

PM_{2.5} CONFORMITY DETERMINATION

**MD 5 (BRANCH AVENUE)
METRO ACCESS
STUDY**

CONTRACT NO. PG 494 B21

PRINCE GEORGE'S COUNTY, MARYLAND



MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

November, 2008

Project Description

General

The purpose of the proposed MD 5 Metro Access Study is to improve safety and traffic flow, reduce congestion and provide access to the Branch Avenue Metro Station. MD 5 is a six to eight lane major expressway, with additional lanes for turning movements at intersections, that provides regional access from Southern Maryland to Washington D.C. (Figure 1 & 2). Auth Way and Auth Road are parallel county owned arterial roads (Figure 3), consisting of four lanes, which connect MD 5 to the Metro Station. In order to improve vehicular access to the Metro Station, address safety, operational, and congestion concerns along MD 5, Auth Way, and Auth Road, the Maryland State Highway Administration (SHA) is proposing to widen existing roads and construct a road with direct access to the Metro Station.

The expected annual average growth rate will increase the traffic in the study area, both local and commercial trips. In 2010, the Average Daily Traffic (ADT) volumes are projected to be: 73,425 vehicles per day (VPD) along MD 5; 8,900 VPD along Auth Way; and 22,400 VPD along Auth Road. By 2030, traffic volumes are expected to grow to an approximate average of: 100,000 VPD along MD 5; 11,600 VPD along Auth Way; and 25,920 VPD along Auth Road for the No-build and Build conditions.

Build Alternative

The Build Alternative (Figure 3) consists of depressing northbound MD 5 between Auth Way and Auth Road to construct a perpendicular overpass and four-lane roadway (Metro Access Road) to connect southbound MD 5 and the Branch Avenue Metro Station parking lot. A new at-grade signal is proposed for the intersection of Metro Access Road and Auth Place in addition to the existing signals at the Auth Way and Auth Road intersections at MD 5. This project is the second and final phase of improvements at this vicinity. The first phase constructed improvements to the adjacent I-495/I-95 ramps. This included a new flyover ramp to allow traffic flow from westbound I-95 to southbound MD 5, as well as the reconstruction/realignment of the northbound MD 5 to westbound I-495 ramp, the Auth Road to westbound I-495 ramp, and the eastbound I-495 to southbound MD 5 ramp.



PROJECT LOCATION

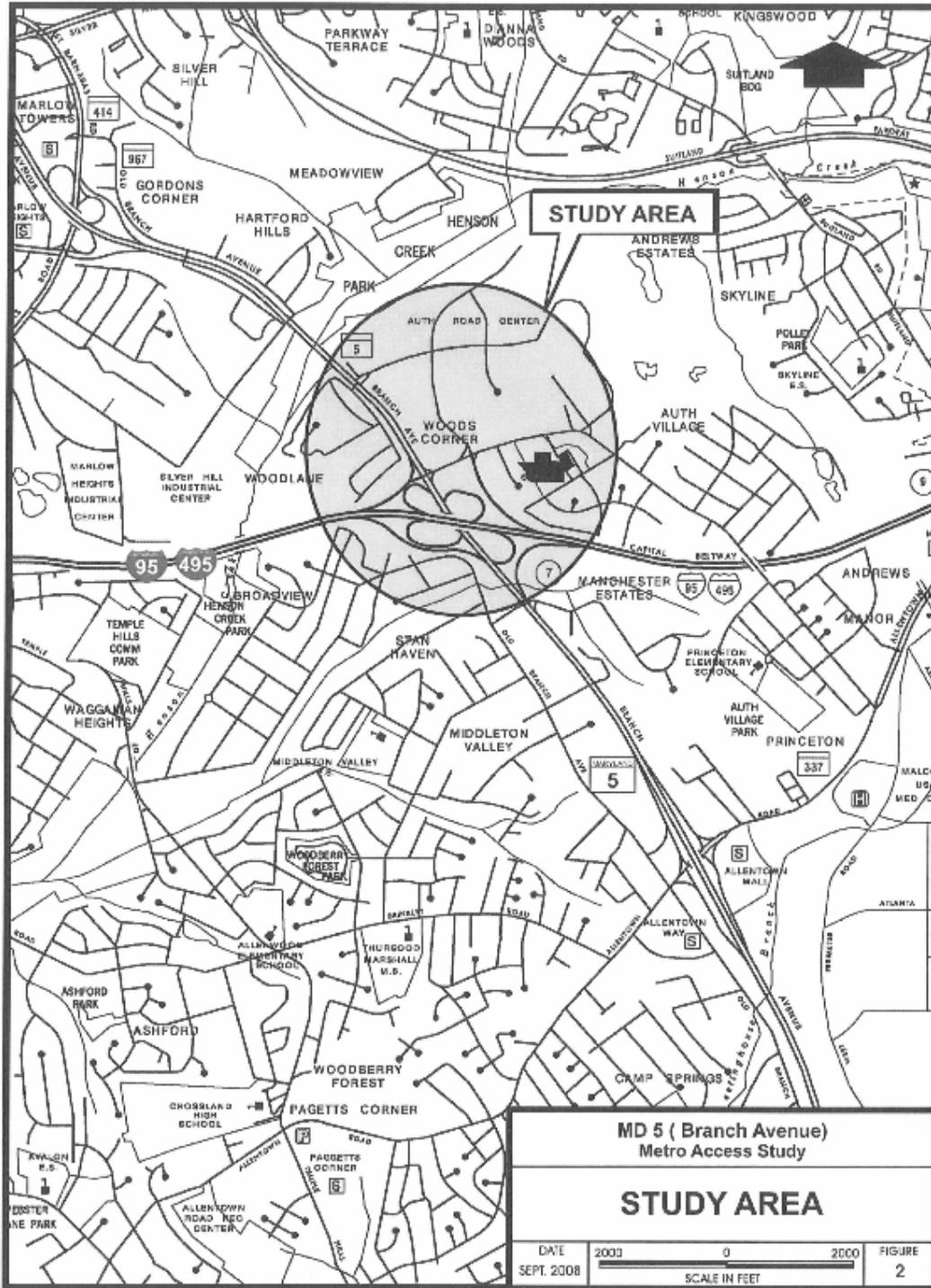


KEY MAP

**MD 5 (Branch Avenue)
Metro Access Study**

LOCATION MAP

DATE	0	6	FIGURE
SEPT. 2008	SCALE IN MILES		1



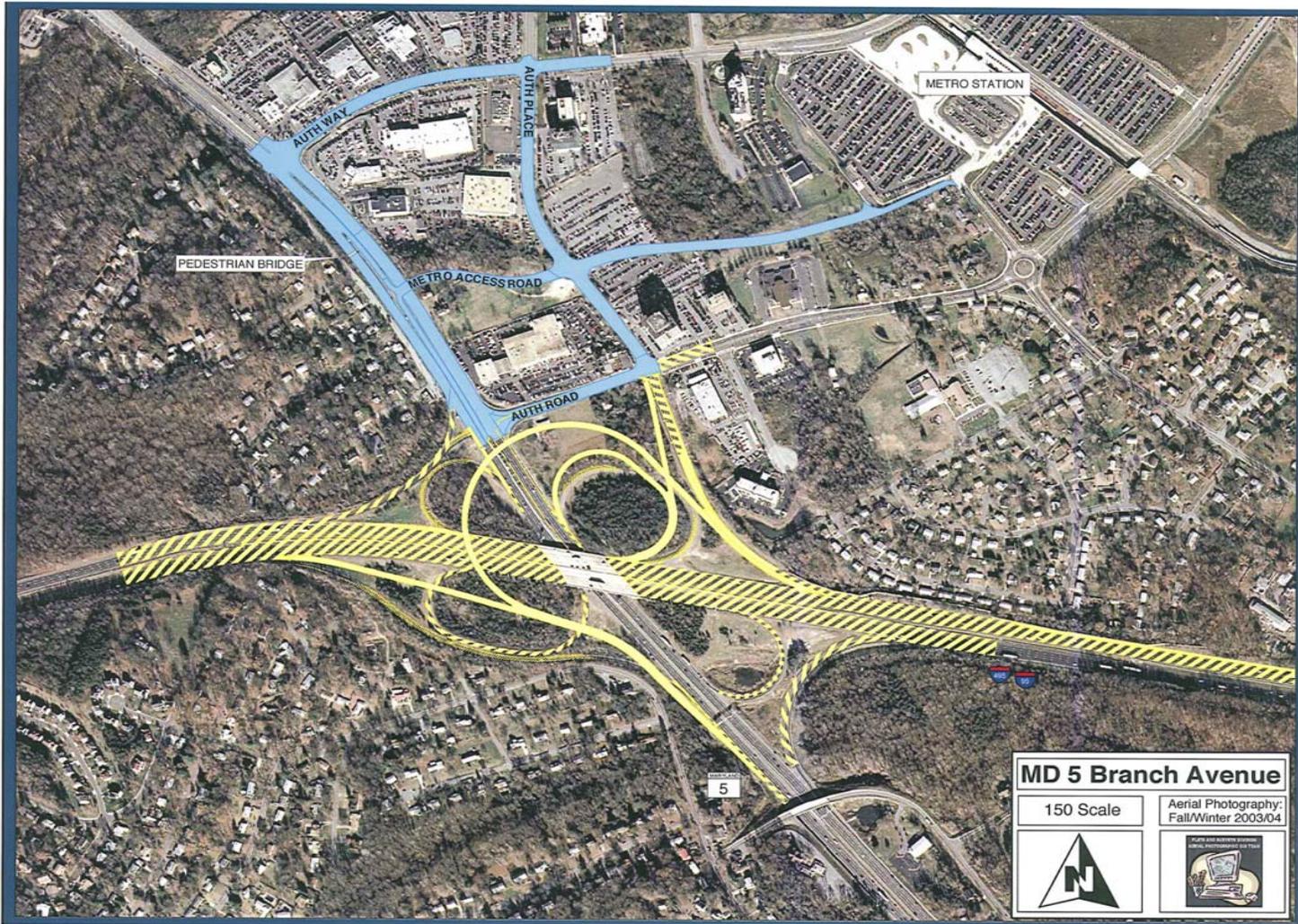


Figure 3

Transportation Conformity

The MD 5 Metro Access Study is located in Prince George's County, Maryland, which is in the Washington, DC-MD-VA PM_{2.5} nonattainment area. This area was designated as nonattainment for PM_{2.5} on January 5, 2005 by the U.S Environmental Protection Agency. 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.

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 deemed to be *projects of air quality concern*¹. Projects that require hotspot analysis for PM_{2.5} are those projects that are *Projects of Air Quality Concern* as enumerated in 40 CFR 93.123(b)(1):

- (i) New or expanded highway projects that have a significant number of or significant increase in 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 have a significant 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 violation.*

As discussed in the examples to the preamble to the March 10, 2006 Final Rule for PM_{2.5} and PM₁₀ Hot-Spot Analyses in Project-Level Transportation Conformity Determinations (71FR12491), 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. This has been further clarified in a proposed rule amendment as "*EPA is proposing to clarify this provision as ``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.*"²

¹ Criteria for identifying *projects of air quality concern* is described in 40 CFR 93.123(b)(1), as amended.

² Transportation Conformity Rule Amendments to Implement Provisions Contained in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) [Federal Register: May 2, 2007 (Volume 72, Number 84)] [Proposed Rules] [Page 24489]

Conformity Determination

SHA has prepared the following analysis of the proposed improvements:

- The proposed construction will improve the operation and safety of roads contained in the MD 5 Metro Access Study, but does not increase the through capacity of MD 5 as a whole. Traffic data is presented for the Design Year (2030). The projected 2030 No-Build and Build Average Daily Traffic (ADT) for MD 5, as shown in **Table 1**, represents the unconstrained user demand. The traffic data provides worse case traffic volumes on critical roadway links. Based upon SHA staff interpretation of refined output from the regional travel demand model, travel demand forecasts were determined for No-Build and Build conditions. The ADTs and truck percentages are the same for both the No-Build and Build Alternatives based on SHA traffic projections. Therefore, the MD 5 Metro Access Study is not expected to increase the number of diesel trucks per day along MD 5. The prevailing speed is expected to be 50 mph for both the No-Build and Build Alternatives along MD 5. In 2010, MD 5 is projected to carry 73,425 vehicles per day. MD 5 has a truck percentage of 6 percent (4.07 percent diesel trucks), which is approximately 4,406 trucks per day (2,988 diesel trucks). Since the No-Build and Build are assumed to be the same, the overall truck percentage and diesel truck percentage for the project area are assumed to be the same. A review of the data in **Table 1** below demonstrates that there will not be a significant increase in ADT, nor in the number of trucks, from the No-build condition to the Build for the following reasons:
 - Users will take the shortest origin-destination path. In addition, user unfamiliarity with alternative routes and conditions encourages drivers to remain on MD 5, Auth Way, and Auth Road despite the level of congestion and delay.
 - During peak traffic periods, diversion from what is the shortest path of travel between origin/destination points to alternate routes would not be attractive to the majority of users. Traffic conditions on these alternative routes are generally as bad as or worse during these peak travel periods, with significant congestion, slower speeds and numerous traffic lights, all factors translating into longer travel times. During off-peak periods, an uncongested interchange will be equally attractive to users for either the No-build or Build condition.
 - Trucks, which are the primary emitter of mobile source PM_{2.5}, will tend to stay on MD 5 since the alternative routes would require frequent stop/start conditions due to traffic signals, and may not have lane widths, roadway grades, and curves that suit these types of vehicles. Similarly, other users primarily traveling alternative routes under the No-build condition will tend to remain on these alternative routes for local trip use due to non-congestion-related reasons such as route familiarity, and aggressive driving associated with higher speeds on MD 5. Also, the new roadway, Metro Access Road, will most likely

Table 1
MD 5 Traffic Data

	2008 Existing	2030 No-Build	2030 Build	2010 No-build	2010 Build	Change: No-Build vs. Build.	
ADT volumes	70,250	100,000	100,000	73,425	73,425	<u>2030</u> 0	<u>2010</u> 0
Percent of Diesel Trucks - ADT	Diesel Truck Percentage is 4.07% Assumption would be made that diesel truck percentage would be 4.07% for future No-Build/Build conditions. Actual truck volumes would increase proportional to increase in overall traffic.						
Daily Truck Volumes	2,859	4,070	4,070	2,988	2,988	<u>2030</u> 0	<u>2010</u> 0

attract vehicles destined for the Metro Station which aren't typically diesel trucks. The buses that use the Metro Station are included in the truck count estimates: most are accounted for in the light weight category, with ten percent of the medium weight category attributed to buses.

- The MD 5 Metro Access Study does not have a significant increase in diesel vehicles due to construction of the project. As shown in **Table 1**, daily diesel truck traffic on MD 5 will remain the same in 2030 when comparing No-Build to Build. Also, based on a memorandum from SHA dated May 20, 2008, the percent of truck traffic is not expected to change between the Build and No-Build conditions. Depicted truck percentages represent the amount of light, medium and heavy truck activity along a given roadway segment in accordance with FHWA's 13 vehicle classification guidelines. Existing percentages are derived from 48-hour portable classified count data. Without the addition of significant truck land use generators to the traffic influence area, truck percentages would remain relatively unchanged between the No-Build and Build conditions. Current truck origin-destination patterns will dictate future patterns, unless changes are made in policy or there is a significant influx in truck generators to the traffic influence area - neither of which has been assumed by the approved Regional Transportation model.
- The MD 5 Metro Access Study also does not meet the criteria set forth in 40 CFR 93.123(b)(1)(ii), as amended, to be considered a *project of air quality concern* because it affects intersections that will not “change to Level-Of-Service D, E or F because of increased traffic volumes from a significant increase in number of diesel vehicles related to the project.” The MD 5 Metro Access Study will improve the operation and safety of affected intersections.
- Section 176(c) of the Clean Air Act and the federal conformity rule require that transportation plans and programs conform to the intent of the state implementation plan (SIP) through a regional emissions analysis in PM_{2.5} nonattainment areas. The National Capital Region 2007 Constrained Long Range Transportation Plan (CLRP) and the FY2008-2013 Metropolitan Transportation Improvement Program (TIP) have been determined to conform to the intent of the SIP. The CLRP is a comprehensive plan of transportation projects and strategies that the Transportation Planning Board realistically anticipates can be implemented over the next 30 years. The TIP is a 6-year program that describes the time frame for federal funds to be obligated to state and local projects. The U.S. Department of Transportation made a PM_{2.5} conformity determination on the CLRP and the MTIP on June 11, 2008; thus there is a currently conforming transportation plan and TIP in accordance with 40 CFR 93.114. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. The MD 5 Metro Access Study was included in the regional emissions analysis. There have been no significant changes in the project's design concept or scope from that used in the conformity analyses. Therefore the project comes from a conforming plan and program in accordance with 40 CFR 93.115.
- Based on review and analysis as discussed above, it is determined that the MD 5 Metro Access Study meets the Clean Air Act and 40 CFR 93.109 requirements. These

requirements are met for particulate matter without a project-level hot-spot analysis, since the project has **not been found to be a project of air quality concern** as defined under 40 CFR 93.123(b)(1). Since the project meets the Clean Air Act and 40 CFR 93.109 requirements, the project will not cause or contribute to a new violation of the PM_{2.5} NAAQS, or increase the frequency or severity of a violation.

- By email dated October 21, 2008 the above analysis was approved by SHA, and was sent to FHWA. By email dated November 10, 2008 the analysis was approved by FHWA and forwarded to EPA, MDE and MWCOG for Interagency Consultation. On November 14, 2008 approval was received from MWCOG with a comment concerning conformity. This comment has been addressed. Approval of the analysis was received from EPA on November 18, 2008 and from MDE on November 25, 2008. FHWA, EPA, MWCOG and MDE agreed with the conclusion that the MD 5 Metro Access Study **is not a project of air quality concern under 40 CFR 93.123(b)(1)**. As no other comments were received within the fifteen day Interagency Consultation period (November 24, 2008), this Conformity Determination will be placed on SHA's website for a 15 day public review and comment period. Refer to the attached emails concerning comments and approvals.

Subject: FW: Air Quality Tech
Date: Tuesday, October 21, 2008 11:54 AM
From: Gary Green <GGreen@sha.state.md.us>
To: Michael Kelly <mkelly@wtbco.com>
Conversation: Air Quality Tech

FYI

Based on Karen's correction, it too can be submitted to FHWA.

Thanks again

It's time that we head north to Philly!!!

From: Karen Arnold
Sent: Tuesday, October 21, 2008 11:49 AM
To: Gary Green
Subject: RE: Air Quality Tech

This version of MD 5/Metro is ready to go to FWHA. (I moved the table and figure 3 into the report.)

From: Gary Green
Sent: Tuesday, October 21, 2008 11:18 AM
To: Karen Arnold
Subject: FW: Air Quality Tech

Karen:

Take a look at the MD 5. If it's fine let me know so that I can forward it off to FHWA.

From: Michael Kelly [mailto:mkelly@wtbco.com]
Sent: Tuesday, October 21, 2008 11:09 AM
To: Gary Green
Cc: Alexis Zimmerer; Allison Grooms
Subject: Re: Air Quality Tech

We sent the revised MD4 air, including PM2.5, to you at the beginning of September which considered all the updated traffic numbers. I have attached a copy of the PM2.5 analysis.

Also attached is the MD5-Metro PM2.5 revised for Karen's comments

For MD 197, the air was sent last year. We are now revising it for updated traffic that shows a difference between Build and No build traffic volumes. The CO is complete I will send the revised PM2.5 by the end of the week.

Mike

Subject: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

Date: Monday, November 10, 2008 1:13 PM

From: King, Denise <Denise.King@fhwa.dot.gov>

To: "Arhin, Kwame" <Kwame.Arhin@fhwa.dot.gov>, <bhug@mde.state.md.us>, Don Sparklin <dsparklin@sha.state.md.us>, <GGreen@sha.state.md.us>, Joe Kresslein <jkresslein@sha.state.md.us>, "Johnson, Dan W." <DanW.Johnson@fhwa.dot.gov>, "King, Denise" <Denise.King@fhwa.dot.gov>, <kotsch.martin@epamail.epa.gov>, <mclifford@mwkog.org>, Mike Kelly <mkelly@wtbco.com>, <rudnick.barbara@epamail.epa.gov>

Cc: Karen Arnold <karnold@sha.state.md.us>, "Bello, Phillip" <Phillip.Bello@fhwa.dot.gov>

Conversation: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

Hello everyone,

Attached is the PM 2.5 Conformity Determination for the MD 5 (Branch Avenue) Metro Access Study located in Prince George's County, Maryland.

FHWA has determined that this project is not of air quality concern and is requesting concurrence from the Interagency Consultation Group. FHWA approved the CE on 7/6/99. The project is in design and the CE will be reevaluated the end of this month. This conformity determination will be put on SHA's website for a 15 day comment period.

Please provide concurrence by the close of business on November 24, 2008.

Thanks

*Denise Winslow King
Environmental Specialist
FHWA - DelMar Division
10 South Howard Street, Suite 2450
Baltimore, MD 21201*

(410) 779-7145

Subject: RE: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

Date: Friday, November 14, 2008 2:21 PM

From: Mike Clifford <mclifford@mwkog.org>

To: "King, Denise" <Denise.King@fhwa.dot.gov>, "Arhin, Kwame" <Kwame.Arhin@fhwa.dot.gov>, <bhug@mde.state.md.us>, Don Sparklin <dsparklin@sha.state.md.us>, <GGreen@sha.state.md.us>, Joe Kresslein <jkresslein@sha.state.md.us>, "Johnson, Dan W." <DanW.Johnson@fhwa.dot.gov>, <kotsch.martin@epamail.epa.gov>, Mike Kelly <mkelly@wtbco.com>, <rudnick.barbara@epamail.epa.gov>

Cc: Karen Arnold <karnold@sha.state.md.us>, "Bello, Phillip" <Phillip.Bello@fhwa.dot.gov>, Ron Kirby <rkirby@mwkog.org>, Lyn Erickson <lerickson@mdot.state.md.us>

Conversation: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

Denise,

One point to note in the narrative, on page 8 of the report the 2006 CLRP and FY2007-12 TIP are cited as having received US DOT's conformity determination approval in 2007. This is correct, but actually the latest, and current, such approval is the June 11, 2008 federal approval of the 2007 CLRP and FY2008-13 TIP. (The conformity determination for the 2008 CLRP and FY2009-14 TIP is scheduled for approval by the TPB next week at its November 19th meeting, and, if approved, would be transmitted to the federal agencies immediately thereafter.)

Regarding the MD 5 Metro Access Study, I concur with FHWA's determination that the project is not one of hotspot PM2.5 air quality concern.

Mike

From: King, Denise [mailto:Denise.King@fhwa.dot.gov]

Sent: Monday, November 10, 2008 1:13 PM

To: Arhin, Kwame; bhug@mde.state.md.us; Don Sparklin; GGreeen@sha.state.md.us; Joe Kresslein; Johnson, Dan W.; King, Denise; kotsch.martin@epamail.epa.gov; Mike Clifford; Mike Kelly; rudnick.barbara@epamail.epa.gov

Cc: Karen Arnold; Bello, Phillip

Subject: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

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Please provide concurrence by the close of business on November 24, 2008.

Thanks

*Denise Winslow King
Environmental Specialist
FHWA - DelMar Division
10 South Howard Street, Suite 2450
Baltimore, MD 21201*

(410) 779-7145

Subject: Re: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

Date: Tuesday, November 25, 2008 3:21 PM

From: Brian Hug <bhug@mde.state.md.us>

To: <Kotsch.Martin@epamail.epa.gov>

Cc: <Rudnick.Barbara@epamail.epa.gov>, "Dan W. Johnson" <DanW.Johnson@fhwa.dot.gov>, Denise King <Denise.King@fhwa.dot.gov>, Kwame Arhin <Kwame.Arhin@fhwa.dot.gov>, Phillip Bello <Phillip.Bello@fhwa.dot.gov>, <mclifford@mwco.org>, Don Sparklin <dsparklin@sha.state.md.us>, <GGreen@sha.state.md.us>, Joe Kresslein <jkresslein@sha.state.md.us>, Karen Arnold <karnold@sha.state.md.us>, Mike Kelly <mkelly@wtbco.com>

Conversation: PM 2.5 Interagency Consultation for MD 5 (Branch Avenue) Metro Access Study

MDE concurs as well - sorry for the late response

>>> <Kotsch.Martin@epamail.epa.gov> 11/18/2008 9:18 AM >>>

I agree with the conclusion of "not of air quality concern" on the basis of no new increased AADT under the build/no-build conditions

"King, Denise"

<Denise.King@fhwa.dot.gov>

a.dot.gov>

To

11/10/2008 01:13

PM

"Arhin, Kwame"

<Kwame.Arhin@fhwa.dot.gov>,

<bhug@mde.state.md.us>, "Don Sparklin"

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<mkelly@wtbco.com>,

Barbara Rudnick/R3/USEPA/US@EPA

cc