

# Meeting with the Triad Area MPO's to discuss MTP Update/Transportation Conformity

9/12/14

## Meeting Attendee's

- Lydia McIntyre (Greensboro MPO)
- Greg Venable (High Point MPO)
- Wendy Miller/Fred Haith (Winston Salem MPO)
- Mike Nunn (Burlington Graham MPO)
- Scott Rhine/Mark Kristner/John Kim/Kyle Laird (PART)
- Eddie Dancausse (FHWA)

## Items Discussed

- FHWA (Dancausse) discussed the possibility of the Triad Area MPO's (TA MPO's) accelerating their MTP update/conformity process to line up with the 16-22 TIP/conformity work. The High Point MPO (Venable), Winston Salem MPO (Miller), Burlington Graham MPO (Nunn) agreed to accelerate their MTP update process. Greensboro MPO (McIntyre) agreed with the concept but was going to check with Tyler.
- The Piedmont Triad Regional Model (PTRM) will now cover the entire maintenance area so there will not be a need for doing rural spreadsheet to determine speeds and VMT for the non-modeled area
- There was a discussion related to timing of when to adopt the SE data and the new version of the PTRM. FHWA (Dancausse) recommended that those items be officially adopted by the MPO's when the USDOT conformity determination is made.
- The TA MPOs will work together and will develop some common chapters for their 2040 MTP update. Common chapters for the last MTP update was Freight/Environmental/Regional Transit

## Action Items

- PART (**Rhine**) will set up a conference call with NCDOT TPB (E. Thomas) to discuss the status of updated function classifications for the Triad MPO projects. This information is needed for the MTP update/conformity work. **This meeting was scheduled and held on 9/20/14-COMplete**
- PART (**Rhine**) will need to set up a pre-interagency consultation (IC) meeting for the Triad 2040 MTP update conformity process around November 2014
- FHWA (**Dancausse**) will verify the PTRM modeled years (2013, 2021, 2030 & 2040) for this MTP update/conformity determination. **The years were verified and are correct-COMplete**
- FHWA (**Dancausse**) will update the conformity process schedule (CPS) and the transportation conformity pre-analysis consensus plan (as much as possible) in preparation for the IC meeting. **The CPS was updated**

- Greensboro MPO (McIntyre) will check with her management (Myer) and discuss accelerating their MTP/conformity process to line up with the 16-22 TIP process and will let the group know. It was verified that the Greensboro MPO is ok with accelerating their MTP update-COMplete
- The TA MPO's (Miller, Nunn, McIntyre, Venable) are going to meet to compose a list of questions for FHWA (Marley, Hoops, Barren, Dancausse) related to their MTP update and MAP-21 planning requirements. This will be provided during the week of 9/22. A planning meeting will be held on 9/26 at 9:30am to discuss MAP-21 questions and answers with FHWA (Marley, et. al)
- The TA MPO's (Miller, Nunn, McIntyre, Venable) will review the recommendations and corrective actions from the last certification review and will work on addressing those items in the updated 2040 MTP's.

**Triad Area Draft CPS - 9.17.14**  
**MTP Update Transportation Conformity Process**

Discussion Draft -- 9/19/2014

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in <b>bold</b> )
		Start Date	End Date	Length (Days)		
1	<b>Project start --</b>			NA	1	
2	<b>Interagency consultation (IC)</b>	12/01/14	12/12/14	12	2	
3	IA planning session #1			#VALUE!	3	
4	Set IA meeting date (location, etc.)				4	
5	Develop participant list				5	
6	Discuss draft agenda				6	
7	Discuss TCPCP				7	
8	Discuss CPS				8	
9	IC planning session #2 <b>TBD</b>			#VALUE!	9	
10	Review draft agenda				10	
11	Review TCPCP				11	
12	Review CPS				12	
13	Prepare presentations				13	
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	
15	IC Meeting	12/01/14	12/12/14	12	15	<b>Dancausse, Rhine</b>
16	Meeting Minutes			1	16	<b>MPOs: Nunn, McIntyre, Greg, Miller</b>
17	Circulate and Review meeting minutes			1	17	<b>Dancausse</b>
18	Follow up to address comments			1	18	<b>Dancausse</b>
19	<b>Transportation Planning</b>	02/02/15	03/24/15	51	19	<b>MPOs, RPOs, NCDOT</b>
20	<i>Transportation Projects, Timelines, Fiscal Constraint</i>				20	
21	MPO TCCs develop and refine draft LRTP project list				21	
22	MPO TACs receive & review the draft project list LRTP-for-comment				22	
23	MPO TACs (or TCCs) approve MTP project list: BG MPO: 3/17/15, Greensboro: 3/18/15, High Point: 3/24/15, Winston Salem: 3/19/15	03/17/15	03/24/15	8	23	
24	Agency review of MPO project list to determine exempt and regionally significant projects. Generate listing of CMAQ projects for	02/23/15	03/10/15	16	24	
25	Compare 12-18 TIPs with 2040 MTPs for Direct Subset	02/23/15	03/10/15	16	24	<b>NCDOT, FHWA, NCDQA, EPA &amp; FTA</b>
26	<i>Transportation Modeling (50 days): Includes PTRM and NMAA</i>	03/25/15	05/22/15	59	25	<b>PART, NCDOT</b>
27	Base year network and land use (20xx)				26	
28	Horizon year 1 network and land use				27	
29	Horizon year 2 network and land use				28	
30	Design Year network and land use -- 2040				29	
31	Develop plan version for initial air quality analysis				30	
32	Extract draft plan VMT and speeds				31	
33	Evaluate draft plan speeds and VMT				32	
34	Preliminary Regional Emissions Analysis				33	
35	Emission Factors Review (additional iterations, if needed)				34	
36	Extract Final VMT and speeds				35	
37	Evaluate final speeds and VMT				36	<b>MPOs, RPOs, NCDOT</b>
38	Modeling Complete (Includes Emission Factor & REA)		05/22/15		37	
39	<b>Emission Analysis</b>	05/26/15	06/15/15	21	38	<b>NCDOT</b>
40	NCDQA Emissions Model Work	05/26/15	06/15/15	21	39	<b>NCDQA Pasley</b>
41	Off model analysis, including off-model TDM-not applicable	05/26/15	06/15/15	21	40	
42	Regional Emissions Analysis (REA) & Review	06/15/15	06/19/15	5	41	<b>NCDOT</b>
43	<b>Conformity Report Preparation</b>	03/25/15	06/19/15	87	42	<b>Rhine</b>
44	<b>Interagency review</b>	06/23/15	07/22/15	30	43	<b>Rhine</b>
45	DENR Review	06/23/15	07/14/15	22	44	<b>NCDQA-Galamb</b>
46	FHWA Initial Review	06/23/15	07/14/15	22	45	<b>Dancausse</b>
47	FTA Initial Review	06/23/15	07/14/15	22	46	<b>Tajsha</b>
48	EPA Initial Review	06/23/15	07/14/15	22	47	<b>Sheckler</b>
49	Respond to Agency Comments	07/15/15	07/21/15	7	48	<b>Rhine, MPOs/RPOs/NCDOT</b>
50	Place conformity report on website	07/22/15	07/22/15	1	49	<b>Rhine</b>
51	TACs release conformity draft and LRTP update for public comment: BG MPO: 7/21/15, Greensboro: 7/15/15, High Point: 7/28/15, Winston Salem: 7/16/15	07/15/15	07/28/15	14	50	<b>MPOs, RPOs</b>
52	<b>Public review</b>	07/29/15	09/01/15	35	51	<b>MPOs, RPOs</b>
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55	<b>MPO &amp; Rural Conformity Determination</b>	09/15/15	09/22/15	8	54	<b>NCDOT</b>
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57	NCDOT Secretary issues conformity letter for rural area	NA	NA	#VALUE!	56	<b>NCDOT, RPOs</b>
58	Conformity analysis, report and review complete	09/03/15	09/22/15	20	57	
59	Place conformity report on website	09/03/15	09/03/15	1	58	<b>Rhine</b>
60	<b>Federal Action</b>	09/03/15	10/01/15	29	59	<b>Dancausse</b>
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63	USDOT Determination	10/01/15	10/01/15	1	62	<b>Dancausse</b>
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66	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	

**Triad Area Draft CPS - 12.1.14  
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66	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	

Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan (CO & PM2.5)

December 3, 2014

**Prepared Cooperatively Between the  
Burlington-Graham Urbanized Area MPO  
Greensboro Urbanized Area MPO  
High Point Urbanized Area MPO  
Winston-Salem Urbanized Area MPO  
Piedmont Authority for Regional Transportation  
North Carolina Department of Transportation  
Piedmont Triad Rural Planning Organization  
and the  
Federal Highway Administration**

**Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan  
December 3, 2014**

The Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO), Greensboro Urbanized Area MPO (GUAMPO), High Point Urbanized Area MPO (HPMPO), Winston-Salem Urbanized Area MPO (WSMPO), The Piedmont Authority for Regional Transportation (PART), and the North Carolina Department of Transportation (NCDOT-representing donut portions of the Triad non-attainment area) are proposing the following plan and procedures to conduct a transportation conformity analysis. This plan is being submitted to the interagency consultation partners for soliciting consensus before commencement of a full-scale transportation conformity analysis. The plans and procedures may be revised as the MPO's and NCDOT proceed with the analysis. After consensus is reached; notification of changes will be made to the interagency consultation partners.

**Triad Area MPOs:**

- Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO)
- Greensboro Urbanized Area MPO (GUAMPO)
- High Point Urbanized Area MPO (HPMPO)
- Winston-Salem Urbanized Area MPO (WSMPO)

**Donut Areas:**

- No donut portion for this conformity process

**The following pollutants will be included in this conformity determination:**

- Carbon Monoxide (CO)
- Particulate Matter 2.5 (direct PM 2.5, NOx)

**Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Program (MTIP)**

**1. Existing Land Use and Demographics: For GUAMPO, HPMPO, WSMPO and BGMPO**

The existing Piedmont Triad Regional Model (PTRM) had an enhancement of end user functioning that included an expansion of the modeled area in the southern portion of the High Point MPO, an update to the base year that incorporated input for the affected MPO's, updates to input data, networks, calibration and validation. The project used a base year of 2013, and a horizon year of 2040. The three-step demographic forecasting approach took into account municipal long range land use and transportation plans in conjunction with external data resources to develop a consensus of growth for the four MPO's.

The updated model has a horizon year of 2040 with two interim years of 2021 and 2030.

**2. LRTP Model Validation (Base) Year:**

TDM base year: 2013

**3. MTIP Years:** 2016 – 2022

**4. LRTP Horizon Year:** 2040

**5. Travel Demand Run Years:** 2021, 2030 & 2040

For this conformity process the actual PTRM runs will be 2021, 2030 and 2040.

**6. Transportation Conformity Analysis Years (PM 2.5)**

The Table below summarizes transportation conformity analysis methods and years for the different parts of the Triad non-attainment/maintenance areas. Specific conformity year information is listed in the following table:

County	Area model status	Area emissions budget status	Emissions analysis source				2021 (modeled)	2030 (modeled)	2040 Horizon (modeled)
Guilford	modeled all	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5
Davidson	modeled area	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5
	Modeled area (donut area? Does it exist? Did census eliminate?)	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5

**Footnotes for table:**

<sup>1</sup> The Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston –Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment will be referred to in this document as the PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11.

**Additional table notes and explanations:**

**County:**

- CO: The Triad CO maintenance area consists of one whole county (Forsyth)
- PM 2.5: The Triad PM 2.5 maintenance area consists of 2 counties (Guilford and Davidson)

**Model Status:** Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**Emissions analysis source:** Vehicle Miles Traveled (VMT) and speeds for the regional emissions analysis (REA) will be derived from the PTRM.

**Emissions analysis years:** The Triad area has State Implementation Plans (SIPs) for the CO standard and the PM 2.5 standard.

**Emission Comparison Years:**

- PM2.5: 2021 (compare to 2021 MVEB), 2030 (modeled- compare to 2021 MVEB) and 2040 (modeled- compare to 2021 MVEB)

**List of Specific Conformity Years (PM2.5 SIP)**

- a. Baseline 2013 (LRTP and conformity)
- b. Horizon: 2040
- c. SIP Budget Years: 2011 & 2021
- d. Emission comparison years: 2021, 2030 & 2040

**7. Non-attainment / Maintenance Counties:**

CO Limited Maintenance Plan: Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

PM 2.5 Maintenance Counties: Guilford and Davidson

**8. Travel Demand Model:** Piedmont Triad Regional Model (PTRM)

The PTRM is housed at PART. The PTRM completely covers the Metropolitan Area Boundaries (MABs) for the WSMPO (Forsyth, Davidson), the HPMPO (Davidson, Guilford and Forsyth), the GUAMPO (Guilford) and the BGMPO (Alamance, Guilford and Orange). Alamance, Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**9. Mode Split / Mode Choice:** Piedmont Triad Regional Model (PTRM)

The PTRM estimates the probability of selecting the entire range of travel modes (excluding freight) for each potential origin and destination in the region, as defined by the regional network and zone system. The mode split model uses a logit formulation to estimate the probability of choosing a particular mode. For the PTRM a total of 23 model alternatives (travel modes) are considered. While not all of these modes are allowed for each purpose, and some await data for calibration, the model structure is designed to accommodate a full range of potential alternatives. The primary or top level alternatives are auto, non-motorized, transit and school bus. Within each of the primary alternatives considered there are separate nest created for alternative travel patterns; thus creating a total of 23 alternatives.

The PTRM includes the following trip purposes: home-based work, home-based school, home-based shopping, home-based other, Non-home-based work, non-home-based other, home-based college/university, and airport traveler trips.

**10. VMT Adjustments:** There will be no VMT adjustments for PM2.5 and/or CO.



**11. Motor Vehicle Emissions Budgets**

Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

The Triad area is maintenance for the PM 2.5 standard (Guilford and Davidson)

PM2.5 (NOx and Direct PM2.5) MVEBs are provided below:

<b>PM 2.5 (NOx): The PM2.5 Redesignation Effective 12/9/11 (kg/year)</b>			
<b>Area</b>	<b>Comparison Year</b>		
	<b>2021*</b>	<b>2030*</b>	<b>2040*</b>
<b>Guilford</b>	6,309,650	6,309,650	6,309,650
<b>Davidson</b>	2,148,938	2,148,938	2,148,938

<b>PM 2.5 (PM 2.5): The PM2.5 Redesignation Effective 12/9/11 (kg/year)</b>			
<b>Area</b>	<b>Comparison Year</b>		
	<b>2021*</b>	<b>2030*</b>	<b>2040*</b>
<b>Guilford</b>	421,841	421,841	421,841
<b>Davidson</b>	153,313	153,313	153,313

*\*The MVEB for 2021 will be used for the 2021, 2025 and 2035 comparison for direct PM2.5 and NOx. The PM2.5 Redesignation Nonattainment to Attainment was effective on 12/19/11*

**12. Control Strategies:** Emission reduction credits will be taken for the following on-road mobile SIP commitments or Federal programs. Currently there are no TCMs in the Triad Area SIPs.

**Strategy**

- I/M Program*
- Tier 2 vehicle's Emission Standards*
- Low Sulfur Gasoline and Diesel fuels*
- Heavy Duty Vehicle Rules 2004 and 2007*
- Low RVP Gasoline*
- On board vapor recovery*
- Tier 3 Vehicle and Emission Standards*
- Tier 3 Gasoline Sulfur Standard*

**Methodology/Approach**

- Accounted for in MOVES model*
- Accounted for in MOVES model*
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**13. Mobile Source Emission Reduction Strategies:** The MPO's will take emission credits for the following Mobile Source Emission Reduction Strategies.

Strategy	Approach	Year(s) Credited
<i>Park-n-Ride Lots:</i>	<i>Off model</i>	2021, 2030, 2040
<i>Vanpools:</i>	<i>Off Model</i>	2021, 2030, 2040
<i>ITS</i>	<i>Off Model</i>	2021, 2030, 2040

**14. MOVES Model Settings:** The following MOVES model-input parameters will be used in the conformity analysis.

**CO Maintenance Area: Forsyth County**  
**PM<sub>2.5</sub> Maintenance Area: Davidson and Guilford Counties**

Parameter	Details	Data Source
a. <i>Emissions Model Version(s):</i>	MOVES2014	
b. <i>Emission Model Runs:</i>	Annual (NOx and Direct PM <sub>2.5</sub> ) kilogram/yr	
c. <i>Time Periods:</i>	Annually for NOx and Direct PM <sub>2.5</sub>	
d. <i>Pollutants Reported:</i>	NOx (for PM <sub>2.5</sub> ) and Direct PM <sub>2.5</sub>	
e. <i>Emissions Budget Years:</i>	CO: not applicable CO limited maintenance Plan-regional emissions analysis not required PM 2.5: 2011 & 2021	
f. <i>Emissions Analysis Years:</i>	2021, 2030, 2040	
g. <i>Vehicle Classes:</i>	13	
h. <i>Temperature and Relative Humidity:</i>	Hourly average temperature and relative humidity calculated for each month. Meteorological data is from the GSO Triad Regional Airport.	
i. <i>VMT Mix:</i>	Statewide mix based on 2013 data using the method in the August 2004 USEPA Guidance.	
j. <i>Speeds:</i>	From PTRM and Non-Modeled Area Analysis Spreadsheet	
k. <i>Vehicle Age Distribution:</i>	Based on 2013 or latest available vehicle registration data provided by NCDOT.	
l. <i>I/M Program:</i>	2021, 2030, 2040: OBD-II for Davidson and Guilford Counties.	
m. <i>Anti-tampering Applicability:</i>	Not included in MOVES	
n. <i>RVP:</i>	Calendar Monthly	

	RVP
<b>Jan, Dec</b>	15
<b>Feb, March, April, Oct, Nov</b>	13.5
<b>May, June, July, Aug, Sept</b>	9.0

- o. *Strategies:* See item #12 above
- p. *I/M Compliance Factor Coverage (CFC):* This input to MOVES accounts for the I/M compliance rate, waiver rate, and regulatory coverage adjustment for applicable vehicles. When calculated by

*MOVES guidance methods this value is 91.2% for passenger cars, 85.73% for passenger trucks, and 85.26% for light commercial trucks for all 3 counties.*

- q. **Evaluation Month:** 12 month annual emissions or any part thereof (output can be disaggregated at the user's discretion)
- r. **VMT:** PTRM
- s. **Fuel Sulfur Content:** MOVES considers all recent rulemakings (Tier 2, ultra low sulfur diesel, Tier 3 low sulfur gasoline, etc). The default data in MOVES can be relied on here. Default database values are by month and fuel region and can be requested by the MPO.
- t. **Source type (vehicle type) population:** For each county, vehicle population estimates will be developed for each future modeling year based on the latest available (2013 or later) vehicle registration data provided by NCDOT. This data includes the total number of registered vehicles in each county, divided into nine source type categories. The data will first be reorganized into thirteen source type categories (i.e. passenger cars, light commercial trucks, combination long-haul trucks, etc.) as required for MOVES2014. These source type population estimates will then be projected for the required modeling year using certified base and future year county-level human population data, obtained from the NC Office of State Budget and Management (OSBM) using the following formula:

$$\text{Future year total vehicle population} = \text{Base year total vehicle population} * \frac{\text{Future year human population}}{\text{Base year human population}}$$

- u. **Source type (vehicle type) age distribution:** The latest available (2013 or later) vehicle registration data provided by NCDOT, which also includes a breakdown of the number of vehicles by model year, will be used to create the required source type age distribution input file for each county. As per EPA guidance, the source type age distribution will not be projected for future years.

**15. Emissions analysis units, conversion factors, significant figures, rounding and truncating conventions:**

- PM2.5 and NOx budgets are in kg/year and rounded to whole numbers

**16. CMAQ Projects:** PART and the MPO's/RPOs will include a spreadsheet in the conformity documentation showing funded CMAQ projects, project cost/funding, emission reductions, and implementation dates. (NCDOT-TPB Schmidt will work with MPO's and RPO's to generate a list of CMAQ projects to include as an appendix in the CDR)

**17. Regionally Significant Projects (Federal and Non Federal):** PART, the MPO's and the NCDOT/RPOs will identify regionally significant projects in their project lists and will provide them to the agency partners for review, comment and ultimately concurrence. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15

- 18. List of Exempt Projects:** PART, the MPO's and NCDOT/RPOs will identify exempt projects according to the Conformity Regulation (40 CFR 93.126, 127 and 128). The exempt project lists for each MPO will serve as the long range transportation plan in the event of a conformity lapse. This will be discussed further in the conformity determination report (CDR) and the list of projects will be added as an appendix in the CDR. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15
- 19. Conformity Process Schedule:** *(A draft process conformity schedule has been developed and is provided as an attachment to this document)*
- 20. Conformity Determinations:** Five organizations will be responsible for making conformity determinations in five distinctive parts of the Triad non-attainment/maintenance areas:
- i. The BGMPO within its metropolitan area boundary-a small part of Guilford County
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Each of these responsible organizations must make a conformity determination for its respective area in order for all of the areas to be designated in conformity.

## Triad Region Transportation Conformity

### Burlington Graham Metropolitan Planning Organization (MPO) Greensboro MPO High Point MPO Winston Salem MPO

#### 2040 MTPs

#### Interagency Consultation (IC) Status Meeting

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### ACTION & FOLLOW-UP ITEMS/NOTES

December 8, 2014

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Lydia McIntyre

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith

**FHWA:** Eddie Dancausse, Bill Marley

**FTA:** Tajsha LaShore

**NCDAQ:** Soon Chung, Tae-Gyu Kim

**EPA:** Dianna Myers, Amanetta Somerville

**NC DOT:** Hemang Surti, Hemal Shah, Terry Arellano, Heather Hildebrandt, Andy Bailey

**NCDAQ:** Vicki Chandler, Todd Pasley, Randy Strait, Phyllis Jones

**PART:** Scott Rhine, Mark Kirstner, John Kim

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - There will not be a lot of changes with the road network.
  - MTP Update/conformity schedule is ok with TCC
- GMPO (McIntyre)
  - Working on the Congestion Management Plan (CMP)
  - Public review for network list is scheduled for 2/2015 and 8/2015
  - Because of the release of the 16-22 STIP there will be some network project changes
- HPMPO (Venable)
  - The draft 16-22 STIP is out and it will impact MTP projects and project timeframes
- WSMPO (Haith/Miller)
  - On 12/11/14 (1-3pm) the EJ section of the 2040 MTP will be discussed

#### Triad Regional Model (TRM) Status

- Model calibration and the socioeconomic update is underway and is on schedule
- The final TRM version and the updated socioeconomic data will be officially adopted in 9/2015 when the MPO's will make a conformity determination and adopt the 2040 MTP/16-22 TIP. The official date of the new TRM/socioeconomic data will be effective when the

USDOT conformity determination is completed. FHWA (Dancausse) can assist the MPO's with the proper resolution language

### **Consensus Plan (CP):**

- NCDQAQ (Pasley) reviewed sections 12 thru 15 of the consensus plan
- Based on the discussion related to the CP the following revisions will be made:
  - Page 2-revise donut area to say there is no longer a donut area associated with the Triad Region
  - Page 3, items 2 and 4: replace LRTP with MTP
  - Page 3, item 6: remove last row in chart highlighted in yellow
  - Page 4, item 9: Mode Split/Mode Choice - PART (Kim) will provide revised text
  - Page 4, item 10: Eliminate this item
  - Page 5, item 11: Correct asterisk footnote
  - Page 6, item 14b, 14p and 14t: NCDQAQ (Pasley) will revise this item based on comments from EPA
  - Page 7, item 14t: NCDQAQ (Pasley) will revise this item based on comments from EPA
  - Page 6, item 14j: Remove Non-Modeled Area Analysis Spreadsheet
- NCDOT (Schmidt) will provide the MPO's a listing of all CMAQ project for their areas no later than 2/13/15

### **Conformity Process Schedule (CPS)**

- FHWA (Dancausse) went over the CPS and all the timeframes discussed were ok with all the IC partners.
- EPA (Somerville) requested that NCDQAQ (Pasley) provide the MOVES 2014 files prior to the agency review of the draft conformity determination report (CDR)

### **Other**

- The following MPO TAC actions will be needed for this conformity process:
  - 2040 MTP Conformity Determination
  - 16-22 TIP Conformity Determination
  - 2040 MTP Adoption
  - 16-22 TIP Adoption

### **ACTION ITEMS/NEXT STEPS**

- FHWA (Dancausse) will make the suggested revisions to the CP and CPS and send out to the interagency consultation (IC) partners
- FHWA (Dancausse) will draft the meeting minutes
- NCDQAQ (Pasley) will provide revisions to the CP
- PART (Kim) will provide revisions to the CP
- EPA (Somerville) requested that NCDQAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- NCDOT (Schmidt) will provide the MPO's a listing of all CMAQ project for their areas no later than 2/13/15

### **NEXT IC MEETING**

- *January 26, 2014: 12:30-1:30 pm*

Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan (CO & PM2.5)

December 10, 2014

**Prepared Cooperatively Between the  
Burlington-Graham Urbanized Area MPO  
Greensboro Urbanized Area MPO  
High Point Urbanized Area MPO  
Winston-Salem Urbanized Area MPO  
Piedmont Authority for Regional Transportation  
North Carolina Department of Transportation  
Piedmont Triad Rural Planning Organization  
and the  
Federal Highway Administration**

**Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan  
December 10, 2014**

The Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO), Greensboro Urbanized Area MPO (GUAMPO), High Point Urbanized Area MPO (HPMPO), Winston-Salem Urbanized Area MPO (WSMPO), The Piedmont Authority for Regional Transportation (PART), and the North Carolina Department of Transportation (NCDOT-representing donut portions of the Triad non-attainment area) are proposing the following plan and procedures to conduct a transportation conformity analysis. This plan is being submitted to the interagency consultation partners for soliciting consensus before commencement of a full-scale transportation conformity analysis. The plans and procedures may be revised as the MPO's and NCDOT proceed with the analysis. After consensus is reached; notification of changes will be made to the interagency consultation partners.

**Triad Area MPOs:**

- ❑ Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO)
- ❑ Greensboro Urbanized Area MPO (GUAMPO)
- ❑ High Point Urbanized Area MPO (HPMPO)
- ❑ Winston-Salem Urbanized Area MPO (WSMPO)

**Donut Areas:**

- ❑ The Triad Region no longer has a Donut Area

**The following pollutants will be included in this conformity determination:**

- ❑ Carbon Monoxide (CO)
- ❑ Particulate Matter 2.5 (direct PM 2.5, NOx)

**Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Program (MTIP)**

**1. Existing Land Use and Demographics: For GUAMPO, HPMPO, WSMPO and BGMPO**

The existing Piedmont Triad Regional Model (PTRM) had an enhancement of end user functioning that included an expansion of the modeled area in the southern portion of the High Point MPO, an update to the base year that incorporated input for the affected MPO's, updates to input data, networks, calibration and validation. The project used a base year of 2013, and a horizon year of 2040. The three-step demographic forecasting approach took into account municipal long range land use and transportation plans in conjunction with external data resources to develop a consensus of growth for the four MPO's.

The updated model has a horizon year of 2040 with two interim years of 2021 and 2030.



**2. MTP Model Validation (Base) Year:**

TDM base year: 2013

**3. MTIP Years:** 2016 – 2022

**4. MTP Horizon Year:** 2040

**5. Travel Demand Run Years:** 2021, 2030 & 2040

For this conformity process the actual PTRM runs will be 2021, 2030 and 2040.

**6. Transportation Conformity Analysis Years (PM 2.5)**

The Table below summarizes transportation conformity analysis methods and years for the different parts of the Triad non-attainment/maintenance areas. Specific conformity year information is listed in the following table:

County	Area model status	Area emissions budget status	Emissions analysis source				2021 (modeled)	2030 (modeled)	2040 Horizon (modeled)
Guilford	modeled all	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5
Davidson	modeled area	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5

**Footnotes for table:**

<sup>1</sup> The Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston –Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment will be referred to in this document as the PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11.

**Additional table notes and explanations:**

**County:**

- CO: The Triad CO maintenance area consists of one whole county (Forsyth)
- PM 2.5: The Triad PM 2.5 maintenance area consists of 2 counties (Guilford and Davidson)

**Model Status:** Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**Emissions analysis source:** Vehicle Miles Traveled (VMT) and speeds for the regional emissions analysis (REA) will be derived from the PTRM.

**Emissions analysis years:** The Triad area has State Implementation Plans (SIPs) for the CO standard and the PM 2.5 standard.

**Emission Comparison Years:**

- PM2.5: 2021 (compare to 2021 MVEB), 2030 (modeled- compare to 2021 MVEB) and 2040 (modeled- compare to 2021 MVEB)

**List of Specific Conformity Years (PM2.5 SIP)**

- a. Baseline 2013 (LRTP and conformity)
- b. Horizon: 2040
- c. SIP Budget Years: 2011 & 2021
- d. Emission comparison years: 2021, 2030 & 2040

**7. Non-attainment / Maintenance Counties:**

CO Limited Maintenance Plan: Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

PM 2.5 Maintenance Counties: Guilford and Davidson

**8. Travel Demand Model:** Piedmont Triad Regional Model (PTRM)

The PTRM is housed at PART. The PTRM completely covers the Metropolitan Area Boundaries (MABs) for the WSMPO (Forsyth, Davidson), the HPMPO (Davidson, Guilford and Forsyth), the GUAMPO (Guilford) and the BGMPO (Alamance, Guilford and Orange). Alamance, Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**9. Mode Split / Mode Choice:** Piedmont Triad Regional Model (PTRM)

The PTRM forecasts travel for 12 major purposes including; home-based work (subdivided into three income groups), home-based school, home-based shopping, home-based other, non-home-based work, non-home-based other, home-based college/university, and airport passenger trip (subdivided into air travel purposes). In addition, the PTRM forecasts travel for three classes of commercial vehicles. Each of these major purposes and commercial vehicle classes are distributed for each potential origin and destination in the region, as defined by the regional network and zone system. After distribution of the trips, the PTRM nested logit model estimates the probability of selecting each of the seven travel modes for each of 12 major purposes (commercial vehicles are not subject to mode choice). Travel modes include: drive alone, shared ride 2, shared ride 3+, walk to transit, drive to transit, walk, and bike. School bus trips are estimated outside the mode choice model. The top level of the nested logit model structure contains major modes including passenger vehicle, transit, and non-motorized.

**10. Motor Vehicle Emissions Budgets**

Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

The Triad area is maintenance for the PM 2.5 standard (Guilford and Davidson)

PM2.5 (NOx and Direct PM2.5) MVEBs are provided below:

PM 2.5 (NOx): The PM2.5 Redesignation Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	6,309,650	6,309,650	6,309,650
Davidson	2,148,938	2,148,938	2,148,938

PM 2.5 (PM 2.5): The PM2.5 Redesignation Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	421,841	421,841	421,841
Davidson	153,313	153,313	153,313

\*The MVEB for 2021 will be used for the 2021, 2030 and 2040 comparison for direct PM2.5 and NOx. The PM2.5 Redesignation Nonattainment to Attainment was effective on 12/19/11

**11. Control Strategies:** Emission reduction credits will be taken for the following on-road mobile SIP commitments or Federal programs. Currently there are no TCMs in the Triad Area SIPs.

**Strategy**

*I/M Program  
Tier 2 vehicle's Emission Standards  
Low Sulfur Gasoline and Diesel fuels  
Heavy Duty Vehicle Rules 2004 and 2007  
Low RVP Gasoline  
On board vapor recovery  
Tier 3 Vehicle and Emission Standards  
Tier 3 Gasoline Sulfur Standard*

**Methodology/Approach**

*Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model*

**12. Mobile Source Emission Reduction Strategies:** The MPO's will take emission credits for the following Mobile Source Emission Reduction Strategies.

<b>Strategy</b>	<b>Approach</b>	<b>Year(s) Credited</b>
<i>Park-n-Ride Lots:</i>	<i>Off model</i>	<i>2021, 2030, 2040</i>
<i>Vanpools:</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>
<i>ITS</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>

**14. MOVES Model Settings:** The following MOVES model-input parameters will be used in the conformity analysis.

**CO Maintenance Area: Forsyth County**  
**PM<sub>2.5</sub> Maintenance Area: Davidson and Guilford Counties**

<b>Parameter</b>	<b>Details</b>	<b>Data Source</b>
a. <i>Emissions Model Version(s):</i>	MOVES2014	
b. <i>Emission Model Runs:</i>	County-level domain modeling in inventory mode; pollutant emissions reported in kilograms (kg)	
c. <i>Time Periods:</i>	Annually for NO <sub>x</sub> and Direct PM <sub>2.5</sub>	
d. <i>Pollutants Reported:</i>	NO <sub>x</sub> (for PM <sub>2.5</sub> ) and Direct PM <sub>2.5</sub>	
e. <i>Emissions Budget Years:</i>	CO: not applicable CO limited maintenance Plan-regional emissions analysis not required PM 2.5: 2011 & 2021	
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$$\text{Future year total vehicle population} = \text{Base year total vehicle population} * \frac{(\text{Future year human population})}{(\text{Base year human population})}$$

- u. **Source type (vehicle type) age distribution:** The latest available (2013 or later) vehicle registration data provided by NCDOT, which also includes a breakdown of the number of vehicles by model year, will be used to create the required source type age distribution input file for each county. As per EPA guidance, the source type age distribution will not be projected for future years.

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Each of these responsible organizations must make a conformity determination for its respective area in order for all of the areas to be designated in conformity.

**Triad Area Draft CPS - 12.17.14**  
**MTP Update Transportation Conformity Process**

Discussion Draft -- 12/17/2014

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in <b>bold</b> )
		Start Date	End Date	Length (Days)		
1	<b>Project start --</b>			NA	1	
2	<b>Interagency consultation (IC)</b>	12/08/14	12/08/14	1	2	
3	IA planning session #1			#VALUE!	3	
4	Set IA meeting date (location, etc.)				4	
5	Develop participant list				5	
6	Discuss draft agenda				6	
7	Discuss TCPCP				7	
8	Discuss CPS				8	
9	IC planning session #2 <b>TBD</b>			#VALUE!	9	
10	Review draft agenda				10	
11	Review TCPCP				11	
12	Review CPS				12	
13	Prepare presentations				13	
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	
15	IC Meeting	12/08/14	12/08/14	1	15	<b>Dancausse, Rhine</b>
16	Meeting Minutes			1	16	<b>MPOs: Nunn, McIntyre, Greg, Miller</b>
17	Circulate and Review meeting minutes			1	17	<b>Dancausse</b>
18	Follow up to address comments			1	18	<b>Dancausse</b>
19	<b>Transportation Planning</b>	02/02/15	03/24/15	51	19	<b>MPOs, RPOs, NCDOT</b>
20	<i>Transportation Projects, Timelines, Fiscal Constraint</i>				20	
21	MPO TCCs develop and refine draft MTP project list	12/17/15	02/02/15		21	
22	MPO TACs receive & review the draft project list MTP-for-cor	02/09/15	02/20/15		22	
23	MPO TACs (or TCCs) approve MTP project list: BG MPO: 3/17/15, Greensboro: 3/18/15, High Point: 3/24/15, Winston Salem: 3/19/15	03/17/15	03/24/15	8	23	
24	Generate listing of CMAQ Projects NCDOT	12/17/14	02/23/15	69		
25	<b>Develop Customized STIP (Triad)</b>	01/30/15	02/20/15	22		
26	Send out Draft STIP for Agency Review: Compare the 16-22 STIP to MTP and regionally significant/exempt review	02/23/15	03/09/15	15	24	
27	MPO/NCDOT provide reply to Agency Review Comments	03/10/15	03/17/15	8		
28	MPO Meetings with Agency Partners to discuss comments	03/18/15	03/24/15	7	24	<b>NCDOT, FHWA, NCDAQ, EPA &amp; FTA</b>
29	<i>Transportation Modeling (50 days): Includes PTRM and NMAA</i>	03/25/15	05/22/15	59	25	<b>PART, NCDOT</b>
30	Base year network and land use (20xx)				26	
31	Horizon year 1 network and land use				27	
32	Horizon year 2 network and land use				28	
33	Design Year network and land use -- 2040				29	
34	Develop plan version for initial air quality analysis				30	
35	Extract draft plan VMT and speeds				31	
36	Evaluate draft plan speeds and VMT				32	
37	Preliminary Regional Emissions Analysis				33	
38	Emission Factors Review (additional iterations, if needed)				34	
39	Extract Final VMT and speeds				35	
40	Evaluate final speeds and VMT				36	<b>MPOs, RPOs, NCDOT</b>
41	Modeling Complete (Includes Emission Factor & REA)		05/22/15		37	
42	<b>Emission Analysis</b>	05/26/15	06/15/15	21	38	<b>NCDOT</b>
43	NCDAQ Emissions Model Work	05/26/15	06/15/15	21	39	<b>NCDAQ Pasley</b>
44	Off model analysis, including off-model TDM-not applicable			#VALUE!	40	
45	Regional Emissions Analysis (REA) & Review	06/15/15	06/19/15	5	41	<b>NCDOT</b>
46	<b>Conformity Report Preparation</b>	03/25/15	06/19/15	87	42	<b>Rhine</b>
47	<b>Interagency review</b>	06/23/15	07/22/15	30	43	<b>Rhine</b>
48	DENR Review	06/23/15	07/14/15	22	44	<b>NCDAQ-Galamb</b>
49	FHWA Initial Review	06/23/15	07/14/15	22	45	<b>Dancausse</b>
50	FTA Initial Review	06/23/15	07/14/15	22	46	<b>Tajsha</b>
51	EPA Initial Review	06/23/15	07/14/15	22	47	<b>Sheckler</b>
52	<b>Respond to Agency Comments</b>	07/15/15	07/21/15	7	48	<b>Rhine, MPOs/RPOs/NCDOT</b>
53	Place conformity report on website	07/22/15	07/22/15	1	49	<b>Rhine</b>
54	TACs release conformity draft and MTP update for public comment: BG MPO: 7/21/15, Greensboro: 7/15/15, High Point: 7/28/15, Winston Salem: 7/16/15	07/15/15	07/28/15	14	50	<b>MPOs, RPOs</b>
55	<b>Public review</b>	07/29/15	09/01/15	35	51	<b>MPOs, RPOs</b>
56	Public Review (MPOs and RPOs)	07/29/15	08/27/15	30	52	<b>MPOs, RPOs</b>
57	Respond to Agency and Public Comments	08/28/15	09/02/15	6	53	<b>MPOs, RPOs</b>
58	<b>MPO &amp; Rural Conformity Determination</b>	09/15/15	09/22/15	8	54	<b>NCDOT</b>
59	TACs Adopt Final LRTPs with AQ conformity-public hearing BG MPO: 9/15/15, Greensboro: 9/16/15, High Point: 9/22/15, Winston Salem: 9/16/15	09/15/15	09/22/15	8	55	<b>MPOs</b>
60	NCDOT Secretary issues conformity letter for rural area	NA	NA	#VALUE!	56	<b>NCDOT, RPOs</b>
61	Conformity analysis, report and review complete	09/03/15	09/22/15	20	57	
62	Place conformity report on website	09/03/15	09/03/15	1	58	<b>Rhine</b>
63	<b>Federal Action</b>	09/03/15	10/01/15	29	59	<b>Dancausse</b>
64	Transmit Report to FHWA/TPB	09/03/15	09/03/15	1	60	<b>Rhine</b>
65	FHWA transmit report to EPA & FTA	09/03/15	09/03/15	1	61	<b>Dancausse</b>
66	USDOT Determination	10/01/15	10/01/15	1	62	<b>Dancausse</b>
67	USDOT Letter to State/MPO	10/01/15	10/01/15	1	63	<b>Dancausse</b>
68	<b>Process Complete</b>	10/01/15	10/01/15	1	64	
69	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	

**TRAI D MAINTENANCE REGION**

*Guilford Co., Davidson Co., and Forsyth Co.*

Interagency Consultation Meeting  
January 26, 2015, 12:30 am-1:30 am

Teleconference Dial in Number  
1-877-848-7030  
Access Code: 9375764

**Agenda**

- Welcome and Introductions.....Scott Rhine
- Meeting Purpose.....Scott Rhine
- Action Items from 12/8/14 Meeting.....Eddie Dancausse
- MPO Progress Report (2040 MTP Updates) .....Tyler Meyer/Craig McKinney  
Greg Venable  
Wendy Miller  
Mike Nunn
- Piedmont Triad Regional Model Overview.....Scott Rhine/John Kim
- Consensus Plan.....Eddie Dancausse
- Conformity Process Schedule.....Eddie Dancausse
- Discussions/Next Steps/Meeting Wrap-Up.....Scott Rhine
  - ❑ Action Items
  - ❑ Next Meeting Date (4<sup>th</sup> Monday at 12:30pm)

Adjourn



## Triad Region Transportation Conformity

### Burlington Graham Metropolitan Planning Organization (MPO) Greensboro MPO High Point MPO Winston Salem MPO

#### 2040 MTPs

#### Interagency Consultation (IC) Status Meeting

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### ACTION & FOLLOW-UP ITEMS/NOTES

January 26, 2015

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Craig McKinney

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith

**FHWA:** Eddie Dancausse, Bill Marley

**FTA:**

**EPA:** Dianna Myers, Amanetta Somerville

**NC DOT:** Hemang Surti, Hemal Shah, Heather Hildebrandt, Andy Bailey, Soon Chung, Tae-Gyu Kim, Michael Abuya, Earlene Thomas, Mike Stanley, Wayne Davis

**NCDAQ:** Vicki Chandler, Todd Pasley, Anne Galamb, Phyllis Jones

**PART:** Scott Rhine, Mark Kirstner, John Kim

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - There will be a project list meeting in February
  - The TAC will approve the project list on 3/17/15
  - Will provide draft project list to FHWA (Dancausse) by 2/9/15 for preliminary internal review of the regionally significant/exempt projects
- GMPO (McKinney)
  - MTP draft roadway project list will go out for public review 2/2/15 thru 3/2/15.
  - The TAC will approve the project list on 3/25/15
  - Will provide draft project list to FHWA (Dancausse) for preliminary internal review of the regionally significant/exempt projects
- HPMPO (Venable)
  - The draft roadway project list will be reviewed by the TAC
  - Will provide draft project list to FHWA (Dancausse) by 1/30/15 for preliminary internal review of the regionally significant/exempt projects
  -
- WSMPO (Miller)
  - Draft project list was provided to the TAC on 1/15/15

- Still working on the project list and may move some projects out of the MTP for fiscal constraint purposes. Need to determine what the impact will be for those projects in the SPOT process.
- Will provide draft project list to FHWA (Dancausse) for preliminary internal review of the regionally significant/exempt projects

### **Triad Regional Model (TRM) Status**

- Modeling work is on schedule

### **Consensus Plan (CP):**

- There were no comments or recommended changes to the revised CP dated 12/10/14

### **Conformity Process Schedule (CPS)**

- FHWA (Dancausse) went over upcoming CPS milestones in particular item numbers 26-28. There were no questions or concerns with these upcoming items.

### **Other**

- NCDOT (Bailey) mentioned that current 2016 CMAQ data call is underway and will be added to the MPO exempt project lists by June 2015 (this will be after the NCBOT takes an action on the 12-16 STIP)
- NCDOT (Stanley) mentioned that future CMAQ projects would be placed in the STIP under one project group number. The different projects would be distinguished by an alpha character after the group number
- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment
- EPA (Myers) mentioned that this round of conformity would need to include the CO standard
- PART (Rhine) requested that when the Triad Area MPO's provide their draft MTP project lists to FHWA (Dancausse) to send a copy to PART (Kim) so he can begin the coding of the model.
- NCDOT (Hildebrandt) is waiting on the final MTP project lists so they can be compared to the 16-22 TIPs to make sure that the TIPs are subsets of the MTPs.
- FHWA (Marley) and NCDOT (Arellano) need to provide final FHWA approved functional class maps
- FHWA (Marley) will inform (FHWA) Hoops about the issue of NCDOT asking the MPOs to place projects in their TIPs that scored well in SPOT but were not necessarily selected by the MPOs. This item should probably be brought to the SPOT work group's attention

### **ACTION ITEMS/NEXT STEPS**

- EPA (Somerville) requested that NCDAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- NCDOT (Schmidt) will provide the MPO's a listing of all CMAQ project for their areas no later than 2/13/15. FHWA (Dancausse) will follow up on this item
- FHWA (Dancausse) will contact NCDOT (Arellano) to get the timeline for the latest CMAQ data call.
- Greensboro MPO (McKinney), High Point MPO (Venable), Winston Salem MPO (Miller) and Burlington Graham MPO (Nunn) will provide draft project list to FHWA (Dancausse) for preliminary internal review of the regionally significant/exempt projects

- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment
- FHWA (Marley) will inform (FHWA) Hoops about the issue of NCDOT asking the MPOs to place projects in their TIPs that scored well in SPOT but were not necessarily selected by the MPOs. This item should probably be brought to the SPOT work group's attention

**NEXT IC MEETING**

- *February 23, 2015: 12:30-1:30 pm*

**TRAIID MAINTENANCE REGION**

*Guilford Co., Davidson Co., and Forsyth Co.*

Interagency Consultation Meeting  
February 23, 2015, 12:30 am-1:30 am

Teleconference Dial in Number  
1-877-848-7030  
Access Code: 9375764

**Agenda**

Welcome and Introductions.....Scott Rhine

Meeting Purpose.....Scott Rhine

Action Items from 1/26/15 Meeting.....Eddie Dancausse

MPO Progress Report (2040 MTP Updates) .....Tyler Meyer/Craig McKinney  
Greg Venable  
Wendy Miller  
Mike Nunn

Piedmont Triad Regional Model Overview.....Scott Rhine/John Kim

Consensus Plan.....Eddie Dancausse

Conformity Process Schedule.....Eddie Dancausse

- Agency review of RS/E projects
- Agency review 16-22 TIP compare to 2040 MTP
- Conformity Determination Report - Coordinator

Discussions/Next Steps/Meeting Wrap-Up.....Scott Rhine

- Action Items
- Next Meeting Date (4<sup>th</sup> Monday at 12:30pm)

Adjourn

## Triad Region Transportation Conformity

Burlington Graham Metropolitan Planning Organization (MPO)  
Greensboro MPO  
High Point MPO  
Winston Salem MPO

2040 MTPs

### Interagency Consultation (IC) Status Meeting

---

#### ACTION & FOLLOW-UP ITEMS/NOTES

February 23, 2015

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Craig McKinney, Lydia McIntyre

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith, Greg Errett

**FHWA:** Eddie Dancausse, Bill Marley

**FTA:**

**EPA:** Dianna Myers, Amanetta Somerville

**NC DOT:** Hemang Surti, Hemal Shah, Heather Hildebrandt, Andy Bailey, Michael Abuya, Earlene Thomas

**NCDAQ:** Vicki Chandler, Todd Pasley, Phyllis Jones

**PART:** Scott Rhine, John Kim

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - MTP public meeting will be held on 12/26/15
  - The TAC will approve the project list on 3/17/15 and approve the release of the draft CDR for public review and comment on 5/19/15
  - Working on draft MTP text.
- GMPO (McKinney)
  - MTP public meeting will be held on 2/23/15
  - The TAC will approve the project list on 3/25/15
- HPMPO (Venable)
  - The MTP public workshop will be held on 3/12/15.
  - The TAC will approve the project list on 3/24/15
- WSMPO (Miller)
  - MTP public review period will run 2/12/15 thru 3/16/15
  - Public meeting was held during the February TAC meeting  
MTP project list will be approved by the TAC on 3/19/15

### **Triad Regional Model (TRM) Status**

- Model validation/calibration is complete. Test runs are in good shape.
- The model executive committee is meeting on 3/6/15 for informal adoption of version 4 of the TRM.

### **Consensus Plan (CP):**

- There were no comments or recommended changes to the revised CP dated 12/10/14

### **Conformity Process Schedule (CPS)**

- There were some revisions related to the MPO approval dates - line ID#'s 23, 54 and 59. Those dates will be revised in the CPS by FHWA (Dancausse)

### **Other**

- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment.
- NCDOT (Hildebrandt) requested the final MTP project lists so they can be compared to the 16-22 TIPs to make sure that the TIPs are subsets of the MTPs.
- NCDOT (Hildebrandt) mentioned that the next call for CMAQ projects will go out by 3/6/15 and if it is delayed she will update the IC group on the new timeline.
- NCDOT (Bailey/Hildebrandt/Arellano) will meet with MPO (Miller) to get more clarification on CMAQ funding

### **ACTION ITEMS/NEXT STEPS**

- EPA (Somerville) requested that NCDAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment
- Winston Salem MPO (Miller) will provide draft project list of exempt projects to FHWA (Dancausse) for internal review before it is sent out to agency partners
- MPO's (McKinney/Nunn/Miller/Venable) will provide their MTP project lists to NCDOT (Hildebrandt) as soon as possible so that she can initiate the MTP/TIP comparison Agency review to ensure that the TIPs are subsets of the MTPs.
- NCDOT (Bailey/Hildebrandt/Arellano) will meet with MPO (Miller) to get more clarification on CMAQ funding
- FHWA (Dancausse) will revise the CPS and draft meeting minutes

### **NEXT IC MEETING**

- *March 23, 2015: 12:30-1:30 pm*

**Triad Area Draft CPS - 3.6.15  
MTP Update Transportation Conformity Process**

Discussion Draft -- 3/6/2015

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in <b>bold</b> )
		Start Date	End Date	Length (Days)		
1	<b>Project start --</b>			NA	1	
2	<b>Interagency consultation (IC)</b>	12/08/14	12/08/14	1	2	
3	IA planning session #1			#VALUE!	3	
4	Set IA meeting date (location, etc.)				4	
5	Develop participant list				5	
6	Discuss draft agenda				6	
7	Discuss TCPCP				7	
8	Discuss CPS				8	
9	IC planning session #2 <b>TBD</b>			#VALUE!	9	
10	Review draft agenda				10	
11	Review TCPCP				11	
12	Review CPS				12	
13	Prepare presentations				13	
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	
15	IC Meeting	12/08/14	12/08/14	1	15	<b>Dancausse, Rhine</b>
16	Meeting Minutes			1	16	<b>MPOs: Nunn, McIntyre, Greg, Miller</b>
17	Circulate and Review meeting minutes			1	17	<b>Dancausse</b>
18	Follow up to address comments			1	18	<b>Dancausse</b>
19	<b>Transportation Planning</b>	02/02/15	03/24/15	51	19	<b>MPOs, RPOs, NCDOT</b>
20	<i>Transportation Projects, Timelines, Fiscal Constraint</i>				20	
21	MPO TCCs develop and refine draft MTP project list	12/17/15	02/02/15		21	
22	MPO TACs receive & review the draft project list MTP-for-cor	02/09/15	02/20/15		22	
23	MPO TACs (or TCCs) approve MTP project list: BG MPO: 3/17/15, Greensboro: 3/25/15, High Point: 3/24/15, Winston Salem: 3/19/15	03/17/15	03/24/15	8	23	
24	Generate listing of CMAQ Projects NCDOT	12/17/14	02/23/15	69		
25	<b>Develop Customized STIP (Triad)</b>	01/30/15	02/20/15	22		
26	Send out Draft STIP for Agency Review: Compare the 16-22 STIP to MTP and regionally significant/exempt review	02/23/15	03/09/15	15	24	
27	MPO/NCDOT provide reply to Agency Review Comments	03/10/15	03/17/15	8		
28	MPO Meetings with Agency Partners to discuss comments	03/18/15	03/24/15	7	24	<b>NCDOT, FHWA, NCDAQ, EPA &amp; FTA</b>
29	<i>Transportation Modeling (50 days): Includes PTRM and NMAA</i>	03/25/15	05/22/15	59	25	<b>PART, NCDOT</b>
30	Base year network and land use (20xx)				26	
31	Horizon year 1 network and land use				27	
32	Horizon year 2 network and land use				28	
33	Design Year network and land use -- 2040				29	
34	Develop plan version for initial air quality analysis				30	
35	Extract draft plan VMT and speeds				31	
36	Evaluate draft plan speeds and VMT				32	
37	Preliminary Regional Emissions Analysis				33	
38	Emission Factors Review (additional iterations, if needed)				34	
39	Extract Final VMT and speeds				35	
40	Evaluate final speeds and VMT				36	<b>MPOs, RPOs, NCDOT</b>
41	Modeling Complete (Includes Emission Factor & REA)		05/22/15		37	
42	<b>Emission Analysis</b>	05/26/15	06/15/15	21	38	<b>NCDOT</b>
43	NCDAQ Emissions Model Work	05/26/15	06/15/15	21	39	<b>NCDAQ Pasley</b>
44	Off model analysis, including off-model TDM-not applicable			#VALUE!	40	
45	Regional Emissions Analysis (REA) & Review	06/15/15	06/19/15	5	41	<b>NCDOT</b>
46	<b>Conformity Report Preparation</b>	03/25/15	06/19/15	87	42	<b>Rhine</b>
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53	Place conformity report on website	07/22/15	07/22/15	1	49	<b>Rhine</b>
54	TACs release conformity draft and MTP update for public comment: BG MPO: 5/19/15, Greensboro: 7/22/15, High Point: 6/23/15, Winston Salem: 7/16/15	07/15/15	07/28/15	14	50	<b>MPOs, RPOs</b>
55	<b>Public review</b>	07/29/15	09/01/15	35	51	<b>MPOs, RPOs</b>
56	Public Review (MPOs and RPOs)	07/29/15	08/27/15	30	52	<b>MPOs, RPOs</b>
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59	TACs Adopt Final LRTPs with AQ conformity-public hearing BG MPO: 9/15/15, Greensboro: 9/23/15, High Point: 9/22/15, Winston Salem: 9/16/15	09/15/15	09/22/15	8	55	<b>MPOs</b>
60	NCDOT Secretary issues conformity letter for rural area	NA	NA	#VALUE!	56	<b>NCDOT, RPOs</b>
61	Conformity analysis, report and review complete	09/03/15	09/22/15	20	57	
62	Place conformity report on website	09/03/15	09/03/15	1	58	<b>Rhine</b>
63	<b>Federal Action</b>	09/03/15	10/01/15	29	59	<b>Dancausse</b>
64	Transmit Report to FHWA/TPB	09/03/15	09/03/15	1	60	<b>Rhine</b>
65	FHWA transmit report to EPA & FTA	09/03/15	09/03/15	1	61	<b>Dancausse</b>
66	USDOT Determination	10/01/15	10/01/15	1	62	<b>Dancausse</b>
67	USDOT Letter to State/MPO	10/01/15	10/01/15	1	63	<b>Dancausse</b>
68	<b>Process Complete</b>	10/01/15	10/01/15	1	64	
69	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	

**TRAI D MAINTENANCE REGION**

*Guilford Co., Davidson Co., and Forsyth Co.*

Interagency Consultation Meeting  
March 23, 2015, 12:30 am-1:30 am

Teleconference Dial in Number  
1-877-848-7030  
Access Code: 9375764

**Agenda**

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Meeting Purpose.....Scott Rhine

Action Items from 2/23/15 Meeting.....Eddie Dancausse

MPO Progress Report (2040 MTP Updates) .....Tyler Meyer/Craig McKinney  
Greg Venable  
Wendy Miller  
Mike Nunn

Piedmont Triad Regional Model Overview.....Scott Rhine/John Kim

Consensus Plan.....Eddie Dancausse

Conformity Process Schedule.....Eddie Dancausse

Discussions/Next Steps/Meeting Wrap-Up.....Scott Rhine

- ❑ Action Items
- ❑ Next Meeting Date (4<sup>th</sup> Monday at 12:30pm): April 27

Adjourn



## Triad Region Transportation Conformity

### Burlington Graham Metropolitan Planning Organization (MPO) Greensboro MPO High Point MPO Winston Salem MPO

#### 2040 MTPs

#### Interagency Consultation (IC) Status Meeting

---

### ACTION & FOLLOW-UP ITEMS/NOTES

March 23, 2015

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Craig McKinney, Lydia McIntyre

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith, Greg Errett

**FHWA:** Eddie Dancausse, Bill Marley

**FTA:**

**EPA:** Dianna Myers, Amanetta Somerville

**NC DOT:** Hemang Surti, Hemal Shah, Heather Hildebrandt, Andy Bailey, Michael Abuya, Mike Stanley

**NCDAQ:** Vicki Chandler, Todd Pasley, Phyllis Jones, Anne Galamb

**PART:** Scott Rhine, John Kim

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - The TAC will approved the project list on 3/17/15
  - Working on draft MTP text and maps
- GMPO (McKinney)
  - The TAC will approve the project list on 3/25/15
  - Project network edits were submitted to PART (Kim)
- HPMPO (Venable)
  - The TAC will approve the project list on 3/24/15
  - Working on MTP chapters
- WSMPO (Miller)
  - MTP project list will be approved by the TAC on 3/19/15
  - Planning to meet this week to look at performance measures

#### Triad Regional Model (TRM) Status

- The model executive committee informally adopted version v4 of the TRM
- Some MPO project lists have been provided
- Network updates with model are underway
- Some testing has been done with model v4 and there have been no issues.

### **Consensus Plan (CP):**

- On page 6, item 14j, remove “non-modeled area analysis spreadsheet”
- Page 8, item 20, added resolutions needed

### **Conformity Process Schedule (CPS)**

- There were some revisions related to the MPO approval dates –
  - Item 29, remove “includes PTRM and NMAA”
  - Item 45, Add EPA pre-review of the emissions

### **Other**

- FHWA (Marley) requested that the MPO’s provide the draft MTP chapters as they are completed for FHWA review and comment.
  - WSMPO (Miller) will provide the materials on the EJ portion of the MTP
  - BGMPO (Nunn) will provide some draft chapters
  - GMPO (McIntyre) will provide some draft chapters next month
  - HPMPO (Venable) will provide some draft chapters
- NCDOT (Stanley) mentioned that there are going to be some minor project tweaks to Triad Area projects. This will mainly impact non-regionally significant projects/exempt projects. Roadway projects (8 to 10) will shift on their construction schedule by one year. No projects will shift horizon years.
- NCDOT (Hildebrandt) mentioned that the call for CMAQ projects is still on holding waiting on the go ahead from upper management.
- PART (Rhine) mentioned that the MPOs/NCDOT should start sending documents that are available to start populating the appendices for the conformity determination report. FHWA (Dancausse) needs to provide the Federal Register Notices.
- PART (Rhine) is asking NCDOT (Arellano) for a decision on the 2016 call for CMAQ projects as soon as possible so those projects can be incorporated into this MTP/TIP process
- PART (Rhine/Kim) will contact NCDAQ (Pasley) to discuss the TRM model output format that will be needed for NCDAQ emissions work

### **ACTION ITEMS/NEXT STEPS**

- EPA (Somerville) requested that NCDAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- FHWA (Marley) requested that the MPO’s provide the draft MTP chapters as they are completed for FHWA review and comment
- PART (Rhine) mentioned that the MPOs/NCDOT should start sending documents that are available to start populating the appendices for the conformity determination report. FHWA (Dancausse) needs to provide the Federal Register Notices.
- PART (Rhine) is asking NCDOT (Arellano) for a decision on the 2016 call for CMAQ projects as soon as possible so those projects can be incorporated into this MTP/TIP process
- PART (Rhine/Kim) will contact NCDAQ (Pasley) to discuss the TRM model output format that will be needed for NCDAQ emissions work
- FHWA (Dancausse) will revise the CP, CPS and draft meeting minutes

**NEXT IC MEETING**

- *April 27, 2015: 12:30-1:30 pm*

Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan (CO & PM2.5)

March 25, 2015

**Prepared Cooperatively Between the  
Burlington-Graham Urbanized Area MPO  
Greensboro Urbanized Area MPO  
High Point Urbanized Area MPO  
Winston-Salem Urbanized Area MPO  
Piedmont Authority for Regional Transportation  
North Carolina Department of Transportation  
Piedmont Triad Rural Planning Organization  
and the  
Federal Highway Administration**

**Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan  
March 25, 2015**

The Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO), Greensboro Urbanized Area MPO (GUAMPO), High Point Urbanized Area MPO (HPMPO), Winston-Salem Urbanized Area MPO (WSMPO), The Piedmont Authority for Regional Transportation (PART), and the North Carolina Department of Transportation (NCDOT-representing donut portions of the Triad non-attainment area) are proposing the following plan and procedures to conduct a transportation conformity analysis. This plan is being submitted to the interagency consultation partners for soliciting consensus before commencement of a full-scale transportation conformity analysis. The plans and procedures may be revised as the MPO's and NCDOT proceed with the analysis. After consensus is reached; notification of changes will be made to the interagency consultation partners.

**Triad Area MPOs:**

- Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO)
- Greensboro Urbanized Area MPO (GUAMPO)
- High Point Urbanized Area MPO (HPMPO)
- Winston-Salem Urbanized Area MPO (WSMPO)

**Donut Areas:**

- The Triad Region no longer has a Donut Area

**The following pollutants will be included in this conformity determination:**

- Carbon Monoxide (CO)
- Particulate Matter 2.5 (direct PM 2.5, NOx)

**Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Program (MTIP)**

**1. Existing Land Use and Demographics: For GUAMPO, HPMPO, WSMPO and BGMPO**

The existing Piedmont Triad Regional Model (PTRM) had an enhancement of end user functioning that included an expansion of the modeled area in the southern portion of the High Point MPO, an update to the base year that incorporated input for the affected MPO's, updates to input data, networks, calibration and validation. The project used a base year of 2013, and a horizon year of 2040. The three-step demographic forecasting approach took into account municipal long range land use and transportation plans in conjunction with external data resources to develop a consensus of growth for the four MPO's.

The updated model has a horizon year of 2040 with two interim years of 2021 and 2030.

**2. MTP Model Validation (Base) Year:**

TDM base year: 2013

**3. MTIP Years:** 2016 – 2020

**4. MTP Horizon Year:** 2040

**5. Travel Demand Run Years:** 2021, 2030 & 2040

For this conformity process the actual PTRM runs will be 2021, 2030 and 2040.

**6. Transportation Conformity Analysis Years (PM 2.5)**

The Table below summarizes transportation conformity analysis methods and years for the different parts of the Triad non-attainment/maintenance areas. Specific conformity year information is listed in the following table:

County	Area model status	Area emissions budget status	Emissions analysis source				2021 (modeled)	2030 (modeled)	2040 Horizon (modeled)
Guilford	modeled all	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5
Davidson	modeled area	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5

**Footnotes for table:**

<sup>1</sup> The Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston –Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment will be referred to in this document as the PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11.

**Additional table notes and explanations:**

**County:**

- CO: The Triad CO maintenance area consists of one whole county (Forsyth)
- PM 2.5: The Triad PM 2.5 maintenance area consists of 2 counties (Guilford and Davidson)

**Model Status:** Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**Emissions analysis source:** Vehicle Miles Traveled (VMT) and speeds for the regional emissions analysis (REA) will be derived from the PTRM.

**Emissions analysis years:** The Triad area has State Implementation Plans (SIPs) for the CO standard and the PM 2.5 standard.

**Emission Comparison Years:**

- PM2.5: 2021 (compare to 2021 MVEB), 2030 (modeled- compare to 2021 MVEB) and 2040 (modeled- compare to 2021 MVEB)

**List of Specific Conformity Years (PM2.5 SIP)**

- a. Baseline 2013 (LRTP and conformity)
- b. Horizon: 2040
- c. SIP Budget Years: 2011 & 2021
- d. Emission comparison years: 2021, 2030 & 2040

**7. Non-attainment / Maintenance Counties:**

CO Limited Maintenance Plan: Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

PM 2.5 Maintenance Counties: Guilford and Davidson

**8. Travel Demand Model: Piedmont Triad Regional Model (PTRM)**

The PTRM is housed at PART. The PTRM completely covers the Metropolitan Area Boundaries (MABs) for the WSMPO (Forsyth, Davidson), the HPMPO (Davidson, Guilford and Forsyth), the GUAMPO (Guilford) and the BGMPO (Alamance, Guilford and Orange). Alamance, Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**9. Mode Split / Mode Choice: Piedmont Triad Regional Model(PTRM)**

The PTRM forecasts travel for 12 major purposes including; home-based work (subdivided into three income groups), home-based school, home-based shopping, home-based other, non-home-based work, non-home-based other, home-based college/university, and airport passenger trip (subdivided into air travel purposes). In addition, the PTRM forecasts travel for three classes of commercial vehicles. Each of these major purposes and commercial vehicle classes are distributed for each potential origin and destination in the region, as defined by the regional network and zone system. After distribution of the trips, the PTRM nested logit model estimates the probability of selecting each of the seven travel modes for each of 12 major purposes (commercial vehicles are not subject to mode choice). Travel modes include: drive alone, shared ride 2, shared ride 3+, walk to transit, drive to transit, walk, and bike. School bus trips are estimated outside the mode choice model. The top level of the nested logit model structure contains major modes including passenger vehicle, transit, and non-motorized.

**10. Motor Vehicle Emissions Budgets**

Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

The Triad area is maintenance for the PM 2.5 standard (Guilford and Davidson)

PM2.5 (NOx and Direct PM2.5) MVEBs are provided below:

PM 2.5 (NOx): The PM2.5 Redesignation Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	6,309,650	6,309,650	6,309,650
Davidson	2,148,938	2,148,938	2,148,938

PM 2.5 (PM 2.5): The PM2.5 Redesignation Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	421,841	421,841	421,841
Davidson	153,313	153,313	153,313

*\*The MVEB for 2021 will be used for the 2021, 2030 and 2040 comparison for direct PM2.5 and NOx.  
The PM2.5 Redesignation Nonattainment to Attainment was effective on 12/19/11*

**11. Control Strategies:** Emission reduction credits will be taken for the following on-road mobile SIP commitments or Federal programs. Currently there are no TCMs in the Triad Area SIPs.

**Strategy**

*I/M Program  
Tier 2 vehicle's Emission Standards  
Low Sulfur Gasoline and Diesel fuels  
Heavy Duty Vehicle Rules 2004 and 2007  
Low RVP Gasoline  
On board vapor recovery  
Tier 3 Vehicle and Emission Standards  
Tier 3 Gasoline Sulfur Standard*

**Methodology/Approach**

*Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model  
Accounted for in MOVES model*

**12. Mobile Source Emission Reduction Strategies:** The MPO's will take emission credits for the following Mobile Source Emission Reduction Strategies.

Strategy	Approach	Year(s) Credited
<i>Park-n-Ride Lots:</i>	<i>Off model</i>	<i>2021, 2030, 2040</i>
<i>Vanpools:</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>
<i>ITS</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>

**14. MOVES Model Settings:** The following MOVES model-input parameters will be used in the conformity analysis.



**CO Maintenance Area: Forsyth County**  
**PM<sub>2.5</sub> Maintenance Area: Davidson and Guilford Counties**

<b>Parameter</b>	<b>Details</b>	<b>Data Source</b>
a. <i>Emissions Model Version(s):</i>	MOVES2014	
b. <i>Emission Model Runs:</i>	County-level domain modeling in inventory mode; pollutant emissions reported in kilograms (kg)	
c. <i>Time Periods:</i>	Annually for NO <sub>x</sub> and Direct PM <sub>2.5</sub>	
d. <i>Pollutants Reported:</i>	NO <sub>x</sub> (for PM <sub>2.5</sub> ) and Direct PM <sub>2.5</sub>	
e. <i>Emissions Budget Years:</i>	CO: not applicable CO limited maintenance Plan-regional emissions analysis not required PM 2.5: 2011 & 2021	
f. <i>Emissions Analysis Years:</i>	2021, 2030, 2040	
g. <i>Vehicle Classes:</i>	13	
h. <i>Temperature and Relative Humidity:</i>	Hourly average temperature and relative humidity calculated for each month. Meteorological data is from the GSO Triad Regional Airport.	
i. <i>VMT Mix:</i>	Statewide mix based on 2013 data using the method in the August 2004 USEPA Guidance.	
j. <i>Speeds:</i>	From PTRM	
k. <i>Vehicle Age Distribution:</i>	Based on 2013 or latest available vehicle registration data provided by NCDOT.	
l. <i>I/M Program:</i>	2021, 2030, 2040: OBD-II for Davidson and Guilford Counties.	
m. <i>Anti-tampering Applicability:</i>	Not included in MOVES	
n. <i>RVP:</i>	Calendar Monthly	

	<b>RVP</b>
<b>Jan, Dec</b>	15
<b>Feb, March, April, Oct, Nov</b>	13.5
<b>May, June, July, Aug, Sept</b>	9.0

- o. *Strategies:* See item #12 above
- p. *I/M Compliance Factor Coverage (CFC): This input to MOVES accounts for the I/M compliance rate, waiver rate, and regulatory coverage adjustment for applicable vehicles. When calculated by MOVES guidance methods this value is 91.2% for passenger cars, 85.73% for passenger trucks, and 85.26% for light commercial trucks for both counties.*
- q. *Evaluation Month:* 12 month annual emissions or any part thereof (output can be disaggregated at the user’s discretion)
- r. *VMT:* PTRM
- s. *Fuel Sulfur Content:* MOVES considers all recent rulemakings (Tier 2, ultra low sulfur diesel, Tier 3 low sulfur gasoline, etc). The default data in MOVES can be relied on here. Default database values are by month and fuel region and can be requested by the MPO.
- t. *Source type (vehicle type) population:* For each county, vehicle population estimates will be

developed for each future modeling year based on the latest available (2013 or later) vehicle registration data provided by NCDOT. This data includes the total number of registered vehicles in each county, divided into nine source type categories. The data will first be reorganized into thirteen source type categories (i.e. passenger cars, light commercial trucks, combination long-haul trucks, etc.) as required for MOVES2014. These source type population estimates will then be projected for each required modeling year, using the same base and future year-county-level human population data that were used in the PTRM TDM model, according to the following formula:

$$\text{Future year total vehicle population} = \text{Base year total vehicle population} * \frac{(\text{Future year human population})}{(\text{Base year human population})}$$

- u. **Source type (vehicle type) age distribution:** The latest available (2013 or later) vehicle registration data provided by NCDOT, which also includes a breakdown of the number of vehicles by model year, will be used to create the required source type age distribution input file for each county. As per EPA guidance, the source type age distribution will not be projected for future years.

**15. Emissions analysis units, conversion factors, significant figures, rounding and truncating conventions:**

- PM2.5 and NOx budgets are in kg/year and rounded to whole numbers

**16. CMAQ Projects:** PART and the MPO's/RPOs will include a spreadsheet in the conformity documentation showing funded CMAQ projects, project cost/funding, emission reductions, and implementation dates. (NCDOT-TPB Schmidt will work with MPO's and RPO's to generate a list of CMAQ projects to include as an appendix in the CDR)

**17. Regionally Significant Projects (Federal and Non Federal):** PART, the MPO's and the NCDOT/RPOs will identify regionally significant projects in their project lists and will provide them to the agency partners for review, comment and ultimately concurrence. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15

**18. List of Exempt Projects:** PART, the MPO's and NCDOT/RPOs will identify exempt projects according to the Conformity Regulation (40 CFR 93.126, 127 and 128). The exempt project lists for each MPO will serve as the long range transportation plan in the event of a conformity lapse. This will be discussed further in the conformity determination report (CDR) and the list of projects will be added as an appendix in the CDR. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15

**19. Conformity Process Schedule:** (A draft process conformity schedule has been developed and is provided as an attachment to this document)

**20. Conformity Determinations:** Five organizations will be responsible for making conformity determinations in five distinctive parts of the Triad non-attainment/maintenance areas:

- i. The BGMPO within its metropolitan area boundary-a small part of Guilford County

- ii. The GUAMPO within its metropolitan area boundary-a part of Guilford County
- iii. The HPMPO within its metropolitan area boundary-a part of Davidson, Guilford and Forsyth Counties
- iv. The WSMPO within its metropolitan area boundary-most of Forsyth County and a part of Davidson

Resolutions needed:

- Burlington Graham MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- Greensboro MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- High Point MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- Winston Salem MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP

Each of these responsible organizations must make a conformity determination for its respective area in order for all of the areas to be designated in conformity.

**Triad Area Draft CPS - 3.25.15  
MTP Update Transportation Conformity Process**

Discussion Draft -- 3/26/2015

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in <b>bold</b> )
		Start Date	End Date	Length (Days)		
1	<b>Project start --</b>			NA	1	
2	<b>Interagency consultation (IC)</b>	12/08/14	12/08/14	1	2	
3	IA planning session #1			#VALUE!	3	
4	Set IA meeting date (location, etc.)				4	
5	Develop participant list				5	
6	Discuss draft agenda				6	
7	Discuss TCPCP				7	
8	Discuss CPS				8	
9	IC planning session #2 <b>TBD</b>			#VALUE!	9	
10	Review draft agenda				10	
11	Review TCPCP				11	
12	Review CPS				12	
13	Prepare presentations				13	
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	
15	IC Meeting	12/08/14	12/08/14	1	15	<b>Dancausse, Rhine</b>
16	Meeting Minutes			1	16	<b>MPOs: Nunn, McIntyre, Greg, Miller</b>
17	Circulate and Review meeting minutes			1	17	<b>Dancausse</b>
18	Follow up to address comments			1	18	<b>Dancausse</b>
19	<b>Transportation Planning</b>	02/02/15	03/24/15	51	19	<b>MPOs, RPOs, NCDOT</b>
20	<i>Transportation Projects, Timelines, Fiscal Constraint</i>				20	
21	MPO TCCs develop and refine draft MTP project list	12/17/15	02/02/15		21	
22	MPO TACs receive & review the draft project list MTP-for-cor	02/09/15	02/20/15		22	
23	MPO TACs (or TCCs) approve MTP project list: BG MPO: 3/17/15, Greensboro: 3/25/15, High Point: 3/24/15, Winston Salem: 3/19/15	03/17/15	03/24/15	8	23	
24	Generate listing of CMAQ Projects NCDOT	12/17/14	02/23/15	69		
25	<b>Develop Customized STIP (Triad)</b>	01/30/15	02/20/15	22		
26	Send out Draft STIP for Agency Review: Compare the 16-22 STIP to MTP and regionally significant/exempt review	02/23/15	03/09/15	15	24	
27	MPO/NCDOT provide reply to Agency Review Comments	03/10/15	03/17/15	8		
28	MPO Meetings with Agency Partners to discuss comments	03/18/15	03/24/15	7	24	<b>NCDOT, FHWA, NCDAQ, EPA &amp; FTA</b>
29	<i>Transportation Modeling (50 days)</i>	03/25/15	05/22/15	59	25	<b>PART, NCDOT</b>
30	Base year network and land use (20xx)				26	
31	Horizon year 1 network and land use				27	
32	Horizon year 2 network and land use				28	
33	Design Year network and land use -- 2040				29	
34	Develop plan version for initial air quality analysis				30	
35	Extract draft plan VMT and speeds				31	
36	Evaluate draft plan speeds and VMT				32	
37	Preliminary Regional Emissions Analysis				33	
38	Emission Factors Review (additional iterations, if needed)				34	
39	Extract Final VMT and speeds				35	
40	Evaluate final speeds and VMT				36	<b>MPOs, RPOs, NCDOT</b>
41	Modeling Complete (Includes Emission Factor & REA)		05/22/15		37	
42	<b>Emission Analysis</b>	05/26/15	06/15/15	21	38	<b>NCDOT</b>
43	NCDAQ Emissions Model Work	05/26/15	06/15/15	21	39	<b>NCDAQ Pasley</b>
44	Off model analysis, including off-model TDM-not applicable			#VALUE!	40	
45	EPA and NCDOT Regional Emissions Analysis (REA) Review	06/15/15	06/19/15	5	41	<b>NCDOT</b>
46	<b>Conformity Report Preparation</b>	03/25/15	06/19/15	87	42	<b>Rhine</b>
47	<b>Interagency review</b>	06/23/15	07/22/15	30	43	<b>Rhine</b>
48	DENR Review	06/23/15	07/14/15	22	44	<b>NCDAQ-Galamb</b>
49	FHWA Initial Review	06/23/15	07/14/15	22	45	<b>Dancausse</b>
50	FTA Initial Review	06/23/15	07/14/15	22	46	<b>Tajsha</b>
51	EPA Initial Review	06/23/15	07/14/15	22	47	<b>Sheckler</b>
52	<b>Respond to Agency Comments</b>	07/15/15	07/21/15	7	48	<b>Rhine, MPOs/RPOs/NCDOT</b>
53	Place conformity report on website	07/22/15	07/22/15	1	49	<b>Rhine</b>
54	TACs release conformity draft and MTP update for public comment: BG MPO: 5/19/15, Greensboro: 7/22/15, High Point: 6/23/15, Winston Salem: 7/16/15	07/15/15	07/28/15	14	50	<b>MPOs, RPOs</b>
55	<b>Public review</b>	07/29/15	09/01/15	35	51	<b>MPOs, RPOs</b>
56	Public Review (MPOs and RPOs)	07/29/15	08/27/15	30	52	<b>MPOs, RPOs</b>
57	Respond to Agency and Public Comments	08/28/15	09/02/15	6	53	<b>MPOs, RPOs</b>
58	<b>MPO &amp; Rural Conformity Determination</b>	09/15/15	09/22/15	8	54	<b>NCDOT</b>
59	TACs Adopt Final LRTPs with AQ conformity-public hearing BG MPO: 9/15/15, Greensboro: 9/23/15, High Point: 9/22/15, Winston Salem: 9/16/15	09/15/15	09/22/15	8	55	<b>MPOs</b>
60	NCDOT Secretary issues conformity letter for rural area	NA	NA	#VALUE!	56	<b>NCDOT, RPOs</b>
61	Conformity analysis, report and review complete	09/03/15	09/22/15	20	57	
62	Place conformity report on website	09/03/15	09/03/15	1	58	<b>Rhine</b>
63	<b>Federal Action</b>	09/03/15	10/01/15	29	59	<b>Dancausse</b>
64	Transmit Report to FHWA/TPB	09/03/15	09/03/15	1	60	<b>Rhine</b>
65	FHWA transmit report to EPA & FTA	09/03/15	09/03/15	1	61	<b>Dancausse</b>
66	USDOT Determination	10/01/15	10/01/15	1	62	<b>Dancausse</b>
67	USDOT Letter to State/MPO	10/01/15	10/01/15	1	63	<b>Dancausse</b>
68	<b>Process Complete</b>	10/01/15	10/01/15	1	64	
69	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	

**TRIAD MAINTENANCE REGION**

*Guilford Co., Davidson Co., and Forsyth Co.*

Interagency Consultation Meeting  
April 27, 2015, 12:30 am-1:30 am

Teleconference Dial in Number  
1-877-848-7030  
Access Code: 9375764

**Agenda**

Welcome and Introductions.....Scott Rhine

Meeting Purpose.....Scott Rhine

Action Items from 3/23/15 Meeting.....Eddie Dancausse

MPO Progress Report (2040 MTP Updates) .....Lydia McIntyre  
Greg Venable  
Wendy Miller  
Mike Nunn

Piedmont Triad Regional Model Overview.....Scott Rhine/John Kim

Consensus Plan.....Eddie Dancausse

Conformity Process Schedule.....Eddie Dancausse

Discussions/Next Steps/Meeting Wrap-Up.....Scott Rhine

- ❑ Action Items
- ❑ Next Meeting Date (4<sup>th</sup> Monday at 12:30pm): May 25<sup>th</sup>

Adjourn

## Triad Region Transportation Conformity

### Burlington Graham Metropolitan Planning Organization (MPO) Greensboro MPO High Point MPO Winston Salem MPO

#### 2040 MTPs

#### Interagency Consultation (IC) Status Meeting

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### ACTION & FOLLOW-UP ITEMS/NOTES

April 27, 2015

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Lydia McIntyre

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith, Greg Errett

**FHWA:** Eddie Dancausse, Bill Marley

**FTA:**

**EPA:** Dianna Myers, Amanetta Somerville

**NCDOT:** Hemang Surti, Hemal Shah, Heather Hildebrandt, Andy Bailey, Michael Abuya, Mike Stanley

**NCDAQ:** Vicki Chandler, Phyllis Jones, Anne Galamb

**PART:** Scott Rhine, John Kim

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - Having some issues with the MTP graphics
  - Working on the MTP chapters
  - Finishing the financial projections
  - TAC will approve the release of the draft CDR when it is complete and ready
- GMPO (McIntyre)
  - Working on model updates and MTP chapters
- HPMPO (Venable)
  - Working on the modeling and MTP chapters
- WSMPO (Miller)
  - Working on the MTP chapters (EJ chapter almost complete) and performance measures.
  - WSMPO (Haith) met with PART (Kim) to go over network. PART (Kim) provided assistance with the SE chapter

#### Triad Regional Model (TRM) Status

- PART (Kim) is working on the networks and the final network reviews should be completed this week.

- There is a technical issue with the TRM feedback mechanism and that should be resolved in the next couple of weeks.
- No schedule delays anticipated and the files containing the VMT/speeds will be sent to DAQ by 5/22/15

### **Consensus Plan (CP):**

- On page 2, first paragraph remove: “(NCDOT representing donut portions of the Triad non-attainment area)”

### **Conformity Process Schedule (CPS)**

- No comments or revisions

### **Other**

- MAP-21 will expire at the end of May. There will be continuing resolutions until a new Transportation Bill can be put in place. Congress is working on a new 6 year Transportation Bill

### **ACTION ITEMS/NEXT STEPS**

- EPA (Somerville) requested that NCDAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment
- PART (Rhine) mentioned that the MPOs/NCDOT should start sending documents that are available to start populating the appendices for the conformity determination report.
- NCDOT (Hildebrandt) will check on the status of the 2016 call for CMAQ projects
- FHWA (Dancausse) will revise the CP, CPS and draft meeting minutes

### **NEXT IC MEETING**

- *May 26, 2015: 12:30-1:30 pm*

**Triad Area Draft CPS - 4.28.15**  
**MTP Update Transportation Conformity Process**

Discussion Draft -- 4/28/2015

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in <b>bold</b> )
		Start Date	End Date	Length (Days)		
1	<b>Project start --</b>			NA	1	
2	<b>Interagency consultation (IC)</b>	12/08/14	12/08/14	1	2	
3	IA planning session #1			#VALUE!	3	
4	Set IA meeting date (location, etc.)				4	
5	Develop participant list				5	
6	Discuss draft agenda				6	
7	Discuss TCPCP				7	
8	Discuss CPS				8	
9	IC planning session #2 <b>TBD</b>			#VALUE!	9	
10	Review draft agenda				10	
11	Review TCPCP				11	
12	Review CPS				12	
13	Prepare presentations				13	
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	
15	IC Meeting	12/08/14	12/08/14	1	15	<b>Dancausse, Rhine</b>
16	Meeting Minutes			1	16	<b>MPOs: Nunn, McIntyre, Greg, Miller</b>
17	Circulate and Review meeting minutes			1	17	<b>Dancausse</b>
18	Follow up to address comments			1	18	<b>Dancausse</b>
19	<b>Transportation Planning</b>	02/02/15	03/24/15	51	19	<b>MPOs, RPOs, NCDOT</b>
20	<i>Transportation Projects, Timelines, Fiscal Constraint</i>				20	
21	MPO TCCs develop and refine draft MTP project list	12/17/15	02/02/15		21	
22	MPO TACs receive & review the draft project list MTP-for-cor	02/09/15	02/20/15		22	
23	MPO TACs (or TCCs) approve MTP project list: BG MPO: 3/17/15, Greensboro: 3/25/15, High Point: 3/24/15, Winston Salem: 3/19/15	03/17/15	03/24/15	8	23	
24	Generate listing of CMAQ Projects NCDOT	12/17/14	02/23/15	69		
25	<b>Develop Customized STIP (Triad)</b>	01/30/15	02/20/15	22		
26	Send out Draft STIP for Agency Review: Compare the 16-22 STIP to MTP and regionally significant/exempt review	02/23/15	03/09/15	15	24	
27	MPO/NCDOT provide reply to Agency Review Comments	03/10/15	03/17/15	8		
28	MPO Meetings with Agency Partners to discuss comments	03/18/15	03/24/15	7	24	<b>NCDOT, FHWA, NCDAQ, EPA &amp; FTA</b>
29	<i>Transportation Modeling (50 days)</i>	03/25/15	05/22/15	59	25	<b>PART, NCDOT</b>
30	Base year network and land use (20xx)				26	
31	Horizon year 1 network and land use				27	
32	Horizon year 2 network and land use				28	
33	Design Year network and land use -- 2040				29	
34	Develop plan version for initial air quality analysis				30	
35	Extract draft plan VMT and speeds				31	
36	Evaluate draft plan speeds and VMT				32	
37	Preliminary Regional Emissions Analysis				33	
38	Emission Factors Review (additional iterations, if needed)				34	
39	Extract Final VMT and speeds				35	
40	Evaluate final speeds and VMT				36	<b>MPOs, RPOs, NCDOT</b>
41	Modeling Complete (Includes Emission Factor & REA)		05/22/15		37	
42	<b>Emission Analysis</b>	05/26/15	06/15/15	21	38	<b>NCDOT</b>
43	NCDAQ Emissions Model Work	05/26/15	06/15/15	21	39	<b>NCDAQ Pasley</b>
44	Off model analysis, including off-model TDM-not applicable			#VALUE!	40	
45	EPA and NCDOT Regional Emissions Analysis (REA) Review	06/15/15	06/19/15	5	41	<b>NCDOT</b>
46	<b>Conformity Report Preparation</b>	03/25/15	06/19/15	87	42	<b>Rhine</b>
47	<b>Interagency review</b>	06/23/15	07/22/15	30	43	<b>Rhine</b>
48	DENR Review	06/23/15	07/14/15	22	44	<b>NCDAQ-Jones</b>
49	FHWA Initial Review	06/23/15	07/14/15	22	45	<b>Dancausse</b>
50	FTA Initial Review	06/23/15	07/14/15	22	46	<b>Tajsha</b>
51	EPA Initial Review	06/23/15	07/14/15	22	47	<b>Myers</b>
52	<b>Respond to Agency Comments</b>	07/15/15	07/21/15	7	48	<b>Rhine, MPOs/RPOs/NCDOT</b>
53	Place conformity report on website	07/22/15	07/22/15	1	49	<b>Rhine</b>
54	TACs release conformity draft and MTP update for public comment: BG MPO: 5/19/15, Greensboro: 7/22/15, High Point: 6/23/15, Winston Salem: 7/16/15	07/15/15	07/28/15	14	50	<b>MPOs, RPOs</b>
55	<b>Public review</b>	07/29/15	09/01/15	35	51	<b>MPOs, RPOs</b>
56	Public Review (MPOs and RPOs)	07/29/15	08/27/15	30	52	<b>MPOs, RPOs</b>
57	Respond to Agency and Public Comments	08/28/15	09/02/15	6	53	<b>MPOs, RPOs</b>
58	<b>MPO &amp; Rural Conformity Determination</b>	09/15/15	09/22/15	8	54	<b>NCDOT</b>
59	TACs Adopt Final LRTPs with AQ conformity-public hearing BG MPO: 9/15/15, Greensboro: 9/23/15, High Point: 9/22/15, Winston Salem: 9/16/15	09/15/15	09/22/15	8	55	<b>MPOs</b>
60	NCDOT Secretary issues conformity letter for rural area	NA	NA	#VALUE!	56	<b>NCDOT, RPOs</b>
61	Conformity analysis, report and review complete	09/03/15	09/22/15	20	57	
62	Place conformity report on website	09/03/15	09/03/15	1	58	<b>Rhine</b>
63	<b>Federal Action</b>	09/03/15	10/01/15	29	59	<b>Dancausse</b>
64	Transmit Report to FHWA/TPB	09/03/15	09/03/15	1	60	<b>Rhine</b>
65	FHWA transmit report to EPA & FTA	09/03/15	09/03/15	1	61	<b>Dancausse</b>
66	USDOT Determination	10/01/15	10/01/15	1	62	<b>Dancausse</b>
67	USDOT Letter to State/MPO	10/01/15	10/01/15	1	63	<b>Dancausse</b>
68	<b>Process Complete</b>	10/01/15	10/01/15	1	64	
69	<b>Conformity Process Complete -- October 1, 2015</b>	10/01/15	NA	NA	65	



Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan (CO & PM2.5)

April 28, 2015

**Prepared Cooperatively Between the  
Burlington-Graham Urbanized Area MPO  
Greensboro Urbanized Area MPO  
High Point Urbanized Area MPO  
Winston-Salem Urbanized Area MPO  
Piedmont Authority for Regional Transportation  
North Carolina Department of Transportation  
Piedmont Triad Rural Planning Organization  
and the  
Federal Highway Administration**

**Triad Area Transportation Conformity:  
Pre-Analysis Consensus Plan  
April 28, 2015**

The Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO), Greensboro Urbanized Area MPO (GUAMPO), High Point Urbanized Area MPO (HPMPO), Winston-Salem Urbanized Area MPO (WSMPO), The Piedmont Authority for Regional Transportation (PART), and the North Carolina Department of Transportation are proposing the following plan and procedures to conduct a transportation conformity analysis. This plan is being submitted to the interagency consultation partners for soliciting consensus before commencement of a full-scale transportation conformity analysis. The plans and procedures may be revised as the MPO's and NCDOT proceed with the analysis. After consensus is reached; notification of changes will be made to the interagency consultation partners.

**Triad Area MPOs:**

- Burlington-Graham Urbanized Area Metropolitan Planning Organization (BGMPO)
- Greensboro Urbanized Area MPO (GUAMPO)
- High Point Urbanized Area MPO (HPMPO)
- Winston-Salem Urbanized Area MPO (WSMPO)

**Donut Areas:**

- The Triad Region no longer has a Donut Area

**The following pollutants will be included in this conformity determination:**

- Carbon Monoxide (CO)
- Particulate Matter 2.5 (direct PM 2.5, NOx)

**Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Program (MTIP)**

**1. Existing Land Use and Demographics: For GUAMPO, HPMPO, WSMPO and BGMPO**

The existing Piedmont Triad Regional Model (PTRM) had an enhancement of end user functioning that included an expansion of the modeled area in the southern portion of the High Point MPO, an update to the base year that incorporated input for the affected MPO's, updates to input data, networks, calibration and validation. The project used a base year of 2013, and a horizon year of 2040. The three-step demographic forecasting approach took into account municipal long range land use and transportation plans in conjunction with external data resources to develop a consensus of growth for the four MPO's.

The updated model has a horizon year of 2040 with two interim years of 2021 and 2030.

**2. MTP Model Validation (Base) Year:**

TDM base year: 2013

**3. MTIP Years:** 2016 – 2020

**4. MTP Horizon Year:** 2040

**5. Travel Demand Run Years:** 2021, 2030 & 2040

For this conformity process the actual PTRM runs will be 2021, 2030 and 2040.

**6. Transportation Conformity Analysis Years (PM 2.5)**

The Table below summarizes transportation conformity analysis methods and years for the different parts of the Triad non-attainment/maintenance areas. Specific conformity year information is listed in the following table:

County	Area model status	Area emissions budget status	Emissions analysis source				2021 (modeled)	2030 (modeled)	2040 Horizon (modeled)
Guilford	modeled all	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5
Davidson	modeled area	<sup>1</sup> The PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11	PTRM				NOx Direct PM2.5	NOx Direct PM2.5	NOx Direct PM2.5

**Footnotes for table:**

<sup>1</sup> The Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston –Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment will be referred to in this document as the PM2.5 Redesignation Nonattainment to Attainment Effective 12/19/11.

**Additional table notes and explanations:**

**County:**

- CO: The Triad CO maintenance area consists of one whole county (Forsyth)
- PM 2.5: The Triad PM 2.5 maintenance area consists of 2 counties (Guilford and Davidson)

**Model Status:** Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**Emissions analysis source:** Vehicle Miles Traveled (VMT) and speeds for the regional emissions analysis (REA) will be derived from the PTRM.

**Emissions analysis years:** The Triad area has State Implementation Plans (SIPs) for the CO standard and the PM 2.5 standard.

**Emission Comparison Years:**

- PM2.5: 2021 (compare to 2021 MVEB), 2030 (modeled- compare to 2021 MVEB) and 2040 (modeled- compare to 2021 MVEB)

**List of Specific Conformity Years (PM2.5 SIP)**

- a. Baseline 2013 (LRTP and conformity)
- b. Horizon: 2040
- c. SIP Budget Years: 2011 & 2021
- d. Emission comparison years: 2021, 2030 & 2040

**7. Non-attainment / Maintenance Counties:**

CO Limited Maintenance Plan: Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

PM 2.5 Maintenance Counties: Guilford and Davidson

**8. Travel Demand Model: Piedmont Triad Regional Model (PTRM)**

The PTRM is housed at PART. The PTRM completely covers the Metropolitan Area Boundaries (MABs) for the WSMPO (Forsyth, Davidson), the HPMPO (Davidson, Guilford and Forsyth), the GUAMPO (Guilford) and the BGMPO (Alamance, Guilford and Orange). Alamance, Guilford Davidson and Forsyth counties are completely within the Piedmont Triad Regional Model (PTRM) boundary.

**9. Mode Split / Mode Choice: Piedmont Triad Regional Model(PTRM)**

The PTRM forecasts travel for 12 major purposes including; home-based work (subdivided into three income groups), home-based school, home-based shopping, home-based other, non-home-based work, non-home-based other, home-based college/university, and airport passenger trip (subdivided into air travel purposes). In addition, the PTRM forecasts travel for three classes of commercial vehicles. Each of these major purposes and commercial vehicle classes are distributed for each potential origin and destination in the region, as defined by the regional network and zone system. After distribution of the trips, the PTRM nested logit model estimates the probability of selecting each of the seven travel modes for each of 12 major purposes (commercial vehicles are not subject to mode choice). Travel modes include: drive alone, shared ride 2, shared ride 3+, walk to transit, drive to transit, walk, and bike. School bus trips are estimated outside the mode choice model. The top level of the nested logit model structure contains major modes including passenger vehicle, transit, and non-motorized.

**10. Motor Vehicle Emissions Budgets**

Forsyth County is maintenance for the Carbon Monoxide (CO) standard. A CO limited maintenance plan was approved on June 20, 2013 with an effective date of July 22, 2013. In accordance with the transportation conformity rule, approval of a maintenance plan removes the requirement to conduct a regional emissions analysis as a part of the conformity determination. The requirement to demonstrate conformity per the requirements in Table 1 of 40 CFR 93.109 still applies.

The Triad area is maintenance for the PM 2.5 standard (Guilford and Davidson)

PM2.5 (NOx and Direct PM2.5) MVEBs are provided below:

<b>PM 2.5 (NOx): The PM2.5 Redesignation</b>
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Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	6,309,650	6,309,650	6,309,650
Davidson	2,148,938	2,148,938	2,148,938

PM 2.5 (PM 2.5): The PM2.5 Redesignation Effective 12/9/11 (kg/year)			
Area	Comparison Year		
	2021*	2030*	2040*
Guilford	421,841	421,841	421,841
Davidson	153,313	153,313	153,313

\*The MVEB for 2021 will be used for the 2021, 2030 and 2040 comparison for direct PM2.5 and NOx. The PM2.5 Redesignation Nonattainment to Attainment was effective on 12/19/11

**11. Control Strategies:** Emission reduction credits will be taken for the following on-road mobile SIP commitments or Federal programs. Currently there are no TCMs in the Triad Area SIPs.

**Strategy**

- I/M Program*
- Tier 2 vehicle's Emission Standards*
- Low Sulfur Gasoline and Diesel fuels*
- Heavy Duty Vehicle Rules 2004 and 2007*
- Low RVP Gasoline*
- On board vapor recovery*
- Tier 3 Vehicle and Emission Standards*
- Tier 3 Gasoline Sulfur Standard*

**Methodology/Approach**

- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*
- Accounted for in MOVES model*

**12. Mobile Source Emission Reduction Strategies:** The MPO's will take emission credits for the following Mobile Source Emission Reduction Strategies.

<b>Strategy</b>	<b>Approach</b>	<b>Year(s) Credited</b>
<i>Park-n-Ride Lots:</i>	<i>Off model</i>	<i>2021, 2030, 2040</i>
<i>Vanpools:</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>
<i>ITS</i>	<i>Off Model</i>	<i>2021, 2030, 2040</i>

**14. MOVES Model Settings:** The following MOVES model-input parameters will be used in the conformity analysis.

**CO Maintenance Area: Forsyth County**  
**PM<sub>2.5</sub> Maintenance Area: Davidson and Guilford Counties**

<b>Parameter</b>	<b>Details</b>	<b>Data Source</b>
a. <i>Emissions Model Version(s):</i>	MOVES2014	
b. <i>Emission Model Runs:</i>	County-level domain modeling in inventory mode; pollutant emissions reported in kilograms (kg)	
c. <i>Time Periods:</i>	Annually for NOx and Direct PM <sub>2.5</sub>	
d. <i>Pollutants Reported:</i>	NOx (for PM <sub>2.5</sub> ) and Direct PM <sub>2.5</sub>	
e. <i>Emissions Budget Years:</i>	CO: not applicable CO limited maintenance Plan-regional emissions analysis not required PM 2.5: 2011 & 2021	
f. <i>Emissions Analysis Years:</i>	2021, 2030, 2040	
g. <i>Vehicle Classes:</i>	13	
h. <i>Temperature and Relative Humidity:</i>	Hourly average temperature and relative humidity calculated for each month. Meteorological data is from the GSO Triad Regional Airport.	
i. <i>VMT Mix:</i>	Statewide mix based on 2013 data using the method in the August 2004 USEPA Guidance.	
j. <i>Speeds:</i>	From PTRM	
k. <i>Vehicle Age Distribution:</i>	Based on 2013 or latest available vehicle registration data provided by NCDOT.	
l. <i>I/M Program:</i>	2021, 2030, 2040: OBD-II for Davidson and Guilford Counties.	
m. <i>Anti-tampering Applicability:</i>	Not included in MOVES	
n. <i>RVP:</i>	Calendar Monthly	

	<b>RVP</b>
<b>Jan, Dec</b>	15
<b>Feb, March, April, Oct, Nov</b>	13.5
<b>May, June, July, Aug, Sept</b>	9.0

- o. *Strategies:* See item #12 above
- p. *I/M Compliance Factor Coverage (CFC):* **This input to MOVES accounts for the I/M compliance rate, waiver rate, and regulatory coverage adjustment for applicable vehicles. When calculated by MOVES guidance methods this value is 91.2% for passenger cars, 85.73% for passenger trucks, and 85.26% for light commercial trucks for both counties.**
- q. *Evaluation Month:* 12 month annual emissions or any part thereof (output can be disaggregated at the user's discretion)
- r. *VMT:* PTRM
- s. *Fuel Sulfur Content:* MOVES considers all recent rulemakings (Tier 2, ultra low sulfur diesel, Tier 3 low sulfur gasoline, etc). The default data in MOVES can be relied on here. Default database values are by month and fuel region and can be requested by the MPO.
- t. *Source type (vehicle type) population:* For each county, vehicle population estimates will be developed for each future modeling year based on the latest available (2013 or later) vehicle registration data provided by

NCDOT. This data includes the total number of registered vehicles in each county, divided into nine source type categories. The data will first be reorganized into thirteen source type categories (i.e. passenger cars, light commercial trucks, combination long-haul trucks, etc.) as required for MOVES2014. These source type population estimates will then be projected for each required modeling year, using the same base and future year-county-level human population data that were used in the PTRM TDM model, according to the following formula:

$$\text{Future year total vehicle population} = \text{Base year total vehicle population} * \frac{(\text{Future year human population})}{(\text{Base year human population})}$$

- u. **Source type (vehicle type) age distribution:** The latest available (2013 or later) vehicle registration data provided by NCDOT, which also includes a breakdown of the number of vehicles by model year, will be used to create the required source type age distribution input file for each county. As per EPA guidance, the source type age distribution will not be projected for future years.

**15. Emissions analysis units, conversion factors, significant figures, rounding and truncating conventions:**

- PM2.5 and NOx budgets are in kg/year and rounded to whole numbers

**16. CMAQ Projects:** PART and the MPO's/RPOs will include a spreadsheet in the conformity documentation showing funded CMAQ projects, project cost/funding, emission reductions, and implementation dates. (NCDOT-TPB Schmidt will work with MPO's and RPO's to generate a list of CMAQ projects to include as an appendix in the CDR)

**17. Regionally Significant Projects (Federal and Non Federal):** PART, the MPO's and the NCDOT/RPOs will identify regionally significant projects in their project lists and will provide them to the agency partners for review, comment and ultimately concurrence. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15

**18. List of Exempt Projects:** PART, the MPO's and NCDOT/RPOs will identify exempt projects according to the Conformity Regulation (40 CFR 93.126, 127 and 128). The exempt project lists for each MPO will serve as the long range transportation plan in the event of a conformity lapse. This will be discussed further in the conformity determination report (CDR) and the list of projects will be added as an appendix in the CDR. The conformity process schedule shows this task occurring between 2/23/15 and 3/10/15

**19. Conformity Process Schedule:** (A draft process conformity schedule has been developed and is provided as an attachment to this document)

- 20. Conformity Determinations:** Five organizations will be responsible for making conformity determinations in five distinctive parts of the Triad non-attainment/maintenance areas:
- i. The BGMPO within its metropolitan area boundary-a small part of Guilford County
  - ii. The GUAMPO within its metropolitan area boundary-a part of Guilford County

- iii. The HPMPO within its metropolitan area boundary-a part of Davidson, Guilford and Forsyth Counties
- iv. The WSMPO within its metropolitan area boundary-most of Forsyth County and a part of Davidson

Resolutions needed:

- Burlington Graham MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- Greensboro MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- High Point MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP
- Winston Salem MPO
  - 2040 MTP Adoption
  - 16-20 TIP Adoption
  - Conformity Determination on the 2040 MTP and 16-20 TIP

Each of these responsible organizations must make a conformity determination for its respective area in order for all of the areas to be designated in conformity.



**TRIAD MAINTENANCE REGION**

*Guilford Co., Davidson Co., and Forsyth Co.*

Interagency Consultation Meeting  
June 23, 2015, 12:30 am-1:30 am

Teleconference Dial in Number  
1-877-848-7030  
Access Code: 9375764

**Agenda**

Welcome and Introductions.....Scott Rhine

Meeting Purpose.....Scott Rhine

Action Items from 5/26/15 Meeting.....Eddie Dancausse

MPO Progress Report (2040 MTP Updates) .....Lydia McIntyre  
Greg Venable  
Wendy Miller  
Mike Nunn

Piedmont Triad Regional Model Overview.....Scott Rhine/John Kim

Consensus Plan.....Eddie Dancausse

Conformity Process Schedule.....Eddie Dancausse

Discussions/Next Steps/Meeting Wrap-Up.....Scott Rhine

- ❑ Action Items
- ❑ Next Meeting Date (4<sup>th</sup> Monday at 12:30pm): July 27 ??

Adjourn

## Triad Region Transportation Conformity

### Burlington Graham Metropolitan Planning Organization (MPO) Greensboro MPO High Point MPO Winston Salem MPO

#### 2040 MTPs

#### Interagency Consultation (IC) Status Meeting

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### ACTION & FOLLOW-UP ITEMS/NOTES

May 26, 2015

#### ATTENDEES

**Burlington Graham (BG)MPO:** Mike Nunn

**Greensboro (G)MPO:** Lydia McIntyre

**High Point (HP)MPO:** Greg Venable

**Winston Salem (WS)MPO:** Wendy Miller, Fred Haith, Greg Errett

**FHWA:** Eddie Dancausse

**FTA:**

**EPA:** Amanetta Somerville

**NC DOT:** Hemang Surti, Hemal Shah, Heather Hildebrandt, Andy Bailey, Tae-Gyu Kim, Soon Chung, Wayne Davis, Mike Abuya

**NCDAQ:** Vicki Chandler, Phyllis Jones, Anne Galamb, Todd Pasley, Matthew Davis

**PART:** Scott Rhine, John Kim, Mark Kirstner

#### MPO Status on 2040 MTP Work

- BGMPO (Nunn)
  - The TAC approved the release of the draft MTP/TIP.
  - Will hold public meetings on the draft MTP/TIP in late June and will adopt in August.
  - Working on the financial portion and maps for the draft MTP.
- GMPO (McIntyre)
  - Will be sending draft MTP chapters to FHWA (Marley). Will be taking the draft MTP out to the public in July
- HPMPO (Venable)
  - Will be sending draft MTP chapters to FHWA (Marley). Will hold public meetings for the draft MTP in August.
- WSMPO (Miller)
  - Awaiting the release of the draft STIP to take the document out for public review.

#### Triad Regional Model (TRM) Status

- Speeds/VMT was sent to NCDAQ (Pasley) last week so the emissions work can begin.
- NCDAQ has everything they need to begin this work.

**Consensus Plan (CP):**

- No comments or revisions

**Conformity Process Schedule (CPS)**

- No comments or revisions

**ACTION ITEMS/NEXT STEPS**

- EPA (Somerville) requested that NCDAQ (Pasley) provide the MOVES 2014 files (around 6/15/14) prior to the agency review of the draft conformity determination report (CDR)
- FHWA (Marley) requested that the MPO's provide the draft MTP chapters as they are completed for FHWA review and comment
- PART (Rhine) mentioned that the MPOs/NC DOT should start sending documents that are available to start populating the appendices for the conformity determination report.
- FHWA (Dancausse) will draft meeting minutes

**NEXT IC MEETING**

- *June 23, 2015: 12:30-1:30 pm*