CHAPTER 4: Performance-Based Planning and Programming

Background

The IIJA/ BIL continues the requirements established in MAP-21 and FAST Act for state DOTs and MPOs to establish and use a performance-based approach in transportation decision making. This includes tracking performance measures, setting data-driven targets for each measure, and selecting projects to help meet those targets. The IIJA/BIL also requires that the TIP include a description of its anticipated effect toward achieving the established performance targets and linking investment priorities to those performance targets.

Transportation Performance Management (TPM) is a strategic approach that uses data to make investment and policy decisions to achieve national performance goals. 23 USC 150(b) outlines the national performance goal areas for the federal-aid program. This statute requires the USDOT to establish specific performance measures for the system that address these national goal areas. The regulations for the national performance management measures are found in 23 CFR 490. The goal of 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 goal areas:

1. Safety
2. Infrastructure Preservation
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Vitality
6. Environmental Sustainability
7. Reduced Project Delivery Delays

The FHWA has established three performance measure regulations for roadway safety (PM1), bridge and pavement condition (PM2), and system performance (PM3), which addresses system reliability, freight reliability, and air quality. The FTA has established performance measures for Transit Asset Management (TAM) and Transit Safety.

MPOs may either choose to support the respective state DOT and transit operator targets and the agencies' efforts to achieve the targets or develop their own regional targets. DVRPC has memoranda of agreements with various pertinent planning partners, including state DOTs, transit operators, and other MPOs, for each of the performance measure areas. The agreements outline how the planning partners will select and report performance targets and the reporting of performance. For additional information or to view the latest TPM updates, visit www.dvrpc.org/TPM.

4.1 Highway Safety Performance Measures ("PM1")

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:

1. Number of Fatalities
2. Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)
3. Number of Suspected Serious Injuries
4. Rate of Suspected Serious Injuries per 100 Million VMT
5. Number of Non-Motorized Fatalities and Non-Motorized Suspected Serious Injuries

The non-motorized performance measure focuses on pedestrians and bicyclists killed or seriously injured in a crash. State DOTs report baseline values, targets, and progress toward meeting the targets to FHWA in an annual safety report. FHWA requires DOTs and MPOs to establish safety targets on an annual basis, beginning with targets for calendar year (CY) 2018. MPOs may either establish quantitative targets for their metropolitan planning area or agree to adopt the statewide targets.

DVRPC Regional Safety Targets and Goals

In January 2022, after a focused exploration of data trends during the preceding year, the DVRPC partners adopted regional safety targets in support of the Regional Vision Zero 2050 program. Regional Vision Zero provides the context for more meaningful and substantive strategies to improve safety systemwide. If an MPO adopts regional targets, they must adopt targets that cover the entire MPO region. The adopted regional safety targets capture fatal and suspected serious injury data for the combined nine-county bi-state DVRPC region as required by the FHWA. In February 2023, the DVRPC Board updated the regional safety targets to satisfy MPO requirements under the federal transportation performance management process. The DVRPC 2023 regional safety targets are shown in Table 14 for reference. These targets were informed by the Regional Vision Zero 2050 trend line, updated with new data and careful consideration of previous trends, recently constructed projects, and the current socioeconomic environment. The targets are the result of a collaborative process conducted with DVRPC partners. The targets satisfy federal requirements and are consistent with New Jersey's goal to achieve zero deaths on all New Jersey public roads by 2050. This long-term safety vision requires time to change attitudes and behaviors, while perpetually constructing infrastructure improvements that reduce the frequency and severity of crashes. DVRPC agrees to plan and program projects that contribute toward meeting or exceeding the regional safety targets.

Table 14: DVRPC Regional Safety Targets

Performance Measure	Regional Baseline (2017-2021)	Regional Target (2019-2023)
Number of Fatalities	429.0	387.2
Rate of Fatalities per 100 mil VMT	1.103	0.940
Number of Suspected Serious Injuries	1,455.4	1,256.3
Rate of Suspected Serious Injuries Per 100 mil VMT	3.736	3.100
Number of Non-Motorized Fatalities and Suspected Serious Injuries	402.4	350.2

Source: DVRPC, 2023

NJDOT has statewide safety targets, shown for reference in Table 15. 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 measure is better than baseline performance.

Table 15: NJDOT Statewide Safety Targets

Performance Measure	Statewide Baseline 2017-2021	Statewide Target 2019-2023
Number of Fatalities	605.4	669.4[1]
Rate of Fatalities per 100 mil VMT	0.814	0.906[1]
Number of Suspected Serious Injuries	2,305.8	3,079.6[2,3]
Rate of Suspected Serious Injuries per 100 mil VMT	3.136	4.178[1,2,3]
Number of Non-Motorized Fatalities and Suspected Serious Injuries	660.0	848.2[1,2,3]

Source: NJDOT, 2023

1. The COVID-19 Pandemic led to a decrease in VMT in 2020 and an unexpected increase in fatalities in New Jersey, with similar trends nationwide. The trend of increasing fatalities has continued through 2021, 2022, and year-to-date 2023. Although the VMT are increasing on New Jersey's roadways, it is not at pre-pandemic levels to date.
2. Beginning in 2019, New Jersey updated the police crash report to be consistent with the federally required classifications (Killed, Suspected Serious Injury, Suspected Minor Injury, Possible Injury, and No Apparent Injury). As a result of this change, injuries not previously attributed to the serious injury classification are now included in the serious injuries numbers for

2019-2021. For example, a crash victim with a broken arm that would have previously been classified as a Moderate Injury, is now classified as a Suspected Serious Injury. As a result, New Jersey saw an increase in reported serious injuries due to the changes in reporting. The increase creates a challenge in predicting anticipated totals for future years as well.

3. The continued challenges posed by changes in the police crash report form and the COVID-19 Pandemic have rendered previous injury trends and models ineffective, leading to challenges in developing data projections

Meeting the previous target (2017–2021) is determined by whether the 2017–2021 performance—based on actual 2017–2021 crash records—either meets the target or is less than the previous baseline (2015–2019) that was used to establish the previous target. 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. The 2017–2021 performance (actual) data is also the baseline, or the basis, for the new 2019–2023 targets. Upon review, New Jersey did not achieve its targets nor did it perform better than baseline. FHWA has not issued a decision based on final data at the time of writing.

If a state has not met or made significant progress toward meeting its targets, the state must comply with the provisions set forth in 23 USC 148(i) for the subsequent fiscal year. The state is required to:

- Use obligation authority equal to the HSIP apportionment for the year prior to the target year, only for HSIP projects.
- Submit an HSIP Implementation Plan that describes actions the state will take to meet or make significant progress toward meeting its targets. The HSIP Implementation Plan should guide the state's project decisions so that the combined 148(i) provisions lead to the state meeting or making significant progress toward meeting its safety performance targets in subsequent years.
- As part of the National Roadway Safety Strategy, the FHWA issued new guidance as part of the IIJA to help states better protect “vulnerable road users,” that is pedestrians, cyclists, and people who use wheelchairs. The Vulnerable Road User Special Rule provides that "If the total annual fatalities of vulnerable road users in a State represents not less than 15 percent of the total annual crash fatalities in the State, that State shall be required to obligate not less than 15 percent of the amounts apportioned to the State under section 104(b)(3) for the following fiscal year for highway safety improvement projects to address the safety of vulnerable road users." The guidance requires Vulnerable Road User Safety Assessments developed by states to identify areas of “high risk” informed by demographic and performance data developed in consultation with local governments. NJDOT is beholden to the rule and has begun its outreach to affected communities. DVRPC has been included in this process.

The New Jersey 2020 Strategic Highway Safety Plan (SHSP) is an action-oriented and data-driven statewide, coordinated safety plan that provides a comprehensive framework for reducing fatal and serious injury crashes on all public roads in New Jersey. Available online at www.saferoadsforallnj.com, the SHSP incorporates five Es: Education, Enforcement, Engineering, Emergency Response, and Equity. It was updated in collaboration with federal, state, county/regional, municipal, and non-profit and private safety stakeholders, including New Jersey’s three MPOs, to focus on data-driven and action-oriented activities that will be most effective in reducing fatalities and serious injuries.

The New Jersey 2020 SHSP continues to support the national vision for highway safety—*Toward Zero Deaths: A National Strategy on Highway Safety*. Reaching zero fatalities will require time and significant effort by

different partner agencies, and therefore, federal guidance requires setting and meeting annual targets to monitor and gauge progress towards the long-term goal of zero deaths. Annual targets must be data driven, realistic, and achievable to help agencies better utilize their safety resources in ways that can result in the greatest reduction in fatalities and serious injuries over time. The previous New Jersey 2015 SHSP established a statewide goal to reduce serious injuries and fatalities by 2.5 percent annually. The current New Jersey 2020 SHSP sets a more aggressive statewide goal to reduce serious injury and fatal crashes by 3 percent annually.

NJDOT and the DVRPC Board are committed to directing resources to infrastructure-related safety strategies and diligently strive to drive down fatalities and serious injuries with an ultimate safety vision of zero deaths. The New Jersey 2020 SHSP will continue to guide the development of safety projects and allocation of HSIP funding and other resources to reduce highway fatalities and serious injuries on New Jersey's public roadways. Currently, highway safety improvement projects funded with HSIP funds are required to be consistent with New Jersey 2020 SHSP, such as developing and funding projects that adhere to one or more safety emphasis areas within the New Jersey 2020 SHSP: intersections, driver behavior, lane departure, data, equity, pedestrians and bicyclists, and other vulnerable road users. There are also various federal funding opportunities besides HSIP funds (e.g., Surface Transportation Block Grant Program–Philadelphia [STBGP-PHILA]) that can help support safety goals. 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.

Coordination and Progress toward Highway Safety Targets

The Long-Range Plan/TIP Project Benefit Evaluation Criteria is a set of criteria based on regional priorities that DVRPC staff use to evaluate new candidate projects that are being considered for addition to the TIP. The criteria were developed with New Jersey and Pennsylvania members of a working subcommittee of the DVRPC RTC and were designed to align directly with the multimodal goals of the Long-Range Plan, support federal performance measure targets, 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. Please note that the criteria are currently being updated and will be ready for use in the next New Jersey TIP update

In the current Long-Range Plan/TIP Project Benefit Evaluation Criteria, safety is the highest rated priority. Further, all new TIP candidate projects are evaluated for how they could potentially impact safety-critical elements (for transit) and high-crash road locations, or whether they will incorporate one or more FHWA-proven safety countermeasures (for highway). See Appendix F of this document for further information about the Long-Range Plan/TIP Project Benefit Evaluation Criteria.

To strengthen communication and coordination efforts, various technical safety experts and planning staff from the MPOs and NJDOT meet regularly to discuss HSIP project advancement and performance measure targets and goals. The projects funded in the TIP will continue to make progress toward target achievement. 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 in the state to support achieving safety targets. The TIP includes various HSIP-funded safety projects and programs in the DVRPC Regional Highway Program and the Statewide Program to make progress toward safety targets. As noted below, numerous projects that are not HSIP-funded will also implement safety improvements that will support achieving safety targets.

HSIP funds are set aside every federal FY in the DVRPC TIP and the STIP to advance projects that are evaluated and ranked based on Benefit/Cost analysis, Highway Safety Manual analysis, fatal and injury crashes, application of systemic improvements, improvements on local roads, and deliverability. In the TIP, the DVRPC region is allocated around $3 million of HSIP funds annually as part of the State's Financial Guidance for locally sponsored, HSIP-eligible projects on New Jersey HSIP-eligible High-Risk Rural Roads (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 funds.

DVRPC, county and city partners, and NJDOT staff work together to develop safety projects at these locations. These projects are noted in Table 16. Potential projects are evaluated by using the Highway Safety Manual to ensure the identified safety improvement will have a positive benefit/cost ratio that meets NJDOT standards. In July 2015, NJDOT established a Systemic Pilot Program for Roundabouts to provide counties an opportunity to implement at least one modern roundabout on local roadways in each county. Burlington and Camden counties in the DVRPC region have taken this opportunity.

The Statewide Program includes but is not limited to the following programs to improve safety throughout the State of New Jersey:

- **Highway Safety Improvement Program Planning (DB #09388)** is an annual program for Safety Management System 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.

- **Motor Vehicle Crash Record Processing (DB #X233)** is an 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.

- NJDOT's **Rail Highway Grade Crossing Program, Federal (DB #X35A1)** is intended to eliminate hazards at rail-highway grade crossings, rehabilitate grade crossing surfaces, and install protective warning devices for roadways.

- **Safety Programs (DB #19370)** is an annual program to support HSIP eligible Safety Engineering Projects and pedestrian safety improvement projects, including engineering, right-of-way acquisition and construction activities intended to reduce fatalities and serious injuries on New Jersey roadways.

- **Utility Pole Mitigation (DB #15344)** is an annual program that seeks to identify and mitigate locations with incidents of high recurring utility pole accidents throughout New Jersey.

Many other TIP projects funded with federal non-HSIP funds will provide safety benefits to the roadway system, such as Mount Ephraim Avenue Safety Improvements, Ferry Avenue (CR 603) to Haddon Avenue (CR 561) (DB #D1914) in the City of Camden. Concept Development for this project was funded with local HSIP funds and originated from DVRPC's Local Safety Program (recall Section 2.8 Special Programs). HSIP, or STBGP-PHILA (whichever is determined to be appropriate) funding for the project, will be explored as the project advances through design. Resurfacing, guiderail and vegetation maintenance, and bridge

improvement projects are all expected to provide safety improvements and help decrease fatality and serious injury crashes.

Table 16: Local Safety Roadway Projects in the TIP

SPONSOR	DB #	PROJECT TITLE AND MUNICIPALITY	SHSP EMPHASIS AREA	PHASE	Fiscal Year	COST (In Millions)
Burlington County	04314	Systemic Roundabout at CR 541 (Stokes Road) & CR 648 (Willow Grove Rd) in Shamong Township	Intersections	CON	2024	$2.5 HSIP
Camden County	D1913	Sicklerville Road (CR 705) and Erial Road (CR 706) Systemic Roundabout in Winslow Township	Intersections	DES	2024	$0.259 HSIP
				CON	2024	$1.277 M ($0.259 HSIP /$1.018 STBGP - PHILA)
Camden County	D1914	Mount Ephraim Avenue Safety Improvements, Ferry Avenue (CR 603) to Haddon Avenue (CR 561) in the City of Camden	Pedestrians and Bicyclists	DES	2024	$0.738 HSIP
				CON	2025-2028	$9.835 M STBGP-PHILA
Mercer County	D1910	Parkway Avenue (CR 634), Scotch Road (CR 611) to Route 31 (Pennington Road) in Ewing Township	Pedestrians and Bicyclists	CON	2025-2027	$6.956 M HSIP

Source: DVRPC, 2023

Lastly, 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.

4.2 Infrastructure (Pavement and Bridge) Performance Management Measures Rule (“PM2”)

The FHWA rule for the National Performance Management Measures; Assessing Pavement and Bridge Condition for the National Highway Performance Program (NHPP) 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 NHPP and to assess the condition of pavements on the Interstate system; pavements on the NHS (excluding the Interstate system); and bridges carrying the NHS, which include on- and off-ramps connected to the NHS. This rule established six measures related to the condition of the infrastructure on the NHS. The measures are commonly known as PM2. The current regulations are found at 23 CFR 490 Subpart C and Subpart D. Targets are established for these measures as part of a four-year performance period; the first was 2018 to 2021. This TIP includes projects that will impact the second four-year performance period of 2022 to 2025.

The pavement and bridge performance measures include:

- percentage of Interstate pavements in good condition;
- percentage of Interstate pavements in poor condition;
- percentage of Non-Interstate NHS pavements in good condition;
- percentage of Non-Interstate NHS pavements in poor condition;
- percentage of NHS bridges by deck area classified in good condition; and
- percentage of NHS bridges by deck area classified in poor condition.

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 February 23, 2023, 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 Table 17 (pavement) and Table 18 (bridge) below.

Pavement Performance Targets

The Infrastructure Performance Management Measures (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 New Jersey, 83 other owners, including authorities, counties, and municipalities, own 37 percent of the state's 12,245 NHS lane miles (NJDOT, 2022). The rest are owned by NJDOT.

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** 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 misalignment between concrete slabs as the difference in elevation across transverse concrete pavement joints in inches.

NJDOT uses two metrics to assess pavement condition: ride smoothness and a Surface Distress Index that includes cracking in the travel lane, rutting, faulting, patching, shoulder drop-off, and other indications of pavement deterioration. The three categories of pavement condition metrics for NHS pavements are ride smoothness, cracking in the wheel paths, and rutting for asphalt pavements or faulting for concrete pavements. All three metrics must be good for a pavement to be rated Good. Two or more must be poor to be rated Poor. Roughness affects travel speeds, safety, comfort, and transportation costs. Cracking, rutting, and faulting are surface indicators of underlying structural deterioration. All three pavement types consider the International Roughness Index and cracking. Bituminous pavements additionally consider rutting, while jointed concrete also utilizes faulting.

The federal Infrastructure PM Rule requires that less than five percent of Interstate miles be considered in poor condition to meet the federal threshold for pavement condition. If pavement conditions on the Interstate

system fail to meet the federal minimum condition thresholds in the most recent year of the State biennial report, the state DOT must comply with the provisions set forth in 23 USC 119(f) for the subsequent fiscal year. The State shall:

– Use obligation authority to transfer a portion of State Transportation Planning (STP) funds to the NHPP for maintenance projects to address interstate pavement conditions.

Table 17: New Jersey NHS Pavement Infrastructure Performance Targets and Progress

Pavement Infrastructure Measure	**Condition**	**2021 4-Year** Performance	**2021 4-Year Target**	**Target Met?**	**2021 Baseline**	**2023 2-Year Target**	**2025 4-Year Target**
Interstate Pavement	Good	75.7%	50%	**Yes**	75.7%	75.7%	77%
	Poor	0.1%	2.5%	**Yes**	0.1%	0.1%	0.1%
Non-Interstate NHS Pavement	Good	41.6%	25%	**Yes**	41.6%	41.6%	43%
	Poor	4.8%	15%	**Yes**	4.8%	4.8%	4%

Source: NJDOT, 2023

– Submit a Transportation Asset Management Plan (TAMP) that describes actions the state will take to meet or make significant progress toward meeting its targets. The TAMP should guide the state's project decisions in order to meet or make significant progress toward meeting its infrastructure performance targets in subsequent years.

If a state has not met or made significant progress toward meeting its targets on the Non-Interstate NHS system, the state DOT shall:

– Submit a TAMP that describes actions the state will take to meet or make significant progress toward meeting its targets. The TAMP should guide the state's project decisions in order to meet or make significant progress toward meeting its infrastructure performance targets in subsequent years.

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, 53 percent of the state's 61.34 million square feet of NHS bridge deck area is owned by owners other than NJDOT, including authorities, counties, and municipalities (NJDOT, 2022).

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 CFR 490.411(a) requires that no more than 10 percent of a state's total NHS bridges by deck area be 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.

Both the Federal Highway Administration (FHWA) and NJDOT use bridge condition measures developed by the National Bridge Inventory to monitor the performance of NBIS bridges on the NHS and State Highway System (SHS). Bridges are inspected at least once every two years. A structure's overall condition rating is determined by the lowest rating of its deck, superstructure, substructure, and/or culvert. Conditions are recorded and assigned into Good, Fair, and Poor categories, as described below. In NJDOT'S Transportation Asset Management Plan (TAMP), the term state of good repair (SGR) is used to describe bridges in Good or Fair condition.

As with the pavement condition measures, DVRPC relied upon NJDOT for calculation of bridge condition metrics and supported NJDOT's statewide targets (the desired SGR), as shown in Table 18. The DVRPC Board agreed to plan and program projects that contribute toward meeting or exceeding NJDOT's statewide Pavement and Bridge Infrastructure targets on February 23, 2023.

Table 18: New Jersey NHS Bridge Infrastructure Performance Targets and Progress

Bridge Performance Measure	**Condition**	**2021 4-Year** Performance	**2021 4-Year Target**	**Target Met?**	**2021 Baseline**	**2023 2-Year** Target	**2025 4-Year Target**
NHS Bridge Deck Area	Good	21.3%	21.3%	**Yes**	21.3%	21.3%	23%
	Poor	6.5%	6.8%	**Yes**	6.6%	6.6%	6%

Source: NJDOT, 2023

Coordination and Progress toward Pavement and Bridge Infrastructure Performance Targets

NJDOT continues to hold stakeholder meetings and workshops that include the assessment and analyses of the state NHS network pavement and bridges and the State Highway System pavement and bridges as well as discussions related to performance measures, targets and target setting approach, SGR objectives, issues, and challenges. Since a significant amount of the NHS in the state is owned by other jurisdictions, stakeholders include non-NJDOT NHS owners. The MPOs in New Jersey assist NJDOT with the collection and dissemination of data to the non-NJDOT NHS owners. The MPOs have agreed to use the infrastructure targets that NJDOT established and to adopt the statewide federal TPM infrastructure targets.
State DOTs must submit interim and full term (two- and four-year) progress reports for the PM2 performance measures to demonstrate whether they have met or made significant progress toward meeting the targets. The states submitted their first two-year progress reports to FHWA in October 2020.

To meet the federal threshold for bridge condition, the federal Infrastructure PM2 Rule requires that no more than 10 percent of the total deck area of bridges on the NHS be considered structurally deficient. If a state has not met the federal threshold for bridge conditions for three consecutive years, the state DOT is required to obligate and set aside NHPP funds for eligible NHS bridge projects. The set-aside will remain in effect until the state meets the threshold of less than 10 percent of bridge deck area classified as structurally deficient. NJDOT has continuously engaged with the state's three MPOs during the TAMP development process, enabling the department to inform, collaborate, and coordinate with all NHS owners to obtain condition data and investment information. In 2022, NJDOT updated its TAMP, which adopted transportation asset management as the official institutional approach to preserve infrastructure assets. The policy reflects the department's commitment to apply a performance-based approach to managing transportation system

performance outcomes. Transportation Asset Management is the application of this approach to manage the condition of infrastructure assets. In 2018, NJDOT prepared the Initial New Jersey TAMP, which has been certified by FHWA. In July 2020, FHWA issued its 2020 consistency determination, affirming that NJDOT developed and implemented the New Jersey TAMP consistent with federal requirements. The TAMP documents the risk-based approach for management of the NHS and State Highway System assets in New Jersey, identifies SGR Objectives for assets, and outlines investment strategies that will help achieve these objectives. The TAMP represents NHS assets, regardless of ownership.

The DVRPC region remains dedicated to system preservation for pavement and bridges. The current TIP and DVRPC Long-Range Plan continue the emphasis on analysis related to transportation system preservation needs and funding, aligned with supporting the pavement and bridge condition performance targets, which in turn informs the fiscally constrained list of projects included in the Long-Range Plan and TIP. Pavement and bridge preservation projects comprise almost half (47.9 percent) of the region's Highway Program fund over the ten years. In addition, system preservation remains one of the top priorities in the DVRPC Long-Range Plan/TIP Project Benefit Evaluation Criteria.

Pavement Projects and Programs in the TIP:

In the First-Four Years of the TIP, nearly $295.63 million or 20.1 percent of the DVRPC Regional Highway Program funds (excluding STATE-DVRPC funds) is programmed on pavement rehabilitation projects, accordingly:

DB #	Title
10341	Route 168, Merchant Street to Ferry Avenue, Pavement
1132C	Route 76/676 Bridges and Pavement, Contract 3
12305	Route 47, Grove St. to Route 130, Pavement
15375	Route 30, Cooper Street to Grove Street
15396	Route 168, Route 42 to CR 544 (Evesham Road)
18386	Route 44, Barker Avenue to Billingsport Road/Swedesboro (CR 653)
D0302	Burlington County Roadway Safety Improvements
D0401	Gloucester County Roadway Safety Improvements
D0410	Camden County Roadway Safety Improvements
D0412	Mercer County Roadway Safety Improvements
D2208	CR 544 (Evesham Rd), NJ 41 to Schubert Ave
X51	Pavement Preservation

Bridge Projects and Programs in the TIP:

In the First-Four Years of the Draft TIP, nearly $349.83 million or 23.8 percent of the DVRPC Regional Highway Program funds (excluding STATE-DVRPC funds) is programmed on bridge repair/replacement/rehabilitation projects, accordingly:

DB #	Title
03304	Bridge Deck/Superstructure Replacement Program*
11326A	Route 76, Bridges over Route 130
11326C	Route 76/676 Bridges and Pavement, Contract 3
12307	Route 38, South Church Street (CR 607) to Fellowship Road (CR 673), Operational and Safety Improvements

14348 Route 45, Bridge over Woodbury Creek
15317 Route 64, Bridge over Amtrak
15324 Washington Turnpike, Bridge over West Branch of Wading River
15385 Route 38, Nixon Drive to Route 295 Bridge
16335 Route 206, Bridge over Springers Brook
16336 Route 1B, Bridge over Shabakunk Creek
16339 Route 130, Bridge over Millstone River
16340 Route 130, Bridge over Main Branch of Newton Creek
16342 Route 73 and Ramp G, Bridge over Route 130
17411 CR 545 (Farnsworth Avenue), Bridge over Robbinsville Secondary Branch (Conrail)
17412 North Olden Avenue (CR 622), Bridge over Amtrak
17419 Route 1, Alexander Road to Mapleton Road
18305 Prospect Street, Bridge over Belvidere-Delaware RR (Abandoned)
D1709 Kaighn Avenue (CR 607), Bridge over Cooper River (Roadway and Bridge Improvements)
D1710 Lincoln Ave/Chambers Street (CR 626), Bridge over Amtrak & Assunpink Creek
D2017 CR 706 (Cooper Street) Bridge over Almonesson Creek (Bridge 3-K-3)
D2018 Bridge No. C4.13 over Parkers Creek on Centerton Road
D2023 Circulation Improvements Around Trenton Transit Center
D2202 CR 616 (Mill Street) Bridge over South Branch Rancocas Creek Rehabilitation/Replacement
D2216 Porchtown Road (CR 613) Bridge over Still Run at Iona Lake
L064 Route 206, South Broad Street Bridge over Assunpink Creek

*Statewide program not included in total

The NJDOT FY 2023 Transportation Capital Program totals $4.657 billion and is funded primarily by the State Transportation Trust Fund (TTF), federal, and third-party resources. It includes the following projects that support the attainment of pavement and bridge condition performance targets.

Local Municipal Aid, DVRPC (DB #X98C1) is an annual $28 million TTF-funded program for municipal 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 Local Municipal Aid.

NJDOT's **County Aid (DB #X41C1)** is a TTF-funded program that provides $30 million annually to cover roads and bridges under county jurisdiction. Public transportation and other transportation projects are also included.

The NJDOT **Local Bridges, Future Needs Fund (DB #08387**) is an annual program that continues in the TIP. This program provides funding for improvements on county bridges. Currently, the state focuses on preventive maintenance, rehabilitation, and selective replacement of bridges.

The NJDOT **Local Aid Infrastructure Fund (DB #X186)** provides for various emergency and regional needs throughout the state at the county or municipal level, which includes the replacement or rehabilitation of orphan bridges.

In the TIP, the annual NJDOT **LFIF (DB #17390)** will continue 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 **NJDOT Transportation Infrastructure Bank (DB #X186B)** remains in the Statewide Program. It will provide financial loans to public or private entities for the planning, acquisition, engineering, construction, reconstruction, repair, and rehabilitation of a transportation project or for any other purpose at a low interest rate. Camden County was the first in the State of New Jersey to receive financing from the NJDOT Transportation Infrastructure Bank for the Westfield Avenue (CR610) milling and overlay road reconstruction project that cost approximately $2.1 million.

4.3 System Performance (NHS, Freight, CMAQ) Performance Management Measures ("PM3")

The FHWA final rule for the National Performance Management Measures; Assessing Performance of the NHS, Freight Movement on the Interstate System, and CMAQ was published in the Federal Register (82 FR 5970) on January 18, 2017 and became effective on May 20, 2017. This final rule was 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, the FAST Act, and now the IIJA/BIL. The measures in this third and 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 on-road mobile source emissions for the purpose of carrying out the CMAQ Program. These system performance measures are collectively referred to as PM3 measures.

The following PM3 system performance measures are divided into three categories: Travel Time Reliability (TTR), CMAQ Congestion, and CMAQ Emissions Reduction. Each category has its own measures.

TTR:

- Percentage of Person-Miles Traveled (PMT) on the Interstate System that are Reliable
- Percentage 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
- Percentage of Non-SOV Travel

CMAQ Emissions Reduction:

- On-Road Mobile Source Emissions Reduction for CMAQ-Funded Projects.

As in 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. The DVRPC Board agreed to support NJDOT's updated statewide NHS System Performance and Freight System Performance targets (shown in Table 19 and Table 20) on March 23, 2023. The DVRPC Board also agreed to plan and program projects that contribute toward meeting or exceeding the updated NJDOT's system performance targets.

Travel Time Reliability (TTR) Targets

The first major performance area under system performance is 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. 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, then it is considered reliable. USDOT established performance measures pertaining to reliability because empirical evidence exists to suggest that the traveling public values reliability more than straight travel times. Traffic Congestion and Reliability: Linking Solutions to Problems is available on the FHWA website at https://ops.fhwa.dot.gov/congestion_report_04/.

State Departments of Transportation (DOTs) must establish statewide targets for the performance of the Interstate and non-Interstate National Highway System (NHS) during four peak travel time periods that include peak daytime periods and weekend periods. Each state sets its performance targets for the Level of Travel Time Reliability (LOTTR) Index, which indicates the reliability of travel on the Interstate and non-Interstate NHS. A road segment is considered reliable if the ratio of the 80th percentile peak hour travel time to the normal peak hour travel time (50th percentile) is less than 1.5. The measure also incorporates traffic volumes and vehicle occupancy to identify the person miles traveled on the system. LOTTR targets are established for the entire state and capture the person miles traveled on road segments that are considered reliable. Two- and four-year targets are set for: (1) percentage of person miles traveled on the Interstate System that are considered reliable; and (2) the percentage of person miles traveled on the non-Interstate NHS that are considered reliable.

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 Analytics Suite was created and is maintained by the University of Maryland Center for Advanced Transportation Technology Laboratory (UMD CATT 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 New Jersey MPOs, NJ TRANSIT, Port Authority of New York and New Jersey, New Jersey Turnpike Authority, and FHWA-New Jersey, had several meetings to discuss the underlying data, calculation tools and methods, baseline results, and target-setting approaches for the PM3 measures.

Table 19: New Jersey TTR (System Reliability) Targets and Progress

NHS SYSTEM	2021 4-Year Performance	2021 4-Year Target	4-Year Target Met?	2021 Baseline	2023 2-Year Target	2025 4-Year Target
% Person Miles Traveled on the Interstate that are Reliable	94%	82%	YES	94%	82%	83%
% Person Miles Traveled on the Interstate on the Non-Interstate NHS that are Reliable	92.2%	84.1	YES	92.2%	85%	86%

Source: NJDOT, 2023

Freight/Truck TTR Targets

The national system performance measure for freight is the Truck TTR Index and is required for Interstate highways on the NHS only. This measure is like the TTR measure and metric described above, but it is focused primarily on truck traffic. Truck TTR 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 and weighted by distance, resulting in the Truck TTR 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 performance measure was based on the NPMRDS data source and calculated by using the UMD CATT Lab NPMRDS Analytics Suite tool, but it 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, agencies implement policies to support improvements to freight TTR. State DOTs must establish a single index for the Interstate system in the state for five peak-hour travel time periods that include peak daytime periods, an overnight period, and weekend periods. The Truck Travel Time Reliability (TTTR) Index is measured by the ratio of the congested peak period travel time (95th percentile) to the normal peak period travel time (50th percentile) on each road segment on the Interstate system for the time periods. The highest TTTR value is used to determine the reliability of the Interstate system for truck traffic or freight reliability. The DOT establishes two- and four-year targets for the ratio of the congested period travel time to the normal period travel time, weighted by the length of the Interstate segment, for the entire Interstate system in the state.

Table 20: New Jersey NHS Freight Reliability Performance Target and Progress

Freight Performance Measure	2021 4-Year Performance	2021 4-Year Target	4-Year Target Met?	2021 Baseline	2023 2-Year Target	2025 4-Year Target
Truck TTR	1.56	1.95	YES	1.56	1.90	1.90

Source: NJDOT, 2023

As Table 20 above shows, the identified targets for freight performance on the NHS Interstate system represent a slightly worsening value in both the two-year and four-year targets compared to baseline due to anticipated increase in traffic (both overall and trucks specifically) and the traffic impacts of constructing near-term projects and programs in the DVRPC FY2024 TIP for New Jersey.

Coordination on TTR and Freight/Truck TTR Targets

DVRPC is committed to improving reliability on roadways within its region in New Jersey. Staff work with NJDOT and DVRPC county, city, and transit partners to develop projects that will improve TTR and help meet state targets. DVRPC proactively seeks to include freight as a primary planning factor through its Long-Range Plan and TIP development as well as through 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, 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.

The FAST Act established–and the IIJA/BIL continued–the NHFP to improve the efficient movement of freight on the NHFN. 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 percent of NHFP

funding each year for public or private freight rail, water facilities (including ports), and/or intermodal facilities. In the TIP, notable projects programmed with federal NHFP and NHPP funds in the DVRPC New Jersey region are as follows (in addition to paving projects):

- **Route 295/42/I-76, Direct Connection, Contract 4 (DB #355E)** is one of the last major construction contracts to relieve an existing bottleneck at an interchange and improve safety by providing direct connections among multiple highways.

- **Route 42 SB, Leaf Avenue Extension to Creek Road (CR 753) (DB #18313)** is a project carried over from the current FY2022 TIP that willrelocate access to NJ 42 ramps further down CR 753 and provide sufficient lane configurations to accommodate freight movement.

- **Route 76/676 Bridges and Pavement, Contract 3 (DB #11326C**) will replace the bridge decks and superstructure of Route 76/676 over the Main Branch of Newton Creek, and Route 76 over Nicholson Road; the deck and superstructure of Route 76 over the South Branch of Newton Creek, Conrail, & Klemm Avenue; and the deck and superstructure of Route 676 Southbound over the Main Branch of Newton Creek. The project will also include pavement resurfacing of Route 676 to the bridge decks at North Branch of Newton Creek and on Route 76 Southbound. Two bridges–Route 676 Southbound over Main Branch of Newton Creek and Route 76 over Main Branch of Newton Creek–will be widened. Resurfacing at Morgan Boulevard Eastbound to the Route 676 Northbound loop ramp, Collings Avenue to Route 676 Northbound, Route 676 Southbound to Collings Avenue Westbound, Route 676 Southbound to Collings Avenue Eastbound, Collings Avenue to Route 676 Southbound, and Route 676 Southbound to Route 76C Eastbound will also be performed. The project also includes ADA improvements at the Morgan Boulevard and Route 676 ramp, intersection and traffic signal modifications at the Collings Avenue and Route 676 Northbound ramp intersection, and the Collings Avenue and Route 676 Southbound ramp intersection.

- **Route 38, South Church Street (CR 607) to Fellowship Road (CR 673), Operational and Safety Improvements (DB #12307)** will reconfigure Route 38 and South Church Street/Fellowship Road to improve congestion, improve safety, and ensure ADA compliance throughout the intersection.

- The project includes replacing and widening the Church Street Bridge and addressing deficiencies in sidewalk, curbs and curb ramps. The existing shoulders and auxiliary lanes will be brought into compliance with NJDOT standards.

- **Route 73, Church Road (CR 616) and Fellowship Road (CR 673) Intersections (DB #12380)** will improve operational and safety conditions within the Route 73 corridor, including a pedestrian overpass, utility relocations, ROW acquisitions, ramp relocations, and roadway realignment.

- **Route 73, Dutch Road to Route 70 (DB# 13319)** will address congestion and safety issues within the project limits through the widening of Route 73 to three through lanes in each direction, increasing approaches at the intersections of Route 73 and Brick Road and Route 73 and CR 544, and removing the unsignalized Route 73 southbound left turn to Commonwealth Drive. Additional sidewalks will be included in the proposed project to complete the gaps in the existing sidewalk network.

- **Route 295 and Route 38 Interchange Operational Improvements (DB #21311)** will address significant congestion on Route 38 from Duffy's Drive to Route 295, along with insufficient turning movement queues.

- **Pavement Preservation (DB #X51)** will allow NJDOT to accomplish eligible federal pavement preservation activities on New Jersey's Interstate highway system and will also allow for pavement preservation on all other state-maintained roads.

Further, the annual **New Jersey Rail Freight Assistance Program (DB #X34)** in the Statewide Program provides State Transportation Trust Fund dollars for the rehabilitation and improvement of key elements of the New Jersey rail freight network. The DVRPC TIP-LRP Project Benefit Evaluation Criteria (Appendix F) also prioritizes reliability and congestion, investing in centers (including Freight Centers), and facility/asset condition and maintenance (which includes truck volume) for new project candidates. NJDOT and NJ TRANSIT sponsor numerous statewide programs that improve TTR. Many of these are funded through the CMAQ Program further detailed in this document's section 4.3 System (NHS, Freight, CMAQ) Performance Management Measures ("PM3") under "Progress toward CMAQ Congestion and Emissions Reductions Targets."

NJDOT's Statewide Freight Plan, approved in 2023, identifies improving reliability and efficiency as one of its goals. This 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 TTR Index was one of four factors that were used for project prioritization.

In addition to the Statewide Freight Plan cited above, NJDOT continues to spearhead various initiatives with the specific intent of improving infrastructure conditions for goods movement in New Jersey, including the following:

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

NJDOT is also developing an internal Freight Management System that would be used to advance freight specific concerns into NJDOT's capital programming process.

DVRPC is an active participant in NJDOT's Freight Advisory Committee and the Eastern Transportation Coalition (formerly known as the I-95 Corridor Coalition) and served on the stakeholder group for the development of the 2023 NJDOT Statewide Freight Plan. The Eastern Transportation 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, 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 Forum of the Greater New York Metropolitan Transportation Management Area, which identified regional freight initiatives as one of the key items to work on.

There are also several grant programs (outside of DVRPC) administered by the state and federal governments specifically targeting freight. NJDOT's Local Freight Impact Fund (LFIF) assists counties and local municipalities with the mitigation of impacts on the local transportation system associated with the state's freight industry. The projects awarded with NJDOT's LFIF, USDOT's INFRA grants in the DVRPC New Jersey region that directly support TTR, including freight, are:

FY2023 NJDOT LFIF AWARDS ($8.223 MILLION TOTAL):

- $1,150,000 for Pedestrian Safety Improvements for Union Landing Road in Cinnaminson Township, Burlington County
- $3,228,000 for the Reconstruction of Mansfield Road West in Mansfield Township, Burlington County
- $1,750,000 for King Street and Broadway Intersection Realignment in Gloucester City, Camden Co
- $500,000 for Cove Road Delaware River Port Access Improvements in Pennsauken Township, Camden County
- $1,595,000 for the Resurfacing of Grandview Avenue and Imperial Way in West Deptford Township, Gloucester County

FY2022 NJDOT LFIF AWARDS ($7.650 MILLION TOTAL):

- $1,000,000 for Resurfacing of Taylor's Lane in Cinnaminson Township, Burlington County
- $500,000 for Berry Drive Roadway Improvements in Lumberton Township, Burlington County
- $500,000 for Improvements to Heller Place in Bellmawr Borough, Camden County
- $3,000,000 for Camden City Port Access Truck Route Project in Camden County
- $900,000 for Cenco Boulevard Roadway Improvements in Clayton Borough, Gloucester County
- $500,000 for Improvements to Porches Mill Road in South Harrison Township, Gloucester County
- $750,000 for Improvements to Forest Parkway in West Deptford Township, Gloucester County
- $500,000 for the 2022 West Manor Way and Applegate Drive Resurfacing project in Robbinsville Township, Mercer County

FY2021 NJDOT LFIF AWARDS ($3.328 MILLION TOTAL):

- $183,000 for the Reconstruction of Union Landing Road - Phase 3 in Cinnaminson Township, Burlington County
- $1,050,000 for the Reconstruction of Hall Avenue & Heller Road in Bellmawr Borough, Camden County
- $440,000 for the Water Street Improvements in Gloucester City, Camden County
- $325,000 for Roadway Improvements to Heron Drive, Phase 2 in Logan Township, Gloucester County
- $700,000 for Paradise Road Resurfacing in West Deptford Township, Gloucester County
- $360,160 for the Industrial Drive Improvement Project in Hamilton Township, Mercer County
- $270,000 for Thomas J Rhodes Improvement Project in Hamilton Township, Mercer County

FY2018 NJDOT LFIF AWARDS ($9.990 MILLION TOTAL):

- $2.1 million for the Rising Sun Road-Dunns Mill Road Connector Road in Bordentown Township, Burlington County
- $850,000 for Charles Street Roadway Improvements in Gloucester City, Camden County
- $4 million for Route 44 Truck Bypass and DuPont Port Access Road in Gloucester County
- $2 million for the Paulsboro Marine Terminal Spine Road Grading, Paving and Striping Project in Gloucester County
- $300,000 for the reconstruction of Commerce Boulevard in Logan Township, Gloucester County
- $740,000 for the Paulsboro-Greenwich Township Truck Route Improvements in Paulsboro Borough, Gloucester County

FY2011 USDOT TRANSPORTATION INVESTMENT GENERATING ECONOMIC RECOVERY (TIGER) AWARD ($18.5 MILLION TOTAL):

- $18.5 million 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.

CMAQ Congestion Targets

Federal Congestion Mitigation and Air Quality (CMAQ) funded projects reduce congestion and improve air quality. The CMAQ Congestion and Emissions Reduction Targets are specifically intended to reduce congestion directly related to attributes of federally funded projects, and unlike other federally required performance measures, they specifically apply to urbanized areas with a population over 200,000. 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.

CMAQ Congestion has two measures for applicable urbanized areas:

- **Annual Hours of Peak-Hour Excessive Demand (PHED) per Capita on the NHS:** The threshold for excessive delay is based on the travel time at 20 mph or 60 percent of the posted speed limit travel time, whatever is greater, and is measured in 15-minute intervals. Travel times, hourly traffic volumes, posted speed limits, mode shares (passenger vehicles, transit, and trucks), and average vehicle occupancy factors are used to calculate excessive delay at the roadway segment level for peak periods 6:00-10:00 am and 3:00 -7:00 pm for all calendar days. The rule containing all the details is 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 residents, 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-Occupant Vehicle (SOV) travel on the NHS:** Non-SOV travel may include travel via carpool, vanpool, public transportation, commuter rail, walking, or bicycling, as well as telecommuting. The actual rule containing all the details is found in 23 CFR 490.707(b).

Both two- and four-year targets are required from the base year for the PHED per Capita and Percentage of Non-SOV measures. The CMAQ Congestion Performance Targets that are established by NJDOT and supported by the DVRPC Board are shown in Table 21: CMAQ Congestion Measures Targets on the NHS and Progress.

DVRPC's Board adopted the PM3 Congestion Measures for each of the UZAs with populations greater than 200,000 in the DVRPC region at the July 28, 2022, Board meeting. DVRPC presented the CMAQ Baseline and Performance Plan, which includes the adopted targets for the congestion measures and MPO targets for the CMAQ emissions measures at the DVRPC Board meeting on September 22, 2022. The DVRPC Board adopted this performance plan, supported the relevant state PM3 Emissions targets, and approved the submission of the performance plan to FHWA by the October 1, 2022 deadline.

Table 21: CMAQ Congestion Measures Targets and Progress

DVRPC Urbanized Area	CMAQ Congestion Measure	2017 Baseline	2018-2021 4-Year Target	2018-2021 4-Year Performance	2021 Baseline	2023 2-Year Target	2025 4-Year Target
Philadelphia PA-NJ-DE-MD	Annual Hours of PHED per Capita	16.8	17.2	13.1	13.1	15.2	15.1
	Non-SOV Travel	27.9%	28.1%	30.6%	30.6%	30%	30%
New York-Newark NY-NJ-CT[4]	Annual Hours PHED per Capita	20	22	20.9	20.9	22.0	21.0
	Non-SOV Travel	51.6%	51.7%	52.4%	52.4%	52.4%	52.5%
Trenton, NJ	Annual Hours of PHED per Capita	NA	NA	NA	3.4	5.7	5.7
	Non-SOV Travel	NA	NA	NA	26.4%	26.5%	26.8%
Allentown-Bethlehem-Easton PA-NJ	Annual Hours of PHED per Capita	NA	NA	NA	7.1	8.4	8.4
	Non-SOV Travel	NA	NA	NA	19.7%	18.6%	18.6%

Source: DVRPC, 2023

Notes:

1. Baseline for Non-SOV Travel is based on 2012-2016 American Community Survey (ACS) for the first performance period (2018-2021) and 2016-2020 ACS for the second performance period (2022-2025).
2. PHED per Capita Four-Year Target assumes a growth of +0.6 percent per year for the first performance period.
3. See DVRPC's CMAQ Final Performance Plan for 2018–2021 and Baseline Report (2022-2025) (Publication #TR23003) Source: DVRPC, 2022
4. The DVRPC region is part of the Philadelphia PA-NJ-DE-MD Urbanized Area and includes a small portion of the New York-Newark NY-NJ-CT, Trenton NJ, and Allentown-Bethlehem-Easton PA-NJ Urbanized Area in Mercer County, New Jersey.

Coordination on CMAQ Congestion Targets

Pursuant to the IIJA/BIL, and the FAST Act and MAP-21 prior, 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 Percentage of Non-SOV Travel), where requirements apply to urbanized areas with a population over 200,000. 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 ("Philadelphia Urbanized Area"), this means that DVRPC collaborated with the Lancaster County Transportation Coordinating Committee (LCTCC), North Jersey Transportation Planning Authority (NJTPA), South Jersey Transportation Planning Organization (SJTPO), Wilmington Area Planning Council (WILMAPCO), Pennsylvania Department of Transportation (PennDOT), New Jersey Department of Transportation (NJDOT), Delaware Department of Transportation (DelDOT), and Maryland Department of Transportation (MDOT) in developing and agreeing on a common congestion measure baseline and targets for the Philadelphia Urbanized Area. For the Trenton, NJ, Urbanized Area, DVRPC collaborated with NJDOT. Since there is a portion of the New York-Newark NY-NJ-CT Urbanized Area ("New York Urbanized Area") in Mercer County, New Jersey, within the DVRPC region, DVRPC also collaborated with the NJTPA, the New York Metropolitan Transportation Council (NYMTC), NJDOT, the New York State Department of Transportation (NYSDOT) and others to adopt a common congestion measure baseline and targets for that urbanized area. For the Allentown-Bethlehem-Easton PA-NJ Urbanized Area, DVRPC coordinated with the Lehigh Valley Planning Commission (LVPC), NJTPA, and state DOTs.

DVRPC is an MPO that serves a Transportation Management Area with a population greater than 200,000 and includes a nonattainment or maintenance area. As such, DVRPC was required to develop a CMAQ Performance Plan for 2022–2025 to support achievement of the CMAQ congestion targets. In the CMAQ Performance Plan, which is required to be updated biennially through the performance period, the MPO must describe its plans to meet the targets, detail 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 DVRPC's CMAQ Performance Plan for 2022–2025 (Publication #TR23003) to NJDOT for submission to FHWA.

CMAQ Emissions Reduction Targets

DVRPC coordinated efforts with NJDOT and other MPOs in the state to develop cumulative On-Road Mobile Source Emissions two-year and four-year targets as daily kilograms. MPO regional targets in Table 22 were used to develop NJDOT's statewide on-road mobile emissions reductions targets displayed in Table 23. Page 14 of DVRPC's CMAQ Final Performance Plan for 2018–2021 and Baseline Report (2022-2025) (Publication #TR23003) describes the process for developing the regional targets.

Table 22: CMAQ On-Road Emissions Reductions Targets (in Daily Kilograms) for the DVRPC New Jersey Region and Progress

Pollutant	2018-2021 4-Year Target	2018–2021 4-Year Performance	Target Met?	2023 2-Year Target	2025 4-Year Target
VOC	2.864	73.818	Yes	2.844	5.406
NO_X	14.861	684.937	Yes	9.506	17.495
$PM_{2.5}$	5.253	111.987	Yes	24.252	45.963

Source: DVRPC, 2023

Coordination and Progress toward CMAQ Emissions Reduction Targets

DVRPC has coordinated emissions reduction target setting with NJDOT to establish emissions reduction targets from CMAQ-funded projects in the relevant portions of the DVRPC planning area. NJDOT has developed state-level emissions reductions targets that account for emissions reductions at the MPO level. DVRPC presented the CMAQ Baseline and Performance Plan, which includes the adopted targets for the

congestion measures and MPO targets for the CMAQ emissions measures at the DVRPC Board meeting on September 22, 2022 (Tables 21 and 22). The statewide CMAQ performance and targets are built upon the regional CMAQ performance and targets. If the states and MPOs do not meet the two-and-four-year targets, they are able to adjust the targets and evaluate future CMAQ investments that may improve progress towards meeting the targets.

Table 23: NJDOT Statewide CMAQ On-Road Emissions Reductions Targets (in Daily Kilograms) and Progress

Pollutant	2018-2021 4-Year Target	2018–2021 4-Year Performance	Target Met?	2023 2-Year Target	2025 4-Year Target
VOC	36.324	179.176	Yes	11.958	22.740
NOX	231.927	1572.321	Yes	34.367	63.218
$PM_{2.5}$	8.520	172.449	Yes	28.911	54.805

Source: NJDOT, 2023

DVRPC continues to select projects and programs that have a positive air quality benefit in terms of reducing mobile source emissions to help the DVRPC region and the State of New Jersey meet two- and four-year targets for traffic congestion and on-road mobile source emissions. The latest FY2020 Competitive CMAQ Program that DVRPC administered throughout CY20 to CY21 selected various projects that will support the CMAQ Congestion and Emissions Reductions Targets and were approved by the May 2021 DVRPC Board for authorization in FY22, FY23, or FY24. See https://www.dvrpc.org/cmaq/.

There are also intersection/interchange improvement projects (totaling $52 million over the First-Four Years) and signal/ITS improvement projects ($6.7 million over the First-Four Years) on the TIP's Highway Program that will help meet these targets, accordingly.

INTERSECTION/INTERCHANGE IMPROVEMENTS ON THE TIP

DB #	Title
04314	Local Safety/ High Risk Rural Roads Program
355E	Route 295/42/I-76, Direct Connection, Contract 4
11326C	Route 76/676 Bridges and Pavement, Contract 3
12307	Route 38, South Church Street (CR 607) to Fellowship Road (CR 673), Operational and Safety Improvements
13319	Route 73, Dutch Road to Rt 70
15302	Route 41 and Deptford Center Road
15353	Route 38 and Lenola Road (CR 608)
16319	Route 30, Gibbsboro Road (CR 686)
17419	Route 1, Alexander Road to Mapleton Road
22320	Systemic Backplate Pilot Program South
18313	Route 42 SB, Leaf Avenue Extension to Creek Road (CR 753)
D1910	Parkway Avenue (CR 634), Scotch Road (CR 611) to Route 31 (Pennington Road)
D1913	Sicklerville Road (CR 705) and Erial Road (CR 706) Systemic Roundabout
D1914	Mount Ephraim Avenue Safety Improvements, Ferry Avenue (CR 603) to Haddon Avenue (CR 561)
X35A1	Rail-Highway Grade Crossing Program, Federal
D2018	Bridge No. C4.13 over Parkers Creek on Centerton Road
D2014	CR 622 (North Olden Avenue), NJ 31 (Pennington Road) to New York Avenue

SIGNAL/ITS IMPROVEMENTS ON THE TIP

DB #	Title
01300	Transportation Systems Management and Operations (TSMO)
D1601	New Jersey Regional Signal Retiming Initiative
D2004	Transportation Operations
D2021	New or Upgraded Traffic Signal Systems at Intersections, Phase 2
D2022	New or Upgraded Traffic Signal Systems at Intersections, Phase 3

DVRPC will continue to promote and develop projects and programs with air quality benefits to its counties and planning partners. The CMP is a key part of DVRPC's commitment to improving TTR. DVRPC facilitates a CMP Planning Advisory Committee that is part of an overall, systematic, and ongoing process to determine where traffic congestion exists, identify causes, prioritize congested locations according to congestion and other CMP objective measures, and help develop strategies to reduce congestion and improve reliability. The goals of the Long-Range Plan provide guidelines for developing DVRPC CMP objectives. These objectives include:

- integrating federal PM3 system performance, freight, and CMAQ performance measures;
- supporting DVRPC Long-Range Plan land use and other principles;
- advancing equity and fostering diversity; and
- ensuring that all transportation investments support DVRPC Long-Range Plan principles.

PM3 performance measures are mapped by roadway segments where data is available and used to inform the CMP process. Reliability is measured by LOTTR and Planning Time Index (PTI). PTI is a measure of roadway reliability defined as the ratio of the 95th percentile peak-hour travel time to the free-flow travel time (uncongested travel time) to better understand which CMP corridors are more or less reliable than others. PTI is a key component of the Congestion and Reliability criterion in DVRPC's Long-Range Plan/TIP Project Benefit Evaluation Criteria. As part of the evaluation, projects receive points for being located within a CMP congested corridor, for implementing a CMP strategy appropriate for that corridor, or for being located on a road with a high PTI. (Projects also receive points if it is to improve a transit facility with a low on-time performance.) This criterion accounts for 11 percent of the project-level investment decision recommendation for new candidates.

DVRPC tracks travel trends by CMP focus roadway corridor using the PTI measure. This measure considers non-recurring congestion impacts on travel due to traffic events, such as crashes, disabled vehicles, construction, and adverse weather. This information has been averaged by week and month and compared by month year-over-year to identify changes in reliability and help inform the process of developing strategies to improve travel times on the transportation network. The CMP is being updated in calendar year 2023.

DVRPC proactively seeks to include freight as a primary planning factor through its Long-Range Plan and TIP as well as the conduct of technical studies. Truck counts are a component of the Multimodal Use criterion in DVRPC's Long-Range Plan/TIP Project Benefit Evaluation Criteria. Projects receive points based on the total number of person trips (driver trips + passenger trips + transit trips + bike trips + pedestrian trips), number of daily trucks using the facility or asset, and the overall benefit to multimodal trip making. This criterion accounts for 9 percent of the project-level investment decision recommendations for new candidates. One of DVRPC's goals is to serve the region's freight stakeholders and maintain the Greater Philadelphia region as a premier freight transportation gateway.

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 number of resources in congestion relief programs statewide. Congestion relief is also one of the focus areas in NJDOT's Capital Investment Strategy. Per the Statewide Capital Investment Strategy 2023 Update, almost $5.213 billion (approximately 18 percent) of annual capital investments go toward mobility and congestion relief projects in FYs 2023-2027. Progress is being made toward meeting the congestion relief and on-road mobile emissions reductions targets. Besides the DVRPC local CMAQ Program and examples of projects above, NJDOT and NJ TRANSIT have several statewide programs that help reduce emissions (as well as congestion) throughout the state. These are listed below.

Bicycle and Pedestrian Facilities/Accommodations (DB #X185) continues to be a comprehensive program to ensure 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 systems 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: CMAQ, State, and TA-FLEX.

Intelligent Traffic Signal Systems (DB #15343) will continue to improve mobility on New Jersey's arterial highways. Arterials contribute almost 70 percent of total congestion that occurs in New Jersey. This program will focus on dynamically managing New Jersey'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.

Rail Rolling Stock Procurement (DB #T112) provides Section 5307, Section 5337, and State funds for the replacement of rail rolling stock, including engineering assistance and project management, to replace overaged 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 10 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.

Small/Special Services Program (DB #T120) supports NJ TRANSIT efforts that initiate or promote transit solutions to reduce congestion, manage transportation demand, and improve air quality. Included are state funds for the Vanpool Sponsorship Program and Transportation Management Association Program, and federal funds for the 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.

4.4 Transit Asset Management (TAM) Rule

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 lifecycles 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 an 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 and IIJA/BIL), FTA developed a rule establishing a strategic and systematic process of operating, maintaining, and improving public transit capital assets effectively through their entire lifecycles. 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.

Under the provisions of the Transit Asset Transportation Performance Management rulemaking, transit operators are required to set performance targets for their transit asset portfolio. MPOs are then required to set their own targets, or adopt the transit operator 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 FTA and include average revenue fleet age; average non-revenue fleet age; percentage of the track system under a performance restriction, and percentage of facilities that are below a condition rating of 3 on the Transit Economic Requirements Model (TERM) scale. Transit agencies are required to upload their performance targets and a supporting narrative in their annual National Transit Database (NTD) submission, and report progress against these targets. They are also required to develop a TAM Plan. The regulations required by the FTA have established a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their life-cycles. The performance management requirements are a minimum standard for transit operators and involve measuring and monitoring the following:

- **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 lifecycle of a capital asset or the acceptable period of use in service determined by FTA. Each vehicle type's ULB estimates how many years that vehicle can be in service and still be in an SGR. 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.

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

- Inventory of Capital Assets

- Condition Assessment
- Decision Support Tools
- Investment Prioritization
- TAM and SGR Policy
- Implementation Strategy
- List of Key Annual Activities
- Identification of Resources
- Evaluation Plan

There are two Tier 1 agencies providing public transit service and subject to this FTA TAM performance management rule in the DVRPC New Jersey region: NJ TRANSIT and DRPA/PATCO.

TAM Coordination, Targets, and Goals

The MPOs have 180 days after the transit agencies set their targets to decide either to adopt the transit operators' targets or to develop their own metropolitan targets. In July 2023, the DVRPC Board agreed to continue to be consistent with the updated NJ TRANSIT and DRPA/PATCO annual TAM targets and will support the transit operators' efforts at achieving those targets. DVRPC has also worked with NJ TRANSIT, DRPA/PATCO, and NJDOT to develop a set of written procedures that outline the coordination process for TAM.

DVRPC's Long-Range Plan prioritizes the preservation and maintenance of existing transportation infrastructure. This includes maintaining the transit system in an SGR and operating it in a safe and secure manner by replacing buses, railcars, and locomotives as they age, and by attending to rail bridges, track, signal systems, stations, and other infrastructure. An asset is in an SGR if: (1) it can 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 TAM Targets and Goals

NJ TRANSIT operates and maintains a large fleet of buses, railroad cars, locomotives, and light rail vehicles in the DVRPC New Jersey region. To ensure these assets are in an 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.

NJ TRANSIT prepared an Enterprise Asset Management Program 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 an 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 (Percentage of revenue vehicles that have met or exceeded their ULB)

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. The entire self-propelled passenger car fleet is expected to be retired and replaced by new multi-level vehicles by 2023. 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, New Jersey. The RiverLINE 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 2,000 buses consisting of two types: (1) over-the-road for longer-haul commuting services and (2) transit. The active bus fleet in daily service is in a 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 2021 and 2022 targets per measure in Table 24 below.

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

NJ TRANSIT's non-revenue service vehicle inventory includes ordinary automobiles and 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). Further, NJ TRANSIT has a fleet of corporate non-revenue service vehicles (police, technology, maintenance, and administration) and Information Systems equipment (e.g., radio towers, radio repeater equipment, ticket vending machines, and a drone). The targets for automobiles, trucks, and other rubber tire vehicles and for steel wheel vehicles are listed below in Table 25.

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

Table 24: NJ TRANSIT Rolling Stock Performance Targets and Progress: Percentage of Support Equipment That Have Met or Exceeded Their Useful Life Benchmark

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Articulated Bus	0%	0%	Yes	0%
Automobile	47.37%	40.16%	Yes	37.98%
Over-the-road Bus	23.6%	20.8%	Yes	18.32%
Bus	24.8%	39.26%	No	58.84%
Cutaway	58.15%	63.03%	No	36.43%
Light Rail Vehicle	0%	0%	Yes	0%
Minivan	0%	0%	Yes	0%
Commuter Rail Locomotive	8.33%	8.19%	Yes	13.33%
Commuter Rail Passenger Coach	0%	0%	Yes	0%
Commuter Rail Self-Propelled Passenger Car	0%	0%	Yes	0%
Van	0%	0%	Yes	0%

Source: NJ TRANSIT, 2023

Table 25: NJ TRANSIT Percentage of Support Equipment That Have Met or Exceeded Their Useful Life Benchmark

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Automobiles	55.38%	55.38%	Yes	55.38%
Trucks and Other Rubber Tire Vehicles	58.53%	64.02%	No	65.89%
Steel Wheel Vehicles	33.33%	37.68%	No	39.13%

Source: NJ TRANSIT, 2023

Table 26: NJ TRANSIT Facility Performance Targets and Progress: Percent of Facilities Rated Below 3 on the TERM Scale

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Passenger/Parking Facilities	4%	2.94%	Yes	4%
Administrative/Maintenance Facilities	4%	2.97%	Yes	4%

Source: NJ TRANSIT, 2023

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

NJ TRANSIT implements the principles of its TAM policy by adopting an SGR policy to maintain capital assets to the level where the asset operates at full performance, in order to provide 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. Table 27 displays the targets for this measure.

Table 27: NJ TRANSIT Infrastructure Performance Targets and Progress: Percentage of Track Segments with Performance Restrictions

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Commuter Rail	1.75%	1.95%	No	1.75%
RiverLINE Light Rail	2.38%	2.38%	Yes	2.38%
Hybrid Rail	0.18%	0.18%	Yes	0.18%

Source: NJ TRANSIT, 2023

DRPA/PATCO TAM Targets and Goals

The Delaware River Port Authority/Port Authority Transit Corporation (DRPA/PATCO) is a bistate corporation that owns and operates four major toll bridge crossings of the Delaware River. Its transit subsidiary, 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, New Jersey. The DRPA owns nine stations in DVRPC's New Jersey region and leases four stations in Philadelphia from the City of Philadelphia. Construction is currently underway to allow a fifth station, Franklin Square, in Philadelphia to become fully functional and in-line with the existing PATCO stations. Franklin Square Station was originally opened in 1936 as part of the Bridge Line operation between 8th & Market in Philadelphia and Broadway in Camden. The station has been opened and closed sporadically since the original opening. The station received its last major update during the last period of passenger service between 1976 and 1979. The project will address improvements to the station's civil, structural, mechanical, and electrical systems and will provide access in compliance with the Americans with Disabilities Act (ADA).

DRPA/PATCO's TAM Plan was first published on October 1, 2018. Similar to NJ TRANSIT, DRPA/PATCO's TAM Plan adheres to the nine federally required elements to ensure assets are in an 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 an SGR. The plan also identifies DRPA's programs and projects aimed at helping to achieve set TAM targets.

On July 27, 2023, the DVRPC Board agreed to be consistent with the respective DRPA/PATCO annual TAM targets and will support the transit operator's efforts at achieving those targets.

(1)Rolling Stock (Percentage of revenue vehicles that have met or exceeded their useful life benchmark) DRPA/PATCO's rolling stock includes all revenue vehicles. The ULB of a self-propelled heavy rail car is 39 years. The DRPA/PATCO had 75 Budd rail cars purchased in 1969 (50 years old) and 45 Vickers cars purchased in 1980 (39 years old). PATCO completed the car overhaul project in April 2019; hence a zero target for cars over their ULB per Table 28.

Table 28: DRPA/PATCO Rolling Stock Performance Target and Progress: Percentage of Rolling Stock That Have Met or Exceeded Their Useful Life Benchmark

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Rolling stock cars over their ULB	0%	0%	Yes	0%

Source: DRPA/PATCO, 2023

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

Table 29: DRPA/PATCO Percentage of Support Equipment That Have Met or Exceeded Their Useful Life Benchmark

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Non-revenue service vehicles over their ULB	20%	16%	Yes	19%

Source: DRPA/PATCO, 2023

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

Table 30: DRPA/PATCO Facility Performance Targets and Progress: Percent of Facilities Rated Below 3 on the TERM Scale

Asset Type	2022 Target	2022 Performance	Target Met?	2023 Target
Passenger stations facilities and parking lots with a performance rating <3	0%	0%	Yes	0%
Administration and maintenance facilities with a performance rating <3	0%	0%	Yes	0%

Source: DRPA/PATCO, 2023

(4) Infrastructure (Percentage 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 in Table 31.

Table 31: DRPA/PATCO Infrastructure Performance Target and Progress: (Percentage of track segments with performance restrictions)

Performance	2022 Target	2022 Performance	Target Met?	2023 Target
Track miles in slow zone restrictions	0.34%	0.34%	Yes	0.38%

Source: DRPA/PATCO, 2023

NJ TRANSIT'S Progress toward TAM Targets

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

A few of NJ TRANSIT's projects and programs that have been allocated over the First-Four Years of the TIP to help achieve TAM Targets include the following:

- Preventive maintenance of the bus system (DB #T135)
- Rail preventive maintenance program (DB #T39), which is used for the overhaul of rail cars and locomotives, and other preventive maintenance costs
- Replacement of rail cars and locomotives that have reached the end of their useful life (DB #T112), and the Bus Acquisition Program to replace buses (DB #T111)

NJ TRANSIT's State Capital Program calls for continued investment in the state's transit infrastructure to maintain an SGR 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 toward TAM Targets

DRPA/PATCO has programmed most of their funding for system preservation and maintenance over the First-Four Years of the TIP. DRPA/PATCO's system preservation projects include the following:

- Preventive maintenance on vehicles and facilities (DB #DR034);
- Rehabilitate and replace interlockings, rail bed, and other rail improvements to ensure overall system safety, reliability, and minimal service disruptions (DB #DR1501)
- Renovate subway structures, such as pedestrian bridges, tunnels, subway stations, pump rooms, and tunnel leakage mitigation (DB #DR1802)
- Rehabilitate platforms at various PATCO stations (DB #DR1803)

DRPA/PATCO 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. The October 2022 DRPA/PATCO Asset Management Plan affirms 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.

4.5 Transit Safety Rule

The Public Transportation Agency Safety Plan (PTASP) regulation, at 49 C.F.R. Part 673, requires covered public transportation providers and state DOTs to establish safety performance targets (SPTs) to address the safety performance measures identified in the National Public Transportation Safety Plan (49 C.F.R. § 673.11(a)(3)). Transit agencies were required to set their initial safety performance targets by December 31, 2020. On July 28, 2022, the DVRPC Board agreed to be consistent with the respective NJ TRANSIT and DRPA/PATCO targets for Transit Safety and will support the transit operators' efforts at achieving those targets displayed below.

- **Fatalities**: Total number of fatalities reported to the National Transit Database (NTD) and rate per total vehicle revenue miles (VRM) by mode.
- **Injuries:** Total number of injuries reported to NTD and rate per total VRM by mode.
- **Safety Events:** Total number of safety events reported to NTD and rate per total VRM by mode.
- **System Reliability**: Mean distance between major mechanical failures by mode.

Transit agencies are required to report their targets and performance to the state Department of Transportation (DOT) and the agency's MPO(s) in order to prioritize funding to improve transit safety performance.

Fatalities

The transit safety performance measure requires that transit providers set annual targets for the number of fatalities that occur on each mode of transit that the agency operates, excluding deaths that result from trespassing, suicide, or natural causes. The NTPSP defines the modes as rail, fixed guideway bus service, and non-fixed route bus service. Fatalities are required to be calculated for both the total number of fatalities and the fatality rate per vehicle revenue mile.

Specific targets are set for the following (as shown in Table 32):

- Total fatalities, by mode, across the transit agency's system
- Rate of fatalities, by mode, per vehicle revenue mile operated by the transit agency

Table 32: Transit Fatalities Targets

Performance Measure	2022 Target	2022 Performance	Target Met?	2023 Target
Fatalities (number/rate per 1 Million Miles) – RiverLINE – NJ TRANSIT	2/1.71	Not Reported	Not Reported	2/1.74
Fatalities (number/rate per 1 Million Miles) – Bus – NJ TRANSIT	6/0.085	Not Reported	Not Reported	5/0.007
Fatalities (number/rate per 100,000 miles) – PATCO	0/0	3/0.07	No	0/0

Source: NJ TRANSIT and DRPA/PATCO, 2023

Injuries

The PTASP requires that transit agencies set annual targets for the number of injuries that occur on each mode of transit that the agency operates. Injuries are defined as "harm to persons that requires immediate medical attention away from the scene." Injuries are required to be calculated for both the total number of injuries and the injury rate per vehicle revenue mile for each of the modes that the agency operates.

Specific targets are set for the following (as shown in Table 33):

- Total injuries, by mode, across the transit agency's system
- Rate of injuries, by mode, per vehicle revenue mile operated by the transit agencies

Table 33: Transit Injuries Target

Performance Measure	2022 Target	2022 Performance	Target Met?	2023 Target
Passenger Injuries (number/rate per 1 Million Miles) – RiverLINE – NJ TRANSIT	1/0.85	Not Reported	Not Reported	3/2.61
Passenger Injuries (number/rate per 1 Million Miles) – Bus – NJ TRANSIT	173/2.45	Not Reported	Not Reported	160/2.25
Employee Injuries (number/rate per 1 Million Miles) – RiverLINE – NJ TRANSIT	1/0.85	Not Reported	Not Reported	1/0.87
Employee Injuries (number/rate per 200,000 hours) – Bus – NJ TRANSIT	431/7.67	Not Reported	Not Reported	406/5.7
Injuries (number/rate per 100,000 miles) – PATCO	41 / 1	18/0.42	Yes	41/1

Source: NJ TRANSIT and DRPA/PATCO, 2023

Safety Events

Transit providers are required to set annual targets for the number and rate of safety events, by mode, that occur across the transit agency's system. A safety event is defined by FTA as a "collision, derailment, fire, hazardous material spill, or evacuation." Safety events are required to be calculated for both the total number of events and the event rate per vehicle revenue mile for each of the modes that the agency operates.

Specific targets include the following (as shown in Table 34):

- Total safety events, by mode, across the transit agency's system
- Rate of safety events, by mode, per vehicle revenue mile operated by the transit agency

Table 34: Transit Safety Events Target

Performance Measure	2022 Target	2022 Performance	Target Met?	2023 Target
NJ TRANSIT RiverLINE Collisions (Number/Rate per Million Miles)	10 / 8.53	Not Reported	Not Reported	9/7.83
NJ TRANSIT RiverLINE Fire Events (Number/Rate per Million Miles)	0 / 0	Not Reported	Not Reported	1/0.87
NJ TRANSIT Bus Collisions (Number/Rate per Million Miles)	222 / 3.14	Not Reported	Not Reported	222/3.12
NJ TRANSIT Fire Events (Number/Rate per Million Miles)	6 / 0.09	Not Reported	Not Reported	4/0.06
DRPA PATCO System (Number/Rate per 100,000 Miles)	50 / 1	27/.062	Yes	50/1

Source: NJ TRANSIT and DRPA/PATCO, 2023

System Reliability

Transit providers are required to set annual targets for the agency's system reliability for each mode of transit that the agency operates. The system reliability performance measure accounts for major mechanical failings of a vehicle that prevent the vehicle from starting or completing a scheduled trip. Mechanical failings and interrupted trips can create hazardous conditions for the transit operators and passengers depending on the location of the service interruption and if passengers are required to de-board in unsafe locations.

Specific targets include the following (as Shown in Table 35:

– Miles traveled between major mechanical failures calculated for each mode that the transit agency Operates

Table 35: Transit System Reliability Target: Mean Distance in Miles between Major Service Failures

Performance Measure	2022 Target	2022 Performance	Target Met?	2023 Target
NJ TRANSIT RiverLINE	19,896	Not Reported	Not Reported	19,084
NJ TRANSIT Bus	6,540	Not Reported	Not Reported	6,313
DRPA's PATCO System (total failures)	230	206	Yes	230

Source: NJ TRANSIT and DRPA/PATCO, 2023

The DVRPC Board adopted these transit safety targets on October 26, 2023.

Coordination and Progress toward Transit Safety Targets

49 C.F.R. § 673.15(b) requires, to the maximum extent practicable, a state or transit agency to coordinate with states and MPOs in the selection of State and MPO safety performance targets; and in accordance with 49 U.S.C. 5303(h)(2)(B) and 5304(d)(2)(B), states and transit agencies must make their safety performance targets available to states and MPOs to aid in the planning process. MPOs are required to set performance targets for each performance measure, per 23 C.F.R. § 450.306; and these must be established 180 days after the transit agency establishes their performance targets. FTA will not impose penalties for failing to meet safety performance targets set by transit providers. DVRPC had coordinated with both transit operating agencies on target setting and agreed to accept their Transit Safety Targets at the October 26, 2023 DVRPC Board Meeting.

DVRPC is required to list the NJ TRANSIT and DRPA/PATCO projects in the DVRPC FY2024 TIP for New Jersey. The Transit Safety Rule requires MPOs to describe how the region's TIP will help to achieve the Transit Safety targets. Transit safety, and safety in general, is a high priority for all projects in the TIP as shown by Safety being the highest weighted criterion of the DVRPC Long-Range Plan/TIP Project Benefit Evaluation Criteria.

NJ TRANSIT's 10-year strategic plan, *NJT 2030,* states that NJ TRANSIT's mission is to "move New Jersey and the region by providing safe, reliable and affordable public transportation that connects people to their everyday lives, one trip at a time," and the first of its five goals is to "ensure the reliability and continued safety of our transit system." One of the ways that the plan sets forth to measure success for this goal, is to "strive for zero preventable injuries and fatalities across all modes by 2025, with an annual decrease of 20 percent."

PROJECTS SUPPORTING MEASURE 1: FATALITIES, MEASURE 2: INJURIES, AND MEASURE 3: SAFETY EVENTS

To reduce the number of fatalities, injuries and safety events, NJ TRANSIT and DRPA/PATCO are implementing projects that will help reduce rail vehicle collisions and improve passenger safety for all transit users in and around NJ TRANSIT and DRPA/PATCO's operating environments.

NJ TRANSIT takes every precaution to ensure both passenger and public safety on their bus, rail and light rail systems. NJ TRANSIT operates a risk-based safety management system (SMS), a data-driven process to proactively manage public transportation system risks. The SMS is intended to change the safety culture to reduce safety-related events by making safety everyone's responsibility, empowering employees to play a role in safety, and encouraging employees and contractors to report safety concerns to senior management.

- **ADA-Platforms/Stations (DB #T143)** provides for the design and construction of necessary repairs to make NJ TRANSIT's rail stations and subway stations more accessible per the requirements of the Americans with Disabilities Act (ADA), including related track and infrastructure work.
- **Bridge and Tunnel Rehabilitation (DB #T05)** provides for the design, repair, rehabilitation, replacement, painting, and inspection of tunnels/bridges, in addition to other work such as the movable bridge program, drawbridge power program, and culvert/bridge/tunnel right of way improvements necessary to maintain a state of good repair.
- **High Speed Track Program (DB #T43)** is an annual program of high-speed track rehabilitation including high speed surfacing, systemwide replacement of life-expired ties and other rail improvements, right-of-way fencing, equipment necessary to maintain a state of good and safe repair, purchase of long lead-time materials for the next construction season, maintenance-of-way work equipment, interlocking improvements, passing sidings, and other improvements, materials and services as necessary.

- **Track Program (DB #T42)** is an annual program of track rehabilitation including system wide replacement of life-expired ties and other rail improvements, right-of-way fencing, equipment necessary to maintain a state of good and safe repair, purchase of long lead-time materials for the next construction season, maintenance-of-way work equipment, interlocking improvements, passing sidings and other improvements.
- **Light Rail Infrastructure Improvements (DB #T95)** includes but is not limited to communication systems upgrade, accessibility improvements, vehicle and facility improvements, and other infrastructure rehabilitation improvements, including rolling stock enhancements, for the RiverLINE.
- **Other Rail Station/Terminal Improvements (DB #T55)** provides for the design, land acquisition and construction of various stations, platform extensions, parking and related facilities, and upgrades throughout the system, including related track and rail infrastructure work.
- **Safety Improvement Program (DB #T509)** provides for safety improvement initiatives systemwide addressing bus, rail, light rail, Access Link and other identified safety needs.
- **Security Improvements (DB #T508)** provides for continued modernization/improvements of NJ TRANSIT Police and other security improvements. Today, the NJ TRANSIT Police Department is the only transit policing agency in the country with statewide authority and jurisdiction.
- **Signals and Communications/Electric Traction Systems (DB #T50)** provides for continued modernization/improvements to the signal and communications systems, including signal/communication upgrade of interlockings, and other communication improvements. In addition, funding will be provided for Positive Train Control (PTC) training facilities including but not limited to equipment purchasing, engineering, design, planning, construction, acquisitions and other associated costs. Note that PTC is a major safety initiative underway at NJ TRANSIT. PTC uses Global Positioning System (GPS) technology, Wi-Fi, and high-frequency radio transmission to automatically control train speeds. PTC is capable of automatically controlling train speeds and movements, thereby reducing the risk of accidents due to human error. PTC will make train accidents, already rare, even less likely. Implementation of PTC enhances the safety of NJ TRANSIT rail customers and employees and is required by federal law. Details of NJ TRANSIT's PTC program can be found at www.njtransit.com/ptc.

DRPA/PATCO:

- **PATCO Stations Modernizations (DB #DR2006)** provides for the modernization of all PATCO stations and to extend the useful life of the stations and their major components.
- **PATCO Viaduct Preservation Project (DB #DR2007)** will improve and protect the Collingswood and Westmont viaducts, extending the useful life of this portion of the PATCO infrastructure.
- **Electrical Cable Replacement (DB #DR008)** provides for systemwide replacement of electrical cable to improve reliability and fire resistance.
- **Embankment, Fence, and Retaining Wall Restoration/Rehabilitation (DB #DR2302)** will address embankment restoration to prevent erosion and preserve drainage control.
- **PATCO Interlocking & Track Rehabilitation (DB #DR1501**) includes rehabilitation and replacement of interlockings, rail bed, and other rail improvements to ensure overall system safety, reliability, and minimal service disruptions.
- **PATCO Station Platform Rehabilitation (DB #DR1803)** includes planning, design, and reconstruction of PATCO Station Platforms. Work will include rehabilitation as well as replacement of concrete platforms and supporting structures including concrete and steel repairs for passenger safety.
- **Pedestrian Bridge and Tunnel Rehabilitation (DB #D1305)** provides for the planning, design, and construction to rehabilitate Pedestrian Bridges and Tunnels. The projects will allow for preventive

repairs of bridges and tunnels owned by PATCO, including structural steel and concrete repairs, installation of protective coating, miscellaneous steel repair, joint filler and spot paint.

- **Rehabilitation of PATCO Bridges (DB #D1912)** provides for the planning, design, and construction to rehabilitate PATCO Bridges.
- **Subway Structures Renovation (DB #DR1802)** will provide for preventive repairs of pedestrian bridges, tunnels, subway stations, and pump rooms owned by PATCO, including but not limited to miscellaneous steel repair, concrete repair, joint filler, painting, waterproofing, and tunnel leakage mitigation throughout the PATCO High Speed Line System.
- **Relocation of Center Tower/SCADA Modernization (DB #DR038)** includes the purchase and installation of new equipment for centralized train control, traction power control, and integrated customer service/communication.
- **Smoke and Fire Control (DB #DR019)** will provide smoke and fire control for evacuation of patrons in emergencies and ventilation improvements.

PROJECTS SUPPORTING MEASURE 4: SYSTEM RELIABILITY

To ensure safe, efficient, and reliable service to NJ TRANSIT and DRPA/PATCO riders, it is paramount that system infrastructure and revenue fleet equipment remain reliable and minimize failures that can cause either operating agency to suspend or significantly delay service. The following programs will be implemented to help maintain system reliability.

NJ TRANSIT:

- **Bus Acquisition Program (DB #T111)** provides for the replacement of transit, commuter, Access Link, and suburban buses for NJ TRANSIT as they reach the end of their useful life and the purchase of additional buses to meet service demands.
- **Bus Support Facilities and Equipment (DB #T08)** will maintain NJ TRANSIT's bus fleet, including but not limited to bus tires, engines and transmissions and other parts, support vehicles/equipment (for bus operations), maintenance equipment, and bus mid-life overhaul needs. Also included is midlife rehabilitation of bus facilities, other capital improvements to various support facilities and bus midlife overhauls, including but not limited to acquisition of properties and any items or services needed to support the acquisition.
- **Preventive Maintenance-Bus (DB #T135)** provides for the overhaul of buses including preventive maintenance costs in accordance with federal guidelines as defined in the National Transit Database Reporting Manual and federal law.
- **Preventive Maintenance-Rail (DB #T39)** provides for the overhaul of rail cars and locomotives and other preventive maintenance costs in accordance with federal funding guidelines as defined in the National Transit Database Reporting Manual and federal law.
- **Locomotive Overhaul (DB #T53E)** provides for the cyclic overhaul of locomotives based on manufacturer replacement standards to support the equipment through its useful life.
- **Rail Fleet Overhaul (DB #T53G)** provides for the mid-life overhaul and reliability/safety improvements of rail cars based on manufacturer recommendations and other rolling stock modifications to meet mandated standards.
- **Rail Rolling Stock Procurement (DB #T112)** provides 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.

- **NEC Improvements (DB #T44)** provides for improvements to the Northeast Corridor (NEC) to maintain a state of good repair, increase capacity, and improve efficiency.
- **Technology Improvements (DB #T500)** provides for improvements to passenger communication and fare collection systems and other information technology improvements to meet internal and external customer needs. Funding is included for Public Address Upgrades/Onboard Communication Systems, Bus Radio System Upgrade Program, GIS Systems, TVM Replacement/Expansion, Smart Card Technology and improvements at stations system wide, computer systems and services, photocopy lease payments, ADA Access Link computer upgrades and upgrades to increase efficiency and productivity of NJ TRANSIT's technology infrastructure to support services to customers.
- **High Speed Track Program (DB #T43)** is an annual program of high-speed track rehabilitation including high speed surfacing, systemwide replacement of life-expired ties and other rail improvements, right-of-way fencing, equipment necessary to maintain a state of good and safe repair, purchase of long lead-time materials for the next construction season, maintenance-of-way work equipment, interlocking improvements, passing sidings, and other improvements, materials and services as necessary.
- **Track Program (DB #T42)** is an annual program of track rehabilitation including system wide replacement of life-expired ties and other rail improvements, right-of-way fencing, equipment necessary to maintain a state of good and safe repair, purchase of long lead-time materials for next construction season, maintenance-of-way work equipment, interlocking improvements, passing sidings and other improvements.
- **Light Rail Infrastructure Improvements (DB #T95)** includes but is not limited to communication systems upgrade, accessibility improvements, vehicle and facility improvements, and other infrastructure rehabilitation improvements, including rolling stock enhancements, for the RiverLINE.
- **Signals and Communications/Electric Traction Systems (DB #T50)** provides for continued modernization/improvements to the signal and communications systems, including signal/communication upgrade of interlockings, and other communication improvements. In addition, funding will be provided for Positive Train Control training facilities including but not limited to equipment purchasing, engineering, design, planning, construction, acquisitions and other associated costs.

DRPA/PATCO:

- **DRPA - Rebuild PATCO Cars (DB #DR046)** provides for the replacement of PATCO's existing car fleet, through complete rebuilding of existing cars.
- **Electrical Cable Replacement (DB #DR008)** provides for systemwide replacement of electrical cable to improve reliability and fire resistance.
- **PATCO Interlocking & Track Rehabilitation (DB #DR1501**) includes rehabilitation and replacement of interlockings, rail bed, and other rail improvements to ensure overall system safety, reliability, and minimal service disruptions.
- **PATCO Track Resurfacing & Rail Profile Grinding (DB #D1911)** involves adjusting the track to eliminate minor horizontal and vertical shifts that impact ride quality. Work also includes the replacement of rail ties, ballast cleaning, and improvements to the shoulder that impact the track.
- **PATCO Rail Replacement - Ferry Avenue to Broadway (DB #DR2008)** provides for the replacement of approximately 40,000 linear feet of rail between Ferry Avenue and Broadway stations that are at the end of their useful life.
- **PATCO Viaduct Preservation Project (DB #DR2007)** will improve and protect the Collingswood and Westmont viaducts, extending the useful life of this portion of the PATCO infrastructure.

- **Electrical Cable Replacement (DB #DR008)** provides for systemwide replacement of electrical cable to improve reliability and fire resistance.
- **Preventive Maintenance (DB #DR034)** provides for preventive maintenance expenses pertaining to activities performed on vehicles and facilities.
- **Pedestrian Bridge and Tunnel Rehabilitation (DB #D1305)** provides for the planning, design, and construction to rehabilitate Pedestrian Bridges and Tunnels. The projects will allow for preventive repairs of bridges and tunnels owned by PATCO, including structural steel and concrete repairs, installation of protective coating, miscellaneous steel repair, joint filler and spot paint.
- **Rehabilitation of PATCO Bridges (DB #D1912)** provides for the planning, design, and construction to rehabilitate PATCO Bridges.
- **Subway Structures Renovation (DB #DR1802)** will provide for preventive repairs of pedestrian bridges, tunnels, subway stations, and pump rooms owned by PATCO, including but not limited to miscellaneous steel repair, concrete repair, joint filler, painting, waterproofing, and tunnel leakage mitigation throughout the PATCO High Speed Line System.
- **Relocation of Center Tower/SCADA Modernization (DB #DR038)** includes the purchase and installation of new equipment for centralized train control, traction power control, and integrated customer service/communication.
- **Transit Enhancements (DB #DR036)** will support enhancements to the PATCO High Speed Line.
- **PATCO Substation Improvements (DB #DR2304)** will include upgrades to equipment, including rehabilitation of the buildings at New Jersey PATCO substations.