



APPENDIX I

Performance-Based Planning and Programming (PBPP)

Amended in July 2018
Last modified in May 2019

I-1. INTRODUCTION

The Moving Ahead for Progress in the 21st Century Act (MAP-21) and subsequent Fixing America's Surface Transportation (FAST) Act require State DOTs and MPOs to establish and use performance-based planning and programming to transportation decision making. This includes tracking performance measures, setting data-driven targets for each measure, and selecting projects to help meet those targets. The FAST Act also requires that the TIP include a description of its anticipated effect toward achieving the established performance targets, linking investment priorities to those performance targets.

The goal of Performance-Based Planning and Programming (PBPP) is to ensure targeted investment of federal transportation funds by increasing accountability and transparency and providing for better investment decisions that focus on key outcomes related to seven national goals:

- Safety
- Infrastructure preservation
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduced project delivery delays

Regulations required by FHWA have established final rules on performance measures that address the seven goals, accordingly:

- Fatalities and serious injuries, both number and rate per vehicle miles traveled, on all public roads
- Pavement condition on the Interstate system and on the remainder of the National Highway System (NHS)
- Performance (system reliability) of the Interstate system and the remainder of the NHS bridge condition on the NHS
- Bridge condition on the NHS
- Traffic congestion
- Freight movement on the Interstate system
- On-road mobile source emissions

The regulations required by FTA have established a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their life cycle. The performance management requirements are a minimum standard for transit operators and involve measuring and monitoring the following:

- Transit safety
- Transit rolling stock
- Transit equipment
- Transit infrastructure
- Transit facilities

For more information about the development and implementation of Transportation Performance Measurement (TPM) policy and rulemaking, see www.fhwa.dot.gov/tpm for Highway and <https://cms.fta.dot.gov/performance-based-planning> for Transit. For the TPM implementation timeline for all performance measures, see www.fhwa.dot.gov/tpm/rule/timeline.pdf for Highway and <https://cms.fta.dot.gov/regulations-and-guidance/transportation-planning/timeframes-performance-based-planning> for Transit.

I-2. HIGHWAY SAFETY PERFORMANCE MANAGEMENT MEASURES (“PM1”)

Highway Safety is the first national goal identified in the FAST Act and has the earliest deadline for addressing progress towards meeting targets in the Transportation Improvement Program (TIP). In March 2016, the FHWA Highway Safety Improvement Program and Safety Performance Management Measures Rule (Safety PM Rule) was finalized and published in the Federal Register. The rule requires State DOTs and MPOs to set annual targets for five safety-related performance measures with the understanding that reaching zero fatalities on all public roads will require time and significant effort. A target is defined in 23 CFR 490.101 as a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by FHWA. The federal safety performance measures are consecutive five-year rolling averages for:

- Number of fatalities
- Rate of fatalities per 100 million vehicle miles traveled (VMT)
- Number of serious injuries
- Rate of Serious Injuries per 100 million VMT
- Number of non-motorized fatalities and non-motorized serious injuries (combined)

State DOTs report baseline values, targets, and progress toward meeting the targets to FHWA in an annual safety report. MPOs may either establish quantitative targets for their metropolitan planning area, or agree to adopt the statewide targets. FHWA requires DOTs and MPOs to establish safety targets on an annual basis, beginning with targets for calendar year (CY) 2018. The DVRPC Board has adopted a resolution on January 25, 2018 supporting NJDOT’s statewide safety targets for CY2018.

FHWA will determine whether a State has met or made significant progress toward its safety performance targets. A State is considered to have met or made significant progress when at least four out of the five safety performance targets are met or the actual outcome for the safety performance target is better than baseline performance.

I-2.1. NJDOT STATEWIDE SAFETY TARGETS AND GOALS

In 2015, NJDOT published its Strategic Highway Safety Plan (SHSP), which is available online at www.state.nj.us/transportation/about/safety/sshsp.shtm. The SHSP was developed in collaboration with the New Jersey Division of Highway Traffic Safety (NJDOTS) and New Jersey’s three Metropolitan Planning Organizations (MPOs) to focus on activities that will be most effective in reducing fatalities and serious injuries. This document adopted a goal to support the national vision for highway safety – Toward Zero Deaths: A National Strategy on Highway Safety. The SHSP is data-driven, sets long-term goals, and is a coordinated statewide plan that identifies

the most significant infrastructure and behavioral safety issues on New Jersey’s public roads. It identifies 16 key safety emphasis areas, including Lane Departure, Drowsy and Distracted Driving, Aggressive Driving, Intersections, Pedestrians and Bicyclists, and Mature Drivers, and the supporting strategies that are likely to have the largest impact on improving safety on public roadways. The SHSP also guides the allocation of safety funding and resources to reduce highway fatalities and serious injuries on NJ’s public roadways.

The SHSP sets a statewide goal to reduce serious injuries and fatalities by 2.5 percent annually. Various agencies, including FHWA, NJDOT, NJDHTS, and the MPOs, recognize that reaching zero fatalities will require time and significant effort by many different partner agencies. Therefore, annual targets must be data-driven, realistic, and achievable. Targets are important for agencies to make interim progress toward the long-term goal of Toward Zero Death in the SHSP. The goal of setting data-driven, realistic, and achievable performance targets each year will help agencies better utilize their safety resources in ways that can result in the greatest reduction in fatalities and serious injuries overtime.

NJDOT and the MPOs in New Jersey adopted targets legislated as part of the MAP-21 federal transportation authorization, which has involved a great deal of coordination and analysis among these agencies. These agencies aim to reduce the number of fatalities, serious injuries, and non-motorized fatalities in New Jersey. Tables 1 detail New Jersey’s statewide safety targets for CY2019. These targets were established after careful consideration of previous trends, recently constructed projects, and the current socioeconomic environment. The targets are based on five year rolling average of fatalities and serious injuries and are reported to satisfy federal requirements with the understanding that New Jersey’s safety vision is to achieve zero deaths on all public roads overtime. This long-term safety vision requires time to change attitudes and behaviors and to construct infrastructure improvements to reduce the frequency and severity of crashes.

Table 1: New Jersey’s FY2019 Statewide Safety Targets

Performance Measure	5-Year Rolling Averages	
	Baseline CY2013-2017	Target CY2015-2019
Number of Fatalities	577.6	605.0
Fatality Rate per 100 million vehicle miles traveled (VMT)	0.761	0.780
Number of Serious Injuries	1,092.5	1,101.4
Serious Injury Rate per 100 million VMT	1.439	1.422
Number of Non-motorized Fatalities and Non-motorized Serious Injuries	379.1	393.9

Source: NJDOT, 2018

Using a 5-year rolling average and projected numbers in the target calculation, as required, can result in a higher target number than baseline number in the short term. As a result of these uncertainties, NJDOT and other states took a cautious approach to setting targets, and DVRPC supported the state targets to align regional efforts with state goals. DVRPC is open to establishing regional targets in the future, if it is particularly helpful for the region.

NJDOT and the MPOs are committed to directing resources to infrastructure related safety strategies as we diligently strive to drive down fatalities and serious injuries with an ultimate safety vision of zero deaths. There are various federal funding flavors (e.g. STBGP-STU) besides Highway Safety Improvement Program (HSIP) funds that can also support safety goals, but HSIP funded projects must adhere to performance-based goals focusing resources on areas of greatest need and potential for the highest rate of return on the investment of HSIP funds on all public roads.

I-2.2. COORDINATION ON HIGHWAY SAFETY TARGET SETTING

To strengthen communication and coordination efforts, various technical safety experts and planning staff from the MPOs and NJDOT meet regularly to discuss Highway Safety Improvement Program (HSIP) project advancement and Performance Measure Targets and Goals

I-2.3. PROGRESS TOWARDS HIGHWAY SAFETY TARGETS

The NJDOT develops an annual safety investment strategy for all HSIP funded activities and projects. The annual investment strategy demonstrates the linkage between the objectives of the SHSP and the projects being implemented to focus on the most effective safety improvements. For this reason, the DVRPC FY2018 TIP for NJ was developed to ensure progress toward target achievement will ultimately result in zero fatalities. At the NJDOT statewide and DVRPC regional levels, projects and programs are selected for HSIP funding in New Jersey to help achieve a significant reduction of traffic fatalities and serious injuries on all public roads to support achieving safety targets. The DVRPC FY2018 NJ TIP includes 14 HSIP funded safety projects and programs (7 in DVRPC Regional Highway Program and 7 in NJDOT's Statewide Program). They total over \$100 million in HSIP funds over the first four years of the TIP.

HSIP funds are set aside every Federal Fiscal Year (FFY) in the DVRPC TIP and NJDOT STIP to advance projects that are evaluated and ranked based on Benefit/Cost analysis, Highway Safety Manual (HSM) analysis, fatal and injury crashes, application of systemic improvements, improvements on local roads, and deliverability. In DVRPC's FY2018 NJ TIP, the DVRPC region is allocated between \$3 and \$4 million of HSIP funds annually as part of the State's Financial Guidance for locally sponsored, HSIP-eligible projects on NJ HSIP-eligible High Risk Rural Roads (see DB #04314). The list of locations results from a data-driven analysis prepared by NJDOT that prioritizes fatal and serious injury crash concentrations in four categories: intersections, high risk rural roads, pedestrian corridors, and pedestrian intersections. Appropriate design and construction projects at these roadway locations are eligible for HSIP.

DVRPC, county and city partners, and NJDOT staff work together to develop safety projects at these locations. These projects are noted in Table 2. Potential projects are evaluated by using the Highway Safety Manual (HSM), which is available at <https://www.state.nj.us/transportation/about/safety/pdf/2016hsipmanual.pdf> to ensure the identified safety improvement will have a positive benefit/cost ratio that meets NJDOT standards. In addition, NJDOT will soon expand the Systemic Pilot Program for Roundabouts to provide counties an opportunity to implement up to

three modern roundabouts on local roadways in each county. An official letter announcing this expanded program has not yet been distributed at the time of this publication.

The NJDOT Statewide Program also provides the following programs to improve safety throughout the State of New Jersey:

- **Crash Reduction Program (DB #X242)** – \$5 million annual program designed to improve conditions with enhancements that may include pavement improvements, protection or removal of fixed objects, and utility pole relocation or replacement. It will also develop and implement a systemic approach to the installation of lane and roadway departure technologies to prevent vehicles from leaving their respective lanes and causing crashes, injuries, and/or deaths.
- **Highway Safety Improvement Program Planning (DB #09388)** - \$4 million annual program for Safety Management System (SMS) and Rail-Highway safety improvement projects. Through the guidance of the HSIP (23 CFR 924), it identifies, prioritizes and implements safety programs and projects associated with safe corridors and intersection improvement programs in an effort to reduce crashes and crash severity on New Jersey's roadways.
- **Intersection Improvement Program (Project Implementation) (DB #98333)** - \$3.250 million annual program (\$3 million HSIP/\$250,000 State) that provides for the implementation of safety and operational improvements at intersections.
- **Segment Improvement Program (DB #15807)** - \$2 million annual program that provides for the identification and implementation of safety improvements along segments which show crash rates above the statewide average. The safety improvements proposed are; striping, signage, crosswalks, bus shelters, handicap ramps, bicycle accommodations, travel lane modifications, resurfacing, changes in accommodating “U” turns, pedestrian refuge islands, designing for mature drivers, corner modifications and innovative technology.
- **Utility Pole Mitigation (DB #15344)** - \$175,000 annual program that seeks to identify and mitigate locations with incidents of high recurring utility pole accidents throughout New Jersey.
- **Motor Vehicle Crash Record Processing (DB #X233)** - \$2 to \$2.5 million annual program that provides the in-house Crash Records unit with upgraded equipment and new methodology. The comprehensive crash record database will include driver/crash correlation, crash location, data for driver updates, and database cleaning (correction) process.
- **Pedestrian Safety Improvement Program (DB #06401)** - \$3 to \$4 million annual program to reduce pedestrian crashes and/or fatalities. Locations/segments are identified through crash history data and estimated rates of exposure to motor vehicles/pedestrian conflicts. Locations/segments are examined by NJDOT’S Pedestrian

Safety Impact Teams who will conduct Road Safety Audits and make recommendations for improvements. This program also funds the implementation of recommendations.

Further, NJDOT's **Rail Highway Grade Crossing Program** is intended to reduce the number and severity of train collisions with vehicles and pedestrians at public highway-rail grade crossings.

DVRPC has the TIP Benefit Criteria, a set of criteria based on regional priorities that DVRPC staff uses to evaluate new projects that are added to the TIP. The criteria were developed with New Jersey and Pennsylvania members of a working subcommittee of the DVRPC Regional Technical Committee (RTC) and were designed to align directly with the multimodal goals of the Long-Range Plan and to reflect the increasingly multimodal nature of projects in the TIP. After defining the criteria, the working subcommittee weighted them, with higher weights equaling higher priorities for the DVRPC region.

In the TIP Benefit Criteria, safety was rated as the second-highest priority, following only facility/asset condition. Facility/asset condition considers whether a project will bring a facility or asset (e.g. bridge) into a state-of-good repair, extend its useful life, or remove a functionally obsolete bridge rating. Each project is evaluated for how it impacts safety-critical elements for transit projects, high-crash road locations, or whether it incorporates one or more FHWA proven safety countermeasures. See [Appendix F](#) of this TIP document for further information about the TIP Benefit Criteria.

Many other TIP projects funded with federal non-HSIP funds will provide safety benefits to the roadway system, such as NJ Regional Curve Inventory and Safety Assessment that is funded with STBGP-STU funds and administered via DVRPC. Resurfacing, guiderail and vegetation maintenance, and bridge improvement projects are all expected to provide safety improvements and should help decrease fatality and serious injury crashes.

Table 2: Projects Utilizing Federal Highway Safety Improvement Program (HSIP) Funds (FY2018-2027)

County	Project Sponsor	DB #	Project	Project Type	SHSP Emphasis Area	Funding Status
Burlington	Burlington County	04314	CR 541 (Stokes Rd) and CR 648 (Willow Grove Rd), Shamong Township	Systemic Roundabout	Intersection	Planned for Preliminary Engineering.
Burlington	Burlington County	04314	Carranza Rd & Hawkin Rd (Seneca High School)	Systemic Roundabout	Intersection	HSIP eligibility currently under NJDOT review.
Camden	Camden County	04314	Mt. Ephraim Avenue Safety Improvements, City of Camden	Corridor Improvement	Pedestrians and Bicyclists	Concept Development in progress.
Camden	Camden County	04314	CR 705 (Sicklerville Road) and CR 706, Winslow Township	Systemic Roundabout	Intersection	Planned for Preliminary Engineering.
Camden	NJDOT	16319	Route 30, Gibbsboro Road (CR 686)	Intersection Improvement	Intersection	Concept Development in progress.
Mercer	Mercer County	04314	CR 583, US 206 (Princeton Ave) and Brunswick Circle extension roundabout, Lawrence Township	Roundabout	Intersection	Final Design in progress
Mercer	NJDOT	06401	Parkway Avenue Road Diet Concept Development Study from CR 611 (Scotch Rd.) to NJ 31 (Pennington Rd.), Ewing Township	Corridor Improvement: Road Diet	Pedestrians and Bicyclists	Concept Development in progress. Project was selected through NJDOT's Road Diet Pilot Program in November 2015 as a possible candidate for road diet implementation.
Mercer	NJDOT	04314	Route 31, Ewingville Road (CR 636)	Corridor Improvement: Road Diet	Pedestrians and Bicyclists	CON in FY19 programmed

I-3. INFRASTRUCTURE (PAVEMENT AND BRIDGE) PERFORMANCE MANAGEMENT MEASURES RULE (“PM2”)

The FHWA final rule for the *National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge* was published in the Federal Register (82 FR 5886) on January 18, 2017 and became effective on February 17, 2017. It established performance measures for all State DOTs to use to carry out the National Highway Performance Program (NHPP) and to assess the condition of pavements on the Interstate System, pavements on the National Highway System (NHS) (excluding the Interstate System), and bridges carrying the NHS which include on- and off-ramps connected to the NHS. The NHPP is a core Federal-aid highway program that provides support for the condition and performance of the NHS and the construction of new facilities on the NHS. The NHPP also ensures that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets as established in a State's Transportation Asset Management Plan (TAMP) for the NHS. This final rule establishes regulations for the new performance aspects of the NHPP that address measures, targets, and reporting.

The pavement and bridge performance measures include:

- % of Interstate pavements in *good* condition
- % of Interstate pavements in *poor* condition
- % of Non-Interstate NHS pavements in *good* condition
- % of Non-Interstate NHS pavements in *poor* condition
- % of NHS bridges by deck area classified in *good* condition
- % of NHS bridges by deck area classified in *poor* condition

State 2-year and 4-year targets (the desired state of good repair) were due May 20, 2018. Like PM1 (Highway Safety), MPOs must establish targets by either agreeing to support the State targets or establishing their own quantifiable targets no later than 180 days after a State DOT establishes (or amends) its targets. On October 23, 2018, the DVRPC Board agreed to support NJDOT's statewide Pavement and Bridge Infrastructure Performance targets and NJDOT's efforts at achieving those targets shown in Tables 3 and 4 below. Note that 2-year targets (FY18-FY19) for the Interstate is not required for the first performance period (hence “n/a”). The “Baseline” in Tables 3 to 8 is based on the most recent calendar year of data (2017).

I-3.1. PAVEMENT PERFORMANCE TARGETS

The PM2 rule requires the State DOT to report and manage performance of the NHS, regardless of ownership or maintenance responsibility, for the full extent of the Interstate and Non-Interstate NHS. In NJ, almost 40 percent of the NHS is owned by 83 other owners including authorities, counties, and municipalities.

Federal rulemaking 23 U.S.C. 119 requires that all distress component information be collected for one-tenth-mile increments. Pavement condition is measured by four distress components (International Roughness Index, Cracking, Rutting, and Faulting), which are then translated to *good*, *fair*, or *poor* condition scores per FHWA criteria and then broken out into separate values for the Interstate and Non-Interstate NHS.

- **International Roughness Index (IRI)** – Quantifies how rough the bituminous and concrete pavement is by measuring the longitudinal profile of a traveled wheel track and generating a standardized roughness value in inches per mile.
- **Cracking** – Measures the percentage of bituminous and concrete pavement surface that is cracked.
- **Rutting** – Measures the depth of ruts (surface depression) in bituminous pavement in inches.
- **Faulting** – Quantifies the difference in elevation across transverse concrete pavement joints in inches.

NJDOT used information from the 2016 Highway Performance Monitoring System (HPMS) supplement report card and preliminary data for 2017 to approximate the baselines (estimated current conditions) and develop targets (the desired state of good repair) by the May 2018 deadline. NJDOT then used its own pavement management system and its own measures, metrics, and budget information to predict performance on the State Highway System. A correlation analysis was developed and then applied to the State Highway System performance, which showed a gradually declining trend on both the Interstate and Non-Interstate NHS pavements at current funding levels. NJDOT also sent a survey to all NHS owners requesting past and future expenditures on NHS routes and qualitative information regarding future funding and pavement performance to help validate results of the correlation analysis. This analysis led to the baseline and targets in Table 3 that the DVRPC Board unanimously supported on October 23, 2018.

Table 3: State Pavement Infrastructure Performance Targets

Pavement Infrastructure	Condition	Baseline	2-Year Target	4-Year Target
Interstate Pavement Lane Miles	Good	61.25%	n/a	50.00%
	Poor	1.01%	n/a	2.50%
Non-Interstate NHS Pavement Lane Miles	Good	32.45%	25.00%	25.00%
	Poor	2.38%	2.50%	2.50%

Although the 2-year and 4-year targets assume pavement condition worsening, NJDOT and DVRPC are committed to a long-term goal of improving pavement conditions, achieving a sustainable “state of good repair.” Further, less than 5 percent of the NHS Interstate pavements are rated in *poor* condition, per federal requirement.

I -3.2. BRIDGE PERFORMANCE TARGETS

Similar to pavement, the PM2 rule requires the State DOT to report and manage performance of all bridges on the NHS, regardless of ownership or maintenance responsibility, including bridges on ramps connecting to the NHS and NHS bridges that span a state border. Statewide, NHS bridges are owned and maintained by various entities, including NJDOT (52% by deck area); transportation authorities and commissions (38%); and counties, municipalities, NJ Transit, various other agencies, and private owners (10%). FHWA’s performance measures aim to assess

bridge condition by deriving the percentage of NHS bridges rated in *good* and *poor* condition by deck area on the NHS. A structure's overall condition rating is determined by the lowest rating of its deck, superstructure, substructure, and/or culvert. If any of the components of a structure qualify as *poor*, the structure is deemed *poor*. 23 CRF 490.411(a) requires that no more than 10 percent of a state's total NHS bridges by deck area are in *poor* condition. It is important to note that *poor* does not correlate to the safety rating of the bridge. The bridge condition performance measures are calculated by summing the deck area of bridges in "good" and "poor" condition and dividing by the total deck area of all NHS bridges.

As with the pavement condition measures, DVRPC relied upon the NJDOT for calculation of bridge condition metrics and supported NJDOT's Statewide targets (the desired state of good repair) in Table 4. Due to potential tool enhancements and limited available information, NJDOT has established conservative targets. In some respects, these may be more appropriately referred to as benchmarks.

Table 4: State NHS Bridge Infrastructure Performance Targets

Bridge Infrastructure	Condition	Baseline	2-Year Target	4-Year Target
NHS Bridge Deck Area	Good	21.70%	19.40%	18.60%
	Poor	6.50%	6.50%	6.50%

The *poor* condition inventory is flat because the New Jersey Turnpike Authority (NJTA) is responsible for two-thirds of remaining NHS bridges in *poor* condition, and they have recently completed a major upgrade to their system and increased funding for bridge maintenance. Additionally, there was a recent increase of funding, from \$25 million to \$44+ million per year, for county bridge owners for local aid projects, where the distribution formula favors *poor* condition bridges. NJDOT projects a gradual decrease of bridges in *good* condition.

NJDOT established the state maintained National Bridge Inspection Standards (NBIS) Bridge targets based on available National Bridge Inventory (NBI) data, current project delivery process, project pipeline capacity, and current practices adopted by NJDOT, including available financial information, lifecycle planning strategies, and capital investment strategies. Then NBI historical data from calendar year 2012 to 2018 was analyzed to develop trends on the NHS bridge conditions. Targets were adjusted to incorporate data on other owners' NHS bridges, federally owned NBIS bridges, and border NBIS bridges reported by neighboring states. NJDOT assumed that bridges owned by others will remain stable. Moving forward, NJDOT intends to collect more information and implement AASHTOWare's BrM as their main data analysis tool to develop better targets for the population of NHS bridges rated as *good* and *poor*.

I-3.3. COORDINATION ON BRIDGE AND PAVEMENT PERFORMANCE TARGETS

NJDOT held a series of stakeholder meetings and workshops that included the assessment and analyses of the state NHS network pavement and bridges, as well as the State Highway System pavement and bridges; and discussions related to performance measures, targets and target setting approach, state of good repair objectives, issues, and challenges. Since a significant amount of the NHS in the state is owned by other jurisdictions, stakeholders included these non-

NJDOT NHS owners. The MPOs in New Jersey assisted NJDOT with the collection and dissemination of data to the non-NJDOT NHS owners. The MPOs also agreed to use the infrastructure targets that NJDOT established and adopt the statewide federal Transportation Performance Management (TPM) infrastructure targets.

I -3.4. PROGRESS TOWARD PAVEMENT AND BRIDGE PERFORMANCE TARGETS

DVRPC is dedicated towards system preservation for pavement and bridge. The [DVRPC Long-Range Plan](#) (“Plan”) places an increased emphasis and analysis related to transportation system preservation needs and funding, which in turn informs the fiscally-constrained list of projects included in the Long-Range Plan and TIP. In the DVRPC NJ region, the Plan identified \$11.3 billion needed for pavement and bridge preservation projects. Of this total need, \$10.1 billion is programmed in the TIP for system preservation, but there is also \$1.2 billion of need that is currently unfunded unless there is additional revenue.

Per Table 12 in the Plan, system preservation is funded the most of all highway project types. Of the entire \$13.7 billion allocated to all roadway improvements in the Plan, 48.5 percent or \$6.7 billion is allocated to roadway preservation, followed by 25 percent or \$3.4 billion for bridge preservation. Table 13 in the Plan lists all major regional system preservation projects needed to maintain the existing system. The two major regional system preservation projects funded in the TIP are as follows:

- Route 70 from Route 38 to Cropwell Road (DB #11338)
- Route 130, Bridge over Big Timber Creek (DB #14426)

At the time that the DVRPC Board adopted this TIP (October 26, 2017), 26.5 percent or \$351.2 million out of \$1.3 billion total in the First-Four Years of all projects in the DVRPC Regional Highway Program were roadway rehabilitation, reconstruction, and restoration, which was the highest percentage of all TIP project categories. 13.1 percent or almost \$174 million was programmed for bridge preservation projects over the First-Four Years of the TIP. Moreover, system preservation is the highest priority in the DVRPC TIP Benefit Criteria, followed by safety.

Roadway maintenance is a major focus area of NJDOT’s Capital Investment Strategy (CIS). According to [NJDOT’s Statewide Capital Investment Strategy FY 2013-2022](#), more than \$260 million (approximately eight percent) of the annual investments go towards road assets. The State Transportation Trust Fund (TTF) provides \$400 million annually to all local governments in New Jersey for the funding of road, bridge and other transportation projects. As a result of the TTF Reauthorization in 2017, County Aid, Municipal Aid, Freight funding, and other programs administered by NJDOT experienced increased funding levels. [Municipal Aid](#) (DB #X98C1) provides for road improvement projects, such as resurfacing, rehabilitation or reconstruction and signalization. Projects involving bridge improvements, pedestrian safety improvements and bikeway improvements are also eligible to receive funds under Municipal Aid. There was a \$14 million increase between State FY17 and FY18 from \$15.2 million to \$29.2 million in the DVRPC NJ region as a result of the TTF reauthorization. Between State FY17 and FY18, NJDOT [County Aid](#) (DB #X41C1) increased by \$16.7 million from \$15.9 million to \$32.6 million in the DVRPC NJ region due to TTF reauthorization. This NJDOT program covers roads and bridges under county jurisdiction. Public transportation and other transportation projects are also included. The [NJDOT Local Bridges, Future Needs Fund](#) (DB #08387)

experienced a \$22.3 million increase from \$25.0 million to \$47.3 million due to TTF reauthorization. This program provides funding for improvement on county bridges. Currently, the state focuses on preventive maintenance, rehabilitation and selective replacement of bridges. The [NJDOT Local Aid Infrastructure Fund \(LAIF\)](#) (DB #X186) provides \$30.1 million annually to fund various emergency and regional needs throughout the state at the county or municipal level. The recently created [Local Freight Impact Funds \(LFIF\)](#) (DB #17390) provides \$30.1 million annually to assist counties and municipalities with the impacts associated with the freight industry's use of infrastructure. Pavement and bridge preservation projects are LFIF eligible. Finally, the newly established [NJDOT Transportation Infrastructure Bank \(I-Bank\)](#) is offered as financial assistance to public or private entities for the planning, acquisition, engineering, construction, reconstruction, repair, and rehabilitation of a transportation project or for any other purpose permitted under the federal program at a low interest rate. Camden County was the first in the State of New Jersey to receive financing from the NJ Transportation I-Bank for the Westfield Avenue (CR610) milling and overlay road reconstruction project that costs approximately 2.1 million.

I-4. SYSTEM PERFORMANCE (NHS, FREIGHT, CMAQ) PERFORMANCE MANAGEMENT MEASURES RULE ("PM3")

The FHWA final rule for the *National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program* was published in the Federal Register (82 FR 5970) on January 18, 2017, and became effective on May 20, 2017.

This final rule is the third in a series of three related rulemakings that together establish a set of performance measures for State DOTs and MPOs to use as required by MAP-21 and the FAST Act. The measures in this third final rule will be used by State DOTs and MPOs to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and onroad mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. These system performance measures are collectively referred to as PM3 measures.

PM3 system performance measures include the following listed below that are divided into three categories: Travel Time Reliability, Congestion, and Emissions Reduction. Each category has its own measures.

Travel Time Reliability (TTR)

- Percent of Person-miles Traveled (PMT) on the Interstate System that are Reliable
- Percent of PMT on the Non-Interstate NHS that are Reliable
- Interstate System Truck TTR Index

CMAQ Congestion

- Annual Hours of Peak-Hour Excessive Delay (PHED) per Capita
- Percent of Non-Single Occupant Vehicle (SOV) Travel

CMAQ Emissions Reduction

- On-Road Mobile Source Emissions Reduction for CMAQ-funded Projects

State 2-year and 4-year targets were due May 20, 2018. Like PM1 and PM2, MPOs must establish targets by either agreeing to support the State targets or establishing their own quantifiable targets no later than 180 days after a State DOT establishes (or amends) its targets. On October 23, 2018, the DVRPC Board agreed to support NJDOT’s statewide NHS System Performance and Freight System Performance targets and NJDOT’s efforts at achieving those targets shown in Tables 5 and 6. The DVRPC Board agreed to support NJDOT’s CMAQ Congestion targets on May 24, 2018 and the CMAQ Emissions Reductions targets on September 27, 2018.

I-4-1. TRAVEL TIME RELIABILITY (TTR) TARGETS

The first major performance area under system performance is Travel Time Reliability (TTR). Reliability refers to the variability of travel times on road segments experienced by travelers. The less variability there is for any given set of roadway segments, the more reliable those segments are. TTR does not mean eliminating traffic congestion but reducing its extremes to maintain consistent traveler expectations.

The measures for TTR are the percentage of person-miles traveled (PMT) on the Interstate on the National Highway System (NHS) with reliable travel times, and the percentage of PMT on the non-Interstate NHS with reliable travel times. The measures are calculated by using the Level of TTR metric, defined as the ratio of the longer travel times (80th percentile) to a “normal” travel time (50th percentile).

TTR is assessed by using archived real-time vehicle probe data contained in the National Performance Management Research Data Set (NPMRDS) and then calculated with the assistance of the Probe Data Analytics Suite. The Probe Data Suite was created and maintained by the University of Maryland Center for Advanced Transportation Technology Laboratory (UMDCATT Lab), following FHWA guidance. Only current and some historical data is available through the Probe Data Analytics Suite; forecasts for these measures are not. The NJDOT Complete Team, which consists of planning and operations staff from NJDOT, all NJ MPOs, NJ TRANSIT, PANYNJ, NJ Turnpike Authority, and FHWA-NJ, had several meetings to discuss the underlying data, calculation tools and methods, baseline results, and target-setting approaches.

Long term policies for the agencies support improvements to reliability. Given traffic growth and near-term projects and programs, the consensus was to have the required targets represent maintenance of current values for each travel time reliability measure, as shown in Table 5.

Table 5: State Travel Time Reliability Targets

NHS System	Condition	Baseline	2-Year Target	4-Year Target
Person Miles Traveled on Interstate with Reliable Travel Times (%)	Good	82.00%	82.00%	82.00%
Person Miles Traveled on Non-Interstate NHS with Reliable Travel Times (%)	Good	84.10%	n/a	84.10%

In order to observe future trends going forward and to revisit and adjust targets appropriately as a result of a more reliable NPMRDS v2 database that is expected to be available over the next four to six years, the NJDOT and the MPOs have collaboratively decided to keep the future 2-year and 4-year TTR Targets for Interstate and Non-Interstate the same as the 2017 baseline values.

I -4-2. FREIGHT/TRUCK TRAVEL TIME RELIABILITY TARGETS

The national system performance measure for freight is the Truck Travel Time Reliability (TTTR) Index and is required for interstate highways on the NHS only. This measure is like the “Travel Time Reliability” measure and metric described above, but it is focused primarily on truck traffic. TTTR is the ratio between the “congested” (95th percentile) and “average” (50th percentile) truck travel times. This metric is averaged for all Interstate road segments in the state, weighted by distance, resulting in the TTTR Index for the state. Unlike the TTR measures, there is no “threshold” that determines whether a segment is reliable or unreliable for trucks.

As with the TTR measures, the Truck TTR Reliability performance measure was based on the NPMRDS data source and calculated by using the UMD CATT Lab NPMRDS Analytics Suite tool but uses travel times specifically reported from trucks (where available). As with the previous TTR measures, the NJDOT Complete Team met several times to discuss and agree on the underlying data, calculation tools and methods, baseline results, and target-setting approaches. Again, long term policies for the agencies support improvements to freight travel time reliability.

Table 6: State Freight Performance Targets on the NHS Interstate Highway System

Freight	Condition	Baseline	2-Year Target	4-Year Target
Truck Travel Time Reliability	Good	1.82%	1.90%	1.95%

As Table 6 shows, the identified targets for freight performance on the NHS interstate system represent a slightly worsening value in both the 2-year and 4-year targets compared to baseline (2017) due to anticipated increase in traffic (both overall and trucks specifically) and near-term projects and programs in the current TIP and NJDOT STIP.

I -4-3. COORDINATION ON TRAVEL TIME RELIABILITY (TTR) AND FREIGHT/TRUCK TTR TARGETS

As stated earlier, the NJDOT Complete Team met several times to discuss and agree on the underlying data, calculation tools and methods, baseline results, and target-setting approaches for Travel Time Reliability Targets, including freight. On October 23, 2018, the DVRPC Board agreed to support NJDOT’s statewide Travel Time Reliability targets and NJDOT’s efforts at achieving those targets in Tables 5 and 6.

I -4-4. PROGRESS TOWARD TRAVEL TIME RELIABILITY (TTR) AND FREIGHT/TRUCK TTR TARGETS

DVRPC is committed to improving reliability on roadways within its region in New Jersey, as well as working with its county, city, and transit partners, and NJDOT staff to develop projects that will inevitably improve TTR and help meet State targets. As mentioned in Chapter 2, Section 2.5,

DVRPC proactively seeks to include freight as a primary planning factor through its Long-Range Plan, TIP development, and the conduct of technical studies. DVRPC's goal is to serve the region's freight stakeholders and maintain the Philadelphia-Camden-Trenton region as an international freight center. At the forefront of DVRPC's freight planning program is the Delaware Valley Goods Movement Task Force (DVGMTF), a broad-based freight advisory committee that provides a forum for the private-and public-sector freight community to interject its unique perspectives on regional plans and specific projects.

In addition to NJDOT's statewide projects and programs, DVRPC has recently programmed a local, county-sponsored intersection and operational CMAQ-funded congestion relief project in Hamilton Township via the FY2018 Competitive CMAQ Program (see DB #X065). These projects are described in more detail in Section I-4-9, Progress towards CMAQ Congestion and Emissions Reductions Targets; and Table 3 in Chapter 2 shows a sampling of TIP projects that support freight mobility and TTR as part of promoting goods movements and economic development. In the DVRPC TIP, the following projects are programmed within a DVRPC designated Freight Center that supports freight travel time reliability:

- Route 130, Plant Street to High Hill Road (CR 662) (DB #11414)
- Center Square Rd (CR 620), Rt 295 Overpass (DB #D1719)
- Route 130, Charleston Road/Cooper Street (CR 630) to Crafts Creek (DB #12415)
- Route 195 WB, Route 295 to CR 524/539 (Old York Road) (DB #14377)
- Route 95M, Route 175 to Railroad Bridge (DB #12412)

The FAST Act established the NHFP to improve the efficient movement of freight on the National Highway Freight Network. NHFP's eligibility criteria require that a project contribute to the efficient movement of freight and be identified in the state's freight investment plan. States may use up to 10% of NHFP funding each year for public or private freight rail, water facilities (including ports), and/or intermodal facilities. The projects programmed with federal National Highway Freight Program (NHFP) funds (per NJDOT line item DB #X34A) are:

- **Route 295/42/I-76, Direct Connection (DB #s 355A, 355D, 355E)** to relieve an existing bottleneck at interchange and improve safety by providing direct connections among multiple highways.
- **Route 295/38, Missing Moves, Mount Laurel (DB #191A)** to provide for the direct traffic movement (currently missing) between I-295 and Route 38.
- **New Jersey Rail Freight Assistance Program (DB #X34)** to provide funds for the rehabilitation and improvement of key elements of the New Jersey rail freight network.

Further, the [DVRPC TIP Project Benefit Criteria](#) (Appendix F) prioritizes congestion reduction, investing in Centers (includes Freight), and facility/asset use (that includes truck volume) for new project candidates. NJDOT and NJ TRANSIT sponsor numerous statewide programs that improve travel time reliability. Many of these are funded through the Congestion Mitigation and Air Quality Program (CMAQ) that are further detailed in Section I-4-9, Progress towards CMAQ Congestion and Emissions Reductions Targets.

In 2017, NJDOT published a [Statewide Freight Plan](#) that identifies improving reliability and efficiency as one of its goals. The Plan provides a well-defined blueprint for NJDOT investment,

identifying discrete projects that immediately address critical freight system improvements. It also includes a fiscally constrained Freight Investment Plan that identifies and prioritizes freight-related transportation projects. The Truck Travel Time Index was one of the factors that were used for project prioritization.

In addition to the Statewide Freight Plan cited above, NJDOT is spearheading numerous initiatives with the specific intent of improving infrastructure conditions for goods movement in New Jersey. These include:

- Freight Management System
- Freight Performance Measures
- Truck Monitoring Program

In addition, NJDOT was developing an internal Freight Management System that would be used to advance freight-specific concerns into NJDOT's capital programming process in 2017.

DVRPC is an active participant in NJDOT's Freight Advisory Committee and the I-95 Corridor Coalition and served on the Stakeholder group for the development of 2017 NJDOT Statewide Freight Plan. The I-95 Coalition provides a forum for state, local, and regional transportation agencies and organizations from Maine to Florida to work together to improve transportation mobility, safety, efficiency, and system performance. Coalition members facilitate more efficient network operations through regional incident management planning, coordination, and communication and improved information management across jurisdictions and modes. DVRPC and the other two MPOs in New Jersey are also involved in the Metropolitan Area Planning (MAP) Forum of the Greater New York Metropolitan Transportation Management Area (TMA), which identified regional freight initiatives as one of the key items to work on.

Finally, there are also several grant programs (outside of DVRPC) administered by the State and the Federal governments specifically targeting freight. NJDOT's Local Freight Impact Fund assists counties and local municipalities with the mitigation of impacts on the local transportation system associated with the State's freight industry. The USDOT's Better Utilizing Investments to Leverage Development (BUILD) grant program (formerly known TIGER) and the Infrastructure for Rebuilding America (INFRA) grant program (formerly known as the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies, or FASTLANE program) provides for major investments in roads, rail, transit and port infrastructure. The projects awarded with NJDOT's Local Freight Impact Fund, USDOT's BUILD, or USDOT's INFRA grants in the DVRPC New Jersey region that directly support TTR, including freight, are:

- \$18.5 million Federal funds from the 2011 USDOT TIGER round for the South Jersey Port Corporation's South Jersey Port Rail Improvements to repair the DelAir Bridge, a critical link to rail networks in Pennsylvania and New Jersey, and upgrade the rail network from the bridge to the Ports of Salem, Paulsboro, and Camden to accommodate anticipated demand in rail/port traffic. The DelAir Bridge is currently completed and open to traffic.
- \$2.1 million State funds from the 2018 NJDOT Local Freight Impact Fund for the Rising Sun Road - Dunns Mill Road Connector Road in Bordentown Township, Burlington County.

- \$850,000 State funds from the 2018 NJDOT Local Freight Impact Fund for Charles Street Roadway Improvements in Gloucester City, Camden County.
- \$4,000,000 State funds from the 2018 NJDOT Local Freight Impact Fund for Rt. 44 Truck Bypass and Du-Pont Port Access Road in Gloucester County.
- \$2,000,000 State funds from the 2018 NJDOT Local Freight Impact Fund for the Paulsboro Marine Terminal Spine Road Grading, Paving & Striping Project in Gloucester County.
- \$300,000 State funds from the 2018 NJDOT Local Freight Impact Fund for the reconstruction of Commerce Boulevard in Logan Township, Gloucester County.
- \$740,000 from the 2018 NJDOT Local Freight Impact Fund for the Paulsboro-Greenwich Township Truck Route Improvements in Paulsboro Borough, Gloucester County.

I-4-5. CMAQ CONGESTION TARGETS

The Congestion Mitigation and Air Quality Program (CMAQ) is a federal program that funds projects that reduce congestion and improve air quality. The CMAQ Congestion and Emissions Reduction Targets are specifically intended to reduce congestion, directly related to attributes of CMAQ funded projects, and unlike other federally-required performance measures described in this Appendix, they specifically apply to Urbanized Areas with a population over 1 million. Note that traffic congestion occurs when the amount of traffic far exceeds the physical capacity of the system, generally measured by the number of travel lanes on the roadway, the number of intersections, access points, and numerous other factors. Reliability is used in reference to the level of consistency in the transportation service provided by a roadway. For example, a roadway can be heavily congested, but if the amount and time of day when the congestion occurs on it is consistent, it is considered reliable. The US DOT established performance measures pertaining to reliability because empirical evidence exists to suggest that the traveling public values reliability more than straight travel times. The Traffic Congestion and Reliability: Linking Solutions to Problems is available on the FHWA website at https://ops.fhwa.dot.gov/congestion_report_04/chapter2.htm.

CMAQ Congestion has two measures for the applicable urbanized area, which are:

- **Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita on the NHS:** The threshold for excessive delay is based on the travel time at 20 miles per hour or 60 percent of the posted speed limit travel time, whatever is greater, and is measured in 15-minute intervals. The actual rule containing all the details are found in 23 CFR 490.707(a). The “excessive” part of the PHED name indicates that some level of congestion is recognized as not possible or desirable to eliminate and thus not counted. For example, some congestion can accompany economic activity in thriving places. The “per capita” implies that the total delay is shared by all residences, so some trips can be avoided or shifted to non-vehicular modes out of the peak period. This measure sums up the delay experienced by travelers throughout an entire year on NHS roads, specifically during peak periods.

- **Non-Single Occupancy Vehicle (non-SOV) travel on the NHS:** Non-SOV travel may include travel via carpool, van, public transportation, commuter rail, walking or bicycling as well as telecommuting. The actual rule containing all the details are found in 23 CFR 490.707(b).

For the PHED per capita measure, only a four-year target is required at this time, while both two and four-year targets are required from the base year for the Percent Non-SOV measure. The CMAQ Congestion Performance Targets that are established by NJDOT and supported by the DVRPC Board are shown in Table 7.

Table 7: CMAQ Congestion Measures Targets on the National Highway System

DVRPC Urbanized Areas	CMAQ Congestion Measures	Baseline	2-Year Target	4-Year Target
Philadelphia PA-NJ-DE-MD Urbanized Area	Non-SOV Travel	27.90% ¹	28.00%	28.10%
	PHED per Capita	16.8	n/a	17.2 Hours per Capita
New York NY-NJ-CT Urbanized Area	Non-SOV Travel	51.60% ¹	51.60%	51.70%
	PHED per Capita	20.0	n/a	22.0 Hours per Capita

1. Baseline for Non-SOV Travel is based on 2012-2016 American Community Survey (ACS).

2. PHED per Capita 4-Year Target assumes a growth of +0.6% per year.

3. See also DVRPC's [CMAQ Performance Plan for 2018-2021](#) (Publication #TM19003)

The DVRPC region is part of the Philadelphia PA-NJ-DE-MD Urbanized Area with a population of almost 5.6 million (per the 2016 1-year ACS) and shares a small portion of the New York-Newark NY-NJ-CT UZA in Mercer County, New Jersey. The New York-Newark Urbanized Area has a population of almost 19 million, according to the 2016 1-year ACS.

I-4-6. COORDINATION ON CMAQ CONGESTION TARGETS

Pursuant to the FAST Act and MAP-21, and the ensuing requirements of 23 CFR Part 490, the National Performance Management Measures Final Rule, all State DOTs and MPOs that contain, within their respective boundaries, any portion of the NHS network within the urbanized area must establish a single unified target for the congestion measures. In other words, all performance areas require single statewide targets or their own regional target, except for the two CMAQ Congestion measures (PHED per Capita and Percent Non-SOV), where requirements apply to urbanized areas with a population over 1 million. DVRPC staff collaborated with multiple agencies in developing and agreeing on a single realistic target for each of the two measures.

In the case of the Philadelphia PA-NJ-DE-MD Urbanized Area, this means that DVRPC collaborated with the Lancaster County Transportation Coordinating Committee, North Jersey Transportation Planning Authority (NJTPA), South Jersey Transportation Planning Organization (SJTPO), Wilmington Area Planning Council, Pennsylvania Department of Transportation (PennDOT), New Jersey Department of Transportation (NJDOT), Delaware Department of Transportation, and Maryland Department of Transportation in developing and agreeing on a common congestion measure baseline and targets for the Philadelphia Urbanized Area. Since there is a portion of the New York-Newark NY-NJ-CT UZA in Mercer County, New Jersey, within the DVRPC region, DVRPC also collaborated with the NJTPA, the New York Metropolitan

Transportation Council, NJDOT, the New York Department of Transportation and others to adopt a common congestion measure baseline and targets for that Urbanized Area. On May 24, 2018, the DVRPC Board agreed to support CMAQ congestion performance measure targets for PHED per Capita and percentage Non-SOV travel for the Philadelphia and New York urbanized areas.

DVRPC is a MPO that serves a Transportation Management Area (TMA) with a population greater than 1 million that includes a nonattainment or maintenance area. As such, DVRPC was required to develop a CMAQ Performance Plan for 2018-2021 to support the implementation of these CMAQ Congestion measures. In the CMAQ Performance Plan, which is required to be updated biennially through the performance period, the MPO must describe how they plan to meet the targets, detail their progress toward achieving the targets over the course of the Performance Plan, and include a description of projects identified for funding that will contribute to achieving targets. The DVRPC Board approved the submission of the DVRPC plan to NJDOT for submission to FHWA on September 27, 2018. To view and download DVRPC’s CMAQ Performance Plan for 2018-2021 (Publication #TM19003), visit https://www.dvrpc.org/asp/Committee/committees/Board/Action/2018-09_5.pdf?1551801544. The other MPOs in NJ (SJTPO and NJTPA) were also required to submit a CMAQ Performance Plan for the same period.

I -4-7. CMAQ EMISSIONS REDUCTIONS TARGETS

DVRPC coordinated efforts with NJDOT and other MPOs in the state to develop cumulative On-road Mobile Source Emissions 2-year and 4-year targets as daily kilograms. MPO regional targets in Table 8 were used to develop NJDOT’s statewide on-road mobile emissions reductions targets displayed in Table 9. Page 15 of DVRPC’s CMAQ Performance Plan for 2018-2021 (Publication #TM19003) describes the process in developing the regional targets.

Table 8: DVRPC New Jersey Region CMAQ On-Road Emissions Reductions Targets (in Daily Kilograms)

CMAQ Emission Reduction	2-Year Target	4-Year Target
VOC	1.45	2.864
NO _x	7.453	14.861
PM _{2.5}	2.627	5.253
CO	n/a	n/a

Table 9: NJDOT Statewide CMAQ On-Road Emissions Reductions Targets (in Daily Kilograms)

CMAQ Emission Reduction	2-Year Target	4-Year Target
VOC	17.682	36.324
NO _x	114.401	231.850
PM _{2.5}	4.29	8.52
CO	31.927	63.010

I -4-8. COORDINATION ON CMAQ EMISSIONS REDUCTIONS TARGETS

DVRPC has coordinated emissions reduction target setting with both PennDOT and NJDOT to establish emissions reduction targets from CMAQ funded projects in the relevant portions of the DVRPC planning areas. Each state has developed state-level emissions reductions targets that account for emissions reductions at the MPO level. On September 27, 2018, the DVRPC Board agreed to support NJDOT's statewide CMAQ Emission Reduction targets and NJDOT's efforts at achieving those targets mentioned above, as well as adopt the MPO regional targets, and approve DVRPC to submit the [CMAQ Baseline Report and Performance Plan for 2018-2021 \(Publication #TM19003\)](#) to NJDOT for submission to FHWA.

I -4-9. PROGRESS TOWARD CMAQ CONGESTION AND EMISSIONS REDUCTIONS TARGETS

There are projects in the TIP that will help the MPO and State meet two-and four-year targets for traffic congestion and on-road mobile source emissions. Table 10 in DVRPC's CMAQ Performance Plan for 2018-2021 (Publication #TM19003) identifies all TIP projects in the NJ portion of the DVRPC region from FY 2018 – FY2021. In addition, the most recent Competitive Program that DVRPC administered throughout calendar year 2018 to utilize CMAQ funds are:

- 1) \$1,214,400 CMAQ funds for the construction of the Maidenhead Meadows Trail (DB #D1909) that is part of The Circuit in Lawrence Township (sponsor), Mercer County;
- 2) \$1,185,000 CMAQ funds for the construction of intersection Improvements at Hamilton Avenue (CR 606) and Kuser Road (CR 619)/Ward Avenue and Hamilton Avenue and Liberty Street (DB #D1908) in Hamilton Township, Mercer County (sponsor);
- 3) \$958,500 CMAQ funds for the construction of the Gloucester Township Bicycle Trail from Oak Avenue to Evesham Road (DB #D1907) that is part of The Circuit in Gloucester Township (sponsor), Camden County;
- 4) \$200,000 CMAQ funds for the Pay\$ to Plug In: New Jersey's Electric Vehicle (EV) Charging Grants Program by NJDEP (sponsor). The DVRPC CMAQ award would be restricted to benefit only Local Public Agencies in the DVRPC NJ region, such as municipalities.
- 5) \$124,440 CMAQ funds for Electric Vehicle Ride and Drive Events by NJDEP (sponsor); and
- 6) \$216,000 CMAQ for Emergency Medical Services Idle Reduction Grant Program by NJDEP (sponsor), which would serve as a new pilot program conducted by NJDEP in the State of New Jersey for the DVRPC NJ region.. The DVRPC CMAQ award will request NJDEP to require entities to keep APUs in operation for four years instead of three years.

These projects were approved by the DVRPC Board on December 5, 2018 (after publication and submission of the DVRPC CMAQ Performance Plan), are expected to be authorized by or before FY21, and like all CMAQ funded projects, will have congestion mitigation and air quality/emission reduction benefits. DVRPC will continue to select projects and programs that have a positive air quality benefit in terms of reducing mobile source emissions.

DVRPC will also continue to promote and develop projects and programs with air quality benefits to its counties and planning partners. As part of DVRPC Congestion Management Process, DVRPC facilitates a Congestion Management Process (CMP) Planning Advisory Committee and generates a list of the top 10 bottlenecked locations for both State and Authority roadways, and County and Local Roadways. The objectives for DVRPC's CMP is to (1) minimize growth in recurring congestion and improve reliability of the transportation system; (2) provide transit where it is most needed for accessibility; (3) maintain existing core transportation network; (4) improve safety and reduce non-recurring congestion by reducing crashes; (5) maintain movement of goods by truck; (6) maintain transportation preparedness for major events, especially ones that call for interregional movements far beyond normal and serve routine needs; and at the end of the day, ensure that all transportation investments support DVRPC Long Range Plan principles. Section 2.4 in Chapter 2 explains more about the CMP. Lastly, DVRPC works with its counties, cities, and NJDOT to develop Problem Statements for future congestion relief projects that will hopefully also result in improved travel time reliability, congestion mitigation, and improved air quality.

Besides the DVRPC Local CMAQ Program, NJDOT and NJ Transit have several statewide programs that utilize CMAQ funding to reduce emissions (as well as congestion), throughout the state. These are listed below.

Active Traffic Management System (ATMS) (DB #13303) - This program will provide funding for the deployment program for the first Active Traffic management System (ATMS) in the State including all phases of design. This program will include funding for the complete delivery of the Final Design document for Active Traffic Management System (ATMS) for a candidate highway (I-80, I-295 or I-78). The design document will be used to deploy and carry out the actual construction of this technology for automatic operation and handling of traffic. Funding is provided in the amount of \$6 million in FY 2019, \$7 million in FY 2020, and \$13 million in FY 2021.

Bicycle & Pedestrian Facilities/Accommodations (DB #X185) - This is a comprehensive program to insure the broad implementation of the Statewide Bicycle and Pedestrian Master Plan, Complete Streets Policy and the implementation of federal and state policies and procedures pertaining to bicycle, pedestrian, transit and ADA access and safety. This program includes addressing bicycle, pedestrian, transit and ADA travel needs through the development of improvements on state, county and local system either by independent capital projects or through grants to counties and municipalities. Projects must make full consideration for the needs of all users. Funding is provided annually from three sources: \$2.5 million in CMAQ, \$1 million in STATE, and \$2.5 million in TAP.

Intelligent Traffic Signal Systems (DB #15343) - This program will seek to improve mobility on New Jersey's arterial highways. Arterials contribute almost 70% of total congestion that occurs in New Jersey. This program will focus on dynamically managing NJ's arterials from NJDOT's Arterial Management Center. Existing traffic signals will be strategically, systematically and programmatically upgraded from stand-alone signals to highly sophisticated, coordinated, real time traffic response traffic signals. This upgrade will consist of installing new controllers, intelligent software and algorithms, robust detection and communication. This is a plan to

upgrade most of the signals on NJDOT owned highways only. CMAQ funding is provided annually: \$20 million annually from FY 2018 through FY 2021, then \$25 million from FY 2022 through FY 2027.

Transportation Demand Management Program Support (DB #X43) - This funding is utilized to continue the management of the Owned and Leased Park and Ride Program and the remaining efforts as they relate to the 1-800-CARPOOL program which also includes maintaining the RidePro ride matching software program. This program receives \$0.25 million annually from CMAQ.

Rail Rolling Stock Procurement (DB #T112) - This program provides funds for the replacement of rail rolling stock, including engineering assistance and project management, to replace over-aged equipment including rail cars, revenue service locomotives, and expansion of NJ TRANSIT rolling stock fleet (cars and locomotives) to accommodate projected ridership growth and other system enhancements over the next ten years. Funding is provided to support vehicles/equipment (for rail operations). Annual funds are provided for Comet V single-level car lease payments, Electric Locomotive lease payments, Diesel Locomotive lease payments, Dual Power Locomotives and Multi-Level rail car lease payments and other upcoming rolling stock lease payments. Pay-as-you-go funding is also programmed for Multi-Level vehicles and other rolling stock. This project receives varying funding annually from CMAQ, STATE, SECT 5307, and SECT 5337.

Small/Special Services Program (DB # T120) - Funding is provided for NJ TRANSIT efforts which initiate or promote transit solutions to reduce congestion, manage transportation demand and improve air quality. Included are State funds for the Vanpool Sponsorship Program, Transportation Management Association Program, and Federal funds for East Windsor Community Shuttle operating support. Funding is also provided for capital acquisition/operating expenses for the Community Shuttle Program, Bike/Transit facilitation, and other activities that improve air quality and help reduce congestion. This project receives varying funding annually from CMAQ, STATE, and SECT 5307.

Much of the congestion within the DVRPC region occurs on State-owned and maintained highways, which are part of the NHS. Therefore, NJDOT has invested a significant amount of resources in congestion relief programs statewide. Congestion relief is also a one of the focus areas in NJDOT's Capital Investment Strategy (CIS). Per the Statewide Capital Investment Strategy FY 2013-2022, almost \$480 million, (approximately 15 percent), of annual capital investments goes towards congestion relief projects. Progress is being made towards meeting the congestion relief and on-road mobile emissions reductions targets.

I-5. TRANSIT ASSET MANAGEMENT (TAM) RULE (ASSETS AND SAFETY)

Transit asset management (TAM) is the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles to provide safe, cost-effective, and reliable public transportation. TAM uses transit asset condition to guide how to manage capital assets and prioritize funding to improve or maintain a State of Good Repair (SGR). In short, TAM uses asset condition to guide the optimal prioritization of funding at transit properties.

Based on the mandate in MAP-21 (and continued in the FAST Act), FTA developed a rule establishing a strategic and systematic process of operating, maintaining, and improving public transit capital assets effectively through their entire life cycle. The TAM Final Rule 49 USC 625 became effective Oct. 1, 2016. The TAM rule develops a framework for transit agencies to monitor and manage public transportation assets, increase reliability and performance, and establish performance measures. Transit agencies are required to develop TAM plans and submit their performance measures and targets to the National Transit Database.

The TAM rule established the following national transit asset management performance measures (49 CFR Part 625 Subpart D):

- **Rolling stock:** The percentage of revenue vehicles (by type) that meet or exceed the useful life benchmark (ULB). ULB is the measure agencies will use to track the performance of revenue vehicles (rolling stock) and service vehicles (equipment) to set their performance measure targets. ULB means either the expected life cycle of a capital asset or the acceptable period of use in service determined by the FTA. Each vehicle type's ULB estimates how many years that vehicle can be in service and still be in a state of good repair. The ULB considers how long it is cost effective to operate an asset before ongoing maintenance costs outweigh replacement costs;
- **Equipment:** The percentage of non-revenue service vehicles (by type) that meet or exceed the ULB;
- **Facilities:** The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) scale. Under the TERM scale, an asset in need of immediate repair or replacement is scored as one (1), whereas a new asset with no visible defects is scored as five (5);
- **Infrastructure:** The percentage of track segments (by mode) that have performance restrictions.

Under the provisions of the Transit Asset Transportation Performance Management rulemaking, Transit Operators are required to set performance targets for their transit asset portfolio. Metropolitan Planning Organizations (MPOs) are then required to set their own targets, or adopt the Transit Operators targets for the transit asset portfolio in their region, beginning in

calendar year 2017, based on measures mandated by the rule. The performance measures were selected by the Federal Transit Administration and include:

- Average revenue fleet age;
- Average non-revenue fleet age;
- Percentage of facilities that are below a condition rating of 3 on the Transit Economic Requirements Model (TERM) scale; and
- Percent of the track system under a performance restriction.

Transit agencies are required to upload their performance targets, as well as a supporting narrative, in their annual National Transit Database (NTD) submission, and report progress against these targets. They are also required to develop a Transit Asset Management (TAM) Plan that adheres to the following nine (9) elements to ensure assets are in a SGR:

- | | |
|--------------------------------|----------------------------------|
| 1) Inventory of Capital Assets | 6) Implementation Strategy |
| 2) Condition Assessment | 7) List of Key Annual Activities |
| 3) Decision Support Tools | 8) Identification of Resources |
| 4) Investment Prioritization | 9) Evaluation Plan |
| 5) TAM and SGR Policy | |

There are two Tier 1 agencies providing public transit service and subject to this FTA TAM performance management rules in the DVRPC New Jersey region. The agencies are the New Jersey Transit Corporation (NJ TRANSIT) and Delaware River Port Authority/Port Authority Transit Corporation (DRPA/PATCO).

I-5.1. COORDINATION ON TRANSIT ASSET MANAGEMENT (TAM) TARGET SETTING

MPOs have 180 days after the transit agencies set their targets, to decide to either adopt the transit operators' targets or develop their own metropolitan targets. In January 2019, DVRPC took formal action to adopt the same set of targets as NJ TRANSIT (draft, pending final FTA approval in March 2019) and DRPA/PATCO. DVRPC has also worked with NJ TRANSIT, DRPA/PATCO, and the New Jersey Department of Transportation (NJDOT) to develop a set of written procedures that outline the coordination process for Transit Asset Management.

I.5.2. TAM TARGETS AND GOALS

DVRPC's Long-Range Plan prioritizes the preservation and maintenance of the existing transportation infrastructure. This includes maintaining the transit system in a State of Good Repair (SGR) and operating it in a safe and secure manner by replacing buses, railcars, and locomotives as they age, as well as attending to rail bridges, track, signal systems, stations, and other infrastructure. An asset is in a SGR if: (1) it is able to perform its designed function; (2) it does not pose a known unacceptable safety risk; and (3) its lifecycle investments have been met or recovered.

NJ TRANSIT ASSET MANAGEMENT TARGETS AND GOALS

NJ TRANSIT operates and maintains a large fleet of buses, railroad cars, locomotives, and light rail vehicles in the DVRPC NJ region. To ensure these assets are in a SGR, NJ TRANSIT has budgeted funds to permit regular ongoing replacement of equipment as it approaches the end of its useful life. This approach also permits NJ TRANSIT to procure newer propulsion and fuel systems for vehicles and railroad equipment as they are proven to be feasible, reliable and cost effective. This maintenance strategy creates a sustainable financial replacement program and is expected to continue into the future.

NJ TRANSIT has prepared an Enterprise Asset Management Program Transit Asset Management (TAM) Plan, dated October 1, 2018. In this plan, NJ TRANSIT sets forth its blueprint to identify, describe, and improve asset management practices, with the vision to maintain the agency's assets in a SGR. The plan presents a summary inventory of assets, describes the current condition of the assets, sets near-term targets for the required performance measures, and explains how NJ TRANSIT managers develop and present requests for operating/maintenance budgets and capital asset replacements. The plan also identifies NJ TRANSIT programs and projects aimed at helping to achieve their TAM targets. Tables 3.9 to 3.14 in the NJ TRANSIT TAM Plan provide details for the following TAM performance targets for the State of New Jersey:

1) Rolling Stock (Percent of revenue vehicles that have met or exceeded their useful life benchmark)

NJ TRANSIT owns and maintains a fleet of 200 locomotives, 160 self-propelled cars, and 953 locomotive-hauled cars to serve the State of New Jersey. In addition, the agency maintains and operates 15 diesel locomotives and 65 single-level passenger cars owned by the Metro-North Railroad that are configured to operate with NJ TRANSIT's fleet. All locomotives and loco-hauled cars are operated in push-pull service. NJ TRANSIT's Commuter Rail ULB for locomotives, passenger cars, and self-propelled passenger cars is 30 years, which is lower than FTA's ULB of 39 years. By 2023, the entire Self-Propelled Passenger Car fleet is expected to be retired and replaced by new Multi-Level Vehicles. In the DVRPC New Jersey region, the heavy commuter rail lines include the Northeast Corridor from the City of Trenton to Hamilton Township, Princeton Junction, and to New York City's Penn Station; and the Atlantic City line between Philadelphia's 30th Street Station and Atlantic City, NJ.

The River LINE is the only light rail system in the DVRPC New Jersey region. Its 20 Light Rail Vehicles (LRVs) are diesel powered, built in 2003, and are maintained by Bombardier at the 36th Street facility in the City of Camden. NJ TRANSIT has established 31 years as the ULB for LRVs, which is the FTA default value.

NJ TRANSIT owns a fleet of over 3,000 buses consisting of two types: Over-the-Road for longer haul commuting services and Transit. The active bus feet in daily service is considered to be in SGR. NJ TRANSIT has determined that the ULB for buses should be 12 years for those in transit service. These include articulated buses, transit buses, and suburban buses. NJ TRANSIT's ULB for Over-the-Road for commuter service is 14 years. See percent targets per measure for 2019 below.

Performance Measure	2019 Target (%)
Articulated Bus	100.00
Automobile	28.89
Over-the-road Bus	26.80
Bus	44.83
Cutaway	13.19
Light Rail Vehicle	0.00
Minivan	4.35
Commuter Rail Locomotive	11.70
Commuter Rail Passenger Coach	16.97
Commuter Rail Self-Propelled Passenger Car	100.00
Van	1.53

2) Equipment (Percent of service vehicles that have met or exceeded their useful life benchmark)

NJ TRANSIT's non-revenue service vehicle inventory includes ordinary automobiles to locomotives that also include police cruisers and specialized track machinery (e.g. Light Duty Trucks, Heavy Duty Trucks, and Rubber Tire Construction Equipment and Trailers). The current work train locomotive fleet includes five MP-20 locomotives and four GP-40 locomotives. The fleet of work train freight cars totals 81 cars. Of these 81 cars, 68 of them are able to be interchanged with freight railroads. There are also 80 pieces of steel-wheel maintenance of way equipment and 158 pieces of construction equipment that include trailers and back hoes, loaders, or similar not driven on highways. There are 68 automobiles for management and supervisory use, 275 light trucks for maintenance, and 106 heavy duty trucks. The bus non-revenue vehicle inventory consists of 58 automobiles for management and supervisory use, 75 light trucks for service calls, and 34 trucks to retrieve buses back to maintenance garage. Further, NJ TRANSIT has a fleet of corporate non-revenue service vehicles (police, technology, maintenance, and administration); and Information Systems equipment such as radio towers, radio repeater equipment, ticket vending machines, and a drone. The 2019 Targets for automobiles, trucks and other rubber tire vehicles, and steel wheel vehicles are listed below.

Performance Measure	2019 Target (%)
Automobiles	39.00
Trucks and Other Rubber Tire Vehicles	47.00
Steel Wheel Vehicles	25.00

3) Facility (Percent of facilities rated below 3 on the condition scale)

NJ TRANSIT takes a geographic approach (north, central, and south regions) to condition all facilities over a three-year period: North in FY2018, Central in FY2019, and South in FY2020. For 2019, it is estimated that no passenger stations facilities and parking lots, and no administration and maintenance facilities will have a performance rating of less than 3 on the TERM Scale.

Performance Measure	2019 Target (%)
Passenger/Parking Facilities	0.00
Administrative/Maintenance Facilities	0.00

4) Infrastructure (Percent of track segments with performance restrictions)

NJ TRANSIT will implement the principles of its TAM policy by adopting a SGR policy to maintain capital assets to the level where the asset operates at full performance, in order to provide a safe, reliable, convenient, and cost-effective transit service to its customers.

NJ TRANSIT has committed to improving the resiliency of its systems to prevent future damage and to prepare for possible future extreme weather events and security threats. This includes significant new investments in a series of hardening projects such as new rail vehicle storage, upgraded power systems, maintenance facilities, emergency control centers, security improvements and signal and communications systems resilience upgrades.

For 2019, it is anticipated that 42 percent of the RiverLINE’s track segments and one percent of NJ TRANSIT’s statewide Commuter Rail track segment will experience performance restrictions.

Performance Measure	2019 Target (%)
Commuter Rail	1.00
RiverLINE Light Rail	0.42

DRPA/PATCO ASSET MANAGEMENT TARGETS AND GOALS

The Delaware River Port Authority (DRPA) is a bi-state corporation that owns and operates four major toll bridge crossings of the Delaware River. Its transit subsidiary, Port Authority Transit Corporation (PATCO), operates and maintains a 14.2 mile rapid public transit line between Philadelphia and Southern New Jersey, including an administrative and maintenance facility at Lindenwold, NJ. The DRPA owns nine (9) stations in DVRPC’s New Jersey region and leases four (4) stations in Philadelphia from the City of Philadelphia.

DRPA/PATCO’s Transit Asset Management (TAM) Plan was published on October 1, 2018. Similar to NJ TRANSIT, DRPA/PATCO’s TAM Plan adheres to the nine (9) federally required elements to ensure assets are in a SGR. It also sets forth its blueprint to identify, describe, and improve asset management practices, with the vision to maintain the agency’s assets in a SGR. The plan also identifies their programs and projects aimed at helping to achieve their TAM targets.

1) Rolling Stock (Percent of revenue vehicles that have met or exceeded their useful life benchmark)

DRPA/PATCO’s rolling stock includes all revenue vehicles. PATCO is completing a car overhaul project that will be completed in 2019. The ULB of a self-propelled heavy rail car is 39 years. The DRPA/PATCO has 75 Budd rail cars installed in 1969 (50 years old) and 45 Vickers cars installed in 1980 (39 years old). As of December 2018, 100 percent of the original Budd and Vickers cars

have either been overhauled or are currently in production. The DRPA/PATCO estimates that no PATCO rolling stock cars will be over their ULB in 2019.

Performance Measure	2019 Target (%)
Rolling stock cars over their ULB	0.00

The overhaul project will extend the life of PATCO's rolling stock by 25 years. The transit car overhaul project for the PATCO High Speed Line will result in a 25-year Useful life benchmark (ULB), which is stricter than FTA's ULB 39-years. As of December 2018, there were no PATCO revenue vehicles past the 25-year ULB.

2) Equipment (Percent of service vehicles that have met or exceeded their useful life benchmark)

Performance Measure	2019 Target (%)
Non-revenue service vehicles over their ULB	24.00

For 2019, it is estimated that 24 percent of non-revenue service vehicles will be over their ULB. Most of the non-revenue service vehicles over their ULB pertain to maintenance, such as trailers or loaders.

3) Facility (Percent of facilities rated below 3 on the condition scale)

For 2019, it is estimated that no passenger stations facilities and parking lots, and no administration and maintenance facilities will have a performance rating of less than 3.

Performance Measure	2019 Target (%)
Passenger stations facilities and parking lots with a performance rating <3	0.00
Administration and maintenance facilities with a performance rating <3	0.00

4) Infrastructure (Percent of track segments with performance restrictions)

The slow zone restrictions are calculated over the 14.2-mile (74,976 feet) track of the PATCO High Speed Line. Projects that impact track (either through slow zone or track outages) are considered. The percentage of track miles in slow zone restrictions is calculated out over 365 days.

Performance Measure	2019 Target (%)
Track miles in slow zone restrictions	1.44

For 2019, there are Capital Projects scheduled, such as the Ben Franklin Bridge Bike Ramp, PATCO Interlocking Rehabilitation, PATCO Elevator Installation, Fourth Street Garage Cathodic

Protection, and PATCO Track Resurfacing in addition to routine maintenance and inspections and resurfacing and maintenance projects that are expected to impact 1.44 percent, or 1,080 feet, of track outages and/or slow zone restrictions over the year.

I.5.3. PROGRESS TOWARDS TRANSIT ASSET MANAGEMENT TARGETS

The Transit Asset Transportation Performance Management rule requires MPOs to describe how the region's TIP will help to achieve the Transit Asset Management targets. The DVRPC FY 2018 TIP was developed to ensure progress towards target achievement. Transit operators have taken steps to ensure that projects selected for TIP funding help to achieve the Transit Asset Management targets.

NJ TRANSIT'S PROGRESS

Overall, NJ TRANSIT has programmed almost \$663 million (or 86.6 percent) over the First-Four Years of the FY2018 TIP (FY18 to FY21) and approximately \$880.5 million over the Later Fiscal Years from FY22 to FY27 for 24 system preservation and maintenance projects and programs in the DVRPC region. Some of NJ TRANSIT's projects and programs that have been allocated the most resources over the First-Four Years of the FY2018 TIP include the following:

- Almost \$192 million is programmed for the preventive maintenance of the bus system (see DB #T135). In addition, close to \$84 million is allocated toward rail preventive maintenance program (DB #T39), which is used for the overhaul of rail cars and locomotives, and other preventive maintenance costs;
- Close to \$125 million is dedicated to acquire, install, and rehabilitate major components associated with capital equipment and facilities for buses and facilities (DB #T09);
- \$47 million is allocated toward replacing rail cars and locomotives that have reached the end of their useful life (DB #T112), and almost \$99 million for replacing buses (DB #T111).
- \$33.6 million is set-aside for projects or project elements that are designed to enhance mass transportation service or use, and are physically or functionally related to transit facilities as outlined in FTA Circular 9030.1C., including funding for a Statewide Bus Signs and Shelter Maintenance Upgrade Program and historic restoration of NJ TRANSIT facilities (DB #T210).

NJ TRANSIT's State Fiscal Year (SFY) 2019 Capital Program (from July 1, 2018 to June 30, 2019) calls for continued investment in the State's transit infrastructure to maintain a state of good repair and provide reliable transit service. An emphasis on better preparing NJ TRANSIT to withstand, and recover from, future extreme weather events through building a more resilient system remains a key focus of the Capital Program, which invests in railroad bridge rehabilitation, track replacement, signal upgrades, repairs to overhead power lines and electric substations, improvements to rail stations, and bus shelter upgrades.

DRPA/PATCO'S PROGRESS

DRPA/PATCO has programmed \$59 million out of \$77.3 million (or 76.4 percent of their funding) for system preservation and maintenance over the First-Four Years of the NJ TIP (FY18 to FY21) and an additional \$11.85 million over the Out-Years of the TIP (FY22 to FY27). DRPA/PATCO's system preservation projects include the following:

- \$15 million to rebuild existing PATCO cars. There are 120 rail cars in PATCO's fleet that would be refurbished to include new interiors, better communications, security, and mechanical improvements. The project is the largest rolling stock capital expenditure since PATCO's inception in 1969 and one of the largest capital improvement projects in DRPA's history. As of April 2019, the entire fleet or 120 cars out of a fleet of 120 have been refurbished (DB #DR046).
- \$15 million for track rehabilitation, turnout and switch rehabilitation, electrical improvements to the PATCO storage yard, and maintenance building approach tracks at the Lindenwold Yard (DB #DR044).
- \$7.9 million for Preventive Maintenance on vehicles and facilities (DB #DR034).
- \$6.8 million to rehabilitate and replace interlockings, rail bed, and other rail improvements to ensure overall system safety, reliability, and minimal service disruptions (DB #DR1501).
- \$5.5 million to replace electric cables throughout the PATCO High Speed Line System (DB #DR008).
- \$4.5 million to renovate subway structures, such as pedestrian bridges, tunnels, subway stations, pump rooms, and tunnel leakage mitigation (DB #DR1802).
- \$2.5 million to rehabilitate or replace embankment (e.g. fencing, retaining wall) for erosion and drainage control (DB #DR015).
- \$1.8 million to rehabilitate the platform at Woodcrest station in Cherry Hill, NJ (DB #DR1803).

DRPA/PATCO has adopted the TAM policy to support and complement their Five-Year Strategic Plan "Roadmap to World-Class Stewardship: 2018-2022", Five-Year Capital Program, and the Annual Budget Process in order to realize the agency's vision as a "World-Class Stewardship" organization. Further, the operator will continue to utilize biennial inspections (that serve as the basis of the agency's budget program), an integrated budget and strategic plan process, and solutions derived from the asset management to continuously evaluate and update the asset management plan.