

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor



Pete K. Rahn, Secretary

May 18, 2015

I-70 at Meadow Road
Interchange Improvements Project
Frederick County, Maryland

Mr. Patrick Wojahn
Transportation Planning Board Chair to the
Metropolitan Washington Air Quality Committee
777 North Capitol Street, NE, Suite 300
Washington, DC 20002

Dear Mr. Wojahn:

Elm Street Development Inc. in conjunction with Frederick County and the Maryland State Highway Administration is proposing the installation of the two missing ramp movements at the I-70/Meadow Road interchange. The missing ramp movements connect Meadow Road and MD 144 with I-70 to and from the west in Frederick County, Maryland. The proposed ramp to westbound I-70 is approximately 0.4 mile in length, and the proposed ramp from eastbound I-70 is approximately 0.25 mile in length. Other improvements included in the scope of the project are intersection modifications at the ramp termini along Meadow Road and MD 144, Meadow Road at Old National Pike, and along Old National Pike under I-70. No additional through lanes would be added on I-70 or on MD 144 with this project. As detailed in the following discussion, the project is not located in either nonattainment or maintenance areas for carbon monoxide (CO) and is located in a maintenance area for fine particulate matter (PM_{2.5}).

Regional Conformity Analysis

The I-70 at Meadow Road Interchange Improvement Project is located in Frederick County, which is included as a part of the Washington-Arlington-Alexandria DC-VA-MD-WV Metropolitan Statistical Area (MSA). For this region, the National Capital Region Transportation Planning Board (NCRTPB), which is part of the Metropolitan Washington Council of Governments (MWCOCG), serves as the Metropolitan Planning Organization. As part of the MPO, NCRTPB develops the Transportation Improvement Program (TIP) and Constrained Long Range Plan (CLRP) for the region. The current TIP, covering the period 2015 to 2020, was adopted by BRTB on October 15, 2014. An updated conformity analysis covering both the TIP and LRP was also adopted on October 15, 2014, which found both documents in conformity with requirements of the Clean Air Act Amendments of 1990. At a regional level, a project is considered to be conforming if it is a part of a

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conforming TIP and LRP. The proposed project is included in resolution SR11-2015, which amended the 2015-2020 TIP to include the I-70 at Meadow Road Interchange Improvements Project as TIP ID# 6411. This amendment was approved by the Maryland Department of Transportation on March 3, 2015. It was determined in this amendment that the I-70 at Meadow Road Interchange Improvement Project is exempt from the air quality conformity requirement.

CO Analysis

Frederick County, Maryland, is included as part of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA). A portion of the MSA in Prince George's County (Election Districts 2, 6, 12, 16, 17, and 18) and Montgomery County (Election Districts 4, 7, and 13) had previously been designated as Nonattainment Areas for CO; however, these areas have been re-designated as CO Maintenance Areas as of September 27, 2010. The current CO Maintenance Areas do not extend into Frederick County. There are no CO nonattainment areas in Maryland. Therefore, a qualitative CO assessment has been conducted for this project.

The closest MDE ambient air monitoring station to the study area that takes CO measurements is located at the Howard University Lab at 12003 Old Baltimore Pike Beltsville, Maryland (site 24033030). In addition, nearby ambient air monitoring stations include McMillan Pams at 2500 1st Street N.W. Washington D.C. (site 110010043) and Aurora Hills Visitors Center at S. 18th and Hayes Street Arlington, Virginia (site 510130020). All sites are in EPA Region 3. Monitored ambient air quality data for CO within or near the study area for the years 2011-2013 is presented in **Table 1**.

As shown in **Table 1**, the maximum 1-hour monitored CO concentration of 23.9 ppm occurred in 2012 at Site 110010043, located at McMillan Pams in Washington D.C. This concentration is 68.3 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 8-hour monitored CO concentration of 4.2 ppm occurred in the same year at the same site, which is 46.7 percent of the 8-hour NAAQS of 9.0 ppm.

As shown in **Table 2**, significant changes to traffic volumes and/or vehicle mix are not predicted to occur because of this project. The I-70 at Meadow Road Interchange Improvement Project would not result in significant increases in traffic volumes or changes in vehicle mix or other factors that would cause an increase in CO emissions relative to the No-Build conditions.

In conclusion, because the data presented in **Table 1** demonstrates monitored CO concentrations in the project area are a percentage of the CO NAAQS, and the data in **Table 2** demonstrates the project improvements would not result in significant increases in traffic volumes or changes in vehicle mix relative to the No-Build conditions, the construction of the I-70 at Meadow Road Interchange Improvement Project will not cause or contribute to a new violation of the CO NAAQS.

Table 1
Ambient Air Quality Data 2011-2013

Monitoring Station			Site 110010043 2500 1 st Street, N.W. Washington DC			Site 240330030 Howard University Lab Beltsville MD			Site 510130020 S. 18 th And Hayes St. Arlington VA		
Year			2011	2012	2013	2011	2012	2013	2011	2012	2013
Carbon Monoxide (CO) [ppm]	1-Hour	1st Maximum	3.1	23.9	2.1	1.7	1.3	1	4.2	1.7	1.2
		2nd Maximum	3	2.5	1.4	1.3	1.2	0.9	1.9	1.6	1.2
		Actual Exceedances	0	0	0	0	0	0	0	0	0
	8-Hour	1st Maximum	2.5	4.2	1.2	1.1	1.2	0.9	1.4	1.6	1.1
		2nd Maximum	2.4	1.9	1	0.8	0.9	0.9	1.4	1.4	1
		Actual Exceedances	0	0	0	0	0	0	0	0	0
Monitoring Station			Site 245100007 Northwest Police Station Baltimore MD			Site 240330030 Howard University Lab Beltsville MD			Site 540030003 Martinsburg – Ball Field Martinsburg WV		
Year			2011	2012	2013	2011	2012	2013	2011	2012	2013
Particulate Matter (PM _{2.5}) [ug/m ³]	24- Hour	98th Percentile	24	22	20	24	25	22	28	30	22
		Weighted Annual Mean	10	9.3	8.6	8.7	8.5	8.2	11.1	11.3	9.8

Table 2.
Traffic Volume Projections for I-70 at Meadow Road Interchange Improvements Project

Condition	2014	2025 No Build	2025 Build	2040 No Build	2040 Build
I-70 East of Meadow Road					
ADT	71,600	80,875	79,750	89,650	88,100
% Trucks (ADT)	14	14	14	14	14
Number of Trucks	10,024	11,323	11,165	12,551	12,334
I-70 West of Meadow Road					
ADT	67,480	74,925	85,925	83,525	96,125
% Trucks (ADT)	14	14	14	14	14
Number of Trucks	9,447	10,490	12,030	11,694	13,458

PM_{2.5} Analysis

The entire Washington, DC-MD-VA MSA was previously designated nonattainment for PM_{2.5}. As of November 5, 2014, the Washington, DC-MD-VA MSA was re-designated by EPA to be in a maintenance area for PM_{2.5}. There are no PM_{2.5} nonattainment areas in Maryland. Therefore, a qualitative PM_{2.5} assessment has been conducted for this project.

The closest MDE ambient air monitoring station to the study area that collects PM_{2.5} measurements is located at the Martinsburg Ball Field in Martinsburg, West Virginia (site 540030003). In addition, nearby ambient air monitoring stations include the Howard University Lab at 12003 Old Baltimore Pike Beltsville, Maryland (site 24033030) and the Northwest Police Station at 5271 Reisterstown Road in Baltimore, Maryland (site 245100007). All sites are in EPA Region 3. Monitored ambient air quality data for PM_{2.5} within or near the study area for the years 2011-2013 is also presented in **Table 1**.

As shown in **Table 1**, the maximum three year average 24-hour 98th percentile monitored PM_{2.5} concentration of 26.7 µg/m³ occurred at Site 540030003, located at the Martinsburg – Ball Field in Martinsburg, West Virginia. This concentration is 76.3 percent of the 24-hour PM_{2.5} NAAQS of 35.0 µg/m³. The maximum three year average weighted annual mean of monitored PM_{2.5} concentration of 10.7 µg/m³ occurred at the same site, which is 89.2percent of the primary annual PM_{2.5} NAAQS of 12.0 µg/m³.

As shown in **Table 2**, significant changes to traffic volumes and/or vehicle mix are not predicted to occur because of this project. The I-70 at Meadow Road Interchange Improvements Project does not result in significant increases in traffic volumes or changes in vehicle mix or other factors that would cause an increase in PM_{2.5} emissions relative to the No-Build conditions.

In conclusion, because the data presented in **Table 1** demonstrates monitored PM_{2.5} concentrations in the project area are a percentage of the PM_{2.5} NAAQS, and the data in **Table 2** demonstrates the project improvements would not result in significant increases in traffic volumes or changes in vehicle mix relative to the No-Build conditions, the construction of the I-70 at Meadow Road Interchange Improvements Project would not cause or contribute to a new violation of the PM_{2.5} NAAQS.

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 MSATs 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 MSATs under specific conditions.

The purpose of the project for improvements to the I-70 at Meadow Road interchange is to improve safety and traffic operations in the project area due to the lack of access to the west via I-70 from Meadow Road and Ijamsville Road, while supporting existing and planned development. These improvements will occur by installing the missing ramps movements to and from I-70 west of the interchange along with intersection improvements at the new ramp termini.

The project has been determined to generate minimal air quality impacts for Clean Air Act (CAA) Amendment criteria pollutants and has not been linked with any special MSAT concerns. As such, the project will not result in substantial changes in traffic volumes, vehicle mix, basic project location, or any other factors that would cause an increase in MSAT impacts of the project 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. This project is 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 is to improve safety and traffic operations by installing missing ramp

movements for Meadow Road with I-70 to and from the west. The project is not predicted to cause or exacerbate a violation of the NAAQS.

By email dated April 30, 2015, copies of the Air Quality Analysis were circulated to FHWA, EPA, MWCOG, and MDE for a 15-day Interagency Consultation review and comment period. Response emails were received from FHWA, EPA, and MDE, and are attached. All responding agencies agreed the project is not a project of air quality concern and does not require a hot-spot analysis. This 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 Act and 40 CFR 93 without an additional quantitative hot-spot analysis.

Sincerely,

A handwritten signature in black ink, appearing to read "Christina Brandt". The signature is written in a cursive, flowing style.

Christina Brandt
Environmental Manager
Maryland State Highway Administration

Enclosure

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: Jeanette.Mar@dot.gov
Sent: Thursday, May 14, 2015 5:19 PM
To: alexandra.krempasanka@maryland.gov; CBrandt@sha.state.md.us
Cc: jdesimone@mwcog.org; bhug@mde.state.md.us; molly.berger@maryland.gov; McCurdy.Alaina@epa.gov; Rudnick.Barbara@epamail.epa.gov; becoat.gregory@epa.gov; Khadr.Asrah@epa.gov; Shawn Burnett; Nicole M. Hebert; brian.hug@maryland.gov
Subject: RE: I-70/Meadow Road Interchange - Air Quality Interagency Consultation

Hi Christy:

I concur that the I-70 at Meadow Road Interchange Improvements 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 - Maryland Division
10 South Howard Street, Suite 2450
Baltimore, MD 21201
phone (410) 779-7152
fax (410) 962-4054

From: Alexandra Krempasanka -MDE- [<mailto:alexandra.krempasanka@maryland.gov>]
Sent: Thursday, April 30, 2015 9:46 AM
To: Christina Brandt
Cc: Jennifer Desimone; bhug@mde.state.md.us; Molly Berger -MDE-; McCurdy.Alaina@epa.gov; Rudnick.Barbara@epamail.epa.gov; Becoat, gregory; Khadr, Asrah; Mar, Jeanette (FHWA); Shawn Burnett; Nicole M. Hebert; Brian Hug -MDE-
Subject: Re: I-70/Meadow Road Interchange - Air Quality Interagency Consultation

Good Morning Christina,

MDE has reviewed the Air Quality Letter Report for the improvements to the I-70/Meadow Road interchange in Frederick County, MD. MDE approves of the conclusion that the project is not predicted to cause or exacerbate a violation of the NAAQS and is considered a project with no meaningful MSAT effects, therefore it meets the requirements of the Clean Air Act and does not require a hot-spot or additional air quality analysis.

Thank you,

Alex

On Thu, Apr 30, 2015 at 9:12 AM, Christina Brandt <CBrandt@sha.state.md.us> wrote:

Good Morning,

Attached is the Air Quality Letter Report for the improvements to the I-70/Meadow Road interchange in Frederick 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. The project is included in the current TIP as ID 6411.

Please review and provide concurrence/comments prior to May 15, 2015. Please let me know if you have any questions.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

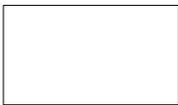
MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

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E-mail: cbrandt@sha.state.md.us



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--
Alexandra Krempasanka
Natural Resources Planner
Air Quality Planning Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
410-537-3240

Nicole M. Hebert

From: Christina Brandt <CBrandt@sha.state.md.us>
Sent: Thursday, May 14, 2015 10:16 AM
To: Shawn Burnett; Nicole M. Hebert
Subject: FW: I-70/Meadow Road Interchange - Air Quality Interagency Consultation

From: Khadr, Asrah [<mailto:Khadr.Asrah@epa.gov>]
Sent: Thursday, May 14, 2015 10:15 AM
To: Christina Brandt
Cc: Becoat, gregory; Rudnick, Barbara; McCurdy, Alaina
Subject: RE: I-70/Meadow Road 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: Thursday, April 30, 2015 9:13 AM
To: 'Jennifer Desimone'; 'bhug@mde.state.md.us'; 'Alexandra Krempasanka -MDE-'; 'Molly Berger -MDE-'; McCurdy, Alaina; Rudnick, Barbara; Becoat, gregory; Khadr, Asrah; 'Jeanette.Mar@dot.gov'
Cc: 'Shawn Burnett'; Nicole M. Hebert
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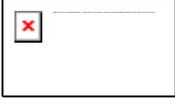


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Nicole M. Hebert

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Christina Brandt

Environmental Manager

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Alexandra Kremasanka
Natural Resources Planner

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