.

NHPP Funding

Under MAP-21, NHPP funds could be spend on Interstate roads, NHS roads, and federal-aid bridges on either of those systems. The FAST Act also allows for NHPP funds to be spent on the reconstruction, resurfacing, restoration, rehabilitation, or preservation of a bridge on a federal-aid highway that is not on the NHS. To use this additional provision, States must ensure any obligations required under 119(f), NHS Bridge Condition requirements, are satisfied.

Freight Funding

The FAST Act initiates two new capital programs for freight: 1) the National Highway Freight Program, and 2) The Nationally Significant Freight and Highway Projects Program. The National Highway Freight Program is a formula program (New York is expected to receive \$266M over five years) for infrastructure and operational improvements on the National Freight Network. 10% of the funding may be used on non-highway intermodal freight projects. The Nationally Significant Freight and Highway Projects Program is a discretionary program intended to primarily fund large projects (greater than \$100M in cost) with a smaller federal share.

The first round of project application was announced by USDOT late in CDTC's 2016-21 TIP Update. Consequently, there are no projects on the 2016-21 TIP utilizing either of these programs. CDTC will look for ways to take advantage of these funds as appropriate.

Other Funding

Additionally, the new Surface Transportation Block Grant (STBG) incorporates some programs from previous legislation. This includes the federal TAP program from MAP-21, which continued the STP Enhancement program from previous legislation. TIP projects that have been funded with STP Enhancement or the MAP-21 TAP funding that weren't obligated by the beginning of the FAST Act utilize the funding from their otherwise discontinued fund sources.

2016-21 TIP UPDATE

Introduction

The 2016-21 TIP Update was the second TIP Update following the initiation of the New York State Forward Four (page 5) initiative to change the manner in which transportation funds are spent. This time, CDTC was more able to accommodate these principles.

Following the guidance provided by the NYSDOT Main Office to its Regions, CDTC started the update process with the following expectations:

1. Most of the funding would be spent on “Preservation First” projects. These are defined below.
2. Some funds could be spent on “Beyond Preservation” projects if those projects met specific criteria.
3. Some HSIP (Safety) eligible candidate projects would be evaluated by NYSDOT following a statewide solicitation, while some would or could be evaluated and solicited for by CDTC.

Estimation of Available Funds

Estimating available funds is mandated by federal law to be cooperative between the State, the MPO and transit authority. For the 2016-21 TIP Update, the NYSDOT Main Office set aside highway funds for statewide initiatives, then provided allocations to its regions. Region One then produced proposed budget estimates for the CDTC area, using the Regional allocation. The planning targets proposed by Region One were accepted by the Planning Committee and used for programming. It is CDTC’s understanding that the final TIP reflects reconciliation of resource estimates for the CDTC area with those for the balance of the entire NYSDOT Region One area.

The new State TIP (STIP) will take effect October 1, 2016 and cover the period through September 30, 2020 (the four-year STIP period). The TIP will cover an additional federal fiscal year (FFY), running through September 30, 2021 (covering CDTC's full five-year period).

Available transit funds in this TIP were obtained from CDTA.

Preservation First Projects

“Preservation First” projects preserve the system through preventive maintenance and additional corrective maintenance actions. These projects do not involve new construction or reconstruction; or replacement of a bridge. Rather, they seek to maintain the existing infrastructure. For bridges, this includes element specific work, which affects the repairs on only the deficient “elements” of a bridge, mitigating the need to reconstruct the entire bridge.

For pavements, this includes treatments limited to preventive and corrective maintenance, and does not include major rehabilitations and reconstructions. The Planning Committee followed these guidelines without formal action.

Beyond Preservation Projects

Generally, projects that do not meet the NYSDOT definition of “Preservation First” are called “Beyond Preservation” projects. “Beyond Preservation” projects include system renewal projects that address bridge replacements and major rehabilitations; and pavement rehabilitations and reconstructions. NYSDOT has documented criteria that it will use to qualify projects as “Beyond Preservation” in its publication, TIP/STIP Policy Guidance and Instructions For the Update Period Beginning October 2016, beginning on page 14.

Year of Expenditure and the TIP

During the approval process of the State Transportation Improvement Program, NYSDOT is expecting to provide FHWA and FTA with a detailed report of how the project costs in there expect year of expenditure is addressed.

Cost estimates provided by NYSDOT include increases for inflation as detailed below:

SFY	Simple Year Over Year Inflation
2015-16	0.00%
2016-17	2.00%
2017-18	4.00%
2018-19	6.00%
2019-20	8.00%
2020-21	10.00%

Evaluation of Candidate Projects

For many years, CDTC has used its own Project Information Procedure to evaluate the candidate projects. The procedure is documented in Appendix H. Just prior to the 2016-21 TIP Update CDTC introduced a replacement to the qualitative portion of the procedure and a change of emphasis in the evaluation. The creation of this and how it relates to the 2016-21 TIP project selection process in detailed beginning on page 11.

THE EVALUATION OF QUALITATIVE PROJECT BENEFITS IN THE 2016-21 TIP PROJECT SELECTION PROCESS

Introduction

At the April 1, 2015 Planning Committee meeting CDTC Staff introduced a draft of the new merit scoring criteria to be used in project evaluations for the 2016-21 Transportation Improvement Program (TIP) update. The objectives of the new merit scoring criteria included:

- Providing a direct link between our New Visions 2040 principles, recommendations, and funding priorities and our TIP project selection so that project selection directly reflects the New Visions priorities, as required.
- Providing an easily adjustable evaluation system for when New Visions priorities change.
- Provide scores for non-quantifiable project benefits.
- Provide scores for benefits that are not included in the benefit/cost (B/C) ratio calculation.
- Providing an explicit, transparent, easily understood and complete evaluation system that better reflects the project value.
- Replacing the use of “filters” and “networks” that were not easily understood in project evaluations and potentially biased the process against rural projects.
- Augmenting, not replacing, the project B/C ratio.
- Providing incentives for sponsors to include beneficial project features in project scopes.

Development

During the April meeting staff reviewed the process that was used to develop the new draft merit scoring criteria including interviewing CDTC Staff, examination of several precedents and MPO examples of best practices, and the review of relevant existing CDTC documents. Staff examined the merit scoring systems used by 13 large to medium MPOs. Seven of these MPOs used a merit scoring system, while the other MPOs’ project evaluation systems were not as explicit or transparent. The 7 MPO merit scoring systems were then analyzed in more detail. The CDTC’s new merit scoring system most closely mirrors the project evaluation systems used in:

- Nashville, Tennessee
- Boston, Massachusetts
- Seattle, Washington
- Syracuse, New York.

Some of the other MPOs with evaluation systems similar to CDTC’s includes:

- San Diego, California

- Richmond, Virginia
- Winston-Salem, North Carolina
- Northern New Jersey
- Mid-Ohio (Columbus)

During this meeting staff then reviewed the findings developed from the interviews and examinations, and discussed the recommendations. Staff handed out a draft of the merit scoring categories, and received many valuable comments from Planning Committee members regarding the use of negative scoring points, the distributions of points, and the categories themselves. Staff also received many positive responses, and finally staff reviewed the next steps.

In the following months, staff worked diligently to address the Planning Committee's and the Policy Committee's comments, and to produce the definitions or criteria for each of the numerical values in the proposed merit score sheet.

Testing

Staff also tested the new evaluation system on a representative sample of 15 projects from our previous TIP project solicitations. Staff compared like projects with other like projects, i.e. pavement preservation projects with other pavement preservation projects; and assumed that the maximum merit score for each project would be 67 points and the maximum B/C ratio would be 33 points for a total project score of 100 points.

The test demonstrated that the merit scoring criteria were very clear, objective and easy to use. In the test a transit project achieved the highest merit point score, with 31 merit points. This indicates that although a score of 67 merit points is theoretically possible, in practice it would be very rare to exceed 30-35 merit points. The average merit point score in the test was 13 points. On average, the B/C ratio represented 50% of the total project score (among non-transit projects). The total project scores were relatively low in the 20's and 30's (out of 100 points), because project sponsors had not included many qualitative benefit descriptions in their previously-submitted project justification packages (applications). As a result, the total project scores in the test primarily reflected the original project B/C ratios. Staff believed that these tests were successful, and proved the effectiveness of the new merit scoring system.

At the November 4, 2015 Planning Committee meeting, staff summarized the above test results and distributed a handout about the Nashville TIP merit evaluation process, which has been used successfully for ten years. The following benefits of the proposed merit scoring criteria were again summarized:

- The merit scoring criteria are focused on creating a direct link to the New Visions Plan, since the TIP is required to be consistent with the New Visions Plan.
- The merit points reflect the project's qualitative benefits, and not the quantitative benefits found in the B/C ratio, i.e. care was taken to avoid double counting.
- The merit scoring process is transparent and easy to understand. It would replace the

- sometimes confusing filters and priority networks scoring.
- The B/C ratio would still be a very important part of the total score for each project.
 - The new scoring system is intended to incentivize New Visions project features.

At the November meeting staff also explained that, as with the current project evaluation methodology, in the proposed system the Committee would still have discretion to select projects by considering other factors, such as sponsor's project priorities and geographic balance over the entire CDTC region. Staff also said that because the B/C ratio will still be used, projects on higher volume facilities will continue to have some advantage. Finally staff explained that merit categories are balanced, i.e. projects that may not score well in some merit categories would do well in other categories. For example, interstates and some other highways that may not score well in the complete streets category would score well in the regional benefits and economic development categories.

At several Planning Committee meetings, members had discussed several options for changing the weight given the merit score and the B/C ratio, including assigning them the same weight (50 points each) and assigning the B/C ratio more points than the merit score. As a result in the November 18, 2015 Planning Committee meeting staff reviewed two scenarios – one where the maximum merit score would be 67 points and the maximum B/C ratio would be 33 points for a total project score of 100 points, and another where the maximum merit score would be 50 points and the maximum B/C ratio would be 50 points for a total project score of 100 points.

Use During the 2016-21 TIP Project Selection Process

At the December 2, 2015 Planning Committee meeting, CDTC Staff and NYS DOT staff offered a joint proposal to solicit and evaluate projects using the following proposed approach. That approach included calculating each project's B/C ratio using the previously developed methods; determining each project's merit score using the proposed merit scoring categories, criteria, and score sheet; and assigning 50 points for the maximum merit score and 50 points for the maximum B/C ratio. The project evaluation results would then be reviewed by members to determine reasonableness and fairness. Based on these results, 3 possible next steps were discussed: (1) the results look good and proceed with programming; (2) provide minor adjustments to the process; (3) results are skewed and a major adjustment is needed – therefore create set-asides for later programming. A motion was made to proceed with a formal new project solicitation and the proposed staff evaluations of projects. Members approved the motion. A copy of the final merit scoring categories, criteria, and the merit score sheet are shown Appendix H, Non-Quantified Project Benefits, on page H-17.

By submission deadline of January 22, 2016 members had submitted 122 candidate projects. Staff reviewed all these projects for federal eligibility, determined that 119 were eligible, and evaluated all 119 projects calculating both a B/C ratio and merit score for each project. On February 17, 2016 staff sent project sponsors the project evaluation results for only their projects, and received several comments from sponsors. A few of the project evaluations were modified based on additional information provided by project sponsors.

At the March 2, 2016 Planning Committee meeting, members thought that the merit scores were reasonable and fair, were satisfied with the project evaluations (B/C ratios and merit scores) and used these evaluations to program 41 new projects in the 2016-21 TIP. Copies of all the documents referred to in the above paragraphs can be found on the CDTC website as part of the appropriate Planning Committee meeting's materials.

PROGRAMMING PROJECTS IN THE 2016-21 TIP

Overview

The goal of CDTC is to produce a “balanced” TIP that contributes to implementation of the New Visions 2040 Plan. The CDTC approach meets both the letter and spirit of federal regulations by allowing CDTC to look at the array of projects and their relative merit, and to establish a program that best implements the range of goals included in the metropolitan transportation plan.

Programming projects during the 2016-21 TIP Update consisted of several steps, some of which required the completion of previous steps, while some could be conducted in parallel with others. Therefore, the following steps are not in a strict sequential order:

- 1) **Annual Total Budget Estimates:** Estimates of total annual funding for CDTC was proposed by NYSDOT Region One, discussed with CDTC Staff, discussed with the Planning Committee, and finally, adopted by the Planning Committee.
- 2) **Solicitation for and Evaluation of Project Candidates:** Based on the total annual budget estimates and a rough estimate of the cost of existing projects, it was evident that sufficient funding existed to fund new projects. A qualitative evaluation was developed by CDTC Staff and approved for use by the Planning Committee for this TIP Update. The use of this new procedure is documented in this document, starting on page 11.
- 3) **Existing Projects:** Existing TIP projects for which federal-aid funds had already been obligated were not required to re-apply for approval as if it were a new project. Other existing TIP projects and those included in the post five-year period were discussed individually by the Planning Committee. The Planning Committee acted on each to include it in the 2016-21 TIP, include it in in the post five-year period, to require it to be treated as candidate project, or to not include it in the 2016-21 TIP in any way (this could be considered to be “removal” of the project).
- 4) **DOT Maintenance:** NYSDOT Region One proposed that about \$22.5M annually be programmed for routine maintenance activities on state roads. These projects were added as Regional Set-Asides (in some cases continuing existing set-asides) and added to the 2016-21 TIP outside of the solicitation and evaluation process.
- 5) **Transit Fund Sources:** CDTA proposed projects (in most cases continuing existing projects) to be funded with transit fund sources. These projects were approved as proposed.
- 6) **Annual Budget Estimates By Fund Source:** Estimates of annual funding by fund source was proposed by NYSDOT Region One and adopted by the Planning Committee. This was a refinement of the total annual funding referred to above.

- 7) **Programming Transit Projects:** Some transit projects were included in the 2016-21 TIP, funded with highway funds, outside of the solicitation and evaluation process. These are RG130 (Travel Demand Management & Multimodal) and RG131 (Bus Rapid Transit).
- 8) **Low Volume Roads:** Before programming individual evaluated projects, \$1M per year was set-aside for low volume roads, bridges and culverts. This is detailed in the Low Volume Set-Aside section on page 27.
- 9) **Bike/Ped Setaside:** Before programming individual evaluated projects, \$1M per year was set-aside to replenish RG103, CDTC's bike/ped setaside. The funds were used for the programming of projects during the competitive portion of project programming.
- 10) **Programming New Projects:** After all of the above steps, projects treated as candidates were considered for inclusion in the 2016-21 TIP. Projects were programmed with regard to NYSDOT preservation goals and fund source limitations.

Along with other issues pertinent to the programming of projects in the 2016-21 TIP Update, some of the above steps are expanded upon below.

DOT Maintenance

Due to various factors, including the discontinuation of the Interstate Maintenance (IM) and HBRR fund sources, some funding was set aside for DOT Maintenance. These projects are treated as regional set-asides to be implemented as block funding, according to the definition of block funding set asides below. Some of these set-asides existed in the 2013-18 TIP, while others are brand new. Bridge Inspection set-asides were eliminated because they are being funded at the state level. Projects included in the 2016-21 TIP for DOT Maintenance are listed below. They also include a designation for set-aside type, Block or Placeholder, as described in the section "Types of Regional Set-Asides" on page 17.

- RG15, 1810.10, Durable Pavement Markings Set-Aside, Block
- RG23, 1810.06, Traffic Signal Set-Aside for State Roads, Block
- RG37, 1806.61, HELP Program, Block
- RG37A, 1809.48, TMC Operating Costs, Block
- RG37B, 1809.49, TMC Engineering Support, Block
- RG37C, 1809.50, TMC ITS Set-Aside, Block
- RG118, 1810.07, ADA Compliance Set-Aside, Block
- RG132, 1809.96, Rustic Rail Replacement, Block
- RG133, 1810.03, Guiderail Replacement, Block
- RG134, 1808.98, State Bridge Miscellaneous Preservation, Block
- RG135, 1810.04, State Culvert Replacements, Block

- RG136, 1810.07, State Miscellaneous Pavement Maintenance, Block
- RG137, 1809.02, State Slope Repairs, Block

Transit Fund Sources

The funding of projects from transit fund sources was handled on a separate track from highway fund sources. CDTA proposed programming specifics to fully spend the estimated transit funding. Details of projects funded with transit fund sources are in the project listings and Appendix A. Some transit projects funded with highway fund sources are expounded upon in the section Transit Projects Funded with Highway Funds, on page 28.

Statewide Prioritization Program

Generally, projects that don't fit the definition of Preservation First are considered Beyond Preservation by NYSDOT. In the 2013-18 TIP, according to NYSDOT guidelines, one way to qualify for Beyond Preservation funds is to apply for such funds via the Statewide Prioritization Program (SPP). Several members of CDTC applied for projects with the result that the below projects were selected by NYSDOT for funding after the adoption of the 2013-18 TIP and subsequently added to the TIP by amendment.

- A321 (1125.18), NY 85 Reconstruction, from the Albany City Line to I-90, City of Albany, \$18.5M
- A525 (1808.21), NY 910D (Washington Avenue Extension), NY 155 to Fuller Road Rehabilitation, City of Albany \$7.2M
- SA108, S96 (1085.42) NY 146 from Aqueduct Road in Niskayuna to Riverview Road in Rexford (Clifton Park) Corridor Improvements, \$32.5M

STEP Projects

During the 2016-21 TIP Update, CDTC received no information about the NYSDOT Strategic Transportation Enhancement Program (STEP) that was initiated during the 2013-18 TIP Update.

Types of Regional Set-Asides

In order to clarify how programmed funds are spent from each regional set-aside, the different types of set-asides are defined below. Each regional set-aside has been designated as one type or the other.

- 1) **Block Funding:** These set-asides are for regional projects, usually multi-year, for which CDTC has no need or desire to approve individual elements as they are identified. The responsible agency can appropriate funds and implement projects as needed without adding the specifics to the TIP. An example would be RG15 (Durable Pavement Markings Set-Aside).

- 2) **Placeholder for Specific Projects:** These set-asides act as a budgetary placeholder in anticipation of specific projects being named later. Drawdowns on these set-asides need specific scopes and limits and need Planning Committee approval to be added to the TIP with funds taken from the set-aside. For some, a sponsor can propose a project be added from the set-aside via amendment letter and for others, CDTC will solicit for projects at a later time. The advantage of this type of set-aside over adding projects at an update is that the projects are normally small and/or not identified at the time of the update. This allows for easy inclusion by amendment later.
- 3) **Regional Set-Asides Designations:** The set-asides listed below, plus the ones listed as “DOT Maintenance” on page 16 together comprise a complete list of the set-asides in the 2016-21 TIP.
 - RG29, 1755.63, CDTC Technical Services, Block
 - RG103, 1TR7.02, Bicycle/Pedestrian Network, Placeholder
 - RG130, Travel Demand Management & Multimodal, Placeholder
 - RG131, Bus Rapid Transit, Placeholder
 - RG138, Low-Volume Roads, Bridges and Culverts, Placeholder

New Projects

As stated above, new projects were programmed from the list of candidates, with regard to NYSDOT preservation goals and fund source limitations. The new projects not already shown above are listed below. Greater detail is shown in the project listings.

- A564, Madison Avenue from New Scotland Ave. to Lark St.: Mill & Fill
- A565, Madison Avenue from New Scotland Ave. to South Lake Ave.: Mill & Fill
- A566, New Scotland Avenue from Manning Blvd. to Onderdonk Ave.: Mill & Fill
- A567, Pearl Street from Clinton Ave. to Madison Ave.: Mill & Fill
- A568, Hudson Avenue from Tibbits Ave to the Watervliet City Line: Mill & Fill
- A569, 1045.16, NY 377 and NY 378: Mill & Fill
- A570, I-787 Pavement Joint Preservation
- A571, Krumkill Road from Font Grove Road (CR 306) to the Normanskill: Cold in Place Recycling
- A572, I-787 NB Ramp over the SME to the SME WB: Element Specific Repairs
- A573, I-90 Bridge over Erie Blvd.: Element Specific Repairs
- A574, 1528.82, I-90 Bridge over Fuller Road: Element Specific Repairs
- A575, US 9W Bridge over I-787: Element Specific Repairs
- A576, NY 144 Bridge over the Hannacrois Creek: Renew or Replace
- A577, Voorheesville Pedestrian Connectivity
- A578, NY 32 (3rd Ave.) from 1st St. (South City Line) to Broadway: Mill & Fill
- A579, Watervliet Bike Path

- A580, NY 7 Bridge over the Hudson River: Element Specific Repairs
- A581, West Old State Road: New Sidewalk
- A582, 1933.44, Green Street Grade Crossing Signal Upgrade
- R308, NY 7 Bridge over the Hudson River: Element Specific Repairs
- R309, US 9 and 20 Sidewalk Construction from Bruen Court to the Rensselaer City Line
- R310, Sand Lake Hamlets Sidewalk Enhancements
- R311, CR 18 (Hoags Corner Road) from CR 15/51 to CR 20 (Totem Lodge Road): 1.5 inch Hot Mix Overlay
- R312, CR 68 (Snyder's Lake Road) Large Culvert Replacement with a Precast Box Culvert
- R313, NY 2 over NY 22 Bridge: Replacement
- R314, CR 129 (Tamarac Road): Replace Large Culvert with an Aluminum Box Culvert
- R315, US 9 Bridge over I-90 (Exit 11): Replacement
- R316, NY 2 Bridge over the Poestenkill: Replacement
- R317, 1001.37, NY 2 Slope Repair at the intersection with Stewart Rd.
- R318, East Street from Partition St. to Third Ave.: Reconstruction
- R319, CR 51 (Burden Lake Road) from CR 18 to CR 52 and First Dyke Road: 1 ½" Hot Mix
- SA295, Pruyn Hill Pedestrian Safety, Phase II
- SA296, Zim Smith Southern Trail Extension, From Coons Crossing to Elizabeth St. Ext.
- SA297, Ashdown Rd. Bridge over the DHRR: Replacement
- SA300, 1722.44, Bundled Bridge Removals & Replacements
- SA301, Geysler Rd. (CR 43), Avenue of the Pines and NY 50 Intersection Improvements
- SA302, CR 13 (Barkersville Fayville Road) over Cadman Creek: Bridge Replacement
- S238, NY 911F (Freemans Bridge) over the Mohawk River/Erie Canal
- S239, 1525.37, Michigan Avenue Bridge over I-890: Element Specific Repairs
- S240, Sunnyside Road from Freemans Bridge Rd. (NY 911F) to the Village of Scotia Line
- S241, Erie Blvd. from Union St. to Nott St.: Mill and Fill
- S242, Broadway from 0.12 miles south of Weaver St. to Fourth Street: Mill and Fill
- S243, Mohawk-Hudson Bike-Hike Trail Rehabilitation
- S244, Highbridge Rd. & East Campbell Rd.: Sidewalks

Contingent Projects

During the programming new projects from the list of candidates, it was apparent that there are some projects that received funding, that might qualify for Safety funds at a later date. If

those projects qualify for Safety funds, it would make the funding they otherwise would have received, available for additional projects. Therefore, CDTC also named two additional projects that would receive funds if they become available by some other projects receiving Safety funds.

The projects most likely to receive Safety funds are in the TIP, funded with STP-Urban, and are shown below with their total estimated costs.

- A564, Madison Avenue from New Scotland Ave. to Lark St.: Mill & Fill, \$0.642M
- A565: Madison Avenue from New Scotland Ave. to South Lake Ave.: Mill & Fill, \$0.684M

The contingent projects are not on the federal-aid program and do not show in the project listings. They are shown below with their total estimated costs.

- Candidate #103: Highbridge Road / East Campell Road, Kings Road to Hamburg Street, Pavement Preservation, \$0.666M
- Candidate #117: Rosa Road, Wendell Avenue and Nott Street Intersection, \$0.400M

ADDITION OF NEW PROJECTS IN PROGRAM DEVELOPMENT

Traditionally, projects are selected for inclusion in the TIP based on the selection cooperatively developed by the CDTC Staff, NYSDOT, CDTA, other members of CDTC's Planning Committee and other interested parties. In general, the overall process requires the identification of candidate highway and transit projects, the objective evaluation of the merits of each project, and selection of projects in accordance with a set of principles. Project selection for dedicated transit funds (FTA Sections 5307, 5309, 5310, and 5311) is considered separately.

New candidate projects are evaluated for merit in three steps.

1. **Screen:** Minimum requirements were established that each project is required to meet. These screening criteria insure that every project considered for programming has a funding plan, and is eligible for federal funds.
2. **Evaluate Merit:** A project must pass screen in order to proceed to merit evaluation. The merits of every project passing screen are evaluated and summarized on a one-page fact sheet. The merit evaluation procedure used the best available information from CDTC's models, from corridor studies, and from the project sponsor.
3. **Choose Projects:** A balanced Transportation Improvement Program (TIP) contributes to a staged regional plan for maintenance of essential facilities and services, demand management and capacity improvements. Before considering new projects, the balance of the TIP's existing commitments is examined, from a variety of perspectives -- project sponsor, geographic, and by project type. Then, projects were added to the draft TIP primarily on the quantitative and qualitative merit evaluation. This is done by project category; setting programming targets based on knowledge of the existing program balance. Prior to the 2013-18 TIP Update, this was done in two rounds. The first round added projects primarily based on the quantitative evaluation and round two funded projects for any reason, insuring an opportunity for projects whose benefits don't quantify well. But with CDTC's new evaluation procedure, which greatly enhanced the qualitative analysis, these were combined into one programming step. After public review, CDTC may program a small amount funds to additional projects, in order to respond to public comment.

The project selection process for new projects is detailed in Appendix G and the project evaluation procedure is detailed in Appendix H. CDTC follows this procedure whenever evaluating projects competing for the same funds.

RECREATIONAL TRAILS PROJECTS

The original National Recreational Trails Funding Program was authorized by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). It continued under the Transportation Equity Act for the 21st Century (TEA-21) as the Recreational Trails Program. This program continued under the SAFETEA-LU legislation. Under Map-21, it continued as a set-aside of the then new Transportation Alternatives Program (TAP). Current federal legislation, the FAST Act, incorporates Recreational Trails into a new program, the Surface Transportation Block Grant (STBG). The U.S. Department of Transportation, Federal Highway Administration (USDOT/FHWA) administers the Recreational Trails Program in consultation with the Department of Interior (National Park Service and Bureau of Land Management) and the Department of Agriculture (U.S. Forest Service).

The Recreational Trails Program is a state-administered, federal assistance program to provide and maintain recreational trails for both motorized and non-motorized recreational trail use. The Recreational Trails Program legislation requires that states use 40% of their funds apportioned in a fiscal year for diverse recreational trail use, 30% for motorized recreation, and 30% for non-motorized recreation.

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) is the state agency administering this program in New York. It offers communities the opportunity to receive this federal transportation funding in support of trail development, maintenance and improvement activities. Awards can range from \$5,000 to \$100,000 with 20% match requirements.

The following is a list of eligibility requirements for proposed projects:

- ◆ The proposed project must be legally and physically accessible to the public, or be a portion of an identified trailways project which, when completed, will be legally and physically accessible to the public.
- ◆ The proposed project must be physically and environmentally developable as a trailway.
- ◆ The proposed project must be planned and developed under the laws, policies and administrative procedures of the state.
- ◆ The proposed project must be identified in, or further a specific goal of, a recreational trail plan, or a statewide comprehensive outdoor recreation plan (SCORP) required by the Land and Water Conservation Fund Act of 1965.

The following is a list of eligible activities:

- ◆ Maintenance and restoration of existing recreational trails
- ◆ Development and rehabilitation of trailside and trailhead facilities and trail linkages
- ◆ Purchase or lease of trail construction and maintenance equipment
- ◆ Construction of new trails, subject to certain conditions in cases where the new trails would cross federal lands
- ◆ Acquisition of easements and fee-simple title to property for trails or trail corridors

There are also activities specified as ineligible as follows:

- ◆ Condemnation of property or the use of the value of condemned land toward the match requirement
- ◆ "Upgrading, expanding or otherwise facilitating motorized use or access to trails predominantly used by non-motorized trail users, and on which, as of May 1, 1991, motorized use was prohibited or had not occurred" (basically, encouraging motorized use of trails historically limited to non-motorized use)
- ◆ Conducting trail feasibility studies
- ◆ Routine law enforcement
- ◆ Trail planning if it is the sole purpose of the project
- ◆ Improvements to roads and/or bridges intended to be generally accessible by regular passenger cars unless they are specifically designated for recreational trail use by the managing agency
- ◆ Construction of paths or sidewalks along or adjacent to public roads or streets unless they would complete missing links between other recreational trails.

There are also project activities that receive special consideration as funding priorities:

- ◆ Clearly and specifically provide access for the disabled
- ◆ Mitigate and minimize impacts to the natural environment
- ◆ Utilize the youth conservation or service corps to perform construction and maintenance of recreational trails
- ◆ Receive Millennium Trails recognition
- ◆ Are on National Scenic Trails, National Historic Trails or trails designated as National Recreational Trails

CDTC approved funding for this program in previous TIP's as project RG96. Since CDTC was not directly approving specific projects, it granted approval to the entire list of specific known candidates for the CDTC area. Therefore, whichever projects receive approval from the OPRHP are on the TIP for the funding approved by the OPRHP. The TIP project listing showed an estimate of funding for each year in the TIP, and was not intended to be a required minimum or maximum.

The 2016-21 TIP does not include any funding for Recreational Trails projects.

LOW VOLUME SET-ASIDE

During the 2016-21 TIP Update, CDTC recognized the need to fund projects that don't score well in the evaluation process for the presumed reason that they are low volume facilities. Therefore, CDTC set aside \$1M per year to fund low volume (defined as having an AADT of 2000 vehicles per day or less) pavements, bridges or culverts. To be eligible, a facility must be locally-owned and eligible for federal-aid. Since bridges on non-federal-aid roads are eligible for federal-aid, they are eligible for this set-aside. Both urban and rural facilities are eligible.

The definition of "low volume" varies across the country. Less populated States, most rural regions, and smaller MPOs consider roads carrying less than 500 vehicles per day (vpd) as "low volume". FHWA's functional classification process indicates roads carrying between 1,500 and 2,600 could be classified as lower volume, depending on road location and function. As stated above, CDTC used 2000 vpd.

In CDTC's programming area, the rural federal-aid mileage totals roughly 68 center-line miles. CDTC's total local urban and rural federal-aid mileage is about 830 center line miles. Facilities carrying less than 2,000 vpd total roughly 45 miles. For reference, changing the threshold to 2,600 vpd would increase the "low volume" mileage total to 52 center-line miles.

All off-system bridges are federal-aid eligible. Based on information received from NYSDOT, large off-system culverts (5'-20') unfortunately are not federal-aid eligible except when an engineering assessment shows that a smaller culvert should be replaced by a structure. Large culverts located on facilities on the federal-aid system are federal-aid eligible.

The following projects were funded during the programming of projects during the 2016-21 TIP Update. The total funding for all projects is \$2.907M.

- A568, Hudson Avenue from Tibbits Ave to the Watervliet City Line: Mill & Fill (Total Cost is \$0.729M)
- A571, Krumkill Road from Font Grove Road (CR 306) to the Normanskill, Cold in Place Recycling (Total Cost is \$0.352M)
- R311, CR 18 (Hoags Corner Road) from CR 15/51 to CR 20 (Totem Lodge Road): 1.5 inch Hot Mix Overlay (Total Cost is \$0.085M)
- R312, CR 68 (Snyder's Lake Road) Large Culvert Replacement with a Precast Box Culvert (Total Cost is \$0.351M)
- R314, CR 129 (Tamarac Road): Replace Large Culvert with an Aluminum Box Culvert (Total Cost is \$0.613M)
- R319, CR 51 (Burden Lake Road) from CR 18 to CR 52 and First Dyke Road: 1 ½" Hot Mix Overlay (Total Cost is \$0.366M)
- S240, Sunnyside Road from Freemans Bridge Rd. (NY 911F) to the Village of Scotia Line: Cold Recycling (Total Cost is \$0.411M)

TRANSIT PROJECTS FUNDED WITH HIGHWAY FUNDS

Introduction

While CDTA has access to capital and operating funds through the Federal Transit Administration and Title III of the FAST Act, there are some transit projects on the CDTC TIP that utilize highway funds. However, the limited availability of federal funds coupled with large needs throughout the region for basic road and bridge infrastructure maintenance further strained resources available to transit.

During the 2016-21 TIP Update CDTC added two set-asides for CDTA use. These are detailed below.

RG130: Multimodal and Travel Demand Management (TDM)

The Multimodal and TDM set-aside provides transportation options to integrate transit and other modes of travel, manage congestion, and improve mobility at the regional level. As the region's leading transportation provider, CDTA is not only interested in moving people by buses but it also supports using existing transportation infrastructure (roads and bridges) as efficiently as possible. This calls for a multitude of programs that reduce travel in single-occupant vehicles. The funding for this project is \$3.0 M over five years (\$0.60 M per year).

Specific multimodal and TDM programs include:

- Mobility Management – Carshare expansion, bikeshare implementation, travel training assistance for elderly / disabled, assistance with taxi coordination
- Pedestrian-Transit Infrastructure Improvements – Sidewalk construction, traffic calming, traffic signal improvements, crosswalk enhancements, etc. specifically targeted toward areas with existing or potential for high transit ridership
- Transit Park & Ride – Purchase or extension of existing leased park & rides, establishment of new park & rides, green infrastructure, electric vehicle technology
- Mobile Fare Collection Implementation – CDTA's new Navigator smart card and mobile fare collection system makes travel easier, which encourages people to rely on their single occupant vehicle less often, thereby decreasing greenhouse gas emissions throughout the region

RG131: Bus Rapid Transit (BRT)

The BRT set-aside will assist CDTA in securing \$120 million in Federal funding to implement the new River Corridor BRT (Blue Line), Washington/Western BRT (Purple Line) and to make improvements to the existing NY5 BRT (Red Line) and other corridors in need of BRT amenities and features. These three BRT lines serve corridors containing 60% of the region's transit ridership and include all 4 counties and 11 municipalities in CDTA's service area. The

funding will be used to construct aspects of the each line (e.g. Uncle Sam Transit Center) and to leverage remaining funds from the FTA Small Starts Program. The funding for this project is \$13.7 M over five years (\$2.74 M per year).

Specific BRT investments include:

- Stations – Structure, site work, utilities, street amenities, security features, and pedestrian/bicycle safety improvements of surrounding area
- Transit Priority Infrastructure – Queue-jumpers, transit signal priority, traffic signal upgrades/replacements, bus-only rights of way
- Vehicles & Maintenance – BRT branded fleet, articulated buses, garage improvements
- Transit Centers – Construction of Uncle Sam Transit Center and Crossgates Transit Center, planning/design for transit centers in Downtown Albany and Schenectady

LOCAL ADVANCEMENT OF PROJECTS

Prior to the 1997-02 TIP, TIP projects were normally advanced by NYSDOT or CDTA. Beginning with the 1997-02 TIP, local (county, town, city, village or other) agencies advanced design of projects on facilities under local jurisdiction. By the time of the adoption of the 2007-12 TIP, local agencies had brought several consequential projects through design, to construction and completion. It is now considered routine for local agencies to be the lead (or implementing) agency. It is also now assumed that a local agency is the implementer of a project under its jurisdiction.

Still, NYSDOT involvement is essential in the implementation process, both as a repository of information and as an intermediary between the local agency and FHWA. An established reimbursement procedure and Municipal Agreement process is followed. For this to occur, the understanding is that the sponsoring agency will assume the lead in project development. The lead agency also takes responsibility for ensuring consistency of the project with the scope and cost approved in the TIP. Thus, delivering the ambitious agenda of projects included in the TIP is a shared responsibility.

FINANCING AGREEMENT FOR ALBANY-SHAKER ROAD AND WATERVLIET-SHAKER ROAD PROJECTS

Background

In response to growing development pressures in the early 1990s that included plans to reconstruct and expand the Albany International Airport, the Town of Colonie and Albany County initiated a planning effort called the Albany County Airport Area Generic Environmental Impact Study (GEIS) to develop a comprehensive plan for addressing the impacts of future growth in the area. The GEIS recommended eleven transportation actions and a plan for financing the implementation of those improvements. The plan called for careful strategy of managing development, demand management to reduce peak hour travel, and for a public/private partnership to advance 20 major roadway and transit projects. The cost of the recommended plan totaled \$125 million. The transportation analysis determined that private resources – in the form of cash, right-of-way, and design services – should cover roughly 35-40 percent, or about \$49 million of the cost of all recommended improvements.

The plan further called for: (1) placing Northway access improvements (Exit 3 or 4) entirely in the hands of the public sector for financing; (2) covering the cost of several other projects largely precipitated by local development by a combination of developer contributions and mitigation funds; and (3) jointly financing some improvements, like the Albany Shaker Road and Watervliet Shaker Road project, with a mix of public and private funds.

TIP Programming of Albany Shaker Road and Watervliet Shaker Road Projects

Largely on the strength of the GEIS initiative, the Town and County's commitment to integrated transportation and community planning, and a financing plan that respected CDTC's adopted public/private financing policy, CDTC's Policy Board added the Albany Shaker Road/Watervliet Shaker Road project to the region's Transportation Improvement Program in 1997. The project was added with the understanding that the standard funding splits (80 percent Federal, 15 percent State, and 5 percent local) would have to cover half the cost of the project. Based on GEIS development forecasts, it was assumed that a combination of mitigation funds and right-of-way donations would cover the balance of the total cost of the project.

For this project, total costs (design, right-of-way, construction, and change-order) totaled \$29.6 million. The TIP required that the public share would total no more than 50 percent of the project costs, or \$14.8 million. The balance would be covered by available mitigation funds and supplemented with other public funds which would be reimbursed with mitigation funds as they are collected.

Exploration of Alternative Funding Methods to Cover the Cost of the Private Share

At the time this project was programmed, CDTC participants recognized the possibility that all the mitigation funds needed to cover 50 percent of project costs might not be "in the bank" prior to letting the project, and that it would be necessary for the County -- as owner of the two roadways -- to advance some of the project costs with County funds or bond proceeds. If this were to happen, the County would be reimbursed by mitigation funds as development occurred.

Concerns over the pace of mitigation fund receipts and Albany County's responsibilities for advancing funds to cover project costs while awaiting the collections led to exploration of alternative funding methods during the development of the 1999-04 TIP. While the development plans in the airport area and the mitigation responsibilities assigned to specific projects seeking town approval were keeping pace with expectations at the time of GEIS adoption, the amount of mitigation funds collected, unspent and in escrow was modest. This is partly because funds are not fully collected until the completion of individual development projects and partly because a good portion of the mitigation responsibilities are kept "on paper" until roadway designs are complete and right-of-way credit is determined. The current 2008-10 recession further slowed the collection of mitigation funds because of the slowdown in new development in the Airport area and elsewhere in the Town.

The CDTC-NYSDOT-County-Town TIP Agreement

Under federal law, CDTC may finance projects at any federal participation level up to 80 percent. Thus, no outside approval is needed for CDTC to use federal funds to cover up to 80 percent of the private share of the Albany Shaker and Watervliet Shaker Road projects at the time the funds are obligated, and replenish these funds to the TIP as mitigation costs are collected. With this in mind, CDTC adopted the following provisions in 1999 to govern the financing of these two projects:

1. Albany County committed to full 20 percent non-federal share for remaining public share of the two projects, and would receive Marchiselli funds to offset 75 percent of this share.
2. CDTC committed to cover up to 80 percent of the private half of projects and established procedures for mitigation costs to replenish these funds to the TIP.
3. Mitigation costs "in hand" at the time of the loan would be applied against the requirement for a 20 percent match on the federal share for the private half. Any additional mitigation funds in hand at the time of the loan would reduce the size of the federal commitment on the private half of the projects.
4. As further mitigation costs assigned to the corridor are received by the Town, these funds are to be held in escrow by the Town. They would then be applied to other TIP projects in the GEIS area to reduce the public share of these other projects. For

example, they could be applied through a "betterment" agreement between the Town and State to reduce the Federal costs of intersection improvements related to project A240 (Exit 3) or similar planned actions that are slated for Federal funding.

5. CDTC retained the liability to adjust future TIP commitments should mitigation costs prove insufficient over time. Should mitigation costs prove insufficient, CDTC will end up having committed a greater amount of federal funds on these projects than initially intended, but will also end up having a facility with greater reserve capacity for through traffic than initially intended. The final federal share would end up being a share that matches the CDTC public-private financing policy.
6. When mitigation funds reach a total that covers the repayment installments, additional funds are to be kept in escrow to undertake future improvements in the corridor.

In addition to CDTC approval, NYSDOT, CDTC, Albany County, and the Town of Colonie agreed to jointly concur on financial responsibilities, mitigation cost transactions, and future betterments. This practice does not require formal NYSDOT or Federal concurrence.

Distribution of Mitigation Fees to the Albany Shaker Road And Watervliet Shaker Road Projects

As of April 1, 2016 roughly \$24 million in development mitigation funds and right-of-way contributions have been collected for all Airport area FGEIS projects, of which \$11 million, including about \$3 million in right-of-way and other credits, has been allocated to the Albany Shaker Road and Watervliet Shaker Road projects. CDTC has covered the entire \$15.0 million mitigation share with federal-aid, and includes the \$7.7 million shortfall at the time the projects were let in 2001. (Including construction cost increases, the shortfall totaled \$10.6 million). As of April 1, 2016, it looks like an additional \$5.2 million in mitigation funds will be needed to "pay back" the federal advance. These "paid back" funds can be used to cover a portion of the costs of other federal-aid projects in the FGEIS plan. A detailed review of the mitigation cost program may be undertaken during 2016.

**TRANSPORTATION ENHANCEMENT PROGRAM (TEP),
TRANSPORTATION ALTERNATIVES PROGRAM (TAP), SURFACE
TRANSPORTATION BLOCK GRANT (STBG)**

"Second Chance" Enhancements Program

CDTC's commitment to bicycle, pedestrian, and canal projects goes beyond the federal Enhancement funds. At its May 27, 1999 meeting, the CDTC Policy Committee voted to endorse the 1999-04 Transportation Improvement Program, which included as project RG83 a "second chance" program setting aside \$1 million of STP-Flex funds for "high priority" Transportation Enhancements Program candidates not funded in Round One of the TEP. Following the March 21, 2000 announcement of statewide selection of projects for Round One of the Transportation Enhancements Program, CDTC solicited the responsible agencies for the highest-ranked unsuccessful candidates to inquire as to whether they wished to submit their proposals for consideration under the CDTC program. Three additional proposals were selected for funding as a result of this process: the City of Saratoga Springs' Spring Run Trail project (SA181); Schenectady County's Mohawk-Hudson Bike-Hike Trail project (S156); and the Town of Malta's Ruhle Road Bridge project (SA182).

Transportation Enhancements Program Under TEA-21

On June 26, 2001, CDTC sent letters to local communities and other potential applicants under New York State's second round of the TEA-21 Transportation Enhancements Program. CDTC evaluated all applications within CDTC's TIP area and identified a short list of high priority projects, which NYSDOT compared with submissions from across the state in selecting projects for funding. Five CDTC area proposals were selected for Enhancements Program funding:

1. Albany County's Mohawk-Hudson Bike-Hike Trail: Widening and Resurfacing and Amenities (A425)
2. The Town of East Greenbush's Sherwood Avenue Sidewalks (R229)
3. Zim Smith Mid-County Trail (SA195)
4. Saratoga County's Historic Hadley Bow Bridge (SA196), and
5. The Town of Glenville's Glenville and Scotia Sidewalks (S161)

Enhancement-Type Projects Funded with Flexible Funds

CDTC has also used additional funds (beginning with the 1997-02 TIP and continuing through the 2005-10 TIP) for bicycle, pedestrian, and canal projects. The intention is to administer these projects as if they were Enhancement Program projects. The significance of this is two-fold:

1. The Enhancement program was administered as a grant program. The federal contribution is fixed at the time of project programming at a maximum of 80% of project cost. *Any cost increases above 80% of the original project cost estimate are the responsibility of the project sponsor to absorb. Any cost decreases cannot have the effect of increasing the federal share above 80%.*
2. An agreement is negotiated with the project sponsor for project implementation. The project sponsor is the lead agency and builds the project on a reimbursement basis.

Since the original set of enhancement-type projects, others have been added. In some cases, the local match exceeds 20%. The TIP listings include a notation in the project descriptions for these projects that they will be administered as Enhancement projects (regardless of federal funding source) and that the federal contribution is capped at the specified percentage of the original total cost estimate.

TABLE 1

ENHANCEMENT PROJECTS FUNDED WITH FLEXIBLE FUNDS

TIP#/PIN	SPONSOR	PROJECT
A377/1754.67	Voorheesville	Pedestrian Circulation
A406/1755.61	Albany (County)	Albany County Sign Management
A407/1755.62	Albany (City)	City of Albany Sign Management
A425	Albany County	Mohawk-Hudson Bike-Hike Trail
A436	Guilderland	McKownville/Western Avenue Sidewalks
A437	Cohoes	Hudson-Mohawk Bike-Hike Bridge Rehabilitation
A492	Cohoes	Erie Canal Heritage Trail
R178/1754.52	Troy	Troy-Menands Bridge Bicycle Access
R197/1754.69	Rensselaer (City)	Washington Avenue Sidewalks
R198/1754.70	North Greenbush	Brookside Avenue Sidewalks
R223/1755.66	Troy	Troy Pedestrian Bicycle Trail
R229	East Greenbush	Sherwood Avenue Sidewalks
R267	East Greenbush	Luther Rd (NY 151) Ped/Bicycle Access Improvements
SA136/1754.57	Saratoga Springs	Downtown Pedestrian Improvements
SA158/1754.71	NYSOPRHP	Peebles Island Bridge (Waterford)
SA160	Saratoga Springs	Pedestrian Improvements on Broadway
SA165	NYSTA	Rehabilitation of Lock C-5
SA181/1755.93	Saratoga Springs	Spring Run Trail Construction
SA182	Malta	Ruhle Road Pedestrian Bridge
SA195	Saratoga County	Zim Smith Mid-County Trail
SA196	Saratoga County	Historic Hadley Bow Bridge Preservation
SA200	Halfmoon	Canal Road Bike Path
SA238	Clifton Park	Erie Canal Towpath Connector
SA239	Milton	Sidewalk and Curb Project
SA246	Saratoga County	The Dix Bridge Rehabilitation Project
S140/1754.63	Schenectady (City)	Mohawk-Hudson Bikepath Improvements
S141/1754.65	Schenectady (City)	Rail corridor bridge improvements
S142/1754.64	Schenectady (City)	Kings Road sidewalks
S143/1754.66	Glenville	Lock 8 Bicycle and Pedestrian Access
S146	Schenectady (City)	State Street Transportation Corridor Streetscape
S156	Schenectady County	Mohawk-Hudson Bike-Hike Trail Connector
S161	Glenville	Glenville & Scotia Sidewalks
S165	NYSTA	Mohawk-Hudson Trail: Rotterdam Jct to Amsterdam

Transportation Enhancement Program under SAFETEA-LU

In April of 2006, NYSDOT began solicitation for the first round of the Transportation Enhancement Program (TEP) under SAFETEA-LU. A review team with representatives from CDTC Staff, CDTA, NYSDOT Region 1, NYS Department of Health, and Parks and Trails New York evaluated all of the applications within CDTC's TIP area and developed a prioritized list of projects. This list was then forwarded to the Transportation Enhancements

Advisory Committee (TEAC) where submissions were compared from across the state. Four CDTC area proposals were selected for Enhancements Program funding:

1. Clifton Park’s Erie Canal Towpath Community Connector (TIP#)
2. The Town of East Greenbush’s Luther Rd (NY 151) Pedestrian and Bicycle Access Improvements (TIP#)
3. The City of Cohoes’ Erie Canal Heritage Trail
4. Milton’s Sidewalk and Curb Project

The second round of SAFETEA-LU enhancements began in 2008. In May of 2008, CDTC sent out solicitation letters and program information packets to all of the municipalities in the Capital District. A review team with representatives from CDTC Staff, New York State Department of State, the New York State Department of Health and CDRCP reviewed the applications using the evaluation criteria approved by the Planning Committee in May of 2008. A list of prioritized projects was forwarded to the Transportation Enhancements Advisory Committee (TEAC) where submissions were compared from across the state. NYSDOT did not participate in the MPO review of this round. Two projects in the CDTC area were selected for funding:

1. Day Peckinpaugh Motorship museum (removed from TIP)
2. Dix Bridge Rehabilitation Project (SA 253)

After the Adoption of the 2013-18 TIP

CDTC participated in a regional review for Transportation Enhancement Program projects in 2013. Applications were due to NYSDOT by August 16, 2013. A collaborative review team composed of representatives from CDTC, AGFTC, NYSDOT, Essex County, and Greene County reviewed, rated, and ranked all proposals submitted within the NYSDOT Region 1 area.

Funded projects were formally announced in January of 2014, as follows, and were thereafter added to the Transportation Improvement Program:

Name	Sponsor	County	TEP Amount	Project Amount
Delaware Avenue Hamlet Multi-Modal and Streetscape Enhancements	Town of Bethlehem	Albany	\$1.2M	\$3.1M
North Central Avenue Pedestrian Safety Project	City of Mechanicville	Saratoga	\$0.4M	\$0.5M

Transportation Alternatives Program

MAP-21 discontinued the Transportation Enhancement Program and created a Transportation Alternatives Program (TAP). The TAP provides funding for on- and off-road

pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.

MAP-21 specified suballocations to metropolitan areas. Because the Albany-Schenectady-Troy metropolitan area is over 200,000 people, MAP-21 stipulated that CDTC was responsible for selecting the successful TAP projects within that region. A statewide collaboration among NYSDOT and metropolitan planning organizations agreed to coordinate the application process, using the same timeline, eligibility, and rating and ranking criteria. Further, CDTC agreed to collaborate with NYSDOT, A/GFTC, and Essex and Greene Counties in the rating and ranking process, while ensuring that the suballocations for the Albany-Schenectady-Troy and Saratoga Springs metropolitan areas were spent in those areas.

In October 2014, the following projects in CDTC’s area were formally announced and subsequently added to the Transportation Improvement Program:

Name	Sponsor	County	TAP Amount	Project Amount
Pedestrian Improvements for Public Transit in Albany, Troy and Cohoes	Capital District Transportation Authority	Albany/Rensselaer	\$1.600M	\$2.050M
Central Park – Downtown Schenectady Trail Connection	City of Schenectady	Schenectady	\$1.101M	\$1.377M
Geyser Road-Spa State Park Bicycle-Pedestrian Trail	City of Saratoga Springs	Saratoga	\$1.600M	\$2.099M

Surface Transportation Block Grant (STBG)

The FAST Act formally repealed the Transportation Alternatives Program, but kept funding for those types of projects alive as part of the Surface Transportation Block Grant (STBG). TIP projects that have been funded with STP Enhancement or the MAP-21 TAP funding that weren’t obligated by the beginning of the FAST Act utilize the funding from their otherwise discontinued fund sources.

BICYCLE AND PEDESTRIAN SET-ASIDE RG103

Introduction

The RG41 “Spot Improvement for Bicycle and Pedestrian Access” program was established in 1997 and the RG103 “Bicycle and Pedestrian Network Set-Aside” was established in 2007. In the previous TIP update, RG103 and RG41 were combined to form RG103. This set-aside is the mechanism for funding projects that improve or maintain the Region’s bicycle and pedestrian infrastructure.

Gaps in the transportation system, like stretches of roadway with no safe space to walk or destinations that lack secure bicycle parking, are obstacles to providing safe, non-motorized access to those who cannot or choose not to own or drive a car. Despite increases in CDTC’s Bicycle & Pedestrian Network Set-Aside, formerly known as the “Spot Improvement” program, the need to maintain and connect to the non-motorized transportation system is greater than the amount of funding available.

New Visions

New Visions 2040 reaffirms CDTC’s commitment to investing in bicycle and pedestrian infrastructure. New Visions Investment principle 5 is:

“Bicycle and Pedestrian Transportation – Bicycle and pedestrian travel is vital to the region’s public health, transportation, and the economy. Encouraging bicycle and pedestrian travel is a socially, economically, and environmentally responsible and healthy approach to improving the performance of our transportation system. Possible bicycle/pedestrian related improvements will be considered from the perspective of developing a system – not just based on whether a particular facility is currently used. That system of sidewalks, bike lanes, and trails will encourage safe bicycle and pedestrian use and will increase accessibility.”

While there have been no wholesale increases in transportation funding, and all transportation infrastructure, especially roads and bridges, continues to deteriorate, it is CDTC’s philosophy to make incremental progress in improving and expanding the bicycle and pedestrian transportation system.

New Projects in the 2016-21 TIP

During the 2016-21 TIP Update, CDTC replenished RG103 with \$5.0M of STP-Flex funds. CDTC then drew down on those funds for the projects listed below. Note that these projects are also shown in the list of all new projects on page 18.

- A577, Voorheesville Pedestrian Connectivity
- A579, Watervliet Bike Path
- A581, West Old State Road: New Sidewalk

- R309, US 9 and 20 Sidewalk Construction from Bruen Court to the Rensselaer City Line
- R310, Sand Lake Hamlets Sidewalk Enhancements
- SA295, Pruyn Hill Pedestrian Safety, Phase II
- S243, Mohawk-Hudson Bike-Hike Trail Rehabilitation
- S244, Highbridge Rd. & East Campbell Rd.: Sidewalks

NEW VISIONS AND THE TIP

The New Visions Regional Plan

The CDTC New Visions 2040 Plan includes a set of principles to guide transportation planning and investment in the region for coming years. It also articulates a series of short-range and long-range recommendations and actions to help achieve broad regional goals, and provided an innovative budget approach to ensure implementation of the plan.

Today, it is widely accepted across the Capital District that transportation investments can add significantly to community quality of life; that transit, bike, pedestrian, goods movement and aesthetic features are equally as important as motor vehicle accommodation in highway design; that technology can be used to assist the traveler; and that ensuring economic and environmental health is an important objective of the transportation system

New Visions reflects a regional consensus of residents, businesses, state and local government representatives and transportation providers to use transportation and public policy to:

- Promote sustainable economic growth with good-paying jobs
- Revitalize urban areas
- Help build community structure in growing suburbs
- Preserve open space and agricultural land
- Make communities more walkable and livable
- Provide meaningful transit options
- Connect all residents with job opportunities
- Manage increasing traffic congestion and maintain reasonable mobility on the highway system
- Encourage land use and transportation planning

Full implementation of the New Visions 2040 Plan means steady progress with physical and technological improvements to the region's transportation system, coupled with significant land use and demand management actions that dampen the rate of travel growth. The plan focuses on managing and redesigning existing facilities, services and ways of doing business more than on physically expanding the system.

CDTC and its members have worked hard over many years to implement the New Visions plan. To a greater degree than typical for MPOs, CDTC has linked the plan to implementation. Progress has been and continues to be made across all project categories. Continued dialogue and discussion of transportation and land use policy has reaffirmed the basic New Visions plan and budgetary priorities. New Visions program recommendations ranging from a spot improvement program to significant funding for integrated transportation and land use planning have been successfully instituted by CDTC.

Programming Principles

The New Visions plan includes programming principles and a budget that calls for "comparable progress" across multiple project types is stated.

New Visions principles follow four themes:

- Preserve and manage the existing investment in the region's transportation system.
- Develop the region's potential to grow into a uniquely attractive, vibrant, and diverse metropolitan area.
- Link transportation and land use planning to meet the Plan's goals for urban investment, concentrated development patterns, and smart economic growth.
- Plan and build for all modes of transportation, including pedestrian, bicycle, public transit, cars, and trucks.

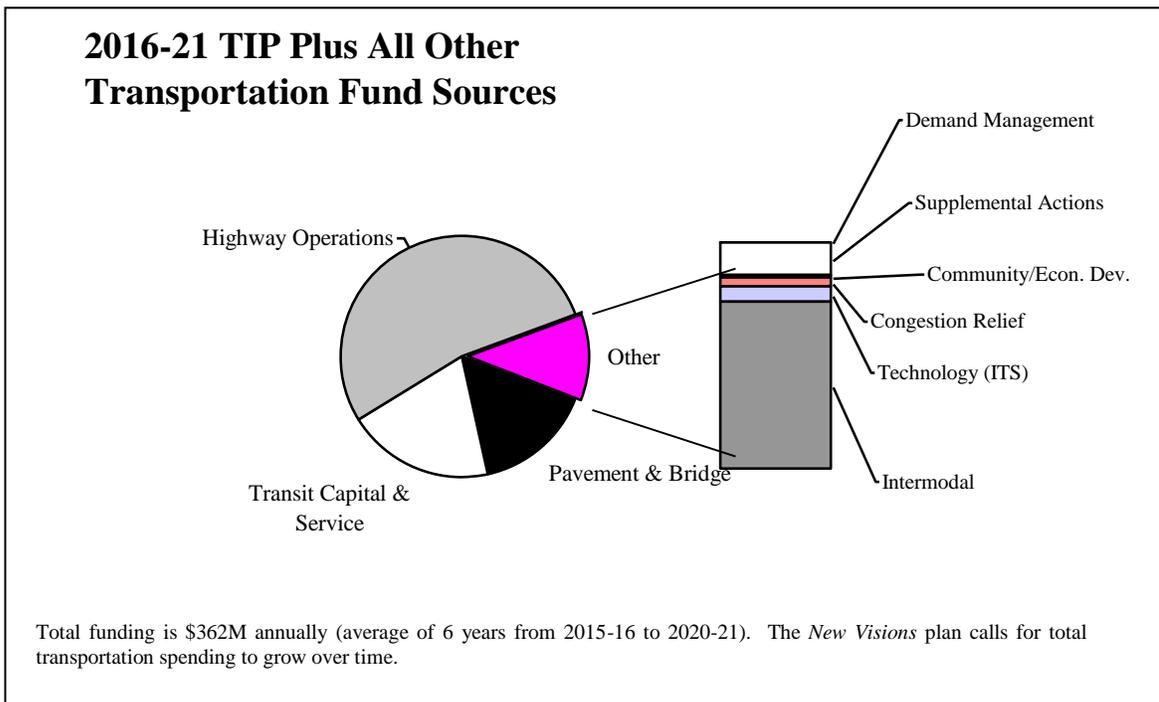
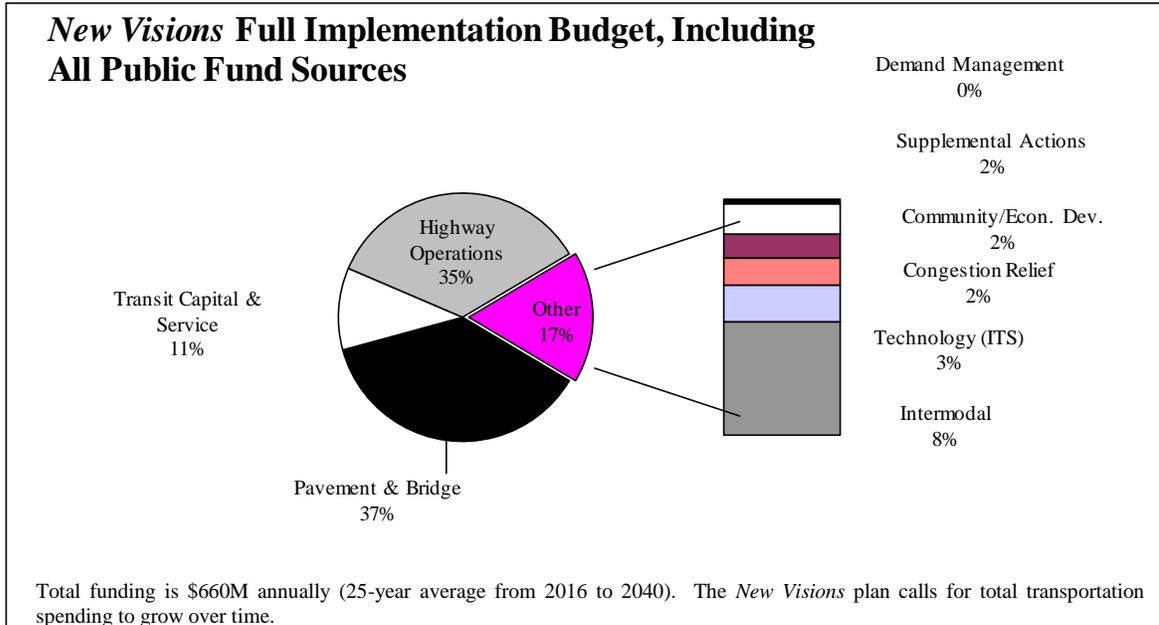
In addition to the direct budgetary link between the New Visions plan and the TIP, there are a number of policy linkages as well. Integration of the planning and investment principles adopted in New Visions influenced every aspect of TIP development, from the types of projects solicited from sponsors to the evaluation criteria used. Implementation of the projects in the TIP will continue to rely heavily on a multimodal performance-based approach to project development that takes into account community compatibility and economic development concerns.

New Visions budgets include all fund sources (federal, state and local) over twenty years. The two pie charts on the next page compare annualized New Vision budget targets by project type with the overall transportation-funding picture for the 2013-18 period. The contribution of the federal-aid program to meeting important regional goals in transportation is highlighted. While federal-aid provides for less than 25% of the total expenditures, it provides for significantly larger share of system improvements.

The budget is overwhelmingly dominated by system preservation – "state of good repair" categories. Highway and bridge operations, maintenance, rehabilitation and reconstruction categories alone account for 70% of the annual budget requirement. However, work in these categories includes corrective and preventive work on transit, bicycle and pedestrian accommodations, and in some cases new accommodations where none existed before. It also often includes replacement of some or all of existing water lines and sewer systems and can include other utility work.

"Supplemental Actions" includes stand-alone bicycle and pedestrian accommodations, safety improvements, and goods movement actions, beyond those improvements incorporated into other projects. Using the federal-aid program to fund these types of projects is a major factor in the achievement of a high degree of correlation between the long range budget targets and the short-range capital program.

FIGURE 1: COMPARISON OF NEW VISIONS BUDGET TO TIP



PROJECT SELECTION FROM, AND AMENDING, THE TIP

Federal law requires that all projects in a given TIP be given a rank, which determines the order in which they may be obligated. CDTC has assigned the year of the element as the rank. So, all elements in the first year of the TIP are given top priority, and the projects in the second year are given second priority, etc. This, and the need for updates to project costs and scopes, as well as the addition and deletions of projects and project elements, necessitates that procedures be in place to make changes to TIP projects in between TIP Updates. Therefore, responsibility to make changes to the TIP is shown in the chart below.

There are a few procedures or principles that are not explicitly stated in the table of guidelines, but are just as much a part of those guidelines:

- A) Changes from 1) any federal fund source to NHPP and 2) any STP fund source to any other STP fund source are covered in sections 3a and 3b, respectively. Section 3c, “Change between any other Title I federal fund sources” requires additional clarification too large for a footnote to the table. A change between any other Title I fund sources would be require Planning Committee approval. In such cases, in order to approximate equity with other candidate projects, the Planning Committee should consider the priority of the subject project relative to other candidates that did or will compete for those funds. This could necessitate that the project be evaluated and compared to projects in the previous solicitation.
- B) Any action explicitly taken by the Planning Committee cannot be overridden by anything less than a Planning Committee action.
- C) For a project that is both non-CDTA and non-state but the responsibility for a change lies with CDTA or NYSDOT, consent is also required of the project implementer and (if different) also the owner of the facility or whoever is responsible for the local match.
- D) If the same action can fit more than one description in the table, the one requiring the highest action is used. For example, a project consisting of \$0.600M in matched federal-aid could have the fund source switched to local. This is a fund source switch (3)(d) requiring only NYSDOT or CDTA approval, and it is also a deletion of a project from the federal-aid program (1)(c), since all federal funds are being removed, requiring Policy Board action. Therefore, the change requires Policy Board action as the deletion of a project from the federal-aid program (1)(c).
- E) An amendment normally requiring Planning Committee approval, linked to another amendment requiring Policy Board approval, also requires Policy Board approval.
- F) In the guidelines table, 1(h), “Combining a non-preservation project with any other(s)” requires Planning Committee because it is not necessarily desirable to combine any two specific projects. The reasons for that can vary and need to be considered on a case-by-case basis.

TABLE 2

GUIDELINES FOR TIP CHANGES

Type of Change	Responsibility		
	¹ CDTA or NYSDOT	² Planning Committee	Policy Board ³
(1) Addition or Deletion			
(a) Addition of project(s) from regional set-asides			
(i) From placeholder set-asides	---	Approve	---
(ii) As part of a project solicitation	---	Recommend	Approve
(b) Addition/deletion of project under or equal to \$0.500M	---	Approve	---
(c) Addition/deletion of project over \$0.500M	---	Recommend	Approve
(d) Addition/deletion of project element less than or equal to \$0.250M ⁴	Approve	---	---
(e) Addition/deletion of project element over \$0.250M ⁴	---	Approve	---
(f) Addition of Transportation Alternatives project after approval by state advisory committee	---	Approve	---
(g) Combining two or more existing preservation projects ⁵	Approve	---	---
(h) Combining a non-preservation project with any other(s)	---	Approve	---
(i) Other	---	Recommend	Approve
(2) Scope and Cost (Increase or Decrease)			
(a) Over 25% (minimum \$250 k) or over \$500 k ⁶	---	Approve	---
(b) Over 50% (minimum \$1M) or over \$3M ⁶	---	Recommend	Approve
(c) Scope change necessitating recalculation of system-level air quality conformity of non-exempt project	---	Recommend	Approve
(d) Other significant scope change ⁷	---	Approve	---
(e) Other	Approve	---	---
(3) Fund Source Change			
(a) Change from any federal fund source to NHPP	Approve	---	---
(b) Change from one STP fund source to another	Approve	---	---
(c) Change between any other Title I federal fund sources ⁸	---	Approve	---
(d) Change from federal to non-federal fund source	Approve	---	---
(e) Change from non-federal to federal fund source	---	Recommend	Approve
(f) Change between Title III federal fund sources	---	Approve	---
(g) Any other federal fund source change	---	Recommend	Approve
(4) Schedule Change			
(a) All affected project elements are contained in the first four years of the TIP before and after the schedule change ⁹	Approve	---	---
(b) Any other schedule change	---	Approve	---

¹ CDTA has authority for transit fund sources and NYSDOT for highway fund sources.

² Changes requiring Planning Committee action are minor TIP amendments. The Planning Committee may defer approval to Policy Board, if desired.

³ Changes requiring Policy Board action are major TIP amendments.

⁴ A project element is a phase of the project (such as right-of-way acquisition), in one FFY funded by one fund source.

⁵ Proper documentation still needs to be provided to CDTC Staff. Also, for a scope change to, or removal of, one of the original projects, a scope change would be required.

⁶ Percentages are of total project five-year plus committed column federal cost. Use of toll credits increases the percentage.

⁷ A significant scope change is a significant change to the project limits, type or scope.

⁸ Change from a capital fund source to Metropolitan Planning Funds (PL) requires UPWP action by CDTC.

⁹ This includes funds programmed in the "Committed" column of the TIP that are not obligated by September 30 of the Committed fiscal year.

PLANNING AND PROGRAMMING FOR HUMAN SERVICES TRANSPORTATION

5310 Program: Enhanced Mobility of Seniors and Individuals with Disabilities

MAP-21 consolidated the New Freedom program (Section 5317) into the Section 5310 Enhanced Mobility of Senior and Individuals with Disabilities Program. Accordingly, Section 5310 solicitations now request project proposals for New Freedom type activities in addition to traditional Section 5310 projects. At least 55% of the available funding awards must be programmed for traditional Section 5310 capital projects while the remaining 45% of funds allocated to an area may support public transportation projects that exceed the requirements of the ADA, projects that improve access to fixed-route service and decrease reliance by individuals with disabilities on complementary paratransit, and alternatives to public transportation that assist seniors and individuals with disabilities. Use of Section 5310 funds may be for the capital and/or operating expense of transportation services to seniors and/or individuals with disabilities. See: http://www.fta.dot.gov/documents/C9070_1G_FINAL_circular.pdf for a listing of eligible projects under the two categories: 1) Eligible Capital Expenses that Meet the 55% Requirement; 2) Other Eligible Capital and Operating Expenses pages III-1- to III-15.

Another change to the 5310 program allowed MPOs, such as CDTC, to take over the administrative responsibility for the 5310 program as the designated recipient for large urbanized areas. However, CDTC and all MPOs in New York State requested that NYSDOT retain administrative responsibility for the 5310 program. While NYSDOT agreed to assume this administrative responsibility for the overall program and selected projects, MAP-21 requires that MPOs participate in the evaluation and selection of proposed 5310 projects in their metropolitan planning area. Selected projects must be listed in the MPOs Coordinated Plan and Transportation Improvement Program (TIP) and NYSDOT's Statewide Transportation Improvement Program or STIP.

In addition, funds are no longer distributed directly to the State and administered exclusively by NYSDOT. Pursuant to MAP-21, large and small urbanized area funding is now sub-allocated to those areas. Rural area funding is still distributed directly to the state.

This program continues to provide funds for capital projects such as human service agency vehicles, related equipment and mobility management; other non-capital or operating projects such as development of a regional driver training curriculum are now also eligible.

2015 5310 Program Project Solicitation Process and Results

For the 2015 solicitation, \$47.5 million in funding was available for areas within New York State covering federal fiscal years 2013 through 2015. Within the CDTC planning area funding is allocated to the two urbanized areas as follows: \$ 1,617,238* for Albany-

Schenectady-Troy and \$384,215* for the Saratoga Springs urbanized area. (*FFY 13, 14 and the amount estimated for FFY 2015).

The solicitation for projects opened at the end of April 2015 and applications were due June 8, 2015. NYSDOT set up the application process, in consultation with the NYS MPOs, and will administer the program both on the FTA procedures and requirements side and with sponsors of funded projects. NYSDOT established an electronic grant application and project tracking process that all applicants were required to use.

CDTC established a Rating and Ranking Committee to evaluate and select projects based on priorities and requirements set forth in the Coordinated Public Transit-Human Services Transportation Plan in effect at the time of the solicitation, which was the plan previously adopted by CDTC in 2011. (CDTC subsequently adopted a Coordinated Plan Update in September 2015. See: <http://www.cdtcmpo.org/rtcc/plan2015.pdf>)

CDTC's Rating and Ranking Committee included representatives from the: NYS Office for the Aging, NYS Education Department Adult Career and Continuing Education Services-Vocational Rehabilitation (ACCESS-VR), NYS Department of Health (DOH) Disability and Health Program, NYSDOT Region 1 Planning and CDTC Staff.

Seven applications were submitted: six within the Albany-Schenectady-Troy urbanized area and one (1) within the Saratoga Springs urbanized area. Six proposed projects were for replacement human service agency vehicles (one project included vehicles both for replacement an expansion of service) and there was one mobility management project.

Available federal funds for both urbanized areas within the CDTC planning area exceeded federal funds requested by applicants therefore it is anticipated that there will be a solicitation in the Spring 2016 for the remaining federal funds.

NYSDOT provided an electronic score sheet used by the evaluators. Each member of the CDTC Rating and Ranking Committee completed their reviews and submitted their scorecards. CDTC Staff then averaged the reviewer's individual scores resulting in passing scores for each of the seven proposed projects. (NYSDOT guidance indicated any projects receiving review committee scores less than 70 points would not be considered eligible for 5310 funding.) The results of the evaluations were submitted to CDTC's Planning Committee for their consideration at the July 1, 2015 meeting. The Planning Committee voted to approve the seven projects. As a result, these projects were placed on CDTC's TIP and the STIP.

Table 3 below includes details on each project. Each of the projects is considered a "traditional Section 5310 project", therefore the 55% threshold for use of funds for these types of projects within each urbanized area has been met.

TABLE 3

2015 5310 APPLICATIONS SUMMARY

Albany - Schenectady - Troy Urbanized Area:

Applicant	Project Type	Project Description	Federal Share (80%) Requested	Local Match	Total Project Cost
Catholic Charities	Vehicle(s)	One (1) Type I-A (16 passenger) and One (1) Type II (20 passenger) replacement vans.	\$68,441	\$17,110	\$85,551
Rensselaer ARC	Vehicle(s)	Two (2) Type II (20 passenger) replacement vans.	\$71,219	\$17,805	\$89,024
Schenectady ARC	Vehicle(s)	Two (2) Type VI (38 passenger) and two (2) Type III (24 passenger) replacement vehicles	\$261,188	\$65,297	\$326,485
Center for Disability Services	Vehicle(s)	Five (5) Type VI (38 passenger) replacement vehicles	\$356,905	\$89,226	\$446,131
Colonie Senior Services	Vehicle(s)	Two (2) Type II (20 passenger) replacement vans.	\$69,075	\$17,269	\$86,344
CDTA	Mobility Management	Continue funding for two (2) Travel Trainers	\$82,898	\$20,726	\$103,624

Saratoga Springs Urbanized Area:

Saratoga ARC	Vehicle(s)	Three (3) Type VI (38 passenger) vehicles (2 for replacement and 1 for expansion)	\$274,394	\$68,599	\$342,993
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Source: NYSDOT and CDTC

STAR - Special Transit Available by Request

The Americans with Disabilities Act or ADA of 1990 prohibits discrimination and establishes equal opportunity and access for persons with disabilities. Transit service providers are required to comply with ADA regulations by making public transportation safe and accessible for all individuals. Among the established design principles that ensure access to transportation, ADA paratransit services are mandated for trips beginning and ending within three-quarters of a mile on each side of each regular fixed-route system during the hours the fixed route system operates.

As required by the ADA, CDTA's STAR (Special Transit Available by Request) operates within 3/4 of a mile of CDTA's fixed route system on the same days and times of the specific bus route. To become eligible to use STAR, an individual must submit a completed pre-evaluation form and be certified eligible.

Paratransit is unique in that it provides a curb-to-curb service for those unable to reach a fixed-route transit stop or station. ADA paratransit fares cannot exceed more than twice the full fare for regular fixed-route services. Additionally, paratransit allows for the option for a Personal Care Attendant (PCA) to travel with an ADA paratransit eligible individual eligible at no charge.

CDTA's STAR service began operation in the summer of 1982 and was designed for use by any Capital District resident unable to utilize CDTA's fixed route bus service because of a disability. STAR service was modified in January 1993 to comply with the guidelines set forth in the ADA. The changes affected eligibility, service area and fares. Additional changes to STAR service were instituted in January 1994 to comply with ADA milestones. "Next day" service became available in 1994; CDTA began to process requests for paratransit service up to 14 days in advance of the trip in 1994 as well. During 1995, CDTA installed a state of the art computer system to better manage the STAR service requests and routing. During 1998, CDTA refined the eligibility requirements for STAR access in an attempt to curb clientele growth and to encourage use of the accessible fixed route system. In Spring 1999, CDTA installed the Windows-based version of the STAR scheduling software which allows for faster turnaround times, automated cancellation and verification of trips and is a faster system overall.

CDTA's STAR fleet consists of 44 cutaway vehicles equipped with backdoor lifts for accessibility and the capacity to transport multiple disabled customers, including those using wheelchairs. Over the last few years, a portion of STAR service has been provided through an agreement with Advantage Taxi. New Freedom funds were used to purchase accessible taxis, which are branded with CDTA and STAR logos.

STAR ridership has increased annually since its inception. Over 283,000 people were provided specialized trips during the 2013 calendar year, making up almost 2 percent of CDTA's overall fixed route ridership. According to CDTA's 2012-2013 Annual Report the use of accessible taxis to help manage the increasing demand for STAR increased expenses

by \$1 million in 2012. The number of STAR trips has steadily increased; STAR trips as a percent of total CDTA fixed route ridership have been increasing as well.

CDTA's 2013 Transit Development Plan included a recommendation for a future update to CDTA's STAR Paratransit Operations Plan to continue to improve how CDTA delivers its service to the public. Due to the increasing demand for STAR service and associated costs, one focus of the Operations Plan will be reducing costs while maintaining current service levels.

A total of \$1.6 Million was programmed over five years in the 2016-21 TIP under project T6B using 5307 funds for the purchase of replacement and expansion STAR vehicles.

GREENHOUSE GAS EMISSIONS, ENERGY CONSUMPTION AND AIR QUALITY IMPACTS OF THE CDTC TIP

CDTC is in Attainment for Ozone

The CDTC area was part of a non-attainment area for air quality for many years. In 2013, the Capital region's non-attainment status changed to attainment for the 2008 ozone standard.¹ This is good news for the Capital District, because it is based on data that has shown that air quality has been steadily improving, and the region now has air quality conditions that are acceptable even under the newer, stricter standards for ozone. However, making continuing progress in improving air quality is still an important goal.

It should be noted that one disadvantage of the Capital District becoming an attainment area for ozone standards is that CDTC is no longer be eligible for CMAQ funding, effective September 30, 2014.

CDTC Actions to Improve Air Quality, Reduce Greenhouse Gas Emissions, and Reduce Energy Consumption

CDTC has, and is continuing to address energy and air quality concerns through the TIP and the New Visions Plan.

New Visions supports energy conservation, reduction in greenhouse gas emissions and air quality in the region by advocating sustainable development patterns and site design, urban reinvestment, and community-based land use planning, along with transit, bicycle, & pedestrian investments & strong participation in the Clean Cities program. The New Visions Plan has a strong emphasis on smart growth and fostering a safe, multi-modal and well managed system that works well for all users. The plan contributes to urban revitalization, attractive suburban and rural centers, and preservation of open space, while working to reduce vehicle miles of travel and related greenhouse gas emissions; and encouraging use of alternative fuels and advanced technology vehicles. Related beneficial environmental impacts include avoidance of disruption of natural and cultural resources and protection of environmental justice populations. Protecting the environment and creating a more sustainable transportation system is an important New Visions strategy, particularly in light of global climate change.

Two of the most cost-effective methods of minimizing motor fuel consumption and traffic congestion problems are the reduction of traffic demand by CDTC's Transportation Demand

¹ The United States Environmental Protection Agency (USEPA) promulgated the 2008 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) on May 21, 2012 to be effective on July 20, 2012 classifying the Albany-Schenectady-Troy area attainment for the 2008 ozone standard. The EPA promulgated a new rule on July 20, 2012 revoking the Transportation Conformity requirements for 1997 8-Hour Ozone NAAQS effective on July 20, 2013. As a result, the CDTC and A/GFTC are not required to make a transportation conformity determination under the new 2008 8-Hour Ozone NAAQS.

Management program and activities of the Capital District Clean Communities Coalition, which are currently being carried out through CDTC's TIP and UPWP.

The U.S. Department of Energy's (DOE) Clean Cities program is a voluntary, locally based government/industry partnership. Capital District Clean Communities (CDCC) was formed primarily to take advantage of the environmental, public health, energy, and economic benefits that the Clean Cities program offers. CDCC's goal is to advance the energy, economic, & environmental security of the U.S. by supporting local actions to reduce petroleum use in transportation. Alternate fuels and advanced technology vehicles can benefit the Capital Region by creating commercial opportunities and by improving the environment.

The CDTC assumed the coordinator role for the CDCC in 2001. CDTC is the only MPO within NYS that supports the coordinator position. CDTC agreed to be the "home" of the Capital District Clean Communities program because the goals of the program fit well with the planning and investment principles that CDTC adopted as part of New Visions. The Capital Region provides substantial opportunities for the expansion of the alternative fuel marketplace, particularly with the large state vehicle fleet that operates in the area. Stakeholders in CDCC recognize the need to provide greater fuel choices in the Capital Region and to reduce its dependence on imported oil.

The CDCC advances the goals of the Clean Cities program through coalition building and networking. Currently, ethanol, bio-diesel, CNG, propane, hydrogen, hybrid and all-electric technologies are all part of the alternative fuel and advanced vehicle technology mix in the Capital Region and are the alternate fuels of choice in the Capital Region. In the last two years, the number of electric vehicle charging stations has grown from just 2 to almost 100, including a Tesla fast-charging station. The CDCC continues to work with large fleets and even transit operators to provide information on transitioning to alternative fuels. In 2015 the CDCC helped displace more than 1.8 million gallons of petroleum and reduce greenhouse gas emissions by over 16,000 tons through not only alternative fuels and advanced vehicle technologies but also through idle reduction policies and programs, fuel economy improvements and VMT reduction programs like ridesharing.

Travel demand management (TDM) refers to efforts to reduce auto travel and congestion by improving transit access, bicycle and pedestrian access, providing opportunities for carsharing, bikesharing, carpooling, vanpooling, and telecommuting, and other strategies. TDM reduces congestion, reduces the costs of driving, and it is an important way to reduce greenhouse gas emissions. CDTC strongly supports TDM by investing in transit, bicycle and pedestrian facilities, carpooling and land use planning. CDTC projects and investments that support TDM include:

1. Federal funding for transit service in the Capital District is a major part of the CDTC TIP. New Visions incorporates CDTA's Transit Development Plan, which will improve and grow a variety of transit services for the Capital District, increasing mobility and supporting economic development and smart regional growth. One example is CDTC's investment in the BusPlus system on the Route 5 corridor.

2. New Visions encourages development that incorporates bicycle and pedestrian accommodations into highway construction as well as city, village, and town plans and provides for recreational opportunities through creation of bike/hike trails.
3. CDTC manages the iPool2, a web-based ridesharing program, in partnership with 511NY.
4. CDTC maintains the Capital Coexist website, a localized education campaign geared towards encouraging people to bike and educating cyclists and motorists on safely coexisting when using the region's roadways.
5. Capital CarShare: CDTC supported the launch of car-sharing in Albany, with eight cars currently available. Future expansion could include Troy, Schenectady and Saratoga Springs. Providing the opportunity to rent a car on an as-needed basis makes not owning a car, or only owning one car in a household, more feasible.
6. CDTC sponsored four demonstration/trial weeks of Bike Share during the summer (2014) in Albany, Schenectady, Troy and Saratoga Springs. CDTC continues to work with these four cities and CDTA to launch bike sharing in the Capital Region.
7. Investments in Park and Ride lots have been supported by CDTC and CDTA and NYSDOT.
8. Guaranteed Ride Home: This program provides a taxi trip home for a bus rider or carpooler when they need to.

The 2016-21 TIP continues to support a number of operations and ITS (Intelligent Transportation Systems) projects which provide significant energy savings. TIP investments in the Capital Region Transportation Management Center (RG37A, RG37B, RG37C), HELP vehicles (RG37) and traffic signal improvements provide significant support to operations and ITS in the CDTC region. Operations strategies such as incident management, signal coordination, transit signal priority result in reductions in congestion and energy consumption. CDTC is exploring further ways in which operations can provide congestion benefits through the Regional Operations Committee.

The Capital Region Transportation Management Center is a traffic monitoring and response center operated by the New York State Department of Transportation in partnership with the New York State Police. The TMC is located at the New York State Police Troop G headquarters in Latham, NY and has been in continuous operation since December, 1998. Partnering with the State Police has enhanced situation awareness of regional traffic issues and decreased incident response time. The TMC is a focal point for regional traffic incident management, utilizing traffic cameras and road sensors, and it is the originator of NYSDOT regional 511 video and message feeds. The TMC enables State Troopers, DOT HELP Trucks, and other emergency personnel to respond swiftly to crash scenes and other highway problems. When it is appropriate, DOT maintenance crews are dispatched to help restore traffic flow quickly. Since the establishment of the TMC, traffic flow has improved for all Capital Region highway users. The TMC also coordinates with the Thruway Operations Center (TSOC), CDTA, and plans for traffic management during construction and special events.

The TMC is an essential tool for providing incident management services. Reliability of and predictability of travel are important goals supported by the TMC. Quick clearance of

incidents, management of traffic during construction, coordination between NYSDOT and emergency service providers are critical to minimizing delays. The TMC is an important component of the Governor's "Drivers First" initiative. Reliability and predictability of travel time on expressways benefits all users including passenger vehicles, truck freight/commodity movements and public transit such as the CDTA's Northway Express Bus Service. Planning for traffic management during construction as part of design benefits drivers.

Improving intersection operations is critically important to improving traffic flow for autos, transit vehicles and freight, and high quality access for pedestrians and cyclists. CDTC supports improvements to traffic signals that improve travel efficiency and traffic flow while reducing delay. CDTC also supports the construction of roundabouts at intersections where feasible. Examples of CDTC sponsored traffic signal and intersection improvements on the TIP are listed below.

1. ITS Transit Signal Priority on Washington and Western Avenues;
2. ITS Signal Improvements on New Scotland Avenue;
3. ITS Signal Improvements on Pawling Avenue;
4. Geyser Road/Ballston Avenue Intersection
5. Erie Boulevard/Jay Street/Nott Street/Front Street Roundabout
6. Sitterly Road at Woodin Road and Crossings Boulevard
7. Ontario Street & Delaware Avenue Intersection

Transit provides travel options, increases mobility and can support economic development. In addition, transit investments result in significant energy savings by providing an alternative to automobile use. Three percent of commuting trips in the Capital District are made by transit. Not only does this reduce gasoline usage by reducing the number of autos, but the added congestion that would occur if all transit riders were to switch to autos would result in significant increased energy consumption. The CDTC TIP continues to make a major investment in transit of \$110.6 million over five years.

Bicycle and pedestrian investments encourage more biking and walking and provide direct energy benefits by reducing auto usage. CDTC has made a strong commitment to improving bicycle and pedestrian facilities. This means incorporating ADA compliant sidewalks and pedestrian crossings, and bicycle lanes in highway construction projects; encouraging site design by developers that provides high quality pedestrian access; developing bike/hike trails; encouraging the incorporation of bicycle and pedestrian accommodations into city, village and town plans. Studies funded by CDTC to explore the feasibility of car and bike sharing, and additional monies committed to help implement local car share and bike share programs, further reinforce the commitment made to improving bicycle and pedestrian facilities.

CIVIL RIGHTS AND ENVIRONMENTAL JUSTICE

Background

Title VI of the Civil Rights Act of 1964 prohibits discrimination based upon race, color, and national origin. Specifically, 42 USC 2000d states that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” The use of the word “person” is important as the protections afforded under Title VI apply to anyone, regardless of whether the individual is lawfully present in the United States or a citizen of a State within the United States.

Two Presidential Executive Orders place further emphasis upon the Title VI protections of race and national origin. Executive Order #12898 (Environmental Justice) directs federal agencies to develop strategies to address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. Executive Order # 13166 (Limited-English-Proficiency) directs federal agencies to evaluate services provided and implement a system that ensures that Limited English Proficiency persons are able to meaningfully access the services provided consistent with and without unduly burdening the fundamental mission of each federal agency. Additionally, each federal agency shall ensure that recipients of federal financial assistance provide meaningful access to their Limited-English-Proficiency applicants and beneficiaries.

Planning and Programming Treatment

The Capital District Transportation Committee (CDTC) is committed to ensuring compliance with Civil Rights regulations. Within the context of the Transportation Improvement Program development, CDTC looks to the following to assist with full Title VI compliance:

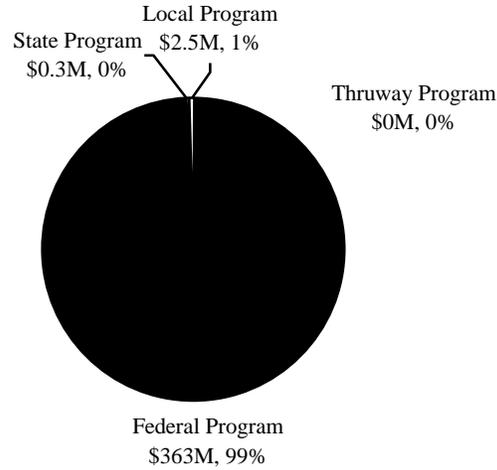
1. CDTC's TIP is developed with a strong relationship to local planning activities. The merit evaluation process utilized for the 2016-2021 TIP includes a measure to increase scores of projects that implement a recommendation from a Linkage Study, town center plan, or similar plan and that align the transportation system with existing or desired land uses.
2. The merit evaluation process includes a positive or negative score based on the project's primary purpose and the GIS-based identification of location in relation to minority and/or low-income areas as described in CDTC's 2014 Environmental Justice Analysis.
3. The merit evaluation processes also considers the project's expected land use compatibility; community or economic development impacts; environmental issues; and business or housing dislocations.

As a result, the needs of minority and low income areas are reasonably well represented in the outcome of the TIP process. CDTC's Environmental Justice Analysis Document will be updated with more recent American Community Survey data in 2016.

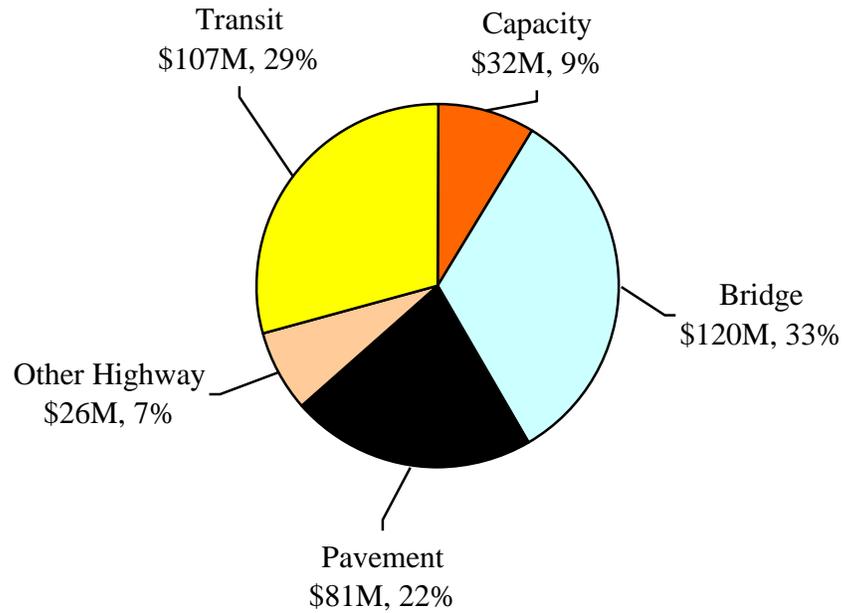
**SECTION II -
FINANCIAL SUMMARY TABLES**

SUMMARY FIGURE 1: 2016-21 TIP REVENUES AND PROJECT EMPHASIS

REVENUES



PROJECT EMPHASIS



Summary tables are not included in the online version of the TIP narrative and appendices.

**SECTION III -
PROJECT LISTINGS**

Project listings are not included in the online version of the TIP narrative and appendices.

**SECTION IV -
APPENDICIES**

APPENDIX A - TRANSIT PROJECT DETAILS

Millions of Dollars (Values in Parentheses are Quantities)

Project Description	2015-16 (Committed)	2016-17	2017-18	2018-19	2019-20	2020-21
T6B STAR Buses:						
STAR Buses (#)	.400(5)	0.400(5)	0.200(3)	0.400(5)	0.200(3)	0.400(5)
T11 Passenger Facility Improvements:						
Bus Shelters	.235	.114	.200	.190	.190	.200
Bus Signs				.010	.010	
Total	.235	.114	.200	.200	.200	.200
T17 Transit Vehicles (Bus Replacement):						
Transit Buses (#)	3.390 (7)	5.290 (10)	5.488 (11)	5.438 (11)	5.787 (12)	5.732(11)
T77 Capital Cost of Contracting for Commuter Service:						
Commuter Service	.600	.600	.600	.600	.600	.600
Total	.600	.600	.600	.600	.600	.600

APPENDIX B - GLOSSARY

Names and Titles

ACAA	Albany County Airport Authority
ANCA	Adirondack North Country Association
ARRA	American Recovery and Reinvestment Act of 2009
ATMS	Advanced Traffic Management System (a.k.a. ITS)
BRT	Bus Rapid Transit
CDRPC	Capital District Regional Planning Commission
CDTA	Capital District Transportation Authority
CDTC	Capital District Transportation Committee
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HBRR	Highway Bridge Rehabilitation and Replacement
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation Systems
IVHS	Intelligent Vehicle Highway Systems (a.k.a. ITS)
MAP-21	Moving Ahead for Progress in the 21st Century Act
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NHS	National Highway System
NYSDOL	New York State Department of Labor
NYSDOT	New York State Department of Transportation
PMS	Pavement Management System
RABA	Revenue Aligned Budget Authority
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SEQRA	State Environmental Quality Review Act
SIP	State Implementation Plan
Smart Bus	Transit Bus Equipped with Transit ITS
SPP	Statewide Prioritization Program
STBG	Surface Transportation Block Grant
STAR	Special Transit Service Available by Request (Paratransit)
STEP	Statewide Transportation Enhancement Program
TA	Transportation Alternatives
TEA-21	Transportation Equity Act for the 21 st Century
Thruway	New York State Thruway Authority
TIP	Transportation Improvement Plan
TMA	Transportation Management Area
TSM	Transportation Systems Management

TIP Number Prefixes

A	Albany
R	Rensselaer
RG	Regional
S	Schenectady
SA	Saratoga
T	Transit

Project Types

Airport	Airport Improvement
Bike/Ped	Bicycle or Pedestrian Project
Br.Recon'n	Bridge Reconstruction
Br.Replace	Bridge Replacement
Bridge/TrOp	Bridge Replacement and Capacity Improvement
Bridge/Cap	Bridge Replacement and Capacity Improvement (Subject to Federal Clean Air Act Analysis)
BridgeDeck	Bridge Deck Repair
BridgeMisc	Miscellaneous Bridge Work
CapitalFac	Capital Facilities Improvements (Transit)
CapitalVeh	Capital Vehicles Improvements (Transit)
Landscape	Landscaping Projects
Miscellan	Miscellaneous
New Bridge	New Bridge Construction (Subject to Federal Clean Air Act Analysis)
New Cons'n	New Construction Subject to Federal Clean Air Act Analysis)
ProbAsses	Problem Assessment
R&P	Rehabilitation & Preservation
Recon/Cap	Highway Reconstruction & Capacity Improvement (Subject to Federal Clean Air Act Analysis)
Recon/TrOp	Highway Reconstruction & Capacity Improvement
Reconst'n	Highway Reconstruction
Resurface	Highway Resurfacing
Safety	Safety Improvements
Traff Op'n	Traffic Operations Improvement
Trans.Misc	Miscellaneous Transit Project

Phases

C	Construction, Inspection and Supervision of Construction and Contingencies
D	Detailed Design (Highway Projects)
F	Facility Construction, Repair or Purchase
I	Right-of-Way Incidentals
P	Preliminary Engineering (Highway Projects)
S	Professional Services (Transit Projects)
R	Right-of-Way Acquisition
V	Vehicles Purchase (Transit)

Responsible Agencies

Airport	Airport Authority
CDTA	Capital District Transportation Authority
CDTC	Capital District Transportation Committee
City	City of Jurisdiction
County	County of Jurisdiction
NYSDOT	New York State Department of Transportation
Port	Albany Port District Commission
Town	Town of Jurisdiction
Village	Village of Jurisdiction

Miscellaneous Abbreviations

AVL	Automatic Vehicle Location
BRT	Bus Rapid Transit
EAP	NYSDOT Environmental Action Plan
EIS	Environmental Impact Statement (NEPA)
IS	Intersection
NA	Not Applicable
PIN	Project Identification Number (used by NYSDOT)
TMC	Traffic Management Center

Funding Sources

5307-ATI	FTA Section 5307 Associated Transit Improvement
5307-Enh	FTA Section 5307 Transit Enhancement
5307-OP	FTA Section 5307 Operating Assistance

5307-S	FTA Section 5307 for Saratoga Springs
5316-Sar	FTA Section 5316 for Saratoga Springs
5317-Sar	FTA Section 5317 for Saratoga Springs
AIP	Airport Improvement Program
Bond	New York State 1988 Bond Issue
Byways	Scenic Byways Funds
CHIPS	Consolidated Highway Improvement Program
CMAQ	Congestion Mitigation and Air Quality Program
CMAQ-NY	CMAQ funds from the NY allocation, rather than the Region
Demo.	Federal Demonstration (Discretionary or Earmarked)
Demo.100	Demo. funds with no local or state match (100% federal)
FA	Miscellaneous Federal Aid
GRT	Gross Receipts Tax
HBRR	Highway Bridge Rehabilitation & Replacement
HBRR-Dis	Highway Bridge Rehabilitation & Replacement Discretionary
HBRR-NY	HBRR funds from the NY allocation, rather than the Region
HBRR-100	HBRR funds with no local or state match (100% federal)
HSIP	Highway Safety Improvement Program
IAP	Industrial Access Program
IM	Interstate Maintenance
IVHS	Federal IVHS Discretionary Fund Source
Local	100% Local (Above and beyond required match)
NFA	Miscellaneous Non-Federal Aid
NHPP	National Highway Performance Program
NHS	National Highway System
OperAssis	Operating Assistance
PLH	Public Lands & Highways
Rail	Rail crossing funds (a subset of HSIP)
Safety	HSIP at MPO discretion for highway use
SALB	State Aid for Local Bridges
SDF	State Dedicated Fund
Sec 3037	FTA Section 3037 (Access to Jobs)
Sec 5307	FTA Section 5307
Sec 5309	FTA Section 5309
Sec 5310	FTA Section 5310
Sec 5311	FTA Section 5311
Sec 5316	FTA Section 5316
Sec 5317	FTA Section 5317
SRTS	Safe Routes to Schools
State	100% State, including State Multimodal Program
Stim	Stimulus funding from the American Recovery and Reinvestment Act of 2009
StimNew	Stimulus funds not replacing other funding
StimRail	Stimulus funds for rail
StimT	Stimulus funds for transit
StimTNew	Stimulus funds for transit not replacing other funding

STP	Surface Transportation Program
STP-Enh.	STP Enhancements
STP-Flex	STP Flexible
STP-Rail	STP Rail
STP-Rur.	STP Rural
STP-Safe	STP Safety
STP-SMU	STP Small Urban Area
STP-Urb.	STP Urban
TCSP	Transportation, Community & System Preservation
Thruway	New York State Thruway Authority
TOA	State Transit Operating Assistance

Other Notes

Func. Class.	Functional Classification
Ln-Mi	Lane Miles
Mi	Mile(s)
Plan Ref.	Plan Reference
Res. Agency	Responsible Agency
Soft Match	In-Kind Services of Preliminary Engineering Provides Local Match

Functional Classifications

RI	Rural Interstate
RL	Rural Local
RmA	Rural Minor Arterial
RMC	Rural Major Collector
RmC	Rural Minor Collector
RPA	Rural Principal Arterial
UC	Urban Collector
UI	Urban Interstate
UL	Urban Local
UmA	Urban Minor Arterial
UPA	Urban Principal Arterial (Other Street)
UPE	Urban Principal Arterial (Expressway)

Plan References

504	Section 504 Plan
9W	Route 9W Corridor Study
ADA	Americans with Disabilities Act of 1990
Alb CBD	Albany Downtown Circulation Study
Ball	Balltown Road Study
Beth	Bethlehem Study
Bike	CDTC Regional Bicycle Transportation Plan
Burdeck	Burdeck Street Corridor Study (Rotterdam)
CapAlb	Capitalize Albany
CMS	Congestion Management System
E&H	Elderly and Handicapped Plan Recommendations
Erie	Erie Boulevard-Maxon Road Transportation Study
Exit26	Thruway Exit 26 Study
Exit3	Northway Exit 3 Study
GEIS/Air	Albany County Airport Generic Environmental Impact Study
GEIS/Lisha	Lisha Kill Generic Environmental Impact Study (Colonie)
Goods	Goods Movement Task Force Report
GOP	NYSDOT Goal Oriented Program
HWCond	Highway Condition Report
Multim	State Multimodal Program
NV	<i>New Visions</i> Regional Transportation Plan
N'way	Northway MIS
Park&Ride	CDTC's Park & Ride Recommendations
Pine	Pine Bush Study
RASP	Regional System Aviation Plan (CDRPC)
RenAmtrak	Rensselaer Amtrak Station Study
Rt50	Route 50 Corridor Study
Rt7	Route 7 Corridor Study
RTP	Regional Transportation Plan
SarNeed	Saratoga County Transit Needs Assessment
Schen2000	Schenectady 2000
SCOTS	Human Service Agency Transportation Coordination Study
TSM2	Traffic Count/Transportation Systems Management
UPWP	Unified Planning Work Program

APPENDIX C - FEDERAL FUNDING PROGRAMS

Title I (Federal-Aid Highways)

National Highway Performance Program (NHPP)
 Surface Transportation Program (STP)
 Highway Safety Improvement Program (HSIP, shown as Safety in project listings)
 Railway-Highway Crossings (HSIP, shown as Rail in project listings)
 Congestion Mitigation & Air Quality Improvement Program (CMAQ)
 Metropolitan Transportation Planning
 Surface Transportation Block Grant (STBG)
 Transportation Infrastructure Finance and Innovation Program
 Tribal Transportation Program
 Federal Lands Transportation Program
 Federal Lands Access Program
 Territorial and Puerto Rico Highway Program
 Puerto Rico Highway Program
 Territorial Highway Program
 FHWA Administrative Expenses
 Emergency Relief
 Projects of National and Regional Significance
 Construction of Ferry Boats and Ferry Terminal Facilities
 Tribal High Priority Projects Program

Title III (Mass Transit)

Buses and Bus Facilities Grants Program (Section 5339)
 Capital Investment Grants (Section 5309)
 Enhanced Mobility of Seniors & Individuals with Disabilities (Section 5310)
 Expedited Project Delivery for Capital Investment Grants Pilot (Section 5309)
 Flexible Funding Programs - National Highway Performance Program - 23 USC 119
 Flexible Funding Programs - Surface Transportation Block Grant Program - 23 USC
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 Formula Grants for Rural Areas (Section 5311)
 Grants for Buses and Bus Facilities Formula Program (Section 5339(a))
 Growing States and High Density States Formula (Section 5340)
 Human Resources & Training (Section 5314(b))
 Low or No Emission Vehicle Deployment Program (Section 5339(c))
 Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning
 (Sections 5303, 5304, 5305)
 Passenger Ferry Grant Discretionary Program (Section 5307(h))
 Pilot Program for Transit-Oriented Development Planning (Section 5309)
 Public Transportation Emergency Relief Program (Section 5324)
 Public Transportation Innovation (Section 5312)

Public Transportation on Indian Reservations Program; Tribal Transit Program
Rural Transportation Assistance Program (Section 5311(b)(3))
State of Good Repair Grants (Section 5337)
Technical Assistance & Standards Development (Section 5314(a))
TIGER
Transit Cooperative Research Program (Section 5312(i))
Urbanized Area Formula Grants (Section 5307)

APPENDIX D - FUNDING SOURCE SPLITS

Funding Source	Abbreviation	Federal	State	Local
Federal Highway Funding Sources:				
Highway Safety Improvement Program ¹	HSIP	90%	0%	10%
National Highway Performance Program	NHPP	80%	0%	20%
National Highway Performance Program funds used on Interstate roads	NHPP	90%	0%	10%
Safe Routes To School	SRTS	100%	0%	0%
Transportation, Community and System Preservation	TCSP	80%	0%	20%
All other, if state sponsored project		80%	20%	0%
All other, if not state sponsored, assuming availability of Marcheselli funds through legislature ²		80%	15%	5%
Non-Federal Highway Funding Sources:				
100% Local Funds	Local	0%	0%	100%
100% State Funds	State	0%	100%	0%
100% Thruway Funds ³	Thruway	0%	100%	0%
Miscellaneous Non-Federal Aid	NFA	0%	0%	100%
New York State 1988 Bond	Bond	0%	100%	0%
State Dedicated Fund	SDF	0%	100%	0%
Transit Funding Sources:				
FTA Section 5307 ⁴	Sec 5307	80%	10%	10%
FTA Section 5307 Enhancement	5307-Enh	80%	10%	10%
FTA Section 5310 (Capital Expense)	Sec 5310	80%	0%	20%
FTA Section 5310 (Operating Expense)	Sec 5310	50%	0%	50%
FTA Section 5311	Sec 5311	80%	10%	10%
State Operating Transit Assistance	TOA	0%	100%	0%

¹ Some actions funded by HSIP are 100% federal. CDTC uses the fund source "Safety" for highway use of HSIP and Rail for grade crossing use of HSIP.

² If Marcheselli funds are not available, the local share is 20%. Projects eligible for the CMAQ "Bikes on Buses" program have a split of 95%, 0%, 5%. Projects eligible for the CMAQ "Transit Priority" program are 100% federal with no match required.

³ 100% Thruway funds are from the New York State Thruway Authority and are not NYSDOT funds.

⁴ Exceptions are noted in the descriptions of the project listings.

APPENDIX E - PROJECT CANDIDATES

The intention of this appendix is to supplement the documentation of the steps taken during the 2016-21 TIP Update. Therefore, several lists of candidate projects from the 2016-21 update follow. Since the candidates in these lists were not programmed in the TIP, they could serve as a starting point in the next TIP Update, or in any solicitation, if the Planning Committee and Policy Board desire to do so. However, local priorities could change, or the conditions of the facilities could change in such a way as to affect their qualifications for a specific category of candidate project. Therefore, the candidate lists that follow may not serve as a starting point at the next programming opportunity.

Bridge Preservation Projects	Owner	Location
Bridge Corrective Maintenance, Albany County Group 1, Six Bridges	NYSDOT	Albany Guilderland
Bridge Corrective Maintenance, Albany County Group 2, Three Bridges	NYSDOT	Colonie
Bridge Corrective Maintenance, Saratoga County, Seven Bridges (one in Moreau not part of CDTC evaluation)	NYSDOT	Saratoga Springs Halfmoon Clifton Park Wilton
Campbell Avenue Over Wynantskill Creek: Bridge Preservation, BIN 2202290	City of Troy	Troy
Bridge Corrective Maintenance, Schenectady County, Three Bridges	NYSDOT	Schenectady Rotterdam
Everett Road Bridge over I-90, BIN 1034529	NYSDOT	Albany
NY 7 Bridge Deck Preservation (Seven Bridges)	NYSDOT	Colonie
Ramp from the Dunn Bridge WB to I-787 Southbound, BIN 109294A	NYSDOT	Albany
NY 378 over the Hudson River, Bridge Rehabilitation, BIN 1062850	NYSDOT	Colonie Troy
Ramp from the I-787 Northbound to the Dunn Bridge Eastbound, BIN 109299B	NYSDOT	Albany
Ramp from the Dunn Bridge Westbound to I-787 Northbound, BIN 1092940	NYSDOT	Albany
Ramp from the I-787 Southbound to the Dunn Bridge Eastbound, BIN 1092970	NYSDOT	Albany
Ramp from the South Mall Expressway Eastbound to I-787 Southbound, BIN 109298B	NYSDOT	Albany
Ramp from the South Mall Expressway Westbound to South Pearl Street, BIN 109298A	NYSDOT	Albany
US 4 Southbound over Poesten Kill: Bridge Preservation, BIN 2000940	City of Troy	Troy
First Street over the Poesten Kill: Bridge Preservation, BIN 2202330	City of Troy	Troy
First & Second Street: Bridge Preservation, BIN 1054320	City of Troy	Troy
US 4 Bridge over the Hudson River & Canal, BIN 4001020	NYSDOT	Northumberland (split project with AGFTC)
Hans Creek Road over Hans Creek (BIN 2202830) Bridge Rehabilitation	Saratoga County	Providence

Clinton Street Bridge over Delaware & Hudson (BIN 2259990) Preventive Maintenance	Saratoga County	Greenfield
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Bridge Beyond Preservation Projects	Owner	Location
CR 13 (Barkersville Fayville Road) over Cadman Creek (BIN 3304740) Bridge Replacement	Saratoga County	Providence
US 4 over Schuyler Creek	NYSDOT	Stillwater
Heath Road over Sturdevant Creek (BIN 3304520) Bridge Rehabilitation or Replacement	Saratoga County	Corinth
NY 145 over Unknown Creek (BIN 1038220)	NYSDOT	Rensselaerville
NY 32 over Onesquethaw Creek, BIN 1022410	NYSDOT	New Scotland
US 4 Bridge over the Hudson River & Canal, BIN 4001020	NYSDOT	Northumberland (split project with AGFTC)
US 9W over CSX/CP Rail Bridge, BIN 1007570	NYSDOT	Bethlehem
NY 443 over Cobleskill Creek (Fox Creek), Bridge Replacement, BIN 1025260	NYSDOT	Berne

Pavement Preservation Projects	Owner	Location
US 20 Resurfacing	NYSDOT	Guilderland
NY 9N Resurfacing	NYSDOT	Greenfield Saratoga Springs
CR 47 (Rowland Street): Ballston Spa Village Line to CR 45/CR 47	Saratoga County	Milton
CR 47 (Rowland Street): Kaatskill Way to NY 29	Saratoga County	Milton
NY 85A Recycling and Paving	NYSDOT	New Scotland
Clinton Avenue Rehabilitation Project – Quail Street to Lexington Avenue	City of Albany	Albany
NY 335 Resurfacing	NYSDOT	Bethlehem
NY 2 Resurfacing	NYSDOT	Colonie
NY 150 Recycling & Paving	NYSDOT	Sand Lake Poestenkill North Greenbush
Broadway Rehabilitation Project – Loudonville Road to North First Street	City of Albany	Albany
I-87 Pavement Joint Preservation	NYSDOT	Malta Saratoga Springs Wilton
NY 50 Resurfacing	NYSDOT	Wilton
NY 9N Resurfacing	NYSDOT	Corinth Hadley
Northern Boulevard Rehabilitation Project –I-90 Overpass to US 9 Overpass	City of Albany	Albany
Pearl Street Rehabilitation Project – Madison Avenue to First Avenue	City of Albany	Albany
Lakehill Road / Van Vorst Road Pavement Preservation Project	Schenectady County	Glenville
NY 155 Project	City of Watervliet	Watervliet

US 4 Mill & Fill Paving w/ADA Compliance Work	NYS DOT and City of Mechanicville	Halfmoon Mechanicville
Highbridge Road / East Campbell Road Pavement Preservation Project	Schenectady County	Rotterdam
Vley Road Pavement Preservation Project	Schenectady County	Glenville
Swaggertown Road Pavement Preservation Project	Schenectady County	Glenville
NY 151 and NY 915E (3rd Avenue Extension) Pavement Resurfacing	NYS DOT	East Greenbush
NY 146A Resurfacing	NYS DOT	Ballston Lake Clifton Park
CR 63 (Malta Avenue) Pavement Reconstruction	Saratoga County	Milton Malta
NY 9N Resurfacing	NYS DOT	Greenfield Corinth
CR 125 (Stillwater Bridge Road)	Rensselaer County	Schaghticoke
CR 43 (Geyser Road) Pavement Preservation	Saratoga County	Saratoga Springs
NY 159 Recycling and Paving	NYS DOT	Duanesburg
NY 159 Recycling and Paving	NYS DOT	Rotterdam
Maple Avenue / Hetcheltown Road Pavement Preservation Project	Schenectady County	Glenville
NY 2 Recycling and Paving	NYS DOT	Petersburg
NY 351 and NY 355 Resurfacing Project	NYS DOT	Brunswick North Greenbush Sand Lake Poestenkill
NY 2 Recycling and Paving	NYS DOT	Grafton

Pavement Beyond Preservation Projects	Owner	Location
NY 50 Corridor Improvements	NYS DOT	Saratoga Springs
NY 67 Corridor Improvements	NYS DOT	Ballston Malta

Bicycle and Pedestrian Beyond Preservation Projects	Owner	Location
Menands Bike/Ped Connector	NYS DOT	Menands
Nott Street Sidewalk Extension	Schenectady County and City of Schenectady	Niskayuna Schenectady
Carman Road Sidewalk	NYS DOT	Guilderland
Carman and Coons Roads Sidewalks	NYS DOT and Guilderland	Guilderland

Other Beyond Preservation Projects	Owner	Location
Rosa Road, Wendell Avenue and Nott Street Intersection Improvement	City of Schenectady	Schenectady
Weibel Avenue-Gilbert Road Realignment at Lake Avenue	City of Saratoga Springs	Saratoga Springs
Freemans Bridge Road (NYS Route 911F) - Saratoga Road (NYS Route 50) Thomas Corners Roundabout	NYSDOT	Glenville
Design and Construction of Roundabout at the intersection of NY Route 67 and Eastline Road	Town of Malta, Saratoga County and NYSDOT	Malta
Sitterly Road Corridor Improvements – Phase II	Town of Halfmoon and Town of Clifton Park	Clifton Park Halfmoon
CR 91 (Grooms Road) at CR 90 (Vischer Ferry Road) Traffic Signal	Saratoga County	Clifton Park

Low Volume Local Bridge, Culvert and Road Projects	Owner	Location
Tibbits Avenue Reconstruction Project	Village of Green Island	Green Island
CR 129 (Tamarac Road) - Pavement Preservation	Rensselaer County	Brunswick
Campbell Avenue, Pavement Preservation	City of Schenectady	Schenectady
Consaul Road Pavement Preservation Project	City of Schenectady	Schenectady

APPENDIX F - PUBLIC COMMENTS

Although CDTC always entertains public comments, the public review period for the 2016-21 TIP began after the Policy Board meeting on March 29, 2016 and ended on May 29, 2016.

APPENDIX G - SELECTION OF NEW PROJECTS

Introduction

Project sponsors are required to complete the Project Justification Package in Appendix I. Information provided by the sponsors is used to determine if the project is eligible for federal-aid and to produce merit evaluations. Candidates are categorized according to type and evaluated for merit. The results of the merit evaluations are used by CDTC to choose which projects receive funding.

Provision of Local Matching Funds

Project sponsors are required to be willing and able to provide the local matching funds. All fund sources are not required to be "in hand", but need to have a "reasonable expectation" of being in place by the year of programming. Specifically, the issue of the provision of the required 20% local match share is required to be directly addressed. Public/private financing possibilities should be addressed, if applicable. Transit operators are required by FTA to document financial capacity in the adopted TIP. All facilities that require an ongoing operating budget to be useful are required to demonstrate that such financial capacity exists.

Defined Scope

All projects are required to be well defined. Project limits, the intended scope of work, and the project concept need to be clearly stated. Properly completing the Project Justification Package will satisfy these criteria.

Merit Evaluation Criteria

Every project that meets the minimum requirements is evaluated. The merit evaluation procedure uses the best available information from CDTC's models, from corridor studies, and from project sponsors. Wherever possible, measures that cut across modes, such as relative cost effectiveness, are used. The qualitative benefits of projects are directly incorporated into this merit evaluation procedure. This merit evaluation emphasizes different project attributes, although the same criteria are used, for the following project types:

- ◆ Bridge projects
- ◆ Pavement projects
- ◆ Transit Support projects
- ◆ Safety projects
- ◆ Bicycle and Pedestrian projects
- ◆ Community Compatibility and Economic Development projects, and
- ◆ Mobility and Congestion Relief projects

Project merit evaluations are presented using a common format. The merit evaluation procedure is detailed in Appendix H.

Programming Criteria and Principles

The TIP as a whole, must, according to federal law, conform to the Federal Clean Air Act, be financially "reasonable" and be consistent with the long-range plan. Financial "reasonability" is determined both at the project level and for the program as a whole. Consistency with the long range plan is determined on a project level at the time projects were screened for inclusion in the TIP, and the implementation of *New Visions* goals and objectives was one of the primary programming considerations, as outlined below.

The goal of CDTC is to produce a "balanced" TIP that contributes to implementation of the *New Visions* plan. The CDTC approach meets both the letter and spirit of federal regulations by allowing CDTC to look at the array of projects and their relative merit, and to establish a program that best implements the range of goals included in the RTP. The following criteria/principles were intended to produce the best possible program of projects to benefit the Capital District transportation system, regardless of mode.

Geographic and Sponsor Distribution

The STP program has minimal requirements for geographic distribution of funding. Considerations of geographic equity must stem from considerations addressed in the planning process. CDTC based its programming decisions upon relative project merit and the balanced attainment of progress towards long-range goals -- not on geographic considerations apart from *New Visions*.

CDTC's FTA Section 5307 Project Selection Process

The Capital District Transportation Authority (CDTA) is primarily responsible for submitting the requests to CDTC for transit related funded projects. This includes transit operating assistance, equipment and support facilities. Unlike the project selection process for flexible funds described above, CDTC normally defers to the judgment of CDTA, the region's public transit operator, for project recommendations for transit fund sources from the state and federal governments.

Candidate capital projects are identified through transit improvement studies and evaluations of fleet and other capital requirements, keeping in mind transit development goals and supporting objectives established as part of CDTA's Capital Planning Process. CDTA maintains a short-range transit capital plan that identifies a series of actions and strategies that provide the basis for coordinating and prioritizing CDTA transit capital improvements. The TIP follows directly from the plan and generally is a simple project listing. Details of

CDTA's capital program components are included in Appendix A. The final decisions regarding project inclusion in the program are made by CDTC on a recommendation from the Planning Committee.

Private Sector Participation in the Transit TIP

Projects proposed by private operators are also entertained under CDTC's TIP process, in accordance with CDTC's *Private Operators Policy*, adopted on February 19, 1987. For these projects, public sponsorship is a prerequisite for receiving federal or state financial assistance. Programming of funds by CDTC is based on the priority of the service need and on integration of the service into the regional transit system. CDTC's *Private Operators Policy* also identifies a set of policies and evaluation criteria with which to review private operators proposals. Involvement in the planning process is encouraged through routine notification of private operators.

APPENDIX H – CDTC’S PROJECT EVALUATION PROCEDURE

BENEFIT/COST CALCULATIONS

Introduction

Benefit to cost ratios are calculated by CDTC Staff whenever possible. They are shown in the box in the upper right-hand corner of the project fact sheet. Consistent units of thousands of current dollars per year are used throughout. Instances where a benefit/cost ratio calculation is inappropriate or unable to be calculated are handled by further elaboration of the "non-quantifiable" or "qualitative" project benefits. Bicycle and pedestrian projects are handled differently, as explained below.

Five measures of project benefit are calculated, including safety, travel time, energy/user, and "other" benefits. Life cycle cost savings are applied primarily to infrastructure improvements. Life cycle cost savings are calculated by using the CDTC STEP Model to estimate the system traffic disbenefits of letting a bridge or pavement section deteriorate to the point of abandonment.

Safety Benefits

Safety benefits are measured in the dollar value of the projected reduction in crashes per year calculated by using the steps described below. Established counter measures and crash reduction factors are used to estimate the safety benefit of each project. The methodology used is consistent with the methodology used by NYSDOT as contained in the NYSDOT document Highway Safety Improvement Program Procedures and Techniques and specifically in form TE 164a, Safety Benefits Evaluation Form, Method 1.

Project Limit Crash Data Summaries

Using the NYSDOT Accident Location Information System (ALIS) crash data are obtained for each of the candidate project segments for a five-year period (i.e. “pre-project crashes”). CDTC Staff then tallies a project specific crash summary for each project candidate.

This crash summary breaks out crashes by intersection and link, and crash type and severity in terms of fatality, injury, property damage only, and whether a bicyclist or pedestrian was involved. The crash severity is then used to assign project specific average crash costs based on methodology described in form TE 164a (9/91) as contained in the NYSDOT document Highway Safety Improvement Program Procedures and Techniques.

Average crash costs by crash type and applicable facility type, also distinguished by link or intersection, are obtained from the most recent NYSDOT Table entitled NYSDOT-Safety

Information Management System Average Accident Costs/Severity Distribution State Highways. See the table used at: <https://www.dot.ny.gov/divisions/operating/osss/highway-repository/24D467FEE3410020E0530A3DFC050020>

Identification of Countermeasures and Application of Crash Reduction Factors (CRFs)

The information provided by the project sponsor regarding planned improvements to be undertaken for each proposed project is used to identify applicable countermeasures and corresponding crash reduction factors. Staff uses judgment in selecting crash reduction factors obtained from the most recent information available on crash reduction factors from a variety of sources including, FHWA, NYSDOT, other State DOTs where available, and other research. Countermeasures and CRFs include those that apply to both motorized and non-motorized crash types. One major data source for countermeasures and corresponding crash reduction factors is FHWA's Crash Modification Factors (CMF) Clearinghouse. See: <http://safety.fhwa.dot.gov/tools/crf/resources/#cmfc>

Countermeasures and applicable crash reduction factors from NYSDOT are available at: https://www.dot.ny.gov/divisions/operating/osss/highway-repository/2013_14ReducFact.pdf

Crash reduction factors (CRFs) are separated into various groups: those that can be applied project-wide against link crashes, those that can be applied project-wide against intersection crashes, and those that can be applied against bicycle/motor vehicle or pedestrian/motor vehicle crashes only.

Table H-1 below displays the CRFs used to determine post project crash reduction estimates.

**Table H-1
CRASH REDUCTION FACTORS APPLIED TO PRE-PROJECT CRASHES**

Pavement Resurfacing Project Example A Y or N is inserted as appropriate to reflect proposed project elements

Project proposes to:

	1	2	3	4	5	6	7	8	9	10
Resurface pavement		Add Bike	Add SLM & Advanced Warning Sign	Widen shoulder	Add HV Crosswalk	Add Advanced Warning Sign	Add/upgrade Pedestrian Signals	Install Roundabout	Road Diet	Bridge Deck Repair/ Replacement
Y	N	N	N	N	N	N	N	N	N	N

Project Related CRFs for ALL Crashes

Resurfacing ¹	Add SLM & Advanced Warning Sign ³	Widen Shoulder ⁴	Install High Visibility ⁵	Install Advance Warning Sign to Crosswalk ⁶	Replace Signal w/ Multilane Roundabout ⁸	Road Diet ⁹	Bridge Deck Rpr/Rplc ¹⁰	Combined Crash Reduction Factor to be applied Project Wide Crashes = 1 - ((1 - CRFa)*(1 - CRFb)*(1 - CRFc))
0.08	0	0	0	0	0	0	0	0.08

Project Related CRFs for Bicycle/Vehicle and Pedestrian/Vehicle Crashes ONLY

Add Bike Lane ²	Add SLM & Advanced Warning ³	Install High Visibility ⁵	Install Advance Warning Sign ⁶	New or Upgraded Pedestrian Signal ⁷	Road Diet ⁹	Combined Crash Reduction Factor to be applied Project Wide Crashes = 1 - ((1 - CRFa)*(1 - CRFb)*(1 - CRFc))
0	0	0	0	0	0	0

Table H-2

Notes and References for Table H-1
CRASH REDUCTION FACTORS APPLIED TO PRE-PROJECT CRASHES

Notes: References for Crash Reduction Factors - indicates percentage reduction in AFTER improvement crashes.

For full citations see:

CRF 1 (Repaving):	Apply 0.08 CRF for All Crashes as per NYSDOT and FHWA
CRF2 (Add Bike Lane):	Apply 0.25 to Bicycle/Vehicle Crashes ONLY Ref: MDOT
CRF 3 (Add SLM & Signs)*:	Apply .04 for All Crashes and 0.15 for Bicycle Crashes Ref: ODOT Systemic Safety Measures Bicycle Enhancements
CRF 4 (Widen Shoulders):	Apply 0.05 (5%) CRF per ft. widened each side of roadway (i.e. adding additional 3 ft shoulder each side = 15% reduction in All Crash types) Ref: MDOT
CRF 5 (Install High Visibility Crosswalk):	Apply 0.19 for All Crashes and 0.37 for Pedestrian/Vehicle crashes Ref: CMF Clearinghouse CMF ID No. 4124 and ODOT Pedestrian Enhancements Safety (see ODOT hyperlink below)
CRF 6 (Add Advance Warning Sign to Crosswalk):	Apply .04 for All Crashes and 0.15 for Pedestrian Crashes Ref: ODOT Systemic Safety Measures Pedestrian Enhancements
CRF 7 (New or Upgraded Ped Signal):	CRF is Install Pedestrian Countdown Timers; Apply 0.70 for Pedestrian/Vehicle Crashes Ref: CMF Clearinghouse CMF ID No. 5272 <i>The 2009 MUTCD requires all new pedestrian signals to be countdown signals.</i> http://guide.saferoutesinfo.org/engineering/traffic_signals.cfm
CRF 8 (Replace Signalized Intersection w/Multilane Roundabout):	Apply 0.35 for All Crashes for Replace Signalized Intersection with Single or Multi-Lane Roundabout for All Crashes CMF Clearinghouse CMF ID No. 209
CRF 9 (Road Diet):	Apply 0.29 for All Crashes Ref: CMF Clearinghouse CMF ID No. 199
CRF 10 (Bridge Deck Replacement):	Apply 0.14 for All Crashes Ref: http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_SF/FDOT_BD015_04_rpt.pdf

Safety Benefit Calculation Steps:

Step 1: Multiply pre-project crashes by applicable crash reduction factors (CRF) to arrive at an estimate of post-project reduced number of crashes. If the crash history for a project area includes bike or pedestrian and the proposed project includes countermeasures to address these and there are applicable CRFs related to these countermeasures, pre-project and post-project reduced crashes are tallied for these categories as well.

Step 2: Subtract annualized post-project crashes from pre-project crashes to arrive at an estimate of crashes avoided due to the project.

Step 3: Multiply estimate of crashes avoided due to the project by project specific average crash cost (weighted by severity as described above) to arrive at dollar \$ value of the project's estimated safety benefit. As noted above, NYSDOT's most recent tables are used for this step <https://www.dot.ny.gov/divisions/operating/osss/highway-repository/24D467FEE3410020E0530A3DFC050020>

Travel Time Savings

Monetary benefits of mobility improvements are measured by calculating user operating cost savings and the monetary value of travel time savings that would result from project implementation. For most projects, these benefits are calculated using the CDTC STEP Model. Year 2016 traffic is assigned to the network with and without the proposed project. User operating costs and travel time costs are calculated as the difference between the costs resulting from these two assignments. The cost impacts resulted from the increased capacity and improved operation that the project is expected to provide, including the impact of traffic diversions that the STEP Model assignment predicts. Safety impacts are calculated if specific improvements included in the project are expected to reduce crashes as described in the previous section.

Travel time savings for mobility projects are measured in the dollar value of the projected time saved by implementation of the project per year. Travel Time Savings are the product of the change in total delay per year (based on delay per vehicle per day, the daily traffic volume and the number of days in a year when the condition exists), and a monetary equivalence factor. The average value of travel time of \$11.85 per vehicle hour is used.

This value is based on the NYSDOT Highway User Cost Accounting Microcomputer Package, August, 1991. Costs are increased to reflect inflation and increased minimum wage. After adjusting for vehicle occupancy and other factors, each non-truck vehicle hour is currently valued at \$10.45. The average vehicle hour of truck travel time is currently calculated to be \$30.50 per hour. The average value of travel time for all vehicles used by CDTC is a weighted average calculated by assuming 7% truck traffic. The result is \$11.85 per vehicle hour of travel.

Energy and User Cost Savings

Energy and user cost savings for pavement improvements are measured in the dollar value of the projected energy and user cost saved per year. Energy cost is the product of the daily change in operating fuel consumption (based on the FHWA-supported microcomputer procedures in most cases), the daily volume, the number of weekdays in a year, and a monetary equivalence factor from a standardized table. The maintenance costs before and after are taken from Table H-3 on page H-7. The savings are calculated from those numbers.

Energy and user cost savings for *mobility* projects are calculated based on the operating costs shown in Table H-4 on page H-7. These costs are also derived from the NYSDOT Highway User Cost Accounting Microcomputer Package, updated for inflation.

**TABLE H-3
AVERAGE USER MAINTENANCE COST BY HIGHWAY CONDITION**

NYSDOT Pavement Score	Average Cost Per Vehicle Mile¹
10	\$0.1287
9	\$0.1287
8	\$0.1312
7	\$0.1347
6	\$0.1400
5	\$0.1470
4	\$0.1570
3	\$0.1666
2	\$0.1786
1	NA

SOURCE: Vehicle Operating Costs, Fuel Consumption, and Pavement Type and Condition Factors, FHWA, 1982.

**TABLE H-4
AVERAGE HIGHWAY VEHICLE OPERATING COSTS
Dollars per Vehicle Mile Traveled, by Operating Speed and Posted Speed Limit**

Operating Speed (mph)	Speed Limit						
	30	35	40	45	50	55	65
2.5	0.849	0.868	0.886	0.904	0.923	0.940	0.958
5	0.849	0.868	0.886	0.904	0.923	0.940	0.958
7.5	0.796	0.818	0.841	0.863	0.878	0.892	0.906
10	0.744	0.769	0.795	0.821	0.833	0.844	0.855
15	0.666	0.693	0.720	0.736	0.758	0.775	0.793
20	0.626	0.648	0.670	0.690	0.715	0.726	0.738
25	0.600	0.618	0.635	0.654	0.674	0.689	0.704
30	0.586	0.600	0.615	0.629	0.646	0.663	0.679
35	NA	0.586	0.599	0.611	0.626	0.639	0.651
40	NA	NA	0.594	0.605	0.616	0.628	0.639
45	NA	NA	NA	0.603	0.611	0.620	0.629
50	NA	NA	NA	NA	0.608	0.616	0.625
55	NA	NA	NA	NA	NA	0.614	0.620
60	NA	NA	NA	NA	NA	NA	0.616
65	NA	NA	NA	NA	NA	NA	0.616

Operating costs are derived from the NYSDOT Highway User Cost Accounting Microcomputer Package, August 1991. Operating costs are increased by 25%, in order to agree with 2016 operating costs. Vehicle ownership costs per mile were included. This is consistent with AAA estimates and the IRS allowances for driving costs. Truck ownership costs were added based on the assumption that the percentage of VMT consisting of trucks is 7%. If operating speed is less than posted speed, congestion is assumed. Travel time costs will be valued at \$11.85.

¹ 0% grade, 30 mph, 40% small cars/pickups, 40% med. cars, 10% large cars, 7% 2 axle trucks, 3% 3 axle trucks.

Life Cycle Cost Savings

Life cycle cost savings are measured in the dollar value of the projected time saved per year by deferring abandonment of the facility. Life cycle cost savings are a product of the percent-extended life of the facility, and the mobility benefits that result from keeping the facility usable.

"Life cycle cost savings" could also be described as "extended facility value". Intuitively, repairing or replacing a facility or service integral to the regional system is important because of the value of that facility or service to the transportation system. Bridges are not replaced because they are in poor condition; they are replaced because it is important to keep those links open. Buses are not replaced because they are twelve years old; they are replaced because it is important to continue to operate a vital transit service. As a result, the life cycle costs savings of an infrastructure project are defined as:

$$\text{Life Cycle Cost Savings} = (\text{Total Facility Value}) \times (\text{Pct. Extended Life})$$

where:

$$\text{Total Facility Value} = \text{Travel Time Savings} + \text{Energy and User Cost Savings}$$

and

$$\% \text{ Extended Life} = \text{Years of Facility Life Added by Project} \div \text{Normal Facility Life}$$

Travel time savings and regional user cost savings attributable to the facility are calculated using the CDTC STEP Model. The model is run once with the facility or service in place, then a second time with the facility or service removed. The difference in regional system measures between the two runs is assumed to represent the total value of the facility or service.

For bridges, the facility is removed for modeling purposes by eliminating the bridge link entirely from the highway network. For highways, the facility is considered removed by reducing the travel speed to five miles per hour. Transit service is eliminated by adding passenger travel as vehicular travel on the highways that transit effectively serves.

Percent extended facility life is determined using the data in Table H-5, Table H-6, Table H-7, and Table H-8.

**TABLE H-5
RELATIONSHIP BETWEEN THE EXTENDED LIFE
OF A HIGHWAY AND ITS SURFACE RATING**

Surface Score	% Extended Life		
	Rigid Pavements	Overlay Pavements	Flexible Pavements
10	0%	0%	0%
9	5.9%	4.3%	3.8%
8	14.7%	8.7%	11.5%
7	26.5%	21.7%	23.1%
6	47.1%	43.5%	46.2%
5	79.4%	78.3%	69.2%
4	100.0%	100.0%	88.5%
3	100.0%	100.0%	100.0%
2	100.0%	100.0%	100.0%
1	100.0%	100.0%	100.0%

Source: Derived by CDTC from an internal NYSDOT memorandum regarding new pavement deterioration rates dated August 8, 1986.

**TABLE H-6
RELATIONSHIP BETWEEN THE EXTENDED LIFE
OF A BRIDGE AND ITS RATING**

Bridge Rating	% Extended Life
7	0%
6	22.2%
5	44.4%
4	66.6%
3	88.9%
2.5	100.0%
2.0	100.0%
1.0	100.0%

Source: CDTC

TABLE H-7
RELATIONSHIP BETWEEN THE AGE AND EXTENDED LIFE OF A FACILITY
OTHER THAN BRIDGES AND HIGHWAYS

<u>Age / Expected Life</u>	<u>% Extended Life</u>
0	0%
.2	5%
.4	10%
.6	20%
.8	30%
.9	40%
1.0	50%
1.1	60%
1.2	70%
1.4	80%
1.6	90%
1.8	95%
2.0	100%

Source: CDTC

TABLE H-8
6% CAPITAL RECOVERY FACTORS FOR ANNUALIZED COSTS

Design Life in Years	Capital Recovery Factor
1	1.060000
2	0.545437
3	0.374110
4	0.288591
5	0.237396
6	0.203363
7	0.179135
8	0.161036
9	0.147022
10	0.135868
11	0.126793
12	0.119277
13	0.112960
14	0.107585
15	0.102963
16	0.098952
17	0.095445
18	0.092357
19	0.089621
20	0.087185
21	0.085005
22	0.083046
23	0.081278
24	0.079679
25	0.078227
26	0.076904
27	0.075697
28	0.074593
29	0.073580
30	0.072649
31	0.071792
32	0.071002
33	0.070273
34	0.069598
35	0.068974
36	0.068395
37	0.067857
38	0.067358
39	0.066894
40	0.066462
45	0.064700
50	0.063444
55	0.062537
60	0.061876
65	0.061391
70	0.061033
75	0.060769
80	0.060573
90	0.060318
100	0.060177

**TABLE H-9
DESIGN LIFE OF VARIOUS FACILITIES**

Facility	Design Life
Right-of-way, obstacle removal	100 years
Local pavement reconstruction ¹	30 to 50 years
Bridge Replacements	50 years
Other Major Structures	30 years
New Construction	30 years
Major Reconstruction	30 years
Sidewalks	30 years
Class 1 bike paths	30 years
Major Geometrics: change of intersection configuration, curve flattening, etc.	20 years
Concrete barrier (median or half section)	20 years
Rubblization	20 years
Grade crossing protection upgrades	20 years
Minor Geometrics: left-turn lanes, channelization	15 years
Lighting	15 years
Major sign structures	15 years
Metal median barrier	15 years
Bus	12 years
Signals and flashing beacons	10 years
Resurfacing (2 1/2")	10 years
Minor signing	10 years
Metal guide rail	10 years
Armor coat (1")	7 years
Concrete pavement grooving (less than 10,000 AADT per lane)	7 years
Concrete pavement grooving (greater than 10,000 AADT per lane)	5 years
Delineators and guide markers	5 years
Asphalt pavement grooving (less than 10,000 AADT per lane)	5 years
Oil and stone	4 years
Asphalt pavement grooving (greater than 10,000 AADT per lane)	4 years
Shoulder stabilization	4 years
Pavement markings: thermoplastic	3 to 7 years
Pavement markings: paint	1/2 year

Source: NYSDOT, From TE 204 Safety Project Benefit and Cost Summary, supplemented for additional project types

¹ Design life of pavements with AADT less than 30,000 are between 30 years and 50 years and vary with AADT.

Other Benefits

"Other" benefits of candidate projects capture the monetary transportation system impacts not included elsewhere in the calculations, but contained in the *New Visions* Core Performance Measures.

Supplemental monetary impacts beyond those identified elsewhere in the benefit to cost calculation are documented in the "Estimated Marginal Monetary Costs of Travel in the Capital District", April 1995. These supplemental monetary benefits (or disbenefits) of candidate projects included changes to the following system-level measures of transportation system cost which are not captured elsewhere in the list of project benefits:

- ◆ Private vehicle ownership
- ◆ Parking provision and use -- work trip
- ◆ Parking provision and use -- other commercial
- ◆ Parking provision and use -- residential
- ◆ Transportation related fire/police/justice expense
- ◆ Regional air pollution
- ◆ Global air pollution (climate change)
- ◆ Vibration damage
- ◆ Water quality damage
- ◆ Waste disposal
- ◆ Energy use impacts on costs of national security and impact on international trade

The *New Visions* plan relies heavily on these extensions to the traditional system costs and benefits. It should be recognized, however, that these are factors that are influenced primarily by *system-level* rather than *project-level* changes. That is, system-level success over the 20 years in increasing the amount of mixed use development, sidewalk connections and quality of transit service may influence total vehicle ownership in the region (and thus reduce the cost of providing residential garages), for example. However, it would be difficult to assign part of that cumulative benefit to a single TIP candidate project that, for example, building bus shelters.

As a result, monetary measures for "other benefits" are identified only for projects significant enough to affect system-level measures. Such projects are generally ones that affect the number of vehicle trips or the aggregate level of vehicle miles of travel in the Capital District.

Non-monetary benefits include increased access to transit service, greater flexibility or reliability and other measures from the *New Visions* Core Performance Measures list. To the extent that a TIP candidate project could be expected to change the values for these regional measures, the change is identified on the fact sheet.

Total Benefit/Cost Ratio

A total benefit/cost ratio is the sum of these five categories of quantifiable project benefits divided by the annualized cost of the project. Annualized costs are a product of the total project cost and the 6% Capital Recovery Factors (Table H-8 on page H-11).

BICYCLE/PEDESTRIAN PROJECT MERIT EVALUATION METHODOLOGY

Introduction

Consistent with the previous TIP Updates, CDTC Staff again used potential market for bicycle/pedestrian travel, cost-effectiveness and potential safety benefits (e.g., accident reduction or avoidance) in the evaluation of bicycle and pedestrian projects. These measures are briefly defined below.

Potential Market for Bike and Pedestrian Travel

This measure is based on the modeled short trip response on the bicycle/pedestrian version of CDTC's Systematic Traffic Evaluation and Planning (STEP) model. A potential bicycle trip table was created by selecting all PM peak hour trips from the CDTC STEP Model that are less than 10 miles. A potential pedestrian trip table was created by selecting all PM peak hour trips from the CDTC STEP Model that are less than 2.5 miles. (A pedestrian distance threshold of 2.5 miles was selected to allow for the extra distance between loading nodes in the model.) The aim of this measure is to get an indication of how many trips might be realistic candidates for conversion to cycling or walking.

For this analysis, project candidates are represented in the STEP Model using the conventions that correspond with biking or walking. In the STEP Model, illegal facilities are closed to bicycle and pedestrian travel (e.g., the Northway has no bicycle or pedestrian access), and discourages the use of very undesirable facilities (for example facilities with no sidewalks) with a 1 MPH speed limit. For the pedestrian model, facilities with sidewalks were coded at 3 mph. For the bicycle model, bicycle friendly streets were coded at 10 mph and bike/hike paths were coded at 15 mph. Projects were modeled under this rubric to see how many short trips could potentially walk or cycle based on the project improvement. The process does not model how many walkers or cyclists there will be on a given day, rather it provides a relative estimate of how many people would have access to use the project improvement for walking or cycling. Each project is then given a market value score of A, B or C based on their relative levels of access provided in comparison with other projects.

Cost-Effectiveness

Cost-effectiveness is calculated by comparing the market value score with the cost. Project candidates are divided into three cost groups in comparison to each other and assigned scores of A, B or C. Lowest cost projects received a grade of "A", medium cost projects a grade of "B" and high cost projects a grade of "C". This cost grade was compared to the grade given for market potential. Final cost effectiveness scores were based on the following table:

Cost Score	Assigned Trips Score	Final Cost Effectiveness Score
A	A	A
A	B	A
A	C	B
B	A	A
B	B	B
B	C	C
C	A	B
C	B	C
C	C	C

Potential Safety Benefit

The CDTC Bicycle and Pedestrian Advisory Committee suggested this measure as a way of illustrating the safety enhancement which comes in making accommodations for cyclists and pedestrians within the transportation system. The potential safety benefit is calculated using the Federal Highway Crash Modification Factor (CMF) Clearinghouse. A CMF provides a quantitative estimate of the effectiveness of a proposed improvement (i.e. high-visibility crosswalks, bike lane, etc.) on decreasing crashes of the site where it will be implemented. The CMF score is dependent on traffic volume, existing conditions, and car-bicycle and car-pedestrian crash histories. Candidate projects are given a safety benefit score of A, B or C based on their relative CMF in comparison with other projects.

Total Bicycle Pedestrian Score

A weighted score for each project is calculated by assigning weighted score points as follows: A+=7, A=6, A-=5, B+=4, B=3, B-=2, C+=1, C=0. Market Potential and Safety are worth 2X Cost Effectiveness.

QUALITATIVE PROJECT BENEFITS

Overview

Calculated benefit/cost ratios capture transportation benefits well. However, transportation benefits alone are not sufficient to highlight project contributions to meeting the goals and implementing the strategies in *New Visions*. The source of most of this information is the project justifications provided by the project sponsor. CDTC Staff performs the evaluations using the Evaluation Form on page H-20. Also, on page H-18, is a Summary Sheet, which enables the results from the longer Evaluation Form to be summarized.

Summary Sheet

PROJECT NAME:

MERIT CATEGORIES	NUMERIC VALUES	SCORE
REGIONAL BENEFIT (5 POINTS POSSIBLE)		
Benefit beyond project to transportation system or quality region	SCORE -2 to +5	
	SUBTOTAL -2 to +5	
COMMUNITY QUALITY OF LIFE & EQUITY (10 POINTS POSSIBLE)		
Land Use Compatability	SCORE -1 to +3	
Smart Growth	SCORE -1 to +3	
Environmental Justice	SCORE -1 to +2	
Accessibility/ADA/Universal Design/Human Services Transport	SCORE -1 to +2	
	SUBTOTAL -4 to +10	0
APPROPRIATE INFRASTRUCTURE (10 POINTS POSSIBLE)		
Preservation/Renewal of Existing	SCORE -2 to +5	
Complete Streets	SCORE -2 to +5	
	SUBTOTAL -4 to +10	0
MULTI-MODALISM (10 POINTS POSSIBLE)		
Transit	SCORE -2 to +5	
Pedestrian	SCORE -1 to +3	
Bicycle	SCORE -1 to +2	
	SUBTOTAL -4 to +10	0
ENVIRONMENT & HEALTH (8 POINTS POSSIBLE)		
Sensitive Area Preservation/Mitigation	SCORE -1 to +2	
Greenhouse Gas Emissions Reduction	SCORE -1 to +2	
Alternative Fuels Support	SCORE -1 to +2	
Other Health Benefit	SCORE -1 to +2	
	SUBTOTAL -4 to +8	0
ECONOMIC DEVELOPMENT (5 POINTS POSSIBLE)		
Economic Impact	SCORE -2 to +5	
	SUBTOTAL -2 to +5	
SAFETY & SECURITY (5 POINTS POSSIBLE)		
Additional Safety Benefit Beyond Crash History	SCORE -1 to +3	
Security and Resiliency to Natural Hazards and Human Caused Events	SCORE -1 to +2	
	SUBTOTAL -2 to +5	0

OPERATIONS & TECHNOLOGY (5 POINTS POSSIBLE)			
Traffic Operations & Reliability Improvements	SCORE	-1 to +3	
Use of Beneficent Advanced Technologies	SCORE	-1 to +2	
	SUBTOTAL	-2 to +5	0
FREIGHT (5 POINTS POSSIBLE)			
Freight and Goods Movement	SCORE	-2 to +5	
	SUBTOTAL	-2 to +5	
INNOVATION (2 POINTS POSSIBLE)			
Innovative Solutions	SCORE	0 to +2	
	SUBTOTAL	0 to +2	
PROJECT DELIVERY (2 POINTS POSSIBLE)			
On Schedule/On Budget	SCORE	-2 to +2	
	SUBTOTAL	-2 to +2	
PROJECT MERIT CATEGORY SUB TOTAL			
Total from Line Items Above	SUBTOTAL	-28 to +67	0
Scaled to 50 points			0

B/C RATIO			
B/C Ratio Value (imported from separate analysis)	SUBTOTAL	0 to +50	

PROJECT TOTAL (UP TO 100 POINTS)			
Merit Categories + B/C Value	TOTAL	-21 to 100	0

Evaluation Form

PROJECT NAME:

MERIT CATEGORIES	SCORE
REGIONAL BENEFIT (5 POINTS POSSIBLE)	
Benefit beyond project to transportation system or quality region (5 pts)	
<p>Project implements a substantial portion of one or more of the following CDTC "Big Initiatives":</p> <ul style="list-style-type: none"> • Regional Greenway Program • Riverfront Access and Urban Development Program • Street Reconstruction and Reconfiguration • Suburban Town Center Development • Guideway Transit System with Transit-Oriented Development • Integrated Corridor Management Program • Demand Management Program 	5
<p>Up to 4 points cumulatively (award 1 point for each of the below):</p> <ul style="list-style-type: none"> • Project implements a small portion of one or more of CDTC's "Big Initiatives." • Project contributes to a region-wide (inclusive of 3 or more municipalities) initiative, or initiative of broad geographic scope and impact, aimed at one or more of the following: revitalize urban areas, improve community structure in growing suburbs, preserve open space and agricultural land, make communities more livable, increase communities' transportation options, manage congestion and mobility at a regional or intermunicipal level, improve region-wide or multiple municipalities' safety. • Project is partially funded by innovative funding sources/mechanisms or intermunicipal partnerships, such as: impact or mitigation fees, user fees, dedicated transportation fees, public/private partnerships, intermunicipal financial partnering, etc. • Project requires, or is an outcome from, a Travel Demand Management (TDM) Plan, a plan which goes beyond a traffic engineering study and includes other travel demand management strategies, such as: carpooling, vanpooling, walking, biking, carshare, bikeshare, transit, commuter buses, park & ride lots, alternative parking strategies which encourage reduced auto use. 	1 to 4
<p>Project has neutral affect (no known impact, positive or negative) on the region as a whole. Projects positive or negative affects are contained to the immediate project surroundings or project locale.</p>	0
<p>Project supports an impediment or barrier to a CDTC "Big Initiative" <u>OR</u> has a negative impact of regional scale (a negative impact is any impact</p>	-1

described below in any category which results in a negative score).	
Project supports an impediment or barrier to a CDTC "Big Initiative" <u>AND</u> has a negative impact of regional scale (a negative impact is any impact described below in any category which results in a negative score).	-2
REGIONAL BENEFIT SUBTOTAL SCORE	

COMMUNITY QUALITY OF LIFE & EQUITY (10 POINTS POSSIBLE)	
Land Use Compatibility (3 points)	
<p>2 points for the following:</p> <ul style="list-style-type: none"> Project implements a recommendation from a Linkage Study, town center plan, or similar plan and aligns transportation system with existing or desired land uses. 	0 to 2
<p>1 point for one or both of the following</p> <ul style="list-style-type: none"> Project implements access management features (e.g. shared driveways, raised medians, service roads, dedicated turning lanes, driveway reduction, and cross-easement access) which remove transportation/land use conflicts. Project includes, utilizes, introduces, or implements local mitigation fees, such as by means of a Municipal GEIS, or other significant developer or business contributions for any potential degradation from increased facility utilization or from conflicts between transportation and development. 	0 or 1
Project has neutral affect (no known impact, positive or negative) on land use compatibility. Project maintains existing or implements changes with neutral impacts with regard to land use.	0
Project introduces a new, significant conflict between transportation system and land use.	-1
LAND USE COMPATIBILITY SCORE	
Smart Growth (3 points)	
<p>Project supports 6 or more of the following New York State Smart Growth criteria;</p> <ul style="list-style-type: none"> To advance projects for the use, maintenance or improvement of existing infrastructure To advance projects in municipal centers To advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan To protect, preserve and enhance the state’s resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources To foster mixed land uses and compact development, downtown revitalization brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income groups To provide mobility through transportation choices including improved public transportation and reduced automobile dependency To coordinate between state and local government and municipal and regional planning 	3

<ul style="list-style-type: none"> • To participate in community based planning and collaboration • To ensure predictability in building and land use codes • To promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement. 	
Projects serves existing development and/or encourages one or more of the following: rehabilitation or densification of existing development; development of infill; growth in an existing corridor within or contiguous to existing development; brownfield or greyfield redevelopment.	2
Projects serves new development which encourages one or more of the following development characteristics: mixed use development; compact development; range of housing types; jobs-housing balance; support for compact growth; or growth within or adjacent to an activity center.	1
Project has neutral affect (no known impact, positive or negative) on smart growth.	0
Project contradicts smart growth by: encouraging creation of new sprawl; inducing new greenfield development not contiguous to existing development; supporting creation or expansion of new low-density single-use development; providing capacity expansion to induce remote development or unknown future development. NOTE: Transportation investment serving existing low-density suburban or rural development is to be supported and not penalized with a negative score.	-1
SMART GROWTH SCORE	
Environmental Justice (2 points)	
Project is within an EJ area and has a primary purpose or significant focus on transit, bicycling, walking, or carpool.	2
Project is within an EJ area and maintains existing infrastructure, with a primary purpose or significant focus on automobiles. Included are most highway resurfacing, traffic operations improvement, bridge deck repair, and preservation and rehabilitation type projects.	1
Project excludes EJ areas and maintains existing infrastructure, with a primary purpose or significant focus on automobiles. Included are most highway resurfacing, traffic operations improvement, bridge deck repair, and preservation and rehabilitation type projects.	0
Project is either A) within an EJ area and is new construction, vehicle capacity improvements, or reconstruction projects which add auto capacity or B) excludes EJ areas and has a primary purpose or significant focus on transit, bicycling, walking, or carpool.	-1
ENVIRONMENTAL JUSTICE SCORE	
Accessibility/ADA/Universal Design/Human Services Transport (2 pts)	

Project's primary purpose is to upgrade accessible features, introduce new accessible features, or remove barriers to universal access and is in an area identified as a high priority for access improvement/compliance in an ADA Transition Plan. Alternatively, project's primary purpose is improved operation or coordination of human services transport.	2
Project includes the addition or upgrade of accessibility features such as upgrading or adding ADA curb ramps, audio-visual signals, etc.	1
Project has neutral affect (no known impact, positive or negative) on accessibility/ADA/universal design/human services transport.	0
Project removes an accessible element without replacing or upgrading, adds features(s) which impede universal access, or otherwise compromises accessibility. Alternatively, project impedes operation or coordination of human services transport.	-1
ACCESSIBILITY/ADA/UNIVERSAL DESIGN/HUMAN SERVICES SCORE	
COMMUNITY QUALITY OF LIFE & EQUITY SUBTOTAL SCORE	
APPROPRIATE INFRASTRUCTURE (10 POINTS POSSIBLE)	
Preservation/Renewal of Existing (5 points)	
Project reconstructs, renews, or preserves infrastructure (highway and bridge) with regional significance (inclusive of 3 or more municipalities) to the transportation system, such as a port, airport, transit system, or highway.	5
Project preserves or renews critical infrastructure or critical linkages (defined as facilities with greater importance to the transportation system, such as: bridges lacking a reasonable redundant parallel route, major arterial providing community access or connectivity, etc.)	4
Project reduces future maintenance burden such as by reducing travel lanes of a roadway or removing a significantly underutilized facility from regional inventory.	3
Project has a primary or substantial portion of scope devoted to preservation of pavement, bridges, sidewalks, or other elements but scope extends to include preservation, renewal, or upgrade to adjacent or associated facilities, such as: sidewalks, pedestrian crossings, ADA compliant features, safety components, bike lanes, etc.	2
Project has a primary or substantial portion of scope devoted to preservation of pavement, bridges, sidewalks, or other elements.	1
Project has neutral affect (no known impact, positive or negative) on preservation/renewal of existing infrastructure.	0
Project purpose is to add new auto capacity to an existing facility rather than improving existing system conditions or operational efficiency.	-1
Project purpose is to create an entirely new substantial roadway or other major auto capacity initiative which is not justified by a regional economic development project or a demonstrated serious congestion problem (e.g., an output from traffic model showing deterioration to unacceptable level of service).	-2

PRESERVATION/RENEWAL OF EXISTING SCORE		
Complete Streets (5 points)		
Project is transformative in nature, replacing infrastructure which primarily serves high or moderate speed through traffic with a facility that fully or substantially implements complete street design, i.e. includes 8 or more of the following 11 features:		5
<ul style="list-style-type: none"> • multimodalism • transit infrastructure improvement • sidewalk/bike trail connections or improvements • appropriate road dieting • speed reduction • lane reduction • lane width reduction • shoulder improvements • improved freight access • green infrastructure substantially managing stormwater on local sites • access management, as described above in the Land Use Compatibility category 		
Project includes introduction of new or rehabilitation/upgrade of substantial complete streets features (those 11 features listed above). For the addition of 6 or 7 features, assign 4 points; for the addition of 4 or 5 features, assign 3 points; and for the addition of 2 or 3 features, assign 2 points.		2 to 4
Project is a preservation/maintenance project but scope is inclusive of rehabilitation/upgrade to minor complete streets features such as sidewalks, pavement markings, plantings, etc. Alternatively, if road is rural in character with minimal demand for complete streets, shared use, or purposes other than through traffic, scope addresses one place-appropriate complete streets oriented rehab/upgrade such as to green infrastructure, plantings, adjacent/nearby trail, adequate shoulder width for occasional bicycle travel, etc.		1
Project has neutral affect (no known impact, positive or negative) on complete streets.		0
Project removes, without replacement/upgrade, complete streets features (those 11 features listed above). For the removal of 1 or 2 features, assign -1 point; and for the removal of 3 or more features, assign -2 points.		-1 to -2
COMPLETE STREETS SCORE		
APPROPRIATE INFRASTRUCTURE SUBTOTAL SCORE		
MULTI-MODALISM (10 POINTS POSSIBLE)		
Transit (5 points)		
Project substantially furthers a major CDTA regional transit initiative or a transit-related CDTC "Big Ticket" initiative. Project implements a new transit priority network or substantially expands transit or transit access.		5

<p>Project is on or physically connects to a transit priority network and adds multiple transit components. Alternatively, project's primary purpose is transit improvement and over 50% of cost is directed to transit components. Transit components include:</p> <ul style="list-style-type: none"> • Bus-only travel lane • Transit shelters, including concrete pad and access to board transit • Concrete transit pull-offs (bus bays) adjacent to the roadway • Curb extension at bus stops • Sidewalks • Transit signal priority Queue jumps • Park and Ride lots of at least 25 spaces • Innovative pedestrian crossings • Accessibility above ADA guidelines • Pedestrian signage throughout project area • Land set aside for future transit components 	4
<p>Project is on a transit priority network, or directly connects to the network, and includes at least one new transit component or upgrade to existing transit components. If transit components are removed, there must be a net gain, with other transit component(s) added and/or upgraded.</p>	3
<p>Project is not on and does not physically connect to a transit priority network but does have a transit route present and the project adds transit component(s).</p>	2
<p>Project is not on and does not physically connect to a transit priority network, nor is a transit route present, and the project adds transit component(s).</p>	1
<p>Project has neutral affect (no known impact, positive or negative) on transit. Project is not on a transit priority network, does not physically connect to a network, does not have a transit route, and does not add transit components.</p>	0
<p>Project is not on or does not physically connect to a transit priority network and removes transit component(s) without replacement/upgrade.</p>	-1
<p>Project is on or physically connects to a transit priority network and removes transit component(s) without replacement/upgrade. Alternatively, project is determined to have a serious negative impact on transit.</p>	-2
<p>TRANSIT SCORE</p>	
<p>Pedestrian (3 points)</p>	
<p>Project improves accessibility, safety, or connectivity of pedestrian infrastructure ~AND~ is within, or making a connection to, a Tier 1 Pedestrian District.</p>	+3
<p>Project improves accessibility, safety, or connectivity of pedestrian infrastructure ~AND~ is within, or making a connection to, a Tier 2 Pedestrian District</p>	+2
<p>Project improves accessibility, safety, or connectivity of pedestrian infrastructure while not being located within a defined pedestrian district.</p>	+1
<p>Project has neutral affect (no known impact, positive or negative) on</p>	0

pedestrian infrastructure.	
Project removes pedestrian infrastructure (e.g., sidewalk, crosswalk, ped signals, signage, etc.) without replacing or enhancing it.	-1
PEDESTRIAN SCORE	
Bicycle (2 points)	
Project is on, or making a connection to, the linear Bike Network and the project's primary purpose or significant focus is on bicycle infrastructure/accommodations.	2
Project is not on or directly connected to the linear Bike Network but it improves accessibility, safety, or connectivity of bicycle infrastructure in a non-incident way (e.g., project installs bike lane, widen shoulders specifically for bike usage, or implements comprehensive bicycle signage program). Projects such as highway repaving which may incidentally improve bicycle travel (e.g. by improving pavement condition) are excluded from receiving point value and are considered neutral.	1
Project has neutral affect (no known impact, positive or negative) on bicycle infrastructure/accommodations.	0
Project removes bicycle infrastructure/accommodations (e.g., bike lane, multi-use path, signage, pavement markings, etc.) without replacing or enhancing it.	-1
BICYCLE SCORE	
MULTI-MODALISM SUBTOTAL SCORE	

ENVIRONMENT & HEALTH (8 POINTS POSSIBLE)	
Sensitive Areas Protection/Mitigation (2 points)	
Project includes a significant sustainable feature <u>AND</u> is not within 1/4 mile of or impacts an environmentally sensitive feature.	2
Significant sustainable features include: <ul style="list-style-type: none"> • retention/detention ponds • new or improved wetlands • green infrastructure (bioswales, porous pavement, etc.) • native plant species planting • invasive plant species removal • historic building restoration • stream restoration • wildlife crossing construction • other environmental mitigation strategies 	
Environmentally sensitive features include: <ul style="list-style-type: none"> • sole source aquifers • aquifers • reservoirs • water features (streams, lakes, rivers) • wetlands • watersheds • 100 year flood plains • rare animal populations • rare plant populations • significant ecological sites • significant ecological communities • state historic sites • national historic sites • national historic register districts • federal parks and lands • state parks and forests • state unique areas • state wildlife management areas • county forests and preserves • municipal parks and lands • land trust sites • NYS DEC lands • Adirondack Park • agricultural districts • agriculture parcels taxed as farmland • agriculture parcels in farm use • Class I & II soils 	

Project includes a significant sustainable feature <u>OR</u> is not within 1/4 mile of or impacts an environmentally sensitive feature. (See lists above).	1
Project has neutral affect (no known impact, positive or negative) on environmentally sensitive areas. <u>OR</u> Project includes identified minor environmental impact or risk of impact but proposes to fully mitigate any and all impact/risk.	0
Project is within 1/4 mile of an environmentally sensitive feature, is believed to have a potential impact on the feature, and scope does not propose to fully mitigate impact/risk. Alternatively, project is deemed to include a serious environmental risk or significant negative impact.	-1
SENSITIVE AREA PROTECTION/MITIGATION SCORE	
Greenhouse Gas Emissions Reduction (2 points)	
Project reduces transportation greenhouse gas emissions through a travel demand reduction program or a mode shift to transit or non-motorized vehicles. 2 points for project with a primary purpose (and over 50% of budget) devoted specifically to GHG Emissions Reduction 1 point for project which includes features likely to reduce GHG emissions, including travel demand management, compact mixed-use development, etc.	1 or 2
Project has neutral affect (no known impact, positive or negative) on GHG emissions reduction.	0
Project is judged likely to increase transportation-related GHG emissions.	-1
GREENHOUSE GAS EMISSIONS REDUCTION SCORE	
Alternative Fuels Support (2 points)	
Project includes infrastructure/programs which encourage electric, biofuel, natural gas, or other alternative fuel usage, or encourage high efficiency vehicles, at the following levels of magnitude: <ul style="list-style-type: none"> • 2 point for displacement of over 1000 gas gallon equivalents (GGE's) • 1 points for displacement of 1 to 1000 gas gallon equivalents (GGE's) 	1 or 2
Project has neutral affect (no known impact, positive or negative) on alternative fuels.	0
Project removes without upgrading infrastructure/programs which encourage alternative fuel usage.	-1
ALTERNATIVE FUELS SUPPORT SCORE	
Other Environmental / Health Benefit (2 points)	
Project includes other features beneficial to the environment or to public health not captured in another category. Other environmental features include warm mix asphalt, recycled pavements, use of recycled plastics and other recycled materials, and other energy-saving strategies. Other health features include improvements which increase access to medical care, healthy foods, parks, and recreation; and which increase access to jobs and affordability which reduces financial stress. For the addition of 4 or more features, assign 2 points; and for the addition of 3 or less features, assign 1	1 or 2

point.	
Project has neutral affect (no known impact, positive or negative) on any additional environmental/health issues.	0
Project reduces existing use of the above environmental and health features or includes other features harmful to the environment or to public health.	-1
OTHER HEALTH BENEFIT SCORE	
ENVIRONMENT & HEALTH SUBTOTAL SCORE	
ECONOMIC DEVELOPMENT (5 POINTS POSSIBLE)	
Economic Impact (5 points)	
<p>2 points for the following: Project supports development that is consistent with the Capital Region Economic Development Council's 8 regional strategies listed below. See the CREDC website for descriptions of each strategy. For the consistency with 5-8 strategies, assign 2 points; and for the consistency with 1-4 strategies, assign 1 point.</p> <ul style="list-style-type: none"> • Leverage & Collaborate • Open New Doors • Prepare For Tomorrow • Build A SuperHighway • Bring Cities To Life • Sustain & Optimize Our Surroundings • Showcase Our Beauty • Spotlight Our Strengths 	0, 1, or 2
<p>1 point each (up to 2 points available in total):</p> <ul style="list-style-type: none"> • Project creates (or retains) permanent jobs, for example by improving access to areas of high job concentration or otherwise improves labor market access. • Project provides multimodal access to an urban center, activity center, or area of high residential density. • Project improves access to a major recreation or community facility 	0, 1, or 2
<p>1 point for the following: Project supports access to education-related economic drivers: job-related training locations, educational opportunities (including vocational schools, proprietary higher-educational institutions, community colleges, colleges, and universities), educationally affiliated research facilities, or educationally affiliated business incubators <u>OR</u> has positive impact on a specific industry cluster, innovative business, or industry target, e.g. project enhances region's technology sector.</p>	0 or 1
Project has neutral affect (no known impact, positive or negative) on economic development.	0

<p>"-1 point each (up to -2 points available in total):</p> <ul style="list-style-type: none"> • Project reduces access to job training locations; education; jobs; or manufacturing, technology, or intermodal centers. • Project creates negative impacts to local businesses including economic competitiveness; ability to manufacture, import, or export; increased transportation costs; significantly increased traffic congestion; significantly decreased traffic, etc. 	<p>-1 to -2</p>
<p>ECONOMIC DEVELOPMENT SUBTOTAL SCORE</p>	

SAFETY & SECURITY (5 POINTS POSSIBLE)	
Additional Safety Benefit Beyond Crash History (3 points)	
<p>Project includes new features intended to reduce the risk of fatal or serious injury crashes at locations with limited crash history (a proactive approach). For the addition of 6 or more features, assign 3 points; for the addition of 3-5 features, assign 2 points; for the addition of 2 or less features, assign 1 point. Features include:</p> <ul style="list-style-type: none"> • Traffic Signal Back plates with Retro Reflective Borders • Enhanced Delineation and Friction for Horizontal Curves • Safety Edge • Medians and Pedestrian Crossing Islands • Pedestrian Hybrid Beacon • Road Diet • Centerline Audible Roadway Delineators (CARDS) • Pedestrian Countdown Timers • High Visibility Crosswalks • Sidewalks • Signal Re-timing • Additional Warning and Regulatory Signs (for drivers, pedestrians, etc.) • Leading Pedestrian Intervals • Accessible Pedestrian Signals • No Turn on Red Signs (standard or electric) • Intersection Lighting 	1 to 3
Project has neutral affect (no known impact, positive or negative) on safety beyond crash history.	0
Project introduces features which have negative safety implications.	-1
ADDITIONAL SAFETY BENEFIT SCORE	
Security/Resiliency to Natural Hazards/Human Caused Events (2 points)	
Project implements an initiative identified in a county, state, or other hazard/security/emergency plan, such as: improving a vulnerable evacuation route; providing enhanced access to critical needs or facilities such as hospitals, medical care, emergency care, or emergency services; enabling emergency response; or assisting in recovery activities.	2
Project provides for redundancy or makes facility more resilient by improving/remediating critical components on a facility defined in a risk analysis or vulnerability assessment as sensitive, high-exposure, or high consequence to natural or human-caused disaster.	1
Project has neutral affect (no known impact, positive or negative) on security or resiliency.	0
Project makes an asset or the system more vulnerable (for example, by impeding/reducing an evacuation route or access to emergency services) or project conflicts with a county, state, or other hazard/security/emergency	-1

plan.	
SECURITY AND RESILIENCY SCORE	
SAFETY & SECURITY SUBTOTAL SCORE	
OPERATIONS & TECHNOLOGY (5 POINTS POSSIBLE)	
Traffic Operations & Reliability Improvements (3 points)	
Project is a significant investment in operations or reliability such as installation of new roundabout, corridor signalization improvements, TMC operations funding, or an initiative involving adaptive signal control, self-organizing signals initiative, speed harmonization, dynamic lane assignment or other appropriate active traffic management strategy.	3
Project is located on the ITS priority network and includes substantial features targeting operations and reliability improvements such as traffic signal intersection improvements (including signal coordination, transit signal priority, and/or pedestrian signals), or ITS/CCTV signage or infrastructure.	2
Project is not located on the ITS priority network but includes substantial features targeting operations and reliability improvements such as traffic signal intersection improvements (including signal coordination, transit signal priority, and/or pedestrian signals), or ITS/CCTV signage or infrastructure.	1
Project has neutral affect (no known impact, positive or negative) on operations and reliability.	0
Project introduces a new impediment to or reduction of traffic operations or reliability.	-1
TRAFFIC OPERATIONS & RELIABILITY IMPROVEMENTS SCORE	
Use of Beneficial Advanced Technologies (2 points)	
Project's primary purpose is, and over 50% of budget is devoted to, upgrades to advanced technological features or introduction of new advanced technological features, such as signal coordination, transit signal priority, pedestrian signals, adaptive signal control, self-organizing signals, bluetooth based detection, CCTV, variable message signs, central software, in pavement detection, speed harmonization, variable speed limits, dynamic lane assignment, queue warning, etc.	2
Project includes appropriate upgrades to advanced technological features or introduction of new advanced technological features.	1
Project has neutral affect (no known impact, positive or negative) on advanced technology.	0
Project removes useful advanced technology without replacing or upgrading or fails to include appropriate advanced technology in scope.	-1
USE OF BENEFICENT ADVANCED TECHNOLOGIES SCORE	
OPERATIONS & TECHNOLOGY SUBTOTAL SCORE	

FREIGHT (5 POINTS POSSIBLE)	
Freight and Goods Movement (5 points)	
<p>Award 1 point for each of these criteria (for a cumulative total of up to 5 maximum):</p> <ul style="list-style-type: none"> • Project improves a MPO or NYSDOT identified freight movement issue • Project removes/substantially improves a freight related land-use compatibility, noise, or safety issue • Project is located on, or provides access to, the CDTC Freight Priority Network, and provides a travel time and/or reliability benefit(s) • Project enhances access to a key freight generator (Ex: Airport, Ports, Major Distribution Centers, Industrial Park/cluster of industrial land uses) • Project enhances access to any intermodal freight movement (Ex: air to truck/rail, rail to truck/water, water to rail/truck/air, etc.) 	1 to 5
Project has neutral affect (no known impact, positive or negative) on freight and goods movement.	0
Project is located on, or provides access to, the CDTC Freight Priority Network, and increases travel time and/or decreases reliability.	-1
Project negatively affects freight movement or safety in an area with a known MPO or NYSDOT identified freight movement or freight-related safety issue; alternatively, project introduces a specifically freight-related land use incompatibility (e.g., substantial increase to freight traffic load in residential area, introduction of significant freight traffic noise or other significant freight related nuisance).	-2
FREIGHT SUBTOTAL SCORE	
INNOVATION (2 POINT POSSIBLE)	
Innovative Solutions (2 points)	
Project includes a significantly innovative feature not captured elsewhere in merit criteria which is a new model for the state.	2
Project includes a significantly innovative feature not captured elsewhere in merit criteria which is a new model for the region.	1
Project includes no identified significantly innovative features not captured elsewhere in merit criteria.	0
INNOVATION SUBTOTAL SCORE	
PROJECT DELIVERY (2 POINT POSSIBLE)	
On Schedule/On Budget (2 points)	
Includes the sponsor's latest projects, a minimum of 2 and a maximum of 3). On schedule is defined as completing all project phases in the original programmed year. On budget is defined as completing the project within 10% of the original total cost.	
At least 2 of their projects are on schedule <u>AND</u> on budget	2
At least 2 of their projects are on schedule <u>OR</u> on budget	1

Sponsor does not have 2 applicable projects programmed on a TIP or no other score can be applied.	0
At least 2 of their projects are <u>NOT</u> on schedule <u>AND NOT</u> on budget	-1
At least 1 project was not completed as originally scoped in the project justification package. If this criteria applies, no other criteria in this category applies and the project only receives this score.	-2
PROJECT DELIVERY SUBTOTAL SCORE	
PROJECT MERIT CATEGORY SUB TOTAL	0
Scaled to 50 points	0

B/C RATIO	
SUBTOTAL	0 to 50

PROJECT TOTAL (UP TO 100 POINTS)	
TOTAL	-21 to 100

APPENDIX I - PROJECT JUSTIFICATION PACKAGE

PROJECT JUSTIFICATION PACKAGE

FOR CANDIDATE PROJECTS

(LAST USED IN THE 2016-21 TIP UPDATE)

2016-21 TIP Project Solicitation Project Justification Package

General Information

In order to apply for federal transportation funds a Project Justification Package (PJP) must be prepared for each project proposal. This document contains the project application and some general information on project eligibility, submission procedures and deadlines. For the 2016-2021 TIP Update, CDTC has attempted to streamline the application process due to time constraints on the solicitation and evaluation of projects. A downloadable version of this form in Microsoft Word and Adobe PDF format is available on the CDTC website at <http://www.cdtcmpo.org/tip> along with additional guidance and background materials.

Project Eligibility

All projects must be eligible for federal aid. General information regarding federal aid eligibility is available on the CDTC website at: <http://www.cdtcmpo.org/tip>. A map of federal aid roads is available on the NYSDOT website at: <http://gis3.dot.ny.gov/html5viewer/?viewer=rsvexternal>. For pavement projects, **federal-aid cannot be used on roads functionally classified as local**. The 2013 pavement condition of federal aid roads and the 2013 list of structurally deficient bridges are available on CDTC's website at: <http://www.cdtcmpo.org/tip>. Bridge preservation candidates will be drawn from the Local Bridge Preservation Study prepared by CDM for CDTC and found at: <http://www.cdtcmpo.org/tip>. Replacement candidates may be drawn from a structurally deficient bridge list. Updated lists for pavement ratings and structurally deficient bridges will be posted shortly.

Submission Instructions

One (1) hard copy and one (1) electronic copy of the application (PJP) must be completed (all sections) and returned to the CDTC office by 5:00 p.m. on **Friday, January 22, 2016**. Hard copies may be hand delivered or mailed and electronic copies may be provided via email to pjp@cdtcmpo.org or on CD/flash drive via hand delivery or regular mail. Mailing address:

Michael V. Franchini, Executive Director	Phone: (518) 458-2161
Capital District Transportation Committee	Fax: (518) 729-5764
One Park Place, Main Floor	
Albany, NY 12205	

Project Evaluation

Projects are evaluated by the CDTC Staff. 50% of the score is derived from a calculated Benefit/Cost ratio and 50% is derived from a Merit Categories Score. Details regarding the evaluation methodology and the Merit Categories Scoresheet are available on the CDTC website at <http://www.cdtcmpo.org/tip>. CDTC's Planning Committee and Policy Board are ultimately responsible for project selection.

Questions?

Sponsors may contact Michael V. Franchini, Executive Director or David Jukins, Deputy Director of the CDTC Staff at (518) 458-2161 or by email pjp@cdtcmpo.org at any time for assistance. If requested, CDTC Staff will review your application before submittal and offer suggestions for improvement.

Section A: Sponsor Information and Project Priority

1) Project Name:

2) Project Location (city, town, village, etc.):

3) Project Sponsor (government body submitting the proposal):

4) Contact person with direct knowledge of the project:

Name:
Municipality/Organization:
Title:
Street Address:
City/Zip:
Telephone:
Email:

5) Place an "X" in the boxes to indicate that you have read and understand the following:

- The sponsor has provided a signed cover letter from the chief elected official or equivalent along with this Project Justification Package.
- The sponsoring municipality or agency agrees to provide the minimum required local match (20% of the total project cost). NOTE: The 20% local match may be reduced depending on the project type, the federal fund source and the availability of Marchiselli funding.
- The sponsoring municipality or agency acknowledges that funds for locally administered federal aid projects will be provided on a reimbursement basis. The sponsor will be responsible for 100% of the upfront costs and will be reimbursed following completion of the project.
- The sponsoring municipality or agency acknowledges that the cost estimate provided by the sponsor may be adjusted by CDTC Staff based on federal unit costs or other information related to federal aid projects.
- The sponsoring municipality or agency acknowledges that if preliminary engineering funds are not obligated in the federal fiscal year in which they are programmed, the entire project will be removed from the TIP and federal funds will be returned to their source. The project would then have no status. The CDTC Planning Committee can take action to approve exceptions to this rule at its discretion.

6) Sponsors submitting multiple project proposals should numerically rank them (1 being highest) as an indication of their priority.

Priority Level:

Section B: Project Description Including Key Project Elements

Describe the proposed project with as much detail as possible including key project features by dominant project type. If the project proposal is directly related to an existing federal aid project, provide the PIN and TIP numbers as well.

For All Pavement Projects:

- 1) What are the limits of the project (Describe the beginning and endpoints of the project using side street names, reference markers or specific street addresses).
- 2) If the project is related to an existing federal aid project funded in the TIP, provide the TIP number and the NYSDOT PIN number.
- 3) What is the AADT (Annual Average Daily Traffic) and what year is the traffic count from? What is the percentage of Heavy Vehicles, if known? Refer to the NYSDOT traffic data view for more information at: <http://gis3.dot.ny.gov/html5viewer/?viewer=tdv>.
- 4) What is the project's purpose and need? Is it preventive maintenance, corrective maintenance, rehabilitation (system renewal) or reconstruction (system renewal)? Provide the condition score and/or other necessary engineering data that describes the problem. Condition scores are available on the CDTC website <http://www.cdtcmpo.org/tip>. Note: Preventive/corrective maintenance projects typically have a pavement condition score of 6. A pavement can be considered for preventive/corrective maintenance with a condition score of 5 if the previous year the score was 6. Pavements with a score of 7 can be crack sealed after 4 to 6 years of service. Pavements with a condition score of 5 or less for more than two cycles are considered to be beyond preservation and should be considered for rehabilitation or reconstruction (system renewal projects).
- 5) How was the need for the project identified? Was the project derived from CDTC's pavement condition inventory, NYSDOT's pavement condition inventory, a local pavement condition inventory, a planning/engineering study, part of an overall plan, or part of an existing capital plan? Other source? Provide a copy or web link to the related planning/engineering studies or other planning work as part of this application.
- 6) What specific pavement treatment will be used in the project? For examples of pavement work by category, see page 15 of the NYSDOT TIP/STIP Policy Guidance Document for the 2016 TIP Update on CDTC's website at: <http://www.cdtcmpo.org/tip>.
- 7) Are other treatments included in the project such as ADA compliant project elements or complete streets features, including low cost treatments to address identified needs related to sidewalk gaps, better access for transit and improved bicycle access features such as striping? ADA compliant project elements, such as the number of sidewalk curb ramps to be upgraded or the replacement of an impassible panel of sidewalk, must be identified as part of any resurfacing project on a roadway with sidewalks. Note: For resurfacing projects on roadways with sidewalks a technical advisory found at: <http://www.ada.gov/doj-fhwa-ta.htm> and issued jointly by the USDOT and US Department of Justice requires that such projects address the need for, or adequacy of, ADA curb ramps and crosswalks. See NYSDOT's website at

<http://on.ny.gov/1lyFENP> and <http://on.ny.gov/1YINMK> for more information. For more information on complete streets features for different project types see NYSDOT’s website at: <http://on.ny.gov/1Rd5vHM>.

- 8) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 9) What is the length of the pavement area in feet or miles?
- 10) What is the width of the pavement area in feet (curb to curb or pavement edge to pavement edge if no curbs)?
- 11) Provide the following information in the table below for pre and post project conditions. If the width of the cross section (e.g. shoulder width, travel lane width, median width, sidewalk width, bike lane width, etc.) varies throughout the length of the project area, then provide the information in the below table for each segment where a new cross section exists and/or is proposed. Include ADA features as well. Do not leave blank spaces - insert N/A if the topic is not applicable to the proposed project.

Cross Section Feature	Base Condition (Pre-Project)	Proposed Condition (Post Project)
Total Number of Travel Lanes in Cross Section		
Number of Travel Lanes by Direction		
Width of Travel Lanes (Feet)		
Shoulder Type (paved or unpaved)		
Shoulder Width by Direction (Feet)		
Median Type (i.e. Raised or two way center turn lane)		
Median Width (Feet)		
Parking Lane Width by Direction (Feet)		
On-Street Bike Lane Width by Direction (Feet)		
Multi-Use Path Width (Feet)		
Number of Mid-block Crosswalks		
Sidewalk Width by Direction (Feet)		
Sidewalk/Path Buffer/Planting Area/Maintenance Strip Width (Feet)		

- 12) Any additional information the sponsor would like to provide about the project?

For All Bridge Projects:

- 1) What Bridge(s) does the project intend to address? Refer to the Local Bridge Preservation Study prepared by CDM for CDTC and found at: <http://www.cdtcmpo.org/tip> for more information on local bridge candidates. Provide location information and the BIN number.
- 2) If the project is related to an existing federal aid project funded in the TIP, provide the TIP number and the NYSDOT PIN number.
- 3) What specific bridge treatment will be used in the project? Is it preventive maintenance, corrective maintenance, major rehabilitation (bridge renewal) or replacement (bridge renewal)? For examples of bridge work by category, see page 14 of the NYSDOT TIP/STIP Policy Guidance Document for the 2016 TIP Update on CDTC's website at: <http://www.cdtcmpo.org/tip>. For local Bridges, if the proposed treatment is different than what was in the Local Bridge Preservation Study, explain the change.
- 4) If the project was not derived from the Local Bridge Preservation Study, where was it derived from? Indicate the other source (such as NYSDOT's Bridge Inventory or local assessment).
- 5) Are other treatments included in the project such as ADA compliance or complete street project elements?
- 6) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 7) For bridge replacement projects, are there physical changes to the existing bridge cross section? (Are sidewalks or shoulders added? Additional travel or turning lanes? Any other additions?)
- 8) Any additional information the sponsor would like to provide about the project?

For Transit Projects

- 1) What is the proposed project and where is it located?
- 2) What is the project's purpose and need?
- 3) How was the need identified? If the project was derived from an existing plan or study, provide a copy or a web link to the relevant plan or study.
- 4) If specific to an existing transit route(s), what is/are the route number(s) and what is the current ridership?
- 5) What is the anticipated number of riders following project implementation, if known?
- 6) Would any transit vehicle travel time savings be expected with the project? If so, indicate in terms of travel time reduced and/or reduced delay per rider.
- 7) Does the project incorporate any transit supportive infrastructure? (Examples include bus only travel lanes, transit shelters, bus bays or bus pull offs, curb extensions at bus stops, transit signal priority, queue jumpers, park and ride lots, pedestrian crossings or sidewalks, ADA or other accessibility features.)
- 8) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 9) Any additional information the sponsor would like to provide about the project?

For Bicycle Projects

- 1) What is the proposed project and where is it located? Is the project a trail, traditional bike lane, protected bike lane, shared use lane, widened shoulder, etc.?
- 2) What are the limits of the project (Describe the beginning and endpoints of the project using side street names, reference markers, specific street addresses or connecting trail names):
- 3) What is the purpose and need for the project? How was the need identified? If the project was derived from an existing plan or study, provide a copy or a web link to the relevant plan or study.
- 4) Are there bicycle counts in the project area? If so, how many riders and when was the count conducted?
- 5) What is the length and width of the project in feet, if applicable?
- 6) Are bicycle signals or other bicycle infrastructure being added with the project?
- 7) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 8) Any additional information the sponsor would like to provide about the project?

For Pedestrian Projects Not Related to a Pavement Project

- 1) What is the proposed project and where is it located?
- 2) Is this a new pedestrian facility or replacing an existing facility?
- 3) What are the limits of the project (Describe the beginning and endpoints of the project using side street names, reference markers or specific street addresses)?
- 4) What is the purpose and need for the project? How was the need identified? If the project was derived from an existing plan or study, provide a copy or a web link to the relevant plan or study.
- 5) Are there pedestrian counts in the project area? If so, how many pedestrians and when was the count conducted?
- 6) What is the length and width of the project in feet, if applicable?
- 7) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 8) Will the project replace or add new pedestrian signals? What type (countdown timers, leading pedestrian interval, etc.)?
- 9) Will the project include a midblock crosswalk? If so, note the traffic control device to be used in addition to the crosswalk, if any (e.g. HAWK signal, flashing beacon, etc.)
- 10) Any additional information the sponsor would like to provide about the project?

For All Other Projects

- 1) Provide a detailed description of the project including its location. If the project is derived from a planning or engineering study, provide a copy or a web link of it as part of the application.
- 2) What is the purpose and need for the project? How was the need identified? If the project was derived from an existing plan or study, provide a copy or a web link to the relevant plan or study.
- 3) Does the project include added capacity for motor vehicles (e.g. turning lanes, additional lanes, etc.)? Is there a related traffic study? Submit it if available.
- 4) Is there a specific traffic safety problem, based on documented crash history, the project intends to address? Provide relevant crash data and identify the specific project element that intends to reduce the documented crashes. CDTC Staff is available to provide crash data by request. Note: if a project is eligible for Highway Safety Improvement Program funds, additional documentation may be required from the sponsor at a later time.
- 5) Any additional information the sponsor would like to provide about the project?

Section C: Project Costs

Accurate cost estimates are an important part of the project evaluation process. To assist sponsors and to provide consistency in the development of project costs, CDTC Staff has developed unit cost estimates for some project types based on recent federal-aid construction experience. Descriptions of what is available by project type are provided below.

Pavement Reconstructions: CDTC will estimate project cost using its time-tested and updated unit costs. Sponsors can provide information detailing specific ways that their projects might include exceptional features, for which CDTC unit costs won't apply.

Pavement Preservation: CDTC does not have time-tested unit costs. Recently, projects of this type were added to the TIP, but there is yet any useful information from those projects to estimate reliable costs of future projects. Therefore, sponsors will be relied on heavily for estimates. CDTC will screen the estimates for consistency among sponsors and for excessive variance from unit costs provided by NYSDOT Region One.

Sidewalks and Bike Paths: CDTC will estimate project cost using its time-tested and updated unit costs. Sponsors can provide information detailing specific ways that their projects might include exceptional features, for which CDTC unit costs won't apply.

Element Specific Bridge Repair: CDTC will use the costs provided by the Local Bridge Preservation Study prepared by CDM for CDTC. Sponsors can provide information detailing differences between the scope they are proposing and the one for which cost estimates are provided in the study, and how this affects the cost of the project. If they provide justification for a variance to the cost provided in the study, it will be considered. CDTC will work with relevant parties to consider increasing the costs estimated in the study across the board.

Bridge Replacement: CDTC does not have time-tested unit costs. Therefore, sponsors will be relied on heavily for estimates. But, given that these types of projects have routinely been underestimated, CDTC will screen the estimates for consistency among sponsors and for excessive variance from unit costs provided by NYSDOT Region One.

Other: For projects for which CDTC does not have a procedure, sponsors will be relied on heavily for estimates. CDTC will screen the estimates for consistency among sponsors and for excessive variance from like projects it is aware of.

CDTC's unit costs should serve as a point of reference for above project types to ensure the proposed project cost is in line with federal aid experience. CDTC Staff will be using its unit costs to confirm sponsor costs, when available. If sponsor costs are substantially different than CDTC's unit costs, the sponsor will need to justify the difference. CDTC's unit costs are available on the CDTC website at <http://www.cdtcmpo.org/tip>.

1) Estimated Total Project Costs Worksheet

Sponsors should complete the worksheet below using the best available cost estimates. If the project includes an element(s) for which CDTC has no empirical unit costs or other experience, please provide a cost estimate and indicate its source.

Note: All project cost estimates will be inflated 3.0% annually by CDTC Staff.

Construction Costs (in 2015 \$)	\$
+Inspection Cost/Contingency (10%)*	\$
+All Design Phases**:	
For Pavement and Bridge Preservation (10%)* OR	\$
For Pavements and Bridges Beyond Preservation (18%)* OR	\$
For All other project types (18%)*	\$
+Right-of-Way (if applicable)	\$
=Total Project Cost***	\$

Source of cost estimate:

Notes:

- * Percentages shown are percentages of the construction cost.
- ** Select the percentage to apply for all design phases based on project type.
- *** The total in the project cost worksheet must equal the total in the funding worksheet.

2) Funding Worksheet

Sponsors should note the proposed sources of funding for the project. For clarity, the amount of federal funds requested has been separated from the required local match (though the two together constitute the federal aid requested as funds are provided on a reimbursement basis. Overmatches and other sources of funding beyond the required match should also be noted.

Federal Funds Requested + Required 20% Local Match*	\$
+Additional Local Funds Beyond the Required Match**	\$
+Funds for Other Sources Beyond the Required Match**	\$
<i>List the source of the other funding:</i>	
=Total Project Cost***	\$

Notes:

- * Match percentage may vary based on federal fund source requirements.
- ** These funds would be in addition to the required Local Match.
- *** The total in the project cost worksheet must equal the total in the funding worksheet.

3) What is your preferred year for design? Select one. Note that the federal fiscal year begins on October 1st and ends September 30th. The preferred year for design is not guaranteed.

- 1st year (2016-2017) of 2016-2021 TIP
- 2nd year (2017-2018) of 2016-2021 TIP
- 3rd year (2018-2019) of 2016-2021 TIP

4) What is your preferred year for construction? Select one. Note that the federal fiscal year begins on October 1st and ends September 30th. The preferred year for construction is not guaranteed.

- 1st year (2016-2017) of 2016-2021 TIP
- 2nd year (2017-2018) of 2016-2021 TIP
- 3rd year (2018-2019) of 2016-2021 TIP
- 4th year (2019-2020) of 2016-2021 TIP (for beyond preservation projects only)
- 5th year (2020-2021) of 2016-2021 TIP (for beyond preservation projects only)

Section D: Project Merit

CDTC's project evaluation process includes a Merit Score based on a number of project characteristics that are not directly evaluated as part of the Benefit/Cost Ratio (See Appendix H of the current TIP at: <http://www.cdtcmppo.org/tipdoc13/tip13.pdf>). The following categories are considered in the assignment of the merit score and aid in determining the relationship of the project to the New Visions 2040 Plan found at <http://www.cdtnewvisions.com/> and CDTC policies. All answers must be direct and brief and entered for each merit category as listed below and as applicable to the project. Sponsors should refer to the Merit Categories Scoresheet available on CDTC's website at <http://www.cdtcmppo.org/tip> for full details related to each category.

Regional Benefit (5 Points Maximum)

Community Quality of Life & Equity (10 Points Maximum)

Appropriate Infrastructure (10 Points Maximum)

Multi-Modalism (10 Points Maximum)

Environment & Health (8 Points Maximum)

Economic Development (5 Points Maximum)

Safety & Security (5 Points Maximum)

Operations & Technology (5 points Maximum)

Freight (5 Points Maximum)

Innovation (2 Points Maximum)

Project Delivery (2 Point Possible)

APPENDIX J - PROJECTS COMPLETED SINCE THE FIRST TIP

This appendix does not yet include projects completed since the 2013-18 TIP Update.

Federal-Aid Problem Assessment Projects Committed For Obligation Since the 1977-82 TIP

<u>TIP #</u>	<u>Project Description</u>	<u>Amount Committed (In Millions)</u>	<u>Year Obligated</u>
RG120	Empire Corridor Planning Program	1.000	2009
RG121	NY to VT Bi-State Intercity Passenger Rail Program	0.500	2009
A36	Exit 24 Study	0.300	1980
A162	Route 5 Study	0.100	1988
A378	Tandem Lot Relocation Study	0.010	1998
R274	ITS Demo, Part 2: Research by RPI into ITS Methods	0.086	2005
SA16	I-87 Access Study (Exits 8A, 9, 9A)	0.250	1981
SA18	SESARCO Corridor Study	0.400	1981
S59	I-890/NYS Thruway Exit 26 to Rt. 5 Access Study	0.425	1985
Total Cost of Problem Assessment Projects		\$ 3.071	

**Federal-Aid Transit Projects
Committed For Obligation Since the 1977-82 TIP**

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
T1A	Albany Bus Staging Area.....	0.2	1988
T6	Purchase of Vehicles for the Elderly and Handicapped.....	1.1	1977-85
T6A	16(B)(2) Vehicles for the Elderly and Handicapped.....	11.0	Ongoing
T6B	Special Purpose Transit Vehicles.....	15.2	Ongoing
T8	Building Addition, Albany Bus Garage Facility.....	1.1	1977-85
T9	Facility Improvements	34.4	Ongoing to 2013
T11	System Wide Improvements	5.3	Ongoing
T12	Data Processing Implementation.....	0.3	1977-82
T14	Transit Operations Support	138.3	1977 to 98
T14A	Non-CDTA Transit Operations Support.....	6.5	Ongoing
T14B	Transit Operations Support for Northway Commuter Service	5.5	2003-05
T15	Purchase of Two Suburban Buses, Saratoga.....	0.2	1977-82
T16	Transit Support Vehicles.....	3.0	Ongoing
T17	Transit Vehicle Buses	70.2	Ongoing
T18	Shop Equipment.....	0.4	1977-82
T19	Troy Bus Garage	2.3	1977-82
T20A	Articulated Buses and Small Buses (CDTA).....	2.7	1977-82
T20B	New Express Buses, Saratoga	1.1	1977-82
T21	Preferential Treatment at Selected Intersections.....	0.0	1977-82
T22	Supplemental Technical Services	0.1	1977-82
T24	Registering Fare Boxes	1.4	1977-82
T26	Mini-Bus Replacement.....	1.0	1977-82
T27	Two-Way Radios	0.1	1977-82
T28	Electronic Passenger Information Aids.....	1.5	1977-82
T29	Maintenance Management System	0.1	1977-82
T30	Downtown Albany Pedestrian Walkway	5.8	1989
T31	Albany Trolley Buses.....	0.8	1988 & 1989
T32	Leasing Bus Tires.....	2.3	Ongoing to 2001
T33	Additional Saratoga County Express Buses.....	2.6	1989-1990
T34	Major Bus Components	1.7	Ongoing
T36	Contingencies, Administration and Planning.....	6.5	Ongoing
T37	Fare Collection Equipment	1.2	1993
T38	Park & Ride Transfer Facilities	2.1	1995 & 1996
T39	Privately Operated Transit Feeder Services.....	0.7	1995 & 1997
T40	Circular Trolley Service (Downtown Troy & Saratoga Springs)	0.3	1995
T41	Vanpools for Long Distance Commuters.....	0.1	1995
T42	Carpool Matching.....	0.03	1995
T43	Private Carrier Transfer.....	0.03	1994
T44	Transportation Ordinances.....	0.12	Multiple

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
T45	Transfer Scheduling	0.08	1995
T46	Intermodal Study	0.1	1995
T47	Transit Marketing and Promotion	0.1	1994
T48	Commuter Coach for Private Operator	0.5	1994 & 1997
T49	Guaranteed Ride Home	0.18	Ongoing to 2001
T50	Bus Purchase for Park & Ride Facilities	1.5	1995
T51	Transit in Construction Work Zones	1.2	Ongoing
T52	Section 18 Fixed Route Service	0.4	Ongoing
T53	I-87 Park & Ride Lots	4.1	1995 to 1997
T54	Rensselaer Amtrak Station	26.1	1997 to 2000
T56	Human Service Agency Brokerage Startup Fund	1.2	Ongoing to 2001
T57	Preventative Maintenance of Buses	68.5	Ongoing
T58	Bikes on Buses	0.33	1999
T59	Replacement Shuttle Vehicles	4.9	Ongoing
T60	Replace/Upgrade Radio System	3.0	2000
T61	Fare Collection Equipment	1.8	2001-03
T62	Information Systems	1.6	Ongoing
T64	Customer Information Systems	1.3	Ongoing
T65	Shop Equipment	0.05	Ongoing to 2001
T66	Welfare to Work	6.7	1999, 2003-12
T66A	Welfare to Work (Saratoga Springs)	0.3	2009-11
T67	Rensselaer AMTRAK Station ITS	0.05	2001-03
T69	NY 5 Bus Rapid Transit Vehicles	3.3	2003
T70	NY 5 Bus Rapid Transit Stations	9.9	2005-12
T72	Safety & Security	2.1	2003-13
T74	Park & Ride Lots on NY 5 Corridor	0.9	2003
T75	Transit Signal Priority on NY 5	1.2	2005-12
T76	Replacement Transit Buses for Saratoga Service	1.7	2003-10
T77	Preventive Maintenance for Commuter Service	3.4	Ongoing from '05
T79	New Freedom Transit Service	0.5	Ongoing from '05
T79A	New Freedom Transit Service in Saratoga Springs	0.14	Ongoing from '05
T80	NY 9 Corridor Transit Service in Albany and Saratoga Co.	1.0	2009
T81	Rensselaer Station Capacity Improvements, Phase 2	12.0	2011
T83	CDTA Alternative Fuel Retrofit: 24 Buses	1.2	2009
T84	Saratoga Bus Garage Feasibility Study	1.2	2009

Total Transit Projects (1977-13)

\$489.6

**Federal-Aid Highway Projects
Committed For Obligation Since the 1977-82 TIP**

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
None	Post Emergency Contract	\$3.249	1996
None	Attractions Signs	0.800	1998
None	Traffic Loops Installation	0.560	1998
None	Interstate Service Patrols	0.990	1998
None	Traffic Signals Requirements	0.800	2000
RG15	Durable Pavement Markings	21.273	Ongoing
RG16	State Bridge Inspection Set-Aside.....	13.592	Ongoing
RG21	Right-of-Way Fencing Set-Aside	2.918	1992
RG22	Local Bridge Inspection Set-Aside.....	10.050	Ongoing
RG23	Traffic Signals Set-Aside	6.512	Ongoing
RG26	Interim Scenic Byways Program	0.082	1993
RG27	Travel Demand Management	3.802	2005
RG28	Intelligent Transportation System (ITS).....	4.613	1998
RG29	CDTC Technical Services	0.818	Ongoing
RG30	Interim Scenic Byway Program (ANCA).....	0.075	1993
RG31	Corridor Management Initiative	0.373	Ongoing
RG36	Capital District Signing - Replace large signs.....	0.972	199x
RG37	HELP Program	1.000	2005
RG37A	TMC Operating Costs	17.600	Ongoing
RG80	Permanent Message Signs for Interstate Roads.....	0.650	2002
RG81	NY 5 & Wolf Road ITS Signal Component.....	4.500	2002
RG96	Recreational Trails Projects.....	0.720	Ongoing
RG99	ITS Elements & Transmit Systems for Interstates	5.473	2005-10
RG106	Scenic Byways Block Funds	0.800	Ongoing
RG108	Preventive Maintenance (1R) on the Local Federal-Aid System	1.791	2009
RG109	NY 5 BRT/ADA Compliance	7.500	2009
RG110	High Function State Bridge Preservation	6.600	2009
RG111	Bridge Painting For State and Local Bridges	16.160	2009
RG112	Bridge Repairs On Bridges Rated 5 to 7	4.400	2009
RG114	Bridge Cleaning.....	2.000	2009
RG115	Emergency Demand and Flag Repair.....	3.000	2009-12
None	Shaker Barn Preservation	0.200	1998
A1	Computerized Signal System	2.680	1980
A2	Ontario/Remsen/Mohawk	0.127	1981
A2A	Watervliet Signals	0.110	1985
A3A	Albany-Shaker Road/Old Wolf/New Wolf	0.779	1983
A3B	Albany-Shaker Road/Imp. West of Old Wolf	1.350	1987
A4	Route 155, Old State Road Intersection	0.241	1981
A7	Central Avenue Off Street Parking.....	1.090	1979
A7A	Central Avenue Improvements.....	1.039	1979
A9	North Mohawk Street	0.284	1978
A10	Green Island Bridge	12.665	1979
A12	Route 20 Improvement (I).....	0.612	1977
A12	Route 20 Improvement (II).....	3.748	1978
A13	Route 146 Bridge Over PCRR	1.532	1983
A14	Northern Boulevard Viaduct	2.668	1978
A15	Dunn Memorial Bridge Repair #2.....	1.630	1978

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A16	Dunn Memorial Bridge Repair #3.....	1.735	1979
A19	Route 378 Bridge Over Route 32.....	0.240	1978
A20	Route 9W Southern Boulevard.....	7.154	1984
A22	Route 85, Route 85A to Kenwood Avenue, R&P.....	1.038	1978
A24	Cohoes Arterial, Stage 1 (Maplewood Interchange to Dyke Avenue).....	7.974	1984
A24A	Cohoes Arterial, Stage 2.....	6.894	1986
A26	Hoosick Street Bridge Superstructure.....	11.125	1978
A28	I-787 Green Street to Hamilton Street.....	0.303	1982
A30	Alternate Route 7/I-87 Interchange.....	21.253	1983
A30A	Alternate Route 7/I-87 Interchange (Route 9 & Sparrowbush Road).....	10.233	1982
A31	I-90 Additional Lanes.....	1.625	1978
A38	I-90 Bridge Over Central Avenue.....	0.289	1978
A43	Route 7 West City Line to Congress Street (Watervliet).....	1.194	1981
A44	Route 32 - 13th Street to North City Line.....	0.984	1980
A45	Route I-87 (Exit 2 to Exit 6).....	5.482	1987
A46	112th Street Bridge Repairs.....	0.460	1979
A47	Signal Installation Various Locations.....	0.222	1979
A49	Pine Street Connector.....	0.674	1980
A51	Signal Installation Various Locations.....	0.110	1979
A52	Route 7 Sch'dy County Line to I-87 Follow-Too-Closely Warning System.....	0.186	1978
A53	Alternate Route 7 (Latham to Elm Street).....	6.234	1982
A53A	Alternate Route 7 (Maplewood to Elm Street).....	11.165	1981
A54	State Campus Safety Improvements.....	0.195	1978
A55	I-787 Bridge Deck Repair.....	2.679	1980
A59	Quackenbush Square.....	0.275	1982
A60	Route 7 Over I-890.....	0.110	1979
A61	Route 9 South of the Mohawk River.....	.0190	1978
A62	Route 32 in Menands Improvements.....	0.159	1978
A64	Route 85, 85A to 85A.....	0.640	1979
A67	Lower Hudson Avenue.....	0.219	1980
A69	Route 5 and Vly Road Signal.....	0.048	1981
A70	112th Street Bridge Electromagnetic Repairs.....	0.500	1980
A72	Route 5 Bus Turnout.....	0.016	1981
A73	Thruway Third Lanes.....	7.341	1981
A74	I-87 Rumble Strips.....	0.022	1982
A75	I-787 Mono-Deck Repairs (NB).....	4.306	1981
A76	Route 7 Verdoy Firehouse Signal.....	0.014	1982
A77	Routes 20/146 Signal.....	0.043	1982
A78	Route 378 Bridge Decks.....	1.292	1982
A79	Route 85/Thruway, Route 140/D&H.....	0.502	1982
A80	Dunn Memorial Bridge Ramps.....	1.260	1982
A81	Alternate Route 7/I-787 Interchange.....	0.507	1983
A82	Pavement Markings, Route 9, 85, I-90, I-787.....	0.310	1982
A83	I-90/I-787 Interchange Mono-Deck Repairs.....	1.706	1983
A84	Route 7 and Wade Road.....	0.563	1983
A85	I-87 Speed Monitor Loops.....	0.008	1981
A86	Northway/I-90 Connection (Exit 1).....	10.229	1984
A87	Routes I-87 & I-90 Thruway Connection (Exits 23A & 24).....	28.210	1984
A89	Route 158 (Route 146 to Albany-Schenectady County Line).....	0.153	1982
A90	Route 9W (Jericho Road to Delmar Bypass).....	0.375	1983
A91	Routes 155, I-87 (NB Ramps) & Holly Lane Signal.....	0.055	1982
A92	Route 155, Middle School Access Road to Route 20, Pedestrian/Bike.....	0.052	1983
A93	Route 5, Fuller Road to Northway Inn, Pedestrian Accommodation.....	0.243	1983

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A94	I-87 & 787 Pavement Markings	0.171	1983
A95	Albany Shaker Road/Osborne Road Improvements	1.750	1988
A96	Congress Street Bridge (see also R53)	0.878	1983
A97	Albany Street/Karner Road Improvement	0.762	1987
A98	Sign Improvements Various Locations (I-87, I-787, I-90).....	0.157	1983
A99	Dunn Memorial Bridge EB (see also R56).....	0.523	1983
A100	Route 9 Bridge Over Mohawk River Painting	0.101	1983
A101	Route I-87 Bridge Over Mohawk River Painting	0.575	1985
A102	I-787 SB Viaduct.....	2.600	1983
A104	I-90 WB to I-87 NB Ramp	7.409	1983
A105	Route 7 Reconstruction (Wade Road South to Rosendale Road).....	13.377	1990
A106	23rd Street at I-787 NB Exit Signal	0.035	1983
A107	Route 155 Over Watervliet Reservoir	1.404	1990
A109	Route 32 Over Conrail Feura Bush	2.866	1989
A110	Route 146 Over Normanskill	0.475	1984
A112	Route 470 Over Mohawk River East.....	1.856	1987
A113	Johnston Avenue and Vliet Street Over Bike Path.....	0.750	1985
A114	NY 20/SUNYA, NY 7/Old Loudon Rd; Wash'n Ave Ext/Rapp Rd Signals	0.140	1983
A116	Sand Creek Road/Osborne Road Improvements	1.230	1990
A117	Albany Shaker Road and Everett Road, Intersection Improvements	2.084	1993
A119	I-787 Over 23rd Street and Over 25th Street.....	1.097	1984
A122	Curry Road Over I-890.....	1.198	1989
A124	Everett Road and Watervliet Avenue Extension	0.158	1984
A125	Dunn Memorial Bridge Westbound	0.555	1985
A127	I-787, I-90, Route 85 & Route 32 Signals	0.345	1985
A128	Route 20 Bridge Over Thruway	4.197	1987
A131	Exit 24 Electric and Toll Booth Collection	2.028	1984
A132	Exit 24 Heating & Ventilating.....	0.224	1984
A133	Exit 24 Plumbing.....	0.104	1984
A134	Old State Road Safety Improvements	0.106	1987
A137	Route 32 in Watervliet (Part 1)	0.670	1985
A137	Route 32 in Watervliet (Part 2)	0.775	1988
A138	Permanent Traffic Count Stations	0.044	1989
A139	Route 443 and Route 335 Intersection	0.279	1989
A140	Central Ave/Parkwood Dr & Lincoln Ave Intersection Improvements	0.134	1987
A141	Route 32, Northway to Latham Circle.....	0.536	1986
A142	Maywood Section Highway and Drainage	0.705	1985
A143	Sand Creek Road, Resurfacing.....	1.225	1985
A144	Routes 20/155, 146, 85 or 85A (Resurfacing).....	1.179	1985
A145	Route 9, North of Latham Circle.....	0.250	1986
A146	I-890 Over Conrail & Spur; Everett Road Over I-890 and Conrail.....	4.875	1989
A147	Normanskill Farm Road Over Ravine	0.070	1985
A148	NY 155 Bridge Over Normanskill Creek, Bridge Replacement	2.308	1997
A150	Bridge Avenue Over Mohawk River.....	0.152	1986
A151	North Mohawk Street Over Filled Hydro Canal	0.010	1987
A152	Route 9, Birch Hill Road to Pine Street	1.200	1986
A153	CR 202 (Meadowdale Rd) Over Black Creek	0.209	1986
A154	Route 2, Latham Circle to Purtell Avenue	0.623	1989
A155	I-787 Over South Pearl Street and Thruway Ramps	10.449	1988
A156	Route 9W Over I-787 Ramps	1.978	1990
A157	Route 9W in Vicinity of Hoffman Avenue	0.419	1987
A158	Route 2 Over Hudson River	0.375	1986
A159	Route 378 Over Hudson River	0.508	1986

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A160	Route 144, Route 396 to Conrail	0.376	1989
A161	Route 155, Old Wolf Road to Lincoln Avenue	1.396	1987
A162	Route 5, Sch'dy City Line to Fuller Road	6.380	1989
A164	North Albany Industrial Access Road	1.188	1988
A165	Washington Ave., Victor Ave. to Campus Approach	0.275	1990
A166	Northern Blvd., End of Viaduct to Livingston Ave.....	0.303	1990
A167	Delaware Avenue over the Normanskill Replacement.....	6.713	1993
A168	Route 158 Bridge Over Bozenkill	0.616	1988
A169	Wards Lane Over Railroad & I-787	1.588	1990
A170	Lark/Dove Monodecks	3.647	1993
A171	Park & Ride Lot in Delmar	0.163	1989
A173	I-87,: Exit 24 Landscaping	0.364	1992
A175	Western Avenue, Gipp Road to Cornell Avenue.....	1.948	1990
A178	Frisbie Avenue Park and Ride Lot	0.928	1989
A179	Route 5: Route 155 to Schenectady Co Line, Resurfacing (Also S85)	7.932	1996
A181	Route 5, Albany City Line to I-87.....	6.032	1990
A183	Route 443 Culvert	0.241	1989
A184	Route 470 (112th St) Bridge Over the Hudson River (Also R102).....	7.979	1995
A186	Route 155 Over Normanskill	0.209	1989
A187	I-90: Patron Island Bridge Deck Rehabilitation	21.341	1992
A188	Fuera Bush Road Over NYS Thruway	2.097	1990
A189	Route 155 Over Vly Creek.....	0.385	1990
A190	I-90 and I-787 Lark Dove Interchange, Monolithic Deck Repairs	4.840	1997
A191	Replace Route 146 Bridge over Thruway	3.340	1992
A192	Delaware Avenue Over Normanskill Creek.....	0.404	1990
A193	Route 470 Bridge over Mohawk River Replacement.....	1.706	1993
A196	Route 7 Bridge over I-890 Replacement	0.724	1993
A198	NY 7 Bridge over I-87.....	0.488	1993
A198	NY 7 Bridge over I-87 and I-87 Bridge over Watervliet Shaker Road	42.703	2008
A199	Route 32 Bridge over D&H at Ward's Lane.....	6.655	2003
A200	Rte. 155 Bridge over Lincoln Avenue Repairs.....	2.756	1993
A201	I-787 SME Resurfacing, Viaduct to Route 378.....	5.847	1991
A203	Cohoes D & H Crossing	0.745	1990
A204	I-787 SME Paint Bridge Over Hudson River	1.050	1991
A206	Large Signs I-90 & I-87	1.020	1990
A207	I-787 Clinton Avenue Viaduct, Bridge Paint	0.418	1991
A208	Route 32 Bridge over Route 9W Deck Repairs.....	0.741	1993
A209	Buckingham Drive Bridge Over NY 85, Replacement	3.500	1999
A209	Buckingham Drive Bridge over Route 85 Replacement	0.060	1992
A210	Route 32 Bridge over Normanskill Creek Replacement	0.041	1993
A211	I-87 Bridges & Wolf/ASR and Wolf/Central Intersection Imp.	7.654	1997
A212	South Mall Expressway Bridge Painting	1.020	1992
A213	Route 378 Over Hudson River	0.594	1990
A215	Krumkill Road Over Normanskill Creek.....	0.300	1991
A216	Old State Road Over Normanskill Creek	0.300	1991
A217	Schoolhouse Rd: Thruway Bridge & Int'n Imp. at NY 20 and I-87	3.268	1997
A218	I-787 Clinton Avenue Viaduct, Painting	0.499	1991
A219	South Mall Expressway Over I-787	0.290	1990
A220	Miscellaneous Bridge Cleaning.....	0.104	1990
A221	Route 9, Colonie to Saratoga Co. Line Resurfacing & Bridge Removal	2.143	1993
A223	NY 20, NY 158 to NY 146, Resurfacing	5.387	1997
A224	South Mall Expressway Bridges, Bridge Deck Repair.....	3.181	1997
A225	Washington Ave. over Thruway and Fuller Rd Extension Deck Repair	5.384	1993

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A227	Lark/Dove Interchange, Repair Bridge Deck, Contract #3	3.600	1998
A228	Route 85 Bridge over Berkshire Blvd Rehabilitation	0.120	1993
A229	I-90 Exit 5A (Corporate Woods) to Patroon Island.....	20.972	2003
A230	I-787 Ward's Lane to I-90 Southbound lane.....	0.467	1993
A233	Route 443 at Delaware Plaza, Safety Improvements.....	0.960	1996
A235	Route 9 and Livingston Ave Intersection Improvements	0.242	1993
A236	Route 5 (Central Avenue), Locust Park and Jupiter Lane Intersection	0.299	1996
A237	Everett Road corridor Improvements	0.452	1993
A243	Lark-Dove Bridge Painting - Interchange I.....	1.742	1992
A244	Elm Ave Bikepath: Elm Ave Estates to Park & Ride Lot at NY 32.....	0.293	1997
A245	Lark-Dove Bridge Painting - Interchange II.....	0.616	1992
A246	Route 143 Bridge over Coeymans Reservoir Replacement.....	0.530	1993
A251	Route 20 from Route 146 to Route 155 Resurfacing	0.238	1993
A253	Switzkill Road Bridge Over Fox Creek, Bridge Replacement	0.721	1996
A254	CR 6 Bridge Over the Switzkill, Bridge Replacement	0.508	1996
A258	Route 143 Soils Failure Repair Coeyman's Hollow	4.396	1992
A260	NY 144 Bridge Over Conrail; Bridge Replacement	1.883	1996
A261	Route 32 from County Route 301 to Flatrock Road Reconstruction	0.060	1993
A262	NY 144 Bridge over Coeymans Creek:	3.566	2003
A263	Route 156 at Route 443 Reconstruction	1.882	1993
A264	NY 144 Over Vlomankill Bridge Rehabilitation.....	0.815	1999
A273	Thruway between Exit 23 and Exit 24 Resurfacing	8.400	1993
A274	Whitehall Road Reconstruction.....	3.048	2002
A275	Albany Shaker Road from NY 7 to Watervliet Shaker Rd	14.800	2002
A276	Thruway Exit 23 to Exit 26 Rehabilitation.....	16.100	1993
A279	Thruway Bridge over Coeymans Creek Reconstruction	2.760	1993
A280	Thruway Bridge at Milepost 134.93 Rehabilitation	1.800	1993
A284	Route 146 Bridge over the Thruway Reconstruction	1.000	1992
A287	North Mohawk Street, from Mohawk Street	9.200	2003
A288	North Street Railroad Crossing Upgrade.....	0.132	1992
A292	Pearl Street Reconstruction from Pine to Madison - Part 1	6.719	1997
A294	Watervliet Shaker Road/New Karner Road.....	2.265	1997
A296	Relocation of Maxwell Road Part 1	5.967	2009
A297	Front Grove Railroad Crossing Upgrade.....	0.121	1993
A298	Hilton Road Railroad Crossing Upgrade.....	0.121	1993
A299	23rd Street Railroad Crossing Upgrade.....	0.148	1993
A300	Elm Street Railroad Crossing Upgrade	0.148	1993
A301	I-87 over Mohawk River Bridge Painting	0.413	1993
A302	Morris Road Grove Railroad Crossing Upgrade	0.155	1993
A303	Lincoln Avenue Railroad Crossing Upgrade.....	0.155	1993
A304	Cordell Road Railroad Crossing Upgrade	0.155	1993
A306	Thruway Interim Paving from milepost 141.2 to 146.85	1.000	1993
A312	I-90 Exit 3 Connection to State Office Campus Bridge Reconstruction	1.404	1993
A315	I-787: NY 9W to NY 7, Resurfacing.....	1.560	2002
A322	Wolf Road, NY 5 to Exit 3/4.....	6.722	2001
A330	NY 443 over Onesquethaw Creek; Bridge Replacement	1.000	2000
A331	NY 145 over Unknown Creek; Bridge Replacement	0.440	1996
A333	Pearl Street Part 2 from McCarty-Madison: Full Reconstruction	3.600	2000
A333	Pearl Street Reconstruction Part 2, Pine to Livingston.....	10.430	2002
A334	Pearl Street Reconstruction Part 3, McCarty to Madison Avenue.....	9.075	2002
A336	New Karner Road Bridge over CSX:	2.240	2003
A338	Elm Avenue from Delaware Avenue (NY 443)	3.029	2003
A339	Cherry Avenue (CR 52) from Kenwood	2.989	2003

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A341	Central Avenue (NY 5), from City Limits to Everett Road.....	2.513	2009
A343	Airport Cargo Facility Access	0.600	2004
A344	Church Street Reconstruction.....	2.228	2003
A347	Lincoln Avenue Sidewalk, Village Bike Route Designation	0.205	2000
A348	NY 85 over Onesquethaw Creek: Bridge	0.840	2003
A349	NY 85 Bridge over Normanskill; Bridge Replacement.....	3.000	2000
A350	I-87 Resurfacing: From I-90 to the Saratoga County	1.430	1997
A351	I-87 over Pollock Road & Sand Creek Road.....	4.490	2002
A351	I-87 over Pollock Road; Bridge Replacement.....	4.000	2000
A353	I-87 over Sand Creek Road; Bridge Replacement.....	4.000	2000
A362	I-787 from NY 378 to NY 7	16.140	2001
A368	NY 910E (New Scotland Road) over the Normanskill	0.163	2006
A372	Watervliet Shaker Rd, Albany Shaker Rd to New Karner Rd	10.669	2002
A376	Waterfront Pedestrian Bridge	3.500	2002
A377	Village of Voorheesville Pedestrian Circulation	0.324	2004
A393	Dunbar Hollow/Hannacroix Creek	0.600	2002
A394	AMTRAK/NYS DOT Rail Initiative: Livingston Ave Bridge Replacement	15.000	2000
A395	AMTRAK/NYS DOT Rail Initiative: Rennselaer to Sch'dy Double Track	7.000	2000
A397	NY 143 Bridge over Hannacroix Creek:.....	1.185	2003
A399	NY 378 Bridge over D&H: Bridge	2.995	2003
A400	Old Ravena Road Bridge over CSX.....	7.829	2009
A401	CR 53 (Jerico Road over Dowerskill.....	1.085	2003
A404	Park and Ride Lot at the End of I-787.....	0.150	2003
A406	Albany County Sign Management	0.400	2004
A407	City of Albany Sign Management	0.525	2004
A408	Old Ravena Road over Conrail (South Crossing).....	4.793	2004
A409	City of Albany Bike Racks.....	0.009	2003
A410	South Bethlehem Sidewalks	0.007	2003
A411	City of Cohoes Bicycle Racks.....	0.007	2002
A412	Mohawk-Hudson Bike-Hike Trail: NY 9 Corridor Interconnect	0.033	2000
A413	Green Island Bridge Sidewalks	0.062	2013
A414	Wards Lane Sidewalks, Menands.....	0.025	2000
A415	Albany Waterfront Intermodal Enhancements	1.231	2003
A420	New Scotland Road, City line to Thruway: Reconstruction.....	5.520	2004
A421	Freeway Travel Time Study	0.025	2003
A424	Cannon Street Reconstruction	2.657	2004
A425	Mohawk-Hudson Bike-Hike Trail: Widening and Resurfacing	0.508	2004
A426	Thruway, Milepost 121.2 to 134.9: 1 Coat Mill & Inlay Pavement Rehabilitation....	7.393	2004
A427	Thruway Exit 23: Pavement Repairs	2.423	2004
A428	Thruway, Milepost 134.9 to 146.0: 1 Coat Mill & Inlay Pavement Rehabilitation....	6.739	2004
A431	Gifford Hollow Over Switzkill.....	0.824	2009
A438	19th Street, from City Line to Congress Steet Bridge	7.522	2009
A440	Delaware Avenue, from Madison Avenue to Thruway Bridge	15.579	2009
A445	Central Avenue Safety Improvements.....	0.012	2009
A446	Mohawk-Hudson Bike-Hike Trail from US 9 to Cohoes City Line	0.028	2009
A447	McKown Road from Western Avenue to Woodscape Drive	0.065	2009
A448	Dunn Memorial Bridge and Ramps.....	10.287	2011
A449	NY 378 Over Hudson River	6.844	2012
A450A	I-787, from Broadway to NY 378: Multi-Course Overlay	7.608	2012
A451	I-787, NYS Thruway Exit 23 to South Mall Expressway Complex.....	27.133	2013
A452	I-87, from Western Avenue to the Saratoga County Line: Rehabilitation	8.283	2013
A461	Intersection of Fuller Road and Washington Avenue.....	2.190	2011
A462	Queue Jumper at the Intersection of Central Avenue and New Karner Road	0.741	2009

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
A463	Queue Jumper at the Intersection of Central Avenue and Wolf Road.....	0.595	2009
A468	I-787 Northbound Ramp to South Mall Expressway, Mainline on Clinton	17.546	2012
A477	Green Island Traffic Signals.....	0.241	2009
A480	Elsmere Avenue and Feura Bush Road Sidewalks	0.271	2009
A483	Dunn Memorial Bridge: Monodeck & General Repairs.....	4.530	2011
A491	Patroon Island Bridge: Bridge Rehabilitation	161.974	2013
A493	South Mall Expressway Access Ramps: To and From I-787	3.500	2007
A496	I-87 Bridge over Mohawk River: Replacement of Cables on Two Bridges	17.532	2009
A497	Central Avenue (NY 5), from Everett Road to Quail Street.....	2.000	2009
A498	City of Watervliet Alternative Fuel Retrofit: 5 Fire Trucks	0.051	2009
A504	Orchard Street Sidewalks: Crestwood Lane to Cherry Avenue	0.213	2009
A506	Catherine Street Sidewalk: South Swan Street & South Hawk Street.....	0.063	2009
A507	Patroon Island Bridge Repairs.....	1.791	2009
A508	Washington Avenue 1R Preventive Maintenance	3.040	2009
A509	Elm Avenue (CR 52), Delmar Bypass to Fuera Bush: 1R	0.242	2009
A512	I-787: Downtown Albany Pier and Capbeam Repair	2.949	2009
A531	Youman's Road Grade Crossing Elimination	0.769	2009
None	NY 9, Schodack Park & Ride Lot	0.250	1999
None	Taconic Ridge Tarr Parcel.....	0.334	1998
R1	Northway Drive Traffic Engineering Improvements	0.719	1978
R2	15th St., Rte 7 & 40 Traffic Operations Improvements	0.508	1978
R4	Stowe/Morrison Improvements.....	0.357	1980
R5	Dunn Memorial Bridge Landscaping	0.282	1979
R7	Columbia Street.....	1.290	1980
R8	8th Street Improvements (Federal to Ferry St.).....	1.742	1983
R8A	8th Street Improvements (Federal to Hoosick St.)	1.011	1983
R9	Rte 9&20 Over Route 9J Bridge Reconstruction	1.737	1979
R10	Hoosick St Improvements. Route 7, 10th Street to Troy City Line.....	0.124	1978
R13	Green Island Bridge	7.795	1979
R15	Hoosick Street Bridge	20.650	1978
R17	3rd Avenue Bridge	1.575	1983
R18	Campbell Avenue Bridge Over Wynantskill.....	1.118	1979
R19	Ferry Street Improvements.....	0.032	1979
R20	River Street Improvements.....	0.174	1979
R21	Traffic Light 112th Street and Second Avenue	0.086	1980
R22	Route 9J Improvements.....	3.055	1987
R23	Washington Avenue/Broadway Improvements.....	0.601	1982
R25	I-90 Logo Sign Installation.....	0.094	1979
R26	Route 43 Brack Drive to Mammoth Spring Road	0.118	1979
R27	Rensselaer County Signal Projects	0.012	1980
R28	Uncle Sam Bikeway	0.324	1980
R29	Park & Ride Lot, Route 4 & 43.....	0.336	1988
R30	Route 7 & 142 Signal Improvements	0.196	1982
R31	Routes 405 and 136 and County Route 70 Signal	0.132	1981
R35	Replace Signal at Hoosick and 15th Streets	0.067	1982
R36	I-90 Exit 8 Connection with Route 4 Phase 1	1.158	1993
R36	I-90 EXIT 8 Phase 2.....	10.222	1995
R37	Route 4 Defreestville Firehouse Signal	0.015	1982
R38	Route 9&20/Phillips Road Signal	0.050	1982
R39	Route 9&20/Hayes Signal	0.050	1982
R40	Dunn Memorial Bridge Ramps	0.067	1982
R41	Pavement Marking Route I-787	0.005	1982

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
R42	Speed Monitoring Route 43	0.003	1981
R43	Four Signals, City of Troy.....	0.067	1982
R44	Route 4 (Routes 9 & 20 to Troy City Line).....	0.384	1982
R45	I-90, Exit 11 Logo Signals	0.006	1982
R46	Hoosick Street Directional Signals.....	0.005	1982
R47	Hudson Mohawk Heritage Trail (see also S40).....	0.004	1983
R48	Winter Street Bridge.....	0.644	1984
R49	126th Street Bridge (see also SA21)	0.650	1983
R50	Route 7, Troy City Line to Route 42	0.628	1983
R51	Route 150, Route 9 & 20 to Payne Road.....	0.125	1983
R52	I-90 Pavement Markings	0.055	1983
R53	Congress Street Bridge (see also A96).....	0.878	1983
R54	East Street Improvements.....	0.360	1985
R55	Route 66 (Wynantskill Improvements)	1.231	1984
R56	Dunn Memorial Bridge EB (see also A99)	0.523	1983
R57	Routes 4, 9&20 Monodeck Repairs.....	1.505	1983
R58	I-90, Exits 10 to 12.....	0.555	1984
R59	I-90, Exits 7 to 10, Joint Repair.....	0.541	1983
R60	2nd & 4th Street Bridges Over Poestenkill	0.846	1987
R61	Rensselaer Port Access.....	4.644	1988
R62	Pawling Avenue Bridge Over Poestenkill	0.986	1986
R63	Broadway Bridge Over Mill Creek	0.260	1985
R64	Second Avenue Bridge Over Mill Creek.....	0.150	1985
R65	Pawling Ave. Traffic Operations Improvements-Part I.....	1.951	1986
R65A	Pawling Ave. Traffic Operations Improvements-Part 2	1.873	1990
R67	Thirteen Bridges, Vicinity of I-90, Exits 7 to 11	3.079	1988
R69	Dunn Memorial Bridge Westbound	1.295	1985
R70	Route 4 and Route 378 Intersection	0.170	1984
R71	Route 2 Bridge Over Poestenkill.....	0.345	1985
R73	I-90 Bridges from Miller Road to Berkshire Thruway	0.343	1984
R74	Spring Avenue Over Poestenkill, City of Troy	0.140	1984
R75	South Street Over Mill Creek, City of Rensselaer.....	0.023	1985
R76	Washington St. Over Mill Creek, City of Rensselaer.....	0.105	1985
R78	Route 43 Resurfacing from Route 4 to Route 351	1.239	1985
R79	Route 150 Curve Improvement, Town of Sand Lake	3.010	1988
R81	Route 151 and Route 9 Resurfacing.....	0.975	1986
R82	Broadway Over Amtrak	0.752	1991
R83	Route 2 Over Hudson River	0.375	1986
R84	Route 378 Over Hudson River	0.508	1986
R85	Dunn Bridge Drainage Improvements.....	0.037	1988
R86	Route 40, Troy to Schaghticoke	0.660	1988
R87	Route 66, Route 351 to Route 355	0.952	1989
R88	Rt 7, Rt 2 & Rt 278 Intersection Improvements	2.275	1990
R89	Guiderrails, Various Locations	1.359	1990
R91	Route 136 and Route 150, Resurfacing.....	4.586	1995
R92	Route 43, Safety Improvements	0.818	1994
R99	Guiderrails, Various Locations	1.367	1991
R100	Route 43 Bridge over Wynantskill, Replace	0.418	1991
R101	NY 43 Bridge Over Wynantskill, Bridge Replacement	4.000	1998
R102	Route 470 (112th St) Bridge Over the Hudson River (Also A184).....	7.979	1995
R104	Route 378 Bridge over Hudson River, Paint	0.594	1991
R105	Vandenburg Avenue Reconstruction.....	6.818	2002
R110	3 rd Street & 3 rd Avenue Reconstruction.....	5.650	2002

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
R111	NY 7, McChesney Ave to NY 142, Resurfacing.....	8.000	2001
R112	CR 7 Bridge Over the Nassau Lake Outlet, Bridge Replacement	0.529	1997
R113	Lawrence Street Bridge Over Hollow Creek, Bridge Replacement	0.791	1997
R115	Church Street Bridge over the Hoosick River	2.820	2001
R116	Muitzeskill Road Bridge (CR1) over Conrail, Bridge Replacement	0.947	1997
R117	Third Street Bridge Over the Poestenkill, Bridge Replacement	1.064	1997
R119	Depot Hill Railroad Grade Crossing	0.331	1992
R121	NY 2, Eagle Mills to Petersburg Resurfacing, & 4 Bridges	3.982	1997
R123	NY 22 in the Village of Hoosick Falls:	2.750	2003
R125	Routes 9 & 20, Schumann Road to Schodack Center, Safety	0.953	1997
R126	Route 2 from Grafton to Petersburg Resurfacing	0.060	1992
R128	NY 40 Bridge over the Tomhannock Creek:	2.340	2003
R133	NY 150 Bridge Over the Moordenerkill, Bridge Replacement	0.850	2000
R136	County Route 125 (Stillwater Bridge Road), Reconstruction	2.899	1996
R148	Thruway Berkshire Spur Bridge over Muitzekill	1.200	1993
R150	Thruway Berkshire Spur Bridge over Route 9	2.800	1993
R156	Burden Lake Bridges.....	2.016	2001
R157	US 9 & 20 Reconstruction (Part 1), Ames Plaza to US 4.....	5.289	2001
R158	Best Road From Western View Terrace to NY 151, Reconstruction	1.500	1998
R159	Route 29 Bridge Over the Hudson River.....	6.454	1994
R160	Scott Avenue Railroad Grade Crossing Closure	0.190	1993
R161	Staats Island Road Railroad Grade Crossing Upgrade	0.155	1993
R162	Green Street Railroad Grade Crossing Upgrade.....	0.155	1993
R164	NY 20 Bridge over the Valatiekill, Bridge Replacement	0.840	2001
R165	NY 7 at Ford Road, Safety Improvements	0.300	1998
R167	I-90 from Exit 10 to Exit 11, Reconstruction	9.000	1998
R169	Broadway/Waterfront Access.....	1.865	1998
R170	Riverfront Greenway Trail	0.600	1998
R172	Mechanic Street Bridge over B&M.....	0.144	2003
R175	Troy ITS Signals at Two Locations.....	0.081	2003
R176	US 9 & 20 (Part 2), US 4 to Miller Road	5.500	2001
R178	Troy-Menands Bridge Pedestrian and Bicycle Access.....	1.320	2009
R185	NY 22 Bridge over Kinderhook Creek: Bridge Replacement	2.104	2009
R186	NY 7 Bridge over Hoosick River: Bridge Replacement	8.275	2009
R190	NY 66 Bridge over Kinderhook Creek:.....	1.941	2003
R191	Cottrell Road Bridge over Walloomsac.....	1.374	2003
R192	Hansen Road over B&M Railroad, Schaghticoke	1.016	2002
R197	Washington Avenue Sidewalks.....	0.300	2004
R200	CR 59 over the Hoosick River, Buskirk Bridge Rehabilitation.....	0.950	2003
R201	NY 7 and CR 115 Safety Improvements	1.400	1999
R202	56 Road Bridge over Poestenkill Creek	1.134	2009
R203	CR 40 (Plank Road) Bridge over the Poestenkill Creek.....	0.638	2009
R204	CR 3 (S. Schodack Road) over Conrail.....	1.680	2002
R206	AMTRAK/NYS DOT Rail Initiative: Rensselaer Shop Construction	20.000	2001
R209	Powers Road over Poestenkill	0.728	2002
R210	NY 7 from Troy City Line to McChesney Ave., Reconstruction	5.500	2001
R218	Bennington Bypass.....	25.000	1999
R219	ITS Signal Improvements in the City of Troy	1.320	2009
R224	I-90, Exit 10 to Thruway Exit B1: Resurfacing.....	2.347	2005
R228	Village Pedestrian/Cyclist Crosswalks.....	0.017	2003
R229	Sherwood Avenue Sidewalks in East Greenbush.....	0.430	2003
R235	NY 2 over Dayfoot Brook: Bridge	0.225	2003
R236	NY 351 over Poestenkill: Bridge Replacement.....	0.075	2006

TIP #	Project Description	Amount Committed (In Millions)	Year Obligated
R237	NY 351 over Quakenkill: Bridge	1.135	2003
R239	NY 67 Bridge over Hoosick River: Bridge Replacement.....	2.194	2009
R241	CR 49 (Eastern Union Turnpike) over Wynantskill Creek.....	1.160	2012
R242	Spring Avenue Over Poestenkill: Bridge Replacement	3.424	2011
R243	Broadway Over AMTRAK Service Road: Bridge Rehabilitation	5.267	2012
R244	ITS Signal Improvements in the City of Troy Phase 2	3.471	2009
R245	NY 2, from 5th Avenue to 11th Street: Reconstruction	7.744	2009
R250	NY 151: Flashing Beacons Installation of Flashing Beacons.....	0.015	2009
R251	Scott Avenue (NY 150), from Prins Way to Ransom Avenue	0.075	2009
R254	Broadway, from US 20 to Broadway Viaduct Bridge	5.601	2009
R256	Caretaker Bridge Over Waloomsac River	1.216	2009
R259	CR 26 Bridge over Black Brook: Bridge Replacement	1.486	2009
R266	I-90 Bridges over the Moordenerkill: Rehabilitations.....	4.500	2012
R269	Dunn Memorial Bridge: Monodeck & General Repairs.....	4.530	2011
R270	Dunn Memorial Bridge: Overhead Signs	0.560	2005
R275	ITS Integration Component.....	0.086	2005
R282	Oakwood Avenue (CR 145), Troy City Line North to Troy City Line South.....	0.880	2009
R284	I-90, Patroon Island Bridge to Between Exits 10 and 11: Resurfacing	5.575	2010
None	Fourth Street Over Erie Canal, Waterford.....	1.000	1998
SA3	I-87 Over Route 146.....	1.159	1977
SA5	Route 146, Route 146A to Route 9	6.700	1987
SA7	I-87 Mohawk River to Route 146/Exits 8 & 9 Improvements	3.130	1979
SA9	Route 32, Peck Firehouse/Fourth & Pearl Streets, Signal Installations	0.038	1979
SA10	I-87 Logo Signal Installation.....	0.169	1979
SA15	Saratoga County Signal	0.142	1980
SA17	Parkwood Plaza (Route 9) Left-turn Improvements (Clifton Park)	0.100	1981
SA19	I-87 Speed Monitor Loops	0.015	1981
SA20	Route 4 (Waterford N. Village Line to Waterford Line).....	0.262	1982
SA21	126th Street Bridge (see also R49).....	0.650	1983
SA22	Route 4 & 32, (Broad St. to N Waterford Village Line)	0.440	1983
SA23	Rexford Bridge Substructure Repair (see also S42).....	0.052	1983
SA24	Route 9 Bridge Over Mohawk River Painting	0.101	1983
SA25	Route I-87 Bridge Over Mohawk River Painting.....	0.575	1985
SA26	I-87, Exits 9 to 11	3.300	1984
SA27	Guiderails on Routes 29, 50 & 147	0.059	1985
SA29	Route 32, Cohoes Bridge to Waterford Village Line	0.873	1986
SA31	Burton Avenue Over Old Champlain Canal.....	0.550	1989
SA32	I-87, Exit 8 Southbound On-Ramp.....	0.108	1987
SA33	Route 146, Route 9 to Route 236	0.928	1986
SA35	Vischer's Ferry Road, Emergency Culvert Repairs	0.562	1988
SA36	Route 9, Mohawk River to Route 146.....	1.693	1987
SA38	Route 146, Route 236 to Mechanicville	1.001	1989
SA39	Riverview Road & Sitterly Road Over I-87	1.748	1990
SA40	I-87 Exit 8A Construction	5.640	1992
SA41	Route 9 Resurfacing, Saratoga Springs to Usher's Road (Includes SA42).....	3.028	1992
SA43	Route 9 Culvert Replacement.....	0.265	1989
SA47	I-87, Saratoga County Line to Exit 9, Resurfacing	8.150	1998
SA50	Route 32 over Abandoned Canal Bridge Replacement	2.292	1993
SA55	Route 146A, Route 146 to Macelroy Road, Bridge Replacement.....	2.995	1992
SA56	Route 4, South Street to Francis Street.....	0.977	1990
SA57	NY 32/Barge Canal, Waterford.....	2.894	2002
SA58	Replace 2 Lane Crescent Rd Bridge Over I-87, with 3 Lane Bridge	4.610	1996

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SA61	Ushers Rd and CP Rail Canadian Mainline over I-87: 3 Bridges	10.592	1998
SA63	I-87: Rehab or Replace 12 Bridges or Monodecks (Also A211).....	3.778	1996
SA65	I-87 Freeway Traffic Management: Upstate Transit Buses.....	1.310	1992
SA66	B & M Rotterdam Line Grade Crossing.....	0.063	1992
SA69	Route 50 Bridge Over the Morningkill, Bridge Replacement	1.195	1994
SA72	I-87 Exit 9, Rest Area Reconstruction (Includes other PIN's).....	5.274	1996
SA73	CR 52 Bridge Over the Glowgee Creek, Bridge Replacement.....	0.680	1999
SA74	Brookwood Railroad Grade Crossing Upgrade	0.140	1993
SA76	I-87, Seven Bridges in the Vicinity of Exits 12-14, Deck Repair	3.846	1995
SA77	Route 32 Bridge over Fish Creek Replacement	0.606	1992
SA79	NY 50, Reference Marker 1085 to 1110, Resurfacing	3.065	1997
SA81	Route 9N Bridge over Sturdevant Creek Replacement	1.028	1992
SA82	Route 29 Bridge Over Kayaderosseras Creek, Bridge Replacement.....	1.038	1995
SA83	I-87 Bridge over Round Lake Road Replacement.....	0.790	1993
SA85	Route 4 Bridge Over The Fishkill, Bridge Rehabilitation	1.722	1995
SA87	Route 9N and Middle Grove Road Intersection, Safety Imp.....	1.317	1996
SA89	West Ave from Church St (NY 9N) to NY 50: Intersection Impr.....	5.705	2000
SA90	I-87 Bridges Over D&H Railroad and City Sewer, Bridge Rehabilitation.....	5.542	1994
SA91	Route 50 Bridge over the D & H Railroad Reconstruction	2.320	1993
SA93	Middle Line Road (CR 59) from NY 50 and NY 67: Rehabilitate.....	3.331	2000
SA94	Locust Grove Road Railroad Grade Crossing Upgrade	0.094	1993
SA94	Russell Road Railroad Grade Crossing Upgrade.....	0.094	1993
SA94	Van Ness Street Railroad Grade Crossing Upgrade	0.141	1993
SA95	US 9 Intersection with Crescent Road & Church Hill Road	2.236	2001
SA96	Sixth Street Bridge Over Railroad, Bridge Replacement	1.490	1999
SA98	Moe Road from Grooms Road to NY 146: Resurface	2.000	2000
SA99	Grooms Road (CR 91) from NY 146 to Miller Road, Resurface	3.168	1999
SA100	South Broadway (NY 9): West Fenlon Rd to the Ave of the Pines.....	3.374	1999
SA101	Ushers Road and Vischer Ferry Road	4.470	1999
SA102	Ballard Road (CR 33) from NY 9 to I-87 Exit 16, Reconstruction	1.700	1998
SA109	Glenridge Road, from Maple Avenue to NY 146: Reconstruction.	12.330	2011
SA110	Clarke Road Railroad Grade Crossing Upgrade.....	0.138	1993
SA113	Canal Lock C-2 Rehabilitation.....	8.200	1993
SA114	I-87 Bridges over Mohawk Painting	0.413	1993
SA119	Corinth Rd (CR 9) Bridge Over the Hudson River, Reconstruction	3.530	1996
SA121	I-87 from Exit 9 to Exit 13, Resurfacing	17.611	2000
SA123	I-87 Bridge over the Kayaderosseras, Bridge Replacement.....	3.576	1997
SA128	Saratoga Springs Bicycle/Pedestrian Path System	0.128	1996
SA129	Schuyler's Canal Towpath.....	0.158	1998
SA131	ITS Signal Upgrades at 21 Intersections	0.932	2003
SA132	CR 7 (S. Shore Road)/Batcheller Creek	1.094	2003
SA133	South Broadway/Ballston Avenue Intersection Improvements	0.541	2009
SA136	Saratoga Springs Pedestrian Improvements	0.560	2002
SA140	Eire Canal Lock E2 Rehabilitation.....	0.600	2001
SA148	CR 49 Bridge over Kaydeross Creek:	1.400	2003
SA152	NY 9N Bridge over the Hudson River: Bridge Replacement.....	7.547	2011
SA154	NY 29, Armer Road to Creek Road:	5.536	2003
SA155	CR 59 (Middle Line Road) Bridge over the	1.599	2003
SA156	Mechanicville Terminal Wall Rehabilitation	0.625	2001
SA158	North Bridge at Peebles Island	2.400	2003
SA164	Scenic Train: Corinth to North Creek	8.101	2004
SA166	Hans Creek Road Bridge over Hans Creek	2.300	2001
SA168	I-87 Resurfacing Part 2, Exit 9 to Exit 13	15.950	2001

<u>TIP #</u>	<u>Project Description</u>	<u>Amount Committed (In Millions)</u>	<u>Year Obligated</u>
SA169	CR 8 Bridge over Sacandaga Reservoir	15.100	2001
SA175	Sand Lake Road Bridge over Sand Creek: Bridge Replacement.....	0.463	2001
SA177	Town of Malta Trail Improvements	0.005	2003
SA178	Arongen-Shenendahowa Public Library	0.055	2003
SA179	Station Lane Sidewalks, Saratoga Springs	0.036	2001
SA180	Crosswalk and Four Pedestrian Signs in Stillwater.....	0.009	2002
SA181	Spring Run Trail Construction	2.173	2012
SA182	Ruhle Road Pedestrian Bridge, Malta	0.106	2001
SA186	Copeland Covered Bridge	0.028	2003
SA187	CDTA's Rural Transit Service in Saratoga.....	0.150	2003
SA190	Green Street Connector Sidewalk	0.032	2011
SA196	Historic Hadley Bow Bridge: Preservation	1.450	2004
SA197	Saratoga National Historic Park: Slide.....	1.000	2003
SA198	NY 9P over Saratoga Lake Outlet: Bridge Replacement	9.882	2010
SA204	Lakes to Locks Passage, All-American.....	0.084	2003
SA205	NY 4 over the Hudson River: Bridge	0.925	2003
SA206	I-87 Bridge over Mohawk River: Replacement of Cables on Two Bridges.....	13.444	2008
SA215	Malta Avenue (CR 63) Bridge Over I-87: Superstructure Replacement.....	3.531	2009
SA224	CR 4 Over Hudson River: Bridge Rehabilitation	NA	2004
SA227	Commercial Access Highway Improvements: Round Lake Gateway.....	0.952	2010
SA234	NY 9P Bridge over I-87: Bridge Replacement.....	6.674	2011
SA268	I-87, Mohawk River to Exit 12: 1R Resurfacing.....	8.276	2012
SA195	Zim Smith Mid-County Trail, Convert abandoned D&H railroad	1.637	2009
SA198	NY 9P over Saratoga Lake Outlet	12.018	2009
SA199	Bryant's Bridge Road Bridge over Fish Creek	1.320	2009
SA200	Canal Road Bike Path	0.470	2009
SA202	Saratoga Springs to Corinth	1.760	2009
SA212	Hudson Crossing Multi-Use Path	0.250	2009
SA215	Malta Avenue (CR 63) Bridge Over I-87.....	3.984	2009
SA216	Church Street (NY 9N), from West Avenue to North Van Rensselaer Street	3.136	2009
SA220	CR 7 Stewart Dam Bridge Over the Sacandaga Reservoir.....	3.334	2011
SA221	CR 43 (Geyser Road) Bridge Over D&H Railroad.....	2.019	2009
SA229	Stabilizing of Brookwood Road	3.000	2009
SA231	Halfmoon Physically-Challenged Fishing Access	0.050	2009
SA234	NY 9P Bridge over I-87	11.351	2011
SA245	South Street Safety Upgrades	3.434	2012
SA247	Core Area Mobility Impaired Accessibility Improvement Program	0.030	2009
SA248	Shenendehowa Community Trails Network.....	0.649	2009
SA249	NY 4, Stillwater: Sidewalk Extension	0.393	2009
SA250	Dunning Street (CR 108), limits TBD: 1R Preventive Maintenance.....	0.464	2009
SA251	NY 50, MM 1502-1066 to MM 1502-1075: 1R Preventive Maintenance	0.445	2009
SA252	NY 9: 1R Preventive Maintenance, MM 1509-1030 to MM 1509-103	6.408	2009
SA253	Dix Bridge: Rehabilitation	3.125	2011
S1	Michigan/Brandywine Improvements	0.740	1978
S2	Highbridge Road	0.669	1981
S3	Hullett Street Bridge.....	2.700	1980
S5	Broadway/Crane/I-890 Intersection	1.965	1989
S6	Schenectady Downtown Improvement (Jay/State Streets).....	1.173	1983
S6A	Erie Boulevard, Traffic Engineering Improvements	1.002	1987
S7	Route 147 Over PCRR/Vley Road	2.589	1981
S8	Route 50, Scotia to Saratoga County Line R & P.....	1.658	1977
S9	Route 50, Scotia Village Line to Route 5 R & P.....	0.602	1978

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S11	Sitterly Road Bridge.....	0.046	1979
S14	Route 7 Crosstown/Union Streets to Watt Street	0.644	1979
S16	Altamont Avenue	6.445	1986
S19	Freeman's Bridge and Approaches	7.808	1982
S19A	Freeman's Bridge Stage 2 (Erie Blvd to Seneca St)	2.681	1984
S21	Signal Installation - Various Locations	0.092	1979
S22	Signal Installation-Route 5 & Rotterdam Junction.....	0.017	1979
S24	Helderberg Avenue	0.845	1980
S30	Niskayuna Isle, Vischer's Ferry Rd	0.510	1983
S31	Oak Street Bridge Over Conrail	0.982	1983
S33	Old Mariaville Road Bridge Over Poestenkill	0.106	1982
S36	Schenectady County Sign Improvement at Various Locations	0.110	1983
S37	Balltown and Consaul Road Signal.....	0.040	1982
S38	Route 5 (B & M RR to Scotia Village Line).....	0.212	1982
S39	Route 158, Albany County Line to 1.3 miles North of Line	0.054	1982
S40	Niskayuna Bike & Hike Trail (see also R47).....	0.369	1983
S41	I-890 Pavement Markings	0.051	1983
S42	Rexford Bridge Substructure Repair (see also SA23)	0.052	1983
S43	Signal Improvements Various Locations I-890.....	0.078	1983
S44	Gabion Failure Exit 26 Interchange Vicinity	0.200	1983
S45	I-890 Viaduct.....	3.422	1983
S46	Route 7 and Union Street	0.850	1983
S47	Route 58, Legario Lane to Route 103	0.100	1983
S49	Route 7 Construction, St David's Lane to Albany County Line	13.295	1990
S50	Congress Street Over Conrail.....	0.550	1985
S51	Route 158 Over Conrail	1.404	1988
S52	Route 159 Over D & H Railroad.....	2.251	1989
S54	Balltown Road/Consaul Road Intersection Improvements.....	0.349	1984
S55	Highbridge Road Over I-890, Monolithic Deck Repairs.....	3.135	1997
S55	I-890 Over Conrail; High Bridge Road Over I-890.....	3.248	1989
S57	Replace Route 146 Over Chrysler Ave. and Conrail.....	8.370	1991
S58	I-890 and Route 7 Signs	0.085	1985
S60	Guiderails on Route 159.....	0.049	1985
S61	Western Gateway Bridge.....	2.154	1985
S63	Intersections of Route 337/Route 159 & Route 337/Princetown Road	0.100	1984
S64	Permanent Traffic Count Stations	0.133	1988
S65	Route 5S, Bridge Over Plotterkill	0.289	1986
S66	Rosendale Road Over Lishakill.....	0.380	1986
S67	Route 147 Spring Street to Vicinity of Goldfoot Rd	1.055	1987
S68	I-890 Slab Settlement Repair	0.035	1987
S69	Route 146, Morrow Avenue to Saratoga County	1.000	1989
S70	Route 50 Bridge over Alplaus Creek Replacement.....	2.704	1993
S73	NY 103 Bridge over Erie Canal: Bridge Rehabilitation	3.200	1998
S76	I-890 Over Conrail	3.248	1989
S77	Route 159 Bridge Over Thruway, Rehabilitation.....	0.959	1991
S82	Route 7 Over Conrail	1.259	1990
S83	Route 50 Bridge Over Amtrak, Steel and Concrete Repairs	2.390	1996
S85	Route 5: Route 155 to Sch'dy Co Line, Resurfacing (Also A179)	7.932	1996
S86	I-890, Four Bridges in Vicinity of Exits 5 to 7.....	2.293	1990
S87	Schenectady Bridge Painting.....	0.437	1991
S89	Route 5 Bridge Over Conrail, Deck Repair.....	1.239	1995
S98	Exit 26 to NY 5 Bridge Over the Mohawk River, New 4-lane Bridge.....	11.144	1997
S99	Bikepath Construction and Sidewalk Extension on Nott Street East	0.098	1996

<u>TIP #</u>	<u>Project Description</u>	<u>Amount Committed (In Millions)</u>	<u>Year Obligated</u>
S100	B & M Rotterdam Line Grade Crossings	0.125	1992
S103	Route 5 Bridge Over Route 7, Deck Repairs.....	0.617	1996
S106	Eaton Corners Rd Bridge Over the Schoharie Creek, Deck Repairs	2.236	1997
S107	Schenectady Bridge Painting.....	1.485	1993
S108	Route 20 Bridge over the Schoharie Creek Replacement.....	4.712	1992
S109	NY 337 Bridge Over the Poentickill, Bridge Replacement.....	2.000	1998
S110	Aqueduct/Maxon Rd from Balltown Rd to Erie Blvd., Reconstruction	4.790	2000
S113	Thruway from 161.3 to 177.5 Rehabilitation and Safety	12.300	1993
S117	Dunnsville Road Bridge over Thruway Reconstruction.....	1.800	1993
S121	State Street (NY 5), from Furman Street	3.500	2003
S122	I-88 Bridge over D & H Railroad Safety and Resurfacing.....	1.705	1993
S123	Rynex Corners Railroad Grade Crossing Upgrade.....	0.141	1993
S126	NY 50 Bridge over the Indiankill: Bridge Replacement	1.350	2007
S127	Mohawk-Hudson Bike Hike Trail: Restoration.....	0.080	1998
S128	I-890 Interchange with NY 5S and Thruway Exit 26.....	7.589	1996
S140	Mohawk-Hudson Bike-Hike Trail: Corridor.....	0.120	2003
S140	Mohawk-Hudson Bike-Hike Trail: Corridor Improvements	0.115	2009
S141	Rail Corridor Bridge Improvements.....	0.270	2003
S142	Kings Road Sidewalks.....	0.370	2003
S143	Lock 8: Bike/Ped Access.....	0.310	2003
S144	State Street Streetscape	4.365	2003
S149	Cole Road Bridge over the Normanskill:	0.480	2003
S150	AMTRAK/NYS DOT Rail Initiative: Rensselaer to Sch'dy Double Track	7.000	2000
S152	Mohawk-Hudson Bike-Hike at Lock 8	0.025	2001
S153	Bike Trail in Niskayuna, Repairs	0.004	2003
S154	Mohawk-Hudson Bike-Hike Trail.....	0.024	2003
S155	Scotia Sidewalks	0.027	2003
S160	Mohawk-Hudson Bike-Hike Trail: Intersection & Trail	0.931	2009
S166	NY 7 over Normanskill: Bridge Replacement	1.544	2010
S168	Ferry Road over Backchannel Mohawk: Bridge Replacement	4.939	2009
S172	NY 7, I-890 to Saint David's Lane: Reconstruction	4.200	2007
S175	CR 103 (Pangburn Road) Bridge Over Normanskill.....	2.855	2009
S176	Schenectady Trail Rehabilitation	1.725	2009
S177	Erie Boulevard, from Liberty Street to I-890: Reconstruction	13.57	2011
S183	I-890, Thruway Exit 25 to NY 337 (Campbell Road): Minor Rehabilitation.....	5.383	2013
S189	New Traffic Signal at Intersection of Providence Avenue & Hillside Avenue	0.465	2009
S190	Seneca Street and Maxon Road Canalway Trail Crossing	0.078	2009
S194	River Road/Providence Avenue: 1R Preventive Maintenance	1.171	2009
S195	Rosendale Road, River Road to NY 7: 1R Preventive Maintenance.....	0.314	2009
S196	Van Vranken Avenue, Nott Street to Maxon Road: 1R Preventive Maintenance	1.770	2009
S198	I-88 Bridges over Pangburn Road and over NY 7: Deck Repair.....	1.813	2009
Total Highway Construction Projects (1977-13).....		\$1969.774	

APPENDIX K – TIP PROJECTS BY LOCATION

Overview

The following pages are maps of the Capital District with TIP numbers denoting locations of projects showing in the project listings of this document. For projects of short geographical limits, a large dot is used to show the location. For projects that are linear in nature, the facility is darkened for the length of the project. Projects that don't have short geographical limits and are not linear in nature are not shown in the maps. This includes some transit projects and regional set-asides, which can have multiple or variable locations, or a location that otherwise cannot be shown adequately on the maps.

The maps referred to above are not included in this draft. They will be included at a later date.