

Martin O'Malley, *Governor*
Anthony G. Brown, *Lt. Governor*



James T. Smith, Jr., *Secretary*
Melinda B. Peters, *Administrator*

September 22, 2014

Project No: BA727A24
I-695 SWOL (Southwestern Outer Loop) II from
MD 144 to US 40
Baltimore County, Maryland

Mr. Todd Lange
Director, Transportation Planning
Baltimore Metropolitan Council
1500 Whetstone Way, Suite 300
Baltimore, MD 21230

Dear Mr. Lange:

The Maryland State Highway Administration (SHA) is proposing to perform improvements to the I-695 outer loop roadway from south of MD 144 (Frederick Road) to the southern limit of the I-695 and US 40 interchange in Baltimore County, Maryland. This I-695 SWOL (Southwestern Outer Loop) II project from MD 144 (Frederick Road) to US 40 consists of widening the outer loop roadway from south of Frederick Road to the southern limit of the I-695 and US 40 interchange. The widening at the southern terminus will tie into the roadway constructed under SHA Contract No. BA3335172. The grade of the I-695 Outer Loop will be raised to provide appropriate vertical clearance on the roadways passing beneath the Outer Loop of I-695. As part of the project, there will be construction of new retaining walls, new noise barriers and modifications to existing retaining walls and noise barriers. As part of the project there will be impacts to several interchanges and road crossings, specifically:

- **MD 144 (Frederick Road) Interchange:** Improvements will be limited to the interchange ramps tying to the I-695 Outer Loop roadway. The design of the ramps will tie to the recently constructed intersections with MD 144. No work on MD 144 is anticipated.
- **MD 144 (Frederick Road) Bridge:** No impacts to the recently constructed bridge carrying MD 144 over I-695 are anticipated.
- **Edmondson Avenue Interchange:** The horizontal and vertical alignments of the Outer Loop ramps will be designed to accommodate the I-695 Outer Loop widening and the replacement of the bridge over Edmondson Avenue. The realignment of the ramps will include shifting the intersection of the ramps with Edmondson Avenue to align with Glenwood Avenue.

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- **Edmondson Avenue:** No changes to the horizontal or vertical alignment of Edmondson Avenue are anticipated. Designs for Edmondson Avenue are limited to replacement of curb and gutter and pavement repairs due to bridge construction and the realignment of Forest Avenue and the I-695 ramps.
- **Forest Drive:** The reconstruction and realignment of approximately 200 feet of Forest Drive to accommodate the widening of I-695.
- **Ingleside Avenue:** The reconstruction of the section of Ingleside Avenue immediately beneath I-695 to provide a closed roadway section and a closed drainage system.
- **Edmondson Avenue and Ingleside Avenue Bridges:** The replacement of the bridges carrying the I-695 Outer Loop over both Edmondson and Ingleside Avenues.

CO Analysis

A portion of the Baltimore region, the Baltimore Central Business District (CBD), was previously in nonattainment for carbon monoxide (CO); however, the CBD has been re-designated as a CO Maintenance Area as of September 27, 2010. The CO Maintenance Area is only within the CBD and does not extend to Baltimore County. There are no CO nonattainment areas in Maryland.

As shown in **Table 1**, a microscale analysis for 1-hour and 8-hour CO concentrations in 1995 and 2015 was conducted using MOBILE3 and CALINE3 to compare estimated concentrations to the CO State/National Ambient Air Quality Standards (S/NAAQS) for the 1991 Final Environmental Impact Statement (FEIS). This analysis demonstrated that for the FEIS Selected Action, there were no violations of the 1-hour or 8-hour CO S/NAAQS.

Table 1. FEIS Carbon Monoxide (CO) Concentrations

Condition	1-Hour (ppm)	8-Hour (ppm)
S/NAAQS	35	9
Selected Action 1995 Max. (% of S/NAAQS)	10.9 (31.1%)	3.3 (36.7%)
Selected Action 2015 Max. (% of S/NAAQS)	17.4 (49.7%)	5.1 (56.7%)

PM_{2.5} Analysis

On January 5, 2005, the Environmental Protection Agency (EPA) designated the Baltimore, MD area as nonattainment for fine particulate matter, called *PM_{2.5}*. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation conformity for the *PM_{2.5}* standards applied on April 5, 2006, after the one-year grace period provided by the Clean Air Act (CAA). On November 13, 2009, EPA designated

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nonattainment areas based on the 2006 24-hour PM_{2.5} NAAQS. The Baltimore region was not designated as nonattainment for the 2006 standard, therefore the designations based on the 1997 PM_{2.5} NAAQS remain in effect.

On March 10, 2006, EPA issued amendments to the Transportation Conformity Rule to address localized impacts of particulate matter: "PM_{2.5} and PM₁₀ Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New PM_{2.5} and Existing PM₁₀ National Ambient Air Quality Standards" (71 FR 12468). These rule amendments require the assessment of localized air quality impacts of Federally funded or approved transportation projects in PM₁₀ and PM_{2.5} nonattainment and maintenance areas. On December 20, 2010, EPA issued "*Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*", (75 FR 79370), which helps state and local agencies complete quantitative PM_{2.5} and PM₁₀ hot-spot analyses for project-level transportation conformity determinations of certain highway and transit projects. This guidance included a two-year grace period until December 20, 2012. Projects that require hotspot analysis for PM_{2.5} are those that are *Projects of Air Quality Concern* as enumerated in 40 CFR 93.123(b)(1):

- (i) *New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles;*
- (ii) *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;*
- (iii) *New bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location;*
- (iv) *Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and*
- (v) *Projects in or affecting locations, areas, or categories of sites which are identified in the PM₁₀ or PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violations.*

As discussed in the examples of the preamble to the March 10, 2006 Final Rule for PM_{2.5} and PM₁₀ Hot-Spot Analyses in Project-Level Transportation Conformity Determinations (71 FR 12491), for projects involving the expansion of an existing highway, 40 CFR 93.123(b)(1)(i) has been interpreted as applying only to projects that would involve a significant increase in the number of diesel transit buses and diesel trucks on the existing facility.

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Current Design Project

The currently approved 2011 Baltimore Regional Transportation Board's (BRTB) Long Range Plan (LRP) is referred to as *Plan It 2035*, along with the *2014-2017 Transportation Improvement Program (TIP)*, have been determined to conform to the requirements of the CAA Amendments of 1990. These represent the currently conforming LRP and TIP in accordance with 40 CFR 93.114. The current design project is part of the I-695: I-95 to MD 122 project included in the 2014-2017 TIP under ID# 63-0602-41, and is included on the Regionally Significant Projects list (Table II-1) of the TIP as I-695 Outer Loop with a year of operation of 2018. SHA has determined that this I-695 SWOL II project is not a project of air quality concern and, therefore, a hot-spot analysis is not required. SHA has prepared the following assessment of the current design for the I-695 SWOL II project:

- The current design project is considered under the following paragraphs of 40 CFR 93:
 - 40 CFR 93.123(b)(1)(i), as amended, which includes “*New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles.*”
- The proposed work along I-695 and related roadways for the SWOL II project does not meet the criteria set forth in 40 CFR 93.123(b)(1)(i) to be considered a project of “air quality concern” based on the following considerations:
 - The purpose of the project is to improve mobility and safety on I-695 and involves widening the I-695 outer loop roadway from south of Frederick Road to the southern limit of the I-695 and US 40 interchange. The widening at the southern terminus will tie into the roadway constructed under SHA Contract No. BA3335172.
 - As shown in **Table 2**, I-695 does not currently carry a substantial number of trucks; nor will there be a significant increase in trucks in the future in the vicinity of the current design project.
 - The current design project will not result in meaningful changes between projected No-Build and Build diesel truck volumes or vehicle mix. A review of the traffic data demonstrates that there will not be a significant increase in the number of trucks. Unless predicated by significant land use changes (heavy truck generators), existing truck percentages are used as the primary factor in determining future percentages.

Table 2. Traffic Projections for the I-695 SWOL II Project

I-695 from MD 144 to Edmondson Ave.	2014 Existing	2034 No-Build	2034 Build
ADT volumes	192,475	234,850	250,575
Percent Trucks (ADT)	9%	9%	9%
Daily Truck Volumes (ADT)	17,323	21,137	22,551 (+1,414)
Percent Diesel Powered Trucks (ADT)	6.84%	6.84%	6.83%
Daily Diesel Powered Truck Volumes (ADT)	13,166	16,064	17,115 (+1,051)

- Section 176(c) of the CAA and the Federal Conformity Rule require that transportation plans and programs conform to the intent of the air quality state implementation plan (SIP) through a regional emissions analysis in PM_{2.5} nonattainment areas. The BRTB serves as the Metropolitan Planning Organization (MPO), and therefore it is responsible for the regional conformity determination. The current design project is part of the I-695: I-95 to MD 122 project included in the 2014-2017 TIP under ID# 63-0602-41.

Based on review and analysis as discussed above, it is determined that the current design project for the I-695 SWOL II project in Baltimore County will meet the CAA and 40 CFR 93.109 requirements for Fine Particulate Matter – PM_{2.5}. These requirements are met without a hot-spot analysis because the project has not been found to be a project of air quality concern as defined under 40 CFR 93.123(b)(1). The project will not cause or contribute to a new violation of the PM_{2.5} NAAQS, or increase the frequency or severity of an existing violation.

MSAT Analysis

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics, including Mobile Source Air Toxics (MSATs). The six prioritized MSAT are: Benzene; Acrolein; Formaldehyde; 1,3-Butadiene, Acetaldehyde; and Diesel Exhaust (Diesel Exhaust Gases and Diesel Particulate Matter). On February 3, 2006, FHWA issued the FHWA Guidance on Air Toxic Analysis in NEPA Documents, which requires analysis of MSAT under specific conditions.

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The purpose of the current design project is to accommodate increases in traffic volumes along I-695 and to enhance traffic operations and safety. These improvements will occur by performing widening of the outer loop I-695 roadway from south of Frederick Road to the southern limit of the I-695 and US 40 interchange. The widening at the southern terminus will tie into the roadway constructed under SHA Contract No. BA3335172. The grade of the I-695 Outer Loop will be raised to provide appropriate vertical clearance on the roadways passing beneath the Outer Loop of I-695. As part of the project, there will be construction of new retaining walls, new noise barriers and modifications to existing retaining walls and noise barriers.

The current design project has been determined to generate minimal air quality impacts for CAA Amendment criteria pollutants and have not been linked with any special MSAT concerns. As such, the current design project will not result in significant changes in diesel truck traffic volumes, vehicle mix, or any other factor that would cause an increase in MSAT impacts of the projects from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. The current design project would be considered as: "*Projects with No Meaningful MSAT Effects, or Exempt Projects,*" as described in the FHWA December 6, 2012 memorandum "Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA."

Conclusion

The purpose of the project focuses on accommodating increases in traffic volumes along I-695 and to enhancing traffic operations and safety. The project is not predicted to cause or exacerbate a violation of the NAAQS.

Copies of the Air Quality Analysis will be circulated to FHWA, EPA, and MDE for a 15-day Interagency Consultation review and comment period. After comments have been received and addressed from Interagency Consultation, the Air Quality Analysis will be placed on SHA's website for a 15-day public review and comment period.

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We therefore request that the Interagency Consultation Group provide their agreement that the proposed project meets the requirements of the Clean Air and 40 CFR 93 without an additional quantitative hot-spot analysis.

Sincerely,

Chrissy Brandt
Environmental Planning Division

cc: Mr. Gregory Beacot, Environmental Protection Agency
Mr. Brian Hug, Maryland Department of the Environment
Mr. Jeanette Mar, Federal Highway Administration

