To submit comments on this report please use the contact information below:

Ms. Christina Minkler, Project Manager, Office of Highway Development

Email: cminkler@sha.state.md.us

Address: SHA Highway Design Division, Mail Stop C-102, 707 North Calvert Street, Baltimore, MD 21202

Ms. Chrissy Brandt, SHA Environmental Manager

Email: cbrandt@sha.state.md.us

Address: SHA Environmental Planning Division, Mail Stop C-301, 707 North Calvert Street, Baltimore, MD 21202

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

State Highway Administration
Maryland Department of Transportation

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

November 5, 2013

Improvements along I-695 Inner and Outer Loops from MD 41 (Perring Parkway) to MD 147 (Harford Road) and at the I-695 Inner Loop Ramp to MD 147 (Harford Road)
Baltimore County, Maryland

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

Dear Mr. Lang:

The Maryland State Highway Administration (SHA) is proposing to widen the I-695 Inner and Outer Loops between MD 41 (Perring Parkway) and MD 147 (Harford Road), replace the Old Harford Road Bridge over I-695, and install a new Ramp reconfiguration of the I-695 Inner Loop at MD 147 (Harford Road). The project consists of widening along I-695 to provide continuous auxiliary lanes and wider median shoulders on both the Inner and Outer Loops; reconstructing the Old Harford road bridge over I-695 to accommodate future widening; providing access to northbound and southbound MD 147 from the existing I-695 Inner Loop Off-Ramp; widening the proposed Ramp from one to three lanes (including a double left and an exclusive right, at the intersection with MD 47); establishing a traffic signal as well as 350 feet of storage capacity on the Off-Ramp; and removing the existing Off-Ramp to northbound MD 147 to eliminate the weave on the I-695 Inner Loop and provide a safety improvement. No through lanes are to be added on I-695 or MD 147 under these current design projects.

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 Finding of No Significant Impact (FONSI). This analysis demonstrated that for the FONSI Selected Action, there were no violations of the 1-hour or 8-hour CO S/NAAQS.

Table 1. FONSI Carbon Monoxide (CO) Concentrations

Condition	1-Hour (ppm)	8-Hour (ppm)
S/NAAQS	35	9
Selected Action 1995 Max. (% of S/NAAQS)	22.8 (65.1%)	5.1 (56.7%)
Selected Action 2015 Max. (% of S/NAAQS)	30.0 (85.7%)	6.3 (70.0%)

$PM_{2.5}$ 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 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 PM_{10} Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New $PM_{2.5}$ and Existing PM_{10} 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 PM_{10} 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 PM_{10} Nonattainment and Maintenance Areas*", (75 FR 79370), which helps state and local agencies complete quantitative $PM_{2.5}$ and PM_{10} 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 PM_{10} 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 PM_{10} 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 <u>significant increase</u> in the number of diesel transit buses and diesel trucks on the existing facility.

The currently approved 2011 Baltimore Regional Transportation Board's (BRTB) Long Range Plan (LRP) is referred to as *Plan It 2035,* along with the *2012-2015 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 described in an administrative modification updating the 2012-2015 TIP as approved by the BRTB Executive Committee on October 3, 2013 (TIP ID #63-1206-41) as a project to provide a continuous auxiliary lane on both the Inner and Outer Loop s of I-695 between MD 41 and MD 147 including a wider median, wider shoulders and replacement of the existing Old Harford Road bridge over I-695, along with the reconfiguration of the one-lane ramp off I-695 Inner Loop at MD 147 to increase to three lanes at the intersection with MD 147 where a traffic signal will be provided. The other one-lane loop ramp off I-6965 Inner Loop at ND 147 will be removed to eliminate a weave on the I-695 Inner loop.

The modification determined that the project has a non-exempt conformity status. SHA has determined that the 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:

- 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 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 current design project involves improving traffic operations and safety on this segment of I-695.
    - As shown in Table 2, the project will not result in a significant increase in trucks on this segment of I-695 in the future.
    - Since the project only involves shoulder widening, lengthening of auxiliary lanes, and bridge and interchange reconstruction, it does not add through capacity to any road in the study area.
    - The current design project will not result in meaningful changes between No-Build and Build traffic volumes, vehicle mix, or location of the existing facility. A review of the traffic data in Table 2 demonstrates that there will not be a significant increase in the number of trucks.

- The existing Average Daily Traffic (ADT) on I-695, east of MD 147, is 160,825 vehicles per day (VPD), and is projected to be 181,275 VPD in 2033 Build and No-Build conditions. Trucks account for 10% of the 2013 ADT and are projected to remain at 10% of the 2033 ADT vehicle mix under Build and No-Build conditions on I-695 (see **Table 2**).

Table 2. Traffic Projections for I-695 Inner and Outer Loop - Current Design

Condition	2013	2033 (No-Build)	2033 (Build)
I-695: East of MD 147			
ADT	160,825	181,275	181,275
% Trucks (ADT)	10%	10%	10%
Number of Trucks	16,083	18,128	18,128

- A review of the traffic data above demonstrates that there will not be a significant increase in the number of trucks from the No-Build condition to the Build. The current design project has been designed to improve operational and overall safety conditions on I-695, rather than increase corridor capacity; therefore, there is no noticeable change expected in the no-build and build traffic volumes or vehicle mix. Unless predicated by significant land use changes (heavy truck generators), existing truck percentages are used as the primary factor in determining future percentages. With truck percentages predicted to be maintained in Build conditions, the current design projects are not to have a significant increase in the number of diesel vehicles and will not require hotspot analysis for $PM_{2.5}$ per 40 CFR 93.123(b)(1)(i).

- 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.

Based on review and analysis as discussed above, it is determined that the current design project 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 <u>the project has not been found to be a project of air quality concern as defined under 40 CFR 93.123(b)(1)</u>. 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 now regulates air toxics, including Mobile Source Air Toxics (MSAT). 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.

The purpose of the current design project for improvements along the I-695 Inner and Outer Loops from MD 41 (Perring Parkway) to MD 147 (Harford Road) is to improve safety and traffic flow. These improvements will occur by adding an auxiliary lane and widening the median shoulder along both the I-695 Inner and Outer Loops between MD 41 (Perring Parkway) and MD 147 (Harford Road). To accommodate for this work and future widening the Old Harford Road Bridge will be reconstructed.

The purpose of the current design project for the I-695/MD 147 (Harford Road) interchange Ramp reconfiguration is to improve safety by eliminating the weave on the Inner Loop of I-695. These improvements will occur by reconfiguring and widening the I-695 Inner Loop Off-Ramp to southbound MD 147 (Harford Road) to provide access to northbound and southbound MD 147 (Harford Road) and removing the existing Off-Ramp to northbound MD 147.

The current design projects have 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 projects will not result in changes in traffic volumes, vehicle mix, basic project location, 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 projects 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 easing traffic congestion and improving interstate safety along the I-695 Inner and Outer Loops between MD 41 (Perring Parkway) and MD 147 (Harford Road). The project is not predicted to cause or exacerbate a violation of the NAAQS.

Copies of this 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.

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,

Christina Brandt
Environmental Manager
Maryland State Highway Administration

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

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Friday, November 08, 2013 7:10 AM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

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From: Khadr, Asrah [mailto:Khadr.Asrah@epa.gov]
Sent: Thursday, November 07, 2013 11:54 AM
To: Christina Brandt
Cc: McCurdy, Alaina; Rudnick, Barbara; Becoat, gregory
Subject: RE: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

EPA concurs with SHA's recommendation that this project does not require a quantitative hot-spot analysis.

Asrah Khadr, Environmental Engineer, EIT
U.S. Environmental Protection Agency, Region III
Air Protection Division
Office of Air Program Planning
1650 Arch Street
Philadelphia, PA 19103
Phone: 215-814-2071

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Wednesday, October 23, 2013 12:49 PM
To: 'bhug@mde.state.md.us'; 'Jeanette.Mar@dot.gov'; McCurdy, Alaina; Rudnick, Barbara; Becoat, gregory; Khadr, Asrah; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'
Cc: 'Shawn Burnett'; Nicole M. Hebert
Subject: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Good Afternoon,

Attached is the PM2.5 Conformity Determination for the I-695 from MD 41 to MD 147 Improvements and I-695 at MD 147 Interchange projects located in Baltimore County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis.

This current mainline design project is included in BRTB Resolution #13-16 (TIP ID# 63-1201-04) as an amendment to the 2012 – 2015 Baltimore TIP. This current design project for interchange

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Friday, November 08, 2013 7:10 AM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

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From: Jeanette.Mar@dot.gov [mailto:Jeanette.Mar@dot.gov]
Sent: Thursday, November 07, 2013 5:18 PM
To: Christina Brandt
Subject: RE: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Chrissy:

I concur that the I-695 from MD 41 to MD 147 Interchange project meets the requirements of the CAA and 40 CFR 93 and does not need an additional quantitative hot spot analysis.

Thanks!

Jeanette

Jeanette Mar
Environmental Program Manager
FHWA - DelMar Division
10 South Howard Street, Suite 2450
Baltimore, MD 21201
phone (410) 779-7152
fax (410) 962-4054

From: Christina Brandt [mailto:CBrandt@sha.state.md.us]
Sent: Wednesday, October 23, 2013 12:49 PM
To: 'bhug@mde.state.md.us'; Mar, Jeanette (FHWA); 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'
Cc: 'Shawn Burnett'; Nicole M. Hebert
Subject: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Good Afternoon,

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Monday, November 18, 2013 1:49 PM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: FW: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

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From: Mary Jane Rutkowski -MDE- [mailto:maryjane.rutkowski@maryland.gov]
Sent: Monday, November 18, 2013 12:32 PM
To: Christina Brandt
Subject: Re: FW: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Hi Chrissy

I do not have any comments. I'm sorry if this is late -- I sent it through Sara last week. If you need me to, I can re-send what I sent to her :-)

On Mon, Nov 18, 2013 at 8:49 AM, Christina Brandt <CBrandt@sha.state.md.us> wrote:

Good Morning Mary Jane,

I was just following up to see if you had any comments on the attached report.

Thanks!

Chrissy

From: Christina Brandt
Sent: Wednesday, October 23, 2013 12:49 PM
To: 'bhug@mde.state.md.us'; 'Jeanette.Mar@dot.gov'; 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'
Cc: 'Shawn Burnett'; Nicole M. Hebert
Subject: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Wednesday, November 20, 2013 11:51 AM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

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From: Sara Tomlinson [mailto:stomlinson@baltometro.org]
Sent: Wednesday, November 20, 2013 11:06 AM
To: Christina Brandt
Cc: Regina Aris; Todd Lang
Subject: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation

Christina,

The Interagency Consultation Group of the Baltimore Regional Transportation Board concurs that the I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange project is *not a project of air quality concern*.

Thank you,

Sara Tomlinson

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Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Wednesday, October 23, 2013 12:49 PM
To: 'bhug@mde.state.md.us'; 'Jeanette.Mar@dot.gov'; 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Becoat, gregory'; 'Khadr, Asrah'; 'mrutkowski@mde.state.md.us'; 'Sara Tomlinson'
Cc: Shawn Burnett; Nicole M. Hebert
Subject: I-695 from MD 41 to MD 147 and I-695 at MD 147 Interchange - Air Quality Interagency Consultation
Attachments: I-695 from MD 41 to MD 147 Draft AQ Letter.pdf

Good Afternoon,

Attached is the PM2.5 Conformity Determination for the I-695 from MD 41 to MD 147 Improvements and I-695 at MD 147 Interchange projects located in Baltimore County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis.

This current mainline design project is included in BRTB Resolution #13-16 (TIP ID# 63-1201-04) as an amendment to the 2012 – 2015 Baltimore TIP. This current design project for interchange improvements at the I-695 Inner Loop and MD 147 is included in BRTB Resolution #12-19 (TIP ID# 63-1203-41) as an amendment to the 2012 – 2015 Baltimore TIP.

Please review and provide concurrence/comments prior to November 7, 2013.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

Phone: 410-545-2874