

Transportation Conformity

FY 2020-2029 Transportation Improvement Program
Transportation Matters - A Plan for South Jersey



South Jersey
Transportation
Planning Organization

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TRANSPORTATION CONFORMITY

FY 2020-2029 Transportation Improvement Program
Transportation Matters - A Plan for South Jersey

Policy Board Approved
September 23, 2019



SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

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SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

RESOLUTION 1909-24: Adopting the SJTPO Transportation Conformity Determination for the FY 2020-2029 Transportation Improvement Program and *Transportation Matters-A Plan for South Jersey* Under the 2015 8-Hour Ozone National Ambient Air Quality Standards

WHEREAS, the South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) designated under federal law for the southern region of New Jersey including Atlantic, Cape May, Cumberland, and Salem Counties; and

WHEREAS, the transportation plans and programs developed by the SJTPO are required to conform to the purposes of the State Implementation Plan for air quality control and Sections 174 and 176 (c) and (d) of the Clean Air Act (42 U.S.C. 7504, 7506 (c) and (d)); and

WHEREAS, the four-county SJTPO region is designated as a Nonattainment Area under the 8-Hour Ozone National Ambient Air Quality Standards (NAAQS), originally set in 1997, revised in 2008 and 2015; and

WHEREAS, the current conformity determination for the FY 2018-2027 Transportation Improvement Program (TIP), adopted in September 2017, and *Transportation Matters-A Plan for South Jersey* (SJTPO's Regional Transportation Plan), adopted in July 2016, were based on estimates consistent with emissions budgets, approved effective August 1, 2008, in the New Jersey State Implementation Plan (SIP); and

WHEREAS, the latest 8-Hour Ozone standards (70 ppb) were promulgated in 2015; and on June 4, 2018, the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE 8-Hour Ozone Nonattainment Area, of which SJTPO is a part, was designated a marginal nonattainment area under the 2015 8-Hour Ozone Standard; and

WHEREAS, updating the conformity determination now will verify that SJTPO's Regional Transportation Plan (RTP) and TIP continue to meet the 8-Hour Ozone Standards under the 2015 8-Hour ozone standards (70 ppb), and will keep the RTP and TIP in effect at least through July 25, 2020, when the current RTP would lapse; and

WHEREAS, the SJTPO Interagency Consultation Group agreed that, per 40 CFR 93.122(g), reliance on the regional emissions analysis completed in 2017 was acceptable; and


WHEREAS, citizens, private transportation providers and all interested parties have had an opportunity to participate and have their views considered in the development of the Transportation Conformity Analysis; and

NOW, THEREFORE, BE IT RESOLVED, that the Policy Board of the South Jersey Transportation Planning Organization hereby adopts the SJTPO Transportation Conformity Determination for the FY 2020-2029 TIP and *Transportation Matters-A Plan for South Jersey* Under the 2015 8-Hour Ozone NAAQS; and

BE IT FURTHER RESOLVED, that the Policy Board hereby determines that the SJTPO FY 2020-2029 TIP and *Transportation Matters-A Plan for South Jersey*; conform to the purposes of the State Implementation Plan and the Clean Air Act, and this determination applies to the entire region.

Certification

I hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Policy Board of the South Jersey Transportation Planning Organization at its meeting of September 23, 2019.


John W. Risley, Secretary/Treasurer

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1. Acronyms

AQCR	Air Quality Control Region
CAA	Clean Air Act
CO	Carbon Monoxide
CFR	Code of Federal Regulations
DVRPC	Delaware Valley Regional Planning Commission
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HC	Hydrocarbons
ICG	Interagency Consultation Group
MOVES	Motor Vehicle Emissions Simulator
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NJDEP	New Jersey Department of Environmental Protection
NJDMV	New Jersey Department of Motor Vehicles
NJDOT	New Jersey Department of Transportation
NJTPA	North Jersey Transportation Planning Authority
NOx	Oxides of Nitrogen
RTP	Regional Transportation Plan
SIP	State Implementation Plan
SJTDM	South Jersey Travel Demand Model
SJTPO	South Jersey Transportation Planning Organization
VOCs	Volatile Organic Compounds
TCMs	Transportation Control Measures
TIP	Transportation Improvement Program
USC	United States Code
US DOT	United States Department of Transportation
US EPA	United States Environmental Protection Agency
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
VPOP	Vehicle Source Type Population

2. Introduction

The South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) for the southern New Jersey region. Formed in mid-1993, SJTPO replaced three smaller, existing MPOs while incorporating other areas not previously served. Covering Atlantic, Cape May, Cumberland, and Salem counties, SJTPO works to provide a regional approach to solving transportation problems.

Transportation planning and decision-making for urbanized areas is carried out through MPOs. Traditionally, MPOs synchronize the planning actions of participating agencies in the region and provide a forum for decision-making among officials, operators, and the public.

The SJTPO coordinates the planning activities of participating agencies and provides a forum for cooperative decision-making among state and local officials, transit operators, and the general public. The SJTPO also adopts long-range plans to guide transportation investment decisions and maintains the eligibility of its member agencies to receive federal transportation funds for planning, capital improvements, and operations.

3. Overview

This report documents the demonstration of transportation conformity of the SJTPO FY 2020-2029 Transportation Improvement Program (TIP) and *Transportation Matters – A Plan for South Jersey* (Regional Transportation Plan, (RTP) Update) under the 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS).

Under the authority of The Clean Air Act Amendments of 1990 (42 USC Sections 7401-7671q), in conjunction with the transportation planning provisions of the United States Code (23 USC 109(j)), the transportation conformity process is required in areas that have been designated by the United States Environmental Protection Agency (US EPA) as not having met specific standards for any of the six criteria pollutants as defined by The Clean Air Act (CAA). These criteria pollutants are:

1. Carbon monoxide
2. Lead
3. Ground-level ozone
4. Particulate matter
5. Nitrogen dioxide
6. Sulfur dioxide

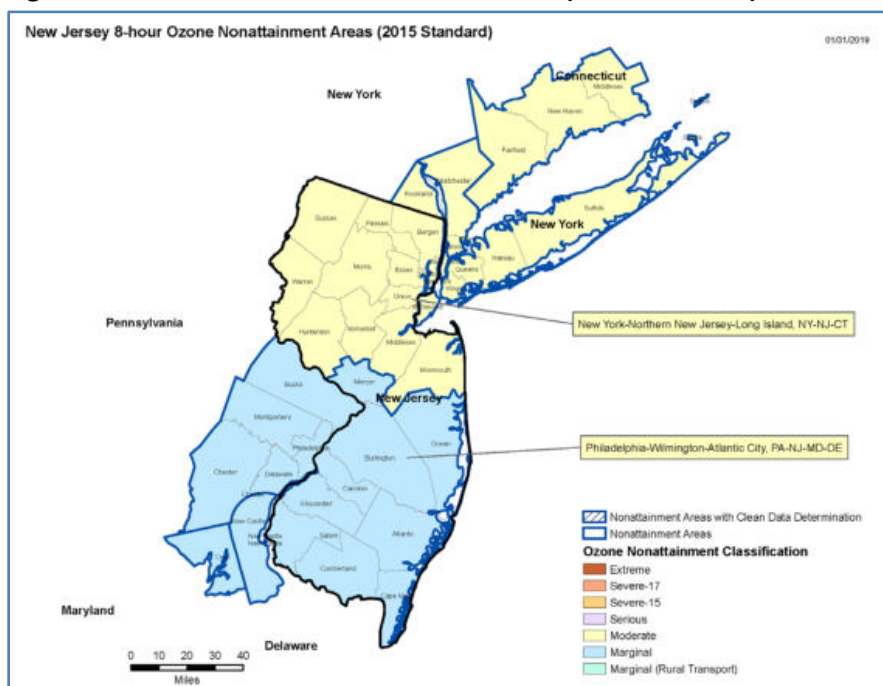
The US EPA sets these standards, more formally known as NAAQS, to protect public health. Those areas that currently do not meet these standards are called “nonattainment areas” or “maintenance areas” if they have recently attained the standards but need to demonstrate maintenance via a federally-approved maintenance plan before they can be formally classified as an attainment area. Since the four-county SJTPO region is in nonattainment for the 8-Hour Ozone NAAQS, it is subject to transportation conformity.

Transportation conformity is demonstrated when future planned, federally funded, highway and transit projects are determined not to cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly make conformity determinations within air quality nonattainment areas to ensure that any vehicular emissions generated from new projects stay within emissions budgets as set in the New Jersey State Implementation Plan (SIP). The United States Department of Transportation (US DOT) cannot fund, authorize, or approve federal actions to support programs or projects that are not found to conform to the CAA requirements governing the current NAAQS for transportation conformity. This conformity demonstration is based on the Conformity Final Rule, (40 CFR Part 93), and is consistent with the joint US EPA, FHWA, and FTA Regional Air Quality Consultation and Coordination process. Pollutants addressed include the 8-Hour Ozone precursors of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). Conformity findings must be based on established budgets (where appropriate)

for VOCs and NOx for all applicable analysis years in the MPO region of the designated non-attainment area. These analyses also incorporate the most recent population and employment projections that were approved by the SJTPO Policy Board on July 25, 2016, as part of the Regional Transportation Plan Update, and other applicable latest planning assumptions.

The purpose of this analysis document is to demonstrate conformity of the 2020-2029 TIP and *Transportation Matters* with the 2015 8-Hour Ozone NAAQS (70 parts per billion (ppb)). In October 2015, the US EPA adopted a new standard of 70 parts per billion (ppb). The Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE was designated as a marginal nonattainment area, with an attainment date of August 3, 2021. Attainment must be demonstrated, however, by the 2020 modeling year. Figure 1, below, depicts the 8-Hour Ozone Non-Attainment Area under the 2015 8-Hour Ozone Standard.

Figure 1: 8-Hour Ozone Non-Attainment Area (2015 Standard)



Source: www3.epa.gov/airquality/greenbook/nj8_2015.html.

The Final Rule dictates that conformity findings within the SJTPO planning area are under the 8-Hour Ozone NAAQS. Effective August 1, 2008, the US EPA has determined that the 2008 and 2009 8-Hour Ozone budgets, submitted by New Jersey as part of its State Implementation Plan,¹ “are adequate for transportation conformity purposes” and the SJTPO “must use the new 2008 and 2009 8-Hour Ozone budgets for future transportation conformity determinations.”

¹ Excerpted from USEPA website - <https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-2#nj>.

Note that SJTPO is responsible for demonstrating transportation conformity for its sub-area within the greater air quality control region (AQCR). Similarly, Delaware Valley Regional Planning Commission (DVRPC), (Camden, Burlington, Gloucester, and Mercer Counties); North Jersey Transportation Planning Authority (NJTPA), (Ocean County); and other MPOs are tasked with demonstrating transportation conformity for their planning region sub-areas located within the designated non-attainment area.

The 2008 8-Hour Ozone Non-Attainment Air Quality Control Region (AQCR) is detailed in Figure 1. For the four-county SJTPO planning area, the 2008 and 2009 VOCs and NOx budgets have been established using MOBILE6 in cooperation with the New Jersey State Department of Environmental Protection (NJDEP). These ozone precursor budgets are used for the analysis years of 2020, 2030, and 2040.

A portion of the region, defined as Atlantic City, Atlantic County and Penns Grove, Salem County, was part of a CO “not classified” maintenance area. However, after February 5, 2016, 20 years after the effective date of EPA’s approval of the first 10-year maintenance plan and redesignation of the area to attainment for the CO NAAQS, transportation conformity requirements for CO for these areas have ceased to apply.²

This document shows that all current conformity criteria established by USEPA are met. This report also describes the process followed to determine the transportation conformity of the TIP and update to *Transportation Matters*, or the 2040 Regional Transportation Plan (“RTP”) Update. Consistent with the requirements for non-attainment areas, SJTPO has demonstrated in this document that the TIP and the Plan conform to the SIPs with respect to the respective motor vehicle emissions budgets in the corresponding implementation years.

² Letter from US EPA to SJTPO. May 7, 2018.

4. Project and Analysis Years

There are two categories of projects contained in the TIP and the Plan for the conformity demonstration:

1. Regionally significant and non-exempt projects, and
2. Projects exempted from the conformity analysis

The Final Rule defines a regionally significant project as a non-exempt transportation project that is on a facility serving regional transportation needs and would normally be included in the modeling of a metropolitan area's transportation network. The emission analysis of transportation plans and programs must model all regionally significant and non-exempt projects.

The regional emissions analysis performed for this conformity determination was run in April and May of 2017. That regional emissions analysis was based on the current Regional Transportation Plan, *Transportation Matters—A Plan for South Jersey*, as well as the current FY 2018-2027 Transportation Improvement Program (TIP). Since there has not been any new regionally significant projects or significant changes in the design scope and/or concept for existing regionally significant projects, per 40 CFR §93.122(g) of the Transportation Conformity Regulations, SJTPO is relying on this analysis to demonstrate conformity of *Transportation Matters—A Plan for South Jersey*, with the SIP. While the FY 2020-2029 TIP and non-federally funded regionally significant projects does include some new projects and minor changes in scope to some of the existing projects, none of the changes were deemed to be significant enough to warrant a new regional emissions analysis. As such, reliance on the existing regional emissions analysis was approved by the interagency consultation group at their teleconference on June 17, 2019.

The regional emissions analysis was conducted to demonstrate conformity of the 2018-2027 TIP and the latest comprehensive plan: *Transportation Matters-A Plan for South Jersey*. Included were all “regionally significant, non-exempt” projects on principal arterials and higher classifications – that is, those which can impact regional air quality. The project set includes all those in the Plan, those in the 2018-2027 TIP, and those which have been introduced in previous TIPs that are not yet completed.

For this iteration of the conformity demonstration, the mobile source ozone emissions analysis years for VOCs and NO_x are 2020, 2030 (an *interim* year selected to keep all analysis years less than ten years apart), and 2040 (the *horizon* year of the *Transportation Matters*). VOCs and NO_x, which are heat-related ozone precursors, are concerns during the summer months, and are estimated for an average summer work weekday. To demonstrate conformity, projected emissions in all analysis years must not exceed the established budgets.

A complete list of the FY 2020-2029 TIP projects and non-Federally funded regionally significant projects is contained in Appendix A1 and A2, respectively. All projects are listed in the appendix and if they were not exempt, have a completion year associated with them under the “Scenario Year” column.

5. Methodology

Ozone (O₃) is a colorless gas associated with smog or haze conditions. Ozone is not a direct emission, but a secondary pollutant formed when precursor emissions, volatile organic compounds (VOCs), which include certain hydrocarbons (HC), and oxides of nitrogen/nitrates (NO_x), react in the presence of sunlight. This analysis uses a series of computer models to forecast vehicle miles of travel, speeds, and finally emissions estimates for these precursors of ozone.

Analysis Software

The SJTPO regional emissions analysis was run using SJTPO's South Jersey Travel Demand Model (SJTDM). A traditional four-step travel demand model, the model runs on the CUBE platform and estimates vehicular traffic as well as transit ridership in the four-county SJTPO region. In addition, SJTDM has now been calibrated and validated to 2015 conditions. A more detailed explanation of the SJTDM including the model development report can be found at www.sjtpo.org/model.

This SJTPO regional emissions analysis was run using the Motor Vehicle Emissions Simulator Model (MOVES) 2014a, the US EPA's latest emissions model. Compared to MOVES 2010b, the previous emissions model, MOVES is significantly more sensitive to all aspects of the drive cycle. Start, extended idle, and evaporative emissions which comprise the off-network portion of the inventory were specifically addressed. A combination of computer programs centered on the MOVES2014a emissions model and PPSUITE travel model post-processor were used to assess air quality in the SJTPO region. PPSUITE is a software package used to pre-format and post-format data to and from MOVES2014a. It provides a linkage between MOVES2014a and the transportation model, the SJTDM, and generates emissions and activity data summary reports. In this analysis emissions are calculated for two categories of pollutants: VOCs and NO_x. The non-road emissions (i.e. those not directly related to on-road vehicles such as construction equipment emissions) were also addressed in this MOVES update, however, those improvements do not impact this particular portion of the emissions inventory.

Applicable Tests and Budgets

The SJTPO region has approved mobile vehicle emission budgets (MVEBs) for relevant pollutants for the 8-Hour Ozone NAAQS, and as such, only budget tests are required to demonstrate conformity. As of August 1, 2008, EPA has determined that the 2008 and 2009 8-hour Ozone budgets, submitted by New Jersey as part of its State Implementation Plan, are adequate and should be used for future transportation conformity determinations. Under the SIP Revision, 13.04 tons per day of VOC and 29.64 tons per day of NO_x are the budget levels for the year 2009 and later for the SJTPO region. VOC and NO_x budget levels corresponding to the analysis years of 2020, 2030 and 2040 are listed in Table 1. The values correspond to maximum allowable emissions generated for an average summer work weekday, the prescribed analysis day/period for the VOC and NO_x emissions testing in the SJTPO region.

Table 1: SJTPO Region Daily Mobile Vehicle Emission Budgets³

Budgets	2020 (tons)	2030 (tons)	2040 (tons)
VOC	13.04	13.04	13.04
NOx	29.64	29.64	29.64

³ Budgets found adequate for conformity purposes by the US EPA August 1, 2008

6. Other Planning Assumptions

The latest planning assumptions must be used in the conformity analysis. The latest planning assumptions for the emission estimates and analysis were approved by Interagency Consultation Group meeting (conference call) on February 28, 2017, with the travel demand modeling process beginning March 6, 2017. Key elements utilized in this conformity assessment follow:

Population and Employment

Population and employment forecasts were endorsed by the SJTPO Policy Board as part of the regional transportation plan update (*Transportation Matters*) on July 25, 2016. These forecasts were used in the transportation modeling to predict future year traffic conditions in the SJTPO area. These demographic forecasts provide population and employment estimates at the county and municipal level in five-year intervals out to 2040. The forecasts were developed with a Cohort Projection Model and Economic Model as well as Census and other allied datasets where available.⁴ There was also extensive outreach with the county planning departments as well as other public officials. The SJTPO Technical Advisory Committee was also involved at every step of this process. Since adoption, there have been no updates to the population and employment forecasts. Hence, these represent the latest forecasts.

Travel and Congestion

For all analysis years, Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) are calculated by the South Jersey Travel Demand Model. Base year travel model VMT was adjusted to 2015 conditions based on 2014 data from NJDOT's Highway Performance Monitoring System (HPMS) estimates for each county and road group. Vehicle age, vehicle source type population (VPOP), and age distribution data comes from 2015 New Jersey Department of Motor Vehicles (NJDMV) registration data. In addition, auto operating costs were estimated to be 11.5 ¢ per mile (in 2010 dollars).⁵

Transit Operation Policy and Fare Changes

Transit ridership has continued to grow, which provides a favorable effect on emissions. The tolls and fares in the CUBE Model are current as of 2015, the date of the model's most recent calibration. Transit service assumptions include fare/toll increases over time – detailed assumptions for different facilities were included in network coding files. Fares and tolls are assumed to keep pace with the inflation of the Consumer Price Index to account for the general NJ TRANSIT or authority fare/toll increases that can be anticipated.

⁴ A more detailed explanation of the Demographic Forecast Methodology is Appendix C Demographic Forecast of *Transportation Matters*, available at: www.sjtpo.org/wp-content/uploads/2016/07/Appendix-C-Demographic-Forecast-7-25-2016-Final.pdf.

⁵ A more detailed explanation of this parameter as well as the other modeling parameters can be found in the SJTDM Model Development Manual at: www.sjtpo.org/wp-content/uploads/2016/06/SJTDMDevelopmentReport_October2012.pdf.

Transportation Control Measures (TCMs)

Transportation Control Measures (TCMs) are transportation strategies specific to on-road mobile sources, which reduce emissions by reducing the number and/or length of vehicle trips and/or improve traffic flow.⁶ TCMs that were implemented in the region in the past, as identified in previous SIPs, are included in the base network. The current SIP does not include any additional TCMs, such as Clean Fleets Replacements, or Truck Idling Restrictions. Therefore, neither the budgets nor the conformity analysis reflect any additional TCMs.

⁶ NJ DEP. "State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standard-Final." October 29, 2007. 7-12. At: <https://www.nj.gov/dep/baqp/8hrsip/8hrsip.html#final>.

7. Models and Inputs

There are several requirements for travel demand models for severe ozone areas. They are:

- General Model Requirements
- Consistency with the Highway Performance Monitoring System (HPMS)
- Vehicle Miles Traveled (VMT) estimates
- Capacity and Volume-Sensitive Speed-and-Delay Estimates
- Consistency with SIP Emissions Modeling Assumptions

As mentioned above, the South Jersey Travel Demand Model (SJTDM) was used along with PPSUITE emissions post-processor to estimate the pollutant inventories. The model has been calibrated and validated to 2015 conditions. It replaces the previous SJTDM, run in TP Plus that was used to establish the current 2008 and 2009 8-Hour Ozone budgets.

Also, as mentioned above, the US EPA's most recent emissions model, MOVES2014a (November 2015) with MOVESdb20161117 database (November 2016), was used for this conformity analysis.

Key MOVES Input Data

A large number of inputs to MOVES are needed to fully account for the numerous vehicle and environmental parameters that affect emissions. These inputs include traffic flow characteristics, vehicle descriptions, fuel parameters, Inspection and Maintenance (I/M) program parameters, and environmental variables. MOVES includes a default national database of meteorology, vehicle fleet, vehicle activity, and fuel and emission control program data for every county. The US EPA, however, cannot certify that the default data is the most current or best available information for any specific area. As a result, local data, where available, is recommended for use when conducting a regional conformity analysis. A mix of local and default data is used for this analysis. The 2015 vehicle population and age distribution data were used in the analysis process.

8. Stakeholder Participation

The stakeholder participation process is being and has been conducted according to the schedule depicted in Table 2. This includes participation of the Transportation Conformity Interagency Consultation Group (TCICG or ICG) and the general public at-large. As per 40 CFR §93.105 of the Transportation Conformity Final Rule, MPOs and State DOTs must provide a “reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, the US DOT and the US EPA.” The ICG signs off on the major planning assumptions — which models are used in the analysis, determining which projects are regionally significant, and resolving any other issues that arise in the conformity process.

Interagency Consultation

Requirements for interagency consultation were met through the first Transportation Conformity Interagency Consultation Group teleconference on February 25, 2019. A second Interagency Consultation Group teleconference was held on March 22, 2019. During this meeting, the ICG approved the conformity determination document. If additional issues are to arise, the ICG will be consulted.

Public Involvement Procedure

The proposed conformity determination for the FY 2018-2027 TIP and *Transportation Matters* will have a minimum 30-day comment period, beginning April 1, 2019 and lasting through April 30, 2019. The summary document will be made available to outline how conformity requirements are met. Any questions on technical backup will be addressed and documented as part of this report. Because of the reliance of this conformity determination relies on a previous regional emissions analysis and few significant changes otherwise, the Interagency Consultation Group agreed that a formal public meeting was not needed for this particular conformity determination.

Table 2: FY 2020-2029 TIP Conformity Schedule

PROCESS	EST. DATE
Teleconference with Interagency Consultation Group (ICG) to propose reliance on 2017 regional emissions analysis and existing planning assumptions.	3/22/2019
Teleconference with Interagency Consultation Group (ICG) to discuss project list and confirm reliance on 2017 regional emissions analysis.	6/17/2019
Begin Public Review Period	7/15/2019
End of Public Review Period	8/21/2019
Recommendation of conformity determination adoption by TAC	9/9/2019
Conformity Determination Adoption by Policy Board	9/23/2019

PROCESS	EST. DATE
Forward approved Conformity Determination to FHWA/FTA/EPA	10/1/2019

9. Analysis Results

Demographic forecasts were input to the modeling process to generate future travel demand data. Network changes resulting from the addition of improvement projects were used to define the action scenarios based on the year the proposed improvement would likely be constructed. The combination of demographic changes and network changes were ran through the modeling process, and resulted in the overall estimates of VMT, VHT, and emissions generated in the SJTPO region. A summary of the population, employment, VMT, and VHT values generated in the SJTPO region is found in Table 3. The VMT and VHT data are summarized by analysis period, for summer, and are presented for comparative purposes.

Table 3: Regional Travel Summary for SJTPO Region

	2020	2030	2040
Population	606,400	627,000	636,800
Employment	324,900	327,300	344,700
VMT Summer	19,249,505	19,599,818	20,016,022
VHT Summer	483,094	495,300	508,087

Action Scenarios

The conformity assessment depicts the results of the action scenario model runs versus the budgets established for each emission level for the analysis years. To develop the action scenarios, the base year highway network, which is the highway system as it existed in the model in the year 2015, is used as the starting point. For each analysis year, the highway network is modified to include the projects to be analyzed, as identified in Appendix A1 and A2. For the analysis year, the SJTDM is run with the appropriate future year demographic inputs and the modified, action scenario highway network assumed to be in place by the analysis year. The corresponding emissions generated are a result of both the future year demographic inputs and the new projects, or actions, added to the base network in the appropriate year(s). The emissions from these action scenarios are then compared to the corresponding analysis year emission budgets.

Budget Tests

This analysis is based on the 8-Hour Ozone emissions budgets (for 2009) found adequate by the US EPA, effective as of August 1, 2008.⁷ Budget tests were performed for VOC and NOx for the SJTPO region. The tests show whether improvement actions, or the action scenarios, keep emissions within budget. Results are determined by subtracting projected emissions from the budgeted amounts. The VOC and NOx

⁷ Excerpted from USEPA website - <https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-2%23nj>

budget tests passed for the all 8-Hour Ozone attainment analysis years, as seen in Tables 4 and 5. Figure 2 illustrates the results depicted in Tables 4 and 5.

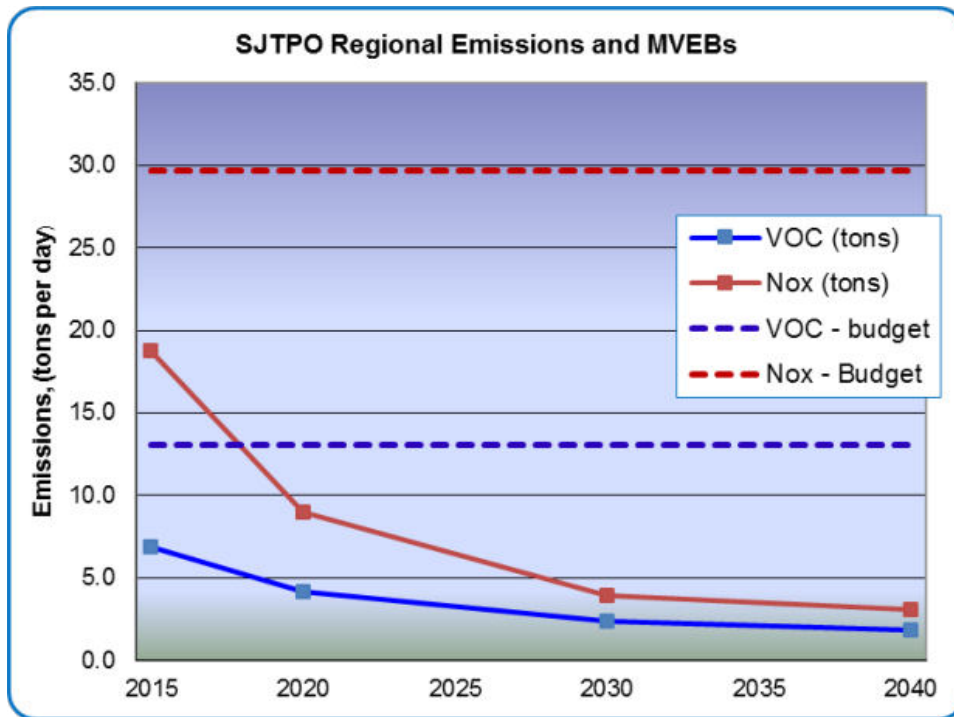
Table 4: VOC Budget Test, SJTPO (tons per day)

	2020	2030	2040
Budget	13.04	13.04	13.04
Action	4.19	2.40	1.80
Budget-Action	8.85	10.64	11.24
Pass/Fail	PASS	PASS	PASS

Table 5: NOx Budget Test, SJTPO (tons per day)

	2020	2030	2040
Budget	29.64	29.64	29.64
Action	8.94	3.91	3.11
Budget-Action	20.70	25.73	26.53
Pass/Fail	PASS	PASS	PASS

Figure 2: FY 2018-2027 Regional Emissions Analysis



Meeting the Conformity Criteria

Tables 4 and 5, as well as Figure 2, demonstrate that the TIP and the Plan conform to the SIPs with respect to the established motor vehicle emissions budgets in the corresponding implementation years. The TIP and Plan meet all requirements under the 8-Hour Ozone standard all analysis years tested. Therefore, the TIP and the Plan for the SJTPO region are found to conform to the applicable air quality SIP or the US EPA conformity requirements.

In addition to this demonstration that the estimated regional emissions of VOCs and NOx do not exceed the respective budgets included in the SIPs established by NJDEP, SJTPO’s transportation conformity results must also meet all the applicable criteria that are consistent with the requirements for non-attainment areas under the CAAA. Specifically, the transportation conformity determination must be shown:

- To be fiscally constrained (40 CFR 93.108);
- To be based on the latest planning assumptions (40 CFR 93.110);
- To be based on the latest emissions estimation model available (40 CFR 93.111);
- To include consultation procedures consistent with those described in the *Final Rule* (40 CFR 93.112);
- Not to interfere with the timely implementation of TCMs (40 CFR 93.113); and
- To be consistent with the motor vehicle emissions budgets in the applicable implementation plans (40 CFR 93.118).

All identified conformity evaluation criteria in the Final Rule, and subsequent responses from SJTPO, are detailed in Table 6.

Table 6: Evaluation of the Conformity Determination Criteria

<i>Corresponding 40 CFR Part 93 Section(s)</i>	<i>Evaluation Criteria</i>	<i>SJTPO’s Response</i>
§93.106(a)	(1) Are the transportation plan horizon years correct?	Yes. The years 2020, 2030, and 2040 are the current Plan horizon years, and are not more than 10 years apart. The attainment year of 2020 is a horizon year.
§93.106(a) (2)(i)	Does the plan quantify and document the demographic and employment factors influencing transportation demand?	Yes. <i>Transportation Matters</i> , of which this TIP analysis will be a part, is the current and conforming transportation plan, quantifying and documenting demographic and employment factors influencing transportation demand.
§93.106(a) (2)(ii)	Is the highway and transit system adequately described in terms of regionally significant additions or modifications to the existing transportation network, which the transportation plan envisions to be operational in horizon years?	Yes. The regionally significant additions and modifications to the network utilized in this conformity analysis are listed and described. Detailed information regarding each project can be found in the respective TIP and Plan documents.

Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	SJTPO's Response
§93.108	Are the transportation improvement program and the transportation plan fiscally constrained?	Yes. The TIP and the Plan are constrained to reasonably anticipate financial resources.
§93.109(a)	Has the MPO demonstrated that all applicable criteria and procedures for conformity are compiled and satisfied?	Yes. As part of the response, this table itemizing criteria and responses is presented.
§93.109(e)	Are all budget tests for VOCs, NOx, and CO satisfied as required by §93.118 and §93.119 for conformity determination?	Yes. As a marginal non-attainment area with existing 8-Hour Ozone SIP budgets, SJTPO performs budget tests to demonstrate the 8-Hour Ozone conformity of the TIP and the Plan under the 1997/2008/2015 8-Hour Ozone Standards. SJTPO is not required to perform CO testing at this time.
§93.109(f)	Are the conformity determinations based upon the latest planning assumptions?	Yes.
§93.110	(a) Is the conformity determination, with respect to all other applicable criteria in §93.111-§93.119, based upon the most recent planning assumptions enforced at the time the conformity determination began?	(a) Yes. This conformity determination utilizes the most recent planning assumptions as of March 6, 2017, the start date of the travel demand modeling process, which in effect signaled the start of the conformity determination process. The Interagency Consultation Group reaffirmed these planning assumptions for this conformity determination at their 3/22/19 interagency consultation call.

Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	SJTPO's Response
	<p>(b) Are the assumptions derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other designated agency? Is the conformity determination based upon the latest assumptions about current and future background concentrations?</p>	<p>(b) Yes. This conformity determination utilizes the most recent demographic and employment data adopted by the SJTPO Policy Board in July 2016 and shown in this conformity determination document. Also, vehicle registration data from 2015 is used. The assumptions are derived from the most recent information available to SJTPO.</p>
	<p>(c) Are any changes in the transit operating policies (including fares and service levels) and assumed transit ridership discussed in the determination?</p>	<p>(c) Yes. Applicable transit operating policies and transit ridership are addressed in conformity.</p>
	<p>(d) The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time.</p>	<p>(d) Transit service and increases in fares, etc. are addressed in this conformity demonstration. Also included are planned toll increases on authority facilities.</p>
<p>§93.110</p>	<p>(e) The conformity determination must use the latest existing information regarding the effectiveness of the transportation control measures (TCMs) and other implementation plan measures that have already been implemented.</p>	<p>(e) Currently, there are no adopted TCMs in the corresponding SIPs.</p>
	<p>(f) Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by §93.105.</p>	<p>(f) Key assumptions are specified and other supporting documents are included in this conformity determination document, which is available to the public and TCICG.</p>

Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	SJTPO's Response
§93.111	Is the conformity determination based upon the latest emissions model?	Yes. The transportation conformity determination for the TIP and the Plan is based on MOVES 2014a, which was the latest emissions model at the time this analysis was performed.
§93.112	Did the MPO make the conformity determination according to the consultation procedures of the Final Rule or the state's conformity SIP?	Yes. Interagency Consultation Group (ICG) teleconferences were held on February 28, 2017, July 27, 2017, February 25, 2019, March 22, 2019, and June 17, 2019. Interim and subsequent coordination was done via email correspondence to the entire ICG. All comments received have been included in this analysis according to the consultation procedures consistent with the requirements of all applicable regulations including §93.105 (a) and (e) to consider input assumptions and to review findings regarding the transportation conformity.
§93.113(b) §93.113(c)	Are TCMs being implemented in a timely manner?	There are currently no adopted transportation control measures in the SIPs.
§93.114	Are there a currently conforming transportation plan and a currently conforming TIP at the time of project approval?	Yes. The SJTPO FY 2020-2029 TIP analysis is performed as part of <i>Transportation Matters-A Plan for South Jersey</i> , under the 1997/2008/2015 8-Hour Ozone NAAQS, and are the currently conforming TIP and the Plan, respectively.
§93.115	Are the projects from a conforming Plan and TIP?	Yes. The FY 2020-2029 TIP Conformity Determination was approved on September 23, 2019, and TIP projects come from the Conforming Plan. So the TIP and the Plan remain consistent.
§93.118	For Areas with SIP Budgets: Is the Transportation Plan, TIP, or Project consistent with the established motor vehicle emissions budget(s) in the applicable SIP?	Yes. The TIP and the Plan result in fewer emissions than the established budgets for all pollutants in each analysis year.

Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	SJTPO's Response
§93.119	For areas without SIP Budgets: Does the Transportation Plan, TIP, or Project satisfy the prescribed emissions test?	Not applicable. There are adequate SIP budgets for NOx and VOC, the two criteria pollutants of concern for the SJTPO region.
§93.122(a) (6) §93.122(a) (7)	Are reasonable methods and factors used for the regional emissions analysis consistent with those used to establish the emissions budget in the applicable implementation plan?	Yes. The ambient temperatures and other factors used in the analysis, including the methods for off-network VMT and speed have been reviewed by the ICG, and have been deemed reasonable.
§93.122(b)	Is there a network-based travel model of reasonable methods to estimate traffic speed and delays for the purpose of transportation-related emissions estimates?	Yes. The South Jersey Travel Demand Model is a network-based model used in conjunction with PPSUITE.
§93.122(g)	Does the previous regional emissions analysis apply to the new plan and/or TIP?	Yes, although the Plan and TIP are unchanged from when the previous regional emissions analysis was run—in April, May 2017.

10. Comments and Responses

No comments were received.

Appendix A1: FY 2020-2029 TIP Projects/Programs

Appendix A provides a list of projects that comprise the future transportation system and emissions modeling that are the basis of the conformity determination process.

Appendix A.1 is comprised of the FY 2020-2029 TIP Projects/Programs. *For a detailed list of all the projects included in this conformity analysis, refer to the following sections in the TIP:*

- [2. Regional Highway Projects/Programs](#)
- [3. NJDOT Statewide Projects/Programs](#)
- [4. NJ TRANSIT Projects/Programs](#)

Appendix A2: Non-Federally Funded/ Regionally Significant Projects

Appendix A provides a list of projects that comprise the future transportation system and emissions modeling that are the basis of the conformity determination process.

Appendix A.2 is comprised of Non-Federally Funded/ Regionally Significant Projects that were included in the regional emissions analysis. Generally, the sponsors for these types of projects are the authorities—i.e., the South Jersey Transportation Authority (SJTA), the New Jersey Turnpike Authority (NJTA), and the Delaware River and Bay Authority (DRBA).

For each project, certain information is provided. The following table identifies the fields:

Field	Definition
Route	Roadway on which project is located
Project Name	Name of Project
Description	More detailed description of project.
Sponsor	Implementing agency (i.e., NJDOT, NJ TRANSIT, etc.)
County	County where project located
Exempt?	Whether a project is exempt (“Y”), or not, (“N”), as determined by the SJTPO in consultation with the Interagency Group.
Excat	Exemption Category provided if project is “exempt” (See Appendix C for full list)
FY 2018 Scenario Year	Scenario year from prior regional emission analysis
Status_FY20/ Notes	Status of project for <u>this</u> conformity analysis, including additional notes.

NJ Turnpike Authority

Route	Project Name	Description	Sponsor	County	Exempt?	Excat	FY2018 Scenario Year	Status_FY20/ Notes
GSP	Garden State Parkway Widening and Interchange Improvements Milepost 35 to 38	This project will improve operations at Interchange 36, 37 and 38 by providing full decel and accel lanes at Interchange 36 with Tilton Road and eliminate the southbound weave between traffic entering the GSP from the Atlantic City Expressway eastbound ramp and the traffic exiting the GSP at Interchange 37 with Washington Avenue. The improvement includes widening the Atlantic City Expressway entrance ramp to two lanes and adding one lane in each direction and full shoulders on the GSP to accommodate the widening from Interchange 30 to 80 improvement. Construction started in December 2014 and was completed in 2018.	NJTA	Atlantic	N		2020	Completed.
GSP	Garden State Parkway Interchange 38 to 41 widening	One additional lane in each direction between Interchange 38 to 41. Construction started in August 2014 and was completed in 2018.	NJTA	Atlantic	N		2020	Completed.

NJ Turnpike Authority (cont.)

Route	Project Name	Description	Sponsor	County	Exempt?	Excat	FY2018 Scenario Year	Status_FY20/ Notes
GSP	Replacement of the Garden State Parkway Southbound Bridges of Great Egg Harbor and Drag Channel	This project will provide for the replacement of the southbound bridges, including the construction of a multi-use pathway on the bridges, and the demolition of the Beesley's Point Bridge. The project is currently under construction. Estimated construction cost: \$225,000,000. Expected completion 2019.	NJTA	Cape May	Y	S19	2020	The southbound Great Egg Harbor structure was opened to traffic Sept 2016. The other work including Drag Channel Bridge replacement and demolition is on-going.
GSP	Garden State Parkway Shoulder Widening Milepost 30 to 35	This project will provide standard left and right shoulders in both directions of the GSP between mileposts 30 and 35, improve roadside safety features, construct stormwater management facilities and replace eight bridges. This project is currently in the design phase. Estimated construction cost is \$60,000,000.	NJTA	Atlantic	N		2020	Construction is anticipated to begin second quarter of 2020

South Jersey Transportation Authority (SJTA)

Route	Project Name	Description	Sponsor	County	Exempt?	Excat	FY2018 Scenario Year	Status_FY20/ Notes
ACE	ACE/ACY Direct Connector	Design and construction of direct connect roadway from the AC Expressway to ACY Airport.	SJTA	Atlantic	N		2030	2030. By-pass ramp from outgoing Amelia Earhart Boulevard to Tilton Road (CR-563) Northbound constructed in 2018, but not a new movement.
ACE	ACE Widening Project	Construction of a third lane eastbound and westbound from MP31-44.	SJTA	Atlantic	N		2030	2030. Formerly known as ACE Third Lane Widening Westbound.
ACE	Electronic Toll Collection Upgrades	Upgrade of toll collections and violation enforcement using innovative technology through electronic tolling. All toll plazas would be affected by Electronic Toll Collection Upgrades. The project consists of eliminating toll booths and implementing cashless system or All Electronic Tolling. Atlantic City Expressway MP 0.0 - 44.	SJTA	Atlantic	N		2030	2030

Delaware River and Bay Authority (DRBA)

Route	Project Name	Description	Sponsor	County	Exempt?	Excat	FY2018 Scenario Year	Status_FY20/ Notes
Sandman Blvd	Rehabilitation of Approach Roads (Phase II)-Cape May-Lewes Ferry	Phase I of the Cape May Approach Roads is complete and the remaining portion between Bayshore Road and the existing toll plaza needs rehabilitation. Improvements include drainage, signage, re-construction of the existing pavement, and upgrading safety features to meet present standards Under Phase II. Improvements will also be made on Beach Drive such as widening, adding shoulders, and adding sidewalk with the intention of matching recent improvements performed by Lower Township. Design is nearly complete with construction anticipated in late 2020 with completion planned for 2022. The estimated cost for this work is \$7 million.	DRBA	Cape May	Y	S10		While Phase I was non-exempt, Phase II is exempt. Beach drive currently is under-width and lacks shoulders and sidewalks. Goal is to make these improvements for safety purposes but not add any lanes.
Delaware Memorial Bridge	Pave and rehabilitate I-295 from foot of twin spans in New Jersey to NJ 130 bridge	Milling and hot-mix overlay of northbound and southbound I-295 due to failing pavement. Work will include pavement markings. Construction is anticipated summer 2019. The expected cost for this work is \$700,000.	DRBA	Salem	Y	S10	2020	2020

Appendix B: Definition of Regional Significance*

Pertaining only to those projects classified as non-exempt:

Projects on facilities having a functional classification of minor arterial or lower shall not be considered to be regionally significant projects unless sufficient evidence demonstrates the need for an exception. All non-exempt projects on principal arterial or higher functional class facilities and all fixed guideway transit facilities that offer an alternative to regional highway travel will be considered regionally significant.

The MPO shall provide initial determinations regarding exemption and significance status for each project to the interagency group for review and comment. Following consultation, the MPO shall make a final determination for the project pool.

For clarification: those non-exempt projects that are not classified as regionally significant are included in the regional emissions modeling exercises, where possible. The difference between regionally significant and insignificant projects is only manifest for “non-Federal” projects in the event of a freeze or a lapse. Non-Federal projects are those not requiring Federal funding or approval but that are implemented by an agency that is a regular recipient of Federal transportation funds.

*As reconfirmed by the Interagency Group at their March 22, 2019 meeting.

Appendix C: Air Quality Exemption Codes

Appendix C includes tables from the Transportation Conformity Regulations 40 CFR § 93.126 *Exempt Projects*, and §93.127 *Projects exempt from regional emissions analyses*, respectively, from which the Exempt Categories are derived.

As the first step of the conformity analysis, projects will be classified according to their Exemption Status.

According to the guidelines suggested in the “Final Guidance”, projects are classified according to their Exemption Status. Highway and transit projects classified as “Exempt” are excluded from further emissions analysis. These projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. These project types are listed in Table 1.

1. Identification of Exempt Projects

Highway and Transit projects classified as “*Exempt*” are excluded from further regional emission analysis. These projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. These project types are listed in Table 1.

Table 1. Exempt Projects Types [Transportation Conformity Rule, 40 CFR Parts 51 and 93, §93.126,]

Category	Category Source
SAFETY	
S1	Railroad/highway crossing
S2	Hazard elimination program
S3	Safer non-Federal-aid system roads
S4	Shoulder improvements
S5	Increasing sight distance
S6	Safety improvement program
S7	Traffic control devices and operating assistance other than signalization projects
S8	Railroad/highway crossing warning devices
S9	Guardrails, median barriers, crash cushions
S10	Pavement resurfacing and/or rehabilitation
S11	Pavement marking demonstration
S12	Emergency relief (23 U.S.C. 125)
S13	Fencing
S14	Skid treatments
S15	Safety roadside rest areas
S16	Adding medians
S17	Truck climbing lanes outside the urbanized area
S18	Lighting improvements
S19	Widening narrow pavements or reconstructing bridges (no additional travel lanes)
S20	Emergency truck pullovers
MASS TRANSIT	
MT1	Operating assistance to transit agencies
MT2	Purchase of support vehicles
MT3	Rehabilitation of transit vehicles ¹
MT4	Purchase of office, shop, and operating equipment for existing facilities
MT5	Purchase of operating equipment for vehicles (e.g., radios, fare-boxes, lifts, etc.)
MT6	Construction or renovation of power, signal, and communications systems
MT7	Construction of small passenger shelters and information kiosks
MT8	Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures)
MT9	Rehabilitation or reconstruction of track structures, track, and track bed in existing rights-of-way
MT10	Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet ¹
MT11	Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR 771

AIR QUALITY

- AQ1 Continuation of ride-sharing and van-pooling promotion activities at current levels
- AQ2 Bicycle and pedestrian facilities

OTHER

- O1 Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action
- O2 Noise attenuation
- O3 Advance land acquisitions (23 CFR 712 or 23 CFR 771)
- O4 Acquisition of scenic easements
- O5 Plantings, landscaping, etc.
- O6 Sign removal
- O7 Directional and informational signs
- O8 Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities)
- O9 Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, location or capacity changes

Specific activities which do not involve or lead directly to construction, such as:

- O10a Planning and technical studies
- O10b Grants for training and research programs
- O10c Planning activities conducted pursuant to titles 23 and 49 U.S.C
- O10d Federal-aid systems revisions

¹In PM₁₀ nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.

For convenience in database development, each exempt category has been given a category code consisting of a letter to indicate its grouping (e.g. “S” for Safety, “MT” for Mass Transit) and a number indicating its relative position on the list. Thus, S1 applies to the first Safety category or “Railway/highway crossing”. The project coding database that accompanies each emissions analysis thus indicates not only whether or not the project has been deemed exempt but the specific reasoning as well. This facilitates both public comment and interagency consultation.

In certain cases, a hot-spot analysis is required prior to making a project level conformity determination. These projects may then proceed to the project development process even in the absence of a conforming transportation plan and TIP. These project types are listed in Table 2.

Table 2. Projects exempt from regional emission analysis

Category	Category Source
NR1	Intersection channelization projects
NR2	Intersection signalization projects at individual intersections
NR3	Interchange reconfiguration projects
NR4	Changes in vertical and horizontal alignment
NR5	Truck size and weight inspection stations
NR6	Bus terminals and transfer points