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MEMORANDUM

TO: Baltimore Regional Transportation Board

FROM: Sara Tomlinson

DATE: November 13, 2007

SUBJECT: PM Hotspot Analysis Requirements

Background

On March 10, 2006 the Transportation Conformity Rule was amended to address particulate matter (PM) hotspot analysis requirements. According to the rule, PM hotspot analyses must be performed on projects that are deemed "projects of air quality concern" as part of the project-level conformity determinations. Project level conformity determinations are required the first time a federal project is adopted, accepted, approved, or funded and they are typically performed as part of the NEPA process by the project sponsor.

A hotspot analysis is "an estimation of likely future localized pollutant concentrations and a comparison of those concentrations to the relevant air quality standard." With a hotspot analysis, the effect of emissions from a proposed road project is looked at on a smaller scale compared with the regional scale as applied to a regional transportation conformity analysis. The purpose of the hotspot analysis is to show that a transportation project will meet the conformity requirements of the Clean Air Act. The project sponsor needs to show that no new local PM violations will be created as a result of the project, and that the frequency and severity of existing violations will not be increased as a result of the project.

Projects identified in the conformity rule guidance as being "projects of air quality concern" are:

- √ New or expanded highway projects that have a significant number of, or significant increase in, diesel vehicles;
- √ Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

- √ New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- √ Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- √ Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Currently, qualitative, rather than quantitative analyses are required for the PM hotspot requirement. Qualitative hot spot analyses can be performed by using a review of factors such as local monitoring data near a proposed project location. One approach is to select an air quality monitor in a nearby area with similar land use characteristics, and that is also located near an existing highway(s) with similar overall traffic levels and truck traffic characteristics. The PM2.5 design values measured at the comparison monitor are considered alongside the PM2.5 annual and 24-hour standards. The description of this approach is rather simplified here, and an actual PM hotspot analysis should be reviewed to gain a better picture of what is generally analyzed.

Consultation between the project sponsor, FHWA/FTA, EPA, and state and local agencies (MDE in Maryland's case) is used to:

- Determine whether a project meets requirements for a “project of air quality concern”.
- Evaluate and choose method(s) and assumptions used in the qualitative analysis.
- Determine whether new violations or increases in frequency or severity of existing violations are anticipated based on the hotspot analysis.

The MPO can be included in the PM hot spot consultation process; however, MPO involvement is not a requirement.