



South Jersey
Transportation
Planning Organization

Congestion Mitigation & Air Quality Final Report and Performance Plan 2018-2021

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Congestion Mitigation and Air Quality Performance Plan, 2018 - 2021

South Jersey Transportation Planning Organization, Vineland, New Jersey (NJ)

Part of Philadelphia, PA—NJ—DE—MD Urbanized Area (UZA) and Atlantic City, NJ UZA

Introduction

The Congestion Mitigation Air Quality (CMAQ) Performance Plan is required to be completed per the System Performance Rules;¹ if any part of a designated nonattainment and maintenance area within the metropolitan planning area overlaps the boundary of an urbanized area with a population more than 1 million in population the Metropolitan Planning Organization (MPO) is required to establish 2-year and 4-year targets for their metropolitan planning area, and prepare a CMAQ Performance Plan.² The entire South Jersey Transportation Planning Organization (SJTPO) region falls within the Philadelphia-Wilmington-Atlantic City, PA—NJ-MD-DE 8-Hour Ozone Nonattainment Area under the 2008 standard of 0.075 parts per million (ppm) (75 parts per billion (ppb)), and 2015 standard of 0.070 ppm (70 ppb) for the Philadelphia-Wilmington-Atlantic City, PA—NJ-MD-DE 8-Hour Ozone Nonattainment Area as shown in Figure 1 and 2.³ Since a portion of the 8-Hour Ozone Nonattainment Area within the SJTPO metropolitan planning boundary overlaps with the Philadelphia, PA-NJ-DE-MD Urbanized Area, which has a population of approximately 5.4 million, it is subject to this requirement. While the SJTPO region also includes the Atlantic City, NJ Urbanized Area, with a population of approximately 248,000 (less than 1 million), it is not subject to reporting CMAQ congestion targets until the next 4-year performance period starting in 2022.

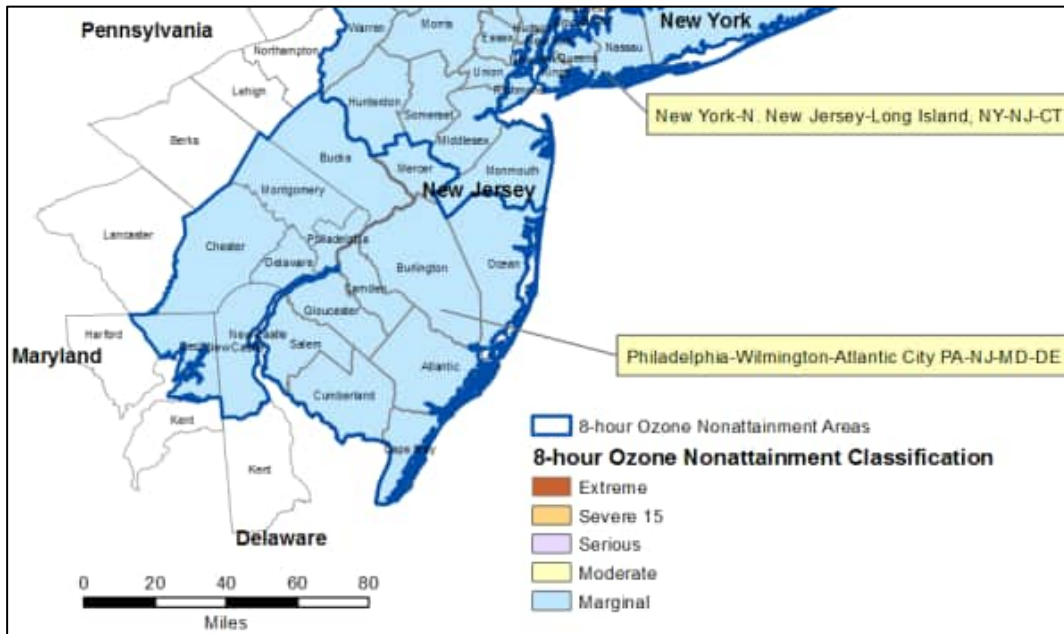
Performance plans are required to be updated biennially and include a separate report that assesses the progress in achieving the air quality and traffic congestion targets under the prior plan. MPO's submit the performance plan and its biennial updates to their respective State Department of Transportation (DOT) for inclusion as a Baseline, Mid, and Full Performance Period Report. As with many MPOs in non-attainment areas, the SJTPO has a competitive process in which it solicited projects to be funded under the CMAQ program. The projects eligible for CMAQ funding have reduced emissions in the region through direct means, such as converting to low-emission vehicles, or through indirect means, such as traffic signal improvements that improve vehicle flow and reduce congestion. Government, non-profit and private entities were eligible to apply. Once submitted, the assessment of the project's traffic congestion measures and emission reduction benefits was completed to determine eligibility. Additional information and guidance on SJTPO's CMAQ process is available at: <http://www.sjtpo.org/cmaq/>.

¹ A TMA is a Transportation Management Area (TMA) is an urbanized area with a population over 200,000, as defined by the Bureau of the Census and designated by the Secretary of Transportation in 23 CFR 450.104.

² As specified in 23 CFR 490.107(c)(3).

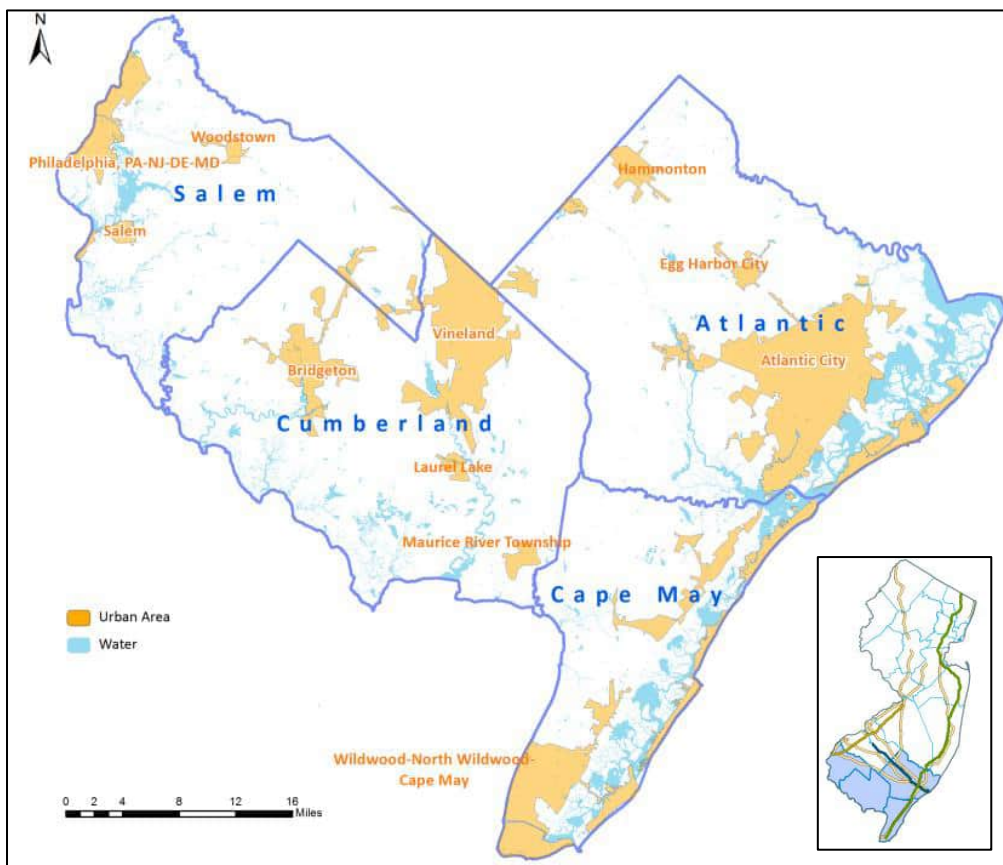
³ The 2015 8-Hour Ozone Standard, promulgated in 2015, is a more stringent standard than the 2008 8-Hour Ozone Standard, promulgated in 2008. Under both designations, the SJTPO region is classified as a "marginal" 8- Hour Ozone Nonattainment area.

Figure 1: 8-Hour Ozone Nonattainment Area (2008 Standard)



Source: https://www3.epa.gov/airquality/greenbook/nj8_2008.html

Figure 2: Urban areas in the South Jersey Transportation Planning Organization (SJTPO) Region



Source: Census Tracts (2010) in New Jersey, Edition 20140523, U.S. Department of Commerce, U.S. Census Bureau, Geography Division

4-Year Performance

The Federal Highway Administration (FHWA) finalized three performance measures for the purpose of carrying out the CMAQ Program. There are two CMAQ Congestion measures and one CMAQ Emissions measure. In developing these baseline measures and targets, the SJTPO coordinated extensively with New Jersey Department of Transportation (NJDOT) and the other two New Jersey MPO's to ensure consistency to the maximum extent possible and were set at conservative levels to ensure as realistic a chance of attainment as possible. In coordination with the Philadelphia PA-NJ-DE-MD Urbanized Area Transportation PM3 Measures Coordination Committee, NJDOT, and the Complete Team (a group of transportation planning and operations professionals convened by NJDOT that meets quarterly) it was decided not to adjust the 4-year targets for Traffic Congestion Measures or On-Road Mobile Source Emissions during the mid-performance plan assessment. This was due to the uncertainties associated with how COVID-19 impacted the region through commuter behaviors and based on the confirmation of the exceeded set goals.

4-Year Performance for Traffic Congestion Measures

Within the Traffic Congestion performance area, two performance measures are required. For these measures, a single target is required for the entire urbanized area. On May 21, 2018, the SJTPO Policy Board approved the urbanized area targets for the two CMAQ Traffic Congestion measures.

Peak-Hour Excessive Delay

The Peak Hour Excessive Delay (PHED) measure indicates the extra time spent traveling due to extreme congestion, expressed as the number of hours per year on a per capita basis. The metric is Annual Hours of PHED per capita on the National Highway System (NHS). A current (calendar year 2017) PHED estimate of 16.8 hours per capita was used to calculate the 4-year target. The 4-year target for the entire Philadelphia (PA-NJ-DE-MD) Urbanized Area is 17.2 annual hours of PHED per capita. This assumed an annual growth rate of approximately 0.6%/ year. Additionally, the UZA exceeded expectations in meeting the optional 2-year Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita target as well as the 4-year target of 17.2 annual hours per capita set in 2018. The 2-year target was **17.0 hours per capita** and the current measured value is **14.6 hours per capita**, or a 2.4 hour per capita decrease, exceeding the 2-year and 4-year targets.

Percent of Non-Single-Occupancy Vehicle Travel

The Non-SOV Travel measure indicates the amount of travel not by single-occupant vehicle (SOV), including modes such as walk, bus, carpool, train, bicycle, taxi, rideshare, and work at home. The American Community Survey (ACS) 5-year (2012-2016) estimated to work trips for residents within the urbanized area to calculate the target. The metric utilized is Percent of Non-SOV Travel in the urbanized area. The 5 parties constituting the Philadelphia (PA-NJ-DE-MD) Urbanized Area agreed upon an estimate of 27.9% non-SOV travel, a 2-year target of 28.0% non-SOV travel, and a 4-year target of 28.1% non-SOV travel.⁴ This assumes an annual growth rate of approximately

⁴ The parties constituting the Philadelphia Urbanized Area included: Delaware Valley Regional Planning Commission (DVRPC), NJDOT, North Jersey Transportation Planning Authority (NJTPA), Wilmington Area Planning Council (WILMAPCO), Lehigh Valley Planning Commission, Berks Co., and Lancaster County MPOs. The 2017 baseline was based on the 2012–16 5-Year ACS; to come up with the 2-year and 4-year targets, both the 2007-11 and 2012-16 5-Year ACS data was used to establish a linear trend.

0.1%/ year. The Philadelphia PA-NJ-DE-MD UZA exceeded expectations in meeting the Percent Non-SOV travel measure 2-year and 4-year targets set in 2018. The Percent Non-SOV Travel measure was calculated for using the most recent U.S. Census ACS five-year estimates (2014-2018) with a result of **28.2% non-SOV travel**, exceeding the 2-year and 4-year targets.

4-Year Performance for On-Road Mobile Source Emissions Measures

The On-Road Mobile Source Emissions measure covers expected emissions reduction benefits by pollutant from all investments made through the CMAQ Program. The specific metrics are kilograms/ day of Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NO_x), both ozone precursors. The targets established in the baseline report were based on emissions reduction benefits recorded in the FHWA CMAQ Public Access database for federal fiscal years 2014-17. The targets assumed a declining return in emissions reduction benefits because of the implementation of tighter fuel and vehicle emission standards, combined with fleet turnover and new clean cars. Table 2 provides a detailed breakdown of the emissions benefits containing the baseline, targets, and reported values. Since SJTPO is in attainment for both CO and PM_{2.5}, emissions reductions are not included for these pollutants.⁵ The SJTPO Policy Board approved the urbanized area targets for the CMAQ mobile source emissions reduction targets on September 24, 2018. The SJTPO region exceeded the goals set for On-Road Mobile Source Emissions as seen in Table 2. There were no SJTPO programmed CMAQ projects that were reported in the CMAQ Public Access System between federal fiscal years 2018 and 2019. However, benefits resulting from statewide projects sponsored by NJDOT and NJ TRANSIT are distributed to the MPOs, including SJTPO. In 2018, a statewide project was completed and increased the yield of NO_x and VOC exponentially; this was a one-off project that did not affect the SJTPO region’s reported met goals. The 2-year and 4-year VOC goal has been exceeded by **6.17 kg/ day** and **3.54 kg/ day**. The 2-year and the 4-year NO_x goals have been exceeded by **74.28 kg/ day** and **70.28 kg/ day**.

| Federal Fiscal Year (FFY) | Total Emissions Benefits Projections (kg/ day) | | | |
|------------------------------|--|-----|-----------------|---------------------|
| | VOC | CO* | NO _x | PM _{2.5} * |
| Baseline FFY 2014-17 | 9.47 | | 22.45 | |
| 2-Year Target | 2.21 | | 5.23 | |
| 2018 Reported Value | 8.14 | | 79.03 | |
| 2019 Reported Value | 0.24 | | 0.48 | |
| 2-Year Reported Total | 8.38 | | 79.51 | |
| 4-Year Target | 6.14 | | 14.25 | |
| 2020 Reported Value | 0.58 | | 3.20 | |
| 2021 Reported Value | 0.73 | | 1.82 | |
| 4-Year Reported Total | 9.68 | | 84.53 | |

Table 2: SJTPO Total Emissions Reductions Progress Reported Values

Note: This table includes the allocation of 8 percent of benefits from statewide projects via the HPMS data.⁶

*No CO or PM_{2.5} is not required to be reported as SJTPO meets the NAAQS for these pollutants.

⁵ On February 5, 2016, the two formerly non-classified areas for CO of Atlantic City and Penn’s Grove within the SJTPO region completed the 20-year Maintenance Period for CO, and as such, the entire SJTPO region is now completely in attainment-maintenance for CO.

⁶ Per the Highway Performance Monitoring System (HPMS), 2020.

Assessment of Progress

According to FHWA Guidance for preparing a CMAQ performance report, MPOs must present a description of projects identified for funding during the performance period: FFY 2018-21. Included with the project descriptions are a further description of how the projects helped the MPO meet the 2-year and 4-year targets for traffic congestion and on-road mobile source emissions set during the mid-performance plan. SJTPO has exceeded all set targets for this performance period. For the local CMAQ Program, SJTPO had solicited projects to be funded on an annual basis as opposed to several years in advance; however, as of April 2020, SJTPO now solicits projects on a three-year basis to ensure ample time for review of submitted projects. The most recent solicitation period covered FFY 2022-24. Projects are programmed through FFY 2024; the next solicitation period for new projects will be for FFY 2025-27. The local and statewide programmed projects depicted in Table 3 have helped achieve the 2-year and 4-year performance period targets and are reported in this CMAQ performance plan. In addition to monitoring the listed projects, SJTPO will continue to program new projects and programs that will contribute to developing new targets and achievements in reducing emissions in the region.

Table 4: Current Local & State Projects

| STATE PROJECT ID | TIP PROGRAM YEAR | PROJECT CATEGORY | PROJECT TITLE | COUNTY | ADDITIONAL PROJECT DESCRIPTION | EMISSIONS BENEFIT | PHED TRAFFIC CONGESTION BENEFIT | NON-SOV TRAFFIC CONGESTION BENEFIT | STATUS |
|-------------------------------|------------------|--|--|-------------------------------------|--|--|------------------------------------|------------------------------------|--|
| I. Local CMAQ Projects | | | | | | | | | |
| 2149F1 | FFY 2019 | Congestion Reduction and Traffic Flow Improvements | Route 47/347 and Route 49/50 Corridor Enhancement | Cumberland County & Cape May County | Intelligent Transportation Systems, Incident Management System, Description, this project will implement ITS strategies and alleviate summer traffic congestion. | Yes, improved operations, less idling. | Yes, improved operations. | No. | Continuing Program; Authorized FFY 2019. |
| 2149F1 | FFY 2018 | Congestion Reduction and Traffic Flow Improvements | Route 47/347 and Route 49/50 Corridor Enhancement | Cumberland County & Cape May County | Intelligent Transportation Systems, Incident Management System, Description, this project will implement ITS strategies and alleviate summer traffic congestion. | Yes, improved operations, less idling. | Yes, improved operations. | No. | Continuing Program; Authorized FFY 2018. |
| X065 | FFY 2018 | Congestion Reduction and Traffic Flow Improvements | Centerton Traffic Signal Improvements | Salem County | Project consists of traffic signal improvements at an intersection in Pittsgrove Township, Salem County, NJ to reduce delays and as a result improve air quality. The intersection is at Almond Road, County Road #540 (MP 26.00) and Centerton Road, County Road #553 (MP 27.56). | Yes, improved operations, less idling. | Yes, reduced peak hour delay. | No. | Continuing Program; Authorized FFY 2018. |
| X065 | FFY 2018 | Congestion Reduction and Traffic Flow Improvements | Atlantic County Route 629 Pedestrian & Traffic | Atlantic County | Project is to coordinate and synchronize traffic signals along Co. Rt. 629-Ventnor Ave., Dorset Ave., and Wellington Ave. Pedestrian safety upgrades included. | Yes, improved operations, less idling. | Yes, improved operations. | No. | Continuing Program; Authorized FFY 2018. |
| X065 | FFY 2020 | Bicycle and Pedestrian Facilities and Programs | Margate-Ventnor Bicycle Infrastructure Project | Atlantic County | As part of the Margate/Ventnor Bicycle and Pedestrian Safety Plan, provide bike racks at critical locations throughout this City. | Yes. | Yes, reduced vehicles on the road. | Yes. | Not Continuing Program; Authorized FFY 2020. |
| X065 | FFY 2020 | Congestion Reduction and Traffic Flow Improvements | Cumberland County Traffic Signal Improvements | Cumberland County | Traffic Signal Improvements - CR 552 (Irving Avenue) & CR 606 (Laurel Street) and CR 697 (Atlantic Street) & CR 731 (Commerce Street). | Yes, improved operations, less idling. | Yes. | No. | Not Continuing Program; Authorized FFY 2020. |
| X065 | FFY 2021 | Bicycle and Pedestrian Facilities and Programs | Improving Air Quality and Reducing Traffic Congestion through Biking in Ocean City | Cape May County | Purchase and installation of 1 pocket shelter and 40 bike racks in the Township of Ocean City. | Yes. | Yes, reduced vehicles on the road. | Yes. | Not Continuing Program; Authorized FFY 2021. |

| STATE PROJECT ID | TIP PROGRAM YEAR | PROJECT CATEGORY | PROJECT TITLE | COUNTY | ADDITIONAL PROJECT DESCRIPTION | EMISSIONS BENEFIT | PHED TRAFFIC CONGESTION BENEFIT | NON-SOV TRAFFIC CONGESTION BENEFIT | STATUS |
|------------------------------------|------------------|--|--|--------|---|--|------------------------------------|------------------------------------|--|
| II. Statewide CMAQ Projects | | | | | | | | | |
| 13303 | FFY 2018-21 | Congestion Reduction and Traffic Flow Improvements | Active Traffic Management System | | This program will provide funding for the deployment program for the first Active Traffic Management System (ATMS) in the State including all phases of design. This program will include funding for the complete delivery of the Final Design document for Active Traffic Management System (ATMS) for a candidate highway (I-80, I-295 or I-78). The design document will be used to deploy and carry out the actual construction of this technology for automatic operation and handling of traffic. | Yes, improved operations, less idling. | Yes, improved operations. | No. | Continuing Program; Authorized FFY 2021. |
| X185 | FFY 2018-21 | Bicycle and Pedestrian Facilities and Programs | Bicycle & Pedestrian Facilities/ Accommodations | | This is 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 system either by independent capital projects or through grants to counties and municipalities. Projects must make full consideration for the needs of all users. | Yes. | Yes, reduced vehicles on the road. | Yes. | Continuing Program; Authorized FFY 2019, FFY 2020, FFY 2021. |
| 15343 | FFY 2018-21 | Congestion Reduction and Traffic Flow Improvements | Intelligent Traffic Signal Systems | | This program will seek to improve mobility on New Jersey's arterial highways. Arterials contribute almost 70% of total congestion that occurs in New Jersey. This program will focus on dynamically managing NJ's arterials from NJDOT's Arterial Management Center. Existing traffic signals will be strategically, systematically, and programmatically upgraded from standalone 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. | Yes, improved operations, less idling. | Yes, improved operations. | No. | Continuing Program; Authorized FFY 2019, FFY 2020, FFY 2021. |
| X43 | FFY 2018-21 | Transit Improvement Project | Transportation Demand Management Program Support | | This funding is utilized to continue the management of the Owned and Leased Park and Ride Program and the remaining efforts as they relate to the 1-800-CARPOOL program which also includes maintaining the RidePro ride matching software program. | Yes, improved operations. | Yes, reduces SOV's. | Yes. | Not Continuing Program; Authorized FFY 2018. |

| STATE PROJECT ID | TIP PROGRAM YEAR | PROJECT CATEGORY | PROJECT TITLE | COUNTY | ADDITIONAL PROJECT DESCRIPTION | EMISSIONS BENEFIT | PHED TRAFFIC CONGESTION BENEFIT | NON-SOV TRAFFIC CONGESTION BENEFIT | STATUS |
|------------------|------------------|------------------|--------------------------------|--------|--|---|---|---|--|
| T112 | FY 2018-21 | Transit project | Rail Rolling Stock Procurement | | This program provides funds for the replacement of rail rolling stock, including engineering assistance and project management, to replace over-aged equipment including rail cars, revenue service locomotives, and expansion of NJ TRANSIT rolling stock fleet (cars and locomotives) to accommodate projected ridership growth and other system enhancements over the next ten years. Funding is provided to support vehicles\equipment (for rail operations). Annual funds are provided for Comet V single-level car lease payments, Electric Locomotive lease payments, Diesel Locomotive lease payments, Dual Power Locomotives and Multi-Level rail car lease payments and other upcoming rolling stock lease payments. Pay-as-you-go funding is also programmed for multi-Level vehicles and other rolling stock. Toll Credit will be used as the non-federal match. An explanation of toll credit can be found in the Introduction Section of the STIP. CMAQ: Funding for Rail Rolling Stock Procurement will include CMAQ funds. Rail Rolling Stock Procurement is CMAQ eligible because it meets federal eligibility requirements. The project will provide funding for the purchase of Multi-Level Coaches and Multi-Level EMU vehicles. For the CMAQ justification see "CMAQ Report for NJ TRANSIT". This project is funded under the provisions of Section 13 of P.L. 1995, c.108. | Supporting rail transit operations reduce emissions by reducing SOV travel. | Maintaining transit vehicles and supporting transit operations reduce congestion. | Maintaining transit vehicles and supporting transit operations reduce SOV travel. | Not Continuing Program; Authorized FFY 2018, FFY 2019, FFY 2021. |