



**CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT (CMAQ)  
PERFORMANCE PLAN FOR THE NJDOT MID PERFORMANCE PERIOD REPORT 2018-  
2021 PERFORMANCE PERIOD**

**October 2020**

**North Jersey Transportation Planning Authority**



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***Title VI Compliance***

*The NJTPA is committed to seeking input from those who have been historically under-represented in transportation planning decisions. Federal legislation such as the Americans with Disabilities Act (ADA) and Title VI of the Civil Rights Act of 1964 have public participation requirements that MPOs must implement to ensure access to the planning process for protected populations. To meet these requirements, the NJTPA takes steps to include people with disabilities, minority and low-income populations, and those with limited English proficiency (LEP) which are discussed throughout the PEP. In accordance with the Federal Transit Administration Title VI circular, FTA C 4702.1B, the PEP serves as the NJTPA's outreach plan for minority and limited English proficient populations. In accordance with Executive Order 12898 on Environmental Justice, the NJTPA has integrated environmental justice concerns across all of its planning activities. This includes efforts to ensure that transportation benefits and burdens are distributed equally among all people in the region, in part by making concerted efforts to involve low-income and minority residents in transportation planning. The NJTPA also encourages participation in its CMAQ program those traditionally underserved by existing transportation systems, including, but not limited to, low income and minority households.*

**STATE:** New Jersey

**URBANIZED AREAS:** New York–Newark, NY–NJ–CT Urbanized Area,  
Philadelphia, PA–NJ–DE–MD Urbanized Area

## **INTRODUCTION**

This performance plan supports the Congestion Mitigation and Air Quality Improvement (CMAQ) Program in the North Jersey Transportation Planning Authority (NJTPA) region, particularly by using associated national performance measures. The plan accompanies the mid period performance report prepared by the New Jersey Department of Transportation (NJDOT) for the 2018-2021 performance period. Reflecting an extensive and cooperative planning process, the document details established performance targets for the NJTPA region and applicable urbanized areas. It also describes progress achieved toward those targets, and projects identified for CMAQ funding during the remaining half of the current performance period.

## **BACKGROUND**

The NJTPA is the federally authorized Metropolitan Planning Organization (MPO) for 6.8 million people in the 13-county northern New Jersey region. Each year, the NJTPA oversees more than \$2 billion in transportation improvement projects and provides a forum for interagency cooperation and public input. It also sponsors and conducts studies, assists county planning agencies and monitors compliance with national air quality goals. The NJTPA maintains a performance-based decision-making process. This strategic approach relies on data, performance indicators, forecasting and analysis to make effective decisions on investment, making sure to support regional planning goals and federal, state and local priorities. The NJTPA's Regional Capital Investment Strategy and Project Prioritization Criteria exemplify the approach. Additional elements include the identification of CMAQ projects and broader performance measure monitoring.

The NJTPA is part of the New York–Newark, NY–NJ–CT urbanized area (UZA), which has a population of nearly 19 million people. The NJTPA also has a small overlap with the Philadelphia, PA–NJ–DE–MD UZA, which has a population of approximately 5.5 million.

Due to the fact that the NJTPA region contains designated nonattainment and maintenance areas that overlap an urbanized area with a population above 1 million, regulations<sup>1</sup> require that the NJTPA prepare this CMAQ Performance Plan. Portions of the NJTPA region are in nonattainment or maintenance for the criteria pollutants of ozone, fine particulate matter (PM<sub>2.5</sub>) and carbon monoxide (CO). The entire NJTPA region is part of the New York-Northern New Jersey-Long Island, NY–NJ–CT 8-hour ozone nonattainment

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<sup>1</sup> 23 CFR 490.107(c)(3)

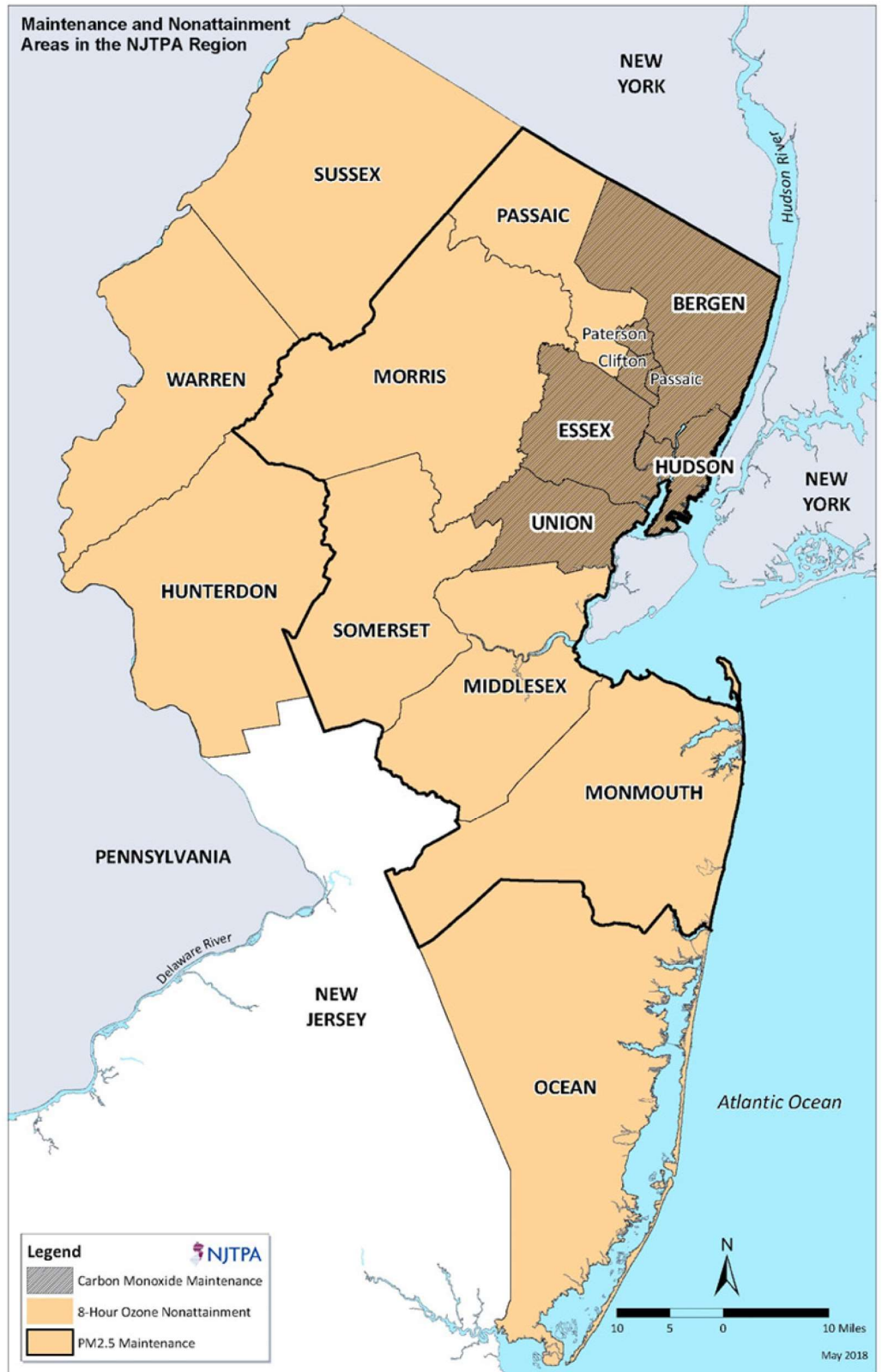


Figure 1: Maintenance and Nonattainment Areas in the NJTPA Region (map)

Nine NJTPA counties are part of the New York-Northern New Jersey-Long Island, NY–NJ–CT annual and daily PM2.5 maintenance areas, and four (plus a portion of a fifth) are part of the New York-Northern New Jersey-Long Island, NY–NJ–CT CO maintenance area. The NJTPA region nonattainment and maintenance area designations are shown in the map above (Figure 1).

## PERFORMANCE MEASURES

The CMAQ Performance Plan is required to include three performance measures. Two address traffic congestion, aggregated at the UZA level: **percent non-single occupant vehicle (non-SOV) travel**, and **peak hour excessive delay (PHED) per capita**. The third measure addresses **total criteria pollutant emissions reductions from CMAQ projects**, for the NJTPA region (specifically tied to corresponding nonattainment or maintenance areas for those pollutants).

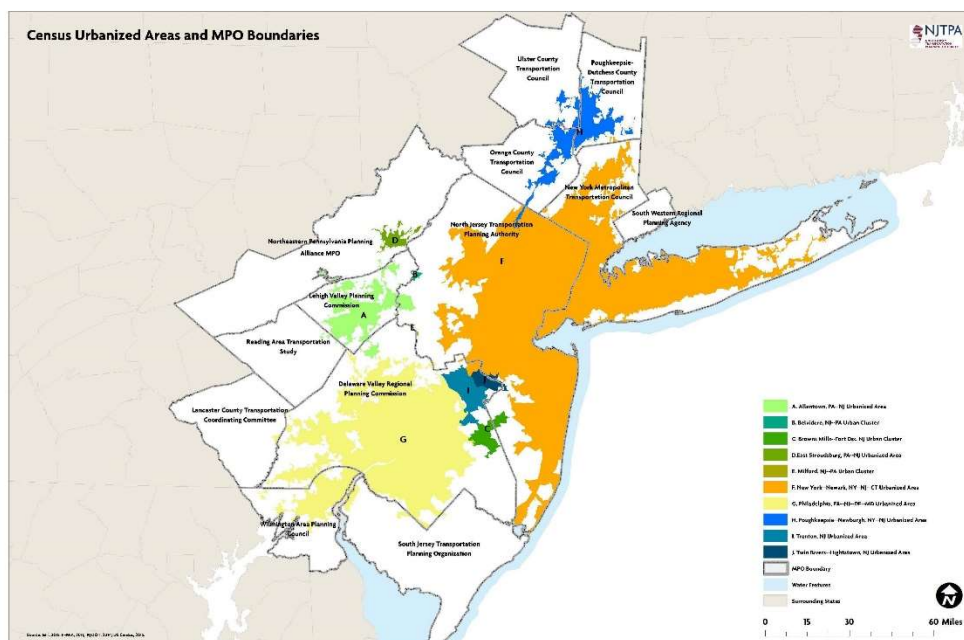


Figure 2: Census Urbanized Areas (UZA) in the NJTPA Region (map)

The three measures were evaluated to assess the mid performance period condition/performance as described below. The measures were also analyzed to collaboratively develop UZA traffic congestion targets and NJTPA region pollutant emissions reductions targets. Finally, the plan’s list of future CMAQ projects specifically identifies how those projects should help to achieve the congestion and emissions targets in the next two-year period.

### *Coordination on Performance Measure Analysis*

The **annual hours of peak hour excessive delay (PHED) per capita** and **percent non-SOV travel** measures involved considerable coordination. The NJTPA worked closely with partners in both the New York–Newark and Philadelphia UZAs, compiling and analyzing data, considering policy and practical factors, and developing suitable benchmarks and targets.

The New York–Newark UZA only has national highway system (NHS) roadways in New Jersey and New York. Thus, only three MPOs—NJTPA, the New York Metropolitan Transportation Council (NYMTC), and the Delaware Valley Regional Planning Commission (DVRPC)—and two state Departments of Transportation—NJDOT and NYSDOT—are responsible for setting and reporting targets for these measures. However, the coordination group also included three additional MPOs—the South Western Region Metropolitan Planning Organization (SWRMPO), part of the Western Connecticut Council of Governments, the Orange County [NY] Transportation Council, and the South Jersey Transportation Planning Organization (SJTPO)—and two additional state departments of transportation—Connecticut DOT and Pennsylvania DOT (PennDOT). Also participating in the New York–Newark UZA coordination group meetings were staff from two Federal Highway Administration (FHWA) divisions—New Jersey and New York. The New York–Newark UZA coordination group met on May 21, 2020 to work on CMAQ traffic congestion measures. A subgroup met to discuss specifics of data and tools.

The Philadelphia UZA has NHS roadways in four states: Pennsylvania, New Jersey, Delaware, and Maryland. The coordination group meetings included seven MPOs—NJTPA, DVRPC, SJTPO, the Wilmington Area Planning Council, the Lehigh Valley [PA] Transportation Study, the Reading [PA] Area Transportation Study (RATS), and the Lancaster County [PA] Transportation Coordinating Committee (LCTCC)—and four state DOTs—PennDOT, Delaware DOT, Maryland DOT, and NJDOT. The group met on March 12, 2020 and June 11, 2020.

For the CMAQ emissions reduction measure, coordination with the New Jersey Air Quality Working Group (with subject matter experts from NJDOT, the New Jersey Department of Environmental Protection (NJDEP), NJTPA, DVRPC, and SJTPO) took place via email. A decision was made not to update the 4-year emissions reduction targets. All three MPOs in New Jersey contain nonattainment and/or maintenance areas and the coordination ensured a consistent approach across MPOs.

## MID PERFORMANCE PERIOD CONDITION/PERFORMANCE

### *Percent non-SOV Travel*

This performance measure recognizes the role that single-occupant vehicles play in contributing to traffic congestion and pollutant emissions. **Percent non-SOV travel** for the urbanized area is calculated using U.S. Census American Community Survey (ACS) data about journey-to-work trips. Non-SOV includes carpool, train, bus, walk, bike, taxi, rideshare, working at home, etc.—anything other than driving alone.

The most current 5-year ACS data (an aggregate 2014-2018 value) shows that, for the **New York–Newark UZA**, over half (**51.7%**) of the residents use a non-SOV mode as their primary commute mode. This represents a slight increase from the baseline number, 51.6%. For target setting, the partner agencies took into account the recent trend of modest increases in the measure and other considerations, including: consistency with policy goals, long-range forecasts, other trends in population, employment and ridesharing, public transit capacity constraints, the limited short-term impact of transportation projects and programs, and the uncertainty from numerous external factors.

For the **Philadelphia UZA**, the 2014-2018 5-year ACS reports that slightly more than one quarter (28.2%) of the residents use a non-SOV mode for their journey to work. Similar to the New York–Newark UZA, non-SOV use in the **Philadelphia UZA** has shown modest increases in recent years, and the agencies took into account similar considerations as discussed in the **New York–Newark UZA**.

### ***Annual Hours of PHED Per Capita***

This is a measure of congestion on all NHS roadways (mostly roads that are principal arterials or greater functional class) in each urbanized area. The measure sums up the delay experienced by travelers throughout an entire year on those roads, specifically during peak periods (weekdays from 6-10 am and 3-7 pm).

The use of the word “excessive” reflects that some level of congestion is recognized as acceptable and is thus not counted. FHWA defines excessive delay as travel slower than 20 miles per hour or 60 percent of the posted speed limit, whichever is greater. The excessive travel time is the time beyond what it would take to travel at these threshold speeds. The “per capita” implies that the total delay is shared by all residents; hence if some trips can be avoided or shifted to walking or biking or shifted out of the peak period, the measure would show improvement. The delay is added for all travelers. Hence a bus with 25 passengers excessively delayed by 10 minutes adds up to 250 person-minutes of delay.

Data for this measure is based largely on archived real-time travel statistics reported at 15-minute intervals for the entire year. Other data on traffic volumes and vehicle types, distributions of traffic over the peak periods and estimates of vehicle occupancy are included. Annual person-hours of excessive delay on each roadway segment is summed for the entire urbanized area and divided by the population of the urbanized area.

The Peak Hour Excessive Delay (PHED) measure calculation method has changed since the 2018 CMAQ (“Baseline”) Performance Plan. For the New York-Newark UZA, the PHED measure is calculated using values from the NPMRDS Analytics Suite (hosted by UMD CATTLab) for the sections of NHS within New Jersey, and from the NPMRDS PM3 Tools (hosted by SUNY AVAIL) for the sections of NHS within New York. Using the latest calculation methods and data from each of the tools, the updated baseline (2017) value for the PHED measure for the New York-Newark UZA is now 24.4 person-hours per capita. (However, note that, using the methods and data that were in place at the time each state DOT submitted its HPMS data for 2017, that value was 24.1 person-hours per capita.) Furthermore, the change in PHED from 2017 (down to 22.2 in 2019) is likely mostly from a reduction in the system mileage being reported on (system mileage itself normally does not change drastically in two years). For the Philadelphia UZA, the updated baseline (2017) value for the PHED measure is 16.1 person-hours per capita.

Currently, it appears that, within the **New York-Newark UZA**, there was **approximately 22.2 hours per capita of peak hour excessive delay in 2019**. For the **Philadelphia UZA**, the estimate of current (2019) peak hour excessive delay is **14.8 hours per capita**.

### ***CMAQ Emissions Reduction***

As noted, the NJTPA is required to set quantitative targets for pollutant emissions reductions from CMAQ projects within its nonattainment and maintenance areas.

Separate emission reduction targets are required for each nonattainment or maintenance area pollutant, or precursor. For the NJTPA region, these are CO and PM<sub>2.5</sub>, along with the ozone precursors of volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>). The required emissions reduction targets identify the amount of pollutant emissions (in kilograms per day, or kg/day) estimated to be reduced by CMAQ-funded projects within the corresponding nonattainment or maintenance area(s), summed over the applicable fiscal years. The 2-year target represented the emissions reductions from CMAQ projects authorized within FY 2018 and FY 2019, while the 4-year target

represents the emissions reductions from CMAQ projects that will first be authorized within FYs 2018, 2019, 2020, and 2021.

Through coordination with the New Jersey Air Quality Working Group, baselines and targets were identified and agreed on at MPO-level for the emissions reductions from CMAQ projects. Because New Jersey is completely covered by MPOs, these MPO-level baselines and targets were combined to create the statewide baseline and targets.

As a baseline, the Air Quality Working Group examined emissions reductions from CMAQ projects authorized during the last four fiscal years (FY 2014 – FY 2017). The baseline used required data from the FHWA CMAQ Public Access System (PAS) with corrections including eliminating duplicate projects and adding projects not counted in the system. For target setting, the group took into account the baseline and the partner agencies’ commitment to sustaining the level of effort with CMAQ program pollutant reductions. Looking at the entire four-year baseline period was appropriate because of variations in specific projects from year to year. (The four-year sum also helps to address an accounting complexity for this measure—emission reduction benefits are assigned to the first year that projects are authorized, even if the benefits are spread over longer periods.) The target setting also considered that vehicles are becoming cleaner (less polluting) over time, making it more challenging to achieve pollutant reductions by reducing vehicle miles traveled.

The baseline, mid performance period condition (which corresponds to the 2-year target) and 2- and 4-year targets are shown in the below table. The mid-performance period condition is derived from data in the PAS for FY 2018 and FY 2019, including statewide projects distributed to NJTPA based on the regional share of statewide VMT.

| GEOGRAPHY                          | POLLUTANT         | NJTPA REGION (KG/DAY)                      |  |                         |                         |
|------------------------------------|-------------------|--|--|-------------------------|-------------------------|
|                                    |                   | ADJUSTED BASELINE (FY14-FY17) <sup>1</sup> | MID PERFORMANCE PERIOD CONDITION (FY18-FY19 PAS) | 2-YR TARGET (FY18-FY19) | 4-YR TARGET (FY18-FY21) |
| CO Maintenance Area                | CO                | 67.376                                     | 145.495  | 31.927                  | 63.010                  |
| PM <sub>2.5</sub> Maintenance Area | PM <sub>2.5</sub> | 4.312                                      | 48.382   | 1.663                   | 3.267                   |
| Ozone Nonattainment Area           | VOC               | 31.937                                     | 79.241   | 14.026                  | 27.318                  |
|                                    | NO <sub>x</sub>   | 206.771                                    | 752.218  | 101.722                 | 202.745                 |

<sup>1</sup> Without duplicates/erroneous data, and with NJ TRANSIT projects added.

## ASSESSMENT OF PROGRESS TOWARD ACHIEVING TARGETS

In 2018, the NJTPA Board of Trustees approved the cooperatively-developed UZA congestion and NJTPA region pollutant emissions reduction targets. The targets are



identified and described below, along with progress toward achieving the targets in the mid performance period.

According to FHWA's guidance on CMAQ Performance Plans, the Mid Performance Period Progress Report, MPOs must provide an assessment of progress towards achieving targets. At the end of the report is a detailed list of projects from the two halves of this performance period, FY2018-FY2019 and FY2018-FY2021, that help NJPTA meet 2- and 4-year targets set in the 2018 Performance Plan.

When quantifying target achievement, NJTPA quantified emissions reductions quantified, by project, in FHWA's CMAQ PAS, which is populated by NJDOT. The performance report includes cumulative emissions reductions for CMAQ-funded projects within NJTPA's region.

With the implementation of CMAQ projects, the NJTPA has met the two-year Percent non-SOV Travel and CMAQ emissions reductions targets that were set in the 2018 Baseline Report. The NJTPA is also expected to meet the four-year targets for all three performance measures (in fact, it has already exceeded the four-year targets for the emissions reduction measures).

### ***Percent non-SOV Travel***

Based on the considerations described above, the **New York-Newark UZA** MPOs and state DOTs agreed that an appropriate **2-year target** (for the 2014-2018 period) is to maintain the percent non-SOV travel at **51.6 percent**; and that an appropriate **4-year target** (for the 2016-2020 period) would be a slight increase to **51.7 percent**.

The **Philadelphia UZA** MPOs and state DOTs agreed that an appropriate **2-year target** (for the 2014-2018 period) is a slight increase in the percent non-SOV travel, to **28.0 percent**; and that an appropriate **4-year target** (for the 2016-2020 period) would be an additional slight increase to **28.1 percent**.

As discussed in the preceding section, the 2-year target for each UZA have been met, according to data from the 2014-2018 5-year ACS. It is expected that the 4-year target for each UZA will be achievable, unless drastic increases in non-SOV travel happens as a result of the COVID-19 pandemic.

### ***Annual Hours of PHED Per Capita***

Given similar considerations for the percent non-SOV measure and noting that other measures of delay have been increasing recently, the **New York-Newark UZA** MPOs and state DOTs agreed that an appropriate **4-year target** (benchmark) for peak hour excessive delay in 2021, would be **22.0** hours per capita. Note that a 2-year target is not required for this measure.

The agreed **4-year target** (benchmark) is **17.2 hours per capita** for the **Philadelphia UZA**.

While 2-year targets for this measure were not required, it is expected that the 4-year targets will be achievable, unless drastic increases in peak hour congestion happen as a result of the COVID-19 pandemic.

## ***CMAQ Emissions Reduction***

To develop targets, an annual average for each pollutant was calculated for the baseline period (FY 2014–FY 2017), accounting for the relative “cleanliness” of the vehicles during each year. This average was then projected forward for each fiscal year during the performance period (FY 2018–FY 2021), again adjusting for the anticipated cleaner vehicles in the future. The 2-year target was set as the sum of the emissions reduction projections for FY 2018 and FY 2019, and the 4-year target was set as the sum of the emissions reduction projections for FY 2018 through FY 2021. The existing targets are shown in the table in the preceding section and are unchanged from the 2018 CMAQ Performance Plan.

As shown in the preceding section, the emissions reduction data taken from the PAS for FY 2018 and FY 2019 greatly exceed the 2- and 4-year targets for each pollutant. This is largely a result of the statewide program for traffic signal optimization support services.

## **DESCRIPTION OF PROJECTS**

The NJTPA and its partner agencies identify and develop CMAQ projects following federal requirements, to improve the region’s air quality and manage traffic congestion. The accompanying Project Description Table lists projects identified for CMAQ funding in the NJTPA region in the coming performance period. For each project (or group of projects), anticipated benefits are described as they relate to the CMAQ congestion and air pollutant reduction performance measures.

The table lists “Initial TIP Program Fiscal Year,” which represents the first year that the project is anticipated to receive CMAQ funding. This is important because emission reduction benefits are only entered into the PAS for the first year that the project receives CMAQ funding.

The table is organized in sections relating to the 4-year targets and 2-year targets for the next performance period. Within each section, projects are sorted by project type. The initial section includes projects that are anticipated to receive initial CMAQ funding during FY 2018 and FY 2019 (the period covered by the 2-year target). The second lists projects for FY 2020 and FY 2021. The final section includes projects that will continue to receive funding during the performance period but have already received CMAQ funding (prior to FY 2018). These projects will not technically help to meet the emission reduction targets (because their benefits have already been entered into the PAS), but they should contribute to meeting the congestion targets. In addition, if funding for these projects were to be eliminated, emission benefits would also be lost as well.

## **NEXT STEPS**

Overall, the projects in the CMAQ Project Description Tables will assist the region meet the CMAQ congestion and emission reduction targets in this plan. Coupled with projects funded and implemented through other programs, they should help the region reach environmental, economic, quality of life and other social goals. The NJTPA seeks to implement CMAQ projects in environmental justice/low-income/minority communities since they are disproportionately affected by poor air quality.

The NJTPA is in the process of selecting CMAQ funded projects for 2021 – 2023. Once these projects become part of NJTPA’s CMAQ program, they will have positive effects on reducing emissions and towards attaining the congestion measure goals. As

these projects move towards federal authorization, they will be included in upcoming CMAQ Performance plans, since according to FHWA guidance, only the emissions benefits from new projects will count toward the established targets.

The NJTPA, working with its partner agencies, will continue to identify and develop CMAQ projects based on a performance-driven planning and programming process, and will assess data and progress reports for final performance period milestones in 2022. As appropriate, adjustments may be made to performance targets. More importantly, the progress report will also inform decision makers overseeing the planning process, offering opportunities to reassess and re-align investment priorities. These priorities can be incorporated into updates of NJTPA's Transportation Improvement Program and the NJTPA's Long-Range Transportation Plan.



**CMAQ PROJECT DESCRIPTION TABLE**  
**Interim Performance Period: FY 2018-2021**

| DBNUM*  | PROJECT SPONSOR & TITLE   | PROJECT DESCRIPTION  | PROJECT TYPE                                  | INITIAL TIP PROGRAM FISCAL YEAR | RELEVANT POLLUTANT                       | EMISSIONS BENEFIT  | TRAFFIC CONGESTION BENEFIT (PHED)                   | TRAFFIC CONGESTION BENEFIT NON-SOV  |
|---|---|--|---|---------------------------------|--|--|---|---|
| <b>FY 2018 AND FY 2019 PROJECTS BY PROJECT TYPE</b> |   |  |   |                                 |  |  |   |   |
| X065  | NJDEP<br>Bergen County<br>Adaptive/Intelligent<br>Signal Program in<br>Hackensack | Non-Road Construction Diesel Retrofit  | Advanced Diesel Truck/<br>Engine Technologies | 2018                            | NO <sub>x</sub> , PM 2.5                 | Reduces diesel emissions from non-road construction equipment using catalytic converters and diesel particulate filters. | N/A   | N/A   |
| X065  |   | Optimizes traffic signals in the TOD area of Hackensack, relieving congestion for buses and cars.  | Congestion Relief,<br>Signal/ITS              | 2018                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces congestion and improves air quality by optimizing the signal network in the TOD area.                            | Reduces congestion by improving traffic operations. | Reduces SOV travel by improving traffic flow for buses and in the TOD area.   |
| T120  | NJ TRANSIT<br>Small/Special Services<br>Program                                   | Promotes transit solutions to reduce congestion, manage transportation demand and improve air quality such as shuttles and bike/transit facilitation.  | TDM   | 2018                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces emissions by provision of alternative transit services.  | Reduces congestion by encouraging transit use.      | Reduces SOV travel by providing innovative access to transit services.  |
| T87   | NJ TRANSIT Hudson-Bergen and Newark<br>Light Rail System                          | Annual improvements, rolling stock and Rt. 440 Extension   | Transit                                       | 2018                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces emissions by encouraging increased transit use and reducing SOV travel.  | Reduces congestion by encouraging transit use.      | Reduces SOV travel by providing transit access to key waterfront destinations in Hudson County and linking existing transit hubs. |
| X065  | NJDEP R PayQ to Plug In   | Expands NJDEP's EV charging program with 510 charging stations in public workplaces, downtown areas, leisure destinations, public colleges and universities, and major transportation corridors. | Alternative Fuels and<br>Vehicles             | 2019                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Emissions are reduced by implementing infrastructure for EVs to increase the market share of EVs in the NJTPA region.    | N/A   | N/A   |
| X065  | Passaic County Smart<br>Corridor Traffic Signal<br>Optimization                   | Optimizes 62 traffic signals and other smart elements along three key corridors in Passaic County.   | Congestion Relief,<br>Signal/ITS              | 2019                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces congestion and improves air quality by optimizing progression on signalized routes.                              | Reduces congestion by improving traffic operations. | N/A   |
| X065  | PANYNJ Port Diesel<br>Retrofits   | Retrofit Cargo Handling Equipment with Anti-Idling Technology  | Diesel Retrofit                               | 2019                            | NO <sub>x</sub> , PM <sub>2.5</sub>      | Reduces emissions by retrofitting 100 yard tractors with start stop technology.  | N/A   | N/A   |
| 9237  | NJDOT Route<br>57/192/46<br>Hackensack Mobility<br>Improvements                   | Initiated by the CMP, reconfigure four intersections, traffic signals rephased and ADA facilities upgraded.  | Signal/ITS, Bike/Ped                          | 2019                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces congestion and improves air quality by optimizing progression on signalized routes.                              | Reduces congestion by improving traffic operations. | N/A   |
| <b>2018 CONTINUING PROJECTS</b>                     |   |  |   |                                 |  |  |   |   |
| X185  | No MPO<br>Identified/State<br>Sponsored   | This program addresses bicycle, pedestrian, transit and ADA travel needs through improvements on state, county and local systems.  | Bicycle/Pedestrian                            | 2018                            |  |  |   |   |

**CMAQ PROJECT DESCRIPTION TABLE**  
**Interim Performance Period: FY 2018-2021**

| DBNUM*  | PROJECT SPONSOR & TITLE                         | PROJECT DESCRIPTION   | PROJECT TYPE                       | INITIAL TIP PROGRAM FISCAL YEAR | RELEVANT POLLUTANT                            | EMISSIONS BENEFIT   | TRAFFIC CONGESTION BENEFIT (PHED)  | TRAFFIC CONGESTION BENEFIT NON-SOV                    |
|---|---|---|------------------------------------|---------------------------------|---|---|--|---|
| 15343   | No MPO Identified/State Sponsored               |   | Intelligent Traffic Signals System | 2018                            | NO <sub>x</sub> , VOCs, PM 2.5, CO            |   | Improved traffic operations reduces congestion                             | N/A   |
| T112  | No MPO Identified/State Sponsored               | Rail Rolling Stock Replacement  | Transit Improvements               | 2018                            | NO <sub>x</sub> , VOCs, PM 2.5, CO            | Heavy rail replacement  | Reduces congestion   | Reduces congestion                                    |
| <b>2019 CONTINUING PROJECTS</b>                     |   |   |                                    |                                 |   |   |  |   |
| X185  | No MPO Identified/State Sponsored               | This program addresses bicycle, pedestrian, transit and ADA travel needs through improvements on state, county and local systems.   | Bicycle/Pedestrian                 | 2019                            |   |   |  |   |
| 15343   | No MPO Identified/State Sponsored               |   | Intelligent Traffic Signals System | 2019                            | NO <sub>x</sub> , VOCs, PM 2.5, CO            |   | Improved traffic operations reduces congestion                             | N/A   |
| T112  | No MPO Identified/State Sponsored               | Rail Rolling Stock Replacement  | Transit Improvements               | 2019                            | NO <sub>x</sub> , VOCs, PM 2.5, CO            | Heavy rail replacement  | Reduces congestion   | Reduces congestion                                    |
| <b>FY 2020 AND FY 2021 PROJECTS BY PROJECT TYPE</b> |   |   |                                    |                                 |   |   |  |   |
| X065  | NJDEP Marine Repower Program                    | Implements a program to replace older, higher emitting marine diesel engines with EPA compliant engines on NJ/NY passenger ferries and commercial fishing fleets in Ocean County. | Diesel Repower                     | 2020                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> , CO | Reduces emissions by implementing a program to replace older, higher emitting marine diesel engines with EPA compliant engines.                       | N/A  | N/A   |
| X065  | PANYNJ Onshore Exhaust Capture & Control System | Implements an onshore exhaust capture and control system to capture and treat engine exhaust to remove air contaminants at Port Newark as ships load and unload.                  | Innovative Technology              | 2020                            | NO <sub>x</sub> , PM <sub>2.5</sub>           | Reduces emissions by implementing an onshore exhaust capture and control system to capture and treat engine exhaust to remove air contaminants.       | N/A  | N/A   |
| X065  | NJDEP New Jersey Idle Reduction Program         | Implements an idle reduction program and technology for transport refrigeration units (TRUs) at food distribution centers.  | Anti-Idling                        | 2021                            | NO <sub>x</sub> , PM <sub>2.5</sub>           | Emissions are reduced by implementing an idle reduction program and technology for transport refrigeration units (TRUs) at food distribution centers. | N/A  | N/A   |
| X065  | NJ TRANSIT Henry Hudson Trail Extension         | Convert portions of an out-of-service ROW into a shared use bicycle & pedestrian trail to provide off-street access to the Aberdeen-Matawan Train Station                         | Bicycle & Pedestrian Facilities    | 2021                            | NO <sub>x</sub> , VOCs, PM 2.5                | Reduces emissions by providing non-motorized options.   | Reduces congestion and improves air quality by removing cars from the road | Reduces SOV travel by providing non-motorized options |

**CMAQ PROJECT DESCRIPTION TABLE**  
**Interim Performance Period: FY 2018-2021**

| DBNUM*                                     | PROJECT SPONSOR & TITLE                                | PROJECT DESCRIPTION  | PROJECT TYPE                       | INITIAL TIP PROGRAM FISCAL YEAR | RELEVANT POLLUTANT                             | EMISSIONS BENEFIT   | TRAFFIC CONGESTION BENEFIT (PHED)                                    | TRAFFIC CONGESTION BENEFIT NON-SOV  |
|--|--|--|------------------------------------|---------------------------------|--|---|--|---|
| X065                                       | NJ TRANSIT   | NJTPA will conduct a solicitation for LMI projects for FY 2021   | Check CMAQ Category                | 2021                            | NO <sub>x</sub> , VOCs, PM <sub>2.5</sub>      | Reduces emissions are reduced by encouraging increased transit use and reducing SOV travel.       | Projects will reduce congestion by encouraging transit use.          | Projects will reduce SOV travel by providing access to transit and work places. |
| 17419                                      | NIDOT Rt. 1, Alexander Road to Mapleton Road           | Improvements on Rt. 1 to relieve congestion by increasing travel lanes from 3-4 per direction, reconfiguring the Rt. 1 Washington Road traffic circle and rephasing traffic signals. | Congestion Relief, Signal/ITS      | 2021                            | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces congestion and improves air quality by improving the flow of traffic and reducing idling. | Reduces congestion by improving traffic operations.                  |   |
| <b>CONTINUING PROJECTS 2021</b>            |  |  |                                    |                                 |  |   |  |   |
| X185                                       | No MPO Identified/State Sponsored                      | This program addresses bicycle, pedestrian, transit and ADA travel needs through improvements on state, county and local systems.  | Bicycle/Pedestrian                 | 2021                            |  |   |  |   |
| 15943                                      | No MPO Identified/State Sponsored                      | Congestion reduction using ITS   | Intelligent Traffic Signals System | 2021                            | NO <sub>x</sub> , VOCs, PM <sub>2.5</sub> , CO |   | Improved traffic operations reduces congestion                       | N/A   |
| T112                                       | No MPO Identified/State Sponsored                      | Rail Rolling Stock Replacement   | Transit Improvements               | 2021                            | NO <sub>x</sub> , VOCs, PM <sub>2.5</sub> , CO | Heavy rail replacement  | Reduces congestion   | Reduces congestion  |
| <b>CONTINUING PROJECTS BY PROJECT TYPE</b> |  |  |                                    |                                 |  |   |  |   |
| X185                                       | NIDOT Bicycle and Pedestrian Facilities                | Implements of the Statewide Bicycle and Pedestrian Master Plan   | Bike/Ped                           | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces emissions by encouraging increased biking and walking in NJ.                              | Reduces congestion by encouraging increased walking and biking.      | Reduces SOV usage by encouraging increased biking and walking.                  |
| 13303                                      | NIDOT Active Transportation Management System (ATMS)   | Deploys the first ATMS in NJ   | Congestion Relief, Signal/ITS      | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces congestion and improves air quality by optimizing progression on signalized routes.       | Reduces congestion by improving traffic operations.                  | N/A   |
| 15943                                      | NIDOT Intelligent Traffic Signal Systems               | Systematically and strategically upgrades existing traffic signals from stand-alone signals to coordinated, real-time traffic signal networks  | Congestion Relief, Signal/ITS      | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces congestion and improves air quality by developing programmable traffic signal networks.   | Reduces congestion by improving traffic operations.                  | N/A   |
| X065                                       | PANYNJ North Jersey Regional Truck Replacement Program | Replaces and scraps pre-2007 drayage trucks with EPA compliant trucks that service the PANYNJ regularly.   | Diesel Repower                     | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces emissions by replacing & scrapping pre-2007 trucks with EPA compliant trucks              | N/A  | N/A   |
| X43  | NIDOT TDM Program Support                              | Continues the management of the Park and Ride System and the RidePro ride matching program   | TDM                                | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub>       | Reduces emissions by providing car and van pooling facilities and services.                       | Reduces congestion by providing shared ride services and facilities. | Reduces SOV travel by providing shared ride services and facilities.            |

**CMAQ PROJECT DESCRIPTION TABLE**  
**Interim Performance Period: FY 2018-2021**

| DBNUM* | PROJECT SPONSOR & TITLE               | PROJECT DESCRIPTION  | PROJECT TYPE | INITIAL TIP PROGRAM FISCAL YEAR | RELEVANT POLLUTANT                       | EMISSIONS BENEFIT   | TRAFFIC CONGESTION BENEFIT (PHED)              | TRAFFIC CONGESTION BENEFIT NON-SOV                                 |
|--------|---------------------------------------|--|--------------|---------------------------------|--|---|--|--|
| X065   | NJ TRANSIT Local Mobility Initiatives | Reduces SOV travel by providing shuttle service to transit and work places as well as replacing older shuttle buses with cleaner vehicles. | Transit      | Continuing Project              | NO <sub>x</sub> , VOC, PM <sub>2.5</sub> | Reduces emissions by encouraging increased transit use and reducing SOV travel. | Reduces congestion by encouraging transit use. | Reduces SOV travel by providing access to transit and work places. |

\*NIDOT Project Reference Number (Database Number)





One Newark Center, 17th Floor, Newark, NJ 07102 973-639-8400 Fax: 973-639-1953 [www.njtpa.org](http://www.njtpa.org)

