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2020

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The Southwestern Pennsylvania Commission (SPC) hereby gives public notice that it is the policy of the Commission to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI and other related statutes require that no person in the United States of America shall, on the grounds of race, color, sex, national origin, age, or disability, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which SPC receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice by SPC under Title VI has a right to file a formal complaint with the Commission. Any such complaint must be in writing and filed with SPC’s Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, please see our website at: www.spcregion.org or call 412-391-5590.
2021-2024
TRANSPORTATION IMPROVEMENT PROGRAM

July 2020

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1. Introduction

The Southwestern Pennsylvania Commission (SPC) is the federally-designated metropolitan planning organization (MPO) responsible for the region’s transportation planning process that supports the effective operations, maintenance and improvement of the regional transportation system, including the movement of people and goods, protection and enhancement of communities and the environment, and continuing development of the regional economy.

SPC’s transportation planning area encompasses the ten counties of Southwestern Pennsylvania and their connection to points beyond the region. The planning process addresses transportation needs for roadways, bridges and public transportation; travel by automobile, truck, bus, train, bicycle or walking; issues with traffic congestion and safety; and, access to work, school, shopping, recreation and our homes.

The Transportation Improvement Program (TIP) is one of the core products of SPC’s cooperative, coordinated and comprehensive (3c) metropolitan transportation planning process. The 2021-2024 TIP for Southwestern Pennsylvania specifically identifies the region’s highest priority transportation projects programmed for advancement over the next four years. The TIP includes a variety of transportation investments, including improvements made to the roadway system, public transportation, rail and other intermodal projects, as well as bicycle and pedestrian facilities. The TIP document is amended regularly to reflect the most current funding and project information and is updated comprehensively every two years.

The TIP represents a significant investment of public funding and is developed in accordance with federal and state legislation and guidance, which are discussed in Section 2, and with extensive input from the public and our planning partners. Projects identified in the TIP are funded in three basic ways: TIP Formula Funds, State Managed Programs, and Discretionary or Other Programs. The TIP is fiscally-constrained, indicating that anticipated revenues for the four-year TIP period are sufficient to fund the identified projects. When projects are funded through State Managed Programs or Discretionary or Other Programs, external program revenues are added to the TIP along with the project. Where noted, many discretionary projects are included in the TIP for planning purposes only (public review or air quality testing), but the original funding agency retains project management responsibility. The TIP Financial Summary table can be found in Appendix 4.

The region’s transit agencies provide financial analyses that demonstrate their capacity to implement the budgeted programs. The included Transit Financial Capacity documentation certifies that the agencies have the financial capacity to deliver the projects identified in their programs without affecting current operations/service levels (Appendix 5).
2. Transportation Program Planning Framework

Federal and state legislation provides much of the planning framework for the region’s TIP development process, including statutory regulations and requirements, as well as funding levels and distribution formulas. Based on federal and state regulations, the statewide planning partners have jointly developed financial and procedural guidance to support TIP development across the state’s planning regions.

For the SPC region, *SmartMoves for a Changing Region* – the region’s adopted long range transportation plan - provides additional policy and program guidance consistent with federal and state legislation. *SmartMoves* defines the policies, strategies, and overall vision for the region. The TIP is the primary implementation vehicle for *SmartMoves*.

**Federal and State Planning Framework**

Federal and state legislation provides much of the planning framework and funding for the region’s transportation program development process and the 2021-2024 TIP. The Fixing America’s Surface Transportation (FAST) Act of 2015, the Clean Air Act of 1970, and the Civil Rights Act of 1964 provide substantial federal context for the region’s transportation program. PA Act 120 (1970), PA Act 44 (2007) and PA Act 89 (2013) provide the legislative context for the state transportation program.

**Federal Transportation Legislation**

Federal metropolitan planning regulations ([23 CFR §450.326](#)) guide the development of the TIP as well as the documents that are required to demonstrate that the TIP is meeting the requirements of the Clean Air Act (Air Quality Conformity Determination), Title VI of the Civil Rights Act and other nondiscrimination statutes (Benefits and Burdens Analysis/Environmental Justice Report). With the adoption of the TIP, metropolitan planning organizations are required to self-certify that the metropolitan transportation planning process is being carried out in accordance with all of the applicable federal requirements ([23 CFR §450.336](#)). These requirements and how SPC is meeting them can be found in SPC’s Self-Certification Resolution and Programmatic Checklist (Appendix 1).

**FAST Act**

The 2021-2024 TIP was developed in accordance with the FAST Act legislation, which was signed into law on December 4, 2015. The FAST Act is a five-year bill (2016-2020), which expires before the 2021-2024 TIP takes effect on October 1, 2020. Funding from the federal Highway Trust Fund depicted in Appendix 4 is an estimate, based on flat 2020 FAST Act funding levels.
The bill authorized $305 billion nationally in spending over the five-year period and also continues to emphasize performance-based planning and programming that was introduced in MAP-21. Approximately 74% of the FAST Act’s funding authorizations are for roadways and bridges ($225 billion), 16% for transit ($48.7 billion), 8% for other appropriations ($24 billion), and 2% for motor carrier safety ($7 billion). These authorizations represent a 15% increase nationwide over funding levels in MAP-21.

The FAST Act retains the majority of the highway program structure from MAP-21, but also adds flexibility to a number of the core federal funding programs. The changes to the structure of the highway program include:

- National Highway Performance Program (NHPP): funds can now be expended on non-National Highway System (NHS) bridges on the federal-aid system.
- Surface Transportation Program (STP): renamed as the Surface Transportation Block Grant Program (STBGP), the population-based sub-allocation (STP-Urban) will be increasing by one percent per year from 51% of the total STBGP funds in 2016 to 55% of the funds in 2020.
- Transportation Alternatives Set-Aside Program (TA): the TA program is being folded into the STBGP and renamed as an “STBGP set-aside” and up to 50% of the sub-allocated portion of the STBGP set-aside can be transferred for broader STBGP eligibilities.
- National Highway Freight Program: new program, distributed by highway apportionment formula to the states to fund freight improvements on the NHS.

The FAST Act also included funding for Bus Rapid Transit (BRT) in the Small Starts program and a new component to the new Bus and Bus Facilities that includes competitive funding for no/low emissions buses.

**Clean Air Act**

The Clean Air Act establishes National Ambient Air Quality Standards (NAAQS) and assigns certain responsibilities to state and local governments to meet these standards. The U.S. Environmental Protection Agency has promulgated transportation conformity regulations to address Clean Air Act requirements. SPC is responsible under these regulations for testing its long range plan and TIP to ensure that these programs will not deteriorate regional air quality. A summary of SPC’s conformity process and findings are presented in a later section of this report, and are explained in detail in the Air Quality Conformity Determination for the 2021-2024 TIP.

**Civil Rights Act and Environmental Justice**

The 2021-2024 Transportation Improvement Program Environmental Justice Report documents that no identifiable population segment or geographic areas are disproportionately benefitted.
(served) or burdened (disrupted and/or inconvenienced) as a result of the proposed transportation investments in the 2021-2024 TIP.

State Transportation Legislation

PA Act 120 of 1970 established the State Transportation Commission and requirements for a PA Twelve Year Transportation Program. PA Act 44 of 2007 established a number of state programs, including several of the current public transit programs. PA Act 89 was enacted in November 2013 as a state multimodal funding measure.

Act 89 allocated additional revenues to metropolitan and rural planning regions in the state highway and bridge programs. The significant highway and bridge increases also enabled a transfer to the transit programs of Act 44 (former) highway/bridge monies. Act 89 also had a substantial impact on program design for State Managed Programs such as the Interstate Program and the Secretary’s Discretionary Highway (Spike) Program.

Generally, Act 44 (as amended by Act 89) transportation revenues are generated by Pennsylvania Turnpike Commission (PTC) tolls and are used to support state public transit programs. Act 89’s other state revenue increases support the expanded state highway and bridge programs. The provision of PTC tolls being used to support state public transit sunsets in 2022, thereby shifting $400 million in yearly payments from the PTC to the motor vehicle sales tax. The sunset of this provision has the potential to jeopardize the stability of transit funding across the commonwealth; most notably the Port Authority of Allegheny County in the SPC region.

Over the years, separate federal- and state-legislated program requirements have been aligned such that a single planning process meets the requirements of both federal and state transportation programs.

Federal and State Transportation Funding Programs

Federal and state transportation programs can be separated into three basic categories, depending on the project selection processes used to identify projects for inclusion into the TIP: TIP Formula Funds, State Managed Programs and Other Discretionary Programs.

TIP Formula Funds

Multiple federal and state programs provide funding to statewide planning regions (large urban, small urban, rural). This formula funding is distributed to metropolitan and rural regions based on defined needs-based formulas and criteria. Regional planning agencies manage these funds through their regional TIPs using established planning processes. Funding sources can be either federal or state, highway or public transit programs. Pennsylvania’s 2019 Transportation
Program Financial Guidance further describes these programs and funding formulas. (See Appendix 10 for more information.)

SPC manages the TIP development process for the ten-county Pittsburgh Transportation Management Area, including performance-based project evaluation and selection decisions for these TIP Formula Funds. State formula funding includes the State Highway and State Bridge categories, and federal funding programs that are distributed through regional TIPs include:

- National Highway Performance Program (NHPP)
- Surface Transportation Block Group Program (STP)
- Surface Transportation Block Group Program-Urban (STU)
- Surface Transportation Block Group Program Set-Aside (TA)
- Congestion Mitigation and Air Quality Program (CMAQ)
- Highway Safety Improvement Program (HSIP)
- Off System Bridges (BOF)

There are several categories of federal formula funding for public transit, the largest of which is the Section 5307 urban area program. Many of the region’s public transit operators qualify for this funding and use it for capital improvements such as buses, stations and maintenance facilities. Some small urban public transit operators are authorized to use a portion of this funding for public transit operating assistance. Section 5307 funding is allocated to the urban area. The public transit agencies that serve the Pittsburgh and Monessen urbanized areas agree to share this funding through a formula administrated by SPC that closely parallels the federal formula, but also accounts for maintenance of the busway network. Federal formula funding requires a 20% non-federal match, most of which is provided by the Commonwealth, along with a local contribution. Federal rural area funding—Section 5311—is administered directly by PennDOT on a statewide basis.

**State Managed Programs**

There are several programs that utilize state and federal funds that are managed in PennDOT’s Central Office in Harrisburg. PennDOT shares project information with the regional planning partners for public information purposes, but makes project selection and management decisions. Projects are then included in the SPC TIP. These include the Interstate Maintenance (IM) Program, which identifies and prioritizes improvements to the Interstate Highway system. These projects are often significant investments and are of statewide or national significance. Other programs managed from PennDOT Central Office include the Railway-Highway Safety Crossing Program (RRX), statewide Highway Safety Improvement Program (HSIP) and the statewide Transportation Alternatives Set-Aside (TA). Both the HSIP and TA have state components that parallel formula-funded programs managed at the regional level. The National Highway Freight Program, established by the FAST Act, is also managed at the state level.
The Pennsylvania Rapid Bridge Replacement Program (RBR), a Public Private Partnership (P3) approved in PA Act 89, is a statewide initiative intended to address Pennsylvania’s 4,000 structurally deficient bridges. The RBR program will cover 50% of the costs of the RBR Program with the remaining 50% coming from each region’s formula funding based on the percent share of RBR associated bridge deck in their area. The source of the regional share is split evenly between state bridge funding and state highway (capital) funding. These funds are deducted from each region’s formula distribution and are reserved in a separate item for the statewide program. The SPC region’s funding deduction for the RBR is approximately $9.8 million per year for a total regional reservation of $39.2 million. The RBR program has replaced a total of 193 structurally deficient bridges in the SPC region.

PennDOT maintains a discretionary program: the Secretary’s Discretionary Highway Program, commonly known as the “Spike Program” that is funded through a combination of set-asides from the NHPP, STP and State Highway/Bridge funding categories. The Pennsylvania Secretary of Transportation makes project selection decisions, but projects are managed through the regional transportation programs. The Spike Program increases PennDOT’s capacity to address projects that can be difficult to fund within a region’s allocation of TIP Formula Funds. Project selection is based on asset management principles with a priority on pavement and bridge preservation, and fixing poor pavements and structurally deficient (SD) bridges.

The Interstate Maintenance (IM) Program project lists are found in Appendix 9. The statewide funding levels for these programs are outlined in Pennsylvania’s 2019 Transportation Program Financial Guidance. The IM Program will continue to be managed on a statewide basis with the programming of funds occurring centrally by the Department of Transportation in accordance with the Transportation Asset Management Plan (TAMP) and Transportation Performance Management (TPM) requirements. An amount equal to 26/55ths of available NHPP funds ($150 million) is set aside for the Interstate Management Program in the first year of the 2021 Program. An additional $50 million is set aside for Interstates in each subsequent year until a total of $1 billion is realized by year eight (2028) of the TYP.

Twenty percent of the balance of NHPP funds remaining after these additional funds for the Interstate system are set-aside will be held in a statewide reserve to advance projects on the National Highway System (NHS) in accordance with the TAMP and performance management principles. The remaining funds will be distributed among MPOs and RPOs for bridges and highways on the NHS.

This increase in NHPP funding for the IM program results in significantly less NHPP funding available for distribution to the planning regions across the commonwealth. Locally, this translates to a 40% reduction in NHPP funds during the 2021-2024 TIP (279.3 million) when compared to the 2019-2022 TIP (469.6 million).
Other Discretionary Programs and Private Funding

Along with the longstanding federal Better Using Infrastructure to Leverage Development (BUILD) discretionary funding program (previously known as TIGER) that was funded for $900 million nationwide in FY2019 and $1 billion in 2020, the FAST Act includes two new federal discretionary funding programs. The Infrastructure for Rebuilding America (INFRA) Program (formally known as FASTLANE) provides financial assistance to freight and highway projects of national or regional significance. The INFRA Program is authorized for $4.5 billion over the life of the FAST Act. The $800 million authorization for federal fiscal year 2016 grows steadily to $1.0 billion in 2020. Additionally, the FAST Act also introduced the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Program. The ATCMTD Program was established to make competitive grants for the development of model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. The program is authorized at $60 million per year through 2020 nationwide.

The program funding sources for these projects are typically distinct from regular TIP or State Discretionary funding sources. Program cycles may be separated from the TIP cycle or may be irregular, active only on the occasion that funding becomes available. As with other discretionary funding, the projects generally appear in the TIP as planning information, except when noted. The SPC TIP does not manage the funding program. SPC updates project information as new status reports are received from the project managers.

Also listed for illustrative purposes in Appendix 4, is the funding for the Pennsylvania Turnpike Commission (PTC), and local or privately-funded projects.

Appendix 9 includes a listing of the all of the PTC capital maintenance projects and descriptions of PTC expansion projects, as well as projects funded through other discretionary programs and local or private funds.


Pennsylvania’s Planning Partners – MPOs, RPOs, FHWA, FTA, the State Transportation Commission and PennDOT—collaborate in the development of the Financial Guidance and the General and Procedural Guidance, establishing a framework for the statewide TIP development process. This guidance includes useful background information, policies established for use by the partners in the development of regional transportation programs, and program assumptions.

The General and Procedural Guidance identifies the purpose of the planning program and the roles and responsibilities of various intergovernmental planning partners. It also identifies the
procedures necessary for developing a TIP that is consistent statewide for the formation of the Statewide Transportation Improvement Program, commonly known as the STIP.

Pennsylvania’s 2019 Transportation Program Financial Guidance describes the procedures and formulas for distributing financial allocations of available federal and state transportation funding. It identifies set-asides for State Managed and State Discretionary Programs, as well as develops funding formulas and distribution tables allocating funding to metropolitan and rural planning organizations. Where program funding is allocated by formula, the guidance identifies the weighted criteria and their use. Several federal and state discretionary programs are also identified along with general provisions for their use. Projects introduced by the Pennsylvania Turnpike Commission are separate from TIP Formula Funds, State Managed Programs or Discretionary Programs (see Appendix 9 for more information).

**SPC’s Long Range Transportation Plan**

Federal law requires that each MPO develop a regional long range transportation plan with at least a 20-year horizon. *SmartMoves for a Changing Region* was developed and adopted on June 24, 2019 as the region’s official long range transportation plan for Southwestern Pennsylvania. *SmartMoves* sets the overall vision for the region:

“A world-class, safe and well maintained, integrated transportation system that provides mobility for all, enables resilient communities, and supports a globally competitive economy.”

*SmartMoves* includes 3 regional goals that are supported by 8 strategies each designed to emphasize mutually supportive regional activities, places and connections. The long range transportation plan forms the foundation of all of the plans and programs undertaken at SPC. The TIP is the main implementation vehicle for the long range transportation plan.

*SmartMoves* continued to prioritize investments in the maintenance and preservation of existing transportation system assets; a theme that is clearly articulated as the top priority in the 2021-2024 TIP. Other significant investments are made in safety and operations, as well as improvements that foster economic growth, enhance livability and connectivity in communities and corridors throughout the region, and provide sustainable, multimodal transportation choices.

*SmartMoves* contains goals and strategies for a wide breadth of community and economic development topics that are interrelated with the transportation system, as it directly supports and enables our communities and our economy to prosper. This plan continues to focus on core transportation investments such as maintaining our current system; optimizing our system
through operational improvements; working toward Vision Zero by investing in safety for all system users; and providing equitable mobility options for all users through improvements in public transit and pedestrian and bicycle infrastructure.

The plan describes the overall strategic Vision for the region’s transportation system and also, as required by federal regulations, describes the specific projects and investments that can be advanced with revenues that are reasonably expected to be available during the life of the plan. This plan also includes a set of multimodal projects and initiatives to modernize and expand our transportation system that are in various stages of the planning process, and at this time, do not have funding identified for implementation.

All of these projects and initiatives contribute to the Regional Vision. The strategies and actions contained in the plan, coupled with the ongoing planning efforts already underway in the region, will not only help to guide the development of these projects, but also help to identify partnerships and opportunities for collaboration to assist in implementing the Vision and the plan.
3. Regulatory Compliance

As part of the TIP development process, MPOs are responsible for reviewing their transportation planning processes to ensure they are being carried out in accordance with all applicable federal requirements, and that local processes to enhance the participation of the general public, including the transportation disadvantaged, have been followed in the development of the TIP and long range transportation plan update. SPC has conducted this process review and included a Self-Certification Resolution and a Programmatic Checklist to certify the transportation planning process (Appendix 1).

Transportation Performance Management

The Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act include performance management requirements. Performance-based planning will ensure that the Pennsylvania Department of Transportation (PennDOT) and the Metropolitan Planning Organizations (MPOs) collectively invest federal transportation funds efficiently towards achieving national goals. In Pennsylvania, the Rural Planning Organizations (RPOs) follow the same requirements as MPOs.

Transportation Performance Management (TPM) is a strategic approach that uses system data and information to make investment and policy decisions to achieve national performance goals. TPM is an ongoing, systematic approach that provides key information to help decision-makers understand how investments decisions made across transportation assets and/or modes affect system performance. The process improves communications between decision-makers, stakeholders and the public. A key component of TPM is the establishment of performance measures and targets, which are developed via cooperative partnerships based on data and objective information.

1 23 USC §150(b)
Pennsylvania has long utilized a comprehensive planning and programming process, with a focus on collaboration between the Pennsylvania Department of Transportation (PennDOT), FHWA, and planning partners at the county and regional levels. This approach will be applied as we begin to implement TPM and Performance-Based Planning and Programming (PBPP).

PennDOT and its Planning Partners (MPOs/RPOs) will coordinate when setting targets to ensure consistency to the maximum extent possible. Each MPO/RPO will need to establish targets. They may adopt the state’s performance targets and support the state’s efforts in achieving those targets or establish their own quantifiable performance targets.

Performance measures and goals (23 CFR 490) have been established for the federal-aid program to assess the following: the condition of pavements and bridges on the National Highway System (NHS); safety in terms of serious injuries and fatalities on public roads; performance of the Interstate and non-Interstate NHS; freight movement on the Interstate system; traffic congestion and on-road mobile source emissions as related to the CMAQ Program; NHS asset management; and, public transit asset management through state of good repair (SGR) measures. Data is being gathered and shared among planning partners to develop baseline measurements and prepare for the ongoing assessment of progress toward performance targets. Processes are being developed for publishing standardized reports to disseminate this information to planning partners and the public.

A detailed summary of the TPM and PBPP collaboration, roles and responsibilities, target setting processes, and progress made on achieving targets since the last TIP can be found in Appendix 3.

**Federal Clean Air Act Requirements**

The U.S. Environmental Protection Agency (EPA) has designated several areas within Southwestern Pennsylvania that are not in attainment of one or more National Ambient Air Quality Standards (NAAQS). The designated nonattainment and maintenance areas in the region include:

- PM_{10} (1987 NAAQS – one designated area – five municipalities within Allegheny County)
- Carbon monoxide (1971 NAAQS – one designated area – City of Pittsburgh’s Central Business District and certain other high traffic density areas in and near the City’s Oakland neighborhood)
- Ozone (1997 8-hour NAAQS – two designated areas – one covering all of Greene County; one covering all of Indiana County)
- Ozone (2008 8-hour NAAQS – one designated area covering seven of the ten counties within SPC’s planning area)
- PM_{2.5} (1997 Annual NAAQS – three separate areas that, combined, cover five entire counties and parts of four other counties within SPC’s planning area)
• PM$_{2.5}$ (2006 Daily NAAQS – the same three areas designated nonattainment for the PM$_{2.5}$ 1997 Annual NAAQS)
• PM$_{2.5}$ (2012 Annual NAAQS – one designated area covering all of Allegheny County)

A companion document to this report, the Air Quality Conformity Determination for the Pittsburgh Transportation Management Area, documents the process used by SPC for making the transportation-related conformity determination for the TIP and long range transportation plan. It also demonstrates that SPC’s adopted transportation plans, programs, and projects within each nonattainment and maintenance area conform to the provisions of the federal Clean Air Act and the applicable criteria and procedures of the Transportation Conformity Rule.

Environmental Justice

Executive Order 12898 mandates federal agencies to incorporate environmental justice (EJ) analysis in their policies, programs and activities. Building from the framework of Title VI of the Civil Rights Act of 1964, which ensures nondiscrimination in federal programs, EJ directives address how low-income and minority populations are affected by the actions of the federal government. In their publication, An Overview of Transportation and Environmental Justice, the U.S. Department of Transportation (U.S. DOT) outlines their three main objectives stemming from this mandate:

• Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
• Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
• Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations.

SPC prepares a Report on Environmental Justice as a companion document to the TIP, which summarizes multiple analyses, outcomes and activities that are part of the region’s planning process, including both a participatory component and a technical component. A summary of SPC’s public outreach and opportunities for the residents of the Southwestern Pennsylvania region to participate in transportation planning is included in this report, with further information detailed in SPC’s Public Participation Report. The report also evaluates the distributive effects of the 2021-2024 TIP by assessing the geographic distribution of the benefits and burdens of the regional transportation system to low-income and minority populations. An analysis of roadway and bridge asset condition, location of transit stops, and financial investments relative to EJ populations is also used to mitigate any potentially disproportionately negative effects of the long range plan on minority populations.
TIP Fiscal Constraint/Transit Financial Capacity

Federal regulations require a fiscally-constrained transportation program (23 CFR Part 450.326 and FTA Circular 7008.1A). There must be a reasonable expectation that sufficient revenue (federal, state and local matching funds) will be available to cover the total cost of projects identified in the TIP. Pennsylvania’s 2019 Transportation Program Financial Guidance identifies the amounts expected to be available for multiple federal and state funding sources in the 2021-2024 TIP. Regarding local funding, project sponsors must document funding sources for projects and phases proposed for TIP years 1 and 2 before they can be considered as TIP candidates.

Fiscal constraint for the Highway Component of the TIP is reviewable at the state level in the State Transportation Improvement Program (STIP). A financial summary of the fiscally-constrained SPC Highway Program is presented in Appendix 4.

Public transit guidance requires sponsors of local transit projects to determine their financial capacity to undertake projects involving the acquisition, operation and maintenance of facilities and equipment partially funded by the federal government, and that such improvements can be managed in addition to operating and maintaining the existing transit system. Public transit service providers in the SPC region document this financial capacity in Appendix 5. Public transit project sponsors use SPC’s public participation process as the required public comment period for their financial capacity documents.

Public Participation

The SPC public participation process is detailed in its Public Participation Plan. Documentation of public outreach activities associated with development of the 2021-2024 TIP is included in the TIP Public Participation Report, which is produced upon conclusion of the public comment period. For the 2021-2024 TIP, this public comment period was held May 11 to June 12, 2020. The Public Participation Report (Appendix 11) includes documentation of the virtual public engagement undertaken in support of the 2021-2024 TIP. The report includes presentations, virtual meeting times and presentation materials, and copies of public advertisements identifying provisions for persons with disabilities and/or needs related to sight, hearing or language. The report also includes a summary of the public comments submitted, SPC’s response to these comments and the full text of all written and electronic comments received through the public participation process.

The materials presented for public review included the Draft 2021-2024 Transportation Improvement Program and two companion documents: the draft Air Quality Conformity Determination for the Pittsburgh Transportation Management Area, and the draft Benefits and Burdens Assessment (Report on Environmental Justice). Also included was an Amendment to
the region’s transportation plan, *SmartMoves for a Changing Region*, to reflect project phasing and cost information included in Draft 2021-2024 TIP. This complete set of TIP resources was available for review on the SPC website ([www.spcregion.org](http://www.spcregion.org)) and through member websites.

On an ongoing basis, SPC also conducts targeted outreach to groups serving persons with disabilities, public transportation-dependent populations, and other groups with particular transportation needs (elderly, low-income groups, etc.). Public Participation Panels and member planning departments are instrumental in providing referrals for the additional outreach.

**TIP Modification Procedures**

The transportation program must be responsive to necessary programming changes after TIP adoption in order to ensure that scarce public resources are being utilized to their fullest extent. Changes to the TIP are enacted through the STIP MOU (State TIP Memorandum of Understanding), and SPC’s TIP Modification Procedures, adopted at both the regional and state levels. The SPC TIP Modification Procedures and the STIP MOU are included in Appendix 2. A process flow diagram is also provided to help project sponsors determine how specific modification requests will be administered. These modification requests are processed through SPC’s Transportation Technical Committee (TTC) and the Transit Operators Committee (TOC).
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4. Transportation Improvement Program Development Process

The 2021-2024 TIP is the culmination of a continuing, comprehensive and cooperative planning process involving the public, SPC member governments and planning partners, PennDOT, transit providers and other interested parties. This process has produced a fiscally-constrained, prioritized list of transportation improvement projects and strategies that advances the Regional Vision, Goals and Strategies of *SmartMoves for a Changing Region* as well as the PennDOT Twelve Year Program (TYP). The TIP is the first four-year period for both the TYP and long range plan. Projects are funded by phase, often over multiple years, in order maximize limited financial resources.

**PennDOT Connects**

Working with Planning Partners, PennDOT is placing a renewed focus on the collaborative planning process. The PennDOT Connects/Local Government Collaboration policy requires collaboration among stakeholders to clarify specific details unique to candidate project locations. The focus of this collaboration involves leveraging the expertise of various disciplines with varying roles and responsibilities within local government, the Planning Regions, and Districts.

Specific areas for collaboration should include, but are not necessarily limited to:

- Safety issues/concerns
- Bicycle/pedestrian accommodations
- Transit/multimodal considerations
- Presence of/impacts from (current/future) freight-generating land uses
- Planned development
- Consistency with current and/or proposed zoning
- Existence of regional planning studies
- Other proposed transportation improvements
- Green infrastructure/stormwater management
- Impacts on the natural, cultural, or social environment
- Right-of-way considerations
- Anticipated public opinion
- Community or cultural events in the candidate project area

The PennDOT Connects/Local Government Collaboration Policy is to document local government collaboration including the transportation problem, environmental resources, land use and other contextual issues early in the planning process to support future project phases. The intended outcomes include clearer scopes of work and more accurate schedules and
budgets when projects are programmed. The information documented in the collaborative planning process is carried forward into the scoping and environmental review processes. This process ensures that PennDOT and planning partners achieve a better understanding of the project location, the context of the community, and the community’s vision to better shape projects moving forward. This better understanding will lead to projects that enhance the community and maximize public investments.

As in the past, any new projects proposed to be added to the 2021-2024 TIP must follow the collaborative planning process approach, and must be documented through the Connects Screening Form process.

**Carryover Projects**

The preliminary TIP is developed using a process where projects that were initiated but not fully completed in the preceding TIP have first priority for funding in the draft TIP. The cost of advancing each of these continuing projects is updated and, if funding is available, the full costs for completing the subsequent project phase(s) are provided for in the TIP. A review is performed to ensure project sponsors do not carry over to the next TIP any project that is no longer a priority and that the cost and schedule for the carryover project is realistic. Projects are reviewed to ensure that the local match is available. Project sponsors may voluntarily drop lower-priority projects from the program to create capacity to cover cost increases for other existing projects or to add a new higher-priority project.

**New Candidate Roadway and Bridge Projects**

In each TIP update, a large number of candidate transportation projects are proposed to SPC for inclusion in the program. These candidate projects come from public input, our members, the region’s long range transportation plan, other SPC planning efforts such as Road Safety Audits and corridor studies, as well as other sources such as the PennDOT Twelve Year Program, PennDOT District plans, local capital improvement plans, county comprehensive plans and related studies, etc. The region’s planning partners, through regional TIP Workgroup meetings (4 held in each PennDOT District and one regional meeting), screen the new proposals to assure consistency with the long range transportation, determine if they advance the long range transportation plan’s Regional Vision, Goals, Strategies and performance measures, and whether they satisfy relevant funding program requirements.

The 2021-2024 TIP was developed in conjunction with the PennDOT Twelve Year Program. Early in the development process, the Pennsylvania State Transportation Commission (STC) developed a web-based public survey mapping tool that allowed the public to place comments and project ideas (grouped by type of project) at specific locations on a map, as well as to rank
their top 5 priorities in terms of investment categories. The priorities found in SmartMoves and the identified priorities found in the STC survey are consistent with one another (public transportation, biking/walking, bridge and pavement condition and traffic flow). This survey yielded 628 transportation related issues mapped, with 95 of those issues being already addressed by existing projects for the Southwestern Pennsylvania region. This input identified areas that are in need of routine maintenance; suggestions to remedy operational issues such as traffic signal timing; changes to address larger, non site specific policy issues; and, location specific capital improvements. In locations where the transportation issues could be addressed through PennDOT, county or municipal maintenance activities, comments were forwarded to the respective owner of the infrastructure. For input related to capital improvement needs, SPC staff evaluated each of the comments, with support from each of the respective PennDOT District TIP Workgroups, for possible projects to include in the TIP.

This program has also utilized the vast amount of input (over 22,600 points of engagement) that was collected during the development of SmartMoves. This input ranged from project specific needs to overall transportation system investment priorities to input at the policy and strategy level.

Four new projects were added to the 2021-2024 TIP that came from public input. An additional 10 projects that came from previous public input were carried over from the (2019-2022) TIP.

Roadway and bridge projects are prioritized and recommended for inclusion into the fiscally-constrained program based on a number of factors such as bridge and pavement condition, safety factors and data from the SPC Congestion Management Process, as well as considerations on how well each project advances the long range transportation plan and addresses established performance metrics. For a detailed illustration of the TIP development process, refer to Figure 1, the TIP Process Flow Diagram.

SPC’s Transportation Technical Committee (TTC) reviews the project lists and recommends them for inclusion into the TIP for approval by the Commission. Frequently, large or complex projects or specific project phases are deferred to subsequent TIPs or cash-flowed over several years due to limited fiscal capacity. As previously noted, any new projects are also subject to the PennDOT Connects process prior to being added to the TIP.

Public Transit Projects

SPC’s Transit Operators Committee (TOC) member public transit service providers generate project requests within the fiscal limits of separate urban and rural financial program guidance for each respective agency. The TOC compiles and reviews project submissions that are included in the TIP for approval by the Commission. Urban program guidance is provided through a special work group that reports to the TOC. The work group translates Pennsylvania’s 2019 Transportation Program Financial Guidance for urban program formula funding (Section 5307) into agency-specific estimates that are useful in preparing urban operating budgets and
capital project lists. Rural Section 5311 budgets for individual rural transit service providers are determined by the PennDOT Bureau of Public Transportation (BPT) and transmitted directly to the rural providers. Each project also includes a proposed amount of state matching funds and local agency share. The BPT manages the final project selection by deciding the level of state funding to commit to each identified project. The Public Transportation Program projects are listed in Appendix 8.
Figure 1

2021 TIP Update: Process Flow Diagram

SPC Region

2021-2024 Transportation Improvement Program for Southwestern Pennsylvania

Southwestern Pennsylvania Commission
SPC Competitive Funding Programs

In addition to the project prioritization and selection process for roadway and bridge projects, SPC conducts its own competitive funding processes for its regional allocations of federal Congestion Mitigation and Air Quality (CMAQ) and Transportation Alternatives Set-Aside Program (TA Program) funding. Similarly, SPC reserves a portion of its STP-U funding to support the Livability through Smart Transportation (SMART) Program. The programmatic requirements as well as project evaluation and selection procedures are detailed in each respective program’s guidelines. Once program recommendations are made, the SPC Transportation Technical Committee endorses project lists for each program to be included in the TIP.

For the 2021-2024 TIP, each project was evaluated for technical aspects and deliverability through a process that includes the respective program committee (CMAQ/TA Program/SMART). Decision Lens™ (decision support software, licensed through PennDOT) was used in order to dynamically evaluate the projects to determine which projects provide the best return on investment and advance the Regional Vision, Goals and Strategies of SmartMoves.

All of the projects selected in SPC’s competitive funding programs are included in the SPC Competitive Funding Programs project lists (Appendix 7).

Congestion Mitigation and Air Quality (CMAQ) Program

Projects programmed for Congestion Mitigation and Air Quality (CMAQ) funding were evaluated and recommended through the CMAQ Evaluation Committee (CEC). An open call for projects was held in the late summer of 2019. The process (as described in the CMAQ Program Guidance) used a number of air quality related performance-based metrics to analyze project benefits and other factors to gauge a project’s consistency with adopted SPC plans and policies as well as the ability of the project to be delivered on-time and within its stated budget. The CEC includes representatives from SPC’s standing committees (Transit Operators Committee and Transportation Technical Committee) as well as representatives from the Active Transportation Forum, the Port of Pittsburgh Commission, the Allegheny County Health Department and the Pennsylvania Department of Environmental Protection. The CEC solicited, reviewed and prioritized candidate projects proposed for CMAQ funding, which were then recommended to the SPC Transportation Technical Committee for approval.

Transportation Alternatives Set-Aside Program (TA Program)

An open call for projects was held in the fall of 2019 for the 2021-2022 SPC Transportation Alternatives Set-Aside Program (TA Program) similar in structure to the CMAQ program, the process (as described in the TA Program Guidance) used a number of performance-based metrics to analyze multimodal benefits to communities and the region as a whole, by connecting community activity centers, public transportation and recreational facilities to the communities they serve. As in the CMAQ process, other factors were considered in order to
evaluate each potential project’s consistency with adopted SPC plans and policies as well as the ability of the project to be delivered on-time and within its stated budget. SPC’s Transportation Technical Committee participated in the evaluation of these projects.

Livability through Smart Transportation (SMART) Program

The SMART Program also used a similar methodology and structure as the CMAQ and TA Program processes. A call for projects for this program was held through the city and county planning departments in the spring of 2020. The process (as described in the SMART Program Guidance) utilized a number of metrics designed to select projects that increase the livability and sustainability of the region through encouraging partnering with both public and private stakeholders and coordinating land use and transportation planning. As in the CMAQ and TA Program processes, other factors considered each potential project’s consistency with adopted SPC plans and policies as well as the ability of the project to be delivered on-time and within its stated budget. Projects selected for 2021-2022 SMART funding will be amended into the TIP after projects are selected, once the 2021-2024 TIP becomes active.

TIP Approval

At the conclusion of a required 30-day public comment period, all comments were documented, reviewed and responded to. SPC adopted the 2021-2024 TIP and its companion documents at its meeting on June 29, 2020. Once the TIP is approved at the regional level, it is submitted to PennDOT for approval by the Governor, as well as to the U.S. DOT. Federal regulations also require that the regional TIP be incorporated into a state TIP (STIP), which is a compilation of projects from throughout the Commonwealth. As discussed in the previous section, as project schedules and cost estimates change, SPC makes adjustments to the TIP periodically through the Transportation Technical Committee and Transit Operators Committee. This ensures that the region’s limited federal and state funding is being used to the fullest extent.
5. Implementing the Vision

Since the enactment of MAP-21 in 2012, SPC and its planning partners have been on the forefront of developing robust, data-driven, performance-based planning programs that are used to inform and monitor investment strategies and priorities. Examples of these types of programs can be found across the state, including the Congestion Management Process; operations and safety planning; asset management planning; and, multimodal project selection/prioritization methodologies.

*SmartMoves for a Changing Region* defines the Regional Vision, Goals and Strategies developed through a collaborative regional planning process that identifies transportation, community, and economic development needs and priorities. Transportation focused strategies, resulting in infrastructure improvement projects and related programs are implemented in a number of ways, primarily through the TIP, which provides the bulk of the region’s transportation investment funds.

*SmartMoves* also identifies the tasks to be undertaken and the partners needed to advance the implementation of the 24 Strategies and their related actions. Example tasks to implement the Strategies could include initiatives such as creating holistic visions for corridors of regional significance; the development of a best practices resource center; development of a regional plan to tackle climate change; planning to revitalize communities throughout the region; conducting public outreach to raise awareness of the need for increased transportation funding and the public benefits therein; and the examination of how to increase coordination and linkages between regional transit providers.

Enhancing and revitalizing communities is a major focus of *SmartMoves*. Through coordination with municipalities, SPC, PennDOT and planning partners are actively working to enhance existing communities in terms of safety, mobility and livability. Early coordination with local governments during the project development process ensures that the transportation investments we are making fit the needs of community and can be viewed as assets that foster growth and economic development.

The Freedom Road Bridge (over PA Turnpike) project, depicted on the following page, illustrates bicycle and pedestrian accommodations being implemented as a part of the bridge replacement that were desired by the community (Cranberry Township). These facilities tie into the Township’s bicycle and pedestrian network and also the regional Commodore Perry Trail. PennDOT District 10 utilized SPC SMART funding to assist in the funding of the bicycle and pedestrian accommodations that were developed and implemented as a result of PennDOT Connects coordination between Cranberry Township, Butler County, PennDOT and SPC.
As discussed above and in Section 2: Transportation Planning Framework, *SmartMoves for a Changing Region* - the region’s long range transportation plan, developed the framework for performance-based planning and programming in the SPC region. This framework, based on the seven national performance goals and input from a broad public involvement process, established the basis for gauging performance of the 2021-2024 TIP. Additional performance guidance from PennDOT set targets for the amount of investment to be dedicated to state-owned structurally deficient bridges (both by deck area and count) as well as pavement condition on the National Highway System.

**National Performance Goals:**

1. **Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System.
4. **System Reliability** - To improve the efficiency of the surface transportation system.
5. **Freight Movement and Economic Vitality** - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

*Southwestern Pennsylvania Commission*
6. **Environmental Sustainability** - To enhance the performance of the transportation system while protecting and enhancing the natural environment.

7. **Reducing Delays in Project Delivery** - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies’ work practices.

In order to ensure the TIP, the primary mechanism that advances the Regional Vision and Goals of *SmartMoves*, is working to advance the aspirations of the region, all new candidate projects (280) that were considered for inclusion into the 2021-2024 TIP were screened against the *SmartMoves* Strategies and regional performance measures relating to transportation investments. It is evident that the 2021-2024 TIP makes significant investments in the same functional areas that *SmartMoves* identified as top priorities for the region, thereby establishing a direct link between long range planning and short term programming for Southwestern Pennsylvania.

This section will demonstrate how investments made in the 2021-2024 TIP directly work to implement *SmartMoves* by correlating investments with strategies and federal performance metrics to the *SmartMoves* Goals.

*SmartMoves* is built upon the three fundamental goals of Connected Mobility, A Globally Competitive Economy and Resilient Communities. These goals comprise a shared, holistic Vision for the future of Southwestern Pennsylvania: “A *world-class, safe and well maintained, integrated transportation system that provides mobility for all, enables resilient communities, and supports a globally competitive economy.*”
Safety

*SmartMoves Strategies:*

A significant investment (35 projects - $167.9 million) will be made to make the region’s roadway system safer for all users over the life of the 2021-2024 TIP. These improvements include upgrades such as ADA curb ramps ($4.0 million); guiderail replacements ($5.1 million); at-grade railway crossing upgrades ($4.1 million); and intersection improvements ($48.2 million). Specific examples of safety improvements in the region include:

- SR 28 Goheenville Dip Improvements (Armstrong County)
- SR 356 Safety Improvements (Westmoreland County)
- I-376 Banksville Interchange Upgrade (City of Pittsburgh)
- US 119 McClure Road Intersection Improvements (Fayette County)
- US 30 Corridor Improvements - Western Section (Allegheny and Westmoreland Counties)
- Valleybrook/Bebout Road Intersection Improvements (Washington County)

The illustration below depicts a critical piece of the Laurel Valley Transportation Improvement Project in Norvelt, Westmoreland County. This is the intersection of SR 981, SR 2021 and Hecla Road. The improvement removes a 5-leg intersection and implements a roundabout. It enhances safety and operations as well as accessibility and mobility for all system users.
The aforementioned safety projects are in addition to the region’s dedicated allocation of Highway Safety Improvement Program (HSIP) funding. The region receives approximately $10.3 million per year ($41.2 million total) in regional HSIP funds. Projects are selected yearly via a cooperative process between PennDOT, SPC and its planning partners. The region is also receiving $13.1 million in statewide HSIP funds.

In order to receive HSIP funding, projects are rigorously evaluated based on expected safety benefit and historic crash data. Each project is evaluated based on its Benefit/Cost Analysis; Highway Safety Manual Analysis; number of fatal and injury crashes; the application of systematic improvements; improvements to local roads; and, deliverability. Based on the evaluation criteria, the projects selected demonstrate a significant potential safety return for the cost, within the current available funding.

Examples of projects funded with state and regional HSIP funds include:

- SR 2040 Lebanon Church Road Improvements (Allegheny County)
- SR 68 Zelienople Curve (Butler County)
- SR 3021 Corridor Improvements (Butler County)
- Liberty Avenue Improvements (City of Pittsburgh)

**Infrastructure Condition**

**SmartMoves Strategies:**

1. Employ holistic planning for mobility and accessibility when developing and prioritizing projects. Make transportation improvements fit community context and enhance local quality of life.

2. Promote strategic infrastructure investment in communities that reduces physical exposure and vulnerability from natural hazards, including flooding and landslides.

3. Embrace emerging infrastructure innovations and technologies including planning, design, materials and construction processes for an adaptable and resilient built environment.

Investment in maintaining the region’s existing infrastructure is the top priority in the region’s long range transportation plan, as well as the PennDOT 2021-2024 TIP Investment Plan. Maintaining the existing system is the top priority in the 2021-2024 TIP for Southwestern Pennsylvania. Investing in existing infrastructure promotes sustainability in terms of long term system preservation and also reinforces SPC’s commitment to revitalizing the region’s existing communities to promote growth and economic development. These asset management
projects often also provide accommodations for bicyclists and pedestrians, thereby helping to increase mobility and supporting modal choices in the region.

Over 41% ($576 million) of the region’s $1.4 billion in programmed TIP funds are invested in reducing the number of structurally deficient (SD) bridges and the square footage of SD deck area in Southwestern Pennsylvania. This investment in the region’s bridges will reduce the number of SD bridges by 161 bridges; reduce the square footage of SD bridge deck area by 369,366 square feet (16.9%); and, reduce the number of weight posted bridges by 28 (7.4%).

The state-managed Pennsylvania Rapid Bridge Replacement (RBR) Program has replaced an additional 193 SD bridges in the region, reducing the SD deck area by an additional 276,243 square feet.

Investing in structurally deficient bridges has been a top priority for a number of years for the Commonwealth and the region. Some notable examples of major bridge rehabilitation to begin work over the next four years include:

- 6th Street Bridge Rehabilitation (City of Pittsburgh)
- McKeesport Duquesne Bridge (Allegheny County)
- SR 56 Apollo Group Bridges (Armstrong County)
- Rochester-Monaca Bridge (Beaver County)
- Layton Bridge (Fayette County)
- Fall Street Bridge (Lawrence County)
- SR 2027 over I-70 (Washington County)
- West Newton Bridge (Westmoreland County)
Investments in roadway condition will rebuild and rehabilitate approximately 837 miles (216 of those miles on the Non-Interstate NHS) of the region’s highway system. This investment will ensure the longevity of the region’s highway system and foster economic growth through the safe and efficient movement of people and goods throughout the region. Major roadway rehabilitation projects in the region include:

- SR 28 Roadway Restoration (Allegheny County)
- US 422 Preservation (Armstrong County)
- Smithfield Street Reconstruction (City of Pittsburgh)
- US Route 30 Corridor Upgrades (Beaver County)
- Butler Bypass Resurfacing (Butler County)
- East Washington Street (SR 65) Restoration (Lawrence County)
- US 30 Corridor Improvements (Allegheny and Westmoreland Counties)

Similarly, the public transit system also needs to be maintained to ensure the safety of its users and the longevity of the system. Over $451 million (shown by investment type below) of state and federal public transit funding is dedicated maintaining the public transportation system.

- Fixed Guideway Capital Maintenance - $382.5 million
- Capital Bus Facilities and Equipment - $30 million
- Bus Signal and Communications Equipment - $32.2 million
- Multimodal Facilities - $6.2 million
- Bus Stop and Terminal Maintenance - $399 thousand

### Congestion Reduction and Reliability

#### SmartMoves Strategies:

1. Integrate multiple forms of public/private transportation to provide increased mobility equitably for all users including those in underserved rural areas and disadvantaged populations.

2. Employ holistic planning for mobility and accessibility when developing and prioritizing projects. Make transportation improvements fit community context and enhance local quality of life.
3. Support and encourage transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (PM).

Closely associated with condition of the infrastructure and safety of the transportation system is ensuring that the system is efficient and reliable for all users. A region’s transportation system, like any complex system, cannot operate safely, efficiently, and reliably unless it is well maintained; but often, maintaining the system is simply not enough. This is particularly true as the environment in which that system resides continues to change and evolve. Older designs need to be upgraded or enhanced to keep up with changes in travel patterns, modal preferences, and advances in transportation technology and innovative design in order to keep the system safe, efficient and reliable.

Planning and programming transportation investments at the corridor level enables SPC, PennDOT and our planning partners to take a coordinated approach to identifying system deficiencies. For example, the TIP invests over $157.4 million (29 projects) in identified regional Congestion Management Corridors. Similarly, the Interstate Maintenance and Spike Programs (Appendix 9) invest nearly $500 million in funding on the SPC Interstate Highway System from 2021-2024; a large portion of which is dedicated for the continued implementation of a plan to completely modernize Interstate 70 in Washington and Westmoreland Counties. Improvements to Interstates 376 and 79 are also included in the program. Examples of projects that alleviate congestion and improve reliability include:

- SR 28/Highland Park Bridge Improvements (Allegheny County)
- SR 50 - Chartiers Street (Allegheny County)
• Penn Avenue Traffic Signal Upgrades (City of Pittsburgh)
• Park-and-Ride Expansion (Allegheny and Butler Counties)
• SR 356 Corridor Improvements (Butler County)
• US 119 Traffic Signal Upgrades (Fayette County)
• SR 286/US 422 Interchange Improvements (Indiana County)
• US 30/Georges Station Road Intersection Improvements (Westmoreland County)

Investments in public transit and ridesharing also assist in relieving congestion of the region’s roadway system. As illustrated in Appendix 8, the Public Transportation Program, region-wide, will purchase 378 buses and shared ride vehicles ($95 million) for public transit service as well as an additional 15 articulated electric vehicles that are planned to be used in the Downtown to Oakland BRT project. To further support the reliability and efficiency of these public transit investments, there are 93 roadway and bridge projects ($524 million) located on current public transit routes.

Reducing congestion, along with improving air quality, are the main goals of the federal CMAQ program. The 16 new CMAQ funded projects ($40.9 million) in the TIP are estimated to reduce vehicle trips by 2,344 trips per day and vehicle miles traveled (VMT) by 13,327 miles per day, primarily through expansion of the region’s active transportation network, enhancements to public transit service and traffic signal system upgrades.

Community Development and Economic Vitality

SmartMoves Strategies:

1. Integrate multiple forms of public/private transportation to provide increased mobility equitably for all users including those in underserved rural areas and disadvantaged populations.

2. Provide municipal education on land use best practices, Smart Growth principles, community development, transportation planning, and on existing mechanisms to leverage private sector development.

3. Promote strategic infrastructure investment in communities that reduces physical exposure and vulnerability from natural hazards, including flooding and landslides.

4. Embrace emerging infrastructure innovations and technologies including planning, design, materials and construction processes for an adaptable and resilient built environment.
5. Employ holistic planning for mobility and accessibility when developing and prioritizing projects. Make transportation improvements fit community context and enhance local quality of life.

*SmartMoves* places significant emphasis on enhancing our communities throughout the region. Through extensive public engagement during the planning process, it was quickly realized that the expansion of our regional trail network along with providing neighborhood connections to these regional trail facilities was important not only to the region’s urban areas, but to suburban, small towns, and rural areas alike. These connections increase the livability and vitality of the communities throughout the region by helping to create unique, livable areas with a sense of place that are accessible for all residents. This TIP, guided by the *SmartMoves* Strategies provides funding to numerous projects and programs that work to make these connections.

The safe and efficient movement of freight throughout Southwestern Pennsylvania and beyond is a top priority for the long term economic vitality of the region. Investment in the regional freight network increases access to many of the region’s communities enhances opportunities for job creation and reinvestment in Southwestern Pennsylvania. The 2021-2024 TIP invests nearly $403 million (85 projects) in projects that are within 1 mile of regional freight facilities (industrial, manufacturing, distribution, intermodal facilities, etc.). These investments will allow for more efficient movement of freight throughout the region, which will enhance the economy and create opportunities for additional community investment.

Notable examples of projects that will enhance our communities, promote economic vitality and facilitate freight movement in the region include:

- I-376 Corridor and Interchange Improvements (Allegheny and Lawrence Counties)
- Three Rivers Heritage Trail – Brackenridge Section (Allegheny County)
- Margaret Road Intersection Improvements (Armstrong County)
- Monaca Gateway Corridor Improvements (Beaver County)
- SR 228/Freedom Road Corridor Improvements (Butler County)
- Bus Rapid Transit from Downtown to Oakland (City of Pittsburgh)
- Allegheny River Green Boulevard (City of Pittsburgh)
- Cast Iron Bridge Restoration (Fayette County)
- SR 19 - Waynesburg Betterment (Greene County)
- Hoodlebug Trail Improvements (Indiana County)
- North Country Trail Safety Improvements (Lawrence County)
- Interstate 70 Modernization (Washington and Westmoreland Counties)
- SR 88 - Charleroi Betterment (Washington County)
- Laurel Valley Transportation Improvement Project Sections I and II (Westmoreland County)
The implementation of adaptive traffic signal networks on critical corridors throughout the region is also assisting in the movement of freight as well as moving people. Adaptive signal control systems coordinate control of traffic signals along arterial corridors. Advanced signal systems allow proactive traffic management by allowing traffic conditions to be actively monitored and adapted based on prevailing traffic conditions across all modes. Adaptive traffic signals also assist in fulfilling regional policy goals related to congestion reduction and reliability as well as environmental sustainability. Segments of US Routes 19 and 30, as well as State Routes 8, 51, 60 and 1001 are scheduled to be upgraded to adaptive systems over the next four years. Over $74 million in traffic signal improvements, many of which are along critical corridors in the region, are included in the 2021-2024 TIP.

The provision of bicycle and pedestrian facilities and improvements plays an important role in the economic vitality of communities, both large and small, across the region. Improving bicycle and pedestrian facilities in the region’s communities can support local business and bolster tourism via intraregional connections such as the Three Rivers Heritage Trail and the Great Allegheny Passage. The 2021-2024 TIP dedicates $3.6 million in Transportation Alternatives Set-Aside Program (TA Program) funding to expand the bicycle and pedestrian network by adding over 39 miles of facilities such as bike lanes and shared use paths to connect or further expand existing facilities. Additionally, the SPC SMART Program will allocate an additional $12 million in funds to increase the sustainability and livability of communities in the region. This is a competitive funding program and projects will be added to the TIP as they are selected.

The PennDOT Connects process also plays an important role in supporting economic vitality and community development. As discussed in Section 4, through the Connects process, local governments have the opportunity to inform PennDOT and planning partners of current and future plans for the community, contextual elements surrounding the project area and any
other factors that may influence the planning and implementation of a particular transportation infrastructure improvement. This approach ensures the improvement being implemented will serve the community’s current and future needs.

Environmental Sustainability

*SmartMoves Strategies:*

1. Invest in strategies that adapt to and decelerate the impacts of climate change. This includes investment in disaster preparedness, response, and recovery, as well as, creating awareness about climate change, its projected impacts, and regional strategies.

2. Promote strategic infrastructure investment in communities that reduces physical exposure and vulnerability from natural hazards, including flooding and landslides.

3. Conservation of the region’s natural resource assets and key tracts of land that enhance environmental quality, natural land connectivity, habitat corridors, agricultural lands preservation and provides recreational opportunities for residents and tourists.

4. Promote and support sustainable regional water resource management and planning for water topics, such as stormwater, flooding, water quantity, water quality, and infrastructure systems.

5. Support and encourage transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (PM).

Implementation

The protection and preservation of the natural environment are considerations that are taken into account early in the project development process. PennDOT’s Linking Planning and NEPA (LPN) initiative focuses on identifying the most critical transportation infrastructure needs in planning and providing a consistent method of collecting information relating to purpose and need, project limits and characteristics, public participation, and potential environmental resource impacts that will provide a better understanding of the issues that may affect the project delivery schedule and budget. Through the state’s established LPN process, SPC screens each candidate project during the TIP development process. SPC’s practices in this field have been recognized as a best practice in the Commonwealth for the LPN process.
Landslides resulting from extreme weather are an ever increasing concern for southwestern Pennsylvania. Southwestern PA is the most landslide susceptible area in Pennsylvania\(^2\). There are currently 350+ active landslides in the region with an estimated repair cost of $235 million. The 2021-2024 TIP dedicates $30 million in funding to remediate 20 of the most critical landslides in the region. The $30 million in TIP funds are in addition to and do not include the millions in A-409 District Maintenance funding that will be used to remediate landslides. Dedicating funds TIP to remediate landslides takes scarce funds away from other high priority TIP projects.

Along with congestion reduction, the other main component of SPC’s Congestion Mitigation and Air Quality (CMAQ) program is the selection of projects that contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (PM). The CMAQ program in the 2021-2024 TIP funds projects including elements of the Downtown to Oakland Bus Rapid Transit project; purchase of electric assist bicycles; development of mobility hubs and other active transportation facilities; traffic signal upgrades; TDM programs; and, corridor improvements.

In addition to the congestion reduction benefits discussed previously in the Congestion Reduction and Reliability Section, the newly approved CMAQ projects provide benefits to the air quality in the region by reducing:

- **Ozone**
  - Volatile Organic Compounds (VOC) by 7.5 kg/day
  - Nitrogen Oxides (NOx) by 20 kg/day
- **Carbon Monoxide (CO)** by 99 kg/day
- **Fine Particulate Matter (PM\(_{2.5}\))** by 1 kg/day

### Reducing Delays in Project Delivery

**SmartMoves Strategies:**

1. Streamline federal, state and local project development and delivery across all phases.

2. Improve infrastructure efficiency through technology implementation in the development, design, construction, operation and maintenance.

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Implementation

Ensuring that projects are delivered in a timely manner helps to reduce costs associated with the project development and delivery process and allows for the maximum utilization of scarce state and federal resources. SPC actively tracks the progress of projects and meets with local project sponsors to ensure they are fully aware of their roles and responsibilities in the project development process in order to meet their project development and obligation deadlines. During the fall of 2015 as well as the summers of 2017 and 2019, SPC held a series of Project Delivery Workshops throughout the region. These workshops outlined the requirements and of administering a state or federal-aid transportation project. Additionally, SPC also provides assistance to local project sponsors by procuring consultant assistance in order to expedite the project delivery process for its TA and SMART programs.