



Appendix E

PM_{2.5} Joint Conformity for Huntington-Ashland (WV-KY-OH)

**PM_{2.5} Joint Conformity
for
Huntington-Ashland
(WV-KY-OH)**

March 2009

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EXECUTIVE SUMMARY

Both the Ashland Area MPO (FIVCO) and the West Virginia/Ohio MPO (KYOVA) are developing new (2035) Metropolitan Transportation Plans. As described in more detail later in this document, any action requiring a conformity determination for any portion of the Huntington-Ashland, WV-KY-OH PM_{2.5} nonattainment area requires a unified PM_{2.5} conformity determination request. Both FIVCO and KYOVA have conducted a regional emissions analysis based on the respective draft plans. The Ashland Area MPO has summarized the regional emissions analyses from FIVCO and KYOVA and submitted a unified PM_{2.5} conformity determination request to the Federal Highway Administration (FHWA) Kentucky for the entire Tri-State PM_{2.5} nonattainment area. A summary of results is shown below. Based on these results, a positive PM_{2.5} conformity finding for the Huntington-Ashland, WV-KY-OH nonattainment area is requested.

Both FIVCO and KYOVA must demonstrate conformity of their new plans to the 8-hour ozone NAAQS as well. Since the FIVCO and KYOVA have separate ozone budgets, the 8-hour ozone conformity documents will be submitted and approved separately and independently in each area.

PM_{2.5} Conformity Summary Table for the Huntington-Ashland, WV- KY-OH area

			MOBILE Direct PM_{2.5} EMISSIONS			MOBILE NOx EMISSIONS	
YEAR	COUNTY	Analysis Year Emissions	2002 Base Year Emissions	NET	Analysis Year Emissions	2002 Base Year Emissions	NET
2009	FIVCO	0.051	0.082	-0.031	2.491	4.254	-1.763
	KYOVA	1.000	1.670	-0.670	1.320	1.390	-0.070
	COMBINED	1.051	1.752	-0.701	3.811	5.644	-1.833
2018	FIVCO	0.032	0.082	-0.050	1.123	4.254	-3.131
	KYOVA	0.660	1.670	-1.010	0.830	1.390	-0.560
	COMBINED	0.692	1.752	-1.060	1.953	5.644	-3.691
2025	FIVCO	0.032	0.082	-0.050	0.846	4.254	-3.408
	KYOVA	0.410	1.670	-1.260	0.370	1.390	-1.020
	COMBINED	0.442	1.752	-1.310	1.216	5.644	-4.428
2035	FIVCO	0.036	0.082	-0.046	0.822	4.254	-3.432
	KYOVA	0.380	1.670	-1.290	0.310	1.390	-1.080
	COMBINED	0.416	1.752	-1.336	1.132	5.644	-4.512
	NET = +	OVER 2002 EMISSIONS					
	NET = -	UNDER 2002 EMISSIONS					
	EMISSIONS	TONS/DAY					

BACKGROUND

Effective April 5, 2005, a tri-state area, including counties, and partial counties, in Kentucky, Ohio, and West Virginia was designated as nonattainment for the new PM_{2.5} National Ambient Air Quality Standard (NAAQS). The designated area (the Huntington-Ashland, WV-KY-OH area) consists of portions of the Metropolitan Planning Organizations (MPOs) of KYOVA (West Virginia/Ohio) and FIVCO (Kentucky) and “donut” areas outside the MPO boundaries.

The following table summarizes the counties in the PM_{2.5} nonattainment area. In the table, (P) indicates there is only a portion of the county designated nonattainment for the PM_{2.5} standard. The MPO the county is in is indicated if applicable.

State	Counties in Nonattainment Areas	Noncontiguous Portions
Kentucky	Boyd (FIVCO) Lawrence (P)	c C
Ohio	Adams (P) Gallia (P) Lawrence (KYOVA) Scioto	Adams (P) Gallia (P) C C
West Virginia	Cabell (KYOVA) Wayne (KYOVA) Mason (P)	C C Mason (P)

Both the ASHLAND AREA MPO (FIVCO) and the West Virginia/Ohio MPO (KYOVA) are developing new (2035) Metropolitan Transportation Plans. Both have conducted a regional emissions analysis based on the respective draft plans. Per the July 1, 2004 Conformity Rule¹, an MPO must consider the emissions of any associated donut areas in its regional emissions analysis. The FIVCO emissions analysis included the donut area of Lawrence County, Kentucky. The KYOVA emissions analysis included the donut areas in West Virginia and Ohio. The tri-state nonattainment area spans EPA regions 3, 4, and 5 and FTA regions 3, 4, and 5. An interagency consultation team (IAC) consisting of representation from EPA regions 3, 4, and 5 and FTA regions 3, 4, and 5 and from all the respective federal, state, and local partners held meetings to determine schedules and planning assumptions. The planning assumptions are described in more detail below and were agreed to by the IAC. All decisions made by the IAC are documented in the minutes included in Appendix B. The pollutants analyzed were direct PM_{2.5} from exhaust and brake

¹ 40 CFR Part 93 Transportation Conformity Rule Amendments for the New 8-hour Ozone and PM_{2.5} National Ambient Air Quality Standards and Miscellaneous Revisions for Existing Areas; Transportation Conformity Rule Amendments: Response to Court Decision and Additional Rule Changes; Final Rule

and tire wear and NO_x. Further, until state motor vehicle emission budgets (MVEBs) are established, the area is required to demonstrate conformity in unison (see below for more details).

The rationale for selecting these pollutants and further detail regarding all the planning assumptions are described later in this document.

CONFORMITY PROCESS

Both the Ashland Area MPO (FIVCO) and the West Virginia/Ohio MPO (KYOVA) are developing new (2035) Metropolitan Transportation Plans. Both have conducted a regional emissions analysis based on the respective draft plans. Per the July 1, 2004 Conformity Rule an MPO must consider the emissions of any associated donut areas in its regional emissions analysis. The FIVCO emissions analysis included the donut area of Lawrence County, Kentucky. The KYOVA emissions analysis included the donut areas in West Virginia and Ohio. In EPA's July 1, 2004 Conformity Rule Companion Guidance², details are provided for the interim tests to consider and for how coordination should be achieved for PM_{2.5} nonattainment areas prior to SIPs with MVEBs being submitted for EPA approval. Specifically, the portion of this document entitled "*Part 2: Conformity Determinations and Regional Emissions Analyses Before SIP Budgets Are Adequate or Approved*" explains that the interim tests for PM_{2.5} nonattainment areas to consider are the build/no build test or the 2002 baseline year test; and that the direction on how the regional emissions must be done prior to the availability of MVEBs is provided in 93.119 of the Transportation Conformity Rule. In this section of the guidance, specifically under question number 3, EPA indicates that multi-state areas, even those who implement transportation conformity requirements independently for the ozone standard, must work in unison to implement transportation conformity requirements for the PM_{2.5} standard until state MVEBs, if elected, are found adequate or approved by EPA. A citation from the rule guidance that expresses EPA's intent for implementing transportation conformity in PM_{2.5} nonattainment areas prior to the availability of adequate or approved MVEBs is as follows: "*EPA believes that it is necessary for the conformity determinations and regional emissions analysis to include the entire nonattainment area when there are no SIP budgets to ensure that the requirements of the Clean Air Act section 176(c) are met. That is, before SIP budgets are available, in order to determine that transportation activities will not cause a new air quality violation, increase the frequency or severity of a violation, or delay timely attainment or any other milestone in the nonattainment area, it is necessary to consider emissions from the entire area in one regional emissions analysis, and for DOT to make all plan/TIP conformity determinations at the same time.*" While separate reports can be generated for each state individually and submitted together, the entire area must consult on analysis years, the interim test and the planning assumptions for the conformity determination(s). Additionally, U.S. DOT will need to consider all the analysis from each state prior to making a conformity finding for any state in the nonattainment area. Thus, since no MVEBs have been approved or found adequate, the area is required to demonstrate conformity in unison.

² Companion Guidance for the July 1, 2004, Final Transportation Conformity Rule --- Conformity Implementation in Multi-Jurisdictional Nonattainment and Maintenance Areas for Existing and New Air Quality Standards

GENERAL PM_{2.5} PLANNING ASSUMPTIONS

FIVCO and KYOVA have completed their respective processes for developing their 2009-2035 project lists.

Per the July 1, 2004 Conformity Rule and Companion Guidance, certain planning assumptions are required to be consistent for the entire nonattainment area. First, the entire area must use the same comparison emissions test. And, since there are no budgets, per the Companion Guidance, an interim test of “build vs. no-build” or “no-greater-than-2002 baseline year” must be used. The IAC agreed to demonstrate conformity based on the “no-greater-than-2002 baseline year” test. Second, per the guidance, all areas must analyze the same pollutants. The May 6, 2005 conformity amendments³ require that direct PM_{2.5} from exhaust and brake and tire wear and NO_x must be analyzed, but other pollutants need be analyzed only if the state air agency and EPA determine them to be “of significance”. No other pollutants were determined to be of significance. Therefore, the pollutants analyzed were direct PM_{2.5} from exhaust and brake and tire wear and NO_x. The August 2005 guidance⁴ describes four possible methods for developing PM_{2.5} inventories. They are annual, semi-annual, seasonal, and monthly. The Kentucky Division for Air Quality analyzed the various possible MOBILE 6.2 scenarios and found no significant differences between the scenarios. Based on this analysis, the IAC agreed to use the one run, or annual, approach using July as the MOBILE 6.2 evaluation month.

Finally, the analysis years must be the same across the area. The IAC agreed on 2009, 2018, 2025 and 2035. As required by the Transportation Conformity Rule 40 CFR 93.118 (d) (2), these analysis years were chosen as follows: 2009 and 2018 are ozone budget years for KYOVA and are convenient to choose for PM_{2.5} as well. 2035 is the final year of the plan for both KYOVA and FIVCO. The selection of analysis year 2025 and completes the requirement that analysis years be no more than ten years apart. The analysis years and requirements are summarized below.

Analysis Year	Conformity Test	Which Requirement Fulfilled	Analysis or Interpolation
2009	Baseline (2002) Year Test	KYOVA Ozone budget year §93.118(d)(2)	Analysis
2018	Baseline (2002) Year Test	KYOVA and FIVCO Ozone budget year §93.118(d)(2)	Analysis
2025	Baseline (2002) Year Test	Intermediate Year (No more than 10 years between analysis years) §93.118(d)(2)	Analysis
2035	Baseline (2002) Year Test	Last Year of LRTP §93.118(d)(2)	Analysis

³ 40 CFR Part 93 Transportation Conformity Rule Amendments for the New PM_{2.5} National Ambient Air Quality Standard: PM_{2.5} Precursors; Final Rule

⁴ August 2005 Guidance for Creating Annual On-Road Mobile Source Emissions Inventories for PM_{2.5} Nonattainment Areas for Use in SIPs and Conformity

The IAC agreed to use the average July minimum and maximum ambient daily temperatures of 67.0 and 93.0 degrees Fahrenheit. The IAC agreed to use Fuel RVP of 9.0 pounds per square inch (psi). Having no data to indicate otherwise, the Ashland Area will use the MOBILE 6.2 default of 75 grains/lb. for absolute humidity. KYOVA will use 83 grains/lb.

Both Ashland Area MPO and KYOVA determined speeds for each HPMS highway functional class for each analysis year. The IAC discussed and compared ASHLAND AREA MPO proposed speeds with KYOVA speeds and agreed that there was enough consistency. The MOBILE 6.2 default speed of 12.9 mph was used for the urban local speed. Speeds are discussed further in the ASHLAND AREA MPO and KYOVA PM_{2.5} conformity documents attached. VMTs were determined by regional travel demand models where available. Outside the modeled areas, HPMS historical data and statewide growth factors were used to develop the speeds. This is discussed further in the attached conformity documents.

MOBILE 6.2 default values were used for all other parameters.

There is no Inspection/Maintenance program in this area. There are no Transportation Control Measures (TCM's) in the SIP (there is no PM_{2.5} SIP) so implementation of the projects in the STIP will not interfere with timely implementation of TCM's. In the event that TCM's are introduced in the SIP later, implementation of those measures will not be impacted. All regionally significant projects, even those that are not federally funded, are included in the regional emissions analysis. These projects are listed in ASHLAND AREA MPO and KYOVA PM_{2.5} conformity documents attached. As a note, the only new capacity adding project in the Ashland Area is project 09-8400 to widen US-60 from 2 to 4 lanes from the I-64 at interchange 181 northerly to KY-180 at Cannonsburg. The project is slightly less than 4 miles in length and has been included in the travel demand model.

The fiscal constraint is demonstrated and documented in the Ashland Area MPO and KYOVA PM_{2.5} conformity documents attached.

Finally, as discussed above, the area is required to demonstrate PM_{2.5} conformity in unison.

EMISSION CALCULATIONS

Emission factors were determined using MOBILE 6.2 and the defaults and assumptions as described previously. The MOBILE 6.2 input and output data as well as emission inventory calculation spreadsheets are found in the accompanying conformity documentation. Emission inventory calculation summary data is listed in the EXECUTIVE SUMMARY above.

INTERAGENCY CONSULTATION

The models, methodology and procedures for this conformity analysis were determined through an interagency consultation process which involved representatives from the KYOVA Interstate Planning Commission, Ashland Areas MPO the West Virginia Department of Transportation (WVDOT), the West Virginia Division of Air Quality (DAQ), the Federal Highway Administration (FHWA), the United States Environmental Protection Agency (USEPA), the Ohio Department of Transportation (ODOT) and Kentucky Transportation Cabinet.

PUBLIC PARTICIPATION PROCESS

The public participation process used by Ashland Area MPO and KYOVA conforms to the adopted public involvement process of each agency. The Public Involvement Process documentation is available from each agency upon request. Any comments specific to the PM_{2.5} analysis are included in the conformity documentation.

RESULTS

As result, Ashland Area MPO is requesting a conformity determination on the total report from FHWA - KY/FTA Region 4. FHWA-KY will send out a request for comments (30 days) to the entire IAC. FHWA-WV and FHWA-OH hopefully will be able to provide letters of support for a positive conformity determination to FHWA-KY. A conformity determination will be issued by FHWA-KY/FTA-R4.