

Air Quality Transportation Conformity in the NJTPA Region

Conformity

One of the NJTPA's primary goals is to protect and improve the quality of the environment in northern and central New Jersey. However, parts of the region don't meet certain national air quality standards. We must ensure that our transportation plans and programs contribute to healthier air in the region. Based on requirements of the Clean Air Act, this involves assessing how transportation investments, strategies and programs (taken as a whole) impact air quality.

Transportation and Air Quality

Air pollution comes from many sources:

- **Mobile** — cars, buses, trucks, motorcycles, trains, planes, boats
- **Stationary** – power plants, oil refineries, industrial facilities, and factories
- **Area** – agricultural areas, cities, fireplaces
- **Natural** – wildfires, wind-blown dust

On-Road Mobile Sources



On-road mobile sources are a major contributor to air pollution in northern New Jersey.

Transportation plans and programs impact air pollution levels by affecting:

- How we travel (e.g., transit, carpooling, driving alone, etc.)
- How much we travel
- Efficiency of travel (traffic congestion and idling)
- Vehicle "cleanliness" (technology and fuels)

*Federal requirements for Conformity are identified in Code of Federal Regulations, Title 40, Chapter I, Subchapter C, Part 93.

Criteria Pollutants

- The United States Environmental Protection Agency (EPA) identifies National Ambient Air Quality Standards (NAAQS), the concentrations of specific air pollutants that are harmful to people. There are four key transportation-related criteria pollutants in northern New Jersey:
- **Volatile Organic Compounds (VOCs)**
- **Nitrogen Dioxide (NO_x)**
- **Carbon Monoxide (CO)**
- **Fine Particulate Matter (PM_{2.5})**

Nonattainment and Maintenance Areas

Air quality in the region is continuously monitored by the New Jersey Department of Environmental Protection (NJDEP). The entire NJTPA region currently fails to meet standards for ozone and is in "nonattainment". Portions of the region now meet standards for carbon monoxide and fine particulate matter and are designated as "maintenance areas."



Planning Connections

The NJDEP sets emission targets for all of the state's air pollutant sources in its New Jersey's State Implementation Plans (SIPs), including on-road mobile sources, to ensure that we attain NAAQS. Regulatory limits or "**budgets**" are set for each pollutant. These budgets help achieve or maintain healthy air quality over a particular timetable.

The NJTPA's long-range Regional Transportation Plan (RTP) and near-term Transportation Improvement Program (TIP) must help to keep emissions within the region's nonattainment and maintenance areas lower than the emissions budgets. Otherwise, federal funding of transportation projects and programs can be halted. Conformity analyses are conducted with every RTP (every four years) and TIP (every two years).

Interagency Consultation Group (ICG) and the Public

The NJTPA's ICG works to coordinate the conformity process among the transportation and air quality agencies in the region. It includes members from EPA, FHWA, FTA, NJDEP, NJDOT, and NJ TRANSIT. The group reviews the projects and assumptions that enter into the Conformity analysis, and the analysis results. Public participation offers the public an opportunity to review and comment on these as well.

Computer Modeling

The NJTPA quantitatively analyzes the expected air quality impacts of plans and programs using the Enhanced North Jersey Regional Transportation Model and the EPA's Motor Vehicle Emission Simulator model. Forecasts of pollution emissions are estimated for future years to compare against SIP budgets.

Classification of Projects and Conformity "Triggers"

The analysis includes the entire transportation network and all projects that are classified as "**regionally significant**." Projects in certain categories that would have no impact on travel or pollution can be excluded as "**exempt**." A regionally significant non-exempt project amended into the TIP can trigger the need for a new Conformity analysis. Regulatory changes can also trigger a conformity determination.

Conformity Determination

The findings of the Conformity analysis are formally documented and approved by the NJTPA Board of Trustees.

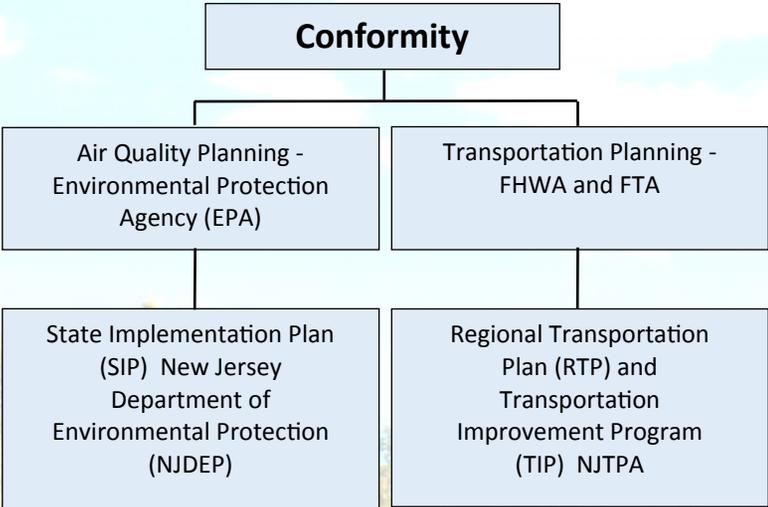
References

- (accessed July 28, 2015)
- www.nature.nps.gov/air/AQBasics/sources.cfm
 - www.fhwa.dot.gov/environment/air_quality/conformity/con_broc.cfm
 - www.epa.gov/air/caa/peg/carstrucks.html
 - www.des.ucdavis.edu/faculty/handy/TTP220/conformity_guide.pdf
 - www.epa.gov/airquality/emissions.html
 - www.learner.org/courses/envsci/unit/text.php?unit=11&secNum=3

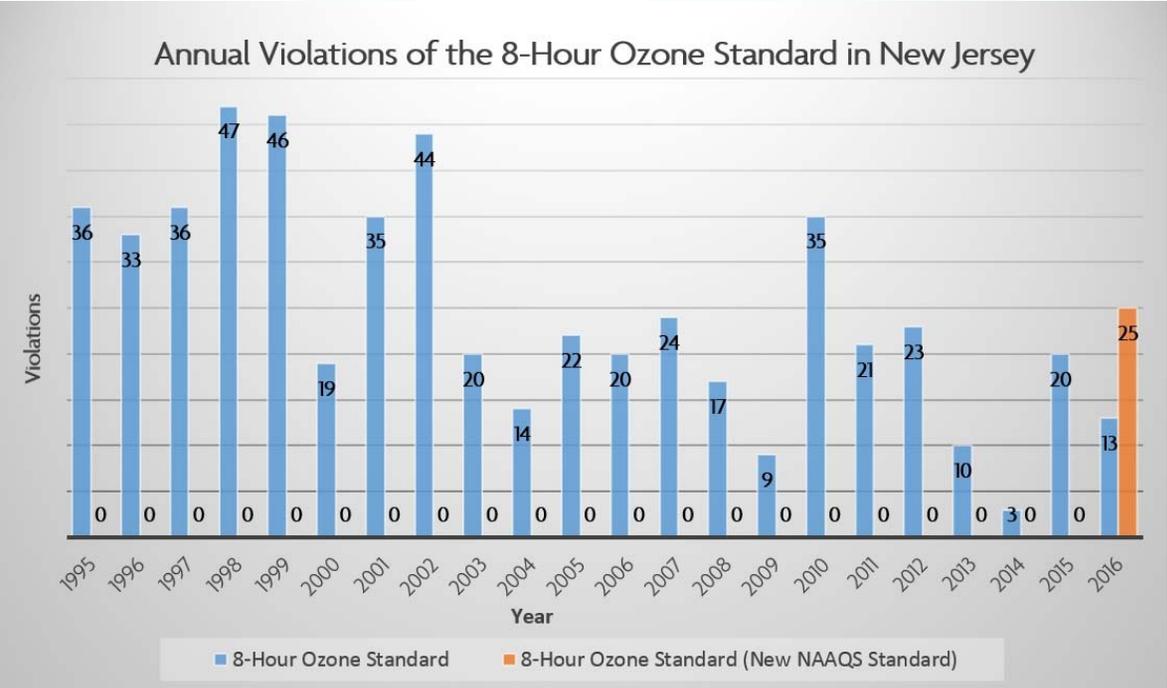
New Jersey Air Quality Trends

Ozone violations—the number of days per year that ozone concentrations exceed the ozone standard—have decreased significantly over the last 30 years in New Jersey. During this same time period, New Jersey has seen significant increases in population, vehicle miles traveled, and trip making. The air quality improvements have been largely attributed to developments in vehicular technology, particularly legislated cleaner engines, with improved fuel efficiency and pollution controls.

The Link Between Air Quality and Transportation Planning



Source: FHWA www.fhwa.dot.gov/environment/air_quality/conformity/con_broc.cfm



Source: NJDEP