



## MEMORANDUM

**TO:** Transportation Planning Board

**FROM:** Jane Posey, TPB Transportation Engineer

**SUBJECT:** Implications of EPA's Revocation of the 1997 PM<sub>2.5</sub> NAAQS

**DATE:** October 5, 2016

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## INTRODUCTION

The Environmental Protection Agency (EPA) has recently published a rule<sup>1</sup> related to air quality standards which will have a direct effect on how air quality conformity analyses are conducted in the Washington, D.C. region. The EPA revoked the 1997 Standard for Fine Particles Pollutants (PM<sub>2.5</sub>). The revocation, combined with the decreasing levels of fine particles in our region, will result in our region no longer being required to analyze Fine Particles in the air quality conformity determinations of our transportation plans (CLRPs) and Transportation Improvement Programs (TIPs). Since the Washington region is no longer required to demonstrate transportation conformity for the PM<sub>2.5</sub> Standard, staff will be removing all charts and graphs associated with PM<sub>2.5</sub>-related pollutants (Precursor Nitrogen Oxides- NO<sub>x</sub> and direct PM<sub>2.5</sub>) from the air quality conformity report of the 2016 CLRP and FY2017-2022 TIP (and from all future reports).

## BACKGROUND

The Clean Air Act (CAA) directs the EPA to set and review air quality standards for common pollutants known as "criteria pollutants", which the agency has identified based on their likelihood of harming public health and welfare. Particulate Matter is one of these pollutants. The EPA measures two categories of particulates in the air: PM<sub>2.5</sub>, which is less than 2.5 micrometers in diameter, and PM<sub>10</sub>, which is less than 10 micrometers in diameter. Fine particles (PM<sub>2.5</sub>) are 2.5 micrometers in diameter or smaller and can only be seen with an electron microscope. Fine particles are produced from all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.

## FINE PARTICLES STANDARDS

### 1997 Standard

In 1997 the EPA established the initial National Ambient Air Quality Standards (NAAQS) for PM<sub>2.5</sub>. The annual PM<sub>2.5</sub> Standard was set at 15 micrograms per cubic meter (µg/m<sup>3</sup>). In 2004 the EPA designated the Washington, DC-MD-VA area as "non-attainment" for the 1997 PM<sub>2.5</sub> Standard, indicating that levels of the pollutant in the Washington region exceeded EPA's Standard. In 2009, however, the EPA, using local monitored data, determined that the levels of fine particles pollutants in the region had

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<sup>1</sup> Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements; Final Rule, Vol. 81, No. 44 Fed. Reg., August 24, 2016.

dropped sufficiently to meet the 1997 PM<sub>2.5</sub> Standard.

Once a “non-attainment” area has met a Standard, it may request redesignation to “attainment”. For the area to be redesignated, it must develop a Maintenance State Implementation Plan (SIP) for EPA’s approval. The plan ensures the area will continue to meet the NAAQS for a 20-year period. In 2013 the Metropolitan Washington Air Quality Committee (MWAQC) completed and approved a PM<sub>2.5</sub> Redesignation Request and a Maintenance Plan, which EPA approved in 2014. The Maintenance Plan included Mobile Budgets which the Washington region was required to adhere to when conducting air quality conformity analyses for the CLRP or TIP.

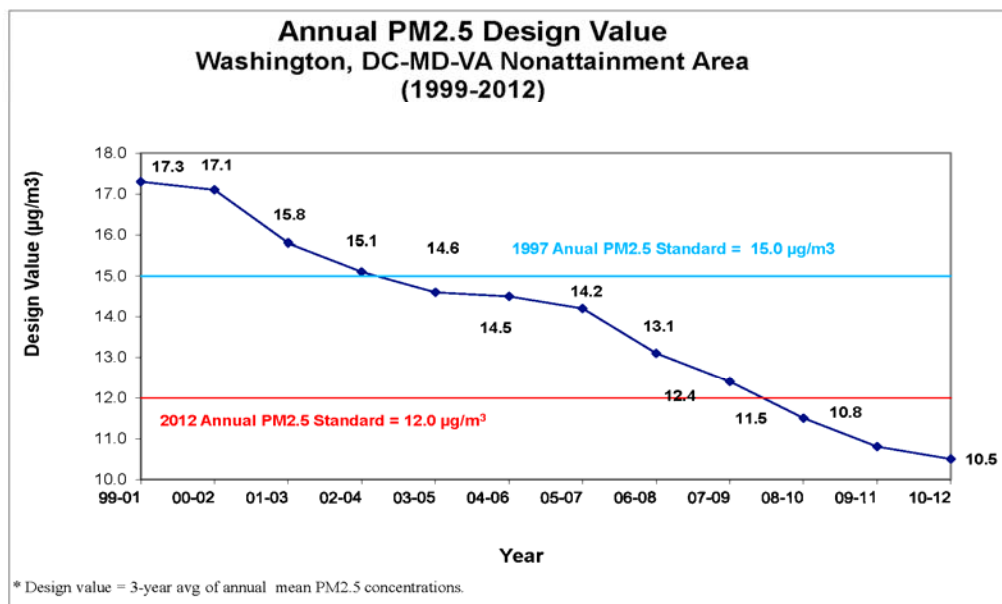
### 2012 Standard

In 2012 the EPA set a new, tougher, annual PM<sub>2.5</sub> Standard of 12 µg/m<sup>3</sup>. The Washington region, with its steadily downward trend (see Exhibit 1) in the level of fine particles pollutants, was already in attainment of that Standard at the time it was set. Therefore there were no new requirements for the Washington region related to the 2012 Standard.

EXHIBIT 1: Annual PM<sub>2.5</sub> Levels in the Washington Region



## Annual PM<sub>2.5</sub> Design Value Trend



### REVOCATION OF THE 1997 STANDARD

#### Fine Particle SIP Requirements Rule

On August 24, 2016 EPA published a final rule for the implementation of the current and future NAAQS for fine particles. As part of the rule, EPA revoked the 1997 Standard. Since the Washington region was redesignated to attainment for the 1997 PM<sub>2.5</sub> Standard, the final rule related to the revocation

of this Standard applies to the region. The result is that the Washington region will no longer be required to make CLRP, TIP, or transportation conformity determinations for any PM<sub>2.5</sub> Standard, starting October 24, 2016, which is the effective date of the new rule.

#### 2016 CLRP and FY2017-2022 TIP

While reference to PM<sub>2.5</sub> levels will be removed from the conformity report, the region will continue to promote Transportation Emissions Reductions Measures and other federal, state, and local control programs that reduce fine particles emissions. The region will continue to monitor the level of fine particles in the area, which are expected to continue to decline, especially with vehicle turnover introducing cleaner and more fuel-efficient vehicles into our fleet. Additionally, the current planned update for the previously approved 1997 PM<sub>2.5</sub> Maintenance Plan will no longer be necessary, as the main reason for the Plan was to develop revised PM<sub>2.5</sub> Mobile Budgets for conformity analyses.