

Appendix C: Interagency Consultation

Metrolina Region Transportation Conformity
Charlotte Regional Transportation Planning Organization
Cabarrus Rowan Metropolitan Planning Organization
Gaston Cleveland Lincoln Metropolitan Planning Organization

2045 MTP Conformity Process Status Meeting

ACTION & FOLLOW-UP ITEMS/NOTES

November 14, 2017

ATTENDEES

CDOT: Anna Gallup, Eldewins Haynes, Si Shi, Mohamed Kaddoumi

CRMPO: Phil Conrad

CRTPO: Neil Burke

GCLMPO: Randi Gates, Julio Paredes

NCDOT: Heather Hildebrandt, Andy Bailey, Ruben Crummy

FHWA: Eddie Dancausse

NCDAQ: Todd Pasley, Phyllis Jones, Matthew Davis

EPA: Dianna Myers

MPO STATUS ON 2045 MTP WORK

Cabarrus Rowan MPO: Conrad

Working on MTP Chapters, mapping and adding new demographic data. Toward the end of the calendar year will work on formatting the MTP chapters.

o CRTPO: Burke

Working on MTP chapter development. The TCC and the MPO Board will approve releasing the draft conformity report when it is ready for the agency comment period in January 2018.

o Gaston MPO: Gates

- Working on MTP chapter development.
- Currently working to hire consultant to help complete the MTP.
- Draft MTP and conformity determination report will be presented to the TCC and Board in January 2018.
- 30-day public comment period will be held in February 2018.
- Final MTP and conformity determination report will be presented to the TCC and Board in March, with adoption on March 22, 2018.

MRM STATUS

- The modeling team has been working with the MPO's to make sure the projects are coded correctly.
- Working on the MRM modeling for conformity.
- Currently running the 2026 HY.

- 2026, 2035 and 2045 will be run for conformity
- The MRM work (VMT/Speeds) in on schedule.

ITEMS DISCUSSED

- There was discussion related to the 2025 HY in the MTP and the 2026 comparison in the regional emissions analysis.
 - CDOT (Gallup Email dated 11/14/17 @3:57pm) - *I reviewed the travel demand model projects by year. There are NO additional projects that come online in 2026. The 2025 and 2026 project lists are identical.*
 - FHWA (Dancausse Email dated 11/14/17 @4:33pm - Anna - *Thanks for the quick turn-around on this. The MPO's will keep the 2025 HY project list in their MTP's but provide an explanation in the conformity determination report (CDR) that the project lists are identical for both 2025 (MTP) and 2026 (regional emissions analysis-REA). 2026 is used in the CDR-REA because it is a SIP budget year and an MRM model run year (no interpolation) comparison.*
- Resolutions needed for this conformity process:
 - 2045 MTP Adoption Resolution
 - 2045 MTP Conformity Determination Resolution
 - 18-27 TIP Amendment Adoption Resolution (if needed)
 - 18-27 TIP Amendment Conformity Determination Resolution (if needed)
 - NCDOT conformity determination for the rural portion of Union County
- FHWA (Dancausse) is available to review draft resolutions for the MPO's.
- NCDAQ (Pasley) mentioned that he has requested the 2016 vehicle mix data from NCDOT and has not received it. NCDOT (Hildebrandt) will check on the status.
- CDOT (Haynes) requested the latest version of the MPO 2045 MTP project lists when available.

CONSENSUS PLAN (CP)

There were some minor revisions to the CP. The changes are highlighted below:

- Page 3, Item #5, add discussion about 2025 MTP and 2026 REA Comparison
- Page 7, item14a, delete the last sentence in the paragraph.

CONFORMITY PROCESS SCHEDULE (CPS)

Item #44 in the CPS will be revised to update the MPO board meeting dates.

ACTION ITEMS/NEXT STEPS

- **FHWA (Dancausse) will draft meeting minutes and revise the CPS/consensus plan and provide to the IC group.**
- **FHWA (Dancausse) will send out a doodle poll to schedule a date for a future status IC meeting (when needed)**
- **NCDAQ (Pasley) mentioned that he has requested the 2016 vehicle mix data from NCDOT and has not received it. NCDOT (Hildebrandt) will check on the status.**
- **CDOT (Haynes) requested the latest version of the MPO 2045 MTP project lists when available**

Metrolina Region Transportation Conformity
Charlotte Regional Transportation Planning Organization
Cabarrus Rowan Metropolitan Planning Organization
Gaston Cleveland Lincoln Metropolitan Planning Organization

2045 MTP Update Conformity Process

ACTION & FOLLOW-UP ITEMS/NOTES

July 13, 2017

ATTENDEES

CDOT: Anna Gallup, Eldewins Haynes, Martin Kinnamon, Sara Familian

CRMPO: Phil Conrad

CRTPO: Neil Burke

GCLMPO: Hank Graham, Randi Gates

NCDOT: Heather Hildebrandt, Andy Bailey

FHWA:

NCDAQ: Todd Pasley, Phyllis Jones

EPA: Dianna Myers

MPO STATUS ON 2045 MTP WORK

Cabarrus Rowan MPO: Conrad

Will holding public meetings and have a 2045 MTP draft project list. Need to review the revised draft STIP to see if it impacts the 2045 MTP draft project list. The 2045 MTP draft project list will be presented to MPO board for approval to begin MRM work on 8/16/17.

o **CRTPO: Burke**

2045 MTP draft project list will be presented to MPO board on 7/19/17 and the public comment period will begin on 7/20/17 and will conclude in August. The MPO Board approval on the 2045 MTP project list to begin MRM work will take place on 8/16/17. Reviewed the revised draft STIP and adjusted the 2045 draft project list to incorporate those changes.

o **Gaston MPO: Graham**

The 2045 MTP draft project list will be presented to the MPO board on 7/27/17. The MPO board will act to release it to the public on 8/1/17. The public review period will last until 8/31/17. The MPO Board approval on the 2045 MTP project list to begin MRM work will take place on 9/27/17.

MRM STATUS

RFATS is ahead of us in schedule but that helped to solidify the SE data, so MRM is pretty set to go when project lists are provided. All CRTPOs projects have been coded currently. Other MPOs remaining.

ITEMS DISCUSSED

CDOT (Haynes) will be the conformity report coordinator

CDOT (Gallup) has concerns about the timing of MRM start date because modeling typically does not start until the plans are formally adopted. CRTPO project lists are currently coded and is OK starting the coding before adoption if the MPOs are confident that there will be few changes from final plan.

All MPOs (except CRMPO) have compared their lists to the draft 18-22 STIP and are ready to provide their fiscally constrained projects list by horizon year for interagency review. Phil indicates that he will be able to provide that list to Heather by July 14th. All MPOs will provide the lists to Heather by July 14.

CONSENSUS PLAN (CP)

There were no changes or revisions to the CP.

CONFORMITY PROCESS SCHEDULE (CPS)

The CPS will be revised to adjust the schedule to account for MPO approval of their project list for the MRM work

ACTION ITEMS/NEXT STEPS

- **FHWA (Dancausse) will draft meeting minutes and revise the CPS and provide to the IC group.**
- **MPO's will provide their 2045 MTP draft project lists by 7/14/17**
- **FHWA (Dancausse) will send out a doodle poll to schedule a date for a future status IC meeting**

Line ID#	Conformity Elements	Schedule Summary			Line ID#	Participating Organizations and Staff (lead staff in bold)
		Start Date	End Date	Length (Days)		
1	Project start --			NA	1	
2				1	2	
3				1	3	
4				1	4	
5				1	5	
6				1	6	
7				#VALUE!	7	
8				1	8	
9				#VALUE!	9	
10				#VALUE!	10	
11				#VALUE!	11	
12				1	12	
13	Kick-off IC Meetings	07/13/17	07/13/17	1	13	NCDOT/NCDAQ/Dancausse/Jones/Myers/LaShore
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	14	Dancausse
15	IC Meeting			1	15	
16	Meeting Minutes			1	16	Dancausse
17	Circulate and Review meeting minutes			1	17	
18	Follow up to address comments			1	18	
19				#VALUE!	19	
20					20	
21					21	
22	The MPO Boards approve the 2045 MTP Project Lists for use in the MRM: CRMPO: 8/23/17 CRTPO: 8/16/17 GCLMPO: 9/28/17	08/16/17	09/28/17		22	
23	Compare 18-22 STIP/TIP to 2045 MTP Project list to ensure it is a subset	08/14/17	08/28/17	15	23	FHWA (Dancausse)/DOT (Hildebrandt)/EPA (Meyers) /NCDAQ (Jones)
24	CRMPO, CRTPO and GCLMPO will provide 2045 MTP Project Lists CDOT (Gallup) for the MRM Modeling work	08/16/17	09/28/17	44	24	
25					25	
26	Transportation Modeling (50 days): Includes PTRM and NMAA	10/02/17	11/22/17	52	26	CDOT, NCDOT
27	Base year network and land use (20xx)				27	
28	Horizon year 1 network and land use				28	
29	Horizon year 2 network and land use				29	
30	Design Year network and land use -- 2040				30	
31	Develop plan version for initial air quality analysis				31	
32	Extract draft plan VMT and speeds				32	
33	Evaluate draft plan speeds and VMT				33	
34	Preliminary Regional Emissions Analysis				34	
35	Emission Factors Review (additional iterations, if needed)				35	
36	Extract Final VMT and speeds				36	
37	Evaluate final speeds and VMT				37	MPOs, RPOs, NCDOT
38	Modeling Complete (Includes Emission Factor & REA)		11/22/17		38	
39	Emission Analysis	11/27/17	12/18/17	22	39	
40	NCDAQ Emissions Model Work	11/27/17	12/18/17	22	40	NCDAQ Pasley
41	Off model analysis, including off-model TDM-not applicable			#VALUE!	41	
42	EPA/MPO/NCDAQ Review	01/02/18	01/09/18	8	42	EPA/NCDAQ/MPOs
43	Conformity Report Preparation	07/13/17	01/12/18	184	43	CDOT (Haynes)
44	TACs release draft conformity determination report and MTP Amendments for public comment: CRMPO: 1/24/18 CRTPO: 11/15/18 GCLMPO: 1/25/18	01/12/18	03/02/18	50	44	MPOs, RPOs
45	Interagency & Public Review	01/12/18	02/26/18	46	45	
46	DENR Review	01/25/18	02/16/18	23	46	Jones
47	FHWA Initial Review	01/25/18	02/16/18	23	47	Dancausse
48	FTA Initial Review	01/25/18	02/16/18	23	48	Tajsha
49	EPA Initial Review	01/25/18	02/16/18	23	49	Myers
50	Respond to Agency Comments	02/27/18	03/05/18	7	50	MPOs/RPOs/NCDAQ
51				0	51	
52					52	
53	MPO & Rural Conformity Determination	03/21/18	03/28/18	8	53	NCDOT
54	*MPO TACs Adopt MTP, MTP & 18-27 TIP conformity: CRMPO: 3/28/18 CRTPO: 3/21/18 GCLMPO: 3/22/18	03/21/18	03/28/18	8	54	MPOs
55	NCDAQ Secretary issues conformity letter for rural area: Union	03/28/18	03/28/18	1	55	NCDOT, RPOs
56	Conformity analysis, report and review complete	03/28/18	03/28/18	1	56	
57	Place conformity report on website	03/28/18	03/28/18	1	57	
58	Federal Action	04/02/18	05/01/18	30	58	Dancausse
59	Transmit Report to FHWA/TPB	04/02/18	04/02/18	1	59	
60	FHWA transmit report to EPA & FTA	04/02/18	04/02/18	1	60	Dancausse
61	USDOT Determination	05/02/18	05/02/18	1	61	Dancausse
62	USDOT Letter to State/MPO	05/02/18	05/02/18	1	62	Dancausse
63	Process Complete	05/02/18	05/02/18	1	63	
64	Conformity Process Complete -- May 2, 2018	05/02/18	NA	NA	64	

Metrolina Area Transportation Conformity:
Pre-Analysis Consensus Plan (8-Hour Ozone)

November 15, 2017

**Prepared Cooperatively Between the
Charlotte Regional Transportation Planning Organization, Cabarrus Rowan Metropolitan
Planning Organization, the Gaston Cleveland Lincoln Metropolitan Planning Organization and
the Rocky River Rural Planning Organization
North Carolina Department of Transportation
and the
Federal Highway Administration**

**Metrolina Area Transportation Conformity:
Pre-Analysis Consensus Plan**

November 15, 2017

The Charlotte Regional Transportation Planning Organization (CRTPO) and the North Carolina Department of Transportation (NCDOT-representing rural portions of the Metrolina maintenance 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.

Metrolina Area MPOs (*for this conformity process*):

- ❑ Charlotte Regional Transportation Planning Organization (CRTPO)
- ❑ Cabarrus Rowan Metropolitan Planning Organization (CRMPO)
- ❑ Gaston Cleveland Lincoln Metropolitan Planning Organization (GCLMPO)

Donut Areas:

- ❑ Rural portion of Union county outside of the MPO area

The following pollutants will be included in this conformity determination:

- ❑ 8-Hour Ozone (8-hour O3)

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

1. Existing Land Use and Demographics: For CRTPO, CRMPO, GCLMPO and rural (donut) Union County

Staff collected data as outlined in Attachment A. An economist was contracted to produce population, household, and employment estimates in five-year increments from 2010 to 2050 using a top down approach. The Regional partners then applied local knowledge to finalize the county totals in their areas and produce the Traffic Analysis Zone (TAZ) level base year data. CRMPO also applied local knowledge to produce their TAZ level projections. CRTPO and GCLMPO used the Metrolina CommunityViz Model 16v1.0 as a base year data management tool and applied the model to develop TAZ level projections. The Metrolina CommunityViz Model was developed under contract to the Centralina Council of Governments and City Explained, Inc.

Data sources include the following:

- 2010 Census data; and 2014 / 2015 Census Estimates
- **2010-2014 American Community**

- **Survey**
- 2015 InfoUSA employment data;
- **Institute of Transportation Engineers Trip Generation Manual, Ninth Edition;**
- 2010 Public Use Microdata Sample (PUMS) data
- Bureau of Labor Statistics (BLS) data;
- Bureau of Economic Analysis (BEA) data;
- area school system data;
- building permit data;
- tax data;
- zoning; and
- land use plans

2. MTP Model Validation (Base) Year:
2015

3. MTIP Years: 2018-2022

4. MTP Horizon Year: 2045

5. MTP Travel Demand Intermediate Years:

- a. 2008 O3 Maintenance SIP: 2025 (MTP)*/2026* (regional emissions analysis comparison) & 2035

**The 2025 and 2026 project lists are identical. There are NO additional projects that come online in 2026. The MPO's will keep the 2025 HY project list in their MTP's but provide an explanation in the conformity determination report (CDR) that the project lists are identical for both 2025 (MTP) and 2026 (regional emissions analysis-REA). 2026 is used in the CDR-REA because it is a SIP budget year and an MRM model run year (no interpolation) comparison*

6. Transportation Conformity Analysis Years (8-Hour Ozone)

2008 O3 Maintenance SIP

The Table below summarizes transportation conformity analysis methods and years for the different parts of the Metrolina 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	Emission comparison years		
				2026 ² (modeled)	2035 (modeled)	2045 Horizon (modeled)
Charlotte Region TPO-Rocky River RPO MVEB (all of Mecklenburg and portions of Union and Iredell County in the maintenance area)	Modeled all	2008 8-Hour Ozone Maintenance Plan	MRM ¹	O3	O3	O3
Cabarrus Rowan MPO (portions of Cabarrus and Rowan County in the maintenance area)	Modeled all	2008 8-Hour Ozone Maintenance Plan	MRM ¹	O3	O3	O3
Gaston Cleveland Lincoln MPO (portions of Gaston and Lincoln County in the maintenance area)	Modeled all	2008 8-Hour Ozone Maintenance Plan	MRM ¹	O3	O3	O3

1. The baseyear of the MRM is 2015
2. 2026 is a SIP MVEB for NOx and VOC

Additional table notes and explanations:

County:

- Ozone: The Metrolina area is maintenance for the 2008 Ozone Standard which consists of 1 whole county and 6 partial counties (Mecklenburg (CRTPO), Union (CRTPO-partial), Union (RRRPO-donut), Gaston (GCLMPO-partial), Cabarrus (CRMPO-partial) Rowan (CRMPO-partial), Lincoln (GCLMPO partial) and Iredell (CRTPO-partial).

**Note: a donut area is an area outside the MPO boundary but within the non-attainment/maintenance area.*

Model Status: Mecklenburg, Union, Cabarrus, Rowan, Gaston, and Lincoln, plus one partial county (Iredell) are completely within the Metrolina Regional Model (MRM) boundary.

Emissions analysis years:

- 2008 8-hour Ozone Standard Maintenance SIP: 2026 (modeled) 2035 (modeled) & 2045 (modeled)

Emission analysis source: The VMT and speeds for the regional emissions analysis (REA) will be derived from the MRM.

Emission Comparison Years:

- Motor Vehicle Emissions Budget Test
 - **2008 8-Hour Ozone Maintenance SIP:** (*Gaston-partial, Mecklenburg, Cabarrus-partial, Rowan-partial, Union-partial, Lincoln-partial, and Iredell-partial,)*
 - 2026 (modeled-compare to 2026), 2035 (modeled- compare to 2026 MVEB), and 2045 (modeled-compare to 2026 MVEB)

List of Specific Conformity Years

2008 8-Hour Ozone Maintenance SIP

Horizon: 2045

b. 2008 8-Hour Ozone Maintenance SIP MVEB Year: 2014 & 2026

c. Emission comparison years (NOx and VOC): 2026 (modeled), 2035 & 2045

7. Non-attainment / Maintenance Counties:

- 8 Hour Ozone Maintenance Area: Gaston Co. (partial), Mecklenburg Co., Cabarrus Co. (partial), Rowan Co.(partial), Union Co.(partial), Lincoln (partial), and Iredell Co. (partial)

8. Land-Use Demographics Projections/Forecast:

Land-use demographic projections for the region were developed using both a top-down and bottom-up approach.

An economist was contracted to develop regional and county level population, household, and employment projections for 5-year increments from 2010 to 2050 through a top-down forecasting approach. The economist’s forecasting model is based on the metropolitan growth of 43 mid-sized US regions and calibrated to trends and capture rates in the Metrolina region over the past 40 years. Refer to the *METROLINA REGIONAL DEMOGRAPHIC AND ECONOMIC DATA AND DATA FORECASTS (DRAFT REPORT)*, December 12, 2012, by Stephen J. Appold, PhD for more detailed information. MPO and RPO staff then applied local knowledge reflecting current local policies and plans to finalize county-level control totals for 2025, 2035, and 2045.

TAZ level 2025, 2035, and 2045 population, household, and employment data was projected for CRTPO and GCLMPO through a top-down /bottom-up forecasting approach using the Metrolina CommunityViz Model 16v1.0. CRMPO applied local knowledge through a manual process to allocate projected data to the TAZ level. For both approaches, data inventoried for the base year was used as quantitative inputs to the process of deriving projections. Qualitative inputs to the projections to both processes include future land use plans, building permits data, transportation plans and other capital improvements plans (such as water and sewer extensions and schools construction), and other factors limiting development (such as soils, floodplains, and water supply watershed regulations). Refer to the Draft Metrolina CommunityViz Model 16v1.0 Technical Document, June 14, 2016, by Matt Noonkester, AICP, City Explained, Inc. for detailed information.

9. Travel Demand Model: Metrolina Regional Model (MRM)

The regional travel demand model is a four-step model developed for a 2-state, 12- county (9 whole, 3 partial) region (refer to [Attachment B](#)). The modeling area encompasses 4 MPOs and 1 RPOs.

As described previously, a multitude of land use and demographic data was collected as input into the model. Additional data collected includes transit and highway network data as well as multiple travel surveys. Transit data collected includes routes, headways, and travel times. Refer to [Attachment C](#) for the highway network data dictionary. Following is a list of the travel surveys completed:

- 2001 (Freeway) and 2013 (non-freeway and freeway) External Travel Survey;
- 2012 Household Travel Survey;
- 2013 On-board Transit Survey of Express and Local Buses and South Corridor Light Rail Transit (LRT) Survey and Counts;
- 2010 Inrix Speed Data; and
- 2013-2016 Vehicle Classification Counts

10. Mode Split / Mode Choice:

The nested logit mode-choice model is structured similar to the Houston-Galveston Area Council’s regional travel model. Nesting and mode constants were developed using CATS’s on-board ridership survey conducted in 2013.

Transit paths include in-vehicle travel time, out-of-vehicle time (walking / driving and waiting), transfers, and direct cost (fare, parking). Four trip purposes are modeled. For the Home-Based Work, Home-Based-Other, and Home-Based University trip purposes, the potential transit Council’s regional travel model. Nesting and mode constraints were developed using CATS’s on-board ridership survey conducted in 2013.

Walk, drive, and drop-off approaches are handled in the nesting structure. Parking is provided at selected suburban stations.

The mode choice model was developed under contract with AECOM Consult

11. Local Street Count & VMT Estimate:

Vehicle miles of travel (VMT) – the sum of the distance that each vehicle travels during a specified period (day, year, etc.) – is the most typical measure of the level of travel in an area.

Like most statistics, it is still impossible to actually measure. To do so, *all* vehicles would have to be monitored all day. The most common method of estimating VMT uses traffic counts. We have a large count database from CDOT, NCDOT, and SCDOT including counts from 2000 – 2016. Each count will be factored to the base year (2015). Average Daily Traffic volumes will be factored to Average Weekday volumes. The adjusted base-year weekday counts are then aggregated by County and functional class. The average (mean) volume for each county / functional class will be multiplied by the number of road miles to obtain VMT. For future year estimates, the travel demand model, calibrated to the base year counts and VMT, will provide VMT for thoroughfares (VMT = assigned volume * length).

Local streets make up 60%-70% of the roadway miles, but a much smaller fraction of VMT. Most serve to accumulate traffic from neighborhoods. The bulk of the trip is then made on thoroughfares (that are modeled). Few local streets are included in the model. Counts are sporadic and usually concentrated on local streets experiencing traffic problems. Many of the local streets are represented by zonal centroid connectors in the model. We will use the centroid connectors times 2 to better approximate actual local VMT. VMT derived with this method compares favorably with local VMT estimated using street miles and assumed volumes. The centroid method provides a better method of relating VMT to high growth TAZs.

12. Rural (Donut) Area Projects

The rural areas do not develop long range transportation plans like the MPOs. The rural area projects that are included in the conformity regional emissions analysis (REA) come from the State TIP. It is NCDOT's position that projects that are in the State TIP and have right of way or construction phases scheduled in the first seven years should be included in the REA. In addition, for rural areas adjacent to an MPO the MPO may extend projects outside their boundary to a logical terminus. The MPO may include the portion outside of their MPO boundary in the financial element of their MTP.

13. VMT Adjustments:

No VMT adjustments are used.

14. Motor Vehicle Emissions Budgets

The Metrolina area is maintenance for the 2008 8-hour ozone standard

a. 2008 8-Hour Ozone Maintenance SIP MVEBs.

- Ozone: The Metrolina area is a maintenance area for the 2008 Ozone Standard. The Metrolina maintenance SIP was approved on July 28, 2015 with an effective date of August 27, 2015. The maintenance area consists of 1 whole county and 6 partial counties (Mecklenburg (CRTPO), Union (CRTPO-partial), Union (RRRPO-donut), Gaston (GCLMPO-partial), Cabarrus (CRMPO-partial) Rowan (CRMPO-partial), Lincoln (GCLMPO partial) and Iredell (CRMPO-partial). Motor vehicle emissions budgets (MVEBs) were established for three sub-areas within the Metrolina area which are generally defined by MPO jurisdictional boundaries.

2008 8-hour Ozone Maintenance SIP (kilograms/day)

		Charlotte Regional TPO- Rocky River RPO		
		2014	2026	
	NOx	32,679	9,946	
	VOC	18,038	9,690	
		Cabarrus Rowan MPO		
		2014	2026	
	NOx	11,814	3,749	
	VOC	7,173	3,762	
		Gaston Cleveland Lincoln MPO		
		2014	2026	
	NOx	10,079	2,996	
	VOC	5,916	2,755	

15. 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 Metrolina Area SIPs.

Strategy

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

Methodology/Approach

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

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

- **2008 Eight Hour Ozone Standard Maintenance Area*:** Cabarrus (partial), Gaston (partial), Lincoln (partial), Mecklenburg, Rowan (partial), Union (partial) and Iredell (partial)

MOVES Model (MOVES2014a)

MOVES Model Settings: The following MOVES model-input parameters will be used in the conformity analysis performed by DAQ.

Parameter

Details

Data Source

a. *Emissions Model Version(s):*

(MOVES2014a) or latest

b. *Emission Model Runs:*

Typical Summer Weekday (NOx and VOC)

- c. **Evaluation month:** July (NO_x and VOC)
- d. **Time Periods:** VMT and speeds modeled for 4 daily travel periods (see item #24 below) will be processed according to USEPA guidance to generate hourly speed and VMT distribution data in the required MOVES input formats.
- e. **Pollutants Reported:** NO_x, VOC
- f. **Emissions Budget Years:** 2014 and 2026 (NO_x and VOC)
- g. **Emissions Analysis Years:** 2026, 2035 and 2045
- h. **Temperature and Relative Humidity:** July 2014 monthly average 24-hour temperature and relative humidity profiles from the Charlotte-Douglas International Airport (KCLT).
- i. **Vehicle Classes:** 13
- j. **VMT mix:** Statewide mix based on 2016 data using the method in the August 2004 USEPA Guidance.
- k. **Speed Distribution:** Regional Model [MRM18v1.0](#)
- l. **Source type (vehicle type) age distribution:** The latest available 2016 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.
- m. **I/M Program:** The following I/M program parameters will apply: compliance rate = 96%, waiver rate = 5% with an exemption for vehicles from the 3-year latest model years.
- n. **RVP:** July 9.0 psi for all counties
- o. **Source Type (vehicle type) Population:** Vehicle population estimates will be developed for each future modeling year based on the latest available 2016 vehicle registration data provided by NCDOT. This data includes the total number of registered vehicles by 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 MOVES2014a. These source type population estimates will then be projected for each required modeling year, using the same base and future year-county human population data that were used in the TDM model, according to the following formula:

$$\text{Total Vehicle Population}_{\text{future year}} = \text{Total Vehicle Population}_{\text{base year}} * \left(\frac{\text{Human Population}_{\text{future year}}}{\text{Human Population}_{\text{base year}}} \right)$$

- p. **Strategies:** None

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

Units= Kilograms or Grams

Grams to tons conversion factor= Divide x grams by 907184.7 to get tons

Round to 2 decimal places

18. CMAQ Projects: Not Applicable

19. Regionally Significant Projects (Federal and Non-Federal): Not Applicable

20. List of Exempt Projects and Non-Regionally Significant Projects (Federally Funded):
Not Applicable

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

22. Conformity Determinations: Two organizations will be responsible for making conformity determinations in two distinctive parts of the Metrolina non-attainment/maintenance areas:

- i. The CRTPO within its metropolitan area boundary (MAB) -all of Mecklenburg County and parts of Union and Iredell County
- ii. The CRMPO within its metropolitan area boundary (MAB)
- iii. The GCLMPO within its metropolitan area boundary (MAB) -
- iv. The NCDOT for the rural areas are comprised of the parts of Union County that are outside of any MPO MAB

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.

The following resolutions will be needed for this conformity process:

- CRTPO/CRMPO/GCLMPO
 - 2045 MTP adoption
 - 2018-2022 TIP amendment adoption
 - Conformity Determination for the 2045 MTP
 - Conformity Determination for the 2018-2022 TIP amendment
- NCDOT Conformity Determination for the donut area of Union

23. Other

- Any reference to York County in this document has been removed since EPA has made the 8-hour ozone designations. Although a portion of York County, South Carolina was designated as part of the bi-state Charlotte 8-hour ozone nonattainment area, they are allowed to demonstrate transportation conformity independent of the North Carolina portion of this nonattainment area. Therefore, the planning assumptions and methodologies used for the York County, South Carolina portion of this nonattainment area is reflected in a separate transportation conformity determination that is generated by the Rock Hill-Fort Mill Area Transit Study Metropolitan Planning Organization.

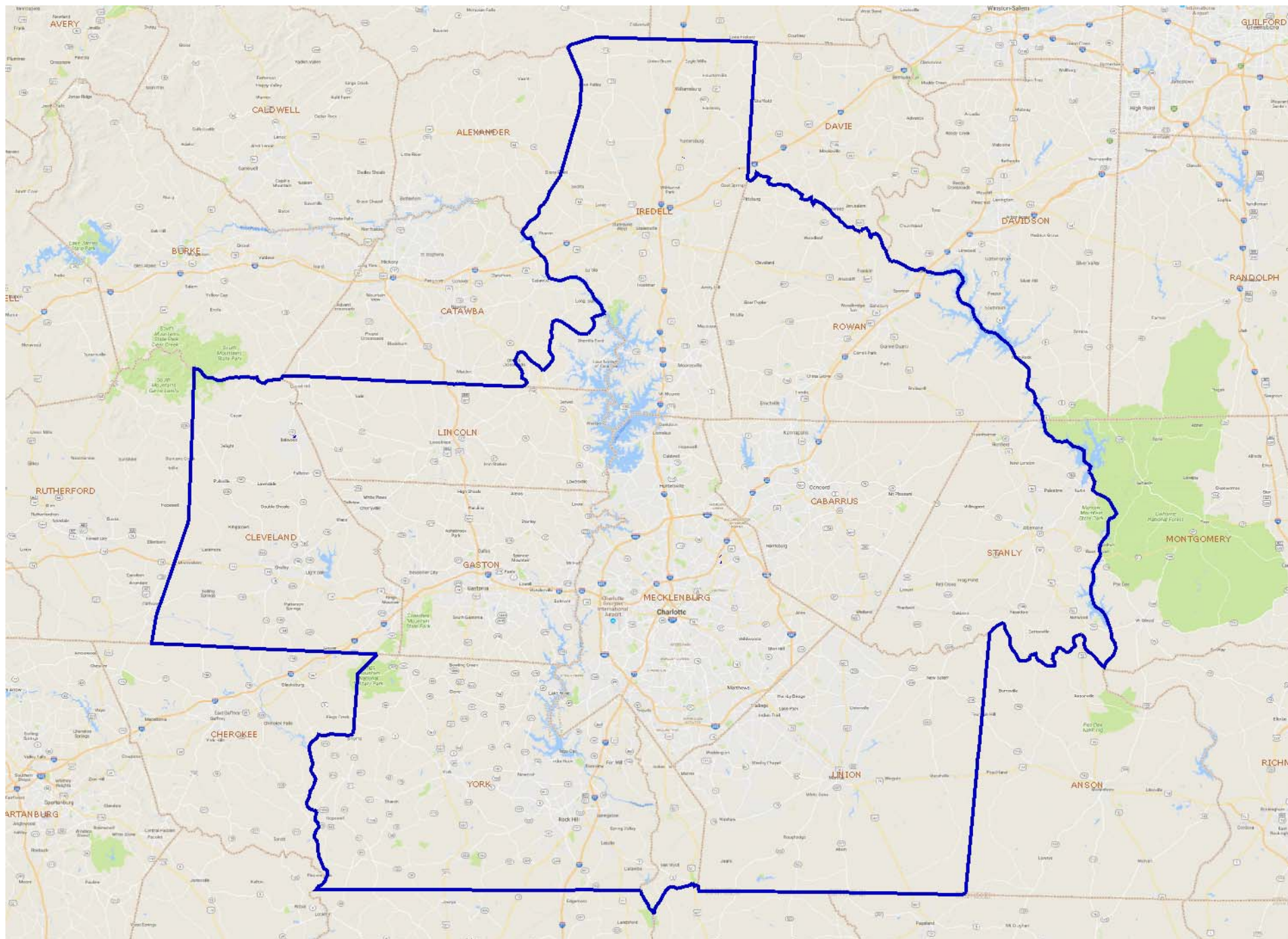
- The techniques used for this conformity process are the following:
 - VMT and speed will be done for 4 times of day (the 4 times of days are summed for the regional emissions analysis)
 - 6:30 am - 9:30 am
 - 9:30 am - 3:30 pm
 - 3:30 pm - 6:30 pm
 - 6:30 pm - 6:30 am
 - For the MOVES modeling component, the times of day will consist of whole hours and are as follows:
 - 6:00 am – 9:00 am
 - 9:00 am - 3:00 pm
 - 3:00 pm - 6:00 pm
 - 6:00 pm - 6:00 am

ATTACHMENT A

MRM18v1.0 SE Data Dictionary

Data Fields:

TAZ	Modeled Traffic Analysis Zone
HH	Number of households in TAZ
POP	Total population in TAZ
POP_HHS	Household population in TAZ
POP_GRP	Group quarters population in TAZ
MED_INC	Median HH income in TAZ
LOIND	Number of manufacturing, industrial, warehouse, rail transportation, water transportation, pipeline transportation, wholesale, and utilities employees based on NAICS
HIIND	Number of construction, communication, waste management, postal service, air transportation, and truck transportation employees based on NAICS
RTL	Number of retail employees based on NAICS
HWY	Number of highway retail employees based on NAICS
LOSVC	Number of low visitor service employees based on NAICS
HISVC	Number of high visitor service employees based on NAICS
OFFGOV	Number of office and government employees base on NAICS
EDUC)	Number of school, college, and university employees based in NAICS
STU_K8 schools	Number of pupils enrolled in public or private kindergarten, elem., and middle schools
STU_HS	Number of pupils enrolled in public or private high schools
STU_CU	Number of pupils in public or private colleges and universities
TOTEMP	Total number of employees (sum of LOIND, HIIND, RTL, HWY, LOSVC, HISVC, OFFGOV, and EDUC fields)
DORM	A "1" entered in this field indicates there are dorms located in the TAZ
STCNTY)	State and County FIPS code
AREA	GIS calculated TAZ area (square miles)
SEQ	Sequential TAZ numbering system needed for the mode split model
AREA_LU	Partner reported area (square miles) of TAZ less the area of bodies of water
DISTRICT	TAZs grouped into sub-county "districts" (used in the 2002 and 2010 SE employment data reconciliation processes); STCNTY concatenated with sequenced numbers (ie. Cabarrus County has 4 sub-county districts: 1, 2, 3, and 4) – refer to attached Metrolina TAZ Sub-County Regions mapping



Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
1	ID	Int	10			TransCad ID	TransCad	
2	Length	Real	10	2		Length (miles)	TransCad	
3	Dir	Int	2			Direction code	Model Team	
					1	One way - A to B		
					0	Two way		
					-1	One way - B to A		
4	Anode	Int	6			A node number	TransCad ID	
5	Bnode	Int	6			B node number	TransCad ID	
6	StrName	Char	20			Street name	Model Team	
7	Secondnam	Char	20			Secondary street name	DOT	
8	A_CrossStr	Char	20			Crossing str name at A node	Model Team	
9	B_CrossStr	Char	20			Crossing str name at B node	Model Team	
10	funcnl	Int	8			Model functional class	Model Team	
					1	Freeway		
					2	Expressway		
					3	Class II major tfare		
					4	Major tfare		
					5	Minor tfare		
					6	Collector street		
					7	Local Street		
					8	Ramp to surface street		
					9	Freeway-freeway ramp		
					22	HOV 2+ / Busway		
					23	HOV 3+ / Busway		
					24	HOT 2+ / Busway		
					25	HOT 3+ / Busway		
					30	Transit Only - Rail		
					40	Transit Only - Busway		
					82	Hwy to HOV 2+ / HOT2+		
					83	Hwy to HOV 3+ / HOT 3+		
					84	Transit Only - connect to Tran		
					90	Centroid connector		
					92	Centroid conn to transit sta		
						Add 900 for links not in current network		
					900+			
11	fedfunc	Char	2			Federal functional class	State DOTs	
					IU	Urban Interstate		
					IR	Rural Interstate		
					FU	Urban other freeway		
					PU	Urban Principal arterial		
					PR	Rural Principal arterial		
					MU	Urban Minor arterial		
					MR	Rural Minor arterial		
					CU	Urban collector		
					CM	Rural - Major collector		
					CR	Rural - Minor collector		
					LU	Urban - Local street		
					LR	Rural - Local street		
					HO	HOV		
					TR	Transit only		
12	fedfunc_AQ	Char	5			Air quality functional class	Model Team	Fedfunc - not mileage restricted
						County + fedfunc concatenated		Non-attainment area only
13	AQ_2008NA	Char	1			Y or N	Model Team	In 2008 NAAQ NA area or not
14	Co_fedfun	Char	5			County + fedfunc concatenated	Model Team	Fedfunc - not mileage restricted
15	lanes	Int	2			Total number of lanes	calc	Field check
16	lanesAB	Int	1			Trunk no. of lanes A to B	Calc / field check	lanes / 2 (field check odd nos.)
17	lanesBA	Int	1			Trunk no. of lanes B to A	Calc / field check	lanes / 2 (field check odd nos.)
18	factype	Char	1			Facility type	Field check	
					F	Freeway		
					E	Expressway		
					R	Ramp		
					D	Divided - no median breaks		
					M	Divided - median breaks only		
					B	Divided - left turn bays		
					T	Undivided - left turn bays		
					C	Undivided - continuous left		use in checking odd no. of lanes
					U	Undivided - no left provision		
19	SpdLimit	Int	8			Speed limit (MPH)	Field check	Use in link speed calc

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
20	SpdLimitRun	Int	8			Speed limit (MPH) adjusted in future for area type	calc	Use in link speed calc
21	parking	Char	1			On-street parking	Field check	Use in link speed / cap calc
					Y	Parking allowed		
					N	Parking not allowed		
					A	No parking in AM peak		
					P	No parking in PM peak		
					B	No parking in peak		
22	pedactivity	Char	1			Pedestrian activity	Field check	Use in link speed / cap calc
					H	High pedestrian activity		
					M	Medium pedestrian activity		
					L	Low pedestrian activity		
					X	Pedestrians prohibited		
23	developden	Char	1			Development density	Field check	Use in link speed / cap calc
					H	High development density		
					M	Medium development density		
					L	Low development density		
					X	Roadside development prohibited		
24	drivewyden	Char	1			Driveway density	Field check	Use in link speed / cap calc
					H	High driveway density		
					M	Medium driveway density		
					L	Low driveway density		
					X	Driveways prohibited		
25	landuse	Char	1			Land Use	Field check	Use in link speed / cap calc
					D	Center city	Model team	Consider shifting to numeric
					R	Residential		
					C	Commercial		
					I	Industrial		
					O	Open		
					X	Roadside development prohibited		
26	areatp	Char	1			Area Type	Calculated	Use in link speed / cap calc
					1	CBD		start w/ partners
					2	Fringe		
					3	Urban		
					4	Suburban		
					5	Rural		
27	A_LeftLns	Int	1			No. of left turn lanes at A node	Field check	Use in A intersection delay / capacity calc
28	A_ThruLns	Int	1			No. of through lanes at A node	Field check	Use in A intersection delay / capacity calc
29	A_RightLns	Int	1			No. of right turn lanes at A node	Field check	Use in A intersection delay / capacity calc
30	A_control	Char	1			Control at A node	Field check	Use in A intersection delay / capacity calc
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
31	A_prohibit	Char	1			Prohibitions at A node	Field check	Field check on turn lanes included "X" - assign here
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
32	B_LeftLns	Int	1			No. of left turn lanes at B node	Field check	Use in B intersection delay / capacity calc
33	B_ThruLns	Int	1			No. of through lanes at B node	Field check	Use in B intersection delay / capacity calc
34	B_RightLns	Int	1			No. of right turn lanes at B node	Field check	Use in B intersection delay / capacity calc
35	B_control	Char	1			Control at A node	Field check	Use in B intersection delay / capacity calc
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
36	B_prohibit	Char	1			Prohibitions at B node	Field check	Field check on turn lanes
					N	No prohibitions		included "X" - assign here
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
37	alpha	Real	10	2		Alpha - V/C delay function	Model team	Calibration
38	beta	Real	10	2		Beta - V/C delay function	Model team	Calibration
39	Count	Char	1	0		2000 Count	Model team	Y or N
40	AAWT00	Int	10			2001 Count	calc	Calibration check
41	CNTAAWT05	Int	10			Count for calibration	calc	Calibration check
42	CNTAAWT10	Int	10			2010 Count	calc	Calibration check
43	CNTAAWT11	Int	10			2011 Count	calc	Calibration check
44	CNTAAWT12	Int	10			2012 Count	calc	Calibration check
45	CNTAAWT13	Int	10			2012 Count	calc	Calibration check
46	CNTAAWT14	Int	10			2012 Count	calc	Calibration check
47	CNTAAWT15	Int	10			2012 Count	calc	Calibration check
48	Calib10	Int	10			Count for 2010 Calibration	calc	Count for 2010 calibration/validation (accounts for data collected ranging from 2010 to 2013)
49	Calib15	Int	10			Count for 2015 Calibration	calc	Count for 2010 calibration/validation (accounts for data collected ranging from 2013 to 2015)
50	CntSrc00	Char	3			Source of 2000 AAWT	Model team	
					CW	Charlotte AAWT		
					SW	State AAWT		
					SD	State AADT(fac)		
					I1	Interpolated 1 year between counts		
					I2	Interpolated 2 year between counts		
					I3	Interpolated 3 year between counts		
					FU	Growth factor up		
					FD	Growth factor down		
51	CntSrc02	Char	3			Source of 2002 AAWT	Model team	
					CW	Charlotte AAWT		
					SW	State AAWT		
					SD	State AADT(fac)		
					I4	Interpolated 1 year between counts		
					I5	Interpolated 2 year between counts		
					I6	Interpolated 3 year between counts		
					FU	Growth factor up		
					FD	Growth factor down		
52	CntSrc05	Char	3			Source of 2005 AAWT	Model team	
					CW	Charlotte AAWT		
					SW	State AAWT		
					SD	State AADT(fac)		
					I1	Interpolated 1 year between counts		
					I2	Interpolated 2 year between counts		
					I3	Interpolated 3 year between counts		
					FU	Growth factor up		
					FD	Growth factor down		
53	CntSrc10	Char	3			Source of Calib10	Model team	
					CW	Charlotte AAWT		
					SW	State AAWT		
					SD	State AADT(fac)		
					I4	Interpolated 1 year between counts		
					I5	Interpolated 2 year between counts		
					I6	Interpolated 3 year between counts		
					FU	Growth factor up		
					FD	Growth factor down		
54	MTK05	Int	10			2005 Medium Truck Count	calc	Calibration check
55	MTK10	Int	10			2010/11/12 Medium Truck Count	calc	Calibration check
56	MTK15	Int	10			2015/14/13 Medium Truck Count	calc	Calibration check
57	HTK05	Int	10			2005 Heavy Truck Count	calc	Calibration check
58	HTK10	Int	10			2010/11/12 Heavy Truck Count	calc	Calibration check
59	HTK15	Int	10			2015/14/13 Heavy Truck Count	calc	Calibration check

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
60	Scrln	Int	10			Screenline Identification	Model team	use w/ aawt05
					1	NS (RR Wilkinson / N. Tryon)		
					2	CSX RR (Monroe Road)		
					3	Long Creek		
					4	NS RR (Albemarle Road)		
					5	South Meck		
					6	Mallard Creek		
					7	Briar Creek Sugar Creek		
					8	NS RR (South Boulevard)		
					9	NS RR (westside)		
					10	Catawba River		
					11	Eastern N-S (Eastern Iredell, Meck, and Union Co. lines)		
					12	Northern E-W (N. Gaston, Meck, Cabarrus, and Stanly Co. lines)		
					13	I-85		
					14	Southern E-W (Southern Gaston, Meck, and Cabarrus County lines)		
					15	I-77		
					16	Western N-S (W.Gaston Co. line & split between York and Rock Hill)		
					17	US 74 (Union County)		
					18	US 321 (North Carolina)		
						Not screen line		
61	TMCcode_ab	Char	10	0		Cross reference to Inrix TT data segments - AB direction	Inrix Data	Cross Reference
62	TMCcode_ba	Char	10	0		Cross reference to Inrix TT data segments - BA direction	Inrix Data	Cross Reference
63	TT RTE	Int	8			Inrix Route	Inrix Data	
64	TT_KEY_AB	Int	8			Inrix Route AB direction	Inrix Data	
65	TT_KEY_BA	Int	8			Inrix Route BA direction	Inrix Data	
66	State	Int	2			State FIPS code	Model team	
					37	North Carolina		
					45	South Carolina		
67	County	Int	3	0		County FIPS code	Model team	
					25	Cabarrus		
					35	Catawba		
					45	Cleveland		
					71	Gaston		
					97	Iredell		
					109	Lincoln		
					119	Mecklenburg		
					159	Rowan		
					167	Stanly		
					179	Union NC		
					57	Lancaster		
					91	York		
					999	External station		
68	TAZ	Real	8			TAZ number	area type model	
69	locclass1	Int	8			Locally assigned functional class	MPO	modified July 5, 06 (CDOT)
					1	Freeway		
					2	Expressway		
					3	Class II major tfare		
					4	Major tfare		
					5	Minor tfare		
					6	Collector street		
					7	Local Street		
					8	Ramp to surface street		
					9	Freeway-freeway ramp		
70	locclass2	Int	8			Local class system	MPO	e.g. Corridor ID
71	reverselane	Int	6			No. of reversible lanes	Model team	Additional reversible lanes
72	reversetime	Char	1			Time period - reversible lanes	Model team	
73	SPfreeAB	Real	10	2		Composite (link + intersection) free speed A to B (MPH)	Capspd	Length / (TTfreeAB / 60)
74	SPfreeBA	Real	10	2		Composite (link + intersection) free speed B to A (MPH)	Capspd	Length / (TTfreeBA / 60)
75	SPpeakAB	Real	10	2		Composite (link + intersection) congested speed A to B (MPH)	Capspd	Length / (TTpeakAB / 60), NOT UPDATED IN FEEDBACK

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
76	SPpeakBA	Real	10	2		Composite (link + intersection) congested speed B to A (MPH)	Capspd	Length / (TTcongestBB / 60), NOT UPDATED IN FEEDBACK
77	TTfreeAB	Real	10	2		Composite (link + int) travel time free speed A to B (min)	Capspd	Network characteristics * lookups
78	TTfreeBA	Real	10	2		Composite (link + int) travel time free speed B to A (min)	Capspd	Network characteristics * lookups
79	TTpeakAB	Real	10	2		Composite travel time congested speed A to B (min)	Capspd	TTfreeAB * lookup (initial), NOT UPDATED IN FEEDBACK
80	TTpeakBA	Real	10	2		Composite travel time congested speed B to A (min)	Capspd	TTfreeBA * lookup (initial), NOT UPDATED IN FEEDBACK
81	TTlinkFrAB	Real	10	2		Travel time A to B - free speed - link factors only (min)	Capspd	Link characteristics * lookups
82	TTlinkFrBA	Real	10	2		Travel time B to A - free speed - link factors only (min)	Capspd	Link characteristics * lookups
83	TTlinkPkAB	Real	10	2		Travel time A to B - congested speed - link factors only (min)	Capspd	TTlinkfreeAB * congestion factor lookup
84	TTlinkPkBA	Real	10	2		Travel time B to A - congested speed - link factors only (min)	Capspd	TTlinkfreeBA * congestion factor lookup
85	IntDelFr_A	Real	10	2		A node intersectino delay - free speed (min)	Capspd	Intersection characteristics (A node) * lookups (Seconds)
86	IntDelFr_B	Real	10	2		B node intersection delay - free speed (min)	Capspd	Intersection characteristics (B node) * lookups (Seconds)
87	IntDelPk_A	Real	10	2		A node intersection delay - congested (min)	Capspd	Intersection characteristics (A node) * lookups (Seconds)
88	IntDelPk_B	Real	10	2		B node intersection delay - congested (min)	Capspd	Intersection characteristics (B node) * lookups (Seconds)
89	capPk3hrAB	Real	10	2		Peak 3 hour total capacity (link + intersection) A to B (tot veh)	Capspd	cap1hrAB * peak fac
90	capPk3hrBA	Real	10	2		Peak 3 hour total capacity B to A	Capspd	cap1hrBA * peak fac
91	capMidAB	Real (8 bytes)	10	2		Midday total capacity A to B	Capspd	cap1hrAB * midday fac
92	capMidBA	Real (8 bytes)	10	2		Midday total capacity B to A	Capspd	cap1hrBA * midday fac
93	CapNightAB	Real (8 bytes)	10	2		Night total capacity A to B	Capspd	cap1hrAB * night fac
94	CapNightBA	Real (8 bytes)	10	2		Night total capacity B to A	Capspd	cap1hrBA * night fac
95	cap1hrAB	Real	10	2		One hour link capacity A to B	Capspd	Lane, intesection characteristics * lookups
96	cap1hrBA	Real	10	2		One hour link capacity B to A	Capspd	Lane, intersection characteristics * lookups
97	TTPkEstAB	Real	10	2		Time/distance impedance - free speed A to B	Capspd	A(Length) + B(TTfreeAB)
98	TTPkEstBA	Real	10	2		Time/distance impedance - free speed B to A	Capspd	A(Length) + B(TTfreeBA)
99	TTPkPrevAB	Real	10	2		Congested travel time A to B previous assignment	Capspd, feedback	Round 2 feedback spd
100	TTPkPrevBA	Real	10	2		Congested travel time B to A previous assignment	Capspd, feedback	Round 2 feedback spd
101	TTPkAssnAB	Real	10	2		Congested travel time A to B current assignment	Capspd, feedback	Final feedback speed
102	TTPkAssnBA	Real	10	2		Congested travel time B to A current assignment	Capspd, feedback	Final feedback speed
103	TTpkLocAB	Real	10	2		Local bus travel time - congested speed A to B	Capspd	Lookup, capped at 90% of peak speed travel time A to B
104	TTpkLocBA	Real	10	2		Local bus travel time - congested speed B to A	Capspd	Lookup, capped at 90% of peak speed travel time B to A
105	TTpkXprAB	Real	10	2		Express bus travel time - congested speed A to B	Capspd	Lookup, capped at 90% of peak speed travel time A to B
106	TTpkXprBA	Real	10	2		Express bus travel time - congested speed B to A	Capspd	Lookup, capped at 90% of peak speed travel time B to A
107	TTPkNStAB	Real	10	2		Non-stop bus travel time - congested speed A to B	Capspd	=TTPkAssnAB or guideway speed with no stops
108	TTPkNStBA	Real	10	2		Non-stop bus travel time - congested speed B to A	Capspd	=TTPkAssnBA or guideway speed with no stops

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
109	TTpkSkSAB	Real	10	2		Skip stop bus travel time - congested speed A to B	Capspd	=TTPkAssnAB or guideway speed with skip stops
110	TTpkSkSBA	Real	10	2		Skip stop bus travel time - congested speed B to A	Capspd	=TTPkAssnBA or guideway speed with skip stops
111	TTfrLocAB	Real	10	2		Local bus travel time - free speed A to B	Capspd	Lookup, capped at 90% of free speed travel time A to B
112	TTfrLocBA	Real	10	2		Local bus travel time - free speed B to A	Capspd	Lookup, capped at 90% of free speed travel time B to A
113	TTfrXprAB	Real	10	2		Express bus travel time - free speed A to B	Capspd	Lookup, capped at 90% of free speed travel time A to B
114	TTfrXprBA	Real	10	2		Express bus travel time - free speed B to A	Capspd	Lookup, capped at 90% of free speed travel time B to A
115	TTFrNStAB	Real	10	2		Non-stop bus travel time - free speed A to B	Capspd	=TTFreeAB or guideway speed with no stops
116	TTFrNStBA	Real	10	2		Non-stop bus travel time - free speed B to A	Capspd	=TTFreeAB or guideway speed with no stops
117	TTfrSkSAB	Real	10	2		Skip stop bus travel time - free speed A to B	Capspd	=TTFreeAB or guideway speed with skip stops
118	TTfrSkSBA	Real	10	2		Skip stop bus travel time - free speed B to A	Capspd	=TTFreeAB or guideway speed with skip stops
119	PkLocLUAB	Real	10	2		Local bus lookup travel time - peak A to B	Capspd	Lookup, NO capping
120	PkLocLUBA	Real	10	2		Local bus lookup travel time - peak B to A	Capspd	Lookup, NO capping
121	PkXprLUAB	Real	10	2		Express bus lookup travel time - peak A to B	Capspd	Lookup, NO capping
122	PkXprLUBA	Real	10	2		Express bus lookup travel time - peak B to A	Capspd	Lookup, NO capping
123	TTwalkAB	Real	10	2		Walk travel time A to B	Capspd	Len * 20 (3 MPH), 9999 for func1 1,2,8,9, 20-89, Non-directional
124	TTwalkBA	Real	10	2		Walk travel time B to A	Capspd	Len * 20 (3 MPH), 9999 for func1 1,2,8,9, 20-89, Non-directional
125	TTbikeAB	Real	10	2		Bike travel time A to B	Capspd	7 MPH, 9999 for func1 1,2,8,9, 20-89, Directional
126	TTbikeBA	Real	10	2		Bike travel time B to A	Capspd	7 MPH, 9999 for func1 1,2,8,9, 20-89, Directional
127	ImpPkAB	Real	10	2		Peak Impedance A to B	Capspd	TTPeakAB * 0.6 + length * 0.4
128	ImpPkBA	Real	10	2		Peak Impedance B to A	Capspd	TTPeakBA * 0.6 + length * 0.4
129	ImpFreeAB	Real	10	2		Off-peak Impedance A to B	Capspd	TTFreeAB * 0.6 + length * 0.4
130	ImpFreeBA	Real	10	2		Off-peak Impedance B to A	Capspd	TTFreeBA * 0.6 + length * 0.4
131	TollAB	Real	10	2		Toll for link (cents)	Macro	
132	TollBA	Real	10	2		Toll for link (cents)	Macro	
133	HOTAB	Real	10	2		Managed Lane Toll for link (cents)	Macro	
134	HOTBA	Real	10	2		Managed Lane Toll for link (cents)	Macro	
135	Mode	Int	10			Flag for non-transit links to be included in transit network	Model Team	Flagged with a value of 1
136	BRT_Flag	Int	10					
137	datestamp	Int	8			Date stamp	Model team	
138	Level	Int	10			Cross-reference to old networks	Model team	
139	themecode	Int	8				Model team	
140	TOLL_PRJID	Int	8			Cross-reference to tolls.bin	Model team	
141	HOT_PRJID	Int	8			Cross-reference to tolls.bin	Model team	
142	ITS_Code	Int	8			AQ off-model code	Model team	currently not used
143	ITS_Segment	Int	8			AQ off-model code	Model team	currently not used
144	UrbanRural	Char	1			MOVES code	calc from AT	U or R
145	RoadTypeAQ	Int	2			MOVES code	Model team	
146	projnum1	Int	4			Project number ID, project 1	Model team	Project ID - network creation
147	dir_prj1	Int	2			future dir code, project 1	Plan	
					1	One way - A to B		
					0	Two way		
					-1	One way - B to A		

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
148	funcl_prj1	Int	3			future funcl, project 1	Plan	
					1	Freeway		
					2	Expressway		
					3	Class II major tfare		
					4	Major tfare		
					5	Minor tfare		
					6	Collector street		
					7	Local Street		
					8	Ramp to surface street		
					9	Freeway-freeway ramp		
					22	HOV 2+ / Busway		
					23	All-Pay Managed Lanes		
					24	HOT 2+ (2+ free, all others pay)		
					25	HOT 3+ (3+ free, all others pay)		
					30	Transit Only - Rail		
					40	Transit Only - Busway		
					82	Hwy to HOV 2+		
					83	Hwy to HOV 3+		
					84	Transit Only - connect to Tran		
					90	Centroid connector		
					92	Centroid conn to transit sta		
						Add 900 for links not in project network		
					900+			
149	InsAB_prj1	Int	1			future lanes A to B, project 1	Plan	
150	InsBA_prj1	Int	1			future lanes B to A, project 1	Plan	
151	facttypprj1	Char	1			future facility type, project 1	Plan	
					F	Freeway		
					E	Expressway		
					R	Ramp		
					D	Divided - no median breaks		
					M	Divided - median breaks only		
					B	Divided - left turn bays		
					T	Undivided - left turn bays		
					C	Undivided - continuous left		
					U	Undivided - no left provision		
152	Acntl_prj1	Char	1			future control at A, project 1	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
153	Aprhb_prj1	Char	1			future prohibitions at A, proj 1	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
154	Aleft_prj1	Int	1			future Left turn Ins at A, proj 1	Plan, est	
155	Athru_prj1	Int	1			future thru lanes at A, proj 1	Plan, est	
156	Arite_prj1	Int	1			future right turn Ins at A, proj 1	Plan, es+1159	
157	Bcntl_prj1	Char	1			future control at B, project 1	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
158	Bprhb_prj1	Char	1			future prohibitions at B, proj 1	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
159	Bleft_prj1	Int	1			future Left turn Ins at B, proj 1	Plan, est	
160	Bthru_prj1	Int	1			future thru lanes at B, proj 1	Plan, est	
161	Brite_prj1	Int	1			future right turn Ins at B, proj 1	Plan, est	
162	projnum2	Int	4			Project number ID, project 2	Model team	Project ID - network creation

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
163	dir_prj2	Int	2			future dir code, project 2	Plan	
					1	One way - A to B		
					0	Two way		
					-1	One way - B to A		
164	funcl_prj2	Int	3			future funcl, project 2	Plan	
					1	Freeway		
					2	Expressway		
					3	Class II major tfare		
					4	Major tfare		
					5	Minor tfare		
					6	Collector street		
					7	Local Street		
					8	Ramp to surface street		
					9	Freeway-freeway ramp		
					22	HOV 2+ / Busway		
					23	HOV 3+ / Busway		
					30	Transit Only - Rail		
					40	Transit Only - Busway		
					82	Hwy to HOV 2+		
					83	Hwy to HOV 3+		
					84	Transit Only - connect to Tran		
					90	Centroid connector		
					92	Centroid conn to transit sta		
					900+	Add 900 for links not in project network		
165	InsAB_prj2	Int	1			future lanes A to B, project 2	Plan	
166	InsBA_prj2	Int	1			future lanes B to A, project 2	Plan	
167	facttypprj2	Char	1			future facility type, project 2	Plan	
					F	Freeway		
					E	Expressway		
					R	Ramp		
					D	Divided - no median breaks		
					M	Divided - median breaks only		
					B	Divided - left turn bays		
					T	Undivided - left turn bays		
					C	Undivided - continuous left		
					U	Undivided - no left provision		
168	Acntl_prj2	Char	1			future control at A, project 2	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
169	Aprhb_prj2	Char	1			future prohibitions at A, proj 2	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
170	Aleft_prj2	Int	1			future Left turn Ins at A, proj 2	Plan, est	
171	Athru_prj2	Int	1			future thru lanes at A, proj 2	Plan, est	
172	Arite_prj2	Int	1			future right turn Ins at A, proj 2	Plan, est	
173	Bcntl_prj2	Char	1			future control at B, project 2	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
174	Bprhb_prj2	Char	1			future prohibitions at B, proj 2	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
175	Bleft_prj2	Int	1			future Left turn Ins at B, proj 2	Plan, est	
176	Bthru_prj2	Int	1			future thru lanes at B, proj 2	Plan, est	
177	Brite_prj2	Int	1			future right turn Ins at B, proj 2	Plan, est	
178	projnum3	Int	4			Project number ID, project 3	Model team	Project ID - network creation

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
179	dir_prj3	Int	2			future dir code, project 3	Plan	
					1	One way - A to B		
					0	Two way		
					-1	One way - B to A		
180	funcl_prj3	Int	3			future funcl, project 3	Plan	
					1	Freeway		
					2	Expressway		
					3	Class II major tfare		
					4	Major tfare		
					5	Minor tfare		
					6	Collector street		
					7	Local Street		
					8	Ramp to surface street		
					9	Freeway-freeway ramp		
					22	HOV 2+ / Busway		
					23	HOV 3+ / Busway		
					30	Transit Only - Rail		
					40	Transit Only - Busway		
					82	Hwy to HOV 2+		
					83	Hwy to HOV 3+		
					84	Transit Only - connect to Tran		
					85	Walk Only - connect to Tran		
					90	Centroid connector		
					92	Centroid conn to transit sta		
						Add 900 for links not in project network		
					900+			
181	InsAB_prj3	Int	1			future lanes A to B, project 3	Plan	
182	InsBA_prj3	Int	1			future lanes B to A, project 3	Plan	
183	facttypprj3	Char	1			future facility type, project 3	Plan	
					F	Freeway		
					E	Expressway		
					R	Ramp		
					D	Divided - no median breaks		
					M	Divided - median breaks only		
					B	Divided - left turn bays		
					T	Undivided - left turn bays		
					C	Undivided - continuous left		
					U	Undivided - no left provision		
184	Acntl_prj3	Char	1			future control at A, project 3	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
185	Aprhb_prj3	Char	1			future prohibitions at A, proj 3	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
186	Aleft_prj3	Int	1			future Left turn Ins at A, proj 3	Plan, est	
187	Athru_prj3	Int	1			future thru lanes at A, proj 3	Plan, est	
188	Arite_prj3	Int	1			future right turn Ins at A, proj 3	Plan, est	
189	Bcntl_prj3	Char	1			future control at B, project 3	Plan	
					T	Through		
					L	Signal (light)		
					S	Stop		
					F	Four way stop (all appr. stop)		
					Y	Yield		
					R	Round about		
190	Bprhb_prj3	Char	1			future prohibitions at B, proj 3	Plan	
					N	No prohibitions		
					L	No left		
					R	No right		
					T	No through		
					C	No turns		
191	Bleft_prj3	Int	1			future Left turn Ins at B, proj 3	Plan, est	
192	Bthru_prj3	Int	1			future thru lanes at B, proj 3	Plan, est	
193	Brite_prj3	Int	1			future right turn Ins at B, proj 3	Plan, est	

Field	FIELD_NAME	TYPE	WIDTH	DEC	Value	Description	Source	Notes
194	Notes	Char	24			User notes for reference	Model team	
195	CCSTYLE	Int	12			line style	Model team	