Section 6. The Transportation Plan

Like the areas it covers, the needs and opportunities identified in the 2035 Plan are diverse – economic development projects, highways and bridges, transit facilities and operations, and related infrastructure - and must be implemented by an equally diverse collection of public and private agencies. Responsibility for providing funding varies according to the investment type and is shared among multiple taxing authorities and private funding mechanisms. Depending upon the type of infrastructure need, the financial plan for the 2035 Plan identifies the potential funding sources and expectations for funding that are currently known to be available. Where the funding does not adequately address identified needs, the financial plan discusses how the region might achieve the desired funding commitments and identifying possible funding sources.

Transportation Financial Plan

For public investment in transportation, the 2035 Plan includes a transportation financial plan, which is required by federal and state agencies before public monies can be spent on maintaining and operating the transportation system or making system improvements. Federal funding is under the authority of SAFETEA-LU, the most recent federal transportation legislation, and must follow a prescribed set of rules overseen by the FHWA and FTA. PennDOT and SPC are the agencies responsible for managing the flow of federal transportation funding into the Southwestern Pennsylvania region. State monies are under the authority of the state legislature and are based on multiple state laws supervised and implemented through the State Transportation Commission, PennDOT and the Pennsylvania Turnpike Commission (PTC).

Every two years, as part of the Transportation Improvement Program (TIP) update process, PennDOT issues official Transportation Program Financial guidance. The processes described in the financial guidance determine the levels of funding from various federal and state programs distributed through various transportation planning organizations across the Commonwealth, SPC being one of them.

The transportation financial plan identifies funding that is anticipated to be available from 2007 to 2035 and that will be committed to deliver projects or programs within the Southwestern Pennsylvania region. Intergovernmental planning processes coordinated by SPC and resulting in

the Long Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP) are the means for defining the projects that will receive the available funding. PennDOT is the largest implementing agency and recipient of program funding. Additionally, SPC member counties, local governments, transit authorities, and non-profit agencies, each produce transportation projects and deliver services using state and federal revenues. Projects are selected based on eligibility for the funding programs, their ability to meet program and regional goals, and their priority relative to other similar projects. The 2035 Plan is the means for linking the goals of the region with the purposes and uses of the federal and state funding sources.

SPC has prepared the transportation financial plan to meet federal planning requirements identified in SAFETEA-LU that ensure regional plans are fiscally balanced. The Plan must identify and balance a realistic cost estimate for capital projects, maintenance, and operations with a projection of revenues from sources that are reasonably anticipated to be available and intended to be used to pay for the projects. Fiscal constraint is described in federal guidance issued by U.S. DOT in February 2007 that helps agencies determine what is defined as reasonable and appropriate in counting future revenues and making project cost estimates that will apply to a period 20-plus years into the future. Only projects for which construction and operating funds are reasonably expected to be available are to be included in the LRTP.

Transportation needs in the region exceed the amount that can be funded within a fiscally-constrained LRTP. For transportation needs and projects that fall outside the boundaries of the fiscally-constrained plan, the Plan document also identifies a list of additional priority needs, termed the Illustrative Project List. As additional revenues are identified to complete these projects, they can be considered for addition to the fiscally-constrained portion of the plan in a future update or through the LRTP amendment process.

Overview of Program Revenues

The 2035 transportation financial plan projects funding that is anticipated to be available from more than 15 federal, state and other revenue sources. The greatest portion of funding identified in the transportation financial plan is provided through long-established federal transportation programs identified in SAFETEA-LU and its preceding transportation legislation, ISTEA (1991)

and TEA-21 (1997). Most of the highway and bridge funding through these programs is designated for use on the federal-aid system, which includes state-owned transportation infrastructure as well as some locally-owned facilities. Municipal roads and bridges, with certain exceptions, are generally not eligible for the federal funding covered by the Plan's projections. Although a few local bridge projects are funded each year through a small federal program or using 100 percent state bridge funds, the projected revenues are not meant to cover municipal road and bridge maintenance, and indeed, would fall far short of that need. Local governments' own maintenance programs are funded through separate taxing authority but with significant assistance using state transportation revenues provided directly through PennDOT to the municipalities. For the transit program, rules differ according to whether the funds are allocated to large urban, small urban or rural areas and whether they are for capital improvements or operations.

Long Range Transportation Plan vs. Transportation Improvement Program

Federal regulations require a Long Range Transportation Plan (LRTP) process, whereby Metropolitan Planning Organizations such as SPC extend transportation planning activities over at least a 20-year horizon. The SPC Transportation Improvement Program, or TIP, covers a four-year period and is updated every two years. The current TIP covers 2007-2010, and will be updated in July 2008. The TIP is the first stage of the LRTP. Projects on the TIP have to be derived from or be consistent with the LRTP.

Revenue projections have been prepared based on the following three periods within the 2035 Plan:

LRTP Stage 1 (equates to the TIP)	2007-2010
Long Range Transportation Plan Stage 2	2011-2018
Long Range Transportation Plan Stage 3	2019-2035

Stage Two includes the costs to complete projects that are started in the TIP period but not fully funded. If the cost to complete the project does not appear in Stage Two of the Long Range Transportation Plan, USDOT is not permitted to approve the environmental clearances for that

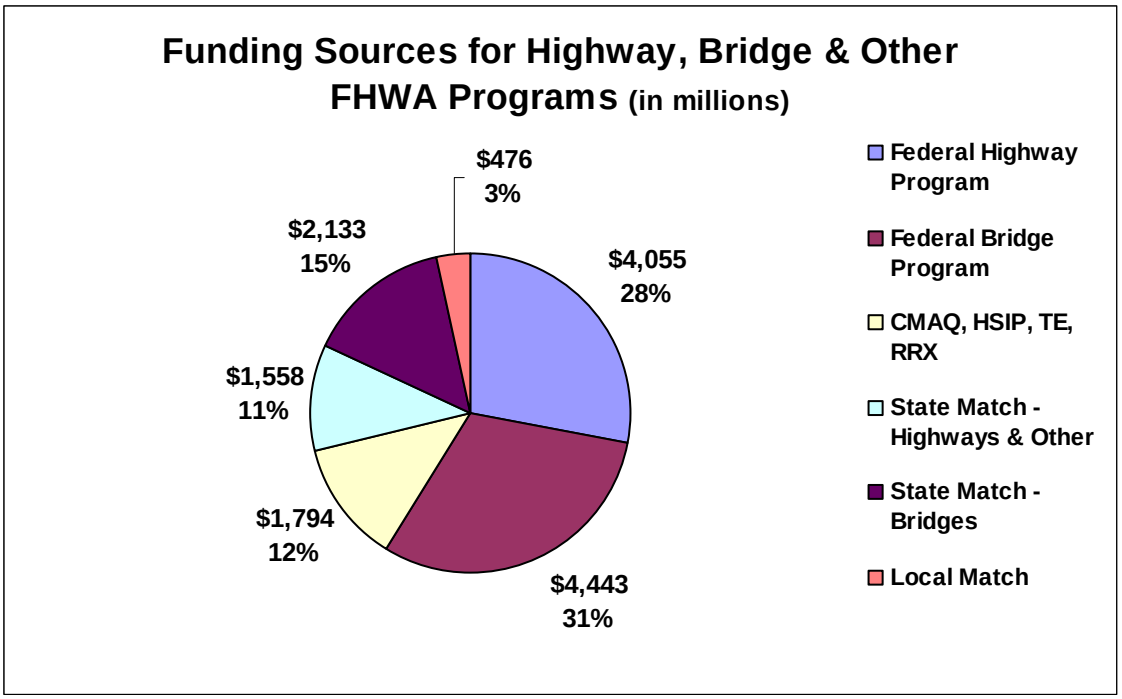
project. Stage Two is also used to stage the delivery of major projects so that potential funding impacts on other projects can be minimized. Corridor-sized projects are broken down into deliverable segments and preparations are made to handle future cash flow requirements. Stage Two is relatively balanced between TIP completion, additional major projects, and line items. In this 2035 Plan, Stage Two also begins to increase the funding reserved for line items to meet investment strategy goals. Stage Three completes the Plan through 2035. Most of the Stage Three funding is committed to line items, increasing the focus on maintenance that begins in Stage Two, and providing flexibility to adapt to emerging needs. The Stage Three project list also includes a limited number of major improvement projects at the corridor level, which is consistent with the Plan's emphasis on strengthening existing corridors. The transit component of the plan is essentially two line items: operations and capital maintenance. Specific projects and actions will be identified in the TIP and will be monitored for consistency with the Plan.

Long Range Transportation Plan Funding Sources

Title I Formula Funds

The mix of funding sources anticipated to be available for the highway, bridge and FHWA-funded programs during the Plan period 2007-2035 is shown in Figure 6.1. Federal funding makes up almost three quarters of the overall program.

Figure 6.1 Title I Funding Sources for Highways, Bridges & Other FHWA Programs



The Federal Highway category includes a number of separate SAFETEA-LU programs including the National Highway System (NHS), Surface Transportation Program (STP), and STP-Urban programs. The Federal Bridge category consists of two parts – a main program for bridges that are on the federal-aid system, and a second, much smaller program that provides funding to projects that are not on the federal-aid system. For each of these programs, except as noted, a project must be on the federal-aid highway system to be eligible to receive federal funding. This federal-aid system includes all of the National Highway System and many other roadways that are important to mobility within the region.

The category "FHWA-funded programs" includes four additional federal programs: Congestion Management and Air Quality (CMAQ), Highway Safety Improvement Program (HSIP), Transportation Enhancements (TE) and Rail Safety (RRX). The financial plan recognizes that funding for these programs will not be used for specific projects until a future TIP cycle, when

projects will be selected for the TIP based on guidelines unique to each program. Therefore, funding for each program is reserved as a line item. This funding is not available for use on other projects. SPC manages project selection processes for the CMAQ and TE Programs as part of the TIP update every two years. Each PennDOT District is responsible, with SPC consultation, for selecting projects (also during the TIP update cycle) for the HSIP and Rail Safety programs based on state-determined technical standards.

Overall, the Plan's Title I investments through the year 2035 are expected to total more than $14.5 billion, a level that is not significantly different from the region's previous 2030 Plan. Figure 6.2, Estimate of Available Revenues, identifies the revenue projections for each federal and state program within the time periods of the Long Range Transportation Plan. The funding figures cannot be directly compared with the 2030 Plan, however, because of two significant changes in SAFETEA-LU. Year of Expenditure (YOE) adjustments are new to the 2035 Plan revenue projection requirements. Secondly, the 2030 Plan included the Interstate Maintenance Program at the regional level. In the 2035 Plan, the Interstate Maintenance Program is being managed at the state level. It is anticipated that Interstate projects will be identified as part of the TIP update process or through TIP amendment actions. Interstate needs are identified in subsequent sections of this document for information purposes, but the interstate funding and project costs are not part of the fiscally-constrained financial plan.

Figure 6.2 Title I Estimate of Available Revenues for Highway, Bridge & Other FHWA Programs

Funding Source	LRTP Stage 1 (2007-2010 TIP)	LRTP Stage 2 (2011-2018)	LRTP Stage 3 (2019-2035)	Total (2007-2035)
NHS	$145.2	$347.5	$1,105.0	$1,597.8
STP	$144.8	$335.2	$1,065.7	$1,545.7
State Highway	$143.4	$338.6	$1,076.5	$1,558.5
Federal Bridge	$403.7	$966.4	$3,072.9	$4,443.1
State Bridge	$196.0	$463.3	$1,473.2	$2,132.5
STP Urban	$82.8	$198.2	$630.4	$911.4
Local Match	$43.7	$103.4	$328.7	$475.8
Highway & Bridge Programs	**$1,159.7**	**$2,752.6**	**$8,752.4**	**$12,664.7**
Safety	$36.7	$88.0	$279.9	$404.7
CMAQ	$97.0	$232.1	$738.0	$1,067.1
TE	$22.0	$53.5	$170.0	$245.5
RRX	$7.1	$16.7	$53.1	$76.9
Other Title I Programs	**$162.8**	**$390.3**	**$1,241.1**	**$1,794.2**
Regional Total	**$1,322.5**	**$3,142.9**	**$9,993.5**	**$14,458.9**

*All numbers in millions

Through its work on development scenarios and investment strategies, the region's planning partners have made a conscious effort in the 2035 Plan to focus more of the region's available resources on maintenance in order to address the serious deficiencies that threaten the transportation infrastructure. Even with this "maintenance first" approach, the level of transportation need is still projected to exceed the available funding by a substantial margin. According to PennDOT, even with significant revenue increases it will take more than a decade for the region to reach statewide goals for levels of performance and physical condition. If resources continue to lose ground to costs, system condition could deteriorate further from already low averages.

Title I Discretionary Funds

Several other revenue sources beyond the regular formula funding can be accessed to fund transportation needs in Southwestern Pennsylvania, including Federal Earmarks, the Pennsylvania Secretary of Transportation's Discretionary Program, and the Governor's Discretionary Economic Development Program.

U.S. Congressional Earmarks – Congressional members regularly have the opportunity to use their discretionary power to designate a limited amount of funding apart from regular formula funds towards completion of priority projects that they specify in federal legislation. The most common source of these earmarks is when federal transportation legislation is reauthorized every six years. Reauthorization legislation includes a number of standard programs where members of Congress designate the projects that are funded. Some programs are targeted to meet specific national objectives, while others provide Congressional members with discretionary authority to fund priority projects in their home districts. Additionally, Congress is required to pass a transportation appropriations bill each year that identifies the year's budget level and authorizes the spending of federal formula funds. This legislation often includes earmarked projects but at a much smaller scale than in the reauthorization legislation.

PA Discretionary "Spike" Program – Pennsylvania sets aside 20 percent of the federal and state highway program funds that would otherwise be subject to formula distribution to be used at the discretion of the Pennsylvania Secretary of Transportation. Funding is distributed during the TIP update process in consultation with the State Transportation Commission, under PennDOT's "Spike" program.

Economic Development Program – Funding is distributed at the discretion of the Governor and the Pennsylvania Secretary of Transportation for transportation improvements associated with economic development opportunities. Funding for the program comes from a $25 million per year reserve from state highway program funds that are otherwise subject to formula distribution.

Appalachian Development Highway Program – Funding from this economic development program is under the supervision of the Appalachian Regional Commission (ARC). The ARC program provides federal funding to support four specific economic development highway projects in the U.S. 22 corridor in Westmoreland County. After the designated projects have been completed, the funding source is scheduled to go away. The TIP / LRTP include the identified U.S. 22 projects using the existing funds, but unless the program is renewed by Congress there will be no future funding.

Southwestern Pennsylvania will continue to pursue and compete for these discretionary programs of limited funding at the state and federal levels; however, revenues from these sources cannot be associated with specific projects until they are awarded, and thus are not projected until confirmed as available to spend on the projects identified in the TIP and LRTP.

Title III Formula Funds

The Federal Transit Administration (FTA) and the Commonwealth of Pennsylvania Bureau of Public Transportation fund public mass transit for all the Region's transit operators through a variety of sources depending on their size or population areas. Urban Federal Funding is provided to the Region by formula. Port Authority is the designated recipient for the Pittsburgh Urbanized Area (UZA). The remaining eligible systems have recipient agreements with Port Authority to be direct grantees. The funds generated to the Pittsburgh UZA cannot be used for operations. MMVTA and FACT are designated recipients for their small urban areas.

Small Urban Operators can use the funds generated for operations. MMVTA receives a portion of the Pittsburgh Urbanized Formula Funding in addition the small urban formula funding.

The designated recipient of Rural Program (5311) is the Department of Transportation Bureau of Public Transportation. The State distributes funding allocations by formula to the rural transit operators. The State is the FTA Grantee. BCTA and WCTA receive rural 5311 funding in addition to urban 5307 funding.

The Region also receives urban formula funding for Section 5316 Job Access & Reverse Commute (JARC) Program and Section 5317 New Freedoms Program. The formula allocation is for the urbanized areas. Projects must be selected by a competitive process. The State is the grantee for the rural 5316 JARC and 5317 New Freedom programs.

Port Authority receives formula funding for Section 5309 Fixed Guideway Modernization.

Federal Discretionary funding sources include Section 5309 New Starts, Small Starts and Very Small Starts Program, Section 5309 Bus and Bus-Related Capital Program, and Section 5310 Elderly and Persons w/Disabilities Program.

Transit operators receive State grants in a variety of funding sources. For example, an Urban operator receives upward of six State and Local funding categories to match federal operating, federal capital and to fund other projects that are not eligible under federal funding guidelines. These urban State sources include Urban Transit Operating Assistance, Urban Supplemental Operating Assistance, Urban Public Transportation Assistance Funds (PTAF) Dedicated Fund, Urban Act 3, Urban Bond Program, and Free Transit Program for Senior Citizens (Lottery). Rural operators are eligible for similar funding under the rural program. Many operators also deliver the shared ride program and are eligible for additional funding, such as Shared-Ride Program for Senior Citizens, Community Transportation Capital Equipment, Welfare to Work Transportation Program and Rural Transportation Program for Persons with Disabilities through the state.

Title III funding sources are described in Appendix D.

Each transit operator also receives local funding that is provided to them through the county or the municipalities they serve. The following charts show historic trends in transit operating funds (see Figure 6.3) as well as projections (see Figure 6.4) for the mix of capital and operating funding that comes to the SPC Region for transit. As illustrated, the largest portion of operating funds comes from state funding sources.

Figure 6.3 Title III Transit Operating Funding Trends

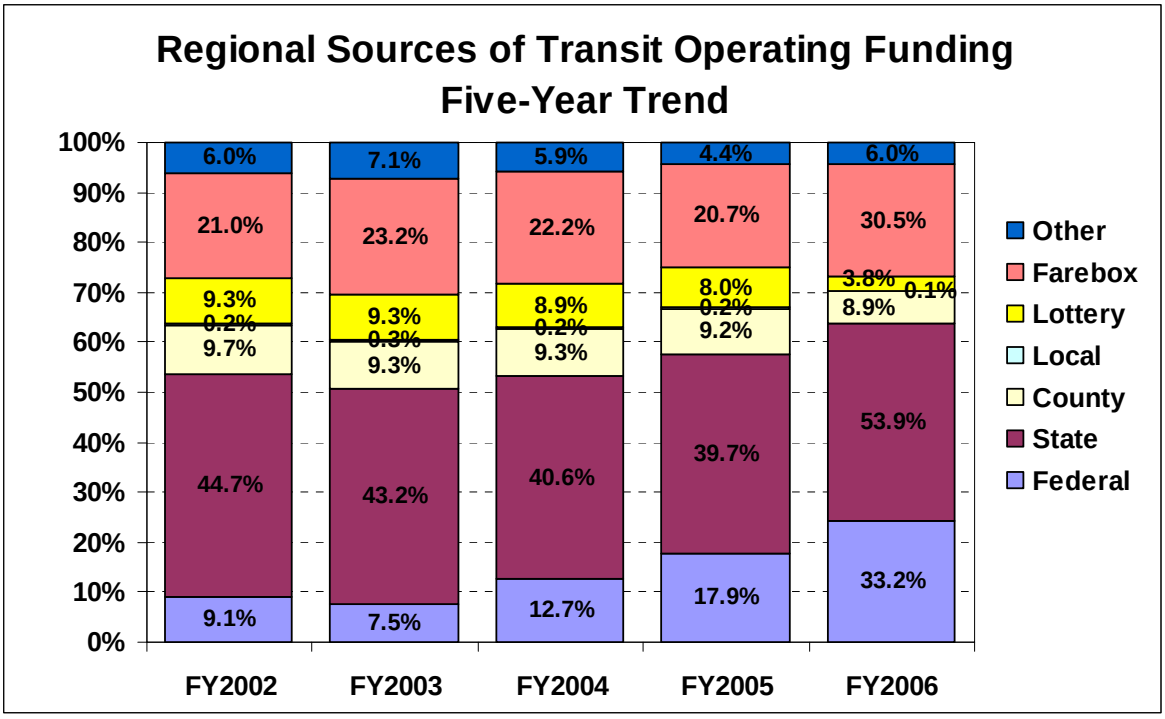


Figure 6.4 Title III Transit Funding Projections

Available Funding		Annual Growth Rate	2007 Base Year	LRTP Stage 1 (2007-2010 TIP)	LRTP Stage 2 (2011-2018)	LRTP Stage 3 (2019-2035)	Total (2007-2035)
Operating	Federal Revenue	5%	$5,447,104	$23,477,000	$63,225,000	$252,775,000	$339,477,000
	State Revenue	0.5%	$119,715,477	$482,465,000	$994,293,000	$2,249,312,000	$3,726,070,000
	Local Revenue	2.6%	$24,904,901	$103,572,000	$241,954,000	$713,033,000	$1,058,559,000
	Fare Revenue (includes Lottery)	0.5%	$69,484,337	$280,029,000	$577,099,000	$1,305,531,000	$2,162,659,000
	Total Operating Revenue		$219,551,819	$889,543,000	$1,876,571,000	$4,520,651,000	$7,286,765,000
	Operating Costs	4%	$209,014,346	$887,572,000	$2,253,038,000	$7,930,104,000	$11,070,714,000
Capital	Federal Revenue	2.1%	$59,062,000	$243,795,000	$552,821,000	$1,529,399,000	$2,326,015,000
	State Revenue	0%	$71,513,000	$286,052,000	$572,104,000	$1,215,721,000	$2,073,877,000
	Local Revenue	0%	$7,092,000	$28,368,000	$56,736,000	$120,564,000	$205,668,000
	Total Capital Revenue		$137,667,000	$558,215,000	$1,181,661,000	$2,865,684,000	$4,605,560,000
	Capital Costs	4%	$137,667,000	$584,599,000	$1,483,960,000	$5,223,153,000	$7,291,712,000
Total Operating & Capital Revenue			$357,218,819	$1,447,758,000	$3,058,232,000	$7,386,335,000	$11,892,325,000
Total Operating & Capital Costs			$346,681,346	$1,472,171,000	$3,736,998,000	$13,153,257,000	$18,362,426,000

*All numbers in millions

Operating dollars are generally matched at a 50 percent Federal / 50 percent non-Federal ratio. The 50 percent non-Federal match typically consists of 37½ percent state and 12½ percent local funding. Capital programs are generally matched at an 80 percent Federal / 20 percent non-Federal ratio. The 20 percent non-Federal match typically consists of 16 2/3 percent state and 3 1/3 percent local funding. In the base year 2007, the state and local funding amounts are more than what is needed to match the federal program. Even with the flat state operating and capital and local capital growth rate, in the Plan year 2035, the state and local dollars are adequate to fully match the federal program.

Title III Discretionary Funds

As with FHWA discretionary funding, FTA and PennDOT have additional discretionary sources available to the region for transit needs. Decisions on the amount of funding projects receive are made external to the SPC TIP and LRTP processes, and therefore, cannot be included in revenue projections.

The Federal Section 5309 Capital Program is targeted to bus capital needs and major new capital projects identified by each operator within the SPC Region. These requests are identified in the transit portion of the TIP. The SPC region, on average, requests $15 million from the Bus and Bus-Related Program for bus replacements and new facilities each TIP cycle.

The Elderly and Persons with Disabilities Program (Federal Section 5310) generally has made available by formula about $1.1 million to the Commonwealth of Pennsylvania. There is a

competitive process for funding within the State. Historically, our region has received about 25 percent of this funding.

The JARC program (Federal Section 5316, formerly section 3037) provides formula funding for urbanized areas with the passing of SAFETEA-LU. The state also receives a portion of this funding for the rural program. It is the intent of the SPC region to use all of the formula dollars to the region and competitively compete for a portion of the rural dollars to the State to enhance the Access to Work Interagency Cooperative (ATWIC) program of projects.

Another new program with SAFETEA-LU is New Freedoms (Federal section 5317). This is a formula program for the urbanized area with the state receiving a portion of this funding for the rural program. As New Freedom initiatives are programmed, it is SPC's intent to use all of the formula dollars to the region and competitively compete for a portion of the State funding.

SAFETEA-LU requires Sections 5310, 5316 and 5317 to be part of a public transit – human service coordinated transportation plan before grants can be approved. This plan and the funding for these programs are overseen by the ATWIC oversight committee that is discussed later in this report.

Funding for Other Modes of Transportation

The majority of passenger movements in the region are by automobile and transit. However, the regional highway and public transportation systems are only two components of a vital regional intermodal transportation network. Transportation options are also provided by the region's airports, railroads, pedestrian and bicycle facilities, and river transportation system.

Airports

Typically, general aviation airports require federal and state subsidy for airport improvement projects and capital maintenance. The Commonwealth of Pennsylvania's Bureau of Aviation administers three grant programs for airport development the Pennsylvania Block Grant Program, the Aviation Development Program, and the Capital Budget /Transportation Assistance Program.

The Aviation Development Program is funded through taxes on jet fuel and avgas, the revenues from which are collected and deposited into Pennsylvania's Aviation Restricted Account. These funds are normally used to pay for eligible project costs up to 75 percent at state obligated airports and 5 percent at federally obligated airports. (A federally obligated airport is a facility where the airport owner has accepted federal funds to buy land (no life limit) or funds to develop or improve the airport (20 year life limit). A state obligated airport is a facility where the airport owner has accepted state funds for those activities. The amount available for funding through the Aviation Development Program is currently $9 million annually.

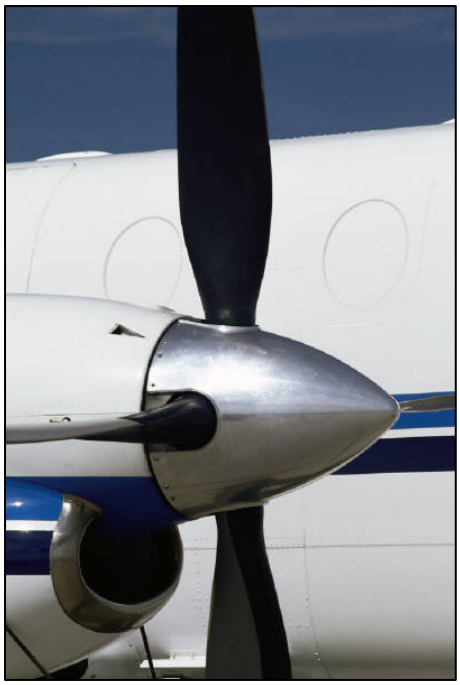
The Pennsylvania Block Grant Program funding is generated through taxes collected nationally on airline tickets, freight waybills, international departure fees, and sale of avgas and jet fuel, which is deposited into the FAA's Aviation Trust Fund. Congress appropriates funds for the Airport Improvement Program (AIP) each year based on an area/population formula (apportionment). Pennsylvania receives approximately 18.5 percent of the total federal authorization each year, or about $8.5 million. Pennsylvania became a block grant state in 1998.

The Pennsylvania Block Grant Program is available only to general aviation airports, airports designated as reliever airports, and non-primary commercial airline airports (those with less than 10,000 annual enplaned passengers) that are part of the National Plan of Integrated Airport System (NPIAS), as approved by the FAA. Airports receive up to 90 percent of eligible project costs for projects included in the State's 12-Year Transportation Program.

The two commercial service airports in the region also receive Airport Improvement Program (AIP) funds for airport planning and development. However, grants for commercial service

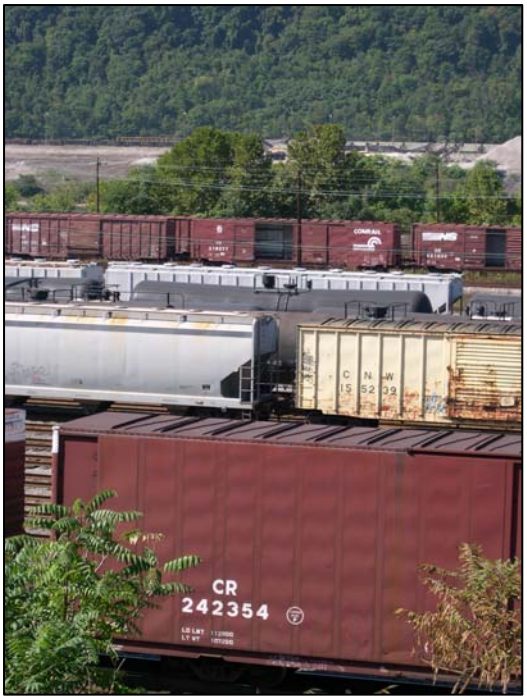
airports are administered directly by the Federal Aviation Administration. For large and medium primary hub airports (Pittsburgh International Airport), the grant covers 75 percent of eligible costs (or 80 percent for noise program implementation). For small primary, reliever, and general aviation airports, including Arnold Palmer Regional Airport, the grant covers 95 percent of eligible costs.

Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. In general, sponsors can use AIP funds on most airfield capital improvements or repairs except those for terminals, hangars, and nonaviation development. Any professional services that are necessary for eligible projects---such as planning, surveying, and design---are eligible as is runway, taxiway, and apron pavement maintenance. Aviation demand at the airport must justify the projects, which must also meet Federal environmental and procurement requirements.



Projects related to airport operations and revenue-generating improvements are typically not eligible for funding. Operational costs---such as salaries, maintenance services, equipment, and supplies---are also not eligible for AIP grants.

Commercial service airports with scheduled passenger service, including Pittsburgh International Airport and Arnold Palmer Regional Airport, also impose a fee on the cost of tickets issued for flights from their facility. These Passenger Facility Charges (PFCs) are used to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition. Fees of up to $4.50 are collected from every enplaned passenger at airports collecting the Passenger Facility Charges.



Rail

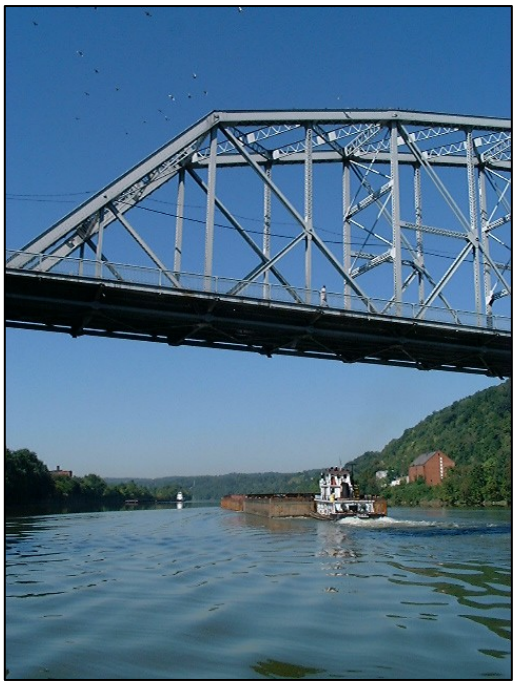
To assist railroads in the state in maintaining the rail network in the state, Pennsylvania established the PA Rail Freight Assistance Program. This program uses Commonwealth General Fund monies to provide matching grants to railroad companies and others for projects which preserve essential rail freight service where economically feasible, and/or preserve or stimulate economic development through the generation of new or expanded rail freight service. Applications for grant funds typically far exceed funds available, requiring the implementation of a $700,000 cap on the public portion of any project, up to 70 percent of the actual total project cost. The construction portion of any project may not exceed $250,000.

Funds may be used for maintenance, construction, or maintenance and construction projects. Maintenance projects are designed to restore, improve, or maintain an existing railroad line to the level necessary for safe operation or use and has an estimated useful life of at least five years. Construction projects may include the acquisition of materials, and the construction a railroad line or a rail associated facility to a level necessary to provide a useful life in excess of five years.

Pedestrian and Bicycle

SPC works with PennDOT and other regional planning partners to administer funds for a wide variety of pedestrian and bicycle projects through the Transportation Enhancements and Hometown Streets/Safe Routes to School Programs. This funding is a 10 percent set-aside from the federal Surface Transportation Program. These programs focus on better integrating the transportation system with the communities it serves, funding projects that are often outside the realm of standard highway or transit improvements.

Inland Navigation System



The U.S. Army Corps of Engineers, the Port of Pittsburgh Commission, and regional barge operators all agree that the region's dams are in an "advanced state of decline". The federal budget for fiscal year 2008 delivers more than $118 million for the assessment and implementation of much needed repairs on the regional inland navigation system. Funds for the upkeep and improvement of the Ohio River navigation system are appropriated annually in the federal Energy and Water Appropriations Bill. As such, future funding commitments will be determined on an annual basis.

Year of Expenditure Cost Adjustments and Revenue Estimates

Federal fiscal constraint guidance now requires the use of "Year of Expenditure" (YOE) dollars for project cost estimates and revenue projections. YOE adjustments take into account the problem of cost inflation by recognizing that in the future it will cost more to complete a project than if the same project were completed today. YOE also recognizes that over time, there are periodic increases in revenues that can reasonably be projected from historical trends. The financial plan for highways assumes a historic inflation rate of 4 percent annually for project costs; along with future revenue increases that will mirror historic trends since ISTEA passage in 1991, averaging 3.2 percent annually. FHWA and PennDOT have determined these projections to be a reasonable basis for the YOE adjustments. The practical impact of this required adjustment is that MPO transportation plans must assume that purchasing power will decline over time and will deliver fewer projects and services in the future.

For public transit, the transportation financial plan also assumes a historic inflation rate of 4 percent for both operating and capital expenses. Transit estimates also assume that future operating and capital revenue increases will mirror historic trends. State law requires that transit operators have a balanced budget. Using the trend projection, the transit operators must adapt to meet this requirement. For example, in FY2005-06 Port Authority of Allegheny County's operating budget was $320 million. Port Authority used state dollars that could be used for capital or operating to balance the operating budget and offset the capital program with $45 million "flex" (highway) dollars. In FY2006-07, the $348 million budget was partially balanced by the same means and flexing an additional $32 million from the highway program. For FY2007-08, Port Authority has a projected $80 million deficit. To balance the budget, Port Authority has planned service cutbacks and fare increases. The financial plan assumes that additional service adjustments or more money will be needed during the plan period.

Figures 6.5 and 6.6 illustrate the impact of this lag in transit capital and operating funding and costs over the 29-year plan period. Figure 6.7 illustrates the impact that the lag in revenues vs. project costs could have on highway and bridge funding. Transit investments within the SPC region through the year 2035 are expected to total more than $12.1 billion. Transit revenue projections start with a base funding level of $345 million in 2007. By 2035, without a predictable, stable funding source, transit agencies will need to further cut services and defer maintenance to balance the projected deficit of $6.5 billion. The Federal operating dollars consist of primarily rural program dollars that are eligible for operations.

The highway program revenue projection starts with a base funding level of $325 million per year in current dollars. For fiscal years 2007 and 2008, the first two years of a fiscally-constrained TIP, the revenues equal the project costs. Beginning with the 2009 TIP Update and the scheduled reauthorization of federal transportation legislation, the graph begins to escalate the revenues at 3.2% per year and inflates costs by 4%. By 2035, the loss in purchasing power has become $166 million in 2035 dollars, 22% of the year's program total. This is the equivalent of $72 million in today's dollars. The transportation financial plan incorporates these factors into its project cost estimates and revenue projections and fiscally balances the transportation program recognizing this loss of purchasing power.

Figure 6.5 Projected Growth in Transit Capital Funding vs. Costs

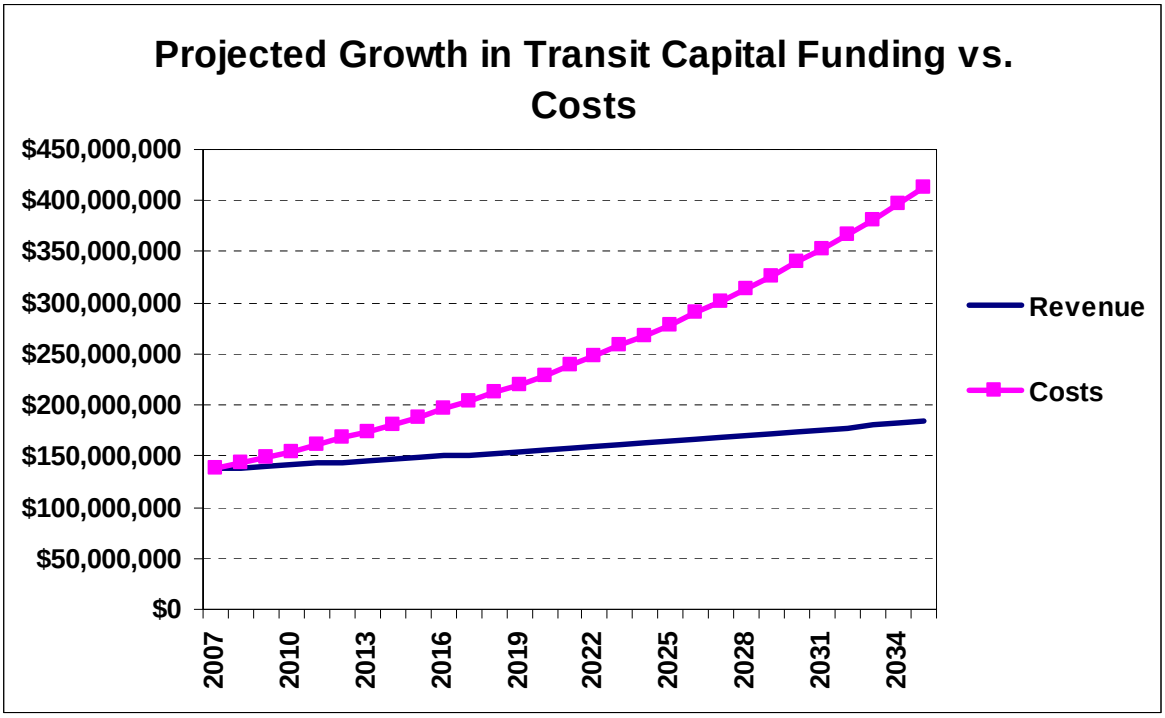


Figure 6.6 Projected Growth in Transit Operating Funding vs. Costs

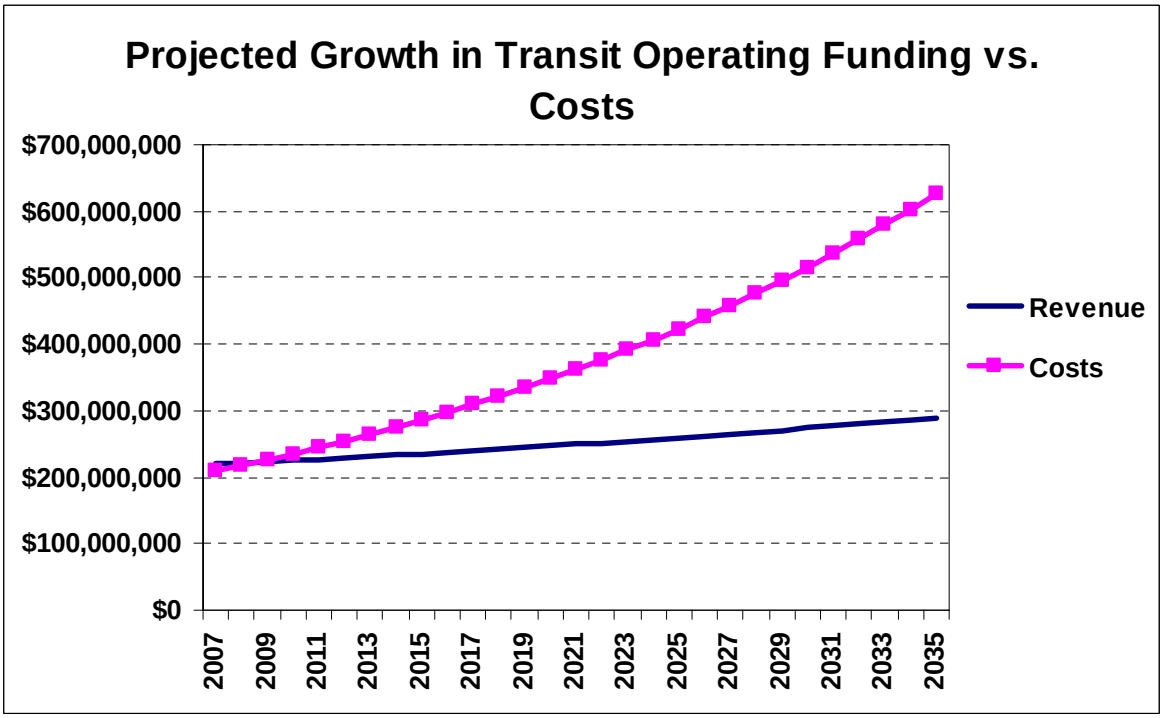
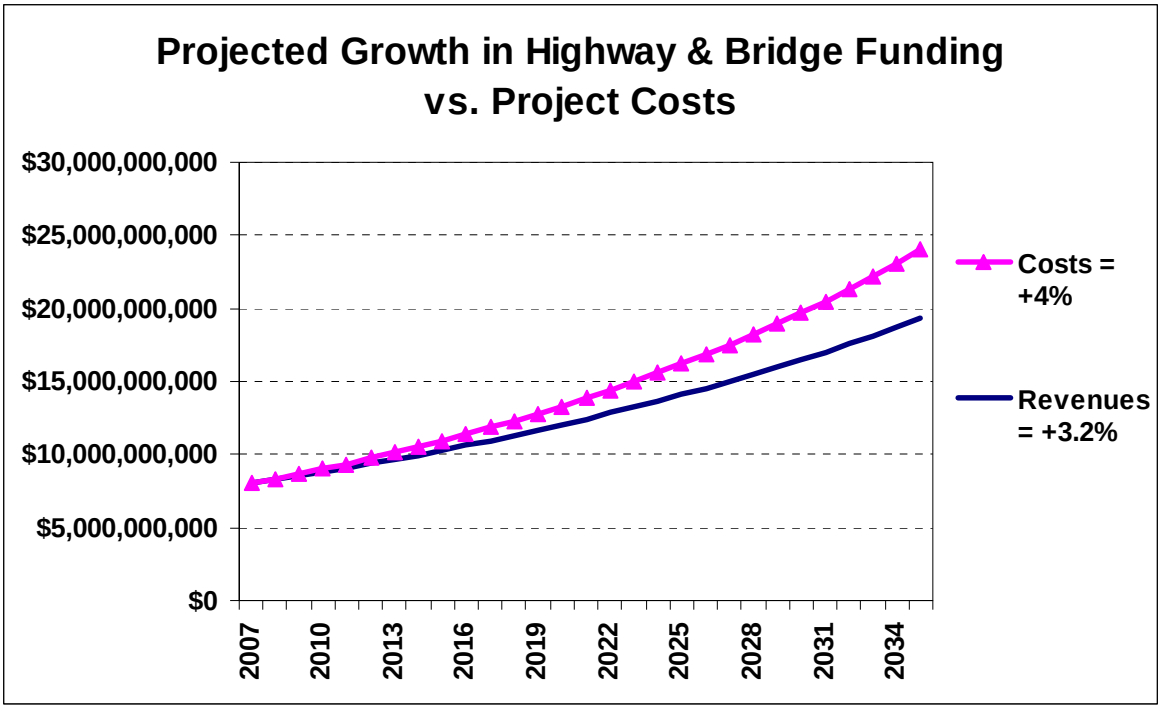


Figure 6.7 Projected Growth in Highway & Bridge Funding vs. Project Costs



The financial plan for highways and bridges assumes that state and local funding will proportionately increase at the same pace as federal funding over time. The historic trend is that state funding in the TIP keeps pace with the federal funds. It is also assumed that state and local funding will continue to match the federal increase. Most of the identified federal programs offer a standard 80 percent funding level towards the total cost of an eligible project. Federal rules require that a state or local project sponsor must provide the remaining 20 percent of the project total, called the "local match," in order to qualify for the use of federal funds. Match requirements vary from 0 percent (100 percent federal) to 50 percent depending on the program.

Major Project Financial Plans

Major projects with a cost greater than $100 million have additional reporting requirements under the new federal regulations, and projects larger than $500 million have to file and update a Major Project Financial plan at specified times during the project development process. These SAFETEA-LU-required changes help monitor fiscal constraint by improving oversight and better anticipating and avoiding major cost escalations. They also improve the planning process by more closely tracking revenues that are committed to major projects to ensure that the revenues continue to be available when they are needed. A major project appearing in the later stages of the Plan is required to initiate a Major Project Financial plan only when the project is under active development.

The Port Authority of Allegheny County's North Shore LRT Connector project is the only project in SPC's Long Range Transportation Plan that falls under these requirements for enhanced financial reporting. The project cost is $435 million with completion expected in 2011.

Several ongoing projects by the Pennsylvania Turnpike Commission – the Mon-Fayette Expressway and Southern Beltway - have anticipated costs in the "major project" range. These projects are not included in the fiscally-constrained portion of the Plan at this time. They have been identified in the Illustrative Projects List, with the intention of considering a Plan amendment when sufficient revenues are identified to complete the projects.

Transportation Investment Strategies

The Project Region Transportation Strategies Work Group also utilized the policy statements associated with the Regional Vision Scenario to develop detailed investment goals to help guide decision-making at the project level. This included employing a series of transportation investment categories (see definitions below). Through the use of these categories, the Work Group was able to translate policy statements such as "maintenance of the existing transportation system will be a regional priority" and "the region's transportation system will be actively managed and operated to allow the system to function at its full potential" into more detailed investment strategies.

An example of this was the Work Group's recognition of the connection between the two policy statements above, and the interrelationship between transportation operations and new capacity investments. With the region's emphasis on maintaining the existing transportation system, the resources to address capacity needs are extremely limited. In light of that, the Work Group identified that investment levels for operations and safety projects should increase in order to make the most out of the existing capacity available.

The investment categories utilized by the Transportation Strategies Work Group in identifying these policy interrelationships and outlining more specific modal goals are as follows:

- Capital Maintenance – Roadways

  – Roadway Preservation - Repairs and rehabilitation intended to extend the life of an existing roadway. This includes projects that necessitate significant capital expenditures such that the project would be included on the TIP. It could include resurfacing, shoulder stabilization, and other types of activities, but does not include everyday pothole patching or crack sealing types of operations that are typically funded with maintenance funds outside the TIP.

– Roadway Reconstruction - Reconstruction of existing roadways where the road is being rebuilt "down to the dirt". This includes interchange reconstructions that rebuild deficient ramps but are not adding new movements. It includes activities and associated projects, such as wetland banking, which are directly related to a reconstruction project. Roadway Reconstruction would also include activities such as tunnel or retaining wall (re)construction that are related to maintaining operations on an existing roadway. It does not include projects that involve a combination of reconstruction and capacity expansion (adding through lanes).

- Capital Maintenance – Bridges

– Bridge Preservation - Repairs and rehabilitation intended to extend the life of an existing bridge. This includes activities such as expansion dam replacement, substructure repairs, deck restorations and overlays, beam repairs, painting, fatigue and fracture retrofits, and scour countermeasures. It does not include total reconstruction or replacement of a bridge, nor does it include maintenance operations that are typically funded with maintenance funds outside the TIP.

– Bridge Reconstruction / Replacement - Total reconstruction or replacement of an existing bridge. This includes bridges on new alignment provided that the old bridge is being taken out of service for automobile traffic. It would also include deck replacements on existing bridges.

- Capital Maintenance – Transit

– Transit: Operations - Operation of the public transit system including fuel, personnel, routine vehicle maintenance, routine facility maintenance, and materials and supplies.

– Transit: Capital Maintenance, System Preservation and Modernization - Maintenance and modernization of capital assets such as preservation and rehabilitation of fixed facilities (i.e. buildings, bridges, busways, LRT lines, etc.); preservation, replacement and rehabilitation of existing vehicles (i.e. buses, LRT vehicles, support vehicles); and, modernization/upgrades of existing facilities, services and vehicles.

- Traffic Operations and Safety

  - Efficiency / Operations - Projects that improve traffic flow, reduce congestion, and improve the operational characteristics of the existing transportation system. This includes traffic signal systems, Intelligent Transportation Systems (highway and transit), truck climbing lanes, and intersection improvements such as the addition of turning lanes. It does not include capacity expansion/roadway widening projects.

  - Travel Demand Management - Projects such as carpooling, vanpooling, emergency ride home programs, telecommuting, commuter benefit strategies, parking incentives, park-n-ride lots, job access reverse commute programs, and other non-traditional types of projects that work to affect the demand side of transportation systems.

  - Safety - While virtually every transportation project improves safety by bringing the transportation network up to current design standards, these are stand-alone projects to address specific safety issues. This includes projects to eliminate sight distance problems at intersections, projects that improve at-grade highway-rail crossings, projects to improve pedestrian safety, and other projects that address areas with high accident rates or crash clusters.

- Other Modes

  - Intermodal / Freight - Projects that address other modes of transportation such as waterways (locks and dams) or improvements to the rail freight or aviation networks. This also includes projects that improve the integration of modes such as intermodal terminals.

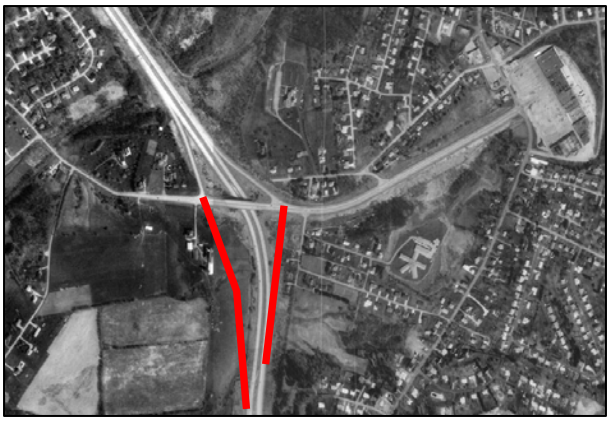
  - Pedestrian and Bicycle - Bicycle lanes, sidewalks, and shared use pathways that improve accessibility and mobility for bicycles and pedestrians. This includes rail-trails and other pathways that provide non-motorized links in the transportation network. It does not include trails and pathways that serve a purely recreational purpose, because federal transportation funds are not permitted to be spent on these types of projects.

  - Other Transportation Enhancements - Scenic beautification, wayfinding signage, welcome centers, transportation museums, historic preservation, streetscapes, and other projects that would qualify for programs such as Transportation Enhancements or Hometown Streets, but are not primarily pedestrian and bicycle projects.

- New Capacity – Roadways and Bridges

  – Roadway & Bridge Widening / Capacity Upgrade - Roadway expansion projects that involve the addition of Single Occupancy Vehicle Capacity (SOVCAP) (a.k.a. "through") lanes to an existing roadway or bridge in order to increase the capacity of the facility. These projects often include some level of reconstruction of the existing facility as well. This does not include widening projects that only add a two-way center turn lane.

  – Interchange Completion - Upgrades to existing interchanges where missing ramps are being added. This does not include projects which create new interchanges.

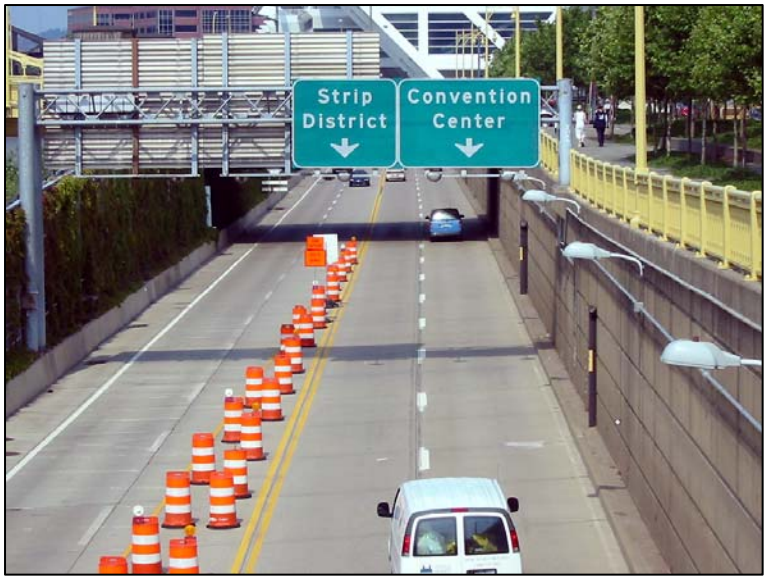


  – New Roadways / Interchanges / Bridges - Construction of roadways, interchanges, or bridges on new alignment which results in additional mileage being added to the transportation network. This would include the extension of existing roadways and construction of HOV lanes. It also includes the construction of a new bridge when the old bridge is still being left in service.

- New Capacity – Transit

  - Transit: New Capacity - Expansion of the public transportation system to provide new services or to provide transit service to areas that are not currently served. This includes projects such as the construction of busways, extension of the light rail system, and other major new capital investments for service expansion or modification. It could also include transit-oriented development projects. It does not include the purchase of upgraded transit vehicles to replace vehicles on existing transit routes.

Potential investment mixes were also developed to recognize projects that have already been committed to and have progressed through various stages of the project development process. Thus, investment options were built to look toward the future vision of the region while recognizing the reality of current programming commitments and the necessity to make adjustments in investment priorities over time.



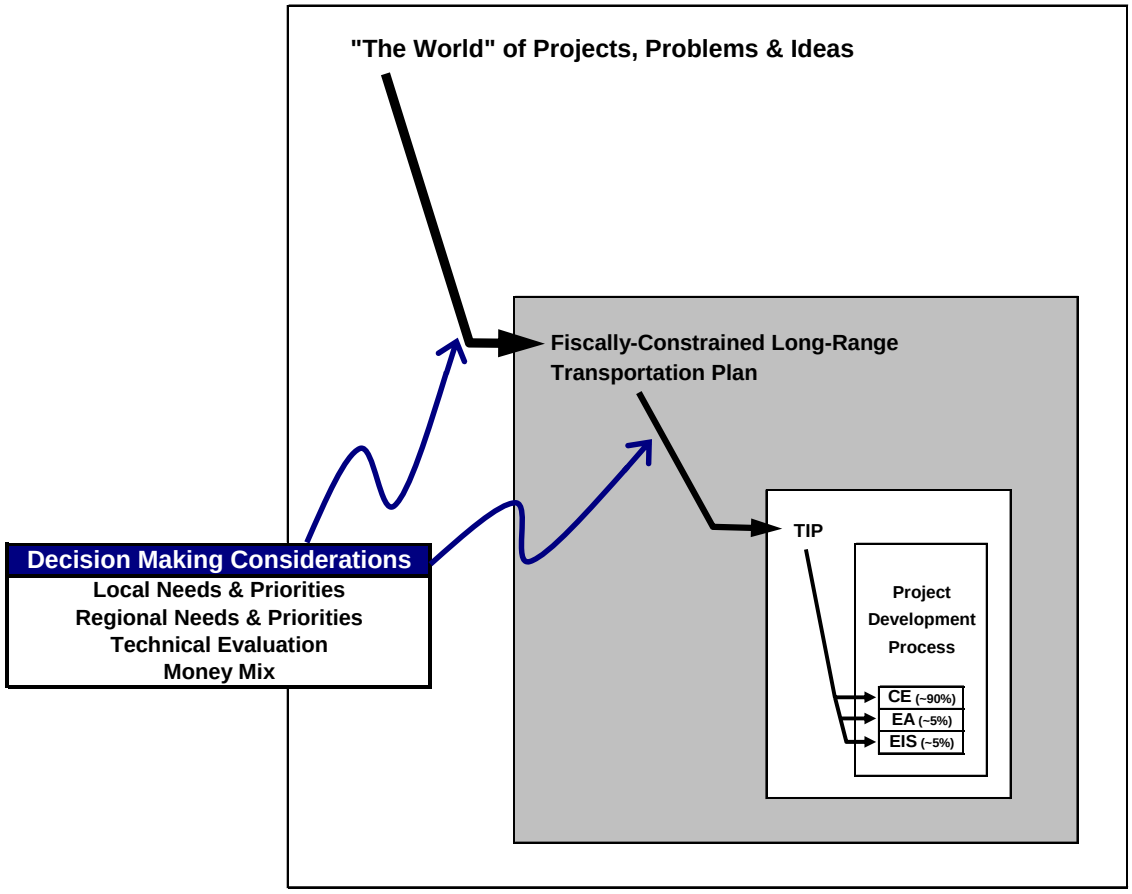
In order to provide increased flexibility to the planning and programming process, one of the mechanisms utilized in this plan is the concept of "line items". After funding for specific transportation projects in the TIP and Plan is accounted for, the remaining funds are calculated and set aside into line items that are reserved for future use toward certain types of projects. These categories and the levels of investment are consistent with the Plan's investment strategies and ensure that funding

is set aside for a given purpose, but does not hinder programming efforts by overly confining the process. Taking bridge maintenance investments as an example, it is easy to see the difficulty in identifying and prioritizing individual bridge rehabilitation needs 25 years into the future. Rather than attempting to list every bridge that will need capital maintenance over the period of this Plan, project listings are comprised of a limited number of major bridges with the remaining funds in line items that set aside funding for bridge maintenance purposes. Individual bridge needs can then be more appropriately addressed and prioritized as part of the short-range Transportation Improvement Program.

Another tool that has been developed and implemented as part of the long-range transportation plan component is a technical project evaluation process. As illustrated in Figure 6.8, prioritizing transportation projects is essentially a three-step process. First, transportation system needs and project ideas are identified through public involvement processes, County Comprehensive Plans, PennDOT District planning efforts, transit provider plans, freight carriers, economic development agencies and various other sources. Since financial resources will never be sufficient to address every problem, needs and projects must be prioritized. The second step is to identify needs and projects that are a high enough priority to be included on the region's fiscally-constrained long range transportation plan. The third step is to identify needs and projects that are a high enough priority to be included in Stage 1 of the plan, which corresponds to the short-range Transportation Improvement Program. Once on the TIP, projects proceed into the project development process which includes environmental review, design and construction.

There are four basic considerations incorporated into the decision-making process at the key prioritization points: Local Needs and Priorities, Regional Needs and Priorities, Technical Evaluation, and the Money Mix. Recent efforts have focused on improving the Technical Evaluation component of this process in order to provide decision makers with better information from which to base their decisions.

Figure 6.8 Project Evaluation Concept Diagram



It is also important to note that this approach allows for varying levels of project information and assessment at the two key decision making points in the planning process – the LRTP and the TIP. Integrating technical project evaluation with transportation investment categories and the use of line items allows for technical evaluation at the long-range plan level to focus on larger capacity-adding types of projects, with technical evaluation for other types of projects conducted during TIP development. This keeps data management practical and workable.

Transportation Modal Investments

The following sections of this plan include detailed strategies, projects, and programs that have been developed for each of the major transportation investment areas in order to achieve the overall plan policy statements associated with the Regional Vision Scenario (see Section 5).

Highways and Bridges

As previously noted in the transportation financial plan, the major part of available highway funding over the 2035 Plan period is designated to meet the serious needs for highway and bridge maintenance and improvements in the region. Specific projects are identified in Figures 3.9 to 6.12. The projects are also listed and mapped by PennDOT District in Appendix C. They are designated within three planning periods: the TIP (2007-2010), LRTP Stage 2 (2011-2018) and LRTP Stage 3. A number of projects span two or even all three periods.

A portion of the available funding that will be used for roadway and bridge maintenance has not been designated at this time for specific projects. It has been set aside in maintenance "line items" of three types: roadway capital maintenance, bridge capital maintenance and traffic operations and safety. This reserved funding will be used to add projects to the transportation program in future TIP funding cycles when there will be a firmer knowledge of the immediate needs for bridge rehabilitations, highway resurfacing, etc. Projects will be added to the TIP at that time using the project selection and project evaluation processes described in the previous section.

The major new capacity projects during Stage 2 and Stage 3 are listed individually in the project table. A number of new capacity projects that are scheduled to be completed within the TIP

period are not listed by name, but are included in record called "Other New Capacity Projects in the TIP Period."

Figure 6.9 LRTP Investments – Roadway Capital Maintenance

Project	Location	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
		2007-2010	2011-2018	2019-2035	
Roadway Capital Maintenance		*(millions)*			
City of Pittsburgh Central Business District Street Reconstruction	ALCO		$7.5	$38.0	$45.5
I-70 Bentleyville Interchange Reconstruction	WACO		$46.8		$46.8
S.R. 119 reconstruction, Fayette County line to I-70	WECO			$110.0	$110.0
S.R. 119 interchange reconstruction at S.R. 819	WECO	$1.8	$30.8		$32.6
S.R. 981 Laurel Valley betterments, Turnpike to Air Cargo Park	WECO	$3.4	$37.7		$41.1
Roadway Capital Maintenance Line Item for projects in Armstrong, Butler and Indiana Counties		$10.4	$107.5	$324.5	$442.4
Roadway Capital Maintenance Line Item for projects in Allegheny, Beaver and Lawrence Counties		$154.7	$238.0	$1,424.0	$1,816.7
Roadway Capital Maintenance Line Item for projects in Fayette, Greene, Washington and Westmoreland Counties		$31.6	$113.0	$717.0	$861.6

Note: Stage 1 Line Items are detailed into individual projects in the current TIP document, and in the Air Quality Conformity Determination for all non-exempt air quality projects.

Figure 6.10 LRTP Investments – Traffic Operations and Safety

Project	Location	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
		2007-2010	2011-2018	2019-2035	
Traffic Operations and Safety		*(millions)*			
City of Pittsburgh Traffic Signal System Upgrades	ALCO	$2.6	$5.5	$18.0	$26.1
I-376 Designation - Spot Improvements	ALCO		$19.0		$19.0
S.R. 51 / 88 intersection improvements	ALCO			$84.0	$84.0
U.S. 422, Kittanning Bypass to Indiana County line, intersection improvements and safety upgrades	ARCO		$23.1	$30.0	$53.1
Freedom Road upgrade, Phase 2, Parks Quarry Road to S.R. 989	BECO			$41.6	$41.6
I-376 Designation - Spot Improvements	BECO		$18.2		$18.2
S.R. 21, Masontown to Thompson's Crossroads, intersection improvements and safety upgrades	FACO		$6.3	$67.0	$73.3
S.R. 21, Morrisville Corridor	GRCO	$0.9	$18.3		$19.2
U.S. 422, Armstrong County line to Indiana Bypass, intersection improvements and safety upgrades	INCO	$2.0	$16.5	$40.0	$58.5
I-376 Designation - Spot Improvements	LACO		$18.7		$18.7
S.R. 19, I-70 to Allegheny County line, intersection improvements	WACO		$24.4	$110.0	$134.4
S.R. 30, Allegheny County line to Westmoreland Mall, intersection improvements	WECO		$35.1	$56.0	$91.1
Traffic Operations and Safety Line Item for projects in Armstrong, Butler and Indiana Counties		$18.3	$38.0	$105.5	$161.8
Traffic Operations and Safety Line Item for projects in Allegheny, Beaver and Lawrence Counties		$103.0	$148.0	$692.0	$943.0
Traffic Operations and Safety Line Item for projects in Fayette, Greene, Washington and Westmoreland Counties		$75.9	$72.5	$369.0	$517.4

Note: Stage 1 Line Items are detailed into individual projects in the current TIP document, and in the Air Quality Conformity Determination for all non-exempt air quality projects.

Figure 6.11 LRTP Investments – Bridge Capital Maintenance

Project	Location	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
		2007-2010	2011-2018	2019-2035	
Bridge Capital Maintenance		*(millions)*			
Etna interchange, Phase 4	ALCO		$30.4		$30.4
Etna interchange, Phase 5	ALCO	$3.0	$37.4		$40.4
Glenwood interchange bridges	ALCO		$27.4		$27.4
Greenfield Bridge Rehabilitation	ALCO		$2.9	$20.8	$23.7
Rankin Bridge	ALCO	$41.0	$9.6		$50.6
Triboro interchange bridges	ALCO	$7.4	$39.7		$47.1
West Kittanning Bridge	ARCO	$11.4			$11.4
Foxburg Bridge	ARCO	$11.5			$11.5
Freeport Bridge Ramps	ARCO	$1.2	$10.1		$11.3
Aliquippa-Ambridge Bridge	BECO	$27.6			$27.6
Shippingport Bridge	BECO	$17.8			$17.8
Wayne Street Viaduct	BUCO	$17.9			$17.9
Memorial Bridge	FACO	$11.7	$1.8		$13.5
S.R. 711 Crawford Avenue Bridge	FACO			$40.0	$40.0
S.R. 4038 Layton Bridge	FACO			$70.0	$70.0
Point Marion Bridge	GRCO	$22.9			$22.9
State Street Bridge	LACO	$12.1	$4.7		$16.8
Charleroi-Monesson Bridge	WACO		$44.4		$44.4
Donora-Monesson Bridge	WACO	$1.6	$21.7		$23.3
S.R. 1022 Donora-Webster Bridge	WACO			$52.0	$52.0
S.R. 2067 Brownsville Low Level Bridge	WACO			$50.0	$50.0
Freeport Bridge	WECO	$3.4	$62.8		$66.2
S.R. 1060 Salina Bridge	WECO			$24.0	$24.0
U.S. 119 Jacobs Creek Bridge	WECO	$1.3	$27.8		$29.1
S.R. 136 West Newton Bridge	WECO			$18.0	$18.0
Bridge Capital Maintenance Line Item for projects in Armstrong, Butler and Indiana Counties		$54.3	$167.0	$498.0	$719.3
Bridge Capital Maintenance Line Item for projects in Allegheny, Beaver and Lawrence Counties		$198.4	$625.2	$2,569.0	$3,392.6
Bridge Capital Maintenance Line Item for projects in Fayette, Greene, Washington and Westmoreland Counties		$98.1	$164.6	$777.0	$1,039.7

Note: Stage 1 Line Items are detailed into individual projects in the current TIP document, and in the Air Quality Conformity Determination for all non-exempt air quality projects.

Figure 6.12 LRTP Investments – New Capacity, Highways and Bridges

Project	Location	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
		2007-2010	2011-2018	2019-2035	
New Capacity, Highways and Bridges		*(millions)*			
Hulton Bridge replacement	ALCO	$2.6	$114.1		$116.7
I-79 / Parkway West Missing Ramps	ALCO	$64.8			$64.8
McKeesport Flyover Bridge	ALCO	$5.0	$1.2		$6.2
Duquesne Flyover Bridge	ALCO	$10.3	$1.2		$11.5
Painters Run Road, Bower Hill Rd to Robb Hollow Rd	ALCO	$3.0	$29.2		$32.2
S.R. 286 widening, S.R. 22 to S.R. 380	ALCO		$44.0	$45.0	$89.0
S.R. 28 / I-279 Connector	ALCO	$9.3	$1.2		$10.5
S.R. 28, 31st Street Bridge to Millvale	ALCO	$41.4	$45.1		$86.5
S.R. 28, Third Lane Widening	ALCO	$16.2			$16.2
S.R. 28, Troy Hill to 31st Street Bridge	ALCO	$17.0	$66.4		$83.4
Freedom Road upgrade, Phase 1, S.R. 65 to Parks Quarry Road	BECO	$3.5	$20.3		$23.8
I-79 Seneca Valley Ramps	BUCO	$13.2	$17.3		$30.5
S.R. 228 widening, S.R. 19 to S.R. 8	BUCO	$30.0	$31.6	$315.0	$376.6
Masontown Bridge (S.R. 21, Section A10)	FACO	$3.7	$74.8		$78.5
Mon-Fayette Expressway, Uniontown to Brownsville, Phase 1, S.R. 51 to S.R. 166	FACO	$390.0			$390.0
S.R. 21 Section J10, Thompsons Crossroads to U.S. 119	FACO	$10.7		$41.0	$51.7
S.R. 22 widening, Clyde section (APD)	INCO	$49.7			$49.7
S.R. 22 widening, Penn View Summit section (APD)	INCO	$7.1			$7.1
I-79 Meadowlands Auxiliary Lanes	WACO			$21.0	$21.0
I-79 Meadowlands Interchange	WACO	$20.8	$7.0		$27.8
S.R. 22, Section B02, Cozy Inn to Delmont Interchange	WECO	$25.0			$25.0
S.R. 22, Section B08, New Alexandria to S.R. 982 (APD)	WECO	$7.2			$7.2
S.R. 22, Section B09, S.R. 982 to Westinghouse (APD)	WECO	$24.8			$24.8
S.R. 22, Section B10, Westinghouse to Indiana County line (APD)	WECO	$30.2			$30.2
U.S. 119 Sony Interchange	WECO	$16.9			$16.9
Other New Capacity projects on 2007-2010 TIP for Armstrong, Butler and Indiana Counties		$41.3			$41.3
Other New Capacity projects on 2007-2010 TIP for Allegheny, Beaver and Lawrence Counties		$94.3			$94.3
Other New Capacity projects on 2007-2010 TIP for Fayette, Greene, Washington and Westmoreland Counties		$98.6			$98.6

Note: Stage 1 Line Items are detailed into individual projects in the current TIP document, and in the Air Quality Conformity Determination for all non-expempt air quality projects.

Revenues have been set aside from several additional funding programs for projects that will be selected as part of future TIP Update processes (see Figure 6.13): Congestion Mitigation and Air Quality Program (CMAQ), Highway Safety Improvement Program (HSIP), Transportation Enhancement Program (TE) and Rail Safety Program (RRX). Reserve line items are identified at the regional level for LRTP Stage 2 and LRTP Stage 3. Funding in Stage 1, the TIP, has already been designated for specific projects that appear in the 2007-2010 TIP.

Figure 6.13 Regional Line Items

Project	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
	2007-2010	2011-2018	2019-2035	
	(millions)			
Regional Line Item for CMAQ Program		$232.1	$738.0	$996.8
Regional Line Item for Highway Safety Program		$88.0	$279.9	$378.1
Regional Line Item for Transportation Enhancement Prograr		$53.5	$170.0	$229.6
Regional Line Item for Rail Safety Program		$16.7	$53.1	$71.8

Interstate Maintenance Program

SPC's prior TIPs and LRTP financial plans have included the Interstate Maintenance Program for the region as part of the Federal Highway Program. This program was split into a separate State-managed activity in Pennsylvania's 2007 Financial guidance, when planning partners within the Commonwealth agreed to set aside all of the available interstate funding and the portion of bridge funds attributable to interstate bridges. PennDOT now manages the Interstate Maintenance Program from Harrisburg and is currently assembling a statewide Interstate Long Range Transportation Plan that will identify projects and estimated revenues in accordance with federal

planning requirements. When this work is completed, SPC will add this information to the SPC LRTP for planning use within the region. SPC will continue to monitor this funding and associated projects for information purposes and for programming through the TIP.

The current list of interstate projects in the region that are funded through PennDOT's Interstate Maintenance Program is identified in SPC's 2007-2010 TIP. The TIP total of $379 million is significantly higher than in previous programs when approximately 16% of the State's available interstate funds were distributed to Southwestern Pennsylvania and programmed through the SPC planning process. The higher level of interstate funds is likely to continue for several more TIP updates as reconstruction continues for the sections of I-79 and I-70 that are reaching the end of their effective lifespan. Future totals may then be lower as reconstruction activities shift to other parts of the state.

Over the LRTP period, the region's share of the statewide Interstate Maintenance Program is expected to approximate the region's standard 15.8 % share of mileage on the interstate system. The total revenue projection for the LRTP period is $2.6 billion for interstate maintenance investments in Southwestern Pennsylvania. A list of interstate needs is shown in Figure 6.14 and identifies the region's interstate needs during the LRTP period as roughly $6.6 billion.

The region is working to implement an I-376 redesignation for the corridor from downtown Pittsburgh to the Pittsburgh International Airport and beyond to the Turnpike (I-76) in northern Beaver County, and ultimately to I-80 in Mercer County. Congress included the redesignation of these roadways in federal legislation, capping a long campaign by local business and government officials. The new interstate designation is intended to assist economic development efforts, improve clarity of the routes for travelers, draw more business to the region, improve the flow of goods in and around the region, and improve regional mobility. This transition will also impact the revenue projections for the region's highway program and the state's Interstate Maintenance Program. Upon the completion of the interstate conversion, planned for 2009, the region's highway program revenue factors will no longer include this segment of expressway. The anticipated distribution of highway funding to the region will decrease proportionately. The state's Interstate Maintenance Program will increase by the same revenue factors. Apportionments of maintenance costs would also change. The Route 60 segment of the highway north of the airport needs to be completely reconstructed at a significant anticipated cost. These reconstruction costs, upon conversion, would then become the responsibility of the state Interstate Maintenance Program.

Figure 6.14 Interstate Maintenance Needs

Investment Category	Project	Location	Cost (in millions)
Interstate Maintenance			
CAP MAINT RD	Future I-376, Beaver County Line to Tonidale	ALCO	$316
CAP MAINT RD	Future I-376, SR 60 to I-79	ALCO	$150
CAP MAINT RD	I-279 Parkway North HOV lanes	ALCO	$64
CAP MAINT RD	I-279 Parkway North, Golden Triangle to I-79, preventative maintenance	ALCO	$560
CAP MAINT RD	I-279/Future I-376 Fort Pitt Tunnels, preventative maintenance	ALCO	$71
CAP MAINT RD	I-279/Future I-376 Parkway West, Golden Triangle to I-79, preventative maintenance	ALCO	$308
CAP MAINT RD	I-376 Parkway East, Golden Triangle to Westmoreland County line, preventative maintenance	ALCO	$1,472
CAP MAINT RD	I-376 Squirrel Hill Tunnels, preventative maintenance	ALCO	$24
CAP MAINT RD	I-579, preventative maintenance	ALCO	$243
CAP MAINT RD	I-79, Butler County line to Washington County line, preventative maintenance	ALCO	$1,234
CAP MAINT RD	Future I-376, PA Turnpike (Toll 60) to Allegheny County Line	BECO	$393
CAP MAINT RD	I-79, Allegheny County Line to Lawrence County line, preventative maintenance	BUCO	$21
CAP MAINT RD	I-79, Allegheny County Line to Lawrence County line, reconstruction	BUCO	$84
CAP MAINT RD	I-79, Washington County Line to West Virginia line, preventative maintenance	GRCO	$70
CAP MAINT RD	Future I-376, Mercer County line to SR 422 interchange	LACO	$312
CAP MAINT RD	Future I-376, SR 60 to PA Turnpike (Toll 60)	LACO	$126
CAP MAINT RD	I-79, Mercer County line to Butler County line, preventative maintenance	LACO	$159
CAP MAINT RD	I-70, North Junction to Westmoreland County Line, reconstruction/widening	WACO	$200
CAP MAINT RD	I-70, West Virginia Line to Westmoreland County line, preventative maintenance	WACO	$120
CAP MAINT RD	I-79, Allegheny County Line to Greene County line, preventative maintenance	WACO	$80
CAP MAINT RD	I-79, I-70 to Allegheny County Line, reconstruction/widening	WACO	$200
CAP MAINT RD	I-70, Washington County line to I-76, preventative maintenance	WECO	$50
CAP MAINT RD	I-70, Washington County Line to New Stanton, reconstrution/widening	WECO	$200

Public Transportation

Public transportation enables thousands of people to travel to their jobs affordably, provides mobility for the elderly and people with disabilities, and relieves congestion and parking limitations in the region's urban core.

SPC's updated Plan anticipates an investment of nearly $12.1 billion in transit from 2007 to 2035. While the Port Authority of Allegheny County (by far the largest of the region's transit systems) receives the largest portion of this allocation, transit systems serving each county also benefit. All ten counties of SPC's transportation region have demand responsive transit service; while nine have some level of fixed-route service. The fixed route service providers include: Beaver County Transit Authority, Butler Transit Authority, Fayette Area Coordinated Transit, Indiana County Transit Authority, Mid-County Transit Authority dba Town and Country Transit, Mid-Mon Valley Transit Authority, New Castle Area Transit Authority, Port Authority of Allegheny County, Washington City, and Westmoreland County Transit Authority.

Figure 6.15 LRTP Investments – Public Transportation

Project	Location	Stage 1 (TIP)	Stage 2 (Remainder of 12-Year Program)	Stage 3	Total
		2007-2010	2011-2018	2019-2035	
Public Transit		*(millions)*			
Port Authority Alpine Village Park n Ride expansion	ALCO	$5.0			$5.0
Port Authority North Shore Connector	ALCO	$216.6	$7.0		$223.6
Robinson Town Centre Intermodal, Montour Chuch Road	ALCO	$8.1			$8.1
Slate Lick Park n Ride	ARCO	$0.7			$0.7
I-79 @ SR 422 Park n Ride	BUCO	$0.4			$0.4
SR 528 Park n Ride Expansion	BUCO	$0.6			$0.6
MMVTA Union Twp. Park n Ride	WACO	$0.6			$0.6
Regional Line Item for Transit Capital Maintenance		$558.2	$1,181.7	$2,865.7	$4,605.6
Regional Line Item for Transit Operations		$889.5	$1,876.6	$4,520.7	$7,286.8

Note: Stage 1 Line Items are detailed into individual projects in the current TIP document, and in the Air Quality Conformity Determination for all non-expempt air quality projects.

There are three main categories of transit investments (specific projects and line items are presented in Figure 6.15 above).

Operations: Expenses associated with the provision of public transit service including personnel salaries and benefits, materials and supplies, and routine minor maintenance expenses.

Of the available funding, $7.3 billion is reserved for public transportation operations, including payroll, materials, supplies, and routine minor maintenance costs.

Capital Maintenance and System Preservation and Modernization: Expenses associated with maintaining and modernizing capital assets such as:

- Preservation and rehabilitation of fixed facilities (e.g., administrative and maintenance buildings, bridges, busways, and LRT lines, etc.);
- Preservation, replacement, and rehabilitation of existing vehicles (e.g., buses, light rail vehicles, support vehicles);
- Minor service expansion / fleet expansion (e.g., new revenue/service vehicles, new administrative and maintenance buildings, intermodal facilities, transit centers, etc.);
- Modernization / upgrade of facilities, services, and vehicles.

Another $4.6 billion will be available for system preservation, modernization, and capital maintenance. Public transportation operations include: the rehabilitation of facilities; replacement or modernization of vehicles; integration of Intelligent Transportation Systems (ITS) infrastructure into transit facilities and services; and minor service expansions.

New Capacity: Major new capital investments for service expansion / modification. There is one project with a fully committed financing plan.

• North Shore Connector LRT is a 1.2 mile extension of the Light Rail Transit system from the existing Gateway Station in Downtown Pittsburgh to the Carnegie Science Center in the North Shore via a tunnel under the Allegheny River and three new stations.

The total cost of the North Shore Connector is $435 million. The Plan includes $224 million to be spent on this project through 2011. $211 million has been spent prior to the Plan base year 2007.

Unfunded Needs

The transit financial plan shows that the unfunded transit operation need will accumulate to nearly $3.8 billion by 2035. Transit service levels in place today will not be able to be maintained in future years. To offset these deficits the region's transit operators are investigating and implementing cost savings measures. For instance, in 2007 Port Authority will be reducing service by 15%, eliminating 29 routes and implementing personnel layoffs in order to save about $40 million annually. Individually, transit agencies throughout the region will continue to operate conservatively, finding ways to implement cost savings approaches.

The unfunded Capital Need for transit will grow to $2.7 billion by 2035. This results in a plan that must rely on cost efficiency and looking for new revenue.

In accordance with the Funding and Reform Commission recommendation - "Reform before money" - the transit operators are working individually to implement operational and management strategies that will result in cost savings. In addition to Port Authority's 2007 service and fare changes, the other transit providers also are anticipating future service cuts and fare increases, which will result in reduced costs and additional revenues. Examples of other strategies that were either underway or initiated as part of the reform efforts.

BCTA – changed organizational structure by moving from contracting service delivery to operating which saved money.

BTA – Site procurement and preparation for Administrative / Maintenance facility to coordinate with other county transportation programs, i.e. BART paratransit service and to become more efficient.

FACT – New administrative and maintenance facility consolidates services to become more efficient.

IndiGO – expansion of maintenance facility allows better upkeep of vehicles which will improve maintenance costs.

NCATA – Park n Ride and Transfer facility, joint development project to create efficiencies in vehicle revenue hours and operating costs.

Port Authority – Administrative restructuring and reductions in force, service cuts and proposed fare change.

WCTA – bought maintenance facility for coordination and consolidation and changed contractors for efficiencies.

The transit operators are also working collectively on several broader regional initiatives as part of the reform effort that will result in both cost savings and enhanced service. These collaborative efforts include:

- Regional Fare System – examination and implementation of a regional "smart card" electronic fare system that will allow riders to seamlessly travel throughout the region from system to system to simplify fare payment, improve fare collection and enhance the transportation experience for the rider.

- Transportation Development Plan – a comprehensive examination of changing regional demographics, origins and destinations, transit demand, land use patterns and existing services in order to improve regional transit service and coordination in conjunction with local, stat and federal funding sources.

- Regional Solutions – the examination and implementation of other coordinated and cooperative cost-savings strategies including the sharing of customer information, marketing, procurement, trip planning and information technologies.

Other strategies to improve transit service include those implemented by other specifically funded programs or agencies that promote shared ride services. They include:

The Access to Work Task Force. ATWTF was formed in 1997 to assist the Allegheny County Assistance Office in implementing welfare reform legislation. The initiative was implemented to improve mobility and economic opportunity for welfare recipients and other low-income people

through the provision of new or expanded public transportation services. The Allegheny County Access to Work Task Force has facilitated the development and implementation of over a dozen transportation and transportation coordination initiatives and secured over $25 million in federal, state and local resources to support access to work activity in the southwestern Pennsylvania region. The program has grown from an Allegheny County focus to a more regional focus and is now called the Southwestern PA Access to Work program. The Federal Job Access / Reverse Commute Program (JARC), a grant program implemented by the U.S. Department of Transportation in 1999, has been the sole source of federal funds supporting access to work activity in this region. The Commonwealth of Pennsylvania recognized the critical impact of public transportation on economic development activity and has supported the federal program with match funding.

The Access to Work Interagency Cooperative (ATWIC) is overseen by key regional stakeholders including the CEO's of the Southwestern Pennsylvania Commission, Port Authority of Allegheny County, and the Three Rivers Workforce Investment Board. They and representatives from the SWPA Access-to-Work Task Force work collaboratively to ensure the JARC resources invested in southwestern Pennsylvania are used in a prudent, fiscally responsible and equitable manner to encourage long-term sustainable outcomes.

With SAFETEA-LU, Federal JARC funds changed from an earmarked program to a formula program. This Region's program decreased from an $8 million/year program to a $2M/yr program. At the time of this plan adoption, match for this program is in jeopardy The original match source for the program was the State Department of Public Welfare's TANF (Temporary Assistance for Needy Families) program. At the close of FY2005, DPW withdrew this source of match funds. In 2006-2007, the State provided some funds to match the existing JARC activities; however, this source is not included in the state budget going forward.

The region's three Transportation Management Associations (TMAs). TMAs assist the transportation system by encouraging Transportation Demand Management strategies, such as telecommuting, vanpooling and carpooling. TMAs are generally an organization of members including private sector businesses and public agencies that collaborates to optimize use of the transportation system by supporting and implementing programs to increase travel options. TMAs support transit agencies by utilizing grassroots strategies to promote public transportation. The TMAs are assisted through the Title I CMAQ program, which is matched by membership dues.

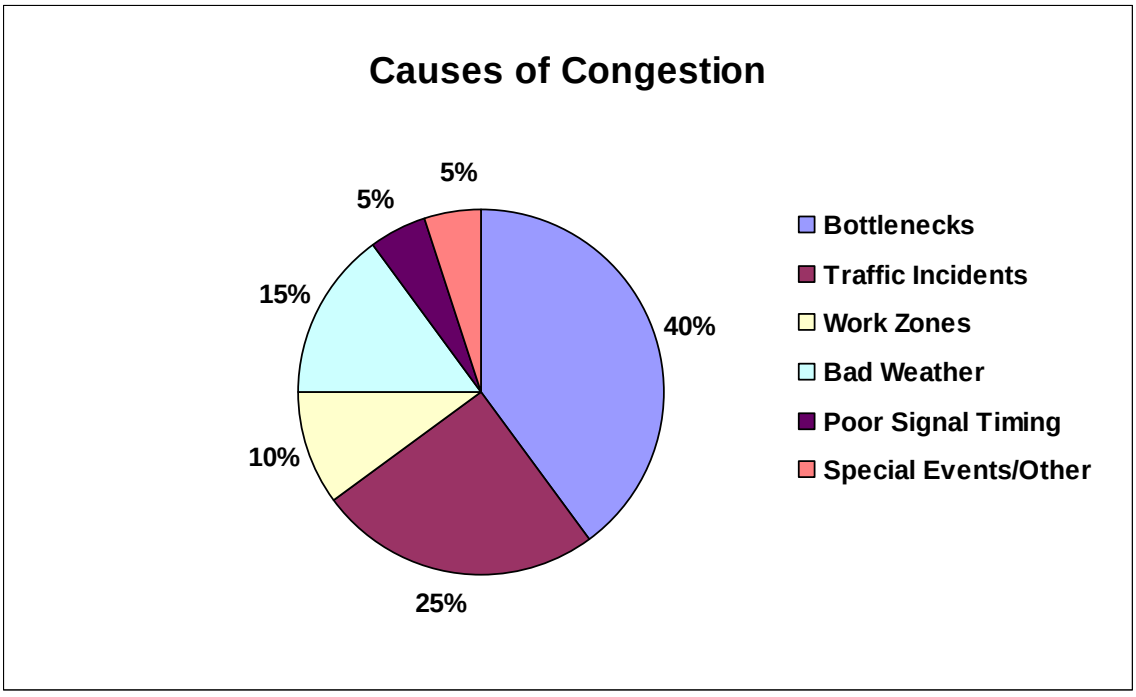
In 2002, the three TMAs and SPC's Ridesharing Program jointly conducted a Regional Rideshare Assessment study sponsored by SPC. The final study recommendation was to consolidate the rideshare products under one brand. After conducting focus groups and market research, The Southwestern Pennsylvania Commission's CommuteInfo program was established. The vanpool and Carpool services were consolidated in a central location. It is coordinated in partnership with transportation management associations, public transportation providers, businesses and non-profit service organizations throughout Southwestern PA. The CommuteInfo program is designed to serve as an information clearing house for commuters and employers. The alternatives to driving alone include transit, carpooling, vanpooling, and bikepooling. The program serves employers and commuters throughout the SPC Region.

Transportation Operations & Safety

As vehicle-miles of travel for both freight and passenger cars continue to increase, the cost of infrastructure increases, and the buying power of transportation dollars diminishes, public agencies have put an increased emphasis on transportation operations, which focuses on maximizing the efficiency of existing infrastructure. If construction equates to the creation of an asset, and maintenance relates to the condition of the asset, then operations deals with the performance of that asset.

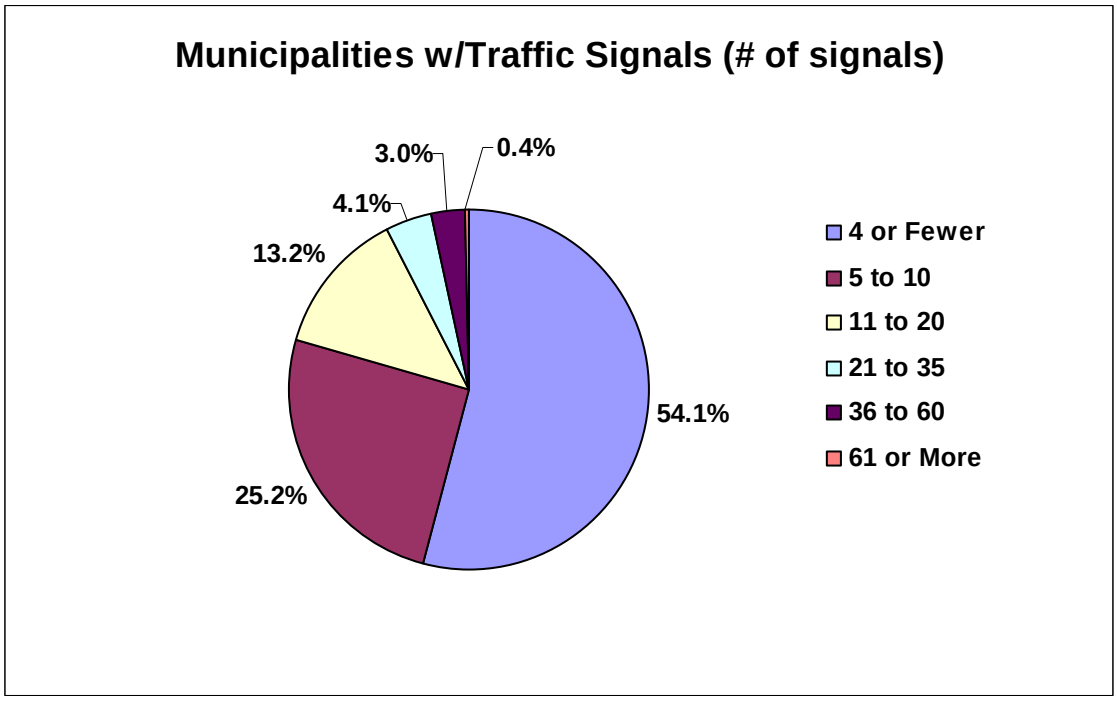
Traffic congestion results when travel demand approaches or exceeds the available capacity of the system. While this is a simple concept, it is not constant. Traffic demands vary significantly depending on the season of the year, the day of the week, and even the time of day. Also, the capacity of the system, often mistaken as constant, can change because of weather, work zones, traffic incidents, or other events. As illustrated in Figure 6.16, a recent study for the Federal Highway Administration indicates that only about 40% of congestion is caused by bottlenecks in the system, where demand is simply greater than the supply. The other 60% of congestion is caused by factors that are at least partially manageable through transportation operations activities. Furthermore, studies indicate that approximately 20% of traffic incidents occur as secondary events resulting from a primary incident. So in addition to congestion relieving benefits, transportation operations activities also provide safety benefits for transportation system users.

Figure 6.16 Sources of Traffic Congestion



Many operations initiatives and assets fall under the broad moniker of Intelligent Transportation Systems (ITS), which encompasses a wide range of technologies and communications-based information systems. In Southwestern Pennsylvania these include highway advisory radio installations, dynamic message signs, weather monitoring stations, closed-circuit television cameras on major roadways, a regional traffic management center, and the Pennsylvania Turnpike's electronic fare collection system, EZ-Pass. The most ubiquitous transportation operations device in the region is the traffic signal. In Pennsylvania, traffic signals are permitted by the Department of Transportation, but are owned, maintained and operated by local municipalities. There are over 2,500 traffic signals in the SPC region, and they are distributed throughout more than 265 municipalities. As shown in Figure 6.17, most municipalities that operate traffic signals in the SPC region (>79%), have 10 or fewer signal installations, which makes maintaining and coordinating these systems and maximizing their effectiveness very challenging.

Figure 6.17 Distribution of Traffic Signals in SPC Region



In 2006, SPC merged its long-standing Intelligent Transportation Systems (ITS) Steering Committee with its Interagency Task Force on Congestion Management to create a regional Transportation Operations & Safety Committee. This committee provides a centralized forum for coordinating transportation operations and safety planning with a diverse group of stakeholders from across the region. It also helps to integrate ITS, safety, and congestion

management efforts and improve communication between practitioners in these different specialty areas.

A key initiative of SPC's regional Transportation Operations & Safety Committee has been the development of a Southwestern Pennsylvania Regional Operations Plan (ROP). The purpose of the ROP is to build on the statewide direction for ITS and operations laid out in PennDOT's Transportation Systems Operations Plan (TSOP). The Regional Operations Plan gives Metropolitan Planning Organizations like SPC, PennDOT engineering districts, transit agencies and other regional stakeholders the ability to tailor statewide priorities to the specialized needs of their regions. The Southwestern Pennsylvania ROP has identified the following regional priorities for operations:

- Traffic signals;
- Incident and emergency management;
- Traveler information; and,
- Institutional issues.

Detailed projects, strategies and initiatives to address each of these priority areas are included in the ROP and will be advanced by SPC, PennDOT, transit agencies and their regional partners as part of ROP implementation.

A key method for identifying corridors and locations for ROP implementation initiatives and pilot projects is through the region's Congestion Management Process (CMP). Federal transportation legislation (SAFETEA-LU) requires that each metropolitan planning area in the United States have a CMP. The CMP is a regional planning tool designed to help manage congestion by identifying congested corridors and recommending multimodal strategies to facilitate the movement of people and goods. Travel time and delay data and first-person field observations collected as part SPC's CMP process help SPC and its planning partners understand congestion patterns in individual corridors as well as the overall climate of congestion in the region. In turn, this helps transportation practitioners customize congestion management strategies for specific corridors and subareas based on the unique needs and travel patterns in that part of the region.

SPC has defined twenty-five different strategies to address both recurring and non-recurring congestion as part of its "congestion management toolbox". These strategies can be grouped into the following four categories:

- Demand Management;
- Modal Options;
- Operational Improvements; and,
- Capacity.

Demand Management programs attempt to address congestion at the root of the problem by reducing the number of vehicles on the road. These initiatives work to modify driver behavior by encouraging people to make fewer single-occupancy trips, travel in off-peak hours when possible, and support land use policies that reduce the demand for automobile transportation. *Modal Options* include techniques to give people transportation choices beyond just driving alone in their cars. These include initiatives to encourage carpooling, vanpooling, transit, bicycle and pedestrian modes of travel. *Operational Improvements* are geared toward improving the "supply side" of the transportation system. These efforts are intended to enhance the operation of the transportation system and make it as efficient as possible. Operational Improvements include things such as intersection upgrades, access management, reversible lanes, traffic signal improvements, and Intelligent Transportation Systems. Finally, *Capacity* projects include new roadways and roadway widening for additional single-occupancy vehicle lanes (SOVCAP). Capacity improvements are typically the last measures transportation professionals consider, because they are often the most expensive and can have adverse impacts on community and the environment. Capacity projects can also have the effect of inducing additional travel, which may result in the roadway becoming congested again in the future.

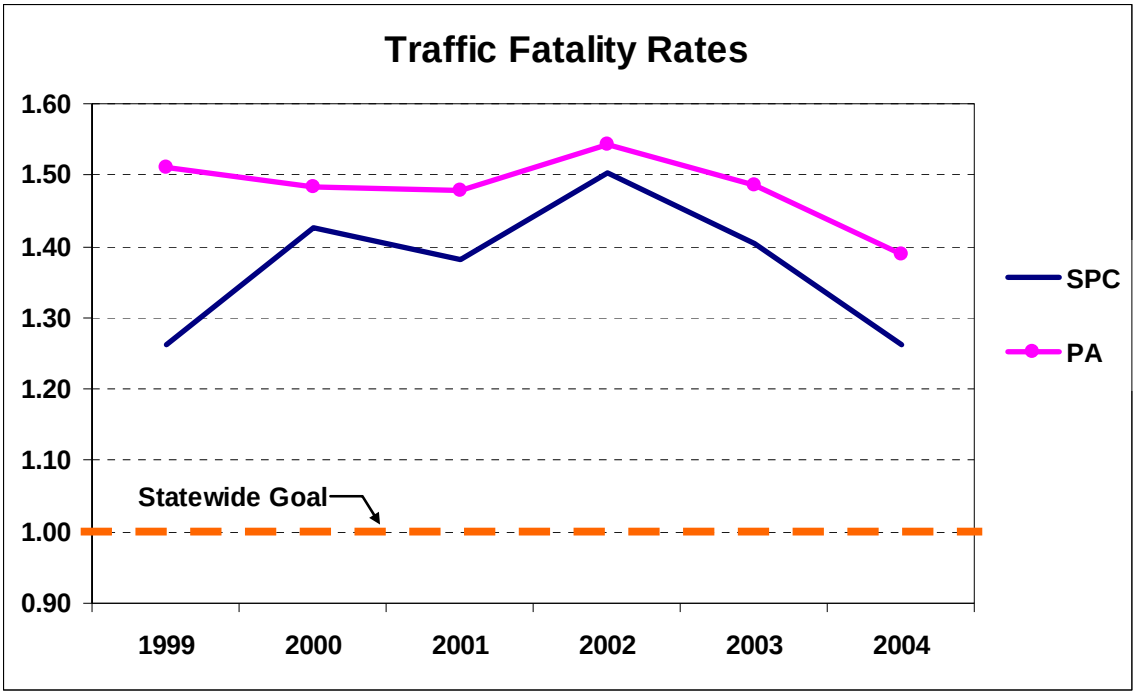
As indicated previously, transportation operations and congestion reduction activities can have the added benefit of improving safety by reducing the number of incidents and by addressing and clearing incidents quickly. Active operation of the transportation system can also have security benefits. Having operations infrastructure and personnel functioning throughout the transportation system can help increase the probability of identifying security threats. And in the event of a major security incident such as a terrorist attack or weather-related disaster, ITS devices and operations infrastructure can be critical in communicating and directing transportation system users to safety.

Federal SAFETEA-LU legislation expanded the emphasis on safety and security by untying the two concepts and elevating their status. One of the ways it did this was by establishing a new core Highway Safety Improvement Program (HSIP), which is structured and funded to significantly reduce highway fatalities and provides states with the flexibility to target their most critical safety needs. In Pennsylvania, these safety needs are identified in PennDOT's Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP). The CSHSIP establishes a statewide goal of reducing highway fatalities to 1.0 death per million vehicle-miles of travel (see Figure 6.17) and identifies the following "Vital Six" Safety Focus Areas:

- Reducing Aggressive Driving;
- Reducing Impaired (DUI) Driving;
- Increasing Seatbelt Usage;
- Safety Infrastructure Improvements (Roadway Departure and Intersection Crashes);
- Improving the Crash Records System; and,
- Improving Pedestrian Safety.

Recognition of this statewide goal and progress on these focus areas will require extensive support and cooperation from a variety of stakeholders representing the four "E's" of transportation safety: Education, Enforcement, Engineering, and Emergency Response. SPC's broad-based regional Transportation Operations & Safety Committee can play an important role as a regional facilitator of these efforts, as well as a link to the project programming process.

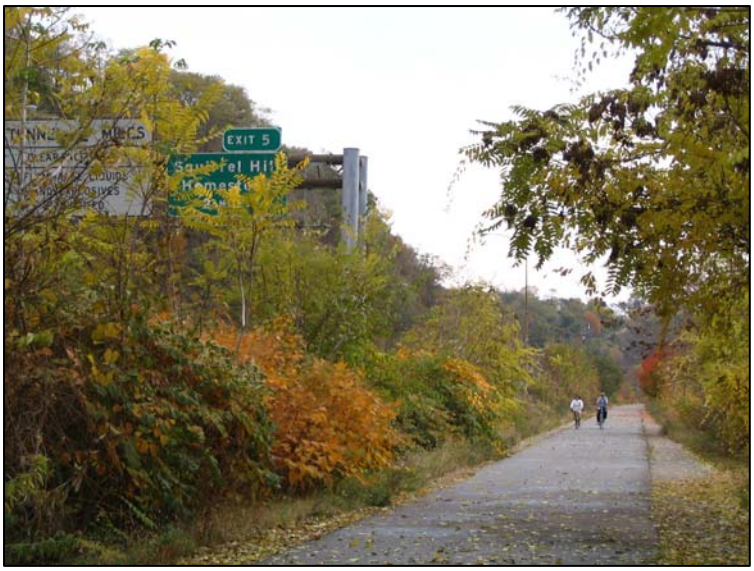
Figure 6.18 Traffic Fatality Trends in SWPA



A list of Transportation Operations & Safety projects and line items can be found in Figure 6.10 LRTP Investments – Traffic Operations and Safety.

Pedestrian and Bicycle

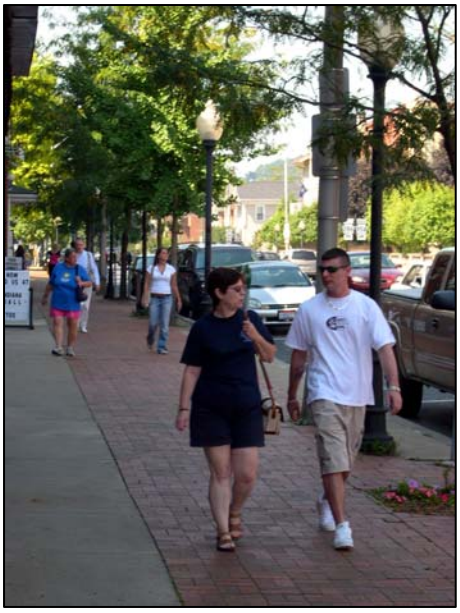
The implementation of a Long Range Transportation and Development plan focused on the promotion of efficient development patterns includes multiple strategies for the enhancement of regional "walkability" and "bicycle friendliness."



Through the Transportation Enhancement program, SPC programs funds for the expansion of an already vibrant regional trail network. Future efforts will include the completion of several key trail linkages, including the Hot Metal Bridge Connection to the Eliza Furnace Trail in Pittsburgh and the closure of the 9

mile "Gap in the GAP (Great Allegheny Passage), the final piece to be completed in the landmark 300 mile off-road trail connection between downtown Pittsburgh and Washington, DC.

Funds programmed through the Safe Routes to School and Hometown Streets Programs promote safe walking routes for students of all ages, and help foster vibrant neighborhood commercial districts.



SPC's Pedestrian and Bicycle Advisory Committee brings regional bicycle advocates, trail representatives, pedestrians and members of the disabled community together on a quarterly basis to disseminate information on funding opportunities for trail and sidewalk development, and share information on national, state, regional and local planning initiatives in the area of pedestrian and bicycle planning.

SPC's Pedestrian and Bicycle Advisory Committee has worked closely with the City of Pittsburgh Department of City Planning in the design and implementation of the City's Bicycle Plan and Pedestrian Plan (efforts on-going.) In addition, SPC has recently served as a liaison between the Pennsylvania Department of Transportation, their consultants and the regional bicycle community in the design and implementation of the new PennDOT Pedestrian and Bicycle Checklist, a planning and programming tool designed to assess the need for pedestrian and bicycle accommodation in PennDOT funded transportation improvements.

Airports

Scheduled airline service is available within the SPC region at Pittsburgh International Airport in western Allegheny County, and Arnold Palmer Regional Airport in Latrobe, Westmoreland County. Corporate flight operations, recreational flights and student training occur at more than two dozen general aviation airports in the ten county region.

Most of these airports are publicly owned, and are operated by a local or county government or airport authority. There is one public use heliport in the region as well. A few airports are privately owned, but are open use by the general public. There are also several private airports in the region, at which use is limited to the airport owner and guests.

As a general rule, general aviation airports require federal and state subsidy for airport improvement projects and capital maintenance. The Commonwealth of Pennsylvania's Bureau of Aviation administers three grant programs for airport development the Pennsylvania Block Grant Program, the Aviation Development Program, and the Capital Budget /Transportation Assistance Program.

The Aviation Development Program is funded through taxes on jet fuel and avgas, the revenues from which are collected and deposited into Pennsylvania's Aviation Restricted Account. These funds are normally used to pay for eligible project costs up to 75 percent at state obligated airports and 5 percent at federally obligated airports. The amount available for funding through the Aviation Development Program is currently $9.0 million annually.

The Pennsylvania Block Grant Program funding is generated through taxes collected nationally on airline tickets, freight waybills, international departure fees, and sale of avgas and jet fuel, which is deposited into the FAA's Aviation Trust Fund. Congress appropriates funds for the Airport Improvement Program (AIP) each year based on an area/population formula (apportionment). Pennsylvania receives approximately 18.5 percent of the total federal authorization each year, or about $8.5 million. Pennsylvania became a block grant state in 1998.

The Pennsylvania Block Grant Program is available only to general aviation airports, airports designated as reliever airports, and non-primary commercial airline airports (those with less than 10,000 annual enplaned passengers) that are part of the National Plan of Integrated Airport System (NPIAS), as approved by the FAA. Airports receive up to 90 percent of eligible project costs for projects included in the State's 12-Year Transportation Program.

The two commercial service airports in the region also receive Airport Improvement Program (AIP) funds for airport planning and development. However, grants for commercial service airports are administered directly by the Federal Aviation Administration. For large and medium primary hub airports (Pittsburgh International Airport), the grant covers 75 percent of eligible costs (or 80 percent for noise program implementation). For small primary, reliever, and general aviation airports, including Arnold Palmer Regional Airport, the grant covers 95 percent of eligible costs.

Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. In general, sponsors can use AIP funds on most airfield capital improvements or repairs except those for terminals, hangars, and nonaviation development. Any professional services that are necessary for eligible projects---such as planning, surveying, and design---are eligible as is runway, taxiway, and apron pavement maintenance. Aviation demand at the airport must justify the projects, which must also meet federal environmental and procurement requirements.

Projects related to airport operations and revenue-generating improvements are typically not eligible for funding. Operational costs---such as salaries, maintenance services, equipment, and supplies---are also not eligible for AIP grants.

Commercial service airports with scheduled passenger service, including Pittsburgh International Airport and Arnold Palmer Regional Airport also impose a fee on the cost of tickets issued for flights from their facility. These Passenger Facility Charges (PFCs) are used to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier

competition. Fees of up to $4.50 are collected from every enplaned passenger at airports collecting the Passenger Facility Charges.

SPC supports regional airports through participation in a number of statewide and regional studies and programs. SPC was an active participant in the development of the Pennsylvania Statewide Airport System Plan, and continues to participate in state efforts to maintain that System Plan. SPC also participates in individual Airport Master Plans and Special Studies, providing technical expertise in the area of airport planning and development, as well as local planning initiatives on-going in the region. Studies currently underway or recently completed include the New Castle Municipal Airport Master Plan Update, The Beaver County Airport Master Plan Update, the Allegheny County Airport Master Plan Update, and the Greene County Airport Master Plan and Airport Layout Plan. SPC is also a regular participant in the Allegheny County Airport Authority's Air Cargo Task Force, and sits on the Board of the Aviation Council of Pennsylvania.

Rail

Since 1980, rail activity has seen a significant upturn nationally and regionally. Nationally, railroad volumes are up 81 percent since 1980, and rail productivity has increased by 180 percent. In 2006, the rail industry spent an estimated $8.2 billion in capital maintenance on the national rail system.

Yet all indications are that this is not sufficient to keep pace with demand. Rail freight volumes are expected to double by the year 2025, with resultant pressures on rail car supply and capacity, and increased needs for rail infrastructure maintenance and development.

To assist railroads in the Commonwealth maintain the rail network in the State, Pennsylvania established the PA Rail Freight Assistance Program. This program uses Commonwealth General Fund monies to provide matching grants to railroad companies and others for projects which preserve essential rail freight service where economically feasible, and/or preserve or stimulate economic development through the generation of new or expanded rail freight service. Applications for grant funds always exceed funds

available, requiring the implementation of a $700,000 cap on the public portion of any project, up to 70 percent of the actual total project cost. The construction portion of any project may not exceed $250,000.

Funds may be used for maintenance, construction or maintenance and construction projects. Maintenance projects are designed to restore, improve, or maintain an existing railroad line to the level necessary for safe operation or use and has an estimated useful life of at least five years. Construction projects may include the acquisition of materials, and the construction a railroad line (where none exists) or a rail associated facility to a level necessary to provide a useful life in excess of five years.

SPC continues to work with rail partners in the region through quarterly meetings of the SPC Freight Forum. SPC also sits on the Governor's Rail Freight Assistance Committee, which also meets quarterly.

To support continued rail viability in the region, SPC has initiated several planning efforts. The first, a Rail Utilization Study, will provide a census of regional rail lines, noting the frequency of use, and other relevant operations data for each rail line in the region. In light of the millions of dollars of damage to regional rail lines in the aftermath of Hurricane Ivan in 2004, SPC has initiated a hazard vulnerability assessment of regional rail (and highway) infrastructure. This program has assembled data on floods, landslides and other natural disasters compiled by the Allegheny County Department of Emergency Services to identify areas of infrastructure vulnerability. Similar initiatives are planned for Westmoreland and Lawrence Counties in 2007.

Waterways & Ports

The SPC region is home to the second busiest inland port in the nation, and the 17th busiest port of any kind in the nation, according the Port of Pittsburgh Commission records.

An estimated 200 river terminals and marine supply facilities located along more than 200 miles of commercially navigable water on the Ohio, Monongahela and Allegheny Rivers provide a valuable "inland navigation" system for bulk material movement into and through the region.

These three rivers are used to carry raw materials, bulk and manufactured goods for many industries in the region.

Commercial navigation is important to the region's economy because river transport is an extremely economical method of transporting raw materials and bulk goods. Shipping costs for raw materials average .97 cents per ton mile by barge compared with 2.53 cents per ton mile by rail or 5.35 cents per ton mile by truck. The 41-50 million tons of cargo the Port of Pittsburgh ships and receives each year provides a significant annual benefit to the region. The primary cargo in the Port of Pittsburgh is coal but millions of tons of raw products including sand, gravel and iron ore; manufactured goods; petroleum and petroleum products as well as chemicals and related products traverse these waterways. Thousands of jobs depend on the reliable operation of these river supply lines.

Commercial navigation of the region's three major rivers is made possible through the region's 17 locks and dams. These U.S. Army Corps of Engineers owned, operated and maintained facilities maintain river water levels between the individual dams.

The majority of these 17 locks and dams are in "advanced states of disrepair" according to assessments completed by the U.S. Army Corps of Engineers. Many of these facilities are approaching 100 years in age, and have long outlived their original design lives. Major rehabilitation and reconstruction is required if these facilities are to remain functional.

Cost estimates for the rehabilitation of the Upper Ohio System, including the locks and dams on the Allegheny and Monongahela Rivers, may top $1 billion. The reconstruction of the Emsworth Lock and Dam alone has been estimated at $83 million.

SPC continues to work with regional freight partners the Port of Pittsburgh Commission, PennPorts and the U.S. Army Corps of Engineers in the identification and assessment of strategies for the repair and retention of these vital transportation facilities. SPC is an active participant in the U.S. Army Corps of Engineers "Upper Ohio River Navigation Study" which is

evaluating the total costs of lock and dam remediation in the Commonwealth of Pennsylvania, and is working with the Port of Pittsburgh Commission to strengthen linkages between surface and riverine transportation systems.

Transportation Enhancements

The Transportation Enhancements (TE) program strives to better integrate the regional transportation system with the communities it serves by focusing on pedestrian and bicycle facilities, scenic and historic byways and other "non-traditional" transportation projects. Ten percent of the funding distributed to states through the federal Surface Transportation Program is set-aside for the Transportation Enhancements Program. Funding from this program focuses on projects that are often outside the realm of standard highway or transit improvements. Eligible projects fall within one of these twelve Transportation Enhancement categories:

- Pedestrian and Bicycle Facilities
- Pedestrian and Bicycle Safety and Education Activities
- Acquisition of Scenic or Historic Easements and Sites
- Scenic or Historic Highway Programs, Including Tourist and Welcome Centers
- Landscaping and Scenic Beautification
- Historic Preservation
- Rehabilitation and Operation of Historic Transportation Buildings, Structures, or Facilities
- Preservation of Abandoned Railway Corridors
- Control and Removal of Outdoor Advertising
- Archaeological Planning and Research
- Mitigation of Highway Runoff and Provision of Wildlife Connectivity
- Establishment of Transportation Museums

Since 2004, SPC has awarded Transportation Enhancement funds for almost 50 projects in all ten counties. SPC has also worked to streamline the project application process, make program requirements and procedures clear to program applicants and potential applicants, and forged deeper alliances between the transportation based Transportation Enhancements program administered by SPC, and the complementary, Recreational Trail Program administered by the Pennsylvania Department of Conservation and Natural Resources.

The Hometown Streets/Safe Routes to School Program is an offshoot of the Transportation Enhancements program, and was established in Pennsylvania in 2004. This program targets a portion of Transportation Enhancement funds for projects that help revitalize existing downtown and neighborhood commercial districts in established communities, and projects that improve pedestrian and bicycle access to elementary and secondary schools. Since 2004, SPC has awarded Hometown Streets/Safe Routes to School Program grants to 40 projects in the region's ten counties.

Unfunded Transportation Needs & Illustrative Projects List

Both nationally and within the Commonwealth there is broad recognition that transportation needs far exceed the level of resources that are currently being provided. The American Association of State Highway and Transportation Officials (AASHTO), in work prepared for the National Commission on Transportation Funding (National Surface Transportation Policy and Revenue Study Commission), estimated that funding levels need to increase from a current level of $43 billion annually nationwide to a new level of $73 billion. AASHTO reports that this 70 percent increase is needed to recover purchasing power that has been lost to inflation and for system expansion to address traffic congestion needs. *[Call to Action: Needs of U.S. Transportation System, March 2007]*.

The Pennsylvania Transportation Funding and Reform Commission (TFRC) released a report in November 2006 identifying the state's critical transportation needs and offering a menu of options to address them. That report identified a $536 million annual shortfall just to stabilize and address highway maintenance deficiencies. To make incremental improvements in highway system condition and to also address modest modernization needs would require $1 billion per year in extra revenues. A one-billion dollar per year deficit represents a $29 billion statewide need through the year 2035. Proportionately, the general regional highway need for Southwestern Pennsylvania is approximately 25 percent of the statewide total. This need for more than $7 billion beyond currently available resources is only for highways and bridges. To meet the documented public transportation needs would require significant additional increases. The TFRC identified a $760 million annual net funding need to properly fund public transportation. This statewide figure includes an operating need of $258 million and a capital need of $502 million.

Highway and Bridge Program

A parallel estimate of maintenance needs can also be made for the region's highways and bridges. PennDOT District 10-0 (Armstrong, Butler, Indiana) has identified in their business plan an overall need estimated at $2.65 billion for the 2035 Plan period. SPC identifies available funding for this portion of the region as $1.25 billion, leaving a maintenance shortfall of $1.4 billion through 2035, a deficit of $703 million for highways and $687 million for bridges. The potential funding shortfall in PennDOT Districts 11-0 (Allegheny, Beaver, Lawrence) and 12-0 (Fayette, Greene, Washington, Westmoreland) is estimated to be even more serious. As illustrated in PennDOT maps showing statewide highway and bridge conditions (available online at www.rideonpa.org), the physical condition of Southwestern Pennsylvania's roads and bridges is noticeably poorer than statewide averages. Based on an SPC planning estimate using information on relative system condition from the three PennDOT District Business Plans, the overall maintenance deficit for the region could be as high as $13.5 billion for highways and bridges, not counting the Interstate Maintenance Program needs. Updated estimates of the highway and bridge needs will become available as each PennDOT District advances its implementation of an asset management / life cycle cost framework for identifying transportation needs within their District.

In general, the condition of Pennsylvania's bridges is worse than the U.S. average, and the region falls below the statewide averages. The region has more than 500 bridges posted with operating restrictions (weight limits or closures). PennDOT anticipates that over the next decade the rate at which bridges in the region will become structurally deficient each year is going to increase by 50 percent. While the region's most serious deficiencies are clear, they are also among the most costly to remedy, including numerous major river crossings and miles of interstates and other major expressways now approaching the end of their lifespan.

Additionally, these need estimates are presented in 2007 "base year" dollars so that the numbers from various studies and programs can be compared with each other. Funding figures used in the financial plan's revenue tables are different because they have been adjusted to account for federal "year of expenditure" dollar requirements, which, as illustrated previously, exacerbate the funding gaps.

The projects, line items, and other programs listed in the fiscally-constrained portion of this Plan will direct available funding to thousands of transportation projects in Southwestern Pennsylvania during the 2007-2035 timeframe. However, as illustrated above, the region's unfunded needs are much greater than what available revenues can address. Figure 6.19, the Illustrative Project List, includes a series of projects that do not currently fit within fiscal constraints. While each project contributes to the transportation system, specific project funding cannot be identified at this time.

Transit Program

Pennsylvania also lacks an adequate, stable and dedicated funding source for public transit and revenues fail to keep pace with operating costs. Transit systems across the Commonwealth, especially large urban agencies, are experiencing operating deficits and are planning and implementing service cutbacks and fare increases. In this climate, it is difficult to project adequate revenue to cover desired enhancements to the transit system.

Port Authority of Allegheny County is operating under the assumption that no funding shortfalls will be remedied and they will have to continue to make service cuts to close the gap on their $80 million annual deficit.

A number of recently completed studies identified key, strategic capital projects that could benefit the region (see Figure 6.19). For now, given the current funding situation, these projects are illustrative of the proposals for improving transportation in the region. In the event that additional funding is identified for "illustrative" projects, these projects or others that are prioritized by the Commission as consistent with the plan, and for which sufficient specific funding has been identified, may be considered as amendments to the Plan.

Figure 6.19 Illustrative Project List

Investment Category	Project	Location	Cost (in millions)
Non-Interstate Transportation Facilities			
CAP MAINT BRG	Regional Bridge Maintenance Needs	Region	$6,800
CAP MAINT RD	Regional Roadway Maintenance Needs	Region	$3,750
OPS & SAFETY	Regional Operations & Safety Needs	Region	$2,700
NEW CAPACITY	Campbells Run Road widening, Baldwin Road to Old Campbells Run Road	ALCO	$26
NEW CAPACITY	Second Avenue Ramps	ALCO	$13
NEW CAPACITY	S.R. 28/119/219, Kittanning to County Line, major widening and upgrade	ARCO	$200
NEW CAPACITY	S.R. 21, Masontown to Thompson's Crossroads, major widening and upgrade	FACO	$75
NEW CAPACITY	S.R. 21 Morrisville Corridor, Phase 2	GRCO	$20
NEW CAPACITY	Rose Street #2 Extension	INCO	$10
NEW CAPACITY	U.S. 422, Indiana to Kittanning, major widening and upgrade	INCO	$250
NEW CAPACITY	Millenium Park interchange	LACO	$15
NEW CAPACITY	I-70 Zediker Station Interchange	WACO	$15
NEW CAPACITY	S.R. 30 Widening, Allegheny County Line to Westmoreland Mall	WECO	$100
TRANSIT NEW CAP	East-West Corridor Rapid Transit - Airport to Downtown Light Rail Transit Line	ALCO	$2,500
TRANSIT NEW CAP	East-West Corridor Rapid Transit - Downtown to Oakland Light Rail Transit Line	ALCO	$1,900
TRANSIT NEW CAP	Oakland Circulator (public-private-partnership)	ALCO	$500
TRANSIT NEW CAP	High Speed MagLev and associated roadway improvements	ALCO, WECO	$4,573
TRANSIT NEW CAP	Pittsburgh CBD to Greensburg Commuter Rail	ALCO, WECO	$230
TRANSIT NEW CAP	Pittsburgh CBD to New Kensington Commuter Rail	ALCO, WECO	$170
TRANSIT NEW CAP	Cranberry Area Transit Initiative	BUCO, ALCO	$31
TRANSIT OPS	Regional Unmet Funding Need to provide Operating at current transit levels	Region	$3,800
TRANSIT MAINT	Regional Unmet Funding Need to provide Capital Maintenance and System Modernization at current transit levels.	Region	$2,700
TRANSIT MAINT	Beaver County Transit Authority/Rochester Transit Oriented Development and Joint Parking Facility	BECO	$3
TRANSIT MAINT	Butler Transit Authority Pullman Multimodal Transit Center	BUCO	$14
TRANSIT MAINT	Mid Mon Valley Transit Authority Bus Maintenance Facility	FACO, WECO, WACO	$4
Turnpike Projects			
NEW CAPACITY	Mon-Fayette, S.R. 51 To I-376	ALCO	$3,600
NEW CAPACITY	Mon-Fayette Expressway, Uniontown to Brownsville, Phase 2, U.S. 40 to S.R. 88	FACO	$455
NEW CAPACITY	Southern Beltway, I-79 To Mon-Fayette Expressway	WACO	$735
NEW CAPACITY	Southern Beltway, S.R. 22 To I-79	WACO	$659
NEW CAPACITY	Turnpike Access Project for the Greater New Stanton Area	WECO	$80

Securing Additional Revenues

It is unlikely that the transportation infrastructure deficit will disappear in the near future. The 2035 financial plan necessarily presents a framework for delivering effective and efficient transportation investments within available funding programs.

Improve Revenue from Discretionary Programs

Federal Earmarks – Federal earmarks can positively impact projects that are included in the 2035 Plan's identified transportation needs. Improved communications of the Plan's transportation vision and continuing coordination of priorities between SPC, our Partners, and our legislators could assist in delivering identified Long Range Transportation Plan projects within a mutually acceptable timeframe.

PA Discretionary "Spike" Program – The Pennsylvania Secretary of Transportation's Discretionary fund is 20 percent of the highway program statewide and is distributed without entitlements.

Economic Development Program – The Commonwealth's Discretionary Economic Development Program has a potential estimated impact of $245 million on the SPC transportation program through 2035 if active economic development projects need transportation improvements to close.

Appalachian Development Highway Program – Economically depressed conditions remain in the Appalachia region, and there is still a need and an economic justification for further highway projects in the part of the region eligible for Appalachian Regional Commission (ARC) programs.

Innovative Financing Toolbox

The Project Region Financial Resources Work Group identified multiple innovative funding sources and noted opportunities where they can be used to increase the funding available for projects. The following paragraphs provide examples of these potential opportunities.

Tax Increment Financing and Transportation Development Districts – Project funding is achieved when a governing body agrees to use the potential increase in taxes related to a proposed transportation improvement to fund the construction bonds for improvements related to the project. Because the financing depends on development-driven increases in tax revenues, opportunities for this type of funding are limited to projects that increase the value of land and businesses in the vicinity of the transportation improvement. On the larger scale, these tools can be useful for roads that provide access to underdeveloped land or projects such as interchange improvements that improve business access. They are not commonly used for smaller projects.

Transportation Infrastructure Finance and Innovation Act (TIFIA), Railroad Rehabilitation and Improvement Financing Program (RRIF), and State Infrastructure Bank (SIB) – These are typically used where a governing body (or developer through a public authority) agrees to repay a low interest loan over a longer time period, with the loan proceeds paying for the total or partial project construction costs. Local municipalities sometimes use these tools for larger projects that don't fit into a limited municipal budget.

GARVEE bonds – This is a financing tool available to states in which future federal gas tax revenues are pledged repay the state's bonds used to fund projects usually from a "pay as you go" process. Its primary usefulness comes from allowing a project for which future funding has been reserved to be constructed immediately, paying an interest charge on the advance funding but potentially saving the cost of inflation and increased construction costs.

Transit Revitalization Investment District (TRID) - A TRID is an area (1/8 mile to ½ mile) around a major transit facility (formalized through zoning approval) in which the real estate tax increment from new development occurring within the TRID is shared among partners - typically the municipality, transit agency, school district and county – to make public improvements within the TRID. Public funding for a TRID is utilized for community infrastructure improvements including transit facilities, roadways, sidewalks, water, sewage, etc. The development within a TRID is transit oriented in nature (TOD) and should be mixed use, walkable, bikeable, etc. Some people refer to TRID as a "TIF for transit."

Other tools include land donations by private parties, public-private-partnerships (P3), tolling and other user fees, and other development-related techniques to capture value from increased economic activity related to an improvement project. The application of the innovative finance tools is beneficial mostly for development-related projects but does provide some opportunity to increase funding for basic maintenance projects.