

**BROOKE-HANCOCK-JEFFERSON
TRANSPORTATION STUDY**

TECHNICAL MEMORANDUM 2010 - 1

**Transportation Air Quality Conformity Analysis
And Technical Documentation
For the Steubenville-Weirton, OH-WV
2006 24-Hour PM_{2.5} National Ambient Air Quality Standard**

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Prepared By:

Brooke-Hancock-Jefferson Metropolitan Planning Commission
The Metropolitan Planning Organization for
Steubenville, Ohio-Weirton, WV Area
124 North Fourth Street, 2nd Floor
Steubenville, OH 43952

740/282-3685
304/797-9666
740/282-1821 FAX

Email: mikepap@bhjmpc.org **Website:** www.bhjmpc.org

BROOKE-HANCOCK-JEFFERSON TRANSPORTATION STUDY

Transportation Air Quality Conformity Analysis and Technical Documentation For the Steubenville-Weirton, OH-WV 2006 24-Hour PM_{2.5} National Ambient Air Quality Standard

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SELECTED ABBREVIATIONS & ACRONYMS

BHJ – Brooke-Hancock-Jefferson Metropolitan Planning Commission

CFR – Code of Federal Regulations

FHWA – Federal Highway Administration;

FTA – Federal Transit Administration;

LRTP – Long Range Transportation Plan

MOBILE6 – Mobile Source Emission Factor Model

MOU – Memorandum of Understanding

MPO – Metropolitan Planning Organization

MVEB – Motor Vehicle Emissions Budget

NAAQS – National Ambient Air Quality Standard

NO_x – Nitrogen Oxides

ODOT – Ohio Department of Transportation

OEPA – Ohio Environmental Protection Agency

PM – Particulate Matter

PM_{2.5} - Particulate Matter with an aerodynamic diameter less than 2.5 microns (often referred to as Fine Particulate Matter)

PM₁₀ – Particulate Matter with an aerodynamic diameter less than 10 microns

SIP – State Implementation Plan

STIP – Statewide Transportation Improvement Program

TAZs – Traffic Analysis Zones

TCM – Transportation Control Measure

TDM – Travel Demand Model

TIP – Transportation Improvement Program in a Metropolitan Planning Area

USEPA – United States Environmental Protection Agency

VMT – Vehicle Miles of Travel

VOC – Volatile Organic Compounds

WVDEP – West Virginia Department of Environmental Protection

WVDOT – West Virginia Department of Transportation

TRANSPORTATION CONFORMITY DOCUMENTATION

INTRODUCTION

The Code of Federal Regulations (CFR) Title 40 Part 51.390 establishes the requirements for implementation plan revisions for conformity to state or federal transportation plans, programs, and projects funded under Title U.S.C. or federal transit laws. The purpose of CFR Title 40 Part 93 (Updated March 2010) is to implement section 176(c) of the Clean Air Act and describe the requirements for conformity of transportation plans, programs, and projects developed, funded, and approved by Metropolitan Planning Organizations (MPO). These regulations ensure that the U.S. Department of Transportation, MPOs, and other recipients of federal funds approve transportation activities that are consistent with air quality goals. Transportation Conformity Regulation addresses air pollution from on-road mobile emissions created by cars, trucks, motorcycles, and transit vehicles. The regulation also applies to Volatile Organic Compounds (VOC), sometimes referred to as Hydrocarbons (HC), and Nitrogen Oxides (NO_x) emissions in non-attainment or maintenance (non-attainment areas re-designated as attainment) Ozone (O₃) areas. Conformity also applies to areas designated as non-attainment or maintenance for U.S. Environmental Protection Agency (US EPA) air quality standards set for Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Particulate Matter with an aerodynamic diameter less than 10 microns (PM₁₀), and Particulate Matter with an aerodynamic diameter less than 2.5 microns (PM_{2.5}).

Particulate matter is a mixture of microscopic solids and liquid droplets suspended in air. Particle pollution is comprised of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (including fragments of pollen or mold spores). Sources of fine particle matter (PM_{2.5}) can be direct emissions into or formed as secondary particles in the atmosphere. Power plants and industrial facilities, for example, emit sulfur dioxides that in turn produce sulfates, a secondary PM_{2.5} particle. Automobiles, power plants, and other combustible sources emit another precursor of PM_{2.5} called Nitrogen Oxides (NO_x), directly into the atmosphere.

APPLICABILITY & GEOGRAPHIC AREA - §93.105

A Federal Register Notice published November 13, 2009 page 58696 confirms that the USEPA has designated the Steubenville-Weirton, OH-WV as non-attainment for the 2006 24-Hour PM_{2.5} National Ambient Air Quality Standard (NAAQS). Figure 1 displays the geographic extent of the Steubenville-Weirton, OH-WV non-attainment area.

Transportation Conformity determinations are required for the adoption, acceptance, and approval of MPO Long Range Transportation Plans (LRTP) and Transportation Improvement Programs (TIP) in areas found to be in “non-attainment” or “maintenance” for applicable National Ambient Air Quality Standards (NAAQS). The determination must follow the actions set forth in the provisions of *Title 40: Protection of the Environment - CFR Part 93 - Determining Conformity of Federal Actions to State and Federal Implementation Plans* (Updated March 2010). This Technical Memorandum documents the Brooke-Hancock-Jefferson MPO conformity analysis for the 2006 24-Hour PM_{2.5} National Ambient Air Quality Standard: Final Rule (Federal Register / Vol. 74, No. 218 / Friday, November 13, 2009). The basis for a conformity determination must rely on the most recent emissions estimates as determined by the best available population, employment, travel, and congestion estimates as established by the metropolitan planning organization or other agency authorized to make such estimates. This report describes the criteria, procedures, and planning assumptions used to demonstrate that the Brooke-

Hancock-Jefferson Metropolitan Planning Organization (BHJ MPO) 2030 Transportation Plan (LRTP) and the FY 2008-2011 TIP for the Steubenville – Weirton, OH – WV Metropolitan Area conforms to the 2006 24-Hour PM_{2.5} Standard.

MOTOR VEHICLE EMISSIONS BUDGETS - §93.118

INTERIM EMISSIONS IN AREAS WITHOUT MOTOR VEHICLE BUDGETS - §93.119

The appropriate emissions analysis tests required by the Transportation Conformity Regulations depend on whether federal authorities have established a Motor Vehicle Emissions Budget (MVEB) in an approved State Implementation Plan (SIP) or declared the MVEB to be adequate in accordance with §93.118(e) of Title 40-Protection of the Environment, Transportation Conformity Regulations (as Updated March 2010). If they have, then the Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) must meet the budgets. If not, and there are no previously approved implementation plans or implementation plan submissions with adequate MVEB, then an interim test is required by §93.119 of the Transportation Conformity Regulations. In an interim test, the emissions predicted in an "Action" scenario must be less than emissions predicted in a "Baseline" scenario. The "Action" scenario is the transportation network that results from the implementation of a proposed action such as a LRTP, TIP, or regionally significant transportation projects in a designated nonattainment or maintenance area for transportation-related pollutants. In addition, the interim test must demonstrate that the predicted emissions in each of the "Analysis" years are also less than the emissions predicted in the "Baseline" scenario. "Analysis" years are no more than ten years apart with the first "Analysis" year no more than five years beyond the year in which the conformity determination is being made. This ensures that the implementation of transportation plans, strategies, and other regionally significant projects will not worsen air quality while each state (in this instance Ohio and West Virginia) is developing a SIP.

Neither Ohio nor West Virginia has finalized development of a 2006 24-Hour Fine Particle Standards (PM_{2.5}) implementation plan. However, in December 2009, the U.S. Environmental Protection Agency did issue an adequacy of MVEBs for the Steubenville, OH area (Jefferson County) that addresses the Ohio submittal of its attainment demonstration SIP submittal (on July 16, 2008) for the 1997 Standard for Annual Emissions of Fine Particulate Matter. The USEPA published the Adequacy Status of the Steubenville, OH submitted Annual PM_{2.5} Attainment for Transportation Conformity Purposes in the Federal Register / Vol. 75, No. 16 / Tuesday, January 26, 2010. As a result, BHJ MPO must use the MVEBs from this PM_{2.5} attainment SIP submittal in all future Transportation Conformity determinations for Jefferson County, OH. On the other hand, West Virginia concluded in its Weirton, WV area (Brooke-Hancock County) attainment demonstration SIP submittal for the 1997 Standard for Annual Emissions of Fine Particulate Matter (June 2009). As found on page 41, the Weirton, WV area SIP submittal states, *“Therefore, the DEP reiterates its conclusion that highway emissions of PM2.5, NOx, and SO2 are insignificant contributors to the nonattainment problem for the Weirton area and are therefore exempt from regional transportation conformity evaluation under 40CFR93.109 (k)”*. To date, this finding cannot be final until USEPA Region 3 concurs. The Region 3 office has delayed such action due to separate problems with the Clean Air Interstate Rule. In conclusion, BHJ MPO must use the interim emissions test to demonstrate Transportation Conformity for Brooke and Hancock counties, WV.

CONSULTATION - §93.105

To define the terms of the interagency process under §93.105, the BHJ MPO has entered into a Memorandum of Understanding (MOU) with the Ohio Department of Transportation (ODOT), and the OEPA, as well as the West Virginia Department of Transportation (WVDOT), and the WVDEP. Under the terms of the MOU, the BHJ MPO serves as the lead transportation-planning agency for the metropolitan area and is responsible for mobile source emission planning in the bi-state metropolitan area. The BHJ MPO activities include coordination of individual plan elements, provide opportunities for public involvement, integrate air quality planning into the transportation planning process, and prepare mobile source inventories and plan elements related to the control of air pollution emissions from mobile sources. Listed in Appendix A of this document is the Interagency Consultation Documentation for this conformity analysis.

ANALYSIS YEARS - §§93.109, 93.119(g)

Through the interagency consultation process, the BHJ MPO, FHWA, ODOT, OEPA, US EPA, WV DEP, and WVDOT have established the following conformity tests for Brooke and Hancock counties, WV and Jefferson County, OH:

Ohio/West Virginia 2006 PM_{2.5} Standard (24-Hour) Emissions Tests Brooke and Hancock counties, WV; Jefferson County, OH

- Analysis Year 2008 – Baseline PM_{2.5} Emissions for Brooke and Hancock counties, WV Interim Tests
- Analysis Year 2014 – 1st Analysis Year PM_{2.5} Emissions Budget Test for Jefferson County, OH and Interim Year PM_{2.5} Emissions ≤ 2008 Baseline Test for Brooke and Hancock counties, WV
- Analysis Year 2020 – 2nd Analysis Year PM_{2.5} Emissions Budget Test for Jefferson County, OH and Interim Year PM_{2.5} Emissions ≤ 2008 Baseline Test for Brooke and Hancock counties, WV
- Analysis Year 2030 – Plan Horizon Year PM_{2.5} Emissions Budget Test for Jefferson County, OH and PM_{2.5} Emissions ≤ 2008 Baseline Test for Brooke and Hancock counties, WV

BASELINE SCENARIO NETWORKS - §93.119(h)

ACTION SCENARIO NETWORKS - §93.119(i)

A Travel Demand Model (TDM) is the traditional forecasting tool used to examine potential changes in future travel patterns for a specific study area, in this case the Brooke-Hancock-Jefferson Metropolitan Area. The BHJ MPO, with the assistance of ODOT Modeling & Forecasting, maintains a validated region-wide TDM that employs a four-step modeling process consisting of trip generation, trip distribution, mode choice, and route assignment performed with the Cube Voyager software package. The model Outputs generated from the TDM are link-by-link directional 24-hour traffic volumes for simulating Base Year and Horizon Year travel patterns generated by the LRTP transportation network.

The current BHJ TDM Validation Year is 2000. The model uses comparable Average Daily Traffic count data, updated social-economic variables for each of the analysis years by either updating existing

or known land use commitment for 2008, 2009, and 2014, or projected 2014 and 2020 variables based on a straight-line extrapolation between 2009 set of variables and the Horizon Year 2030 variables.

The TDM baseline network for the 2006 24-Hour PM_{2.5} Standard is Analysis Year 2008 for the Brooke and Hancock counties, WV Transportation Conformity demonstration. Analysis Year TDM networks 2014 and 2020 represent the required interim years and 2030 the horizon year. These networks represent all planned federal-aid projects as well as any regionally significant projects found in the BHJ TIP and LRTP expected to be open for traffic by the end of each respective analysis year.

For the 2006 24-Hour PM_{2.5} Standard conformity demonstration, the BHJ MPO accomplished the following TDM network revisions. The BHJ MPO based these revisions on known or committed local, state, or federal projects or programs implemented since the adoption of the BHJ 2008-2011 TIP. As for the Analysis Year 2014, 2020 and 2030 networks, BHJ MPO incorporated all projects found in the adopted in the August 2008 update of the LRTP. The adopted LRTP has a Horizon Year of 2030. In addition, BHJ staff corrected some minor details found while developing the Year 2009-Starting Network.

Year 2009-Starting Network:

- Make updates/corrections to the to bring it to 2009 status
- Correct various links in the downtown Steubenville area (mostly turn lanes assignments)
- Correct Weirton network on Three Springs @ St. Thomas Drive & US 22 WB Ramps
- Correct lane widths and assignments at WV-2 and the Market St. Bridge
- Add in lane changes at Sunset Blvd & Johnson Rd intersection in Steubenville
- Add in road/bridge widening and turn lanes constructed at US 22 & Three Springs Interchange in Weirton

Analysis Year 2008 “Baseline” Scenario Network:

- Used Year 2009-Starting Network and added in the Fort Steuben Bridge

Analysis Year 2009 Updated Network:

- Used Year 2009-Starting Network and added the following projects:
 - Penco Rd Improvements (lane widths and use changes) in Weirton
 - Pennsylvania Ave Improvements from 23rd St to Cove Rd and Cove Rd to Colliers (Two Way Left Turn Lanes [TWLTL]) in Weirton
 - Fort Steuben Bridge closure

Analysis Year 2014 “Action” Scenario Network:

- Used Year 2009-Updated Network and added the following projects:
 - Steubenville CDB Signal Removals / lane changes
 - Three Springs & US 22 ramp improvements / signal installations in Weirton
 - Pennsylvania Ave Improvements – 13th St to Penco Rd (TWLTL) in Weirton
 - Pennsylvania Ave Improvements – Chestnut St to 23rd St (TWLTL) in Weirton
 - SR7 & University Blvd Bridge Access improvements in Steubenville

Analysis Year 2020 “Action” Scenario Network:

- Used Year 2014-Updated Network and added the following projects:

- New Ohio River Bridge –South of Wellsburg to Brilliant, Wells Twp (Southern Alternative-Third St Connection)

Analysis Year 2030 “Action” Scenario Network:

- Used Year 2020-Updated Network and added the following projects:
 - US 22 & Colliers Way Improvements in Weirton – Three-lane Bridge, two-lanes on ramps
 - Market Street Bridge Removal
 - SR 43 & Lovers Lane Improvements in Steubenville – Northbound three-lanes (2 LT, 1 TH/RT), Southbound three-lanes (1LT, 1 TH, 1 RT)
 - SR 2 Commerce St in Wellsburg – 10th St to 12th St Improvements, 2-lanes @ 18-ft width with median turn lane

LATEST PLANNING ASSUMPTIONS - §93.110

Identifying projected growth centers and understanding urban and rural population changes are essential to determine future transportation needs in a given study area. Critical elements include an understanding of the past and anticipated future shifts in the region’s economy, population, land use patterns, and other environmental factors over time. In turn, these factors are useful for predicting future transportation patterns and justify transportation improvements over the next twenty years.

Travel forecasting procedures require the user delineate the TDM study area into geographic areas called Traffic Analysis Zones (TAZs). Typically, TAZs are based on factors such as land use, area types (urban, suburban or rural), or political government units such as cities, villages, or townships. TAZs represent centers of travel generators or attractors based on a set of demographic variables. The BHJMPO collects and reviews the TDM independent variables that characterize current and future estimates of the metropolitan area’s social and economic activity that may influence land-use development patterns. In all, there are 376 TAZs in the BHJ model represented by 60 TAZs for Brooke County, 78 TAZs for Hancock County, and 237 TAZs for Jefferson County. Figure 2 displays the BHJ MPO geography covered by the Steubenville-Weirton Travel Demand Model (the entire three-county area) including the Traffic Analysis Zone structure. The computer-based TDM for the Steubenville-Weirton Metropolitan Area highway network employs the following land use variables:

- [AREA_TYPE] ≡ Area Type
- [AVG_PARK] ≡ Average parking cost
- [ENROLL] ≡ School enrollment classified by Private [ENROLL_PRIV], Public [ENROLL_PUB] and Post-secondary [ENROLL_UNIV] schools
- [HOTEL_RM] ≡ Hotel Rooms
- [MED_HHINC] ≡ Median household income
- [POP] ≡ Population
- [POP_18] ≡ Population 18 years or less
- [POP_GRP] ≡ Population residing in Group Quarters
- [TOTEMP] ≡ Total Employment grouped by the North American Industrial Classification System (NAICS)
- [TOT_HH] ≡ Occupied housing
- [TOT_VEH] ≡ Vehicles available per household
- [WORKERS] ≡ Workers per household

For the Transportation Conformity demonstration, BHJ MPO accomplished the following Travel Demand Model network revisions based on known or committed land-use changing projects implemented since the adoption of the 2008-2011 TIP and the 2030 LRTP. BHJ staff also corrected some minor detail errors uncovered while developing the starting networks.

Analysis Year 2008 “Baseline” Scenario Network Variables:

- TAZ 27 – Construction of the “Laurels”, a 100-bed skilled rehabilitation/nursing home facility in Steubenville, OH
 - Added [POP_GRP] \approx 100 persons
 - Added [NAICS_62] \approx 210 employees and increase [TOTEMP]
- TAZ 47 – Error found in [POP_GRP] \approx 110 persons
 - Moved [POP_GRP] \approx 110 to TAZ 228 and adjust [TOT_POP] in both TAZ
- TAZ 183, 184, 185, and 200 – Reduce [NAICS_33] and [TOTEMP] in each TAZ to account for reduced employment at Mittal Steel/Weirton
 - Reduced TAZ 184 and TAZ 200 [NAICS_33] \approx 0; a decrease from [NAICS_33] \approx 1,332 [NAICS_33] \approx 876 employees respectively
 - Reduced TAZ 185 [NAICS_33] \approx 249 employees to account for relocation of General Office; a reduction of 218 employees
 - Reduced TAZ 183 [NAICS_33] \approx 1000 employees to account for reduction of 484 employees
- TAZ 340 – Relocate Wal-Mart store from TAZ 172 in Weirton, WV
 - Reduced TAZ 172 [NAICS_45] \approx 0 and move [NAICS_45] \approx 217 to TAZ 340

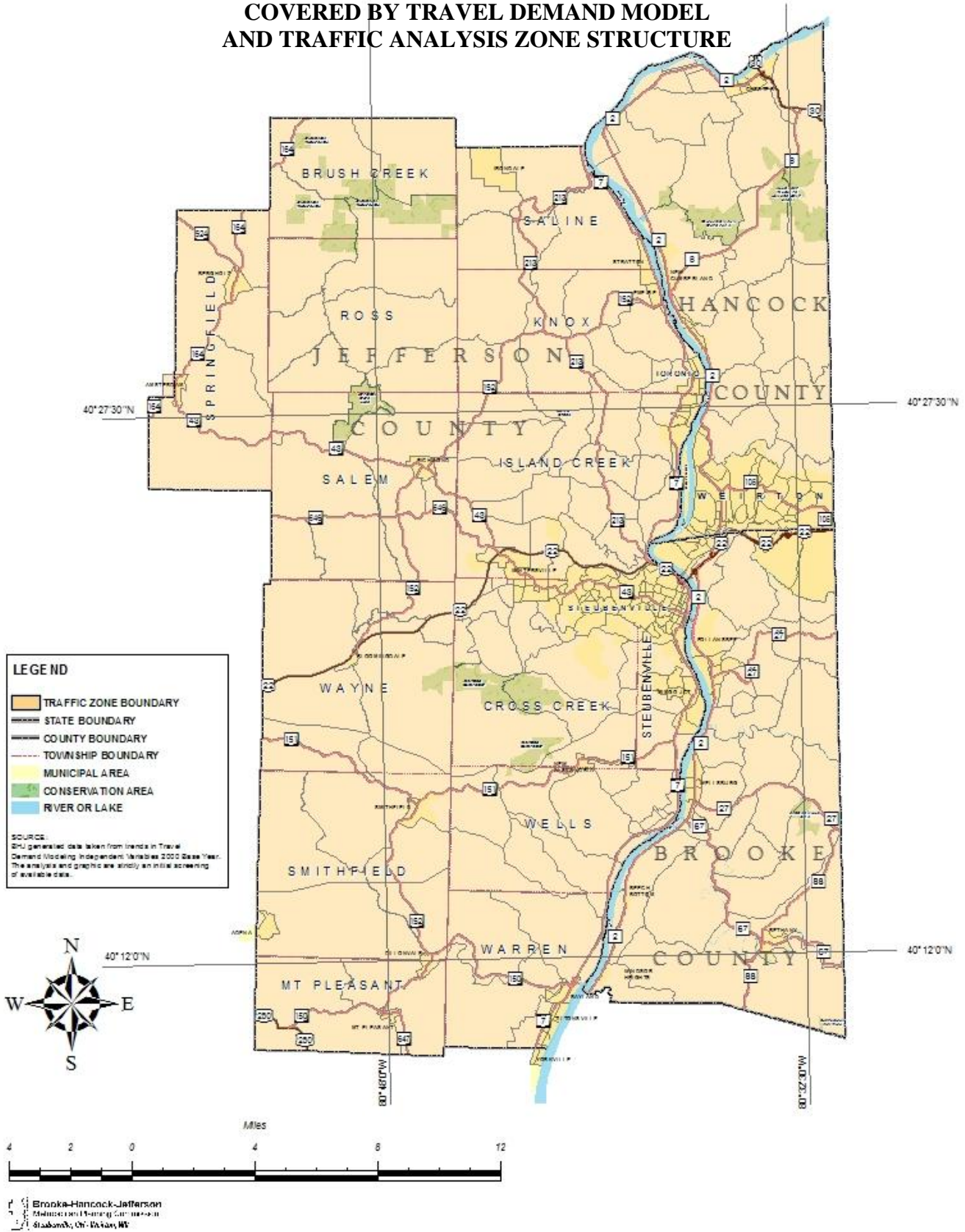
Analysis Year 2009 Updated Network Variables:

- TAZ 17 and 57 – Reduce [NAICS_33] and [TOTEMP] in each TAZ to account for reduced employment at Severstal Steel in Steubenville and Mingo Junction
 - Reduced TAZ 17 [NAICS_33] \approx 20 employees for a reduction of 252 employees
 - Reduced TAZ 57 [NAICS_33] \approx 50 employees for a reduction of 1,785 employees

Analysis Year 2014 “Action” Scenario Network Variables:

- TAZ 17 and 57 – Increase [NAICS_33] and [TOTEMP] in each TAZ to account for increased employment at Severstal Steel in Steubenville and Mingo Junction
 - Increased TAZ 17 [NAICS_33] \approx 50 employees; an increase of 30 employees from Analysis Year 2009 Network
 - Increased TAZ 57 [NAICS_33] \approx 50 employees; an increase of 600 employees from Analysis Year 2009 Network
 - Recalculated [NAICS_33] and [TOTEMP] in TAZ 17 and 57 for Analysis Year 2020 Network and Analysis Year 2030 Network
- TAZ 55 – Relocate Indian Creek Middle School and TAZ 53 in Mingo Junction
 - Reduced TAZ 55 [NAICS_61] \approx 0 and move to TAZ 53
 - Reduced TAZ 55 [ENROLL_PUB] \approx 0 and move to TAZ 53
 - Recalculated [ENROLL_PUB] and [TOTEMP] in TAZ 53 and 55 for Analysis Year 2020 “Action” Scenario Network and Analysis Year 2030 “Action” Scenario Network

**Figure 2
 BHJ GEOGRAPHIC AREA
 COVERED BY TRAVEL DEMAND MODEL
 AND TRAFFIC ANALYSIS ZONE STRUCTURE**



PROCEDURES FOR DETERMINING REGIONAL TRANSPORTATION-RELATED EMISSIONS - §93.122

MOBILE6 software generates emission factors by facility type (freeway, surface arterial), every hour of the day (0-23). For freeways, the speed ranges from 5 to 65 mph in 1 mph increments. For surface arterial, the speeds range from 5 to 55 mph in 1 mph increments. Each scenario record combines the appropriate hourly temperature and VMT vehicle mix estimated by hour of day. The VMT vehicle mix follows MOBILE6 Users guide procedures using 16 combined gasoline and diesel-fuel categories.

The first emission factors file used to establish the conformity analysis consists of hourly non-evaporative emission factors (HC and NO_x) for freeway and arterial, exhaust CO for freeway and arterial, 24 hour evaporative, and intra zonal HC, NO_x, and CO. This process generates a separate set of emission factors for intrazonal trips. A second emissions factor file establishes emissions for direct particulate matter (PM_{2.5}) and the pre-cursor NO_x. There is also a separate set of emission factors for intrazonal trips.

For freeways and arterials, ODOT wrote four (4) small routines to reformat MOBILE6 descriptive output to the format needed M6FOR8A, M6FOR8B, M6FOR8C, and M6FOR8D. Three (3) other written routines convert the 24-hour evaporative emissions, M6EF24A, M6EF24B, and M6EF24C.

MOBILE6 is run six (6) times, twice for freeways, twice for arterials, and twice for evaporative emissions. A batch file reformats the programs, which combine the results of the three MOBILE6 runs, computes composite emission factors, and creates a single emission factor file. M6FOR8A extracts PM_{2.5}, VOC, CO, NO_x, resting, and running loss factors from MOBILE6 output. M6FOR8B appends a speed index to output of M6FOR8A. M6FOR8C computes composite emission factors from the output of M6FOR8A. The source codes and process details documented in the ODOT Modeling & Forecasting Section files are available upon request.

The next phase in the process consisted of using the USEPA MOBILE6.2 program to generate 16,136 emission factors based on input from the conversion ODOT has developed several DOS batch post-processing routines to write MOBILE6.2 output in the array or control parameter format. This format is required for use in ODOT's CUBE application CMAQ.s to calculate Congestion Management statistics and Air Quality emission burdens.

In the third phase, ODOT used the CUBE application to relate the MOBILE6.2 emission factors with the Travel Demand Model 24-hour link data files to generate hourly pollutant burdens for hydrocarbons (HC), oxides of nitrogen (NO_x), direct particulate matter (PM_{2.5}), and carbon monoxide (CO). This process does not use the CO estimates in the analysis because the region CO attainment designation.

The CUBE application reads the transportation links containing the weighted 24 hour volumes, the node grid coordinates, and the emission factors generated by the MOBILE6.2 program, and then lists the number of centroids, the program control records, the table summaries used by the program, the option values used, the hours requested, and the seasonal factors for both HC and CO. The program multiplies hourly volumes by the corresponding seasonal factor (1.08 for HC and 1.0 for CO).

The application lists intrazonal Vehicle Miles of Travel (VMT) after the seasonal factors. The intrazonal VMT calculation assumes that the zonal area in square miles represents a circle. After calculating the radius, the algorithm multiplies the intrazonal trips by the radius to compute the

intrazonal VMT. Additional calculations then estimate the directional hourly speeds by applying the percent Average Daily Traffic (ADT), percent direction, and percent heavy-duty trucks (adjusted by 1.7 to represent auto equivalents). Further, by dividing the auto equivalent by the directional capacity, the program uses the resulting volume to capacity ratio (V/C) in a lookup table to determine the directional speed. Then, using the hour, functional classification, and directional speed to derive the directional emission factor found in the MOBILE6.2 array file. If required, this process may interpolate the emission factors. The software calculation explained in the process above hourly on each link in the network. After processing all hours, the CUBE application lists the hourly vehicle miles of travel and pollutant burdens for freeways and surface arterials, the total vehicle miles and pollutant burden for NO_x, PM_{2.5}, evaporative and refueling HC, and the total HC pollutant burden.

TIMELY IMPLEMENTATION OF TCMS - § 93.113

Conformity regulations also require provisions for timely implementation of Transportation Control Measures (TCMs) in the SIP. The Ohio and West Virginia state maintenance plans do not include any transportation control measures for 2006 24-Hour PM_{2.5} Steubenville, OH or Weirton, WV non-attainment area.

PUBLIC INVOLVEMENT - § 93.105(e)

The BHI MPO advertised the availability of this document in accordance with the procedures set forth in the Public Participation Plan. The BHI MPO has made the Public Participation Plan available at <http://www.bhjmpc.org/Newsite2/Planning/index.html>. Appendix B is a summation of the Public Involvement documentation.

CONFORMITY DETERMINATION

This section demonstrates that applicable transportation projects and programs found in the BHI MPO TIP and LRTP conform to the provisions of CFR Title 40 Part 51.390 as well as CFR Title 40 Part 93 (Updated March 2010) and section 176(c) of the Clean Air Act for the 2006 24-Hour PM_{2.5} National Ambient Air Quality Standard (NAAQS).

The conformity analysis demonstrates that the BHI MPO TIP and LRTP conform to the transportation conformity rule because all non-exempt projects and programs projects listed meet the applicable conformity tests and will not:

- Cause or contribute to any new violation of the 2006 24-Hour PM_{2.5} NAAQS;
- Increase the frequency or severity of any existing violations of 2006 24-Hour PM_{2.5} NAAQS;
- Delay the timely attainment of the 2006 24-Hour PM_{2.5} NAAQS.

As exhibited in Table 1, based upon Travel Demand Model output, the emissions generated by projects found in this LRTP are below the applicable PM_{2.5} MVEBs Jefferson County, Ohio and below the interim test for Brooke and Hancock counties, WV. The test results conclude that the projects listed in this TIP and LRTP do not cause or contribute to any new violation of the 2006 24-Hour PM_{2.5} NAAQS.

Table 1
Steubenville-Weirton, OH-WV
2006 24-Hour PM_{2.5} National Ambient Air Quality Standard
Transportation Conformity Analysis Summary

OHIO		Jefferson County		
		Direct PM	Model	TOTAL
		Year	PM _{2.5}	PM _{2.5}
		# Days		(tons/yr)
Budget	2009			19.80
	2014	365	0.0328	11.97
	2020	365	0.0244	8.92
	2030	365	0.0225	8.20

		NO _x	Model	TOTAL
		Year	NO _x	NO _x
		# Days		(tons/yr)
Budget	2009			1208.81
	2014	365	1.7069	623.01
	2020	365	0.9910	361.73
	2030	365	0.6420	234.32

WV		Brooke and Hancock Counties	
		Direct PM	Total Model
		Year	PM _{2.5}
			(tons/day) *
Baseline	2008		0.0370
	2014		0.0225
	2020		0.0173
	2030		0.0161

		NO _x	Total Model
		Year	NO _x
			(tons/day) *
Baseline	2008		2.1088
	2014		1.1342
	2020		0.6720
	2030		0.4759

* 24-Hour Analysis Based on Summer Day Emissions

Attainment status: 2006 24-Hour PM_{2.5} OH/WV Nonattainment Area
 Geography: Jefferson Co., OH & Brooke and Hancock Cos., WV
 Conformity Tests: 2008 Baseline Interim Test for Brooke-Hancock Cos., WV
 Analysis Years: 2014 1st Analysis Year Emission Budget Test for Jefferson Co., OH
 2014 Interim Year ≤ 2008 Baseline Test for Brooke-Hancock Cos., WV
 2020 2nd Analysis Year Emission Budget Test for Jefferson Co., OH
 2020 Interim Year ≤ 2008 Baseline Test for Brooke-Hancock Cos., WV
 2030 Plan Horizon Year Emission Budget Test for Jefferson Co., OH
 2030 Interim Year ≤ 2008 Baseline Test for Brooke-Hancock Cos., WV