

**AIR QUALITY ANALYSIS
AND
CONFORMITY DETERMINATION
FOR
BELMONT, OHIO AND MARSHALL COUNTIES**

February, 2006

Prepared by:

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INTRODUCTION

As per the EPA's final rule published in the Federal Register Vol. 69, No. 126 on July 1, 2004, "Transportation Conformity is required under the Clean Air Act section 176(c) (42 U.S.C. 7506(c)) to ensure that federally supported highway and transit project activities are consistent with ("Conform to") the purpose of the state air quality implementation plan (SIP). Conformity currently applies under EPA's rules to areas that are designated nonattainment or maintenance." Areas are designated "nonattainment" for violating the National Ambient Air Quality Standards (NAAQS). Final Rules published in the Federal Register Vol. 69, No. 84 on April 30, 2004 state "CAA definition of the nonattainment area that is defined in Section 107(d)(1)(A)(i) as an area that is violating the standard. If an area meets this definition, EPA is obligated to designate the area as nonattainment." The nonattainment areas can be redesignated as attainment/maintenance as per section 107(d)(3) of the Clean Air Act.

Nonattainment designations are based on violating the NAAQS for any one or more criteria pollutants. Six (6) common air pollutants that are harmful for our health and for which specific standards are established by the EPA, are Nitrogen Dioxide, Ozone, Carbon Monoxide, Sulfur Dioxide, Particulate Matter and Lead. Belmont County, Ohio and Ohio and Marshall Counties in West Virginia are designated nonattainment for Ozone and Particulate Matter (PM 2.5). The Wheeling MSA is classified as a "basic" nonattainment area for Ozone. The basic nonattainment classification contains general, less prescriptive requirements. Currently, there is no similar classification system for PM2.5.

The ozone nonattainment designation was based on the violation of the 8 hour ozone standards and was effective June 15, 2004. The ozone standard is exceeded if the three year average of the 4th highest ozone readings is greater than 0.08 ppm. The ozone attainment is required no later than the year 2009. In April, 2005 the area was designated nonattainment for the Particulate Matter (PM 2.5) as well. PM 2.5 refers to the very fine particles (less than 2.5 microns in diameter), smaller than the human hair, that can lodge permanently in the lungs. The required date for PM 2.5 attainment is no later than the year 2010. For PM2.5, EPA has a 24-hour standard and annual standard. The three counties in the region are found to violate the annual standard only. The annual standard is exceeded if the three year average of annual mean concentration of PM2.5 is greater than 15 micrograms per cubic meter. The area can be redesignated as attainment prior to the required attainment year for any or both pollutants, if it can be demonstrated that the standards are met and will continue to be met for at least 10 years beyond the redesignation year.

Starting June 15, 2005, the Long Range Plan and Transportation Improvement Program must demonstrate conformity of ozone and both documents must demonstrate conformity for both pollutants starting April 15, 2006. Ozone conformity was previously demonstrated in June, 2005 as required. The conforming long range plan has since been amended to include non-exempt projects. As per EPA's final rule 40 CFR Part 93 "Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards." The metropolitan planning organization (MPO) is charged with the responsibility to demonstrate conformity. Thus, Wheeling

MPO is making the conformity determination of the 2025 Long Range Plan, as amended in FY2006, for ozone and PM 2.5.

Transportation Conformity Process

The regulatory requirements that govern this process, require that a locally relevant conformity process be developed through interagency consultation. An interagency meeting was held on August 31, 2004 in Marietta, Ohio to establish a process for addressing ozone conformity. Another interagency meeting was held on August 31, 2005 in Parkersburg, West Virginia to address PM 2.5 conformity issues. The list of attendees, minutes and pertinent followup emails are included as Attachment A. The local process consists of establishing base year emissions for referencing future year emissions. The base year is 2002 and emissions are generated using a Travel Demand Model (TDM)¹. The TDM inputs the 2002 roadway network and landuse data. All roadways classified collectors and up are included in this network. The TDM outputs vehicle miles of travel (VMT). The VMT and latest available Mobile 6.2 emission factors for Ozone precursors and ODOT developed factor for PM2.5 were used to generate emissions for 2002. For the base year TDM, all latest available data or extrapolation from the most recent data was utilized. For ozone, a typical summer day was used for generating daily emissions. For PM 2.5 the two season approach as per EPA guidance was used. This approach was selected during the interagency consultation meeting. The 2002 annualized emissions are representative of winter and summer conditions. An average summer day emissions are multiplied by 183 and an average winter day emissions are multiplied by 182. The winter and summer emissions are then added to give annual emissions. As per the interagency decision, the PM 2.5 precursors included are direct PM2.5 (exhaust, brakes and tire wear) and NOX. The horizon year of the adopted long range plan is 2025. To meet the regulatory requirements, two additional analysis years were selected. These are the year 2009, which is also the attainment year for ozone, and the year 2019 that satisfy the 10 year rule (40 CFR 93.119). Even though PM 2.5 attainment year is 2010, the same analysis years are used for both pollutants as per the decision made during the interagency meeting. In forecasting demographic and landuse variables for the analysis years, the latest planning assumptions were used.

Latest Planning Assumptions

The latest planning assumptions were documented and presented for review as part of the interagency consultation process. The comments were then incorporated in the final document. These assumptions have been revised to reflect latest developments. The latest assumptions along with an overall summary are presented below.

¹ The TDM is developed, validated and maintained by ODOT with MPO input and assistance.

Summary

The current adopted Long Range Plan for the 3-county Wheeling metro area was developed before U.S. EPA's nonattainment designation for 8-hour Ozone and the development of a travel demand model. The next plan update is not required until the end of 2007. The plan has a base year of 1995 and target year of 2025. In the year 2002, new land use figures were compiled using 2000 Census data, vehicle registrations and employment. With 2000 as a new base year, a new digital GIS roadway network and the most recent traffic counts, a QRS II based Travel Demand Model was developed and validated. The projections used in the current plan were revisited and modified as necessary based on the 2000 Census, known developments including 'The Highlands' and local knowledge. The 2000 TAZ data was interpolated to meet the 2002 base year requirement for the Clean Air Act. The modified 2025 projections were used for the benchmark and target years.

Land Use Data

Travel analysis zones (269 in the 3-county area) and external roadway "stations" (31) are the basic geographic units for estimating travel patterns. Socioeconomic data used to forecast future travel patterns include household population, school enrollment, vehicle registrations, labor force participation, and employment by category and location. Sources for year 2000 data include the 2000 Census (primarily SF1 block data), state vehicle registration files, and ES202 employment data. All data sources were geocoded to the zone level. Future year data for each variable were projected through various methods. More detailed explanation of base year and future year data generation for each of the above-mentioned categories of planning data follows.

Base Year Data: The base year household and population data is derived from the 2000 Census of Population and Housing. Utilizing GIS software (TransCad), base year population data at the zonal level for 2000 was derived from allocation of block level population to zones. ES202 (unemployment coverage) data for 2000 adjusted to U.S. BEA county control totals was utilized as the primary tool to calculate employment at the zonal level. Individual business records containing physical location, number of employees and SIC code were geocoded and aggregated to the TAZ level. Each zone's employment was divided according to SIC code, area type, and degree of agglomeration into thirteen classes based upon trip generation characteristics.

Future Year Data: For most socio-economic data, Bel-O-Mar uses county level projections as prepared by Woods and Poole. Allocations of county-level totals by zone are conducted by Bel-O-Mar staff and documented in the BOMTS report "BOMTS Traffic Zone Data for 2025" with modifications since the date of the report, based on plans submitted for major land developments (such as Cabela's, Center Wheeling, and Stein/Cafaro properties near Ohio Valley Mall). Due to locally unprecedented pace of development at 'The Highlands', it was necessary to reassess previously assigned job categories and geographic distribution of the jobs. A large number of employment from adjacent TAZ's and a few other TAZ's in Ohio County were moved to the TAZ's covering The Highlands. Employment was also shifted from service to retail and manufacturing. The TDM incorporated these changes. Woods and Poole's employment projections at the county level were used as control totals for developing TAZ level employment by service, retail and

manufacturing. The Woods and Poole's projection at county level is disaggregated from a national level employment projection. The national projection is developed using an export base approach. Regional differences are considered before county level employment is disaggregated. In assigning employment to zones, it was assumed that new sites with developed infrastructure will have a larger share of future employment. Given the topography of the region, it is assumed generally that new development will mostly occur in one east-west travel corridor (I-70/US40) and one north-south corridor (Ohio Route 7 and US250/WV Route 2 along the Ohio River). In Belmont County, however, additional development is expected along SR331 and in areas surrounding the urban core. Due to a scarcity of developable land in Ohio County, development will occur on sites that are generally flat and can be adequately serviced. In addition, over time, generally flat land in the valley will selectively go through planned landuse changes to optimize economic development.

During the decade from 1990 to 2000, there was a small population decline (under 4%). However, no significant change is expected in the future. The Census Bureau's population estimates to the year 2004, show only a marginal (2%) decline. The Year 2025 projection reflects numbers similar to the 2000 population, but the percent of persons sixty-five years of age or older will continue to increase. The number of persons per household is expected to continue its long-term decline. Therefore, additional housing units in the metro area are anticipated. Finally, the average rate of vehicles per household is also expected to continue a long-term trend, which is for an increase but not exceeding two vehicles per household.

Transit Use and Modal Split

Transit trips are significantly low in relation to the auto trips for the area. On an average, there are less than 2,500 transit trips/day. Therefore, it was mutually agreed upon by the participating agencies not to use modal split in the modeling process.

Travel Modeling

The four digital roadway networks specifically developed for use in the conformity process represent the base year (2002), initial attainment year (2009) condition, an interim year (2019) and the Regional Transportation Plan horizon year (2025). All projects identified in the Plan having an impact on travel time and/or vehicle carrying capacity regardless of funding source were included in the air quality analysis. Table I shows which Plan projects are included in which time periods. Trip generation figures by zone, with some exceptions, were assumed to change linearly with time between 2000 and 2025. One of the exceptions is The Highlands development, which is projected to be fully built by 2009.

Transportation system performance was estimated using the Bel-O-Mar travel demand model utilizing the QRSII software program and developed for Bel-O-Mar by Ohio DOT staff. It uses an iterative sequential modeling approach of trip generation, distribution, and assignment. The model uses demographic/land use data and roadway performance characteristics to produce forecasted traffic volumes and travel times by road segment.

The Bel-O-Mar travel model network covers the entire 3-county metro area boundary and has been validated to observed traffic volumes for the model base year 2000, based on counts from 397 geocoded traffic count stations maintained by the Ohio and West Virginia Departments of Transportation. (A preliminary version of a documentation report/user's guide is available from ODOT staff for further details.) The applicable digital networks were then converted to shape files for post-processing of model data, which involve overlaying or calculation of added data fields for use in the ODOT emissions model described below along with needed file format conversions.

Emissions Factor Model

ODOT staff utilizes U.S.EPA's emissions model MOBILE6.2 to develop emission factors for applicable years for both direct PM2.5, VOCs and NOX. ODOT developed emissions factors were used for particulate matter. The MOBILE6.2 input file contains local parameters, developed through consultation with OEPA, for temperature, humidity, vehicle inspection and maintenance programs, and fuel characteristics. These and other factors are documented in the ODOT report.

Public Involvement

The 2025 Transportation Plan was utilized for air quality conformity determination. The amended plan was adopted after providing several opportunities for public involvement. Transportation Plan and Air Quality Analysis related public involvement documentation is included as Attachment C.

A public notice seeking comments on the draft Air Quality Analysis document and the amendments to the Long Range Plan was published in The Intelligencer, Wheeling News Register and Times Leader. These are the leading newspapers in the area with circulation on both sides of the Ohio River. The notice was published twice in each newspaper and is included in Attachment C. The comment period ran from February 7th through February 21st. No comments were received.

In addition, an article was printed in the "Regioner," Bel-O-Mar's newsletter. The article is also included in Attachment C. The article announced the availability of the draft document on the website and solicited comments. The newsletter was sent on January 31st to Bel-O-Mar's membership and other interested individuals on the mailing list. No comments were received.

There was no response to the efforts to solicit comments.

TABLE 1

HIGHWAY PROJECT RECOMMENDATIONS			
Belmont County			
Year	Map Code	Description	Cost
02-09	B-1	US40 from West of St. Clairsville to Banfield Rd. Operational Improvements.	\$500,000
02-09	B-2	US40 from E. of Lansing (MP 25.24) to Lincoln St. (MP 28.43). Operational Improvements. Project to include turn lanes and signals as appropriate.	\$750,000
09-19	B-3	I-70 and I-470 ITS corridor from SR331 to West Virginia State line. Implement ITS strategies to improve traffic flow and safety in the corridor.	\$4,000,000
02-09	B-4	SR149 New Construction. Construct 2 lane roadway from the 26 th Street interchange of SR7 to existing SR149 west of Bellaire.	\$4,000,000
09-19	B-5	SR331 to CR10	\$700,000
09-19	B-6	I-70 upgrading from SR331 to Mall Road. Expand to six lanes.	\$21,000,000
09-19	B-7	SR800 Upgrading from Barnesville to Monroe County Line. Project to include horizontal and vertical curve modifications to improve safety and travel time.	\$4,000,000
19-25	B-9	I-70. Construct new interchange and two lane roadway to US40 west of Brookside.	\$12,000,000
02-09	B-10	US40, Mall Rd. and Banfield Rd. Area Study. Undertake Comprehensive Study to address long term traffic and access issues in this area.	\$200,000
09-19	BA-1	Modify Mall Rd. Interchange	20,000,000
Total			\$ 67,150,000

TABLE I (Cont'd.)

HIGHWAY PROJECT RECOMMENDATIONS

Ohio County

Year	Map Code	Description	Cost
02-09	O-1	US40 from I-70 WB on ramp east to Heiskell Ave. Traffic operations improvements.	\$4,250,000
09-19	O-2	I-70 and I-470. ITS corridor from Dallas Pike to Ohio State Line. Implement ITS strategies to improve traffic flow and safety.	\$4,000,000
02-09	O-3	I-70 interchange. Construct a new interchange between Dallas Pike and Elm Grove interchange.	\$14,000,000
02-09	O-4	Washington Ave. Bridge. Upgrade Washington Ave. Bridge over I-70.	\$5,000,000
09-19	O-5	Manchester Bridge over Wheeling Creek connecting 17 th St. with Rock Point Rd. Construct new bridge.	\$1,500,000
19-25	O-6	Mt. Wood Rd. and Northern Parkway. Upgrade and extend existing roadway to access 20 acre development site and to connect with future WV2.	\$1,200,000
09-19	O-7	WV2. Identify alignment and design the four lane section of WV2 to bypass Warwood.	- - -
EXEMPT	O-8	Wheeling mobility study. Conduct a comprehensive study to address traffic, parking, transit and pedestrian issues.	\$300,000
EXEMPT	O-9	Wheeling Island accessibility/traffic study. Continue to address accessibility and traffic flow issues of Wheeling Island.	WVDOT Staff
02-09	OA-1	I-70 Interchange. Construct a new interchange between Cabelas Dr. And Elm Grove Interchange.	25,000,000
		Total	\$55,250,000

TABLE I (Cont'd.)

HIGHWAY PROJECT RECOMMENDATIONS			
Marshall County			
Year	Map Code	Description	Cost
02-09	M-1	WV2 from Creasap to McKeffery. Upgrade to 4 lanes from 3.8 miles north of CR74 to 0.95 mile south of CR2/8.	\$6,000,000
02-09	M-2	WV2 from Kent to Woodlands Rd. Upgrade to 4 lanes from 0.18 mile south of CR78 to 0.33 mile south of CR27.	\$18,000,000
02-09	M-3	WV2 Woodlands Bridge. Renovate existing Woodland Bridge over Fish Creek 0.04 mile north of CR27.	\$1,250,000
02-09	M-4	CR5 Bridge upgrade. Upgrade one lane bridge over Big Wheeling Creek to two lane Bridge. Connects CR5 with CR21.	\$2,250,000
19-25 (EXEMPT)	M-5	I-68 Extension. Select a locally acceptable alignment.	- - -
Total			\$27,500,000

The VMT generated through the TDM is used for emissions calculation. The model base year generated VMT and ODOT and WVDOT estimated VMT is presented in Table II for comparisons.

TABLE II
Modeled Year 2000 VMT vs. HPMS Estimated VMT by Functional Class
(VMT is in millions of miles/day)

Functional Class	TDM (Base Year) VMT	Estimated VMT	Ratio
Freeway	1.85	1.81	1.02
Arterial	1.14	1.30	0.88
Collector	0.81	0.89	0.91
Local	0.47	0.24	1.96
Total	4.27	4.25	1.005

Transportation Conformity Test

A technical memorandum titled “Belomar Regional Council Long Range Plan/TIP Mobile Emissions (PM 2.5 and 8-Hour Ozone) was prepared by ODOT and presented for interagency review and comments. The document is included as Attachment B. The emissions Tables III and IV, used for the conformity test, are reproduced here from this document. The Hydro Carbons (HC) in gaseous form are called Volatile Organic Compound (VOC). Hydro Carbons are expressed as VOC in this report.

TABLE III
Ozone Precursors
VMT and Emissions by Analysis Years

Analysis Year	Model VMT (million miles/day)	HPMS VMT (million miles/day)	NO_x (tons/day)	HC (tons/day)
2002 Base Year	4.28	4.29	12.665	7.556
2009	4.52	-	7.745	4.437
2019	4.71	-	2.962	2.499
2025	4.84	-	2.231	2.081

TABLE IV
PM 2.5 Precursors
Seasonal and Total Emissions by Analysis Years

PM 2.5							
Year	Summer			Winter			Annual Total PM 2.5
	# Days	Daily PM2.5	Summer Total	# Days	Daily PM2.5	Winter Total	
2002	183	0.212	38.8	182	0.194	35.3	74.1
2009	183	0.136	24.9	182	0.124	22.6	47.5
2019	183	0.076	13.9	182	0.067	12.2	26.1
2025	183	0.073	13.4	182	0.065	11.8	25.2
NOX							
Year	Summer			Winter			Annual Total NOX
	# Days	Daily NOX	Summer Total	# Days	Daily NOX	Winter Total	
2002	183	12.665	2317.7	182	12.020	2187.6	4505.3
2009	183	7.745	1417.3	182	7.489	1363.0	2780.3
2019	183	2.962	542.0	182	2.850	518.7	1060.7
2025	183	2.230	408.1	182	2.115	384.9	793.0

Note: Emissions are in tons

Table III shows that travel (as per VMT) in the area will continue to grow in the future. But growth in travel will not translate into higher emissions. This is due to the change in fleet composition, improvement in fuels used, travel behavior and improved transportation network. Significant emission reductions are estimated for each precursor in each successive analysis year as shown in Figures I through IV.

Figure I
Ozone (VOC) Emissions by Analysis Year

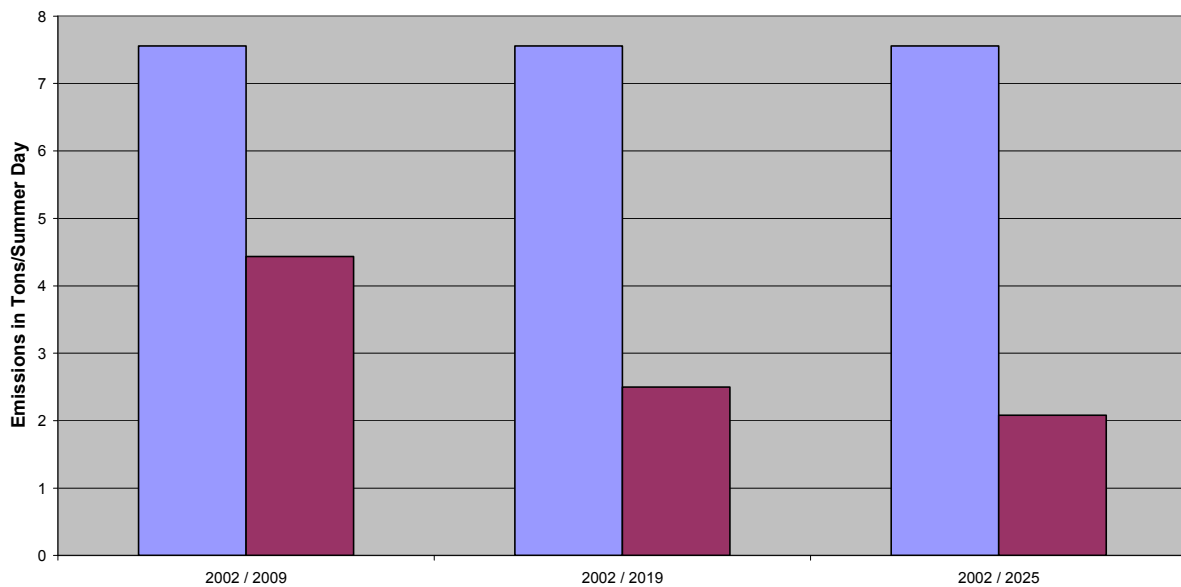


Figure II
Ozone (NOX) Emissions by Analysis Year

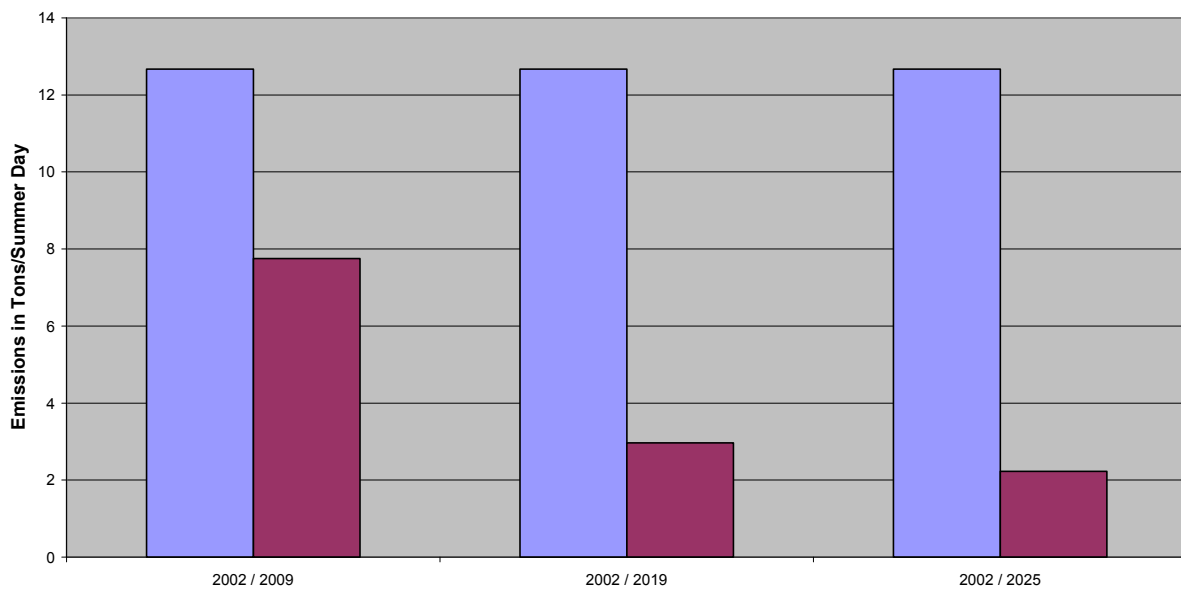


Figure III
Direct PM2.5 Emissions by Analysis Year

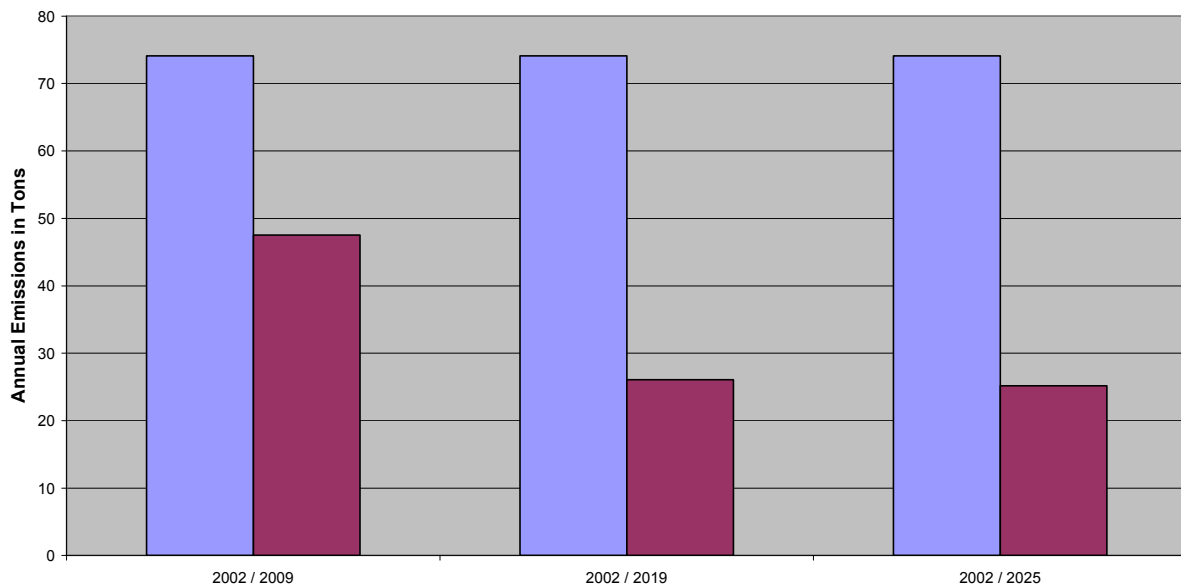
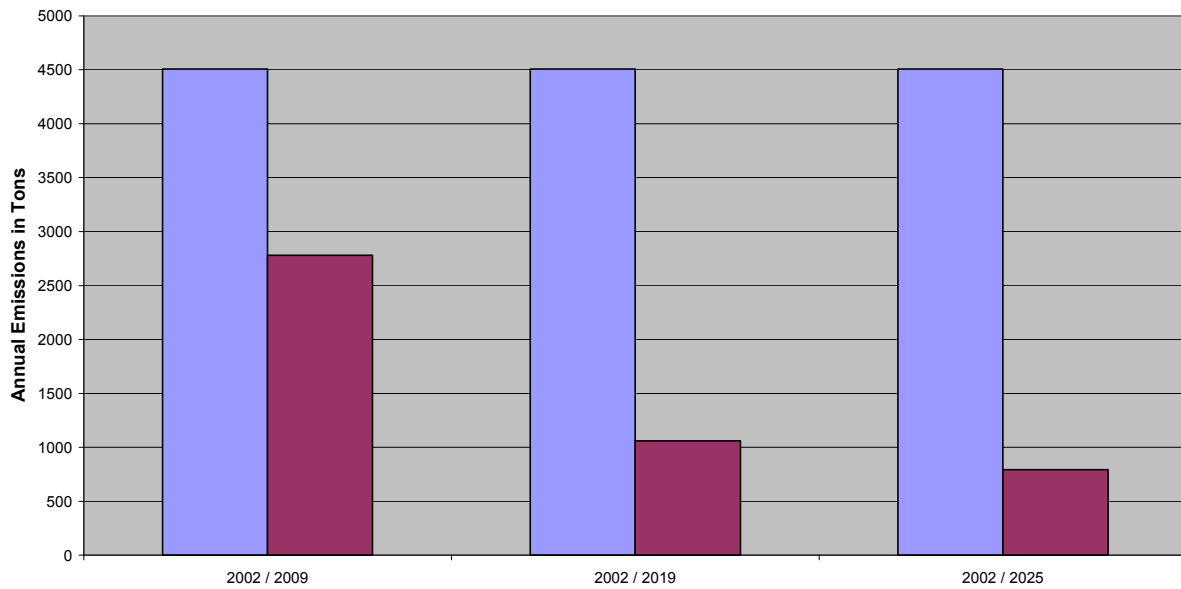


Figure IV
PM2.5 (NOX) Emissions by Analysis Year



The process and methodology for determining transportation conformity along with the emissions tables used for the conformity have been reviewed by ODOT, WVDOT, WVDEP, OEPA, USEPA and FHWA. Comments were received from ODOT, WVDEP and USEPA on the draft document. All comments have been addressed in this document.

Conformity Determination

A fiscally constraint 2025 Transportation Plan prepared by the Bel-O-Mar Regional Council and adopted in 2002 was amended and adopted on February 23, 2006. The amended 2025 plan was tested for conformity. The financial constraint determination was made by Bel-O-Mar based on the input provided by ODOT and WVDOT. Plan projects by anticipated year of completion, were included in the emission analysis.

Tables III and IV provide the conformity results for the region comprising of Belmont County, Ohio and Ohio and Marshall Counties in West Virginia. For Ozone conformity, daily standard is met and for PM 2.5 annual standard is met. Based on the results, the emissions in any of the analysis years for ozone and PM 2.5 precursors, including the direct PM 2.5 emissions, are less than the base year emissions. Significant reductions are achieved for each successive analysis year as shown in Figure I through Figure IV. Thus, the amended 2025 Transportation Plan as adopted is in conformity with the requirements of the CAAA, Ohio SIP and West Virginia SIP.

Transportation Improvement Program (TIP) for 2006 - 2009 includes projects derived from the conforming plan. Only the analyzed plan projects and plan consistent exempt projects are included. Therefore, the TIP for 2006 - 2009 is in conformity with the requirements of the CAAA, Ohio SIP and West Virginia SIP.

The TIP is financially constrained and this determination is made by Bel-O-Mar in cooperation with the WVDOT and ODOT.

ATTACHMENT A

Interagency Consultation Documents

West Virginia / Ohio Bi-state MPOs PM_{2.5} Transportation Conformity
Interagency Consultation Meeting Minutes
August 31, 2005

Participants:

Fred Rader, WWW	Tom Myers, WVDOT Traffic
Steve Folk, WVDOT	John Wiseman, WVDOT Planning
Donald Bailey, WVDOT Planning	Vincent Post, WWW
Dave Moore, ODOT Planning	Bob Muransky, Bel-O-Mar
Jeff Blanton, FHWA – West Virginia	Rakesh Sharma, Bel-O-Mar
Nino Brunello, ODOT Technical Services	Frank Burkett, FHWA – Ohio
Fred Durham, WVDEP, DAQ	Tashia Clemons, FHWA – Ohio
Kevin Burgess, FHWA – West Virginia	Mike Paprocki, BHJ
Jack Pascoli, WVDOT	Larry Budney, USEPA Region 3
Sam Granato, ODOT Technical Services	Pat Morris, USEPA Region 5
Sreevaka Nipponi, WWW	

Mr. Fred Duram, WV DEP, welcomed the participants to this interagency consultation meeting/conference call. He explained that the purpose of this meeting was to establish the parameters by which PM_{2.5} transportation conformity will be established for the Ohio/West Virginia bi-state MPOs. The affected MPOs cover the Steubenville/Weirton (BHJ), Wheeling/Bridgeport (Bel-O-Mar), and Parkersburg/Belpre (WWW) urbanized areas/PM_{2.5} Nonattainment areas.

The first order of business was to clarify that the conformity determinations for each of these areas will be based on the no greater than (=) 2002 baseline interim conformity tests.

The next topic of discussion was to define the methodology for establishing the PM_{2.5} annual inventories for use in the MPOs' conformity processes. Following discussion of the merits of the single, 2 season, or monthly approaches for establishing the inventories, the group consensus was to develop the inventories using the 2 season approach. Separate summer and winter season input files will be developed to generate the annual inventories. VMT estimates for the seasonal runs will be factored based on ODOT and WVDOT supplied/developed seasonal traffic count factors. Temperature and humidity inputs for the summer runs will be consistent with those used for the Ozone analyses prepared for the June 15, 2005 conformity findings. ODOT and WV DEP will coordinate on establishing season temperature/humidity inputs for the winter run. Because there is no current US EPA guidance on developing winter inputs, the consensus of the group was that documentation will be developed describing the methodology and resulting data for establishing the winter inputs. This documentation will be submitted for review by the Bi-state interagency consultation partners.

Additional discussion confirmed that annual emission inventories will be developed for direct PM_{2.5} and NO_x pre-cursors. US EPA representatives confirmed that no additional pollutant or pre-cursors need to be addressed.

Establishing the analysis years for the bi-state MPOs' PM_{2.5} conformity determinations was discussed next. All parties agreed that using consistent methodology for each of the analysis scenarios is key to preparing valid conformity determination findings. The group's decision was to use the same analysis years as were used for the June 15, 2005 8-hour Ozone conformity determinations. The advantage to this approach is that the travel demand networks are all currently in place. The specific years by MPO are:

BHJ

- 2002 baseline
- 2009 interim year
- 2015 interim year
- 2025 T-Plan horizon year

Bel-O-Mar

- 2002 baseline
- 2009 interim year
- 2019 interim year
- 2025 T-Plan horizon year

Note, Bel-O-Mar's April 5, 2006 conformity determination will include a T-Plan amendment. The Plan will be amended to include the project design concept and scope decisions from recently completed regional planning studies. The Plan amendment includes nonexempt projects. As a result, the Bel-O-Mar April 5, 2006 conformity determination will address both PM_{2.5} and 8-hour Ozone.

WWW

- 2002 baseline
- 2009 interim year
- 2015 interim year
- 2025 T-Plan horizon year

Discussion continued regarding latest planning assumptions. The group agreed that the planning assumptions and associated documentation prepared for the June 15, 2005 8-hour Ozone conformity determinations is still current and reflect the "planning assumptions of record" for each of these MPO areas. The group further agreed that the conformity documentation for the April 5, 2006 should record/summarize use of these planning assumptions. Note, the planning assumptions developed in association with the Bel-O-Mar T-Plan amendment include minor land use and socio-economic data to the travel demand model independent variables. Bel-O-Mar's conformity documentation will include discussion regarding its updated planning assumptions. Although this issue was not specifically addressed during these interagency consultation discussions, development of the PM_{2.5} baseline and inventory emissions will obviously be generated from US EPA's MOBILE6.2 software.

The next discussion issue concerned roles and responsibilities. The group determined that the conformity process would proceed as follows:

- ODOT will prepare emissions inventories for BHJ and Bel-O-Mar. Baseline and analysis year VMT data will be from the respective MPO models
- WWW will prepare emissions inventories for its nonattainment area geography WWW will also confirm that the donut area portion of its nonattainment area (and associated area VMT) is included in the WWW travel demand model geography
- The MPOs will prepared/compile the conformity documentation for their areas
- The MPOs will conduct PM_{2.5} transportation conformity public involvement processes
- Consistent with approach used for the 8-hour ozone determinations, the lead state federal review agencies will coordinate the review and approval processes for the respective MPOs' conformity determinations.

Discussion next reviewed schedules for accomplishing the PM_{2.5} conformity process. A generalized schedule is as follows:

- September-October 2005 - Interagency consultation
- October-November 2005 - Emission inventory modeling runs and associated methodology documentation
- November-December 2005 – MPOs prepare/compile complete PM_{2.5} conformity process documentation
- January 2006 – MPO Public involvement effort / concurrent submission of draft conformity documentation to federal review agencies
- February 2006 - MPO Board T-Plan/2006-2009 TIP conformity determination resolutions
- March 1, 2006 - Conformity documentation/MPO Board resolution submission to ODOT and WVDOT
- April 5, 2006 - US DOT conformity determination

The final discussion topic concerned establishing conformity process MOUs among the Bi-state conformity partners. A sample document, prepared by the WV DEP was distributed for review. It was noted that OEPA was inadvertently not included in the not included in the draft document. Discussion confirmed that MOUs for each of the Bi-state nonattainment areas/MPOs were merited pending future SIP development guidance from US EPA.

Note, to assure all interagency consultation partners are included in Bi-state conformity decision making process, a copy of these minutes is being send to Bill Spires, OEPA.

Ohio/West Virginia 8-hour ozone nonattainment areas' transportation conformity interagency consultation.

This paper will record the results of an August 31, 2004 interagency consultation meeting to establish the parameters for the initial 8-hour ozone nonattainment transportation conformity determinations for the Parkersburg-Marietta, Steubenville-Weirton, and Wheeling 8-hour conformity determinations. Three bi-state (Ohio/West Virginia) MPOs, WWW, BHJ, and Bel-O-Mar cover the respective nonattainment areas. Conformity determinations are due by June 15, 2005.

The meeting participants included representatives from W. Va. DOT, US EPA, FHWA, the MPOs, OEPA and W. Va. DEP, ODOT (see attached sign in list).

The meeting kicked off with a discussion of the appropriate data source for the = 2002 base line emissions for use in the = 2002 interim tests (93 CFR 119). Mr. Fred Durham, W. Va. DEP, questioned whether the National Emissions Inventory (NEI) 2002 emissions inventory data was the best available data for the = 2002 interim 8-hour conformity tests. Mr. Durham suggested that the urban transportation demand models, maintained by the MPOs, provided a better data set for establishing 2002 base line emissions. The MPO models and associated emissions calculations reflect current land use, vehicle fleet, and travel patterns and speeds, and accordingly reflect more recent planning assumptions than does the NEI data. The meeting participants generally agreed with this perspective. Discussion continued regarding the potential for approving model derived 2002 base line emissions through this interagency consultation process and using these emissions in the 8-hour interim conformity tests. US EPA representatives indicated approval with this approach. We request written US EPA confirmation that the 2002 base line emissions for the upcoming 8-hour conformity tests for the Parkersburg-Marietta, Steubenville-Weirton, and Wheeling nonattainment areas can be established using VMT data from the respective MPOs' travel demand models. In subsequent discussions among ODOT and OEPA staff engaged in subsequent discussion on this matter. OEPA confirmed that the current Ohio "1st draft" 2002 NEI inventory is based on HPMS data and MOBILE6 defaults. This 1st draft NEI 2002 inventory will soon be reviewed and updated with more state specific data. OEPA staff agreed with W. Va. DEP and ODOT that the VMT inputs derived from each of the MPO travel demand models will be acceptable for establishing 2002 inventories for these initial 8-hour conformity analyses. This approach will facilitate use of the same VMT data base source for generating 2002 base line emissions and the conformity test scenario emissions burdens.

The next discussion topic focused on defining/establishing the conformity tests and scenario years for each three MPO areas. The resulting decisions are recorded on the attached files.

See below:

- < Pburg 8 hour conformity sum.doc>
- < Steub 8 hour conformity sum.doc>
- < Wheeling 8 hour conformity sum.doc>

Discussion next focused on agency responsibilities for completing the conformity analysis emissions data and documentation. ODOT agreed to prepare and document the process for

establishing 2002 base line and conformity test scenario emissions for the Steubenville and Wheeling air quality areas. WWW staff will produce and document the process for establishing the base line emissions for the Parkersburg area. ODOT staff is available to assist WWW staff as needed. The MPOs will be responsible for compiling documentation recording the conformity analysis process and results for their respective nonattainment areas. This documentation will address latest planning assumptions, latest emissions modeling, interagency consultation, status of 1-hour SIP TCM implementation, conformity public involvement process, and conformity test results, and an MPO Board Transportation Plan and 2004-2007 TIP conformity determination resolution.

ODOT will be the “lead” for the Steubenville air quality area. The BHJ will submit all transportation conformity documentation to the ODOT for further coordination with USEPA Region V. The Region V office will then coordinate with Region III for final review. WVDOT will accept all documentation from the Wheeling and Parkersburg MPOs. The WVDOT will then submit the documentation to the USEPA Region III and coordinate all review activities with USEPA Region V. The MPOs need to submit all transportation conformity material to their respective “lead” by no later than April 15, 2005.

Discussion continued regarding the appropriate MPO public involvement actions for the 8-hour conformity determinations. US EPA staff stated that the MPOs are to follow the approved Agency public involvement processes.

A2 CONFORMITY MEETING

August 31, 2004
(WV/A2 Bi-State MPOs)

<u>Name</u>	<u>Agency</u>
1. Dave Moore	ODOT, Central Office
2. Nino Brunello	ODOT, Central Office
3. Sam Granato	ODOT, Central Office
4. Fred Durham	WV DEP-DAQ
5. Don Bailoy	WVDOH Planning
6. Jack Pascoli	WVDOH Planning
7. Fred Rader	WWW
8. Debra Fought	ODOT D10, Marietta
9. Wes Clarke	ODOT D10, Marietta
10. Steve Marshall	ODOT D10, Marietta
11. Rakesh Sharma	Belomar
12. Shawn Price	BHJ
13. Mike Paprocki	BHJ
14. Randy Durst	WWW
15. Jeff Blanton	FHWA- WV Division
16. Dick Warner	WV DOT Planning
17. John Wiseman	WV DOT Planning
18. Pat Morris (teleconference)	USEPA
19. Bill Spires (teleconference)	OEPA
20. Larry Budney (teleconference)	USEPA

Subject: Re: Fw: Wheeling 8-Hour Ozone Conformity
Date: Tue, 01 Feb 2005 12:33:03 -0600
From: Morris.Patricia@epamail.epa.gov
To: Dave Moore <Dave.Moore1@dot.state.oh.us>
CC: fdurham@wvdep.org, rsharma@belomar.org, Sam Granato
<Sam.Granato@dot.state.oh.us>

Dave,

I have finished reviewing the documentation for the Wheeling area and everything looks fine.

I took me a while because I wanted to review the M6.2 inputs. Thanks for the opportunity to review this. Everyone on your staff has been very helpful in answering my questions.

Pat

Dave Moore
<Dave.Moore1@dot
.state.oh.us>

01/24/2005 12:08
PM

To
To
Patricia Morris/R5/USEPA/US@EPA,
fdurham@wvdep.org
cc
rsharma@belomar.org, Sam Granato
<Sam.Granato@dot.state.oh.us>
rsharma@belomar.org, Sam Granato
<Sam.Granato@dot.state.oh.us>
bcc

Subject:

Fw: EPA responsibilities for Steubenville and Wheeling areas

Date: Mon, 14 Mar 2005 09:04:40 -0500

From: Dave Moore <Dave.Moore1@dot.state.oh.us>

To: frank.burkett@fhwa.dot.gov

CC: mikepap@bhjmpc.org, rsharma@belomar.org, jeffrey.blanton@fhwa.dot.gov,
herman.rodriago@fhwa.dot.gov,
rwarner@mail.dot.state.wv.us

Frank,

FYI, see below. Please coordinate with your counter parts in W. Va. toward June 15, 2005 conformity determinations for the Wheeling and Steubenville areas. Both MPOs have submitted draft conformity documentation. Please advise if there are any outstanding issues that need addressed prior to the MPOs formal submission of the 8-Hour Ozone conformity documentation and MPO Transportation Plan and TIP conformity determination resolutions.

Thanks

DM

----- Forwarded by Dave Moore/UrbPlanning/CEN/ODOT on 03/14/2005 08:57 AM

Morris.Patricia@epamail.epa.gov

03/11/2005 09:53 AM

To

Dave.Moore1@dot.state.oh.us, bill.spires@epa.state.oh.us

cc

Subject

Fw: EPA responsibilities for Steubenville and Wheeling areas

Dave and Bill,

Region 3 and 5 USEPA have had discussions about the areas of shared responsibility. Here is the conclusion about the division of responsibility.

Pat

----- Forwarded by Patricia Morris/R5/USEPA/US on 03/10/2005 01:34 PM

Larry

Budney/R3/USEPA/US

03/10/2005 01:30
PM

To
Patricia Morris/R5/USEPA/US@EPA

cc

Martin Kotsch/R3/USEPA/US@EPA,
Carol Febbo/R3/USEPA/US@EPA,
fdurham@wvdep.org,
jpascoli@dot.state.wv.us,
jeffrey.blanton@fhwa.dot.gov
Martin Kotsch/R3/USEPA/US@EPA,
Carol Febbo/R3/USEPA/US@EPA,
fdurham@wvdep.org,
jpascoli@dot.state.wv.us,
jeffrey.blanton@fhwa.dot.gov

Subject

EPA responsibilities for
Steubenville and Wheeling areas

Hello, Pat,

This documents the outcome of our discussion on March 1 (following WV's inquiry about this) and a discussion I had today with Jeff Blanton of the WV division office of FHWA. WV was asking which EPA region will represent EPA (for 8-hour ozone conformity) for the Wheeling area (Belmont Co., OH and Ohio and Marshall Counties in WV) and for the Weirton-Steubenville area (Brooke and Hancock Counties in WV and Jefferson County, OH).

Regarding the Wheeling area, WV had pointed out that the MPO (BEL-O-MAR) is in WV and the WV division office of FHWA has traditionally had the FHWA lead for that area (and will continue in that role as confirmed by Jeff Blanton in the phone discussion today). As I understand it, you and I agree that EPA Region 3 should represent EPA for 8-hour ozone conformity determinations for that entire 8-hour area, including taking over EPA's responsibilities from here on for the on-going 8-hour efforts

for the initial conformity determination for that area. Thank you, Pat, for your involvement up to this point regarding those on-going efforts.

Regarding the Weirton-Steubenville area, since the MPO (BHJ) is located in Ohio and the Ohio division office of FHWA has had the FHWA lead for that area (and will continue in that role as confirmed by Jeff Blanton today), we agreed that your EPA Region 5 office would represent EPA in that 3-county area.

I'm not aware of the people you coordinate with regarding conformity in Ohio, so (if you're OK with what I stated above) would you please forward this to your contacts for their information?

Thanks,

Larry

ATTACHMENT B

TDM and Emission Model Inputs, Outputs, Validation and Findings

**Attachment B - Technical Memorandum
Belomar Regional Council Long Range Plan/TIP
Mobile Emissions Estimates (PM 2.5 & 8-Hour Ozone)**

December 2005

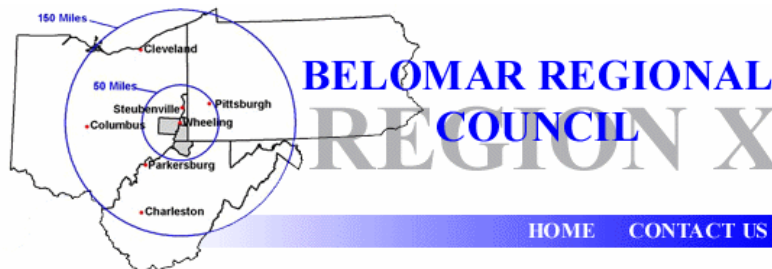
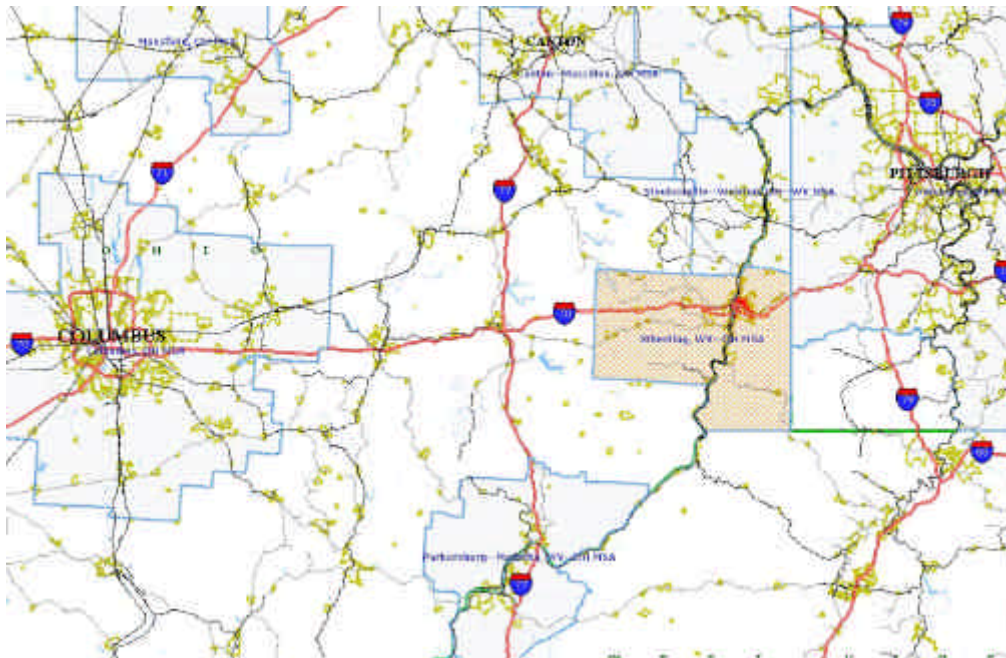


Table of Contents

- A. Overview
- B. PM 2.5 Analysis Framework
- C. Travel Demand Modeling
- D. Emission Factor Generation

A. Overview

This report is intended to document the air quality conformity assumptions and analyses performed by the Ohio Department of Transportation (ODOT) Office of Technical Services Modeling and Forecasting Section and the Belomar Regional Planning Agency (Belomar) for the - PM 2.5 - 2025 Long Range Transportation Plan (2025 Plan) Updates. Belomar's 2025 Plan modifications were adopted in May 2004 and amended in January.

In December 2004, the US EPA issued air quality designations regarding the fine particulate (or PM 2.5) standard. All three counties in the metro area were designated non attainment for PM 2.5 and federal rules require a new conformity determination within a year of the effective date of a new standard. The effective date for the PM 2.5 standard is April 5, 2006. Belomar, in cooperation with state and federal Departments of Transportation and Environmental Protection, has updated the regional air quality emissions analysis for the 2025 Plans and Transportation Improvement Programs (TIPs) to include PM 2.5 related emissions.

PM 2.5 and 8-Hour Ozone regional emissions for the area – by county and as a whole - are presented in **Tables 1 and 2**, respectively. The results indicate that the 2025 Plans and TIPs demonstrate conformity to the PM 2.5 and 8-hour ozone standard consistent with the July 1, 2004 US EPA Transportation Conformity Rule Amendments for the new 8-Hour Ozone and PM2.5 NAAQS and the June 6, 2005 Conformity Rule Amendments for PM 2.5 Precursors.

Table 1 – Wheeling area 8-hour (summer) Ozone Emissions Analysis (tons per day)
Belmont County, OH

Year	Summer	
	HC	NOX
2002	4.206	7.280
2009	2.240	4.041
2019	1.267	1.547
2025	1.042	1.147

Ohio County, WV

Year	Summer	
	HC	NOX
2002	2.182	3.810
2009	1.558	2.805
2019	0.874	1.063
2025	0.739	0.811

Marshall County, WV

Year	Summer	
	HC	NOX
2002	1.168	1.575
2009	0.639	0.900
2019	0.357	0.352
2025	0.300	0.273

totals

Year	Summer	
	HC	NOX
2002	7.556	12.665
2009	4.437	7.745
2019	2.499	2.962
2025	2.081	2.231

Table 2 – Wheeling area PM 2.5 (annual) Emissions Analysis

Belomar area PM2.5 Conformity Emissions Summary

Three-county Long Range Plan Air Quality Conformity Calculations 12/05

PM2.5							
	Summer			Winter			ANNUAL TOTAL PM2.5
Year	# Days	Daily PM2.5	Summer Total	# Days	Daily PM2.5	Winter Total	
2002	183	0.212	38.8	182	0.194	35.3	74.1
2009	183	0.136	24.9	182	0.124	22.6	47.5
2019	183	0.076	13.9	182	0.067	12.2	26.1
2025	183	0.073	13.4	182	0.065	11.8	25.2

NOX							
	Summer			Winter			ANNUAL TOTAL NOX
Year	# Days	Daily NOX	Summer Total	# Days	Daily NOX	Winter Total	
2002	183	12.665	2317.7	182	12.020	2187.6	4505.3
2009	183	7.745	1417.3	182	7.489	1363.0	2780.3
2019	183	2.962	542.0	182	2.850	518.7	1060.7
2025	183	2.230	408.1	182	2.115	384.9	793.0

Note: Emissions are in tons

COUNTY-LEVEL SUMMARIES:

PM 2.5

NOX

Belmont County, OH

Year	Summer		Winter		ANNUAL TOTAL		Summer		Winter		ANNUAL TOTAL	
	# Days	Daily PM 2.5	# Days	Daily PM2.5	# Days	PM 2.5	# Days	Daily NOX	# Days	Daily NOX	# Days	NOX
2002	183	0.121	182	0.110	183	42.1	183	7.280	182	6.899	182	2587.9
2009	183	0.070	182	0.064	183	24.5	183	4.041	182	3.900	182	1449.2
2019	183	0.040	182	0.035	183	13.5	183	1.547	182	1.486	182	553.7
2025	183	0.038	182	0.033	183	12.8	183	1.147	182	1.086	182	407.4

Ohio County, WV

Year	Summer		Winter		ANNUAL TOTAL		Summer		Winter		ANNUAL TOTAL	
	# Days	Daily PM 2.5	# Days	Daily PM2.5	# Days	PM 2.5	# Days	Daily NOX	# Days	Daily NOX	# Days	NOX
2002	183	0.063	182	0.057	183	21.9	183	3.810	182	3.604	182	1353.1
2009	183	0.049	182	0.044	183	17.0	183	2.805	182	2.703	182	1005.3
2019	183	0.027	182	0.024	183	9.3	183	1.063	182	1.019	182	380.0
2025	183	0.026	182	0.023	183	9.0	183	0.811	182	0.769	182	288.4

Marshall County, WV

Year	Summer		Winter		ANNUAL TOTAL		Summer		Winter		ANNUAL TOTAL	
	# Days	Daily PM 2.5	# Days	Daily PM2.5	# Days	PM 2.5	# Days	Daily NOX	# Days	Daily NOX	# Days	NOX
2002	183	0.029	182	0.028	183	10.4	183	1.575	182	1.517	182	564.3
2009	183	0.018	182	0.016	183	6.1	183	0.900	182	0.885	182	325.7
2019	183	0.009	182	0.008	183	3.2	183	0.352	182	0.343	182	126.9
2025	183	0.009	182	0.008	183	3.2	183	0.273	182	0.262	182	97.6

Note: Emissions are in tons

B. PM 2.5 Analysis Framework

PM 2.5 Standard

The U.S. EPA has established two standards for PM 2.5, annual and 24-hour. The annual standard is exceeded if the 3-year average of annual mean PM2.5 concentrations is greater than 15 micrograms per cubic meter, the 24-hour standard is exceeded if the 3-year average of the annual 98th percentile concentrations is greater than 65 micrograms per cubic meter. Currently, the metro area only violates the annual standard and to be consistent with the standard, regional emission estimates used to determine transportation conformity must also have annual units.

In urban areas regional emissions analyses typically rely on the results of travel demand models, which replicate average daily travel conditions. Therefore there is a need to develop annual emission estimates from daily travel demand model outputs, primarily vehicle miles of travel. In August 2005, US EPA issued a Guidance Document for Creating Annual On-Road Mobile Source Inventories for PM 2.5 Non-Attainment Area for Use in SIPs and Conformity, outlining several acceptable approaches. In the Wheeling metro area the **two season approach** (Winter/Summer) was selected to develop annual emission estimates. Seasonal variations of travel demand model and emission generation parameters are described in sections C and D respectively.

Regional Emissions Test and Analysis Years

The PM 2.5 standard is new and States have until April 2008 to finalize the State Implementation Plan (SIP) that will establish budgets for use in transportation conformity determinations, in the absence of budgets the **No-greater-than-2002 Baseline year test** is being used to demonstrate conformity. Emissions were generated for three transportation plan analysis scenarios (2009, 2019, and 2025) as well as the baseline scenario (2002).

Analysis Components

The regional emissions analysis will include emissions for **Direct PM 2.5** (exhaust, brake, and tire wear) and **Nitrogen Oxides** (NOx). Thru the interagency consultative process, Volatile Organic Compounds, Sulfur Oxides, and Ammonia were presumed insignificant.

C. Travel Demand Modeling

The Wheeling area travel demand model network covers about 1500 miles of streets and highways in the 3-county area including all collector and arterial streets, and has been validated to observed traffic for year 2000. Land use data comes from the Census, ES202 employment reporting, and local vehicle registrations. A trip generation model was borrowed from another urban area and adjusted as needed for the local land use data. The hourly distribution of trips by trip purpose and direction are constrained to match the hourly distribution of traffic counts. Trip distribution also begins with a trip-length distribution by purpose borrowed from another urban area and adjusted to ensure modeled VMT matched HPMS estimates of VMT within 1% in the model base year of 2000. (Home-based work trips were separately constrained to a target average value based on the 2000 Census.)

The 3-county major street network used in modeling was developed from the local planning agency's digital street network (originating from the U.S. Geological Survey). The modeling software program utilizes hourly saturation flow rates that are calculated based on road inventory data, roadway type, and the 2000 version of the Highway Capacity Manual (HCM). Coded speeds by street segment are a function of road type and posted speed limits and are based on the Ohio statewide travel time study conducted in 2000 (available on the web at <http://www.dot.state.oh.us/urban/data/statewid/report.doc>) using the "run time" version of speeds without

intersection delays. The model software program internally estimates additional travel times for vehicles that stop for traffic control (stop signs and red lights) based on HCM methods and modeled traffic patterns. (During model validation, considerable reductions were made to speeds on rural roadways to reflect rugged topography and horizontal curvature.) Assignment of traffic to the street network is based on the Method of Successive Averages (MSA) with feedback to trip distribution after every iteration of traffic assignment. The traffic assignment RMS (root mean square) error meets FHWA/ODOT standards for all specified volume groups. Overall modeled VMT for 2000 was less than 1% different than HPMS estimated VMT. Freeways (federal functional class codes 1, 11, and 12) were within 2% of estimated VMT.

Seasonal Factoring of Travel Demand Model Output

Four digital networks are used in the Long Range Plan analysis to estimate average daily traffic volume in the years 2002, 2009, 2019, and 2025. Projected average daily traffic volumes by link are then factored by seasonal factors by functional class to create seasonal volumes: Average Daily Winter and Average Daily Summer. The seasonal factors were developed using both the WVDOT and ODOT traffic counting programs.

Seasonal VMT factors are estimated as an average of monthly VMT factors. For each month, the VMT factor is the inverse of the factor applied to short-term traffic counts that converts them into an estimate of Annual Average Daily Traffic (AADT). The 2005 count factors for Ohio shown in Table 4 below are available on the Ohio DOT web site at: http://www.dot.state.oh.us/techservsite/availpro/Traffic_Survey/Seasonal/Sea_Adj_Fctrs.htm The winter season is defined as months October thru March and summer is defined as months April thru September. The seasonal factors are applied to the travel demand model average daily volumes and intra-zonal trips that are input to CMAQT creating two independent PM2.5 air quality runs by season (summer/winter) for each analysis year.

Table 4 - Seasonal VMT Factors (ADT to Winter and Summer)

Federal Functional Class	Ohio Winter Oct-Mar	Ohio Summer Apr-Sep	WV Winter Oct-Mar	WV Summer Apr-Sep
01 – Rural Interstate	0.917	1.083	0.920	1.080
02 – Rural Principal Arterial	0.929	1.071	0.914	1.086
06 – Rural Minor Arterial	0.939	1.061	0.950	1.050
07-09 – Rural Collectors and Local	0.935	1.065	0.950	1.050
11 – Urban Interstate	0.959	1.041	0.932	1.068
12 –Urban Freeway/Expressway	0.956	1.044	0.947	1.053
14 – Urban Other Principal Arterial	0.929	1.071	0.947	1.053
16-19 – Urban Minor Arterials, Collectors and Local	0.955	1.045	0.947	1.053

D. Emission Factor Generation

Two emission factor files were generated for each year of analysis, one for the summer half of the year and one for the winter half of the year. Each emission factor file involves multiple runs of MOBILE 6.2, one for arterials, one for freeways, one for evaporative factors, and one for intra-zonal trips. The figure on the next page shows the MOBILE file directory structure. Shown on the following page is a partial listing of the MOBILE6.2 input file for

Partial listing of whear02.in file (MOBILE 6.2 input file for 2002 Arterial Emission factors)

MOBILE6 INPUT FILE :
PARTICULATES : SO4 OCARBON ECARBON GASPM LEAD BRAKE TIRE
RUN DATA
EXPRESS HC AS VOC :
EXPAND EVAPORATIVE :
EXPAND EXHAUST :
HOURLY TEMPERATURES: 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0
72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0 72.0

FUEL RVP : 9.0

SCENARIO REC : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 5.0
CALENDAR YEAR : 2002
EVALUATION MONTH : 7
AVERAGE SPEED : 5 ARTERIAL 92.0 0.0 0.0 8.0
particulate ef : pmgzml.csv pmgdr1.csv pmgdr2.csv pmdzml.csv pmddr1.csv
pmddr2.csv
diesel sulfur : 15.0
particle size : 2.5

SCENARIO REC : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 6.0
CALENDAR YEAR : 2002
EVALUATION MONTH : 7
AVERAGE SPEED : 6 ARTERIAL 92.0 0.0 0.0 8.0
particulate ef : pmgzml.csv pmgdr1.csv pmgdr2.csv pmdzml.csv pmddr1.csv
pmddr2.csv
diesel sulfur : 15.0
particle size : 2.5

SCENARIO REC : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 7.0
CALENDAR YEAR : 2002
EVALUATION MONTH : 7
AVERAGE SPEED : 7 ARTERIAL 92.0 0.0 0.0 8.0
particulate ef : pmgzml.csv pmgdr1.csv pmgdr2.csv pmdzml.csv pmddr1.csv
pmddr2.csv
diesel sulfur : 15.0
particle size : 2.5

SCENARIO REC : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 8.0
CALENDAR YEAR : 2002
EVALUATION MONTH : 7
AVERAGE SPEED : 8 ARTERIAL 92.0 0.0 0.0 8.0
particulate ef : pmgzml.csv pmgdr1.csv pmgdr2.csv pmdzml.csv pmddr1.csv
pmddr2.csv
diesel sulfur : 15.0
particle size : 2.5

SCENARIO REC : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 9.0
CALENDAR YEAR : 2002
EVALUATION MONTH : 7
AVERAGE SPEED : 9 ARTERIAL 92.0 0.0 0.0 8.0
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pmddr2.csv

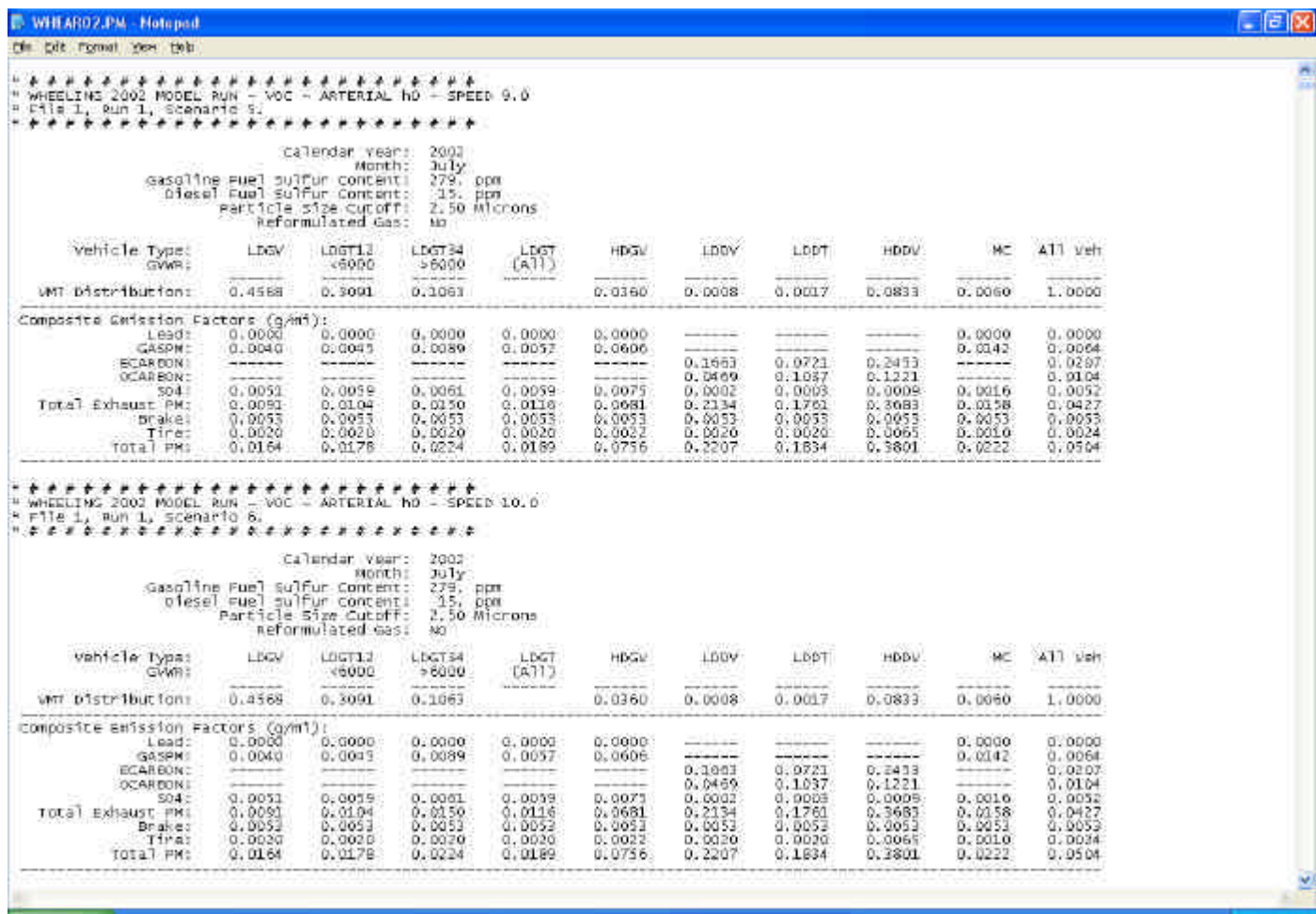
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diesel sulfur      : 15.0
particle size     : 2.5

SCENARIO REC      : WHEELING 2002 MODEL RUN - VOC - ARTERIAL h0 - SPEED 10.0
CALENDAR YEAR    : 2002
EVALUATION MONTH : 7
AVERAGE SPEED   : 10 ARTERIAL 92.0 0.0 0.0 8.0
particulate ef   : pmgzml.csv pmgdr1.csv pmgdr2.csv pmdzml.csv pmddr1.csv
pmddr2.csv
diesel sulfur    : 15.0
particle size    : 2.5

```

Partial listing of emissions output file whear02.pm (arterials in Year 2002)



Seasonal Temperatures

Six month average minimum and average maximum temperatures were used to generate two sets of emission factors (winter & summer). Through interagency consensus, summer temperatures that matched previous ozone conformity determinations for the area were used. The winter day minimum and maximum temperatures (29 and 47 degrees F) were provided by West Virginia DEP staff. Winter temperatures for each hour of day for 24 hours were estimated using these minimum and maximum temperatures and an average day temperature profile.

ATTACHMENT C

Public Involvement Documents

PUBLIC NOTICE

Notice is hereby given that Belmont, Ohio and Marshall Counties have been designated as non-attainment of the national ambient air quality standard for particulate matter (PM 2.5). This standard refers to very fine particles which are less than 2.5 micron in diameter. This designation requires that a conformity analysis be undertaken with regards to transportation plans and programs. The analysis which has been performed indicates that the three county area will achieve conformity. This generally means that transportation activities will not cause new air quality violations, worsen existing violations or delay timely attainment of the relevant air quality standards. A copy of the analysis is available for review and comment on the following site www.belomar.org.

Notice is also given that the Transportation Plan For 2025 is proposed to be amended to add the following projects:

- Construction of a new I70 interchange in Ohio County which will provide additional access to Highlands development.
- Reconfiguration/reconstruction of the I70/Mall Road interchange in Belmont County which will enhance access to development opportunities in areas adjacent to existing development.

The above referenced conformity analysis has taken into account the construction of these two projects. In conjunction with the proposed plan amendment, it is also required that the previously approved conformity analysis for ozone be again undertaken to consider the potential impacts of the two new project. This analysis, which indicates that conformity will be achieved with respect to ozone, is incorporated with the analysis noted above and is available for review and comment at the website referenced above.

Interested parties, including representatives of the affected public and transportation agencies, private providers of transportation, freight shippers, providers of freight transportation services and other transportation stakeholders who desire to present their views on the conformity analysis or Transportation Plan amendment, and/or submit written comments should contact:

Bel-O-Mar Regional Plaza
105 Bridge Street Plaza
P.O. Box 2086
Wheeling, WV 26003
(304) 242-1800

Written comments should be directed to the Transportation Director, at the above address and must receive by February 21, 2006

Transportation and Air Quality Analysis

In response to Belmont County, Ohio, and Ohio and Marshall Counties in West Virginia being designated as "nonattainment" of the National Ambient Air Quality Standards for ozone and particulate matter (PM 2.5), it is necessary to analyze the potential impacts of transportation plans and programs on air quality.

Regarding ozone, the nonattainment designation was effective June 15, 2004. As of June 15, 2005, it was necessary to demonstrate "conformity" of the area's Transportation Plan and Transportation Improvement Program with the State Implementation Plan for air quality. Conformity generally means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant air quality standards. The required analysis was undertaken and conformity was demonstrated, with the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly issuing a positive finding of the analysis by letter dated June 13, 2005.

In April, 2005 the three county area was designated nonattainment for the particulate matter (PM 2.5) standard. This pollutant refers to very fine particles less than 2.5 microns, which is smaller than human hair, and which can lodge permanently in the lungs. It is now necessary to demonstrate conformity with respect to the PM 2.5 standard. A positive finding by the FHWA/FTA is required by April 15, 2006.

The necessary analysis has been performed and conformity is indicated. The draft document has been submitted to the state agencies for review and comment. The state agencies will forward the document to the federal agencies for comment.

As amendments to the Transportation Plan are being proposed, the analysis incorporated the proposed improvements. It was also necessary to again demonstrate conformity for ozone in anticipation of the Plan amendment. The amendment would add a new interchange on I70 in Ohio County and modifications to the I70/Mall Road interchange in Belmont County. Both projects relate to significant economic development in the region.

The graphs on the next two pages show the significant reduction in emissions that are projected over time, for both ozone and PM 2.5. The years shown include the base year (2002), initial attainment year (2009), a required interim year (2019) and the current Transportation Plan horizon year (2025). Each of these years have a specified highway network based on the implementation of the Transportation Plan over time.

The analysis and conformity document will be posted on Bel-O-Mar's website for review and comment in the near future. Public notices will also be published in local newspapers regarding opportunities for public review and comment on both the Transportation Plan amendment and the air quality analysis. It is anticipated that Policy Committee action regarding the Plan amendment and the air quality conformity document will occur at the meeting to be held in late February. This will allow sufficient time for the FHWA/FTA finding by the April 15, 2006 deadline, thus preventing any lapse or delays in advancing certain types of projects.