

■ 5.0 Linking Maryland's STIP to MAP 21

This section contains additional information about the development and content of Maryland's STIP in order to demonstrate compliance with federal requirements. The following information is organized according to 23 CFR § 450.216 subsections (a) – (m).

(a) Federal STIP Update Guidelines: MDOT updates its STIP every two years as requested by the Governor. The federal regulations only require an update every four years, therefore MDOT's annual update is well within this boundary.

(b) MPO Coordination and Air Quality Attainment: Each MPO creates a metropolitan TIP that reflects local needs, priorities, and available funding in coordination with local transit providers, local government officials, citizens, users, and other stakeholders. Each of these agencies has a documented and approved public involvement process that is used in support of developing their plans and TIPs. Once each TIP is approved by the MPO, it is inserted into the STIP without modification.

The Clean Air Act Amendments of 1990 stipulate that projects listed in a TIP cannot lead to any further degradation in a region's air quality, but instead should contribute to the attainment of a non-attainment region's air quality. The Environmental Protection Agency (EPA) has developed four categories regarding the status of air quality in the metropolitan and non-metropolitan areas: Non-Attainment, Maintenance, and Early Action Compact. Definitions for each of these categories and the jurisdiction within Maryland that these fall under are listed below:

1. Attainment: An area where air pollution levels for all criteria pollutants are within the guidelines of the National ambient air quality standards
2. Non-Attainment: Represents an area where air pollution levels exceed National Ambient Air Quality Standards.
 - a. Ozone – Frederick, Montgomery, Prince George's, Charles, Calvert, Anne Arundel, Howard, Carroll, Baltimore, Harford, Cecil, Kent, and Queen Anne's Counties as well as Baltimore City are presently classified as non-attainment.
 - b. Particulate Matter (PM) 2.5 – Washington, Frederick, Montgomery, Prince George's, Charles, Anne Arundel, Howard, Carroll, Baltimore, and Harford Counties as well as Baltimore City.
3. Maintenance: This is a locality where an approved air quality improvement plan has been implemented with the goal of re-designating it as an attainment area.
 - a. Carbon Monoxide – portions of Montgomery and Prince George's Counties as well as portions of Baltimore City.
 - b. Ozone – includes Kent and Queen Anne's County (see below).
4. Early Action Compact (EAC): These localities will take immediate action to begin reducing air pollution one to two years earlier than required by the Clean Air Act.
 - a. Ozone – Washington County submitted its Early Action Compact (EAC) to the EPA on March 25, 2004 and the plan was approved for implementation on April 15, 2004. Washington County met all of the required EAC milestones and submitted an attainment demonstration (based on 2005, 2006 and 2007 air quality data) before the December 31, 2007 deadline. The attainment demonstration was

accepted by the EPA. The EPA issued a final rule, published in the Federal Register on March 27, 2008, designating Washington County as attainment of the 8-hour ozone standard, effective April 15, 2008. The EAC plan was successfully implemented due to cooperation between Washington County, MDE and MDOT.

Air quality conformity tests and Federal conformity findings are conducted for the Baltimore and Washington metropolitan TIPs and LRPlans for both ozone and PM 2.5. The WILMAPCO TIP and LRPlan is tested for Ozone and the HEMPO TIP is tested for PM 2.5. Additionally, all MPO TIPs and CLRP must be properly certified regarding air quality conformity in order to permit projects to be included in the STIP. This certification is included within each MPO TIP and in this report as Appendix A.

Areas outside of an MPO are also required to properly certify air quality conformity before including projects in the STIP. In areas that are not represented by an MPO, the certification process is coordinated between the county, MDOT, and MDE. Currently only Queen Anne's and Kent Counties reside outside of an MPO and are categorized as maintenance areas for eight-hour ozone. Both have been tested for conformity by MDOT and approval was given by FHWA on April 11, 2007.

(c) Non-Metropolitan Area Coordination: Development of the STIP is not complete until the needs and priorities of non-metropolitan areas are included. MDOT has developed the "Non-metropolitan Area Consultative Process" in order to comply with Federal transportation planning requirements. This policy provides a process for non-metropolitan areas and non-metropolitan elected officials to be involved in Statewide transportation planning that spans across all modes. Section 4.0 also described the annual CTP/STIP Fall Tour, a key component of Maryland's outreach to non-metropolitan areas and other coordination efforts with non-metropolitan areas pursued by MDOT. Process details can be found on MDOT's website: <http://www.mdot.state.md.us/Planning/STIPandTIP/STIPandTIP> .

(d) Indian Tribal Government Coordination: There are no Indian Tribal governments in the State of Maryland.

(e) Federal Lands Highway Program (FLHP) TIP: The STIP includes all FLHP projects that have been approved by FHWA without modification (see Appendix F).

(f) Public Comment: The STIP is developed within an inclusive, accessible, and responsive public involvement process. As mentioned under "(b) MPO Coordination and Air Quality Attainment," each TIP is been subject to its own public comment process and review period. Several public outreach attributes of the STIP development process (e.g., CTP Fall Tour) were described in Section 4.0.

For the 2014 – 2019 CTP, MDOT provided additional visualization and public outreach materials. MDOT also created a CTP Website to provide information about the CTP process, which included a brochure that was handed out at the Tour meetings that provided an executive summary on the State Report on Transportation (including information on the CTP, the MTP and the AR). Also posted on the website was the 2013 Fall Tour schedule and directions for interested parties wishing to attend a CTP Fall Tour.

Here is the link to the Executive Summary Brochure:

http://www.mdot.maryland.gov/Office_of_Planning_and_Capital_Programming/Transportation_Task_Force/Documents/MDOT_SRT_Executive_Summary_Brochure_web.pdf

Another example of visualization methods employed by MDOT is the maps provided by SHA at each county meeting during the Annual Consultation Process. A map is created for each District showing the location of each project, using different symbols to illustrate different types of projects, and includes a short description of each project. These are highly useful since the public can easily see where and how projects impact their daily lives.

(g) Capital and Non-Capital Project for Specific Federal Funds: The CTP separately lists bicycle and pedestrian projects programmed annually and can be found on page A-31. In addition, MDOT tracks a set of bicycle and pedestrian performance measures identified in the Maryland Bicycle and Pedestrian Master Plan and will continue to document progress in the AR. Appendices B and C contain an annual lists of projects for which funds have been obligated in the previous year.

(h) Regionally Significant Projects: The 2014 STIP includes all MDOT projects, including those projects of regional significance. For conformity purposes, all MPO TIPs contain all projects of regional significance as well, regardless of funding source.

(i) Project / Phase Summary Reports: For each major project to be included in the CTP, MDOT creates a summary Project Information Form (PIF), which is a summary of information for each project. Other important data is included on the PIF, such as a map illustrating the location and size of a project, an image illustrating the type of project, project justification, other non-Federal funding sources, and Smart Growth Status. Chapter 725 also requires that for projects in the Construction Program, the appropriate State Goals from the State Transportation Plan (MTP) be identified. There is a complete description of how to read the CTP found in the Executive Summary of the CTP on Page 13, included in Appendix L of the STIP

Of particular importance to federal regulators are the major phases in which federal funds are spent. The four phases included are:

- Planning – Once a proposal is funded for project planning, detailed studies and analyses are conducted to evaluate the need for the project and to establish the scope and location of proposed transportation facilities and obtain environmental approvals.
- Engineering – Engineering projects involve detailed environmental studies and preliminary and final design. Having been through a detailed analysis based on the information from the Project Planning phase, these projects are candidates for future addition to the Construction Program.
- Right-of-Way – This funding is to provide the necessary land for the project or to protect corridors for future projects.
- Construction – This last stage includes the costs of actually building the designed facility. Construction does not begin until a project receives the necessary environmental permits, the State of Maryland meets air quality requirements, and contracts are bid. Once a project is fully funded for construction, it is moved from the Development and Evaluation section of the CTP to the Construction section of the CTP.

- Total – This is the sum of any funding shown for Planning, Engineering, Right-of-Way, and Construction.
- Federal Aid – This is the amount of the total that will utilize federal funding.

(j) Grouped Projects: MDOT has the option to group projects that are not regionally significant. These projects are typically referred to as “Minor Projects” and appear as “System Preservation Projects”. These projects are smaller in scope and cost. They can include road resurfacing, safety improvements, and sidewalk and bicycle and trail construction. Most projects are not grouped together and have their own PIF page, however, some System Preservation Projects within the larger urban areas are grouped together by funding category. Projects located within smaller regions may be itemized at the discretion of the SHA district engineer. In instances where grouped projects include large projects that can be identified individually consideration for their own PIF page will be given.

(k) Consistency with State Long-Range Transportation Plan and MPO Long-Range Transportation Plans: The multimodal goals and objectives in the *2035 Maryland Transportation Plan (MTP)* provided policy guidance for the 2014 STIP development. The MTP in turn provides overall policy direction for Maryland’s seven MPO LRTPs which in turn provide overall policy direction for development of the TIPs.

(l) Financial Plan: The financial documentation can be found in Appendix L in the CTP Summary on pages 8-12. This information was presented and distributed to the public during the Fall Tour. The section titled “Where the Money Comes From” (page 11 of the CTP) details the various inputs to the Transportation Trust Fund (TTF), which is Maryland’s dedicated transportation revenue source. As Figure 3.1 illustrates, the TTF is supported by Federal aid, operating revenues, user fees, motor fuel taxes, vehicle titling taxes, registration fees, sales and use taxes, corporate income taxes, and bond proceeds. This source of funding is available to pay for operating, maintenance, and capital costs (including system preservation) associated with highways, transit, aviation, motor vehicle administration, and the Port of Baltimore.

The CTP contains all capital projects funded with the Maryland Transportation Trust Fund (TTF). The TTF assures there are no administrative barriers to combining or flexing State or Federal transportation funds to pay for the needs of a given project, within the constraints of statutory authority. Additionally, because transportation needs are not paid for using the State’s general fund, transportation does not have to compete with other State programs and expenditures for funding.

The total projected Trust Fund revenues amount to \$15.6 billion for the period covered by the FY 2014 STIP/CTP. The TTF supports operation and maintenance of State transportation systems, MDOT administration, debt service, and capital projects. In addition, 5 percent of the Highway User Revenues credited to the TTF are shared with Maryland’s counties and Baltimore City to support their transportation needs.

The Department maintains a six-year Financial Plan that is updated semi-annually. This plan forecasts revenues and expenditures using the latest economic estimates from two national forecasting companies. The revenue projections used in the latest update of the Trust Fund forecast are, in the short-term, based on a continuation of moderate growth in the national economy; and, in the long-term, expected to follow a normal cyclical pattern around an overall upward trend. User revenues are payments made by our customers for

transportation infrastructure and services; and as such, their long-term growth follows the trend in state population.

MdTA is independently funded through tolls, concessions, investment income, revenue bonds, and miscellaneous sources, thus its funding sources are separate from both the TTF and the State's General Fund. While there is no federal funding associated with any of the MdTA projects, the projects that MdTA constructs that are considered "Regionally Significant" can be found in the appropriate Metropolitan TIP. Please reference the TIPs for the project information: The I-95 projects are included in the BRTB TIP, the ICC project is included in the TPB TIP and the Nice Bridge is included in the TPB TIP.

The ICC Project is also funded by means other than tolls. The project will use GARVEE bond funding and NHS funding, as detailed in both the TPB TIP and in Appendix D.

Another source of funding that is accounted for in the STIP includes local Congressional earmarks. Local earmarks can be found in the Minor Projects section of the SHA County PIF pages.

The CTP's second section titled "Where the Money Goes" (page 11 of the CTP) describes how the TTF supports the operation, maintenance, and preservation of State transportation systems as well as MDOT administration, debt service, and capital projects. As a dedicated funding source, the TTF provides maximum flexibility in financing transportation throughout the State to foster intermodal solutions. Additionally, because transportation needs are not paid for using the State's General Fund, transportation need not compete with other State programs and expenditures for funding.

The revenue and cost estimates for the CTP/STIP use an inflation rate to reflect "year of expenditure dollars" based on reasonable financial principles and information developed cooperatively by the State, MPOs, and public transportation operators. The CTP describes the economic trends and assumptions that were used to estimate MDOT's revenue and operating cost projections. The CTP also describes the assumptions used to estimate Federal-aid for highways, transit, WMATA and aviation.

(m) Fiscal Constraint: Fiscal constraint is a requirement that dates back to the Intermodal Surface Transportation Efficiency Act of 1991. The purpose of fiscal constraint is to ensure that states have adequate funding available to implement projects identified in the STIP while also providing for the operation and maintenance of the existing transportation system. The 2014 STIP is financially constrained by revenues that are reasonably expected to be available through the four-year funding period of the STIP or project completion using year of expenditure dollars. The revenue and expenditure projections use the latest available economic estimates from two national forecasting companies.

Several specific requirements apply to the federal definition of fiscal constraint. They include:

- A STIP must be financially constrained by year and funding category.
- The STIP must clearly identify projects to be funded using current revenues and which projects are to be funded using proposed revenue sources.
- Proposed funding sources and strategies ensuring their availability shall be identified.
- Operation and maintenance funding must be programmed into the STIP.

- The State must have a process for estimating expected revenue from all funding sources over the time period of the STIP and furnish this information to MPOs for the development of their TIPs.

The 2014 STIP demonstrates fiscal constraint in the following ways. The CTP and TIPs specify funding sources (Federal, special, general, other) to be used for projects broken down by year and project phase (planning, engineering, right-of-way, and construction). Projects (or phases of projects) are listed only if full funding is anticipated to be available for the project (or appropriate project phase) within the time period established for its completion. The Summary includes Operating and Maintenance Costs on pages A-18 through A-20, which are fully funded first before any funding is declared available for Capital projects. Lastly, all of the information contained in the MPO TIPs for the state projects comes directly from the CTP. All project and funding details in the STIP/CTP have been scrutinized and approved by the Maryland General Assembly and Governor through the annual budget process. Once approved by the Maryland General Assembly and Governor, this becomes the budget established in the financial system.

State Highway Administration Details

Evidently, there will always be confusion between “planning” requirements, which include a snapshot in time that is the information of record for up to 4-years, versus “budgeting” requirements, which include daily individual project approvals and up to the minute federal reimbursement practices. The primary focus of this document is on the “planning” requirements, however, due to increased scrutiny concerning the actual proof of fiscal constraint, a discussion of how the day-to-day “budget” process is very relevant. The following section provides a detailed discussion on the SHA budget process.

As described in earlier sections of the Executive Summary, the Capital Program is funded by both State funds (dedicated revenues of the Transportation Trust Fund (TTF) and CTP Bond funds) and federal funds. For SHA, federal funds are received primarily from FHWA under a federal transportation funding act. Each project is reviewed for eligibility in order to be federally funded. FHWA approval must be received in order to seek federal reimbursement of costs. If the federal criteria cannot be met, State funds must be programmed, if available. The capital program budget process is based on a projection of State vs. federal funds, which is determined based on many different factors.

It is important to note, that the federal highway program is primarily a construction program and very rarely are federal funds authorized for maintenance. At this time, only CHART operations activities receive federal funds as part of the Maintenance Program. The other exception is FEMA and FHWA-ER funds are applied for when a significant catastrophic emergency weather event occurs and causes significant damage. It is important to capture the costs associated with these events in order to seek federal reimbursement. It should be noted that the use of federal funds for the planning and design phases need to be carefully evaluated given the FHWA payback rules. Should the project not proceed to right-of-way acquisition or construction within 10 years, federal funds reimbursed from the early phases may need to be paid back.

Capital Project

A Capital Project as approved in the CTP is generally a project that results in the building of an infrastructure asset or improves the infrastructure asset by extending its useful life. The CTP process is in compliance with Accounting Pronouncement GASB 34 requiring infrastructure and all capital assets be accounted for and depreciated based on the

reasonable useful life of the asset. MDOT Consolidated Transportation Program Bonds are backed by these infrastructure assets. The bonds require that Capital Program Bond funds be used exclusively for appropriate capital program spending as authorized by the approved CTP. Each capital project must support the specific capital program fund category it is being funded from, such as Fund 77 Resurfacing and Rehabilitation. Each capital program fund must be used exclusively for the purpose approved by the Secretary and the Legislature.

Capital Program Fund Categories (Grouped Projects)

Capital Program Funds, such as Fund 80 Bridge Replacement & Rehabilitation, are an integral part of managing the Capital Program. The fund categories are approved by the Administrator and the Secretary during the budget submission process. Each fund category represents a capital investment in the State Highway System. Funds can only be spent for capital projects that are part of the State Highway System unless the project has been approved as a Reimbursable. The work performed in the Capital Program cannot be considered repair or maintenance work, which is work that does not extend the useful life of a capital or infrastructure asset or it minimally extends the life. Repairs and maintenance work on the State Highway System must be approved and charged against the Maintenance Program.

Form 42 and Form 30 – Project/Contract Approval Process

The approval process for a capital project is achieved by project phase through the use of the Form 42 and Form 30. (Project phases are typically planning, design, ROW, utilities, and construction and are described in Section i, page 15, of this document.) These forms are required in order to commit future capital funds and to spend capital funds. The Form 42 allows a project to be authorized for future funding from an approved capital fund category. One requirement of the Form 42 is that it must contain the appropriate TIP and/or STIP number. The potential eligibility for federal funding is reviewed at this time. It is important to assess this correctly since an error can lead to potential under spending of federal dollars and over spending of State dollars. It is at the time that a Form 42 is approved for construction funding that a contract can proceed to advertisement. The approved Form 42 commits the future funds under the appropriate capital program fund category, but it also allows the cash flow and forecasting process to begin. A Form 30 must be submitted in order to establish an active project number in FMIS, except for advertised construction projects. It should be noted that any change in cost, schedule, and/or scope for a project is also documented through the Form 42 and Form 30 process. This additional step in the process allows a project to be authorized for any changes that result in a decrease or increase of spending of State or Federal dollars on a project as well as drastic changes in cash flow assumptions for the subject projects.

Advertisement Schedule

The Advertisement Schedule is a working document generated monthly and reviewed each Monday morning with the Administrator, Deputy Administrators, Senior Managers and others, such as fund managers, to ensure all approved capital construction projects proceed to contract advertisement on schedule. FHWA is also invited and does participate. Only approved Form 42s are allowed on the Ad Schedule. The review process ensures major milestones are achieved by meeting targeted dates including the Notice to Proceed date, which is the basis for the cash flow estimate and the budget.

Monthly Forecast

The Monthly Forecast allows management to monitor the spending level of the capital program via the budgetary process (not the planning process). Each fund category within the approved CTP is monitored to ensure that project spending/programming is progressing within the estimated cash flow/approved budget or it is under or over spending/programmed. Immediate action must be taken to correct any significant spending issues. Success is typically measured at the end of the fiscal year when at least 90% spending has been achieved within the budgeted fund categories and we have not overspent State funds.

Advance Construction

SHA uses Advance Construction (AC) procedures to manage its capital program. In general, all projects are placed in AC when advertised for construction. Conversion to regular federal funding occurs consistent with the cash flow required during each fiscal year. The cash flows used are the same as those carried in the Department's six-year CTP. Federally funded projects are added to the program only when there is sufficient obligation authority (OA) remaining after providing for projects already underway. For planning purposes, the OA is calculated at a rate of 80% - 94.7% of authorized appropriations. A detailed analysis of the use of OA is prepared for the draft and final CTP each year.

Additionally, SHA has utilized Toll Credits to manage the funding for highway improvements. Toll Credits for non-federal share are a provision in United States Code (USC) that allow states to take a credit for documented non-federal expenditures by a state toll authority on routes that carry interstate commerce. The credit takes the form of replacing the federal matching share, i.e. the state share, making a project (or at least the federal eligible portions of a project) 100% federally funded. Toll credits do not give a state any more federal aid to spend; they just allow a state to use federal funds in lieu of the state match portion, which provides flexibility to better manage the use of state and federal funds. The STIP also includes fiscal constraint summary tables and explanation worksheets for SHA and for Statewide projects (see Appendix D and Appendix E).