U.S. Department of Transportation Federal Highway Administration **FHWA NC Division**	**Standard Operating Procedure (SOP)** **Issued: 1/3/2011** (date) **Updated:** _____ (date) **Approved:** J. F. Sullivan III (signature) John F. Sullivan III (name and title) Division Administrator
Subject: **Transportation Conformity Process**	

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Title 23 and 49 USC

23 CFR 450

- 23 CFR 450.322 - Transportation Plan Conformity Determination for Non-Attainment Areas
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40 CFR Part 93 – Determining Conformity of Federal Actions to State or Federal Implementation Plan

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CONFORMITY STATE IMPLEMENTATION PLAN (SIP)

- Transportation Conformity Memorandum of Agreements

FHWA Transportation Conformity Website

- http://www.fhwa.dot.gov/environment/conform.htm

III. PURPOSE/OBJECTIVE

Establish procedures for the coordination, review and approval of transportation conformity determinations under 23 CFR 450 and 40 CFR 93.

Each Division Office (jointly with the FTA Regional Office) is delegated the authority to review and approve the Transportation Conformity Determinations. The process for review and signing transportation conformity determinations set forth under this procedural guidance.

IV. DEFINITIONS

1-Hour ozone NAAQS

The 1-hour ozone national ambient air quality standard codified at 40 CFR 50.9

8-Hour ozone NAAQS

The 8-hour ozone national ambient air quality standard codified at 40 CFR 50.10

Area source

Small stationary and non-transportation pollution sources that are too small and/or numerous to be included as point sources but may collectively contribute significantly to air pollution (i.e. dry cleaners).

Arterial

A class of roads serving major traffic movements (high-speed, high volume) for travel between major points.

Attainment area

An area considered to have air quality that meets or exceeds the U.S. Environmental Protection Agency (EPA) health standards used in the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others. Nonattainment areas are areas considered not to have met these standards for designated pollutants.

Clean Air Act

The original Clean Air Act was passed in 1963, but our national air pollution control program is actually based on the 1970 version of the law. The 1990 Clean Air Act Amendments are the most far-reaching revisions of the 1970 law. In this summary, we refer to the 1990 amendments as the 1990 Clean Air Act.

Carbon monoxide (CO)

A colorless, odorless, tasteless gas formed in large part by incomplete combustion of fuel. Human activities (i.e. transportation or industrial processes) are largely the source for CO contamination.

Conformity

Process to assess the compliance of any transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.

Congestion Management and Air Quality Improvement Program (CMAQ)

A categorical funding program under the Federal-aid Highway Program. It directs funding to projects that contribute to meeting or maintaining National air quality standards. CMAQ funds generally may not be used for projects that result in the construction of new capacity available to SOVs (single-occupant vehicles).

Congestion Management Process

SAFETEA-LU requires that each Transportation Management Area address congestion management through a process that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 and 49 through the use of travel demand reduction and operational management strategies.

Design concept

Type of facility identified by the project, e.g., freeway, expressway, arterial highway, grade-separated highway, reserved right-of-way rail transit, mixed-traffic rail transit, exclusive busway, etc.

Design scope

The design aspects which will affect the proposed facility's impact on regional emissions, usually as they relate to vehicle or person carrying capacity and control, e.g., number of lanes, or tracks to be constructed or added, length of project, signalization, access control including approximate number and location of interchanges, preferential treatment for high-occupancy vehicles, etc.

Donut area

Geographic areas outside a metropolitan planning area boundary, but inside the boundary of a nonattainment or maintenance area that contains any part of a metropolitan area(s). These areas are not isolated rural nonattainment and maintenance areas.

Emissions inventory

A complete list of sources and amounts of pollutant emissions within a specific area and time interval.

Environmental Impact Statement

Report developed as part of the National Environmental Policy Act requirements, which details any adverse economic, social, and environmental effects of a proposed transportation project for which Federal funding is being sought. Adverse effects could include air, water, or noise pollution; destruction or disruption of natural resources; adverse employment effects; injurious displacement of people or businesses; or disruption of desirable community or regional growth.

Environmental Protection Agency (EPA)

EPA is the Federal regulatory agency responsible for administering and the enforcement of Federal environmental laws including the Clean Air Act, the Clean Water Act, the Endangered Species Act, and others.

Federal Highway Administration (FHWA)

An agency of the U.S. Department of Transportation that funds highway planning and programs.

Federal Transit Administration (FTA)

An agency of the U.S. Department of Transportation that funds transit planning and programs.

FHWA/FTA project

For the purposes of transportation conformity, it is any highway or transit project which is proposed to receive funding assistance and approval through the Federal-Aid Highway program or the Federal mass transit program, or requires FHWA or FTA approval for some aspect of the project, such as connection to an interstate highway or deviation from applicable design standards on the interstate system.

Forecast period

With respect to a transportation plan is the period covered by the transportation plan pursuant to 23 CFR Part 450.

Fixed-route

Term applied to transit service that is regularly scheduled and operates over a set route; usually refers to bus service.

Freeway

A divided arterial highway designed for the unimpeded flow of large traffic volumes. Access to a freeway is rigorously controlled and intersection grade separations are required.

High occupancy vehicles (HOVs)

Generally applied to vehicles carrying three or more people; freeways, expressways and other large volume roads may have lanes designated for use by carpools, vanpools, and buses. The term HOV is also sometimes used to refer to high-occupancy vehicle lanes themselves.

Highway

Term applies to roads, streets, and parkways, and also includes rights-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Highway project

An undertaking to implement or modify a highway facility or highway-related program. Such an undertaking consists of all required phases necessary for implementation.

Hot-spot analysis

An estimation of likely future localized CO and PM10 pollutant concentrations and a comparison of those concentrations to the national ambient air quality standards. Hot-spot

analysis assesses impacts on a scale smaller than the entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals, and uses an air quality dispersion model to determine the effects of emissions on air quality.

Hydrocarbons (HC)

Colorless gaseous compounds originating from evaporation and the incomplete combustion of fossil fuels.

Inspection and Maintenance Program (I/M)

An emissions testing and inspection program implemented by States in nonattainment areas to ensure that the catalytic or other emissions control devices on in-use vehicles are properly maintained.

Intermodal

Connections between modes of transportation.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

Legislative initiative by the U.S. Congress that restructured funding for transportation programs. ISTEA authorized increased levels of highway and transportation funding from FY92-97 and increased the role of regional planning commissions/MPOs in funding decisions. The Act also required comprehensive regional and Statewide long-term transportation plans and places an increased emphasis on public participation and transportation alternatives.

Interstate Highway System

The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate Highway System also connects the U.S. to internationally significant routes in Mexico and Canada.

Isolated rural nonattainment and maintenance areas

Areas that do not contain or are not part of any metropolitan planning area as designed under the transportation planning regulations. Isolated rural areas do not have Federally required metropolitan transportation plans or TIPs and do not have projects that are part of the emissions analysis of any MPO's metropolitan transportation plan or TIP. Projects in such areas are instead included in statewide transportation improvement programs. These areas are not donut areas.

Land use

Refers to the manner in which portions of land or the structures on them are used (i.e. commercial, residential, retail, industrial, etc.).

Lapse

This means that conformity determination for a transportation plan or TIP has expired, and thus there is no currently conforming transportation plan and TIP.

Level of Service (LOS)

This term refers to a standard measurement used by transportation officials which reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F.

Local street

A street intended solely for access to adjacent properties.

Long term

In transportation planning, refers to a time span of, generally, 20 years. The transportation plan for metropolitan areas and for States should include projections for land use, population, and employment for the 20-year period.

Maintenance area

Any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

Metropolitan Planning Area

The geographic area determined by agreement between the metropolitan planning organization for the area and the Governor.

Metropolitan Planning Organization (MPO)

The policy board of an organization created as a result of the designation process of the MPO. MPOs are established by agreement of the Governor and units of general-purpose local government which together represent 75 percent of the affected population of an urbanized area.

Mobile source

Mobile sources include motor vehicles, aircraft, seagoing vessels, and other transportation modes.

Mode

A form of transportation such as an automobile, bus or bicycle.

Motor Vehicle Emissions Budget

is that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions.

Multi modal

The availability of transportation options using different modes within a system or corridor.

National Ambient Air Quality Standards (NAAQS)

Federal standards that set allowable concentrations and exposure limits for various pollutants. The EPA developed the standards in response to a requirement of the CAA.

National Environmental Policy Act (NEPA)

Is the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.).

Nonattainment area

Any geographic region of the United States which has been designated as nonattainment under section 107 of the CAA for any pollutant for which a national ambient air quality standard exists.

Oxygenated gasoline

Gasoline enriched with oxygen bearing liquids to reduce CO production by permitting more complete combustion.

Ozone (O3)

Ozone is a colorless gas with a sweet odor. Ozone is not a direct emission from transportation sources. It is a secondary pollutant formed when HC and NOx combine in the presence of sunlight. Ozone is associated with smog or haze conditions. Although the ozone in the upper atmosphere protects us from harmful ultraviolet rays, ground-level ozone produces an unhealthy environment in which to live. Ozone is created by human and natural sources.

Particulate Matter (PM), (PM-10), (PM-2.5)

Any material that exists as solid or liquid in the atmosphere. Particulate matter may be in the form of fly ash, soot, dust, fog, fumes, etc. Small particulate matter is too small to be filtered by the nose and lungs. PM-10, is particulate matter that is less than 10 microns in size. PM-2.5 is particulate matter that is less than 2.5 microns in size. A micron is one millionth of a meter.

Parts per million (ppm)

A measure of air pollutant concentrations.

Project

A highway project or transit project

Public participation

The active and meaningful involvement of the public in the development of transportation plans and programs.

Reformulated gasoline (RFG)

Gasoline specifically developed to reduce undesirable combustion products.

Regionally significant project

A transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

Enacted August 10, 2005 as Public Law 109-59. SAFETEA-LU authorizes the Federal surface transportation programs for highways and transit for the 5-year period 2005-2009.

State Implementation Plan (SIP)

A plan mandated by the CAA and developed by the State that contains procedures to monitor, control, maintain, and enforce compliance with the NAAQS.

Stationary source

Relatively large, fixed sources of emissions (i.e. chemical process industries, petroleum refining and petrochemical operations, or wood processing).

Transportation Equity Act for the 21st Century (TEA-21)

Enacted June 9, 1998 as Public Law 105-178. TEA-21 authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 6-year period 1998-2003.

Telecommuting

The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (e.g. telephones, personal computers, modems, facsimile machines, electronic mail).

Transit

Mass transportation by bus, rail, or other conveyance which provides general or special service to the public on a regular and continuing basis. It does not include school buses or charter or sightseeing services.

Transit project

An undertaking to implement or modify a transit facility or transit-related program; purchase transit vehicles or equipment; or provide financial assistance for transit operations. It does not include actions that are solely within the jurisdiction of local transit agencies, such as changes in routes, schedules, or fares. It may consist of several phases.

Transportation Control Measures (TCMs)

Any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in section 108 of the CAA, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of transportation conformity.

Transportation Improvement Program (TIP)

Also known as a transportation program, a TIP is a program of transportation projects drawn from, or consistent with, the transportation plan and developed pursuant to Title 23, U.S.C. (United States Code) and the Federal Transit Act. This document is prepared by metropolitan planning organizations listing projects to be funded with FHWA/FTA funds for the next one- to three-year period.

Transportation Management Area (TMA)

A Transportation Management Area (TMA) is an area designated by the Secretary of Transportation, having an urbanized area population of over 200,000, or upon special

request from the Governor and the MPO designated for the area. Within a TMA, all transportation plans and programs must be based on a continuing and comprehensive planning process carried out by the MPO in cooperation with States and transit operators. The TMA boundary affects the responsibility for the selection of transportation projects that receive Federal funds.

Transportation plan

This is a long-range plan that identifies facilities that should function as an integrated transportation system, and developed pursuant to Title 23, U.S.C. (United States Code) and the Federal Transit Act. It gives emphasis to those facilities that serve important national and regional transportation functions, and includes a financial plan that demonstrates how the long-range plan can be implemented.

U.S. Department of Transportation (DOT)

The principal, direct, Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and others.

Urbanized area

An Urbanized Area is a statistical geographic entity designated by the Census Bureau, consisting of a central core and adjacent densely settled territory that together contain at least 50,000 people, generally with an overall population density of at least 1,000 people per square mile.

Vehicle miles traveled (VMT)

The sum of distances traveled by all motor vehicles in a specified region.

Volatile organic compounds (VOCs)

VOCs come from vehicle exhaust, paint thinners, solvents, and other petroleum-based products. A number of exhaust VOCs are also toxic, with the potential to cause cancer.

Zone

The smallest geographically designated area for analysis of transportation activity. A zone can be from one to ten square miles in area. Average zone size depends on the total size of study area.

V. SCOPE

The intended audiences and extent of activities for this SOP are the following:

- **Air Quality Specialists/Community Planners/Environmental Protection Specialists**
  - *Coordinate conformity determination federal review process*
  - *Schedule/coordinate/facilitate IC meetings*
  - *Drafts/monitors MPO Conformity Process Schedule*
  - *Assist MPO/NCDOT with commitment follow-up*
  - *Provide technical advice/guidance on conformity*
  - *Review conformity determination report*
  - *USDOT Conformity determination*

- **Team Leaders/Group Managers/Assistant Division Administrator/Division Administrator**
    - *Provide technical advice/guidance on conformity*
    - *Review conformity determination report*
    - *USDOT Conformity determination*

The intent of the review and making a transportation conformity determination is to provide for the subsequent authorization and obligation of Federal-aid funding for the State's transportation projects and programs. The review must ensure: proper coordination between FHWA and FTA; demonstration of adequate public involvement; compliance with Clean Air Act requirements (including consultation with EPA); meeting all requirements in the Transportation Conformity Regulation 40 CFR 51 and 93; and adherence to the statewide and metropolitan planning requirements under 23 USC 134 and 135.

VI. PROCEDURES

1. Overview

- Transportation conformity applies in the following areas:
    - All EPA-designated nonattainment areas for transportation-related criteria pollutants,
    - Maintenance areas for transportation-related criteria pollutants for 20 years from the date EPA approves the State's request for redesignation as a maintenance area.
- Transportation conformity applies to the following criteria pollutants:
    - Ozone,
    - Carbon monoxide (CO),
    - Nitrogen dioxide (NO_2),
    - Particles with an aerodynamic diameter less than or equal to 10 microns (PM10), and
    - Particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM2.5)
- Conformity must be determined:
    - One year after the effective date of a nonattainment designation in an area that is designated nonattainment for the first time (newly designated nonattainment area).
    - Prior to approval of new transportation plans/TIPs or plan/TIP amendments, and
    - Prior to Federal approval or funding of projects.
- Conformity Frequency Requirements
    - At least every four years for transportation plans/TIPs (including a new regional emissions analysis);
    - Within 24 months of: the effective date of EPA's finding that motor vehicle emissions budgets from an initially submitted control strategy implementation plan or maintenance plan are adequate; the effective date of EPA's approval of a SIP that creates or revises a budget that has not yet been used in a conformity determination; and the effective date of EPA's promulgation of a Federal Implementation Plan (FIP) which creates or revises a budget.

- Conformity Lapse
    - A conformity lapse occurs when an area fails to satisfy the frequency requirements (time frame for making a conformity determination). A lapse can also result from a SIP failure.
- Conformity Lapse Grace Period
    - During the 12 month conformity lapse grace period a project may be found to conform if:
        - The project is included in the currently conforming transportation plan and TIP (or regional emissions analysis) or
        - The project is included in the most recent conforming transportation plan and TIP (or regional emissions analysis)
- The major requirements of the transportation conformity process include:
    - Interagency consultation,
    - Regional emissions analysis,
    - Project level analysis (including CO and PM Hot Spot Analysis where applicable),
    - For TCMs that are included in an approved SIP, assurance of timely implementation of TCMs, and
    - Certain Title 23 and 49 U.S.C. planning requirements (e.g., fiscal constraint).
- Donut Area
    - Donut areas are geographic areas outside a metropolitan planning area boundary, but inside the boundary of a nonattainment or maintenance area that contains any part of a metropolitan area(s). These areas are not isolated rural nonattainment and maintenance areas.

2. TIP Conformity Process

1. The North Carolina Department of Transportation (NCDOT) and the Metropolitan Planning Organizations (MPO's) agree on new draft Transportation Improvement Program (TIP). Negotiation meetings between MPO and the NCDOT should be complete before the transportation conformity process starts. This process should be completed no later than November of the year before the new State/Transportation Improvement Program (STIP)/TIP's are due to allow enough time for the transportation conformity process.
2. FHWA, NCDOT Transportation Planning Branch (TPB), and the NCDOT Program Development Branch (PDB) should meet to plan out the logistics for the TIP conformity determination process. Discussion items are the following:
    - When are all the STIP/TIP meetings with the MPOs going to be completed?
    - When is the STIP document going to be completed with no additional changes or modifications?
    - Who is going to coordinate the conformity processes for the NC AQ areas (see Appendix 13-especially areas with multiple MPOs-one conformity determination report (CDR) for a region is preferred)?
    - The conformity process schedule (CPS)
    - Request the customized STIP supplements (just for project categories I, R, U, C, and W) from the NCDOT PDB.

- Coordination for further customization of the STIP supplements such as adding the LRTP index numbers, clarify any reference to "multi-lanes or additional lanes" in the document with "number of existing and future lanes", the mileage of the project within the MPO area and outside the MPO area. The STIP customization should be done as a coordinated effort between FHWA planners, NCDOT TPB coordinators and MPO staff.
- Set up a NCDOT website to house all the STIP/TIP/Long Range Transportation Plan (LRTP) project list files and instructions that the IC partners will need for the review

3. Copies of the new draft customized STIP's supplements are made available (via website) to the interagency consultation (IC) partners for comparison to the LRTP's. Instructions should be provided on how to conduct the review (i.e., compare the TIP projects to the LRTP project list. The Federal approval of the STIP is just for the first 4 years of the document). This should be provided to the non-attainment/maintenance transportation partners (MPOs, RPOs, NCDOT, EPA, FTA, NCDENR-DAQ and FHWA) at least one month prior to the IC meeting
4. Schedule the IC meeting and send out memo/email to all non-attainment/maintenance transportation partners (MPOs, RPOs, NCDOT, EPA, FTA, NCDAQ and FHWA). The purpose of this meeting is to discuss and address agency comments to determine if TIPs are subsets of the existing conforming LRTPs (no regional emissions analysis is necessary) or if TIPs are NOT subsets (then a regional emissions analysis will be required). The meeting email should include the following attachments:
    - Schedule with appointment times for each MPO to attend the IC meeting to discuss agency comments/questions on their review (in person or video conferencing).
    - Summary of all agency comments on the TIP/LRTP comparisons by MPO
    - Meeting agenda including the following items:
        - Meeting purpose
        - Introductions
        - Summary of all agency comments on the MTIP/LRTP comparisons by MPO
        - Meeting Summary
            - What areas will require a regional emissions analysis and which areas will not
        - Next Steps
5. Set up an additional IC meeting with each NC AQ region to provide the following conformity tools
    - Transportation Conformity Pre-analysis Consensus Plan (TCPCP) for areas doing a regional emissions analysis (see Appendices 3 & 4)
    - Conformity Process Schedule (see Appendix 6)
    - CDR Template (see Appendix 8)
    - Address MPO questions/concerns
6. The MPO's provide the North Carolina Department of the Environment and Natural Resources-Division of Air Quality (NCDENR-DAQ) with copies of the CDR at the IC meeting for their 21-day review and approval. The Federal Highway Administration

(FHWA) will provide copies of the draft CDR to the Federal Transit Administration (FTA)/Environmental Protection Agency (EPA).
7. The MPO will address the CDR agency review comments (an IC meeting can be set up if needed)
8. NCDENR provides review and comment letter
9. The MPO completes the final draft of the CDR
10. The MPO releases the TIP/CDR for public review and comment period
11. MPO Transportation Advisory Committee (TAC) adopts TIP and conformity finding on TIP
12. Final draft TIP/CDR is sent to FHWA for federal review period.
13. FHWA sends the CDR to FTA/EPA for review and comment.
14. MPO/NCDOT provides responses to the agency review comments on the CDR (an IC meeting will be set up if needed)
15. EPA provides review and comment letter (assuming review comments were satisfactorily addressed or if no agency comments)
16. FHWA prepares and signs the United States Department of Transportation (USDOT) Transportation Conformity Determination Joint Signature Letter
17. Process Complete

TIP Conformity Process Roles and Responsibilities

NCDENR-DAQ

- Reviews the draft CDR (21-day review) and provides comments to the MPO/NCDOT
- Provides review letter/comment letter on the CDR to the MPO/NCDOT

MPO

- Completes the draft TIP CDR using template provided by the NCDOT /FHWA (NCDOT /FHWA can also provide CDR preparation assistance to the MPO). The draft CDR can be completed except for the appendices. The appendices containing the adoption resolutions, meeting minutes and public/agency comments can be included in the final draft CDR
- The TIP CDR will be released for a public comment/review period (30-45 depending on local regulations)
- MPO TAC adopts TIP and conformity finding on TIP.
- MPO will provide the NCDOT with copies of the new TIP's and the CDR (FHWA will need 5 electronic copies each of the MTIP and the CDR)

NCDOT

- Monitor MPO progress
- Develop and distribute TIP transportation conformity process/schedule memo/emails to all maintenance/NA MPO's.
- Distribute draft TIP's to review agencies (NCDENR, EPA, FTA & FHWA) so that the draft TIP can be compared to the projects in the LRTP (it is recommended that this be done prior to the IC meeting so that the discrepancies can be discussed and hopefully resolved at the IC meeting)

- Schedule/coordinate/facilitate TIP IC meetings: prepare agenda, meeting location, setup video teleconference, etc.
- Provide meeting minutes to all the MPO's to include in the CDR
- Ensure that review deadlines are met and follow up with review agencies to answer questions and remove roadblocks

FHWA

- Coordinate the TIP transportation conformity determination federal review process.
- Schedule/coordinate/facilitate TIP IC meetings: prepare agenda, meeting location, setup video teleconference, etc.
- Ensure that review deadlines are met and follow up with review agencies to answer questions and remove potential roadblocks
- Provide technical advice/guidance on the transportation conformity process
- USDOT Conformity Determination (covering the first 4 years of the TIP).
    - The FHWA signature has been delegated from the FHWA-NC Division Administrator to the FHWA-NC Division Air Quality Specialist
    - The FHWA/FTA MOA (see Appendix 15) states that the FHWA NC Division (or designee) will act as the Executive Agent for the USDOT Conformity Determinations

FTA

- Reviews Conformity Determination Reports

EPA

- Develops the Regulations
- Approves the SIP
- Provides technical advice/guidance on conformity
- Reviews Conformity Determination Reports
- Review and Comment Letter

Documents Needed for TIP Conformity Process

- New TIP
- CDR for the TIP (see Appendix 8)
- NCDENR-DAQ review and comment letter
- EPA review and comment letter
- MPO TAC resolution adopting the TIP
- MPO TAC resolution finding the TIP is in conformity with the SIP
- USDOT Transportation Conformity Determination Joint Signature Letter

3. Transportation Planning Amendment Process

On average, the Long Range Transportation Plan (LRTP) amendment process takes **four** to **six** months. This process requires the consideration of the following items: financial constraint, public review, addressing comments/concerns, and the Metropolitan Planning Organization (MPO) Technical Coordinating Committee (TCC) and Technical Advisory Committee (TAC) approval to amend the LRTP and Transportation Improvement Program (TIP) (if necessary). In

non-attainment and maintenance areas, the MPO's TCC/TAC amendment action on the LRTP and TIP (if necessary) is pending a transportation conformity determination by the United States Department of Transportation (USDOT). Generally, the process steps are:

1. Introduce LRTP amendment option(s)
2. Amend Thoroughfare Plan (if necessary)
3. Obtain MPO permission to hold public meeting/comment period
4. Hold public meeting/comment period to inform public and solicit comments (based on an areas public involvement/participation plan)
5. MPO considers and addresses comments
6. MPO TCC action to recommend amendment to Thoroughfare Plan (if necessary), LRTP and TIP (if necessary)
7. MPO TAC action to amend the Thoroughfare Plan (if necessary), LRTP and TIP (if necessary)

****Note: MPO TCC/TAC meeting schedules can delay the process based on meeting frequency (some MPO TCC/TAC meetings are monthly and others are quarterly)***

4. Transportation Conformity Process

Once the MPO TAC approves a list of projects (or amended projects) in a non-attainment or maintenance area (pending a transportation conformity determination) then the transportation conformity process can begin. On average, the transportation conformity process takes nine to twelve months from the initial kick-off meeting to the final USDOT transportation conformity determination. This schedule reflects a **12**-month process, which assumes each step occurs sequentially, though some steps occurring concurrently can shorten the process to nine months.

1. Kick-Off Interagency Consultation Meeting (14 days)

The initial IC meeting should include staff participation from, but is not limited to: MPO, Rural Planning Organization (RPO), local air agency, North Carolina Department of Transportation (NCDOT), North Carolina Department of the Environment and Natural Resources Division of Air Quality (NCDENR-DAQ), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and Environmental Protection Agency (EPA). These agencies need to agree on 17 data items that make up the Transportation Conformity Pre-analysis Consensus Plan (TCPCP-see Appendix 3 & 4). Agency concurrence and all decisions from the meeting should be accurately documented for inclusion in the Conformity Determination Report (CDR-see Appendix 7). A follow up meeting may be needed if concurrence is not reached on all items or not all agencies are able to attend the meeting.

2. Project List Review (30 days)

The MPO submits the LRTP/TIP project list to all agency partners for review and comment. The agencies provide comments on regional significance, exempt status and financial constraint. The MPO submits a response to all comments. This should be documented and included in the CDR. Ideally, the MPO TAC should adopt the project list (pending a transportation conformity determination) to ensure their concurrence. This entire process is about 30 days.

3. ***Transportation Modeling (70 days)***

   The MPO/NCDOT runs the travel demand model (TDM) in order to extract speed and vehicle miles traveled (VMT) data. This information is used to develop the emission factors.

4. ***Emissions Factors Development (20 days)***

   Once NCDOT/MPO completes the transportation modeling process, all VMT and speeds are submitted to NCDENR. NCDENR uses this information to develop emission factors using the latest approved emissions model.

5. ***Emissions Estimation (15 days)***

   NCDENR-DAQ submits the emissions factors to the MPO/NCDOT. The MPO/NCDOT uses the emissions factors to estimate vehicle emissions. These estimated vehicle emissions are compared to the motor vehicle emissions budget (MVEB) in the State Implementation Plan (SIP) or interim emission test if there are no MVEB available for that area. If the estimated emissions are less than the MVEB, then the MPO/NCDOT can proceed with the draft CDR. If the estimated emissions are greater than the MVEB, then the MPO may have to revise the project list and then go back through the TDM and emissions factors development process.

6. ***Draft Conformity Report (30 days)***

   The MPO with the assistance of NCDOT prepares the draft CDR. They can start drafting sections of the report earlier in the process.

7. ***NCDENR Review (21 days)***

   North Carolina State Law mandates that NCDENR-DAQ has 21 days to review and comment on the draft CDR. During this time, a draft is also sent to all Federal agency partners for review and comment. This is a critical juncture in the process to address and resolve major conformity issues. MPO/NCDOT provides responses to all NCDENR-DAQ and Federal partner comments.

8. ***Interagency Consultation Meeting (5 days)***

   MPO, NCDOT and FHWA should meet to review and respond to unresolved agency comments.

9. ***NCDENR Review and Comment Letter* (7 days)**

   If all NCDENR comments have been addressed, they will submit a “clean” review letter to be included in the final CDR.

10. ***Final CDR (15 days)***

    The MPO/NCDOT creates the final CDR that is inclusive of comments from all agency partners. During this step, the MPO/NCDOT should be preparing newspaper ads to announce the public review and comment period.

11. Public Review and Comment Period (30 days)

The public and other interested entities have 30 days to review and comment on the final CDR. The MPO should make the CDR available in accordance with their public involvement plan. The agency partners should also receive the final CDR.

12. Respond to Public Comments (30 days)

The MPO/NCDOT should address **all** public comments. These responses should be documented and included in the final CDR.

13. MPO TAC Makes the Transportation Conformity Determination (30 days)

The MPO TAC makes a conformity determination and adopts the LRTP/TIP. These resolutions need to be documented and included in the final CDR.

14. Federal Review Process (30 days)

The MPO submits the final CDR and LRTP to EPA, FHWA and FTA for the 30 day Federal review period. EPA submits a review and comment letter to FHWA and FTA. FHWA signs a joint letter for the USDOT conformity determination.

Transportation Conformity Process Roles and Responsibilities

NCDENR-DAQ

- SIP Development
- Runs the Mobile Emissions Model
- Reviews the draft CDR (21-day review) and provides comments to the MPO/NCDOT
- Provides review letter/comment letter on the CDR to the MPO/NCDOT

MPO

- Completes the draft CDR using template provided by the NCDOT /FHWA (NCDOT /FHWA can also provide CDR preparation assistance to the MPO). The draft CDR can be completed except for the appendices. The appendices containing the adoption resolutions, meeting minutes and public/agency comments can be included in the final draft CDR
- The CDR will be released for a public comment/review period (30-45 depending on local regulations)
- MPO TAC adopts and conformity finding.
- MPO will provide the NCDOT with copies of the new CDR (FHWA will need 5 electronic copies of the CDR)

NCDOT

- Monitors Conformity Process Schedule
- Runs and provides oversight of the travel demand model (TDM)/rural spreadsheet
- Run/Assist/Attend Interagency Consultation Meetings
- Assists with Drafting Conformity Determination Report
- Ensure that review deadlines are met and follow up with review agencies to answer questions and remove roadblocks

FHWA

- Coordinate conformity determination federal review process.
- Schedule/coordinate/facilitate TIP IC meetings: prepare agenda, meeting location, setup video teleconference, etc.
- Ensure that review deadlines are met and follow up with review agencies to answer questions and remove potential roadblocks
- Provide technical advice/guidance on the transportation conformity process
- USDOT Conformity Determination (covering the first 4 years of the TIP).
    - The FHWA signature has been delegated from the FHWA-NC Division Administrator to the FHWA-NC Division Air Quality Specialist
    - The FHWA/FTA MOA (see Appendix 15) states that the FHWA NC Division (or designee) will act as the Executive Agent for the USDOT Conformity Determinations

FTA

- Reviews Conformity Determination Reports

EPA

- Develops the Regulations
- Approves the SIP
- Provides technical advice/guidance on conformity
- Reviews Conformity Determination Reports
- Review and Comment Letter

Documents Needed for Conformity Process

- LRTP/TIP
- CDR
- NCDENR-DAQ review and comment letter
- EPA review and comment letter
- MPO TAC resolution adopting LRTP/TIP
- MPO TAC resolution finding the LRTP/TIP is in conformity with the SIP
- USDOT Transportation Conformity Determination Signature Letter

5. Project Level Conformity Determination

FHWA/FTA projects must be found to conform before they are adopted, accepted, approved or funded. With some exceptions (e.g. safety, landscaping and other projects with neutral or de minimis emissions impacts), transportation projects: 1) must come from a conforming transportation plan/TIP, 2) the design concept and scope of the project that was in place at the time of the conformity finding must be maintained through implementation, and 3) project design concept and scope had to be sufficiently defined to determine emissions at the time of the plan/TIP conformity determination. If a project does not meet the above three criteria, its emissions, when considered with the emissions projected for the conforming transportation plan and program, cannot cause the plan and program to exceed the emissions budget in the SIP. Areas that have carbon monoxide (CO) or particulate matter (PM) problems must also show that new localized violations (or "hot spots") of those pollutants will not result from project implementation.

The FHWA-NC Division Office created a Project Level review checklist (see Appendix 12) and an Air Quality Guidance for Environmental Documents (see Appendix 11) to assist the State and Local transportation partners with the project level conformity requirements.

6. <u>FHWA NC Division Transportation Conformity Services</u>

- Standardized the transportation conformity process in NC by developing
  - Interagency Consultation (IC) meeting agenda template (see Appendix 1)
  - IC Meeting Notes Template (see Appendix 2)
  - Transportation Conformity Pre-analysis Consensus Plan (TCPCP-see Appendix 3 & 4)
  - Conformity Determination Report (CDR) template (see Appendix 7 & 8)
  - Conformity Process Schedule (CPS-see Appendix 5 & 6)
- Transportation Conformity Policy Guidance and Interpretation
- Fill in as additional air quality staff to help gap resource/technical expertise shortages at the State and Local levels
- Develop and deliver specialized transportation conformity training for the State and local partners
- Dispute resolution
- Draft Interagency Consultation (IC) meeting minutes and agendas
- IC meeting set up, coordination, facilitation and action item follow-up
- Develop and monitor conformity process schedules (CPS)
- Draft TCPCP. *The TCPCP documents all the conformity parameters prior to the beginning of the regional emissions analysis (REA). The consensus plan is reviewed by the IC partners and all of the consensus plan parameters are agreed on prior to beginning the conformity REA.*
- Draft CDRs
- Review of draft/final CDRs, IC meeting minutes and MPO TAC adoption resolutions
- Coordination of the conformity process Federal Review Process with EPA, FTA and NCDENR-DAQ
- Develop, distribute and monitor conformity status/schedules for all transportation conformity processes in NC (see Appendix 9).
- Develop and distribute conformity task timelines to assist the transportation partners manage their workload by informing them of upcoming conformity work tasks by month (see Appendix 10)

7. <u>Other</u>

- The FHWA NC Division is intimately involved with every detail and aspect of the transportation conformity process. The conformity process in NC is efficient, cooperative, and meets or exceeds all applicable regulations. The CDR document is thoroughly reviewed by EPA, FHWA, NCDOT and NCDAQ. This level of involvement/cooperation greatly reduces errors and omissions along with greatly reducing the number of agency comments related to the draft/final CDR's. By the time the final CDR is generated there are typically little or no comments from the agency partners.

VII. CONTROLS

The checklist beginning on the following page is used to review the draft CDRs to ensure the transportation conformity regulations are being met.

Transportation Conformity Determination Checklist			
Critical Criteria Applicable to LRTP & TIP Submitted for Simultaneous Review			
Section of 40 CFR Part 93	**Criteria**	**Y/N/NA**	**Supporting Comments**
93.102	Are all of the appropriate pollutants and applicable precursors considered for the regional emissions analyses?		
93.102(b)(1)	Are seasonal emissions of CO considered for CO areas?		
93.102(b)(2)(i)	Are seasonal emissions of NOx and VOCs considered in ozone areas?		
93.102(b)(2)(iv)	Annualized NOx is applicable for the PM2.5 analysis if EPA and the State have NOT made a finding that NOx is an insignificant contributor to the PM mobile emissions OR the area has a SIP that establishes an adequate/approved NOx budget as part of the PM2.5 reasonable further progress, attainment or maintenance plan. Indicate whether the answer to either one of the questions is yes: (1) Does the analysis for PM2.5 include an analysis for annualized NOx? OR (2) Was an insignificance finding for NOx successfully made for this area?		
93.102(b)(2)(v)	Annualized VOC, SOx and NH3 are NOT applicable for the PM2.5 analysis if EPA nor the State have made a finding that one of these potential precursors is a significant contributor to the PM mobile emissions OR the area does not have a SIP that establishes an adequate/approved VOC, SOx, and/or NH3 budget as part of the PM2.5 reasonable further progress, attainment or maintenance plan. If the State or EPA have made a significance finding for VOC, SOx and/or NH3, does the analysis for PM2.5 include an analysis with annualized emissions for each precursor for which a significance finding was made or a budget was established?		
93.103((b)(3)	Re-entrained road dust is applicable for the analysis if EPA or the State have made a finding that re-entrained road dust is a significant contributor to the PM mobile emissions OR the area has a SIP that establishes an adequate/approved budget that includes re-entrained road dust as part of the PM2.5 reasonable further progress,		

	attainment or maintenance plan. Indicate whether this is applicable or not.		
93.106(a)(1) & (c)	Are horizon years correct?		
93.106(a)(2)(i) & (c)	Does the LRTP quantify and document the demographic and employment factors influencing transportation demand?		
93.106(a)(2)(ii) & (c)	Is the highway and transit system adequately described in terms of the regionally significant additions or modifications to the existing transportation network which the LRTP envisions to be operational in the horizon years?		
93.108	Are the LRTP and TIP fiscally constrained?		
93.110	Is the conformity determination based upon the latest planning assumptions?		
	(a) Is the conformity determination, with respect to all other applicable criteria in 93.111-93.199, based upon the most recent planning assumptions in force at the time of the conformity determination?		
	(b) Are the assumptions derived from the estimates of current and future population, employment, travel, and congestions most recently developed by the MPO or other designated agency and is the conformity determination based upon the latest assumptions about the current and further background concentrations?		
	(c) Are any changes in the transit operating policies (including fares and service levels) and assumed transit ridership discussed in the determination?		
	(d) Does the conformity determination include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time?		
	(e) Does the conformity determination use the latest existing information regarding the effectiveness of TCMs and other implementation plan measures which have already been implemented?		
	(f) Are key assumptions specified and included in the draft documents and supporting materials used for the interagency public consultation as required by 93.105?		
93.111	Is the conformity determination based upon the latest emissions model?		
93.112	Was the conformity determination made according to the consultation procedures of		

	the conformity rule or the state's conformity SIP, and according to the public involvement procedures for the area? Signed resolution statement must be included for metropolitan areas.		
93.113 (b)	Does the LRTP, in describing the envisioned future transportation system, provided for timely completion or implementation of all transportation control measures (TCMs) in the applicable implementation plan which are eligible for FHWA/FTA funded? Also, is there consistency with the schedules for implementation included in the LRTP and the implementation plan?		
93.113 (c)	Are TCMs being implemented in a timely manner? Can it be assured that there timely implementation of TCMs that are approved in the SIP?		
93.118	For areas with SIP budgets, are the results of the regional emissions analysis consistent with the motor vehicle emission budgets?		
93.119	For areas without SIP budgets, are the results of the regional emissions analysis consistent with the applicable interim emissions test (s)?		
93.122(a)	Is the TIP a subset of LRTP?		
93.122((a)(6)	Are the ambient temperatures used for the regional emissions analysis consistent with the temperatures used to develop the budgets?		
93.122 (a)(7)	Were reasonable methods used to develop vehicle miles traveled information for areas and roadways within the nonattainment/maintenance area that are not included in the travel demand model?		
93.122(d)	If a travel demand model was used as the previous practice of the area, is it being used for conformity purposes?		

Project Level Conformity Determination Checklist

The information below contains a checklist that is used to review the air quality section of environmental documents to ensure that the requirements of project level conformity are met.

Document Name
State Project No.
WBS Element
TIP No.

CHECKLIST

TIP No

Is this a neutral project? If yes, what is the project type?

II. CO Hotspot Analysis *(required for the following counties: Durham, Forsyth, Mecklenburg, and Wake)*

a. What level of Air Quality Analysis was performed (*no analysis, simplified analysis, or detailed analysis*)?

b. List methodology from the EA:
Local concentration determined by NCDOT traffic noise/AQ staff using **line source computer modeling** and background component obtained by NCDENR.

CAL3QHC -A Modeling Methodology For Predicting Pollutant Concentrations Near Roadway Intersections was used to predict the CO concentrations near sensitive receptors.

CO emission factors were calculated using EPA publication Mobile Source Emission Factors, the Mobile **xx** mobile source computer model.

The background CO concentration of **xxxx** for the project was recommended by **NCDENR.**

The predicted 1-hour average **CO concentrations for the evaluation build years of xxxx, xxxx and xxxx are xx, xx and xx ppm, respectively**. A comparison of the predicted CO concentrations with the National Ambient Air Quality Standards (NAAQS) (maximum permitted for the **1-hour average period = 35 ppm; 8-hour averaging period=9 ppm) indicates no violation of these standards.**

III. PM 2.5 Hotspot Analysis *(required for the following counties: Catawba Guilford and Davidson. Refer to the PM2.5 Hotspot Analyses in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards dated 3/10/06 and the Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas dated 3/2006 to determine if an analysis is required)*

IV. Projects in Attainment Areas

Is the standard statement for projects in attainment areas used in the environmental documents?

V. Projects in Nonattainment Areas

Is the standard statements for projects in nonattainment areas used in the environmental documents?

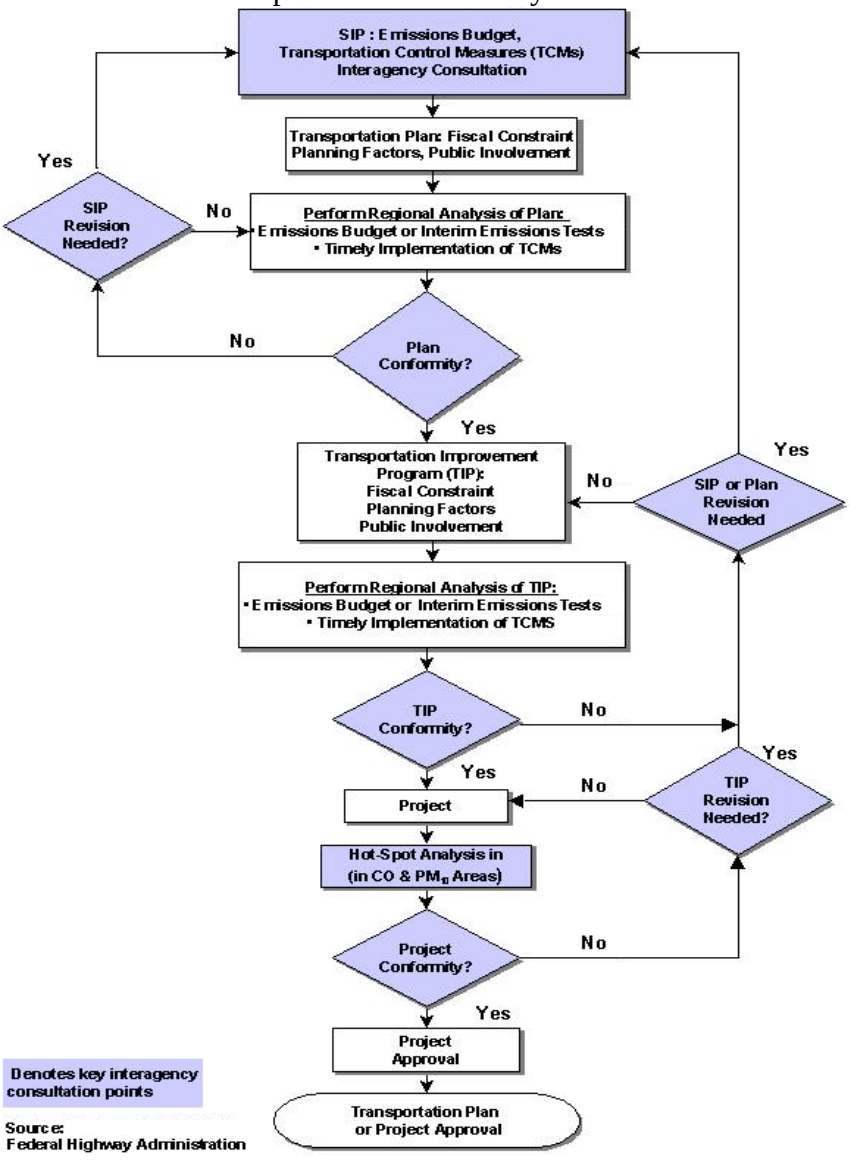
VI. Does this project address Mobile Source Air Toxics (MSATs) (*this needs to be done for all projects in NC. Refer to the Interim Guidance on Air Toxics Analysis in NEPA Documents dated 9/30/09 to determine what level of MSAT analysis will be required*)**?**

VII. Comments

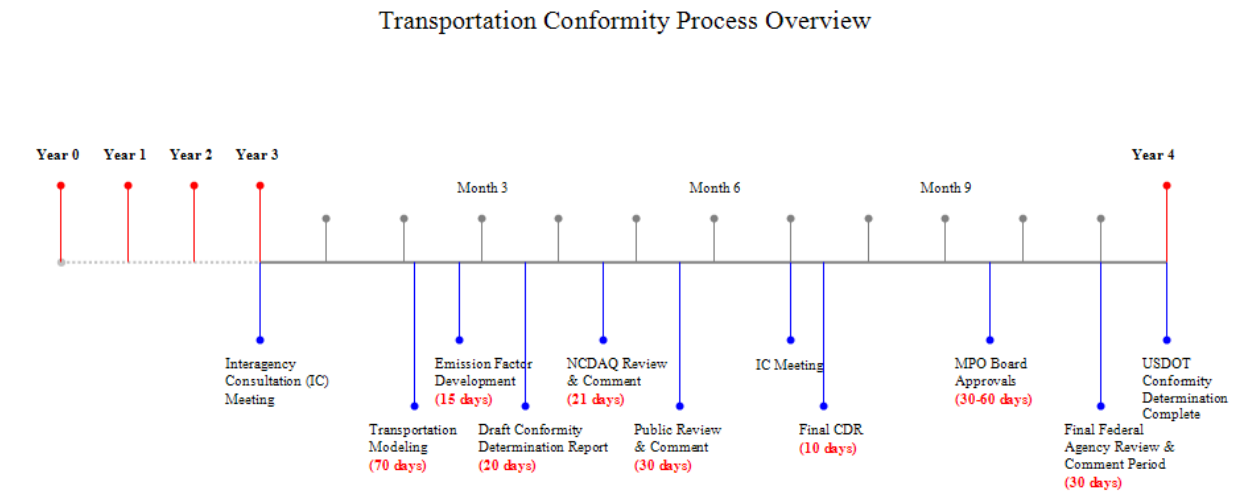
VIII. FLOWCHART

The chart below provides an overview of the conformity process and shows the key components of a transportation conformity determination.

Transportation Conformity Process



For a non-attainment or maintenance areas, the chart below shows the 4-year long range transportation planning (LRTP) process timeframe with the transportation conformity piece starting at year 3 and running parallel with the last year of the LRTP update process. At the end of year 4 you will have an adopted updated LRTP and USDOT transportation conformity determination



IX. APPENDIX

- Appendix 1: Interagency Consultation Meeting Agenda Example
- Appendix 2: Interagency Consultation Meeting Notes - Example
- Appendix 3: Transportation Conformity Pre-analysis Consensus Plan Example-O3 and CO
- Appendix 4: Transportation Conformity Pre-analysis Consensus Plan Example-PM2.5
- Appendix 5: Conformity Process Schedule LRTP – Example
- Appendix 6: Conformity Process Schedule TIP – Example
- Appendix 7: Conformity Determination Report LRTP Template/Example
- Appendix 8: Conformity Determination Report TIP Template/Example
- Appendix 9: NC Conformity Processes Status/Schedule Example
- Appendix 10: NC Interagency Consultation Task Timeline – Example
- Appendix 11: Air Quality Guidelines for Environmental Documents (*need to update*)
- Appendix 12: Environment Document Review Air Quality Checklist Template
- Appendix 13: Map of North Carolina Non-Attainment/Maintenance Areas
- Appendix 14: List of Acronyms
- Appendix 15: FHWA NC Division/FTA Region 4 MOA

Appendix 1

Interagency Consultation Pre-Analysis Consensus Plan Meeting for the Greater Hickory Urban Area MPO and the Unifour RPO

July 15, 2009
10:00 am – 11:30 am
FHWA Conference Room 4th Floor
Raleigh NC

AGENDA

- **Introductions**
- **Purpose of Meeting**
- **Follow up from April 22nd meeting**
- **Transportation Conformity: Pre-Analysis Consensus Plan**
  - Sample TCPCP
- **LRTP & Conformity Process Schedule**
  - Sample Conformity Process Schedule
- **Future Meetings**
- **Questions/Concerns**
- **Adjourn**

Call in number is: **1-877-950-6209 and the pass code is: 7039279 #**

Transportation Conformity Interagency Consultation Task Timeline 2011

Appendix 10 7.9.10

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
AQ Conformity Tools Meeting - NCDOT/FHWA									**New 8-hr Ozone Std**			
KICK-OFF interagency consultation meeting - all IC partners										**New 8-hr Ozone Std**		
Emission Factor Development - NCDENR		**11-17 TIP** 5 NA Areas 21 Cty's										**New 8-hr Ozone Std**
Review of **DRAFT** conformity determination report - all IC partners			**11-17 TIP** 5 NA Areas 21 Cty's									
Discuss review comments: interagency consultation meeting - all IC partners				**11-17 TIP** 5 NA Areas 21 Cty's								
Review and comment letter - NCDENR					**11-17 TIP** 5 NA Areas 21 Cty's							
Review of **FINAL** conformity determination report - all IC partners							**11-17 TIP** 5 NA Areas 21 Cty's					
Review and comment letter - EPA								**11-17 TIP** 5 NA Areas 21 Cty's				
Conformity determination letter - FHWA/FTA									**11-17 TIP** 5 NA Areas 21 Cty's			

See Index TAB for more information

Appendix 11

AIR QUALITY GUIDELINES
FOR
ENVIRONMENTAL DOCUMENTS

by
Planning and Program Development
Federal Highway Administration
North Carolina Division

April 2009

TABLE OF CONTENTS

Reference Documents:

- 40 CFR Part 93 PM2.5 and PM10 Hot-Spot Analysis in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule (March 10, 2006) http://www.epa.gov/fedrgstr/EPA-AIR/2006/March/Day-10/a2178.htm
- Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (March 2006): http://www.fhwa.dot.gov/environment/conformity/pmhotspotguidmemo.htm
- FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents (February 3, 2006) http://www.fhwa.dot.gov/environment/airtoxic/020306guidmem.htm

ATTACHMENTS:

1. Summary of the PM2.5 and PM10 Hot-Spot Analysis in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule (March 10, 2006)
2. Determination of Project Categorization for PM 2.5 Hot Spot Requirements
3. PM2.5 Hot-Spot Analysis Documentation

Introduction

This document is divided into two parts **Environmental Document Guidelines** and **North Carolina Air Quality Status Report**. The Environmental Document Guidelines meet current air quality regulations. They have been revised to reflect current conformity determination dates and nonattainment designations under the eight-hour ozone, carbon monoxide (CO) and the Particulate Matter 2.5 (PM2.5) standard.

The North Carolina Air Quality Status Report contains a revised listing of adoption dates for Long Range Transportation Plans (LRTPs) and Metropolitan Transportation Improvement Programs (TIPs) in nonattainment and maintanence area as well as the transportation conformity determination dates.

Questions

Questions concerning the content of this document can be forwarded to:

Edward J. Dancausse
Air Quality Specialist

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Raleigh, NC 27601
Telephone: (919) 856-4330 ext 112
FAX: (919) 856-4353
E-mail: edward.dancausse@fhwa.dot.gov

Environmental Document Guidelines

These guidelines have been revised to reflect current air quality regulations and conformity approval dates. The following items should be addressed in environmental documents:

I Neutral Projects

Listed below are projects that may be excluded from the regional emissions analyses, which are used to determine conformity of LRTPs and TIPs. The United States Environmental Protection Agency (EPA) and the Department of Transportation (DOT) have agreed that project-level analysis of local CO and or PM2.5 (*the project is exempt in a PM2.5 area only if they are in compliance with control measures in the applicable SIP*) impacts is not necessary:

Exempt Projects (40 CFR 93.126)

Safety

- Railroad/highway crossing
- Hazard elimination program
- Safer non-Federal-aid system roads
- Shoulder improvements
- Increasing sight distance
- Safety improvement program
- Traffic control devices and operating assistance other than signalization projects
- Railroad/highway crossing warning devices
- Guardrails, median barriers, crash cushions
- Pavement resurfacing and/or rehabilitation
- Pavement marking demonstration
- Emergency relief (23 U.S.C. 125)
- Fencing
- Skid treatments
- Safety roadside rest areas
- Adding medians
- Truck climbing lanes outside the urbanized area
- Lighting improvements
- Widening narrow pavements or reconstructing bridges (no additional travel lanes)
- Emergency truck pullovers

Mass Transit

- Operating assistance to transit agencies
- Purchase of support vehicles
- Rehabilitation of transit vehicles
- Purchase of office, shop, and operating equipment for existing facilities
- Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc)

- Construction or renovation of power, signal, and communications systems
- Construction of small passenger shelters and information kiosks
- Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures)
- Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way
- Purchase of new buses and rail cars to replace existing vehicles or for minor expanseions of the fleet
- Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771

Air Quality

- Continuation of ride-sharing and van-pooling promotion activities at current levels
- Bicycle and pedestrian facilities

Other

Specific activities, which do not involve or lead directly to construction, such as:

- Planning and technical studies
- Grants for training and research programs
- Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- Federal-aid system revisions
- Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action
- Noise attenuation
- Emergency or hardship advance land acquisitions (23 CFR 710.503)
- Acquisition of scenic easements
- Plantings, landscaping, etc
- Sign removal
- Directional and information signs
- Transportation enhancement activities) except rehabilitation and operation of historic transportation buildings, structures, or facilities)
- Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, location or capacity changes

A statement can be made in the environmental document noting that the project is a neutral project, it is not required to be included in the regional emissions analyses (if applicable) and a project level CO and or PM2.5 analysis is not required. For example:

For a CO area:

In accordance with 40 CFR 93.126, this project is an air quality neutral project. It is not required to be included in the regional emissions analysis (if applicable) *and a project level CO analysis is not required.*

For a PM2.5 area (*the project is exempt in a PM2.5 area only if they are in compliance with control measures in the applicable SIP*)**:**

In accordance with 40 CFR 93.126, this project is an air quality neutral project. It is not required to be included in the regional emissions analysis (if applicable) *and a project level PM 2.5 analysis is not required.*

II CO Analysis

A CO Hotspot analysis is required for projects in **Durham, Forsyth, Mecklenburg** and **Wake** Counties.

Table 1 provides guidance for complying with project level CO analysis requirements. This table presents (in general) the type of CO analysis for the different NEPA actions. Best professional judgment should be used, but not all scenarios require a detailed analysis.

Table 1: Appropriate Levels of Air Quality Analysis

CE		
EA		
	EIS	
No Analysis	**Simplified Analysis**	**Detailed Analysis**
State basis for judgment for no impacts	Look-up tables for CO emission rates	MOBILE models for CO emission rates
Conformity discussion	Graphical solution for CO concentrations	CALINE3 line source models for CO concentrations
	Assume background levels	CAL3QHC for intersection CO concentrations (special circumstances only)
	Use worst-case receptor site	Background levels (assume, model, or monitor)
	Conformity discussion	Include all sensitive receptors
		Include appropriate mitigation measures if violations predicted
		Include evidence of coordination with EPA and State and local air quality agencies
		Conformity discussion

		New plan/TIP conformity analysis, or mesoscale analysis would be needed if project design/scope has changed since initial conformity analysis
Legend:		*Normal range*
		Possible range

III PM 2.5 Hotspot Analysis

A PM2.5 Hotspot analysis is required for projects in **Catawba, Davidson** and **Guilford** Counties (that meets the PM2.5 hotspot analysis criteria).

The PM2.5 and PM10 Hot-Spot Analysis in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule (March 10, 2006) can be found on the EPA website at the following address: http://www.epa.gov/fedrgstr/EPA-AIR/2006/March/Day-10/a2178.htm

The Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (March 2006) can be found on the FHWA website at the following address:
http://www.fhwa.dot.gov/environment/conformity/pmhotspotguidmemo.htm

The PM Hotspot Final Rule and the Transportation Conformity Guidance for Qualitative Hotspot Analyses (website addresses provided above) are the key information documents that will aid in determining if a PM2.5 hotspot analysis will be required in the environmental documents for projects in the PM2.5 nonattainment areas.

A summary of the PM2.5 and PM10 Hot-Spot Analysis in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule (March 10, 2006) is provided in **Attachment 1**.

A checklist to determine whether or not a project is of air quality concern for PM 2.5 hot spot requirements is provided in **Attachment 2.**

A checklist that highlights major process steps for projects that require a PM 2.5 qualitative hot spot analysis is provided in **Attachment 3**.

IV Mobile Source Air Toxics (MSATs)

The Interim Guidance on Air Toxic Analysis in NEPA documents (dated February 3, 2006) can be found on the FHWA Air Quality website at following address:

http://www.fhwa.dot.gov/environment/airtoxic/020306guidmem.htm

The guidance should be used to determine when and how to analyze MSATs in the NEPA process for highway project development. The Guidance includes a Memorandum outlining the analytical approach to be used for deciding when to include air toxic analysis in a NEPA document and at what level. It also includes suggested prototype language covering the various levels of analysis to be used in drafting NEPA documents, as well as additional background materials on FHWA MSAT research, possible mitigation strategies, and other issues relevant to this emerging area of interest to the transportation community.

Provided below is a summary of the Interim Guidance document:

Given the emerging state of the science and of project-level analysis techniques, there are no established criteria for determining when MSAT emissions should be considered a significant issue in the NEPA context. Therefore, a range of responses may be appropriate for addressing this issue in NEPA documentation. The response may involve quantitative analysis of emissions to compare or differentiate among proposed project alternatives, qualitative analysis to explore the general nature of the project and inform interested parties, or no analysis depending on the circumstances as set out in this interim guidance. For projects warranting MSAT analysis, the six priority MSATs (*benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene)* should be analyzed.

The FHWA has developed a tiered approach for analyzing MSATs in NEPA documents.

Depending on the specific project circumstances, FHWA has identified three levels of analysis:

- **No analysis for projects with no potential for meaningful MSAT effects;**
- **Qualitative analysis for projects with low potential MSAT effects; or**

- **Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.**

1. Exempt Projects or Projects with No Meaningful Potential MSAT Effects.

The types of projects included in this category are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c);
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix

2. Projects with Low Potential MSAT Effects

The types of projects included in this category are those that serve to improve operations of highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions. This category covers a broad range of projects. We anticipate that most highway projects will fall into this category. Any

projects not meeting the threshold criteria for higher potential effects set forth in subsection (3) below and not meeting the criteria in subsection (1) should be included in this category. Examples of these types of projects are minor widening projects and new interchanges, such as those that replace a signalized intersection on a surface street or where design year traffic is not projected to meet the 140,000 to 150,000 AADT criterion.

3. Projects with Higher Potential MSAT Effects

This category includes projects that have the potential for meaningful differences among project alternatives. We expect only a limited number of projects to meet this two-pronged test. To fall into this category, projects must:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000[1], or greater, by the design year;

And also

- be proposed to be located in proximity to populated areas or in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

Projects falling within this category should be more rigorously assessed for impacts. Please contact Eddie Dancausse at the FHWA Division Office at 919-856-4330x112 for assistance in developing a specific approach for assessing impacts.

V Projects in Attainment Areas

For projects in attainment areas it is suggested that the following statement be used in environmental documents:

*The project is located in **(county name)** County, which has been determined to comply with the National Ambient Air Quality Standards. The proposed project is located in an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.*

VI Projects in Nonattainment or Maintenance Areas

Table 4 provides a status of TIPs and LRTPs of metropolitan planning areas that lie in nonattainment areas.

The following standard statements (provided below) for CO maintenance areas, 8-hour ozone nonattainment/maintnenance areas and PM2.5 nonattainment areas (by county) are suggested for use in environmental documents

Raleigh-Durham-Chapel Hill Maintenance Area (Triangle Area):
(Chatham County (partial), Durham County, Franklin County, Granville County, Johnston County, Orange County, Person County, Wake County)

Wake County *(8-Hour Ozone and CO Maintenance Area):*

*The project is located in Wake County, which is within the Raleigh-Durham-Chapel Hill non-attainment area for ozone (O_3) and the Raleigh Durham nonattainment area for carbon monoxide (CO) as defined by the EPA. The 1990 Clean Air Act Amendments (CAAA) designated this area as moderate nonattainment area for CO. However, due to improved monitoring data, this area was redesignated as maintenance for CO on September 18, 1995. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Wake County. The Capital Area Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date)**. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Durham County *(8-Hour Ozone and CO Maintenance Area):*

*The project is located in Durham County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3) and the Raleigh-Durham for carbon monoxide (CO) as defined by the EPA. The 1990 Clean Air Act Amendments (CAAA) designated these areas as moderate nonattainment area for CO. However, due to improved monitoring data, this area was redesignated as maintenance for CO on September 18, 1995. The area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Durham County. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date)**. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in*

the conformity analyses.

Orange County *(8-Hour Ozone Maintenance Area):*

*The project is located in Orange County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3). This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Orange County. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (MPO) **(year)** Long Range Transportation Plan (LRTP), the Burlington Graham MPO **(year)** LRTP and the **(years)** Transportation Improvement Programs (TIPs) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on the Durham-Chapel Hill-Carrboro MPO LRTP on **(date),** the Burlington Graham MPO LRTP on **(date),** the Durham-Chapel Hill-Carrboro MPO TIP on **(date),** the Burlington Graham MPO TIP on **(date)** and Orange County projects from the State Transportation Improvement Program (STIP) on **(date)**. For the donut area of Orange County, the projects from the **(year)** STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The current conformity determinations are consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Chatham County *(8-Hour Ozone Maintenance Area):*

*The project is located in Chatham County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Chatham County. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) has been determined to conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date)**. The USDOT made a conformity determination on the LRTP on **(date),** the TIP on **(date)** and Chatham County projects from the State Transportation Improvement Program (STIP) on **(date)**. For the donut area of Chatham County, the projects from the **(year)** STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Person County *(8-Hour Ozone Maintenance Area):*

The project is located in Person County, which is within the Raleigh-Durham-Chapel Hill

*nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Person County. For the donut area of Person County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Person County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Granville County *(8-Hour Ozone Maintenance Area):*

*The project is located in Granville County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Granville County. The Capital Area Metropolitan Planning Organization **(year)** Long Rang Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date)**. For the donut area of Granville County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Granville County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Johnston County *(8-Hour Ozone Maintenance Area):*

*The project is located in Johnston County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Johnston County. The Capital Area Metropolitan Planning Organization **(year)** Long Rang Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). For the donut area of Johnston County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is*

*approved or found adequate). The USDOT made a conformity determination on Johnston County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Franklin County *(8-Hour Ozone Maintenance Area):*

*The project is located in Franklin County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated as nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for O_3 under the eight-hour standard on December 26, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Franklin County. The Capital Area Metropolitan Planning Organization **(year)** Long Rang Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). For the donut area of Franklin County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Franklin County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Charlotte-Gastonia-Rock Hill Nonattainment Area (Metrolina Area):

(Cabarrus County, Gaston County, Iredell County (partial), Lincoln County, Mecklenburg County, Rowan County, Union County)

Mecklenburg County *(8-Hour Ozone Nonattainment and CO Maintenance Area):*

*The project is located in Mecklenburg County, which is within the Metrolina nonattainment area for ozone (O_3) and the Charlotte nonattainment area for carbon monoxide (CO) as defined by the EPA. The 1990 Clean Air Act Amendments (CAAA) designated these areas as moderate nonattainment area for CO. However, due to improved monitoring data, this area was redesignated as maintenance for CO on September 18, 1995. This area was designated moderate nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Mecklenburg County. The Mecklenburg-Union Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Union County *(8-Hour Ozone Nonattainment Area):*

The project is located in Union County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. The area was designated moderate nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Union County. The Mecklenburg Union Metropolitan Planning Organization ***(year)*** *Long Range Transportation Plan (LRTP) and the* ***(years)*** *Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on* ***(date),*** *the TIP on* ***(date)*** *and Union County projects from the State Transportation Improvement Program (STIP) on* ***(date).*** *For the donut area of Union County, the projects from the* ***(year)*** *STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Gaston County *(8-Hour Ozone Nonattainment Area):*

The project is located in Gaston County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated moderate nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Gaston County. The Gaston Metropolitan Planning Organization ***(year)*** *Long Range Transportation Plan (LRTP) and the* ***(years)*** *Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on* ***(date),*** *the TIP on* ***(date)*** *and Gaston County projects from the State Transportation Improvement Program (STIP) on* ***(date).*** *For the donut area of Gaston County, the projects from the* ***(year)*** *STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Rowan County *(8-Hour Ozone Nonattainment Area):*

The project is located in Rowan County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated moderate nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Rowan County. The Cabarrus-Rowan Metropolitan Planning Organization ***(year)*** *Long Range Transportation Plan (LRTP) and the* ***(years)*** *Transportation Improvement Program (TIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on*

*the LRTP on **(date)** and the TIP on **(date)**. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Cabarrus County *(8-Hour Ozone Nonattainment Area):*

*The project is located in Cabarrus County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated moderate nonattainment for O_3) under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Cabarrus County. The Cabarrus-Rowan Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on the LRTP on **(date)** and the TIP on **(date)**. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Lincoln County *(8-Hour Ozone Nonattainment Area):*

*The project is located in Lincoln County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated moderate nonattainment for O_3) under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Lincoln County. For the donut area of Lincoln County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Lincoln County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Iredell County *(Partial County-8-Hour Ozone Nonattainment Area):*

*The project is located in Iredell County, which is within the Charlotte-Gastonia-Rock Hill nonattainment area for ozone (O_3) as defined by the EPA. This area was designated moderate nonattainment for O_3) under the eight-hour ozone standard effective June 15, 2004. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Iredell County. For the donut area of Iredell County, the projects from the **(year)** State Transportation Improvement Program (STIP) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Iredell County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as*

used in the conformity analyses.

Rocky Mount Maintenance Area

Edgecombe County *(8-Hour Ozone Maintenance Area):*

*The project is located in Edgecombe County, which is within the Rocky Mount nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for the eight hour O_3 standard on January 5, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Edgecombe County. The Rocky Mount Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on **(date),** the TIP on **(date)** and Edgecombe County projects from the State Transportation Improvement Program (STIP) on **(date).** For the donut area of Edgecombe County, the projects from the **(year)** STIP conform to the intent of the SIP. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Nash County *(8-Hour Ozone Maintenance Area):*

*The project is located in Nash County, which is within the Rocky Mount nonattainment area for ozone (O_3) as defined by the EPA. This area was designated nonattainment for O_3 under the eight-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated as maintenance for the eight hour O_3 standard on January 5, 2007. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Nash County. The Rocky Mount Metropolitan Planning Organization **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the LRTP on **(date),** the TIP on **(date)** and Nash County projects from the State Transportation Improvement Program (STIP) on **(date).** For the donut area of Nash County, the projects from the **(year)** STIP conform to the intent of the SIP. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Greensboro-Winston Salem-High Point Nonattainment/Maintenance Area (Triad Area):

Davidson County *(PM2.5 Nonattainment Area)*

The project is located in Davidson County, which is within the Greensboro-Winston-Salem-High Point nonattainment area for fine particles PM 2.5 as defined by the EPA. This area was

*designated nonattainment for the PM2.5 standard in accordance with the Clean Air Act Amendments (CAAA) on January 5, 2005, with an effective date of April 5, 2005. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP) (or base year emissions, in areas where no SIP is approved or found adequate). The current SIP does not contain any transportation control measures for Davidson County. The High Point Metropolitan Planning Organization (MPO) **(year)** Long Range Transportation Plan (LRTP), the Winston Salem MPO (year) LRTP and the **(years)** Transportation Improvement Programs (TIPs) conform to the intent of the SIP. The USDOT made a conformity determination on the High Point MPO LRTP on **(date)**, the Winston Salem MPO LRTP on **(date),** the High Point MPO TIP on **(date),** the Winston Salem MPO TIP on **(date)** and Davidson County projects from the State Transportation Improvement Program (STIP) on **(date).** For the donut area of Davidson County, the projects from the **(year)** STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on Davidson County projects from the STIP on **(date).** The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Forsyth County *(CO Maintenance):*

*The project is located in Forsyth County, which is within the Winston-Salem nonattainment area for carbon monoxide (CO) as defined by the EPA. The 1990 Clean Air Act Amendments (CAAA) designated this area as moderate nonattainment area for CO. However, due to improved monitoring data, this area was redesignated as maintenance for CO on November 7, 1994. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Forsyth County. The Winston-Salem Metropolitan Planning Organization (MPO) **(year)** Long Range Transportation Plan (LRTP), the High Point MPO **(year)** LRTP and the **(years)** Transportation Improvement Programs (TIPs) conform to the intent of the SIP. The USDOT made a conformity determination on the Winston-Salem MPO LRTP on **(date)**, the High Point MPO LRTP on **(date),** the Winston Salem MPO TIP on **(date)** and the High Point MPO TIP on **(date)**. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Guilford County *(PM 2.5 Nonattainment):*

*The project is located in Guilford County, which is within the Greensboro-Winston-Salem-High Point nonattainment area for fine particles PM 2.5 as defined by the EPA. This area was designated nonattainment for the PM2.5 standard in accordance with the Clean Air Act Amendments (CAAA) on January 5, 2005, with an effective date of April 5, 2005. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Guilford County. The Greensboro Metropolitan Planning Organization (MPO) **(year)** Long Range Transportation Plan (LRTP), the High Point MPO **(year)** LRTP, the Burlington Graham MPO **(year)** LRTP, and the **(years)** Transportation Improvement Programs (TIPs) conform to the intent of the SIP (or base year emissions, in areas where no SIP*

*is approved or found adequate). The USDOT made a conformity determination on the Greensboro MPO LRTP on **(date)**, the High Point MPO LRTP on **(date),** the Burlington MPO LRTP on **(date),** the Greensboro MPO TIP on **(date),** the High Point MPO TIP on **(date)** and the Burlington Graham MPO TIP on **(date)**. The current conformity determinations are consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

Hickory-Morgan-Lenior Nonattainment Area

Catawba County (*PM 2.5 Nonattainment Area)*

*The project is located in Catawba County, which is within the Hickory-Morgan-Lenior nonattainment area for fine particles PM 2.5 as defined by the EPA. This area was designated nonattainment for the PM2.5 standard in accordance with the Clean Air Act Amendments (CAAA) on January 5, 2005, with an effective date of April 5, 2005. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Catawba County. The Greater Hickory Metropolitan Planning Organization (MPO) **(year)** Long Range Transportation Plan (LRTP) and the **(years)** Transportation Improvement Programs (TIPs) conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The USDOT made a conformity determination on the Greater Hickory MPO LRTP on **(date)** and the Greater Hickory MPO TIP on **(date)**. For the donut area of Catawba County, the projects from the **(year)** STIP conform to the intent of the SIP (or base year emissions, in areas where no SIP is approved or found adequate). The current conformity determinations are consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.*

VII Projects in Isolated Rural Nonattainment Areas

A conformity determination is required in these areas when a Federal Highway Administration or Federal Transit Administration project needs approval. The conformity documentation would be included as part of the environmental document associated with the project. The conformity determination/documentation must meet the requirements in the final conformity rule found in 40 CFR Parts 51 and 93. The portion of Haywood County and Swain County that are within the boundary of the Great Smokey Mountain National Park were designated nonattainment under the eight-hour ozone standard effective June 15, 2005.

North Carolina Air Quality Status Report

I Introduction

The status of air quality, Long Range Transportation Plans (LRTP) and Metropolitan Transportation Improvement Programs (MTIP) continuously changes. Because of the current transportation planning and programming practices in North Carolina, metropolitan TIPs change every two years.

This report contains the status (**as of April 2009**) of air quality, transportation plans and TIPs of metropolitan planning areas in North Carolina, which lie in nonattainment areas. This report also explains the relationships of metropolitan areas with nonattainment areas, and the conformity process for transportation plans and MTIPs.

II Area Definitions and Relationships

There are nonattainment, maintenance, urbanized areas (UZA) as defined by the Bureau of Census, and metropolitan planning areas. A *nonattainment area* is a geographic region that the Environmental Protection Agency (EPA) has found to exceed the National Ambient Air Quality Standards for a specific pollutant(s). Nonattainment areas are usually defined by multiple counties, but are sometimes defined by townships and physical features (e.g., rivers, highways, etc.). A *maintenance area* is a geographic region designated as nonattainment pursuant to the Clean Air Act Amendments of 1990 (CAAA) and subsequently redesignated to attainment subject to the requirements of a maintenance plan. Maintenance areas are sometimes called nonattainment/maintenance areas, or just nonattainment areas. Nonattainment areas are usually identified by the primary UZA lying within the boundaries.

A *UZA* is a geographic entity designated by the Census Bureau, consisting of a central core and adjacent territory containing at least 50,000 people.

A *metropolitan planning area* is a geographic area in which the metropolitan planning process is carried out. This area is defined by a metropolitan planning area boundary (MAB). The planning process for the planning area is carried out by the metropolitan planning organization. A *metropolitan planning organization (MPO)* is a policy body that has the authority to carry out metropolitan transportation planning in the metropolitan planning area. Usually, the MAB will extend beyond the UZA. There can be multiple metropolitan planning areas and UZAs within a nonattainment area. In addition, metropolitan planning areas and UZAs can cross nonattainment area boundaries (i.e., part of a metropolitan planning area can lie within a nonattainment area, and the rest outside the nonattainment area). There can be areas in a nonattainment area that do not lie within a metropolitan planning area (referred to as *donut or isolated rural areas*).

The EPA has identified twenty-four ozone (O_3), four carbon monoxide (CO) and three Particulate Matter (PM2.5) nonattainment counties in North Carolina. These nonattainment areas are in regions commonly known as the Triangle, Triad, Metrolina, Hickory and Rocky Mount areas.

Eleven metropolitan areas lie within these nonattainment areas. ***Table 2*** lists the nonattainment areas, describes their boundaries, and lists the MPOs that lie in each nonattainment area. ***Table 3*** lists the designation type and date, classification type and date, and conformity period for each nonattainment area.

III Transportation Conformity of LRTPs and MTIPs

The CAAA requires all federally assisted highway and transit projects to be derived from LRTPs and MTIPs that have been found to conform under the conformity criteria included in law. The MPO and United States Department of Transportation (USDOT) make conformity determinations. Essentially, a conformity determination is a guarantee that a LRTP and MTIP conform to the goals of the SIP. A *State Implementation Plan (SIP)* is a blueprint describing how a nonattainment area will be transformed into an attainment area.

MTIPs are updated every two years in North Carolina. LRTPs are required to be updated, at a minimum, every four years for metropolitan planning areas that lie in a nonattainment area. There has to be a conformity determination made on LRTPs and MTIPs whenever they are substantially revised. MPOs also make a conformity determination when they approve a LRTP or MTIP. After the MPO approves a LRTP or MTIP, the USDOT makes a conformity determination on the LRTP or MTIP. ***Table 4*** lists the USDOT LRTP/MTIP approval/conformity determination dates.

Table 2: NC Nonattainment/Maintenance Areas, Boundary Definitions and MPOs Lying Within the Boundaries

Nonattainment /Maintenance Area	Boundary Definition (by counties)	MPOs Lying Within the Boundaries
Charlotte-Gastonia-Rock Hill (O_3)	Gaston; Mecklenburg; Union; Cabarrus; Rowan; Lincoln; Iredell (P)	Mecklenburg Union MPO; Gaston MPO; Cabarrus Rowan MPO
Raleigh-Durham-Chapel Hill (O_3)	Durham; Wake; Franklin; Person; Orange; Johnston; Granville; Chatham (P)	Durham-Chapel Hill-Carrboro MPO; Capital Area MPO; Burlington-Graham MPO
Rocky Mount (O_3)	Nash; Edgecombe	Rocky Mount MPO
Haywood and Swain Counties (O_3)	Haywood (P); Swain (P)	N/A
Raleigh-Durham (CO)	Durham and Wake.	Durham-Chapel Hill-Carrboro MPO; Capital Area MPO
Charlotte (CO)	Mecklenburg	Mecklenburg-Union MPO
Winston-Salem (CO)	Forsyth	Winston-Salem MPO
Hickory-Morganton-Lenoir (PM 2.5)	Catawba	Greater Hickory MPO
Greensboro-Winston Salem-High Point (PM 2.5)	Davidson; Guilford	Greensboro MPO; Winston-Salem MPO; High Point MPO; Burlington-Graham MPO

(P)- means that only part of the county is in the nonattainment area

Table 3: Nonattainment Area Designation, Classification & Conformity Period

Nonattainment Area	Designation Type/Date	Classification Type/Date	Conformity Period
Charlotte-Gastonia-Rock Hill (O_3)	Nonattainment/06-15-04	Moderate	Attainment Date 2011 or 2012
Raleigh-Durham-Chapel Hill (O_3)	Attainment/12-26-07	Subpart 1	Maintenance
Rocky Mount (O_3)	Attainment/01-05-07	Subpart 1	Maintenance
Haywood and Swain Counties (O_3)	Nonattainment/06-15-04	Subpart 1	Attainment Date June 2007
Raleigh Durham (CO)	Attainment / 09-18-95	n/a	Maintenance
Charlotte (CO)	Attainment / 09-18-95	n/a	Maintenance
Winston-Salem (CO)	Attainment / 11-07-94	n/a	Maintenance
Greensboro-Winston Salem-High Point (PM 2.5)	Nonattainment/04-05-05	n/a	Attainment Date April 2009
Hickory-Morganton-Lenoir (PM 2.5)	Nonattainment/04-05-05	n/a	Attainment Date April 2009

Table 4: USDOT TIP/LRTP Conformity Determination Dates

Nonattainment Area (By County)	09-15 TIP	2035 LRTP
Raleigh-Durham-Chapel Hill NA Area (Triangle Area)- 8 Hour Ozone): Wake, Durham, Orange*, Chatham (P), Person, Granville, Johnston, Franklin	6/15/2009	6/15/2009
Raleigh-Durham – CO: Wake, Durham	6/15/2009	6/15/2009
Charlotte – CO: Mecklenburg	5/3/2010	5/3/2010
Charlotte-Gastonia-Rock Hill (Metrolina Area) – 8 Hour Ozone: Mecklenburg, Union, Gaston, Cabarrus, Rowan, Lincoln, Iredell (P)	5/3/2010	5/3/2010
Greensboro-Winston Salem-High Point- CO (Triad Area): Forsyth	3/6/2009	3/6/2009
Greensboro-Winston Salem-High Point –PM 2.5 (Triad Area): Guilford*, Davidson	2/26/2010	2/26/2010
Hickory-Morganton-Lenoir-PM 2.5: Catawba	4/5/2010	4/5/2010
Rocky Mount MPO – 8 Hour Ozone: Edgecombe, Nash	6/15/2009	6/15/2009

The Burlington Graham (BG) MPO extends into both Orange County and Guilford County. The USDOT LRTP/TIP Approval/Conformity Determination Dates for the BG MPO LRTP/ TIP (Orange County-8 hour ozone) is 6/15/09 and for the BG MPO LRTP/TIP (Guilford County-PM2.5) is 2/26/10).

Disclaimer: This document is intended solely as an informal information source. It is in no way intended to replace or supercede the Transportation Conformity Regulations 40 CFR Part 93 and/or EPA, FHWA, and FTA guidance pertaining to Transportation Conformity.

ATTACHMENT 1

Summary of the PM2.5 and PM10 Hot-Spot Analysis in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards; Final Rule (March 10, 2006)

I. **Hot-Spot analyses are only required for projects of "air quality concern."**

II. **Projects of "air quality concern" are outlined in 40 CFR Sections 92.123(b)(1)(i)-(v). These Sections are listed below with their associated preamble discussion.**

Section 93.123(b)(1)(i): New or expanded highway projects that have a significant number of or a significant increase in diesel vehicles;
Section 93.123(b)(1)(ii): Projects affecting intersections that are at Level-of- Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

Examples of Concern:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic;
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal;
- Expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of- Service D, E, or F) that has a significant increase in the number of diesel trucks;
- Similar highway projects that involve a significant increase in the number of diesel transit busses and diesel trucks.

Examples <u>not</u> of Concern:

- Projects that do not meet the criteria under § 93.123(b)(1), such as any new or expanded highway project that primarily services gasoline vehicle traffic (i.e., does not involve a significant number or increase in the number of diesel vehicles), including such projects involving congested intersections operating at Level-of-Service D, E, or F;

- An intersection channelization project or interchange configuration project that involves turn lanes or slots, lanes or movements, that are physically separated. These kinds of projects improve freeway operations by smoothing traffic flow and vehicle speeds by improving weave and merge operations, which would not be expected to create or worsen PM2.5 or PM10 violations;
- Intersection channelization projects, traffic circles or roundabouts, intersection signalization projects at individual intersections, and interchange reconfiguration projects that are designed to improve traffic flow and vehicle speeds, and do not involve any increases in idling. Thus, they would be expected to have a neutral or positive influence on PM2.5 or PM10 emissions.

Section 93.123(b)(1)(iii): New bus and rail terminals, and transfer points, that have a significant number of diesel vehicles congregating at a single location;
Section 93.123(b)(1)(iv): Expanded bus and rail terminals, and expanded transfer points, which significantly increase the number of diesel vehicles congregating at a single location; and

Examples of Concern:

- A major new bus or intermodal terminal that is considered to be a ‘‘regionally significant project’’ under 40 CFR 93.101;
- An existing bus or intermodal terminal that has a large vehicle fleet where the number of diesel busses increases by 50% or more, as measured by bus arrivals.

Examples <u>not</u> of Concern:

- A new or expanded bus terminal that is serviced by non-diesel vehicles (e.g., compressed natural gas or hybrid electric vehicles);

- A 50% increase in daily arrivals at a small terminal (e.g., a facility with 10 buses in the peak hour).

Section 93.123(b)(1)(v): Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

III. The final rule requires a qualitative PM2.5 hot-spot analysis to be completed for project-level conformity determinations for projects of “air quality concern” completed in PM2.5 nonattainment areas on or after April 5, 2006, when PM2.5 conformity requirements apply. Quantitative analyses are not required for these projects at this time since EPA is not requiring quantitative PM2.5 hot-spot analyses under 40 CFR 93.123(b)(4) since quantitative hot-spot modeling techniques and associated EPA modeling guidance still do not exist. Qualitative PM2.5 hot-spot analyses should be completed according to joint EPA and DOT guidance.

IV. **Quantitative analyses will be required when modeling techniques and guidance are released by EPA through Federal Register notice.**

V. **Categorical hot-spot findings are an option for projects of "air quality concern**."

- This final rule provides for FHWA and FTA to make categorical hot-spot findings as appropriate for PM2.5 and PM10 hot-spot analyses for projects listed in 40 CFR 93.123(b)(1) of today's final rule.

- The modeled scenarios used by DOT to make categorical hot-spot findings would be derived through consultation and participation by EPA.

- A project-level conformity determination relying on the categorical finding and meeting all other requirements is still required.

- Modeling used to support a categorical hot-spot finding must be based on appropriate motor vehicle emissions factor models, dispersion models, and EPA's future quantitative hot-spot modeling guidance. As a result, categorical hot-spot findings will not be made prior to EPA's announcement in the **Federal Register** that quantitative PM2.5 and PM10 hot-spot analyses are required (40 CFR 93.123(b)(4)).

- Categorical hot-spot findings must be supported by credible modeling demonstrations showing that project categories will not cause or contribute to new or worsened violations of the air quality standards. Such modeling would need to be derived in consultation with EPA, and consistent with EPA's future PM2.5 and PM10 quantitative hot-spot modeling guidance.

- Description of process to make a categorical hot-spot finding is outlined in VII. C. 1 of the final rule. The general process is as follows:
    1. FHWA and/or FTA, as applicable, will develop modeling, analyses, and documentation to support the categorical hot-spot finding. This would be done with early and comprehensive consultation and participation with EPA.
    2. FHWA and/or FTA will provide EPA an opportunity to review and comment on the complete categorical hot-spot finding documentation. Any comments would need to be resolved in a manner acceptable to EPA prior to issuance of the categorical hot-spot finding. Consultation with EPA on issue resolution would be documented.
    3. FHWA and/or FTA would make the final categorical hot-spot finding in a memorandum or letter, which would be posted on EPA's and DOT's respective conformity Web sites.
    4. Subsequently transportation projects that meet the criteria set forth in the categorical finding would reference that finding in their project level conformity determination, which would be subject to interagency consultation and the public involvement requirements of the NEPA process and the conformity rule. The existing consultation and public involvement processes would be used to consider the categorical hot-spot finding in the context of a particular project

ATTACHMENT 2

Determination of Project Categorization for PM2.5 Hot-Spot Requirements

Project Name: *(fill in information)*
Project Number: *(fill in project TIP number))*
Location (*non-attainment area-Guilford, Davidson, Catawba*): *(fill in information)*
Document Type (CE, EA, EIS): *(fill in information)*
Project Status (*PE, ROW, Construction***):** *(fill in information)*
FHWA Contact: *(fill in information)*
NCDOT Contact: *(fill in information)*

Project Description: *(fill in information)*

- ***Is this project in a conforming Plan/TIP?*** *(If yes fill in the information below):*
  This project is in the approved *(fill in year)* Transportation Improvement Program (TIP) and *(fill in years)* Regional Transportation Plan. The TIP number is *(fill in TIP number)*.

- ***Is the project on a new or expanded highway or expressway that serves a significant volume of diesel truck traffic, such as a facility with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic?*** *(fill in information)*

- ***Does the project construct new exit ramps or other highway facility improvements that connect a highway or expressway to a major freight, bus, or intermodal terminal?*** *(fill in information)*

- ***Does the project expand an existing highway or other facility that affects a congested intersection (Operates at LOS D, E, or F) that has a significant increase in the number of diesel trucks?*** *(fill in information)*

- ***Does the highway project involve a significant increase in the number of diesel transit buses and / or diesel trucks?*** *(fill in information)*

Since *(fill in project TIP number)* was not found to be a project of air quality concern under 40 CFR 91.123(b)(1), a qualitative PM 2.5 hot-spot analysis is not required. The following statement will be added to the environmental document for the proposed project:

> A qualitative PM 2.5 hot-spot analysis is not required for this project since it is not an air quality concern. The Clean Air Act and 40 CFR 93.116 requirements were met without a hot-spot analysis, since this project has been found not to be of air quality concern under 40 CFR 93.123(b)(1). This project meets the statutory transportation conformity requirements without a hotspot analysis.

ATTACHMENT 3

PM 2.5 HOT SPOT ANALYSIS DOCUMENTATION

A. NCDOT TIP Number and Project Name: _____

B. Project Description: _____

C. $PM_{2.5}$ non-attainment or maintenance area (county name)**:** _____

STEP 1: AIR QUALITY CONCERN STATUS

D. Project Status (NEPA type) _____

E. Project Sponsor (State, Local, City, Other)_____

F. Air Quality Concern

Project of Air Quality Concern. *Select one from the list below*

- ❑ New or expanded highway projects with a significant number of, or increase in, diesel vehicles (125,000 AADT and 10,000 (8%) diesel truck traffic)
- ❑ Project affecting intersections with a current or projected LOS D, E, or F and a significant number of diesel vehicles
- ❑ New or expanded bus and rail terminals and transfer points that have significant number of diesel vehicles congregating at a single location
- ❑ Projects identified in the PM_{10} and $PM_{2.5}$ applicable implementation plan as sites of violation or possible violation

STEP 2: ANALYSIS AND DOCUMENTATION

G. Type of Analysis (review the Transportation Conformity Guidance for Qualitative Hotspot Analysis in PM2.5 and PM10 Nonattainment and Maintenance Areas dated March 2006 for more information)

Qualitative *Select one or both*

- ❑ Comparison to another location with similar characteristics _____
- ❑ Findings from an air quality study _____ (attach summary)

Documentation To Be Included for the PM2.5 Hot-spot analysis

- ❑ *Description of project (design and scope)*
- ❑ *Description of existing conditions*
- ❑ *Current emissions and background*
- ❑ Existing Conditions/Contributing Factors
  - o *Air Quality*
  - o Transportation and traffic conditions
  - o Built and natural environment
  - o Meteorology, climate and seasonal data
  - o Transportation Control Measures

- ☐ *Consider full time frame of area's LRTP*
- ☐ *Description of changes resulting from project*
- ☐ *Description of analysis years that is examined* (peak emissions)
- ☐ *Professional judgment of impact*
- ☐ Discussion of any mitigation measures
- ☐ How does the project meet 40CFR 93.116 & 93.123 for PM2.5

Meetings, Notices, Dates

H. Transportation Conformity (TC) Interagency Consultation (IC) meeting(s) _____
(EPA, NCDENR-DAQ, FHWA, FTA) *(attach minutes)*

I. TC IC review and comment on Qualitative PM 2.5 Hotspot Analysis

FHWA _____
date

NCDENR-DAQ _____
date

FTA _____
date

EPA _____
Date

(attach documentation showing review comments and resolution of those comments)

J. Public Involvement

a. Public notice (should be consistent with NEPA project)_____
(attach)

b. Public review & comment period (should be consistent with NEPA project) _____
(dates)

c. Public concerns addressed _____

STEP 4: SIGNATURES

_____ _____
NCDOT Project Manager Date

_____ _____
FHWA Representative Date

Appendix 12

Edward J. Dancausse
FHWA-NC Division
Air Quality Specialist
xx/xx/xx

Document Name
State Project No.
WBS Element
TIP No.

CHECKLIST

TIP No
Is this a neutral project? If yes, what is the project type?

II. CO Hotspot Analysis *(required for the following counties: Durham, Forsyth, Mecklenburg, and Wake)*

a. What level of Air Quality Analysis was performed (*no analysis, simplified analysis, or detailed analysis*)?

b. List methodology from the EA:
Local concentration determined by NCDOT traffic noise/AQ staff using **line source computer modeling** and background component obtained by NCDENR.

CAL3QHC -A Modeling Methodology For Predicting Pollutant Concentrations Near Roadway Intersections was used to predict the CO concentrations near sensitive receptors.

CO emission factors were calculated using EPA publication Mobile Source Emission Factors, the Mobile **xx** mobile source computer model.

The background CO concentration of **xxxx** for the project was recommended by **NCDENR.**

The predicted 1-hour average **CO concentrations for the evaluation build years of xxxx, xxxx and xxxx are xx, xx and xx ppm, respectively**. A comparison of the predicted CO concentrations with the National Ambient Air Quality Standards (NAAQS) (maximum permitted for the **1-hour average period = 35 ppm; 8-hour averaging period=9 ppm) indicates no violation of these standards.**

III. PM 2.5 Hotspot Analysis *(required for the following counties: Catawba Guilford and Davidson. Refer to the PM2.5 Hotspot Analyses in Project-Level Transportation Conformity Determinations for the New PM2.5 and Existing PM10 National Ambient Air Quality Standards dated 3/10/06 and the Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas dated 3/2006 to determine if an analysis is required)*

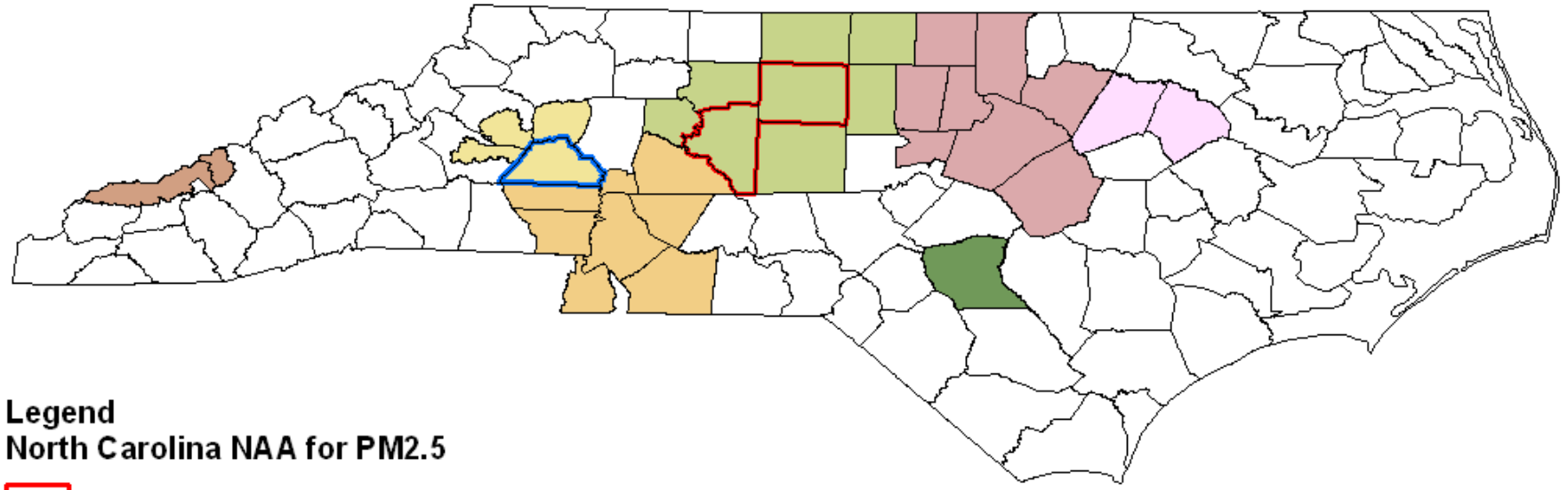
IV. Projects in Attainment Areas
Is the standard statement for projects in attainment areas used in the environmental documents?

V. Projects in Nonattainment Areas
Is the standard statements for projects in nonattainment areas used in the environmental documents?

VI. Does this project address Mobile Source Air Toxics (MSATs) (*this needs to be done for all projects in NC. Refer to the Interim Guidance on Air Toxics Analysis in NEPA Documents dated 2/3/2006 to determine what level of MSAT analysis will be required***)?**

VII. Comments

North Carolina's Existing and Previous Nonattainment Area Boundaries



Legend

North Carolina NAA for PM2.5

- Greensboro-Winston Salem-High Point, Nonattainement
- Hickory, Nonattainment

North Carolina NAA For Ozone

AREA NAME; STATUS

- Fayetteville, NC; EAC, Designated as Attainment April 15, 2008
- Greensboro-Winston Salem-High Point, NC; EAC, Designated as Attainment April 15, 2008
- Hickory-Morgantown-Lenoir, NC; EAC, Designated as Attainment April 15, 2008
- Charlotte-Gastonia-Rock Hill, NC-SC; Nonattainment, Moderate
- Haywood and Swain Counties (Great Smoky Mountain NP); Currently Attaining the Standard, Redesignation in Process
- Raleigh-Durham-Chapel Hill, NC; Attainment/Maintenance, Redesignated as Attainment December 26, 2007
- Rocky Mount, NC; Attainment/Maintenance, Redesignated as Attainment January 5, 2007

Appendix 14

LIST OF ACRONYMS

AQ: Air Quality

CAA: Clean Air Act

CDR: Conformity Determination Report

CMAQ: Congestion Management and Air Quality Improvement Program

CPS: Conformity Process Schedule

CO: Carbon monoxide

EPA: Environmental Protection Agency

FHWA: Federal Highway Administration

FTA: Federal Transit Administration

HOV: High occupancy vehicles

HC: Hydrocarbons

I/M: Inspection and Maintenance Program

ISTEA: Intermodal Surface Transportation Efficiency Act of 1991

LOS: Level of Service

LRTP: Long Range Transportation Plan

MPO: Metropolitan Planning Organization

MVEB: Motor Vehicle Emissions Budget

MSAT: Mobile Source Air Toxics

NAAQS: National Ambient Air Quality Standards

NC: North Carolina

NCDAQ: North Carolina Division of Air Quality

NCDENR: North Carolina Department of the Environment and Natural Resources

NCDOT: North Carolina Department of Transportation

NEPA: National Environmental Policy Act

NA: Non-attainment Area

O3: Ozone

PDB: Program Development Branch

PM: Particulate Matter

PPM: Parts per million

RFG: Reformulated gasoline

RS: Regionally significant

RPO: Rural Planning Organization

SAFETEA-LU: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SIP: State Implementation Plan

SOP: Standard Operating Procedure

STIP: State Transportation Improvement Program

TAC: Transportation Advisory Committee

TCC: Technical Coordinating Committee

TDM: Travel Demand Model

TPB: Transportation Planning Branch

TEA-21: Transportation Equity Act for the 21st Century

TC: Transportation Conformity

TCM: Transportation Control Measures

TCPCP: Transportation Conformity Pre-analysis Consensus Plan

TIP: Transportation Improvement Program

TMA: Transportation Management Area

USDOT: U.S. Department of Transportation

VMT: Vehicle Miles Traveled

VOC: Volatile Organic Compounds

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL HIGHWAY ADMINISTRATION, NORTH CAROLINA DIVISION
AND
THE FEDERAL TRANSIT ADMINISTRATION, REGION IV FOR ADMINISTRATION OF TRANSPORTATION PLANNING AND PROGRAMMING

PURPOSE OF THIS AGREEMENT

The purpose of this Memorandum of Agreement (MOA) is to set forth the general terms and conditions for collaboration in transportation planning between the FHWA-NC and the FTA-IV to fulfill provisions of 23 U.S.C. 450 and 420 and 49 U.S.C. 613. This MOA is pursuant to the National Memorandum of Action signed by the Administrators of FTA and FHWA to encourage improved coordination of the transportation planning processes of the two agencies. The agreement is intended to enhance and formalize the existing strong working relationship of the two agencies in fulfilling oversight responsibilities for the transportation planning and programming of Federal funds.

GOALS

The FTA-IV and FHWA-NC shall carry out the terms indicated in this MOA to streamline transportation planning decision making for Federal Surface Transportation projects and programs.

The goal of this MOA is to establish a mutually beneficial relationship and to streamline and improve the following transportation planning processes:

I. Statewide Transportation Improvement Program (STIP) Approvals and Statewide and Metropolitan Planning Findings
II. Unified Planning Work Program (UPWP) Reviews and Approvals
III. Transportation Management Area (TMA) Planning Certification Reviews
IV. Transportation Conformity Determinations
V. Congestion Mitigation Air Quality (CMAQ) Funds Eligibility
VI. Coordination of the 3 C Planning [Cooperative, Continuous and Comprehensive] Process

I. STIP Approval and Issuance of Statewide and Metropolitan Planning Findings

BACKGROUND

23 U.S.C and 49 U.S.C 613 establish the Federal requirements for statewide transportation planning. The regulations, 23 C.F.R. 450 and 49 C.F.R. 613, require that at least every four years the State will submit their proposed STIP to the FHWA and FTA for joint approval prior to the obligation of Federal funds made available to the State under Titles 23 and 49. Also required is a joint Federal planning finding that each

metropolitan and statewide planning area is following a continuing, comprehensive transportation planning process carried on cooperatively by the State, MPO and transit operator(s). Typically, the STIP approval and Federal planning finding are done concurrently. The joint review of the STIP and the transportation planning processes shall include, but shall not be limited to the requirements of transportation conformity, public involvement, and fiscal constraint.

ROLES AND RESPONSIBILITIES

1. The NCDOT shall submit their proposed STIP or STIP Amendment to the FHWA-NC and FTA-IV for review and approval.
2. The FHWA-NC shall take the lead for ensuring that FTA-IV has received a copy and shall initiate a 30-day review of the STIP.
3. During this review period, FHWA-NC and FTA-IV shall meet to discuss/prepare comments relevant to the joint approval of the State's STIP and Federal planning finding. This joint review effort shall be documented in the form of an approval letter/document initiated by FHWA-NC.
4. Notification of the action taken for the STIP and subsequent Federal planning finding shall be prepared by FHWA-NC and signed by FTA-IV and FHWA-NC.
5. The signed letter shall be forwarded to the NCDOT by FHWA-NC.
6. For STIP Amendments, the agency involved (FTA-IV or FHWA-NC) in any major amendments to the approved STIP, depending on the type of project(s) involved in the amendment, shall have signature authority to approve the amendment.

II. Unified Planning Work Program (UPWP) Approvals

BACKGROUND

Section 134 of US 23 U.S.C. and Section 613 of US 49 U.S.C. established Federal requirements for metropolitan transportation planning. The regulations for implementing these provisions are contained in 23 C.F.R. 450 and 49 C.F.R. 613 and include the requirement for the submission of UPWPs.

ROLES AND RESPONSIBILITES

The Review and approval of the UPWPs shall be handled separately for FHWA-NC and FTA-IV. The separate process will be as follows:

1. Upon receipt of the draft UPWPs*, FHWA-NC and FTA-IV shall conduct 30-day reviews and approvals.
2. Each agency shall provide comments to the State.
3. Following the State submission of the Final TMA UPWPs, each agency ensure that draft comments have been addressed, prepare an approval letter for the UPWP portion related to each respective agency's funds, and distribute the signed letter to the state and MPO.

* The UPWPs for TMAs are submitted and approved separately for each area. UPWPs for Non-TMAs are approved as an element of the Statewide Planning Work Program.

The Statewide Planning Work Program includes activities funded with Part 1 State Planning & Research (SPR) funds and Planning (PL) funds for areas under 200,000 population (Non-TMAs).

UPWP Amendment Approval
Any revision to UPWP will be handled as outlined above.

III. Transportation Management Area (TMA) Certification Reviews

BACKGROUND
The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) requires a joint FHWA/FTA certification of transportation planning process for all Transportation Management Areas (TMA's) at least every four years. A joint certification review along with other documentation and site visits is the basis used for determining that the transportation planning process in a TMA meets or substantially meets the requirement of 23 C.F.R. Part 450 and 49 C.F.R Part 613.

ROLES AND RESPONSIBILITES

1. The team shall consist of staff from FHWA-NC, FTA-IV, and if necessary, other technical expertise from other Division or Region offices, Headquarters, Resource Center, and EPA.
2. The FHWA-NC, in consultation with FTA-IV, shall be responsible for the logistics of reviews. This includes establishing schedules, obtaining the material for the desk audit, completing the desk audit, notifying participants, and preparing the agenda.
3. FTA-IV and FHWA-NC planners shall share responsibilities for leading the topics during the review and the closeout after the review.
4. The FHWA-NC shall be the lead in writing the report, circulating it to the other federal team members for comment and to the MPO, transit operators, NCDOT and other participants for factual verification.
5. The FTA-IV will be responsible for drafting portions of the report dealing with transit specific sections (i.e., findings/recommendations/corrective actions/etc).
6. FHWA-NC shall also take the lead in coordinating any corrective actions, recommendations, and noteworthy practices from the Federal team.
7. Should the team identify any corrective actions, FHWA-NC shall schedule a meeting or teleconference with the team members and any other appropriate entities to discuss the proposed action by the review team and to establish time frames for the MPO to correct the action.
8. FHWA-NC shall also be the lead in coordinating responses to any public comments and distributing the final report to all participants in the review, including those participants from the public.
9. FHWA-NC will work with FTA-IV, NCDOT and MPO to develop an action plan for addressing all corrective actions and following up on recommendations made during the review.

IV. Transportation Conformity Determination

BACKGROUND

Section 176C of the Clean Air Act establishes conformity requirements for the Metropolitan Transportation Plans (MTPs), Transportation Improvement Programs (TIPs), and projects in areas designated as nonattainment or maintenance. Section 176 (d) of the Clean Air Act established priority requirements for programs supported by the Federal government in order to provide for timely implementation of eligible portions of air quality (AQ) plans. Section 109 (j) of 23 USC established consistency requirement to assure that highways are consistent with approved plans for AQ.

ROLES AND RESPONSIBILITES

The FHWA will serve as the Executive Agent for FTA on the USDOT Transportation Conformity Determinations. The FHWA Division Administrator (or designee) will make a conformity determination upon completion of the review by U.S. DOT and resolution of pertinent comments by EPA. Specific transportation conformity procedures are as follows:

- The FHWA-NC shall notify the FTA-IV and EPA of AQ interagency consultation (IC) at least two weeks in advance (unless there is an unusual circumstance that would warrant a shorter notification period).
- The FHWA-NC, FTA-IV and EPA shall participate in the AQ IC meetings either in person or by telephone/videoconference.
- The FHWA-NC, FTA-IV, and EPA shall adhere to commitments/agreements made at the AQ IC meetings.
- The FHWA-NC shall forward a copy of MTPs, TIPs, and Transportation Conformity Determination Reports to EPA and FTA-IV for concurrent reviews.
- The FHWA-NC, FTA-IV, and EPA shall be given 30 days for review and comment.
- FTA-IV staff shall advise the FHWA-NC of any concerns within 30-days of receipt of the documents.
- The FHWA-NC or FTA-IV shall initiate, if necessary, a meeting, depending on the impact of the concern on either transit or highways, to discuss and resolve any comments or concerns that arise during the review of the document.
- The FHWA-NC and FTA-IV shall meet with EPA as necessary to resolve pertinent comments that may result from their review.
- The FHWA-NC shall provide information copies of the USDOT Transportation Conformity Determinations (or other transportation conformity actions) and Conformity Determination Reports (or other related correspondence) to FTA-IV and EPA.

V. CMAQ Funds Eligibility

BACKGROUND

Both FTA-IV and FHWA-NC shall be pro-active with the planning partners in non-attainment areas to encourage the optimization of CMAQ funding. To this end, both parties shall encourage projects that have a direct pollution reduction benefit and which reduce VMT.

ROLES AND RESPONSIBILITIES

1. FHWA-NC and FTA-IV will receive a list of all the new CMAQ projects with their calculated emissions benefits proposed for inclusion in the next TIP from NCDOT.
2. FHWA-NC or NCDOT shall contact FTA-IV and EPA to initiate a 2-week review of the proposed projects.
3. FTA-IV shall review all proposed transit projects and FHWA-NC shall review all other projects, and EPA shall review the emissions calculations for all proposed projects.
4. FTA-IV and FHWA-NC shall inform NCDOT of any problems with the projects in the proposed list.
5. FHWA-NC and FTA-IV shall inform NCDOT (along with the State air quality partners and MPOs/RPOs) about the eligibility of the proposed projects to be funded with CMAQ funds in the TIP.

VI. Coordination of the 3 C Planning [Cooperative, Continuous and Comprehensive] Process

ROLES AND RESPONSIBILITIES

1. FTA-IV and FHWA-NC shall instill the need for multi-modal corridor planning.
2. FTA-IV and FHWA-NC shall encourage public involvement, agency representation, and interagency coordination.
3. FTA-IV and FHWA-NC shall encourage a planning process that is open, professional, and inclusive.
4. FTA-IV and FHWA-NC shall attempt to be impartial in dealing with multiple planning partners and competing transportation modes.
5. The 3 C process shall be reviewed quadrennial in the TMA areas through the certification review process and when needed in the other MPOs in North Carolina.

APPLICABILITY

This agreement shall remain in effect indefinitely unless terminated by either party upon a thirty-day written notice to the other party. Either party to this MOA may request that it be amended, whereupon the parties will consult to consider such amendment. This MOA goes into effect with signature and date of all parties.

for Yvette G. Taylor
Regional Administrator
Federal Transit Administration

10/28/2010
Date

John F. Sullivan
Division Administrator
Federal Highway Administrator

10/26/2010
Date

APPENDIX 2

MEETING INFORMATION	
Meeting Description:	Interagency Consultation Pre-Analysis Consensus Plan Meeting for Hickory NC
Meeting Purpose:	The purpose of this meeting is to kick-off the Air Quality Conformity process and to discuss the pre-analysis consensus plan, LRTP, and conformity process schedule with interagency partners.
Date:	April 22, 2009

ATTENDEES			
■ Eddie Dancausse FHWA	■ Loretta Barren FHWA	■ Yolanda Morris FHWA	■ John Marshall RPO
■ Steven Liu, NCDAQ	■ Janice Godfrey, NCDAQ	■ Vicki Chandler, NCDAQ	■ Heather Hildebrandt, NCDAQ
■ via phone – Amanetta Wood, EPA	■ via phone – John Tippet, MPO	■ Derry Schmidt, NCDOT	■ Mark Smith, NCDOT
■ Terry Arellano, NCDOT	■ Pam Cook, NCDOT	■	■

DECISIONS AND ACTION ITEMS:

- FHWA will email interagency partners the current LRTP process schedule
- NCDOT will follow up with the interagency partners to determine if the rural spreadsheet will have changes relating to Highway Performance Monitoring Systems (HPMS).
- How will the PM 2.5 SIP use of CAIR impact the EPA's adequacy or approval of the document
- Hickory MPO will provide FHWA with a list of CMAQ projects to include in the consensus plan

MEETING HIGHLIGHTS:

- FHWA disscussed each item in the Pre-Analysis Consensus Plan. The following questions/comments were addressed:

- Is there an issue with Clearn Air Interstate Rule (CAIR)? Are there any references to CAIR in the attainment demonstration State Implementation Plan (SIP) for Hickory?

Response: According to NCDAQ, they were unsure if there is a reference to CAIR in the last edits made in April, but they will check and get back in touch with the group. The SIP is out for public comment.

FHWA follow-up: FHWA contacted NCDAQ to discuss this. The SIP does use CAIR. FHWA recommends that when NCDAQ submits the the attainment demonstration SIP and then the redesignation SIP to EPA discuss the timeframe with EPA on when they might find the SIP MVEBs adequate or approve the document (considering the issues associated with CAIR) and pass this information on to the IC partners

- Will there be any changes in the rual spreadsheet with changes to HPMS?

Response: NCDOT will follow up.

- When is the regionally significant and exempt project list made available to the interagency for review?

Response: They will be available by the date outlined on the schedule, the July 22, 2009.

- Do you need to model a SIP or budget year?

Response: Not necessarily. Budget emissions can be interpolated. There artIt is a three step process: 1) Do a straight line Interpolation, if necessary, 2) do TDM budget year comparisons, and if further refinement is needed, 3) do both the TDM model runs and Air Quality emissions model runs.

APPENDIX 2

Add discussion about the LRTP schedule being reviewed. Schedule coincides with conformity schedule.

- The following changes were made to the consensus plan:

  In #6 under subheading Emmission Comparison Years the SIP MVEB Test 2011 (interpolate between 2002-modeled and 2015).

- Future meeting dates will be scheduled for every 3rd Wednesday at 10:00 am. The call in number will be provided.

Appendix 3

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

April 22, 2008
September 30, 2008
NOVEMBER 10, 2008
DECEMBER 1, 2008
JANUARY 26, 2009
MARCH 6, 2009
APRIL 14, 2009
AUGUST 21, 2009
SEPTEMBER 28, 2009
OCTOBER 14, 2009
OCTOBER 28, 2009

Prepared Cooperatively Between the
Mecklenburg Union MPO
Cabarrus Rowan MPO
Gaston MPO
North Carolina Department of Transportation
and the
Federal Highway Administration

Metrolina Area Transportation Conformity:
Pre-Analysis Consensus Plan
April 22, 2008
September 30, 2008
November 10, 2008
December 1, 2008
January 26, 2009
March 6, 2009
April 14, 2009
August 21, 2009
September 28, 2009
October 14, 2009
October 28, 2009

The Mecklenburg Union Metropolitan Planning Organization (MUMPO), Cabarrus Rowan MPO (CRMPO), Gaston MPO (GMPO) and the North Carolina Department of Transportation (NCDOT- representing rural portions of the Metrolina 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.

Metrolina Area MPOs:

- Mecklenburg Union Metropolitan Planning Organization (MUMPO)
- Cabarrus Rowan MPO (CRMPO)
- Gaston MPO (GMPO)

Donut Areas:

- Rural portion of Gaston county outside of the MPO area
- Rural portion of Union county outside of the MPO area
- Lincoln County
- Iredell County – partial county

The following pollutants will be included in this conformity determination:

- 8-Hour Ozone (8-hour O3)
- Carbon Monoxide (CO) – Mecklenburg County

Long Range Transportation Plan (LRTP) and Metropolitan Transportation Improvement Program (MTIP)

1. **Existing Land Use and Demographics: For MUMPO, CRMPO, GMPO**

Staff collected data as outlined in Attachment A. The partners updated previously collected 2000 base year data to 2005. Population, household, and student enrollment data were updated using locally tracked data (see data sources listed below). Employment data, however, is not tracked locally in a way that can be reliably converted to model input data. In 2002, an economist was contracted to produce population, household, and employment estimates in five-year increments from 2000 to 2035.The Regional partners used the economist's 2005 employment to population ratio estimate to calculate 2005 employment data. The data was allocated to Traffic Analysis Zones (TAZs) based on the previous 2000 data set and local knowledge. Several partners supplemented this process with Employment Security Commission data and / or 2005 Info USA employment data.

Data sources include the following:

- 2000 Census data;
- 2002 InfoUSA employment data;
- 2005 InfoUSA employment data;
- 2005 Employment Security Commission data;
- 2002 Dunn and Bradstreet employment data;
- 2000 Journey to Work data;
- 2000 Census Transportation Planning Package (CTPP) data;
- 2000 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. **LRTP Model Validation (Base) Year:**
   2005

3. **MTIP Years:** 2009 – 2015

4. **LRTP Horizon Year:** 2035

5. **LRTP Travel Demand Intermediate Years:** 2010, 2015 & 2025

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

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				
				2002[1] Baseline	2010[2]	2015[4]	2025	2035 Horizon
Cabarrus	modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3
Rowan	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3
Gaston	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3
Mecklenburg	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	CO O3	CO O3	CO O3
Union	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3
Lincoln	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3
Iredell (part)	Modeled all	8 hr 03 to EPA by 11.30.09	TDM[3]	O3	O3	O3	O3	O3

[1] Baseline for 8 hour ozone interim emissions test (if necessary)
[2] O3 attainment date for the Metrolina Region will need to be an MRM modeled year.
[3] The baseyear of the MRM is 2005
[4] 2015 will meet the interim test requirement of needing an analysis year no more than 5 years beyond the year in which the conformity determination is being made

Additional table notes and explanations:

County:

- Ozone: The Metrolina ozone non-attainment area consists of 6 whole counties (Mecklenburg, Union, Cabarrus, Rowan, Gaston, and Lincoln) plus one partial county (Iredell). The ozone non-attainment area includes four donut areas (Union, Gaston, Lincoln and Iredell-partial) represented by the NCDOT in cooperation with the Lake Norman Rural Planning Organization (RPO) and the Rocky River RPO.
- CO: The Metrolina CO maintenance area consists of one whole county (Mecklenburg)

***Note:** a dount 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: The Metrolina area has State Implementation Plans (SIPs) for the 1-hour ozone and CO standards. The North Carolina Division of Air Quality (NCDAQ) has a draft version of the Reasonable Further Progress (RFP) SIP for the 8 hour ozone standard that will be submitted to the Environmental Protection Agency (EPA) by November 30, 2009. The strategy for the regional emissions analysis is to do comparisons for the CO and proposed 8-hour ozone SIP MVEBs as well as the interim tests (1-hour ozone (Mecklenburg and Gaston), less than baseline and build/no build). This will cover all bases in case the 8-hour SIP MVEBs are not found adequate or approved before the USDOT conformity determination is made.

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

Emission Comparison Years:

- Interim Emissions Test (To be used if the proposed 8-hour ozone RFP SIP motor vehicle emissions budgets (MVEBs) are not found adequate or approved prior to the USDOT conformity determination). The interim emissions test will consist of the 1-hour ozone MVEBs for Mecklenburg and Gaston Counties and the interim emissions tests (less than baseline 2002 and the build-no-build test) for all the Metrolina Area counties (*Mecklenburg, Gaston, Cabarrus, Rowan, Iredell-partial, Lincoln, Union*). The interim test comparisons will include a summation of the Metrolina area counties emissions into a single number (including Mecklenburg and Gaston Counties) for the comparisons.
  - Less than baseline 2002 (Regional test sum emissions from *Mecklenburg, Gaston, Cabarrus, Rowan, Iredell-partial, Lincoln, Union*)
    - Interim emissions tests (less than 2002 baseline): 2002 (modeled-baseline year), 2015 (modeled-compare to 2002 baseline), 2025 (modeled-compare to 2002 baseline), and 2035 (modeled-compare to 2002 baseline)
  - Build-no-build (Regional test sum emissions from *Mecklenburg, Gaston, Cabarrus, Rowan, Iredell-partial, Lincoln, Union*)
    - Interim emissions tests (build-no-build): 2015 (modeled build compared to modeled no-build), 2025 (modeled build compared to modeled no-build) and 2035 (modeled build compared to modeled no-build).
  - 1-Hour Ozone (*Mecklenburg and Gaston*)
    - MVEB: 2010 (modeled-compare to 2005 MVEB), 2015 (modeled-compare to 2005 MVEB), 2025 (modeled-compare to 2005 MVEB) and 2035 (modeled-compare to 2005 MVEB).

- Motor Vehicle Emissions Budget Test
  - (**Proposed 8-hour ozone SIP**): To be used in case the proposed RFP SIP MVEBs are found adequate or approved prior to the USDOT conformity determination 8-hour ozone (*Mecklenburg, Gaston, Cabarrus, Rowan, Iredell-partial, Lincoln, Union*)
    - 2010 (modeled-compare to 2008 MVEB), 2015 (modeled-compare to 2008 MVEB, 2015 (modeled- compare to 2008 MVEB), 2025 (modeled-compare to 2008 MVEB) and 2035 (modeled-compare to 2008 MVEB)
  - CO (*Mecklenburg*): 2015 (modeled-compare to 2015 MVEB), 2025 (modeled-compare to 2015 MVEB) and 2035 (modeled-compare to 2015 MVEB)

List of Specific <u>Conformity</u> Years (1-hour ozone SIP)

a. Baseline: 2002
b. Horizon: 2035
c. SIP MVEB Year: 2005
d. Emission comparison years (NOx and VOC): 2010, 2015, 2025 & 2035

List of Specific <u>Conformity</u> Years (Interim Emissions Test**)**

a. Baseline: 2002 (2002 vehicle mix will be used for 2002 and 2008 vehicle mix will be used for the years beyond 2002)
b. Horizon: 2035
c. Emission comparison years (NOx and VOC): 2015, 2025 & 2035

List of Specific <u>Conformity</u> Years (Proposed RFP 8-hour ozone SIP**)**

a. Baseline: 2002
b. Horizon: 2035
c: RFP SIP MVEB Year: 2008
d. Emission comparison years (NOx): 2010, 2015, 2025 & 2035

List of Specific <u>Conformity</u> Years (CO SIP)

a. Horizon: 2035
b. SIP Budget Years: 2015 (new SIP)
c. Emission comparison years: 2015, 2025 & 2035

7. **Non-attainment / Maintenance Counties:**
   - CO Maintenance: Mecklenburg County
   - 8 Hour Ozone Non-attainment Area: Gaston Co., Mecklenburg Co., Cabarrus Co., Rowan Co., Union Co., Lincoln, and the southern portion of Iredell County (Coddle Creek and Davidson Townships)

8. **Land-Use Demographics Projections/Forecast:**

In 2002, an economist was contracted to produce population, household, and employment estimates in five-year increments from 2000 to 2035. The economist's forecasting model is calibrated statistically to 1990-2000 data for 228 metropolitan counties in the eastern US. Refer to *Demographic and Economic Forecasts for the Charlotte Region*, December 8, 2003, by Thomas R. Hammer, Ph.D. for more detailed information. Staff used the economist's report to benchmark projections for the five-year increments, and the regional partners came to a consensus on the regional projections. The

regional partners agreed to a regional population ceiling of 3.5 million for 2035. Final population projections were substantially lower than this ceiling. The Regional partners primarily relied on the employment estimates from the economist.

MPO and RPO staff projected population, household, and employment data for 2015, 2025, and 2035 through a top-down forecasting approach. Qualitative inputs to the projections process include future land use plans, building permits data, transportation plans and other capital improvements plans. These resources were used to geographically allocate growth by traffic analysis zone across the region. The final and most important qualitative input was "planners' judgment", meaning the collective knowledge of planning officials and staff about the development patterns and development potential of specific areas within their jurisdictions. MPO staff reviewed projections by county or city with local planners and presented population and employment density maps to technical and elected boards.

Refer to Attachment A for the list of variables projected for use in the travel demand model.

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

The regional travel demand model is a four-step model developed for a 2-state, 11- county (9 whole, 2 partial) region (refer to Attachment B). The modeling area encompasses 4 MPOs and 2 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 External Travel Survey;
2002 Household Travel Survey;
2003 Workplace Survey; and
2009 On-board Transit Survey of Express and Local Buses and South Corridor Light Rail Transit (LRT) Survey and Counts

The model team has implemented several improvements to the Metrolina Regional Model. Improvements that potentially affect VMT and travel speeds include:

- 2005 calibration using TransCAD 5.0, 2005 socio-economic data, and 2005 count data;
- Mode choice model calibrated to the 2009 on-board transit survey and count data, to reflect recent ridership information related to the CATS LRT project, which opened in November 2007.

A number of other improvements were implemented to improve model operating speed and efficiency. Minor network and modeling errors and bugs have been repaired when identified.

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 2009.

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 2009.

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 – 2006. Each count will be factored to the base year (2005). 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's 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 LRTP.

13. VMT Adjustments:

No VMT adjustments unless the 1-hour ozone MVEBs and/or the old CO MVEBs are used.

14. Motor Vehicle Emissions Budgets

The Metrolina area is non-attainment for the 8-hour ozone standard (Gaston, Mecklenburg, Cabarrus, Rowan, Union, Lincoln, Iredell County (part)) and maintenance for the CO standard (Mecklenburg).

a. Current SIP: Mecklenburg County is maintenance for the Carbon Monoxide (CO) standard. A MVEB was established for 2015 and emission limits based on the MVEB is indicated below:

CO: Current CO SIP (tons/day)			
Area	**Comparison Year**		
	2015	**2025**	**2035**
Mecklenburg	470.18	470.18	470.18

***The MVEB for 2015 will be used for the 2025 and 2035 comparison since 2015 is the last year that a MVEB is provided for CO*

b. 1-Hour Ozone SIP: A 2005 MVEB was established for VOC and NOx and the emission limits based on the MVEBs is indicated below:

1-Hour Ozone SIP NOx (tons/day)			
Area	**Comparison Year**		
	2015	**2025**	**2035**
Mecklenburg	33	33	33
Gaston	8.7	8.7	8.7

1-Hour Ozone SIP VOC (tons/day)			
Area	**Comparison Year**		
	2015	**2025**	**2035**
Mecklenburg	25.9	25.9	25.9
Gaston	5.7	5.7	5.7

***The MVEB for 2005 will be used for the 2015, 2025 and 2035 comparison since 2005 is the last year that a MVEB is provided for NOx and VOC*

c. Proposed 8-hour Ozone RFP SIP MVEBs. The Metrolina area is non-attainment for the 8-hour ozone standard (Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, and Union). The proposed RFP SIP has MVEBs for NOx and VOCs.

NOx: Proposed 8-hour Ozone RFP SIP (kilograms/day)				
Area	**Comparison Year**			
	2010	**2015**	**2025**	**2035**
Cabarrus	7324	7324	7324	7324
Gaston	7647	7647	7647	7647
Iredell*	5637	5637	5637	5637
Lincoln	2948	2948	2948	2948
Mecklenburg	34526	34526	34526	34526
Rowan	7193	7193	7193	7193
Union	5660	5660	5660	5660

VOC: Proposed 8-hour Ozone RFP SIP (kilograms/day)				
Area	**Comparison Year**			
	2010	**2015**	**2025**	**2035**
Cabarrus	6941	6941	6941	6941
Gaston	5132	5132	5132	5132
Iredell*	3601	3601	3601	3601
Lincoln	2726	2726	2726	2726
Mecklenburg	26368	26368	26368	26368
Rowan	6149	6149	6149	6149
Union	6299	6299	6299	6299

**Iredell County is a partial county*

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	**Methodology/Approach**
I/M Program	*Accounted for in Mobile6.2 model*
Tier 2 vehicle's Emission Standards	*Accounted for in Mobile6.2 model*
Low Sulfur Gasoline and Diesel fuels	*Accounted for in Mobile6.2 model*
Heavy Duty Vehicle Rules 2004 and 2007	*Accounted for in Mobile6.2 model*
Low RVP Gasoline	*Accounted for in Mobile6.2 model*
On board vapor recovery	*Accounted for in Mobile6.2 model*

16. Mobile Source Emission Reduction Strategies: The MPO's will take emission credits for the following Mobile Source Emission Reduction Strategies. **(Anna will email the MPOs to request needed data for off model reductions analysis such as van pooling, incident management, signal coordination and park-n-ride lots, etc. This information will be due to Anna by 9.1.09)**

Strategy	**Approach**	**Year(s)**

		Credited
Park-n-Ride Lots:	*Off model*	*2015, 2025, 2035*
Vanpools:	*Off Model*	*2015, 2025, 2035*
ITS	*Off Model*	*2015, 2025, 2035*

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

- **Eight Hour Ozone Nonattainment Area:** Cabarrus, Gaston, Lincoln, Mecklenburg, Rowan, Union Counties, and the southern portion of Iredell County (Coddle Creek and Davidson Townships)

- **CO Maintenance Area:** Mecklenburg County

Mobile 6.2 Model
Charlotte Region MPOs/RPOs (rural area)

Mobile Model Settings common for all analyses: The following MOBILE model-input parameters will be used in the conformity analysis.

Parameter	Details	Data Source
a. ***Emissions Model Version(s):***	Mobile 6.2	
b. ***Time Periods:***	4 times of day: See item #24 below	
c. ***Vehicle Classes:***	16	
d. ***VMT mix:***	The 2008 count data will be used to generate the statewide VMT mix using the August 2004 USEPA guidance methods. This statewide VMT mix will be adjusted with the Metrolina local data. For interstates and freeways, the Statewide mix will be used since there is no local data available for these road types.	
e. ***Speeds:***	Regional Model MRM09v1	
f. ***Vehicle age distribution:***	The vehicle age distribution will be based on 2008 registration data.	
g. ***I/M Program:***	Idle test for 2002 runs in Gaston, Mecklenburg, Union, and Cabarrus Counties. OBD-II for 2010, 2015, 2025 and 2035 runs in all Metrolina Counties.	
h. ***Anti-tampering Applicability:***	Applies to vehicles 35 years and newer • 2002 run: 1968 and newer • 2010 run: 1976 and newer • 2015 run: 1981 and newer • 2025 run: 1991 and newer • 2035 run: 2001 and newer	
i. ***Strategies:***	None	
j. ***I/M Fraction:***	Cabarrus 94%, Gaston 91%, Iredell 86%, Lincoln 97%, Mecklenburg 90%, Rowan 93%, and Union 89%.	
k. ***Vehicle Starts Data***	Local Data	

Mobile Model Settings unique to CO analysis: The following MOBILE model-input parameters will be used in the conformity analysis.

Parameter	Details	Data Source
a. ***Emission Model Runs:***	Typical Winter Weekday	
b. ***Pollutants Reported:***	CO	
c. ***Emissions Budget Years:***	2015	
d. ***Emissions Analysis Years:***	2015, 2025, 2035	
e. ***Max/Min Temperature:***	50.0 max & min	
f. ***RVP:***	15.0 psi	
g. ***Evaluation month:***	January	
h. ***VMT:***	Regional Model MRM09v1	

Mobile Model Settings unique to 8-hr Ozone interim test analysis (1-hr ozone MVEBs for Mecklenburg and Gaston and less than baseline and build/no build tests): The following MOBILE model-input parameters will be used in the conformity analysis.

Parameter	Details	Data Source
a. ***Emission Model Runs:***	Typical Summer Weekday	
b. ***Pollutants Reported:***	VOC and NOx	
c. ***Emissions Budget Years:***	2005 (1-hr ozone budgets) for Mecklenburg & Gaston	
d. ***Emissions Analysis Years:***	2002 (comparison for interim test), 2010, 2015, 2025, 2035	
e. ***Max/Min Temperature:***	89/63 max/min for VOC for Gaston & Mecklenburg 95/66 max/min for NOx for Gaston & Mecklenburg 56-yr avg. July temp profile from CLT for Donut area	
f. ***Relative Humidity (RH):***	6-yr avg. July RH profile based on 1-hr SIP temps from Gastonia for Gaston 56-yr avg. July RH profile based on 1-hr SIP temps from CLT for Mecklenburg No RH data used for Donut area	
g. ***Barometric Pressure:***	30	
h. ***RVP:***	7.8 psi for Gaston and Mecklenburg 9.0 psi for Donut area	
i. ***Evaluation month:***	July	
j. ***VMT:***	Regional Model MRM09v1	

- The VMT for Mecklenburg and Gaston can be normalized if needed.

Mobile Model Settings unique to 8-hr Ozone Proposed RFP SIP: The following MOBILE model-input parameters will be used in the conformity analysis.

Parameter	Details	Data Source
a. ***Emission Model Runs:***	Typical Summer Weekday	
b. ***Pollutants Reported:***	VOC and NOx	
c. ***Emissions Budget Years:***	2008	
d. Emissions Analysis Years:	2002 (for comparison), 2010, 2015, 2025, 2035	
e. ***Hourly Temperatures:***	July 2002 average temperature from Charlotte Douglas International airport for 24 hours for NOx and VOC for all counties.	
f. Relative Humidity (RH):		

July 2002 average relative humidity from Charlotte Douglas International airport for 24 hours for NOx and VOCs for all counties.

g. Barometric Pressure: 30

h. RVP: 7.8 psi for Gaston and Mecklenburg
9.0 psi for the remaining counties

i. *Evaluation month:* July

j. *VMT:* Regional Model MRM09v1
The VMT for Mecklenburg and Gaston can be normalized if needed.

The actual temperature & RH profiles discussed above are provided below:

Gaston County 6-yr average July RH profile based on 1-hr SIP temperatures:

VOC

```
RELATIVE HUMIDITY  : 100. 100. 100. 91. 76. 65. 58. 54. 53. 53. 54. 57.
                     62. 69. 75. 83. 88. 93. 98. 100. 100. 100. 100. 100.
```

NOx

```
RELATIVE HUMIDITY  : 100. 100. 96. 80. 65. 55. 49. 45. 44. 44. 45. 48.
                     52. 58. 65. 72. 77. 80. 86. 90. 93. 96. 97. 99.
```

Mecklenburg County 56-yr average July RH profile based on 1-hr SIP temperatures:

VOC

```
RELATIVE HUMIDITY  : 100. 100. 93. 79. 66. 56. 49. 46. 44. 44. 45. 48.
                     52. 58. 65. 71. 75. 81. 85. 88. 92. 94. 95. 99.
```

NOx

```
RELATIVE HUMIDITY  : 92. 92. 83. 69. 56. 48. 41. 38. 37. 36. 37. 39.
                     40. 49. 56. 61. 65. 71. 75. 78. 82. 84. 85. 89.
```

Donut area 56-yr average July temperatures:

```
HOURLY TEMPERATURES: 67.7 69.5 73.0 75.7 77.9 80.2 81.8 82.6 83.7 84.0 83.3 82.4
                     80.7 78.4 76.1 74.4 72.7 71.7 70.6 69.5 68.9 68.1 67.2 67.1
```

Temperature and RH profiles used in 8-hr Ozone SIP budgets:

```
HOURLY TEMPERATURES: 71.0 73.8 77.0 80.3 82.5 85.4 87.3 88.5 89.1 88.5 89.6 89.2
                     86.3 82.6 77.8 77.5 76.2 75.9 75.0 74.0 73.2 82.3 71.6 71.0

RELATIVE HUMIDITY  : 91. 86. 78. 71. 65. 59. 53. 50. 48. 51. 47. 47.
                     53. 61. 70. 71. 76. 77. 79. 83. 85. 87. 88. 91.
```

18. 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
CO: use 2 decimal places
1 Hour Ozone (VOC & NOx): 1 decimal place

19. CMAQ Projects: The Metrolina area MPOs/RPOs will include a spreadsheet in the conformity documentation showing status of funded CMAQ projects, including emission reductions for each, amount of funding for each project, and implementation dates. *(each MPO/RPO area will provide this information by August 2009)*

20. Regionally Significant Projects (Federal and Non Federal): (*each Metrolina area MPO/RPO will provide this information by August 2009*)

21. List of Exempt Projects and Non-Regionally Significant Projects (Federally Funded): The Metrolina area MPOs/RPOs will identify exempt projects according to the Conformity Regulation (40 CFR 93.126) and non-regionally significant projects as a backup plan in the event of a conformity lapse. A discussion on the purpose of this can be a part of the conformity determination report (CDR) and the list of projects can be added as an appendix in the CDR. (*each Metrolina area MPO/RPO area will provide this information by the end of August 2009)*

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

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

i. The MUMPO within its metropolitan area boundary (MAB) -all of Mecklenburg County and part of Union County
ii. The GMPO within its metropolitan area boundary-a part of Gaston County
iii. The CRMPO within its metropolitan area boundary-all of Cabarrus and Rowan Counties
iv. The NCDOT for the rural areas comprised of those parts of Gaston and Union Counties that are outside of any MPO MAB, part of Iredell County, and all of Lincoln County

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.

24. 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
    - Off model work (applied to all scenarios):
        - ITS enhanced
        - Signal System
        - Vanpool
    - Updated starts from the new model were added

25. SAFETEA-LU COMPLIANT LRTP UPDATE - FHWA Review and Validation

FHWA planner (Loretta Barren) will be in contact with the Metrolina Area MPOs to determine the timeline for this review and validation.

Greater Hickory Urban Area MPO and the Unifour RPO Transportation Conformity Pre-Analysis Consensus Plan PM 2.5

April 22, 2009
July 15, 2009
September 17, 2009
October 21, 2009

Interagency Consultation Meeting
for the
Greater Hickory Urban Area MPO and the
Unifour RPO
Transportation Conformity
Pre-Analysis Consensus Plan
October 21, 2009

Catawba County

The Greater Hickory MPO is 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 proceeds with the analysis. After consensus is reached, notification of changes will be made to the interagency consultation partners.

Greater Hickory MPO

- Catawba County

Donut Areas

- Rural Portion of Catawba County outside of the MPO area

The following pollutants will be included in this conformity determination:

- PM 2.5 direct
- NOx

The Greater Hickory 2035 Multi-Modal Long Range Transportation Plan (LRTP), and 2009-2015 Metropolitan Transportation Improvement Program (MTIP)

1. **Existing Land Use and Demographics:** Catawba County, North Carolina is located approximately 40 miles northeast of Charlotte, North Carolina or 75 miles east of Asheville, North Carolina at the Junction of Interstate 40 and US Highway 321. Catawba County is located in the Piedmont area of North Carolina and is surrounded on two sides by the Catawba River. The County covers about 400 square miles and has a population of approximately 153,000 people as of July 2007. Catawba is the 13th most populous County in North Carolina. The County's population is growing at a rate of 0.5 to 1% a year over the past five years. In 1990 over half of all employment in Catawba County was in manufacturing, mainly in furniture, textiles and hosiery. In 2008 only about 30% of all employment in Catawba are in manufacturing due the loss of over 16,000 manufacturing jobs between 2000 and 2008. The County is consequently converting to a more service based economy.

2. LRTP Model Validation (Base) Year: 2003

3. MTIP Years: 2009-2015

4. LRTP Horizon Year: 2035.

5. LRTP Travel Demand Intermediate Years

a. 2015 and 2025

6. Transportation Conformity Analysis Years

The table below summarizes air quality conformity analysis methods and years for the different parts of the PM 2.5 Non-attainment Area. Specific conformity year information is listed following the table.

County	Area model status	Area emissions budget status	Emissions analysis source	2002[1] Baseline	2015[4]	2025	2035 Horizon
Catawba	Modeled Area	PM2.5 SIP will be submitted to EPA by 6/1/09	TDM[3]	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx
	Rural Area	PM2.5 SIP will be submitted to EPA by 6/1/09	NCDOT rural spreadsheet	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx	Direct PM2.5[5] NOx

[1] Baseline for PM2.5 interim emissions test

[3] The baseyear of the TDM is 2003

[4] For the interim emissions test the 2015 horizon year satisfies the requirement of needing an analysis year no more than 5 yrs beyond the year that a conformity determination is being made

[5] Direct PM2.5 is only needed as a comparison for interim emissions test and is not required if the SIP MVEBs are approved or found adequate

Model Status: The Hickory travel demand model (TDM) does not cover the entire non-attainment county of Catawba.

Emissions Analysis Years: In the proposed PM2.5 Attainment SIP there are MVEBs provided for 2009.

Emissions Analysis Source: The VMT and speeds for the regional emissions analysis will be obtained from the TDM for the area that the TDM covers and the NCDOT rural spreadsheet for the area not covered by the TDM within the non-attainment boundary.

Emission Comparison Years:

- Interim Emissions Test (Direct PM2.5 and NOx – assuming no SIP MVEBs are available for use)
    - Interim emissions test (less than 2002 baseline): **2002**-modeled (baseline year), **2015**-modeled (compare to 2002 baseline), **2025**-modeled (compare to 2002 baseline), and **2035**-modeled (compare to 2002 baseline)
- Motor Vehicle Emissions Budget Test (Proposed Attainment PM 2.5 SIP-MVEBs only provided for NOx because PM2.5 was deemed insignificant) – this comparison will be used assuming that the SIP MVEBs are found adequate or approved prior to the USDOT conformity determination.
    - SIP MVEB Test: **2015**-modeled and (compare to the 2009 SIP MVEB), **2025**-modeled and (compare to the 2009 SIP MVEB), and **2035**-modeled (compare to 2009 SIP MVEB)

List of Specific <u>Conformity</u> Years (Interim Emissions Years-Direct PM2.5 and NOx**)**

- Baseline: 2002
- Horizon: 2035
- Emission comparison years: 2015 and 2025

List of Specific <u>Conformity</u> Years (PM 2.5 Attainment SIP-NOx only, PM2.5 is deemed insignificant**)**

- Baseline: 2002
- Horizon: 2035
- SIP Budget Years: 2009

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

8. **Land Use Demographics Projections / Forecast:** Demographic information from the 2000 United States Census was used to making land use projections. The census data was supplemented by housing (through building permit information) employment, and population data collected in 2007 as part of the Travel Demand Model Development. This data was used to make the socio-economic projections for population and employment for the years 2015, 2025 and 2035 using the base year (2002 and 2007 data) inventory.

9. **Travel Demand Model (or Rural Spreadsheet):**
   Modeling tools for the area designated PM 2.5 non-attainment (Catawba County) include the TransCAD model for the Hickory Urban Area and

NCDOT rural spreadsheet. The TransCAD model covers approximately 2/3 of Catawba County that includes the municipalities of Hickory, Newton, Conover, Brookford, Catawba, Claremont, Long View and Maiden. The NCDOT rural spreadsheet model will be used for the portion of Catawba County not covered by the TransCAD model. The rural spreadsheet incorporates the vehicle miles traveled (VMT) from universe file and historical trends to project the VMT in the horizon years at the county level. The spreadsheet calculates speed based on a model originally developed by the Texas Transportation Institute (TTI) but modified by NCDOT. Speeds generated by the spreadsheet are incorporated into the MOBILE6.2 emissions program. Then, emission factors developed by MOBILE6.2 are imported into the spreadsheet and multiplied by forecasted VMT to generate emission. The travel demand model is being created in TransCAD. It is a four-step model and encompasses 1 MPO and portions of 1 RPO. A multitude of land use and demographic data was collected as input into the model. The model's base year (year of data collection) for calibration is 2003.

10. Modal Split / Mode Choice: N/A

11. VMT Adjustments: N/A

12. Motor Vehicle Emissions Budgets / Conformity Test:
Interim Test: Less than or = 2002 baseline

The regional emissions analysis showing a comparison to the PM2.5 Attainment SIP MVEBs will be utlilized if the MVEBs are found adequate or approved prior to April 2010, when USDOT is expected to make its conformity determination. The proposed SIP MVEBs are provided in the table below:

NOx: Proposed PM2.5 SIP Attainment Plan (kg/yr)			
Area	**Comparison Year**		
	2015	**2025**	**2035**
Catawba	2887955	2887955	2887955

PM 2.5 is deemed insignificant

13. Control Strategies:

Emission reduction credits will be taken for the following on-road mobile SIP commitments.

Strategy	**Methodology/Approach**
I/M Program	*Accounted for in Mobile 6.2*
Tier 2 vehicle's Emission Standards	*Accounted for in Mobile 6.2*

Low Sulfur Gasoline and Diesel fuels	*Accounted for in Mobile 6.2*
Heavy Duty Vehicle Rules 2004 and 2007	*Accounted for in Mobile 6.2*
On board vapor recovery	*Accounted for in Mobile 6.2*

14. Mobile Source Emission Reduction Strategies: (Off-Model) N/A

15. Mobile Model: The Catawba non-attainment area will use the following MOBILE model-input parameters in the conformity analysis.

Parameter	**Details**	**Data Source**
a. Emissions Model Version(s):	Mobile 6.2	
b. Emission Model Runs:	Calendar Quarterly	
c. Time Periods:	Calendar Quarterly	
d. Pollutants Reported:	Direct PM 2.5 (and NOx)	
e. Emission Analysis Years:	2002, 2015, 2025, 2035	
f. Vehicle Classes:	16	

g. Temperature/Relative Humidity/Barometric Pressure: Hourly average temperature and relative humidity calculated for each of the four quarters. Meteorological data is from the Hickory Airport for Catawba County. Barometric Pressure: 30.0.

h. VMT mix: Use the most recent (2008) count data from NCDOT's Traffic Survey Group to develop a VMT mix based on the methods outlined in the August 2004 USEPA Technical Guidance.

i. Speeds: From TDM and Rural spreadsheet

j. Vehicle Age Distribution: Based on 2008 DMV registration data provided by NCDOT. For 2002 the data obtained back in 2002 was used.

k. I/M Program: OBD II for 2004 and beyond.

l. Anti-tampering applicability: Applies to vehicles 35 years old and newer.

- 2002 run: 1968 and newer
- 2015 run: 1981 and newer
- 2025 run: 1991 and newer
- 2035 run: 2001 and newer

m. RVP: Calendar Quarterly

	RVP
1st quarter	14
2nd quarter	10.5
3rd quarter	9.0
4th quarter	14

n. Strategies: See item 13 above

o. I/M Fraction: 0.91 for years 2015, 2025, and 2035. No I/M program existed in 2002.

p. Evaluation month: Set "evaluation month" to 1 for 1st and 4th quarters. Set "evaluation month" to 7 for 2nd and 3rd quarters.

q. Diesel Sulfur Content: Based on USEPA Technical Guidance on the Use of MOBILE6.2 for Emission Inventory Preparation (August 2004). Highway Diesel Sulfur Level set to 340 ppm for evaluation month 1 in 2002, 400 ppm for evaluation month 7 in 2002, and 11 ppm for future years.

r. VMT: TDM in modeled area; rural spreadsheet elsewhere.

s. Emissions analysis units: Although the emissions are usually expressed in terms of tons, the MVEBs will be set in terms of kilograms (kg). The reason is because the MOBILE model generates the emissions factors in grams per mile.

16. CMAQ Projects:

Traffic Signal System Upgrade for the City of Hickory
Multimodal Transit Facility Rehabilitation Assistance
WPRTA: Purchasing of a Hybrid Bus

17. Regionally Significant Projects (Federal or Non-Federal)

All regionally significant projects including at a minimum all principal arterial highways as outlined in the Conformity Regulations (40 CFR 93.101). This identification will be complete for both the MPO and rural area by 9/2009.

18. Exempt Projects:

All exempt projects in the MTIP will be identified according to specifications outlined in the Conformity Regulations (40 CFR 93.126). This will be complete for both the MPO and rural area by 9/2009.

19. Conformity Schedule:

See attached

Metrolina Area Draft CPS - 3.1.10
Transportation Conformity Process

Discussion Draft -- 1/3/2011

Line ID#	Conformity Elements	Schedule Summary Start Date	Schedule Summary End Date	Schedule Summary Length (Days)	2009 -- Dates shown are for week beginning on that date Appendix 5
					April: 5, 12, 19, 27 | May: 3, 10, 17, 24 | June: 7, 14, 21, 28 | July: 5, 12, 19, 26 | August: 2, 9, 16, 23, 30 | September: 6, 13, 20, 27 | October: 4, 11, 18, 25 | November: 1, 8, 15, 22, 29 | December: 6, 13, 20, 27 | January: 3, 10, 17, 24 | February: 7, 14, 21, 28 | Ma: 7, 14
1	**Project start --**			NA	
2	**Interagency consultation (IC)**			#VALUE!	
3	IA planning session #1			#VALUE!	
4	Set IA meeting date (location, etc.)				
5	Develop participant list				
6	Discuss draft agenda				
7	Discuss TCPCP				
8	Discuss CPS				
9	IC planning session #2 **TBD**			#VALUE!	TBD if needed
10	Review draft agenda				
11	Review TCPCP				
12	Review CPS				
13	Prepare presentations				
14	Email Agenda, draft TCPCP and draft CPS to IC partners			1	
15	IC Meeting -- **Select a date in this time range**	04/01/09	05/01/09	31	
16	Meeting Minutes			1	
17	Circulate and Review meeting minutes			1	
18	Follow up to address comments			1	
19	**Transportation Planning**	**05/01/09**	**08/31/09**	123	
20	*Transportation Projects, Timelines, Fiscal Constraint*				
21	MPO TCCs develop and refine draft LRTP project list				
22	MPO TACs receive & review the draft project list LRTP-for-comment				
23	MPO TACs (or TCCs) approve 2035 project list MUMPO: **10/21/09,** CRMPO: **6/08,** GUMPO: **7/28/09**	08/17/09	08/28/09	12	
24	*Transportation Modeling (50 days)*	**08/31/09**	**10/16/09**	47	
25	Base year network and land use (2005)				
26	Horizon year 1 network and land use				
27	Horizon year 2 network and land use				
28	Design Year network and land use -- 2035				
29	Develop plan version for initial air quality analysis				
30	Extract draft plan VMT and speeds				
31	Evaluate draft plan speeds and VMT				
32	Preliminary Regional Emissions Analysis				
33	Emission Factors Review (additional iterations, if needed)				
34	Extract Final VMT and speeds				
35	Evaluate final speeds and VMT				
36	Modeling Complete (Includes Emission Factor & REA)		10/16/09		
37	**Emission Analysis**	**10/19/09**	**11/13/09**	26	
38	NCDAQ Emission Factor Review	10/19/09	11/09/09	22	
39	Off model analysis, including off-model TDM- **not applicable**	5/1/2009	09/30/09		
40	REA Review	11/09/09	11/13/09	5	
41	**Conformity Report Preparation**	**11/16/09**	**11/30/09**	15	
42	Preliminary report preparation	11/16/09	11/30/09	15	
43	Prepare pre-draft report			1	
44	Print pre-draft report			1	
45	Internal Review pre-draft			1	
46	Agency Review (EPA/FTA/NCDAQ/FHWA) of pre-draft CDR			1	
47	Respond to Agency Comments			1	
48	Draft Printing & Distribution	11/26/09	11/30/09	5	
49	TACs release conformity draft and LRTP update for public comment: MUMPO: **11/18/09**, CRMPO: **11/18/09,** GUAMPO: **11/27/09, LN RPO 11/xx/09, RR RPO 11/xx/09**	11/16/09	11/27/09	12	
50	**Interagency and public review**	**12/01/09**	**01/15/10**	46	
51	DENR Review	12/01/09	12/21/09	21	
52	FHWA Initial Review	12/01/09	12/21/09	21	
53	FTA Initial Review	12/01/09	12/21/09	21	
54	EPA Initial Review	12/01/09	12/21/09	21	
55	Public Review (MPOs and RPOs)	12/01/09	01/14/10	45	
56	Respond to Agency and Public Comments	01/15/10	01/29/10	15	
				1	
57	**MPO & Rural Conformity Determination**	**01/18/10**	**01/29/10**	12	
58	TACs Adopt Final LRTPs with AQ conformity-public hearing MUMPO: **1/20/10**, CRMPO: **1/27/10** & GUAMPO: **1/24/10**	01/18/09	01/29/09	12	
59	NCDOT Secretary issues conformity letter for rural area	01/18/09	01/29/09	12	
60	Conformity analysis, report and review complete	01/28/10	01/28/10	1	
61	Final Printing & Distribution	01/29/10	01/29/10	1	
62	**Federal Action**	**02/01/10**	**03/01/10**	29	
63	Transmit Report to FHWA/TPB	02/01/10	02/01/10	1	
64	FHWA transmit report to EPA & FTA	02/02/10	02/02/10	1	
65	USDOT Determination	02/01/10	03/01/10	29	
66	USDOT Letter to State/MPO	03/01/10	03/01/10	1	
67	**Process Complete**	03/01/10	03/01/10	1	
68	**Conformity Process Complete -- March 1, 2010**	**03/01/10**	NA	NA	

Metrolina Area Draft CPS - 3.1.10
Transportation Conformity Process

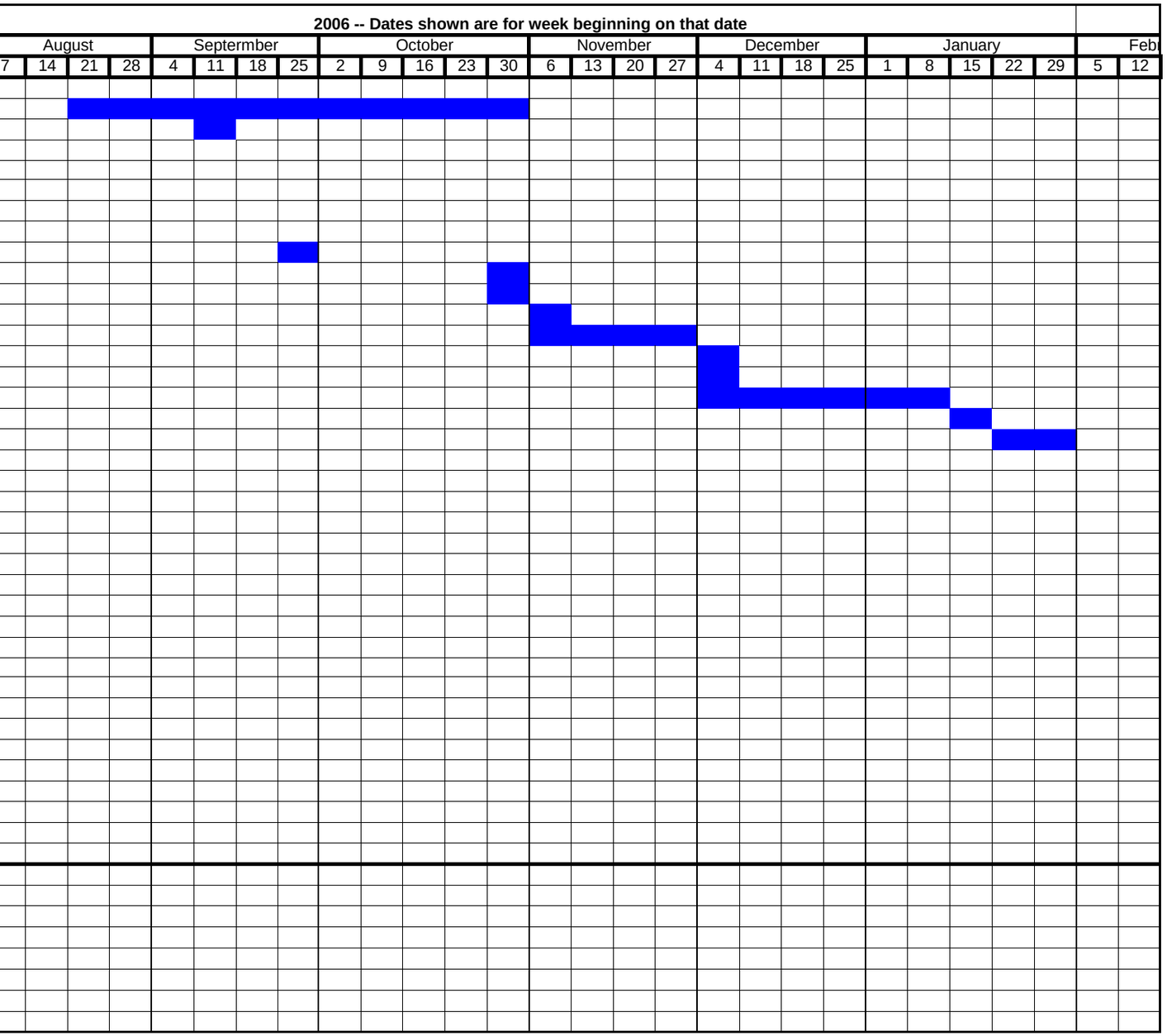
Line ID#	Conformity Elements	Schedule Summary Start Date	Schedule Summary End Date	Schedule Summary Length (Days)	March 21	March 28	April 4	April 11	April 18	April 25	May 2	May 9	May 16	May 23	May 30	Line ID#	Participating Organizations and Staff (lead staff in **bold**)
1	**Project start** --			NA												1	
2	**Interagency consultation (IC)**			#VALUE!												2	**Arellano, Metrolina Area Coordinator, Dancausse**
3	IA planning session #1			#VALUE!												3	**Arellano, Metrolina Area Coordinator, Dancausse**
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 **TBD**			#VALUE!												9	**Arellano, Metrolina Area Coordinator, Dancausse**
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 -- **Select a date in this time range**	04/01/09	05/01/09	31												15	**Arellano, Metrolina Area Coordinator, Dancausse**
16	Meeting Minutes			1												16	**Arellano, Metrolina Area Coordinator, Dancausse**
17	Circulate and Review meeting minutes			1												17	**Arellano, Metrolina Area Coordinator, Dancausse**
18	Follow up to address comments			1												18	**Dancausse**
19	**Transportation Planning**	**05/01/09**	**08/31/09**	123												19	**MPOs, RPOs, NCDOT**
20	*Transportation Projects, Timelines, Fiscal Constraint*															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 2035 project list MUMPO: **10/21/09**, CRMPO: **6/08**, GUMPO: **7/28/09**	08/17/09	08/28/09	12												23	
24	*Transportation Modeling (50 days)*	**08/31/09**	**10/16/09**	47												24	**NCDOT,** NCDOT Consultant
25	Base year network and land use (2005)															25	
26	Horizon year 1 network and land use															26	
27	Horizon year 2 network and land use															27	
28	Design Year network and land use -- 2035															28	
29	Develop plan version for initial air quality analysis															29	
30	Extract draft plan VMT and speeds															30	
31	Evaluate draft plan speeds and VMT															31	
32	Preliminary Regional Emissions Analysis															32	
33	Emission Factors Review (additional iterations, if needed)															33	
34	Extract Final VMT and speeds															34	
35	Evaluate final speeds and VMT															35	**MPOs, RPOs, NCDOT,** NCDOT Consultant
36	Modeling Complete (Includes Emission Factor & REA)		10/16/09													36	
37	**Emission Analysis**	**10/19/09**	**11/13/09**	26												37	**NCDOT,** NCDOT Consultant
38	NCDAQ Emission Factor Review	10/19/09	11/09/09	22												38	**NCDAQ** Godfrey/Boothe
39	Off model analysis, including off-model TDM- **not applicable**	5/1/2009	09/30/09													39	
40	REA Review	11/09/09	11/13/09	5												40	**NCDOT,** NCDOT Consultant
41	**Conformity Report Preparation**	**11/16/09**	**11/30/09**	15												41	**Metrolina Area Coordinator**
42	Preliminary report preparation	11/16/09	11/30/09	15												42	**Metrolina Area Coordinator**
43	Prepare pre-draft report			1												43	**Metrolina Area Coordinator**
44	Print pre-draft report			1												44	**Metrolina Area Coordinator**
45	Internal Review pre-draft			1												45	**Metrolina Area Coordinator**
46	Agency Review (EPA/FTA/NCDAQ/FHWA) of pre-draft CDR			1												46	**Dancausse**
47	Respond to Agency Comments			1												47	**Metrolina Area Coordinator,** MPOs/RPOs/NCDOT
48	Draft Printing & Distribution	11/26/09	11/30/09	5												48	**Metrolina Area Coordinator**
49	TACs release conformity draft and LRTP update for public comment: MUMPO: **11/18/09**, CRMPO: **11/18/09,** GUAMPO: **11/27/09, LN RPO 11/xx/09, RR RPO 11/xx/09**	11/16/09	11/27/09	12												49	**MPOs, RPOs**
50	**Interagency and public review**	**12/01/09**	**01/15/10**	46												50	**Dancausse**
51	DENR Review	12/01/09	12/21/09	21												51	**Hildebrandt**
52	FHWA Initial Review	12/01/09	12/21/09	21												52	**Dancausse**
53	FTA Initial Review	12/01/09	12/21/09	21												53	**Melton**
54	EPA Initial Review	12/01/09	12/21/09	21												54	**Smith**
55	Public Review (MPOs and RPOs)	12/01/09	01/14/10	45												55	**MPOs, RPOs**
56	Respond to Agency and Public Comments	01/15/10	01/29/10	15												56	**MPOs, RPOs**
				1													
57	**MPO & Rural Conformity Determination**	**01/18/10**	**01/29/10**	12												57	**Metrolina Area Coordinator**
58	TACs Adopt Final LRTPs with AQ conformity-public hearing MUMPO: **1/20/10**, CRMPO: **1/27/10** & GUAMPO: **1/24/10**	01/18/09	01/29/09	12												58	**MPOs**
59	NCDOT Secretary issues conformity letter for rural area	01/18/09	01/29/09	12												59	**NCDOT, RPOs**
60	Conformity analysis, report and review complete	01/28/10	01/28/10	1												60	
61	Final Printing & Distribution	01/29/10	01/29/10	1												61	**Metrolina Area Coordinator**
62	**Federal Action**	**02/01/10**	**03/01/10**	29												62	**Dancausse**
63	Transmit Report to FHWA/TPB	02/01/10	02/01/10	1												63	**Arellano**
64	FHWA transmit report to EPA & FTA	02/02/10	02/02/10	1												64	**Dancausse**
65	USDOT Determination	02/01/10	03/01/10	29												65	**Dancausse**
66	USDOT Letter to State/MPO	03/01/10	03/01/10	1												66	**Dancausse**
67	**Process Complete**	03/01/10	03/01/10	1												67	
68	**Conformity Process Complete -- March 1, 2010**	**03/01/10**	NA	NA												68	

Rocky Mount
07-13 TIP Transportation Conformity Process Schedule

Line ID#	Conformity Elements	Schedule Summary Start Date	Schedule Summary End Date	Length (Days)
1	**Project start** --	08/25/06	NA	NA
2	**Interagency consultation (IC)**	**09/21/06**	**10/30/06**	40
3	IA planning session #1 at NCDOT	09/21/06	09/21/06	1
4	Set IA meeting date (location, etc.)			
5	Develop participant list			
6	Discuss draft agenda			
7	Discuss TCPCP			
8	Discuss CPS			
9	IC planning session #2 at NCDOT	09/28/06	09/28/06	1
10	Interagency Consultation Meeting -- **October 31, 2006**	10/31/06	10/31/06	1
11	Meeting Minutes	10/31/06	11/02/06	3
12	Circulate and Review meeting minutes	11/03/06	11/08/06	6
13	Follow up to address comments	11/09/06	11/30/06	22
14	**Prepare and Send out CPS, Sample CDR & Completed IC**	12/09/06	12/09/06	1
15	Preliminary report preparation	12/09/06	01/12/07	35
16	Prepare draft report	12/09/06	01/12/07	35
17	Internal Review	01/15/07	01/19/07	5
18	Draft Printing & Distribution	01/22/07	01/31/07	10
19	TACs release conformity draft or public comment	02/20/07	02/20/07	1
20	**Interagency and public review**	**02/25/07**	**04/02/07**	37
21	DENR Review	03/07/07	03/28/07	22
22	FHWA Initial Review	03/07/07	03/28/07	22
23	FTA Initial Review	03/07/07	03/28/07	22
24	EPA Initial Review	03/07/07	03/28/07	22
25	Public Review (MPOs and RPOs)	02/25/07	04/01/07	36
26	Respond to Agency and Public Comments	03/22/07	04/02/07	12
27	**MPO & Rural Conformity Determination**	**04/02/07**	**05/21/07**	50
28	TACs Adopt Final MTIPs with AQ conformity-public hearing	05/21/07	05/21/07	1
29	NCDOT Secretary issues conformity letter for rural area	04/02/07	04/30/07	29
30	Conformity analysis, report and review complete	05/01/07	05/03/07	3
31	Final Printing & Distribution	05/07/07	05/09/07	3
32	**Federal Action**	**05/22/07**	**06/22/07**	32
33	Transmit Report to FHWA/TPB	05/22/07	05/23/07	2
34	FHWA transmit report to EPA & FTA	05/24/07	05/25/07	2
35	USDOT Determination	05/21/07	06/22/07	33
36	USDOT Letter to State/MPO	06/22/07	06/22/07	1
37	**Process Complete**	06/22/07	06/22/07	1
38	**Conformity Process Complete -- June 22 2007**	**06/22/07**	NA	NA

ROCKY MOUNT MPO CONFORMITY PROCESS SCHEDULE 3.13.07

Appendix 6



Rocky Mount
07-13 TIP Transportation Conformity Process Schedule

Line ID#	Conformity Elements	Schedule Summary Start Date	Schedule Summary End Date	Length (Days)
1	**Project start** --	08/25/06	NA	NA
2	**Interagency consultation (IC)**	**09/21/06**	**10/30/06**	40
3	IA planning session #1 at NCDOT	09/21/06	09/21/06	1
4	Set IA meeting date (location, etc.)			
5	Develop participant list			
6	Discuss draft agenda			
7	Discuss TCPCP			
8	Discuss CPS			
9	IC planning session #2 at NCDOT	09/28/06	09/28/06	1
10	Interagency Consultation Meeting -- **October 31, 2006**	10/31/06	10/31/06	1
11	Meeting Minutes	10/31/06	11/02/06	3
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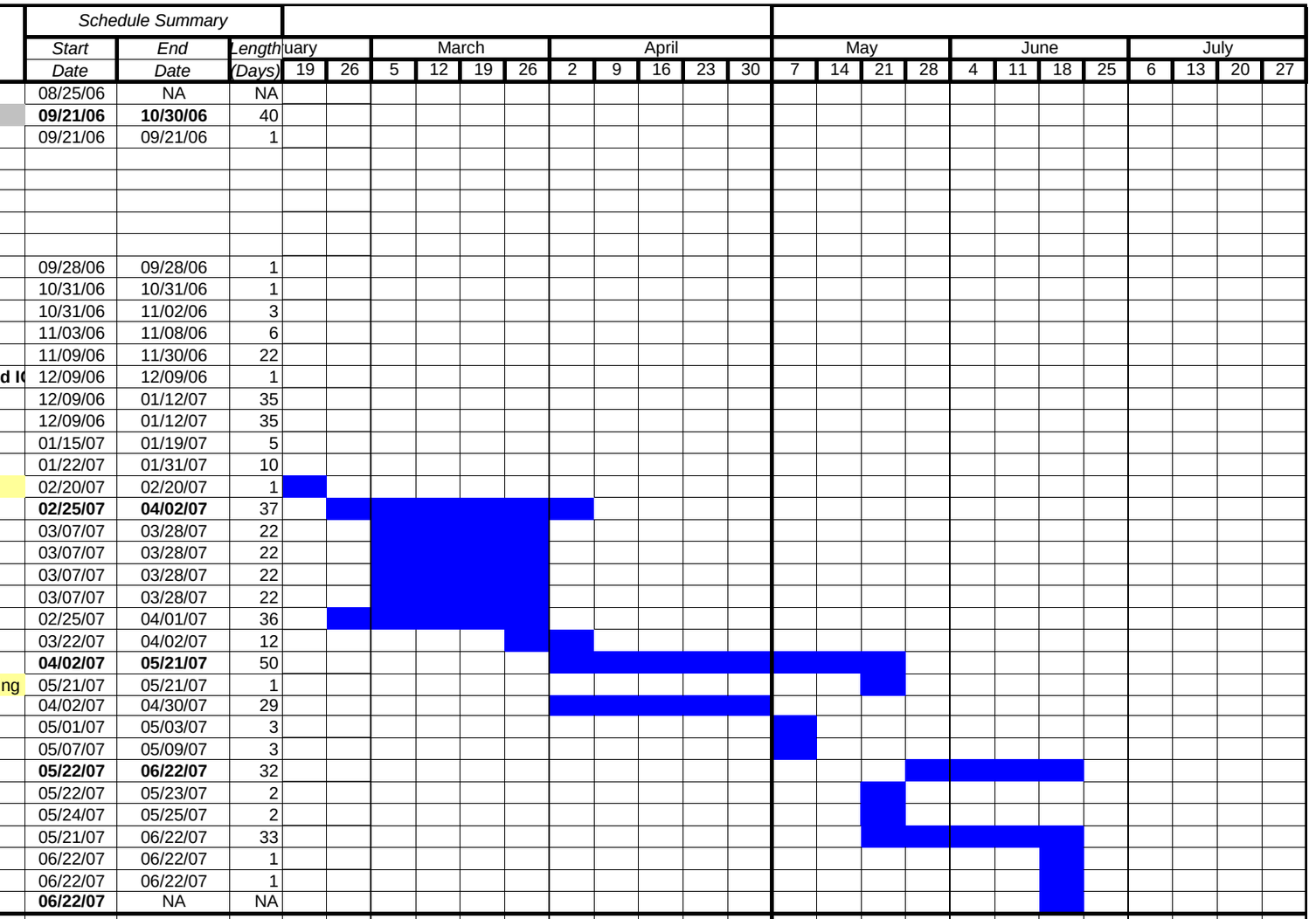
13	Follow up to address comments	11/09/06	11/30/06	22
14	**Prepare and Send out CPS, Sample CDR & Completed IC**	12/09/06	12/09/06	1
15	Preliminary report preparation	12/09/06	01/12/07	35
16	Prepare draft report	12/09/06	01/12/07	35
17	Internal Review	01/15/07	01/19/07	5
18	Draft Printing & Distribution	01/22/07	01/31/07	10
19	TACs release conformity draft or public comment	02/20/07	02/20/07	1
20	**Interagency and public review**	**02/25/07**	**04/02/07**	37
21	DENR Review	03/07/07	03/28/07	22
22	FHWA Initial Review	03/07/07	03/28/07	22
23	FTA Initial Review	03/07/07	03/28/07	22
24	EPA Initial Review	03/07/07	03/28/07	22
25	Public Review (MPOs and RPOs)	02/25/07	04/01/07	36
26	Respond to Agency and Public Comments	03/22/07	04/02/07	12
27	**MPO & Rural Conformity Determination**	**04/02/07**	**05/21/07**	50
28	TACs Adopt Final MTIPs with AQ conformity-public hearing	05/21/07	05/21/07	1
29	NCDOT Secretary issues conformity letter for rural area	04/02/07	04/30/07	29
30	Conformity analysis, report and review complete	05/01/07	05/03/07	3
31	Final Printing & Distribution	05/07/07	05/09/07	3
32	**Federal Action**	**05/22/07**	**06/22/07**	32
33	Transmit Report to FHWA/TPB	05/22/07	05/23/07	2
34	FHWA transmit report to EPA & FTA	05/24/07	05/25/07	2
35	USDOT Determination	05/21/07	06/22/07	33
36	USDOT Letter to State/MPO	06/22/07	06/22/07	1
37	**Process Complete**	06/22/07	06/22/07	1
38	**Conformity Process Complete -- June 22 2007**	**06/22/07**	NA	NA



ROCKY MOUNT MPO CONFORMITY PROCESS SCHEDULE 3.13.07

Appendix 6

Conformity Analysis and Determination Report for the Cabarrus-Rowan MPO, Mecklenburg-Union MPO, and the Gaston Urban Area MPO 2035 Long Range Transportation Plans and the FY 2009-2015 Transportation Improvement Programs and for Non-MPO Areas of Lincoln County, Iredell County, Gaston County, and Union County areas *(8-Hour Ozone, and CO (Mecklenburg County Only))*

February 8, 2010

Prepared by:

The Cabarrus-Rowan Metropolitan Planning Organization for the:
The Gaston Urban Area Metropolitan Planning Organization,
The Mecklenburg-Union Metropolitan Planning Organization,
And
The NCDOT Transportation Planning Branch

In cooperation with:

The North Carolina Department of Environment and Natural Resources
Division of Air Quality

MOBILITY SOLUTIONS
TRANSPORTATION PLANNING

Contact Information

Additional copies of this report can be obtained from the Cabarrus-Rowan Metropolitan Planning Organization at the following address:

Cabarrus-Rowan Metropolitan Planning Organization
Attn: Phil Conrad
135 Cabarrus Avenue East, Suite 101
Concord NC 28025

or

North Carolina Department of Transportation
Transportation Planning Branch
1554 Mail Service Center
Raleigh, NC 27699-1554

This document, including the appendices, can be downloaded from the website:

www.crmpo.org

Special thanks to Mobility Solutions, LLC for assisting in the preparation of this report.

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Appendix D: Lists of Roadway and Transit Projects
(within Nonattainment and Maintenance Areas)

- D1: Cabarrus-Rowan MPO 2035 LRTP Projects
- D2: Cabarrus-Rowan MPO 2009-2015 TIP
- D3: Gaston Urban Area MPO 2035 LRTP Projects
- D4: Gaston Urban Area MPO 2009-2015 TIP
- D5: Mecklenburg-Union MPO 2035 LRTP Projects
- D6: Mecklenburg-Union MPO 2009-2015 TIP
- D7: Rocky River RPO 2009-2015 STIP
- D8: Lake Norman RPO 2009-2015 STIP
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Appendix L: Adoption and Endorsement Resolutions and Agency Determinations *(This will be added to the CDR in May 2010)*

List of Acronyms

Acronym	*Full Term*
CRMPO	Cabarrus-Rowan Metropolitan Planning Organization.
Conformity Analysis	Demonstration that when the projects planned in the TIP and LRTP are implemented the area will not exceed allowable motor vehicle emissions thresholds (emissions budgets).
Conformity Finding	Statement that the projects contained in the MTIP are essentially consistent with those listed in the LRTP and that no new Conformity Analysis is needed to account for noted differences.
CMS	Congestion Management System. A program of strategies for monitoring, evaluating, and addressing traffic congestion. Required for Transportation Management Areas.
CMAQ	Congestion Mitigation and Air Quality Program. A federal highway fund category for projects that will improve air quality.
DAQ	Division of Air Quality.
DENR	North Carolina Department of Environment and Natural Resources.
Emissions Budget	See Conformity Analysis.
EIS	Environmental Impact Statement. Federally required environmental study for projects with potentially significant environmental effects.
FHWA	Federal Highway Administration (USDOT)
FCEAD	Forsyth County Environmental Affairs Department.
FTA	Federal Transit Administration (US Department of Transportation)
GUAMPO	Gaston Urban Area Metropolitan Planning Organization.
LRTP	Long Range Transportation Plan: 25 year planning document identifying long and short term transportation investment needs.
MAB	Metropolitan Area Boundary. The boundary of the area within the transportation planning jurisdiction of an MPO.
MUMPO	Mecklenburg-Union Metropolitan Planning Organization
MPO	Metropolitan Planning Organization.
MTIP	Metropolitan Transportation Improvement Program.
MVEB	Motor Vehicle Emission Budgets.

List of Acronyms (cont'd)

NCDOT	North Carolina Department of Transportation.
NEPA	National Environmental Policy Act. Federal law that requires consideration of environmental impacts for all major expenditures of federal funds.
NOx	Oxides of Nitrogen: key precursor to smog. According to NCDAQ, roadway sources produce around 31% of total NC NOx emissions.
Prospectus	Document outlining responsibilities and procedures for carrying out the cooperative transportation planning process. Defines ongoing work tasks cited in the Planning Work Program.
Planning Work Program	Accounting document for use of planning grant funds; lists approved activities that these funds may reimburse. The PWP thus guides transportation planning activities for the year.
RPO	Rural Planning Organization. RPOs are voluntary partnerships among non-MPO counties, established to provide rural areas a greater voice in state transportation decisions affecting those areas.
Section 104(f) PL	Funds distributed through the Federal Highway Administration for transportation planning tasks.
SIP	State Implementation Plan. The modeling analysis and the state and federal regulations demonstrating that the air in an area will meet National Ambient Air Quality Standards.
STIP	State Transportation Improvement Program
TCM	Transportation Control Measures. Specific projects or programs enumerated in the SIP that are designed to improve air quality are implemented in a timely fashion.
TDM	Travel Demand Model.
TMA	Transportation Management Area: urbanized area over 200,000 in population.
US EPA	United States Environmental Protection Agency.

Conformity Analysis and Determination Report for the Cabarrus-Rowan MPO, the Gaston Urban Area MPO, and the Mecklenburg-Union MPO 2035 Long Range Transportation Plans and the FY 2009-2015 Transportation Improvement Programs and for Non-MPO Donut Areas of Lincoln County, Iredell County, Gaston County, and Union County (8-Hour Ozone, and CO (Mecklenburg County Only))

Overview

Transportation Conformity ("conformity") ensures that Federal funding and approval is distributed to those transportation activities that are consistent with air quality goals. Conformity applies to Long Range Transportation Plans (LRTPs), Transportation Improvement Programs (TIPs), and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide.

These areas are known as "nonattainment areas" or "maintenance areas," respectively. A conformity determination demonstrates that the total emissions projected for a plan or program are within the emissions limits ("budgets") established by the air quality plan or State Implementation Plan (SIP) for air quality, and that transportation control measures (TCMs) – specific projects or programs enumerated in the SIP that are designed to improve air quality – are implemented in a timely fashion.

Conformity Determination

Regional emissions are estimated based on highway and transit usage according to LRTPs and TIPs. The projected emissions for the LRTPs and the TIPs must not exceed the emissions limits (or "budgets") established by the SIP (or less than baseline emissions where no SIP budgets have been approved or found adequate). Where TCMs are included, responsible Metropolitan Planning Organizations (MPOs) and the North Carolina Department of Transportation (NCDOT) are required to demonstrate that TCMs are implemented in a timely fashion to obtain conformity.

The Decision Process

A formal interagency consultation process involving the Environmental Protection Agency (EPA), FHWA, FTA and State and Local transportation and air quality agencies is required in developing SIPs, TIPs, LRTPs, and in making conformity determinations. MPO policy boards make initial conformity determinations in metropolitan areas, while NCDOT makes this determination in areas outside of MPOs, in consultation with affected Rural Planning Organizations (RPOs).

Four organizations are responsible for making the conformity determinations in four distinct parts of the Metrolina Nonattainment/Maintenance Area:

a. the Cabarrus-Rowan Urban Area MPO (CRMPO) within its portion of the metropolitan area boundary in Cabarrus and Rowan Counties;
b. the Gaston Urban Area MPO (GUAMPO) within the metropolitan area boundary of Gaston County;
c. the Mecklenburg-Union MPO (MUMPO) within the metropolitan area boundary of Mecklenburg and Union Counties;
d. the NCDOT in the donut areas that is comprised of those county portions of Gaston, Lincoln, Iredell and Union Counties that remain outside of any MPO metropolitan area boundary.

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.

Conformity determinations must also be made at the Federal level by FHWA and FTA. These determinations must be made at least every four years, or with the updating of LRTPs or TIPs, or within one year of the effective date of a non-attainment designation.

Conformity analysis is made available to the public as part of the MPO and/or State DOT planning processes. MPOs are required to make LRTPs, TIPs, and conformity determinations available to the public, accept and respond to public comments, and provide adequate notice of relevant public meetings. Project sponsors of specific transportation projects within the LRTPs and TIPs must also include appropriate public involvement during project development.

Emissions Budget

The SIP places limits on emissions of each pollutant for each source type (mobile, stationary, and area sources). Projected emissions from highway and transit usage must be less than or equal to the emissions limits for on-road mobile vehicles that are established by the SIP (or less than baseline emissions where no SIP budgets have been approved or found adequate). These emissions limits for motor vehicle emissions sources are called "budgets." Budgets are developed as part of the air quality planning process by State air quality/environmental agencies, and approved by EPA. Transportation agencies participate in this process.

Transportation Control Measures (TCMs)

Areas can include TCMs in their SIPs. TCMs are specific programs designed to reduce

emissions from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. These programs can include:

- developing high occupancy vehicle (HOV) facilities
- ordinances to promote non-motor vehicle travel
- transit improvements
- signal timing
- bicycle and pedestrian facilities
- land use planning

Executive Summary

The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 and the Safe Accountable Flexible Efficient Transportation Equity Act – Legacy for Users (SAFETEA-LU). It demonstrates that the financially constrained long-range transportation plan and the transportation improvement program (TIP) eliminates or reduces violation of the national ambient air quality standards (NAAQS) in the nonattainment area that includes:

The Cabarrus-Rowan Metropolitan Planning Organization (CRMPO);
The Gaston Urban Area Metropolitan Planning Organization (GUAMPO);
The Mecklenburg-Union Metropolitan Planning Organization (MUMPO); and
The portions of Gaston, Lincoln, Iredell and Union outside the MPO boundary that are in the Metrolina Non-Attainment Area.

The plan accomplishes the intent of the North Carolina State Implementation Plan (SIP). This conformity determination is based on a regional emissions analysis that uses the transportation network approved by each of the above-named Metropolitan Planning Organizations (MPOs) for the 2035 long-range transportation plan, and the emissions factors developed by the North Carolina Department of Environment and Natural Resources (DENR). This area is henceforth defined as the Metrolina nonattainment area. Based on this analysis, 2035 Long-Range Transportation Plans for CRMPO, GUAMPO, and MUMPO, and their respective Transportation Improvement Programs conform to the purpose of the North Carolina SIP. The FY 2009-2015 TIP is a direct subset of the 2035 Long-Range Transportation Plans (LRTPs) for CRMPO, GUAMPO, and MUMPO. The LRTP has a 25-year planning horizon. The conformity determination for the donut areas during the State TIP years is specifically addressed by the North Carolina Department of Transportation (NCDOT). The projects in the State TIP outside the MPO areas conform to the purpose of the North Carolina SIP.

The United States Environmental Protection Agency (USEPA) originally declared Mecklenburg County nonattainment for carbon monoxide (CO) on March 3, 1978. Following the Clean Air Act Amendments of 1990, the USEPA designated Mecklenburg County as “not-classified” for CO. Mecklenburg County was re-designated as a maintenance area for CO on September 18, 1995.

In 1997 the US EPA reviewed and revised the NAAQS for ozone to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. In April 2004, the USEPA declared the Metrolina area as moderate nonattainment for the eight-hour ozone standard. The complete Metrolina nonattainment region also includes the Rock Hill, Fort Mill Area Transportation Study (RFATS), a MPO comprising the urbanized (eastern) half of York County, SC. EPA guidance allows NC and SC to work independently.

The conformity determination is based on the following Long Range Transportation Plans (LRTPs):

2035 Transportation Plan for the Cabarrus-Rowan MPO
2035 Transportation Plan for the Gaston Urban Area MPO
2035 Transportation Plan for the Mecklenburg/Union MPO.

Each plan has three analysis years: 2015, 2025, and 2035. Each analysis year includes expected population and employment data and roadway and transit projects that should be open for travel during the specified horizon year. The plans are fiscally constrained: funding sources for roadway and transit projects are identified.

Additionally this conformity determination takes into account the following FY 2009-2015 TIP amendments for the Mecklenburg Union MPO:

R-2123CE: I-485 (Charlotte Eastern Outer Loop)/I-85, Mecklenburg County. Revise Interchange, Accelerate right of way, FFY 12 to FFY 10 and construction, FFY 15 to FFY 10 using the Design-Build process

R-2248E: I-485 (Charlotte Western Outer Loop) East of NC 115 (Old Statesville Road) to I-85 North, Mecklenburg County. Freeway on new location. Accelerate construction, FFY 11 to FFY 10 using the Design-Build process.

DENR prepared base and future emissions factors for the vehicle fleet using Mobile 6.2. These rates were applied to projections of VMT from the Metrolina model. NC DENR prepared motor vehicle emissions budgets for each of the non-attainment counties and submitted them to EPA on November 30, 2009 as part of the Reasonable Further Progress (RFP) SIP.

Table 1 summarizes the conformity requirements of 40 CFR Part 51 and 93 and gives the status of the LRTPs in relation to each of these requirements. Tables 2 thru 8 provide a summary of the emission budget comparisons for each of the applicable counties. Table 9 contains a cross-reference index for the report.

Table 1 Status of Conformity Requirements

Criteria (√ indicates the criterion is met)	**Cabarrus-Rowan MPO**	**Gaston MPO**	**Mecklenburg-Union MPO**	**Rural County Portion of Iredell, Lincoln, Gaston, and Mecklenburg**
Less Than Emissions Budget(s) or Baseline	√	√	√	√
TCM Implementation	N/A	N/A	N/A	N/A
Interagency Consultation	√	√	√	√
Latest Emissions Model	√	√	√	√
Latest Planning Assumptions	√	√	√	√
Fiscal Constraint	√	√	√	√

Table 2 Gaston County Emissions Proposed SIP MVEB Comparison Summary

Gaston County Emissions Comparison Summary (kilograms/day)				
Year	**NO_x**		**VOC**	
	LRTP Emissions	**SIP Budget**	**LRTP Emissions**	**SIP Budget**
2010	6002	7647	3824	5132
2015	3259	7647	2888	5132
2025	1793	7647	2195	5132
2035	1863	7647	2581	5132

Table 3 Cabarrus County Emissions Proposed SIP MVEB Comparison Summary

Cabarrus County Emissions Comparison Summary (kilograms/day)				
Year	**NO_x**		**VOC**	
	LRTP Emissions	**SIP Budget**	**LRTP Emissions**	**SIP Budget**
2010	6295	7324	5501	6941
2015	4088	7324	4351	6941
2025	2141	7324	2705	6941
2035	2026	7324	3148	6941

Table 4 Rowan County Emissions Proposed SIP MVEB Comparison Summary

Rowan County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	6205	7193	4878	6149
2015	3784	7193	3634	6149
2025	1928	7193	2149	6149
2035	1683	7193	2451	6149

Table 5 Lincoln County Emissions Proposed SIP MVEB Comparison Summary

Lincoln County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	2550	2948	2208	2726
2015	1685	2948	1730	2726
2025	879	2948	1076	2726
2035	800	2948	1292	2726

Table 6 Iredell County Emissions Proposed SIP MVEB Comparison Summary

Iredell County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	4667	5637	2923	3601
2015	2699	5637	2299	3601
2025	1294	5637	1510	3601
2035	1157	5637	1971	3601

Table 7 Union County Emissions Proposed SIP MVEB Comparison Summary

Union County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	5058	5660	5227	6299
2015	3727	5660	4300	6299
2025	2207	5660	2884	6299
2035	2123	5660	3487	6299

Table 8 Mecklenburg County Proposed SIP MVEB Comparison Summary

Mecklenburg County Emissions Comparison Summary						
Year	CO (tons/day)[1]		NO_x (kilograms/day)		VOC (kilograms/day)	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010			27581	34526	20421	26368
2015	350.8	470.18	15138	34526	15231	26368
2025	336.4	470.18	8395	34526	11004	26368
2035	368.8	470.18	8503	34526	12415	26368

[1]To obtain kilograms per day, multiply tons per day by 907.18

Table 9 Cross-Reference Index Conformity Determination Report for the Long-Range Transportation Plans and TIPs in the Metrolina Non-Attainment/Maintenance Area	
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Formal findings of conformity	p. 40-41
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The purpose of this report is to comply with the requirements of the CAAA, SAFETEA-LU, and 40 CFR 51 and 93	p. 18
The former and current classification of the air shed and the pollutants for which the air shed was classified as non-attainment	p. 22
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The emissions expected from implementation of the long-range plan are less than the motor vehicle emissions budgets	p. 37-39
The adopted long-range plans are fiscally constrained (§93.108)	p. 24
The latest planning assumptions were used in the conformity analysis (§93.110)	p. 24-25
The latest emissions model was used in the conformity analysis (§93.111)	p. 30
The list of federally funded T.C.M. activities included. (§93.113)	NA
Conformity determined according to §93.105 and the adopted public involvement procedures	p. 39
Dates of the Transportation Advisory Committee reviews of the conformity determination and the recommendation	Appendix L
SIP emissions budget test comparison demonstrates conformity of the adopted long-range transportation plans and TIPs	p. 40
Listing of projects in each analysis year (highway and transit)	p. 27, Appendix D
VMT & Summary	p. 30, Appendix F
Significant comments of reviewing agencies addressed by the MPO, or a statement that no significant comments were received.	Appendix K
Emissions Calculations	Appendix I
MOBILE 6.2 input files	Appendix G

Conformity Analysis and Determination Report for the Cabarrus-Rowan MPO, Gaston Urban Area MPO, and Mecklenburg-Union MPO 2035 Long Range Transportation Plans and the FY 2009-2015 Transportation Improvement Programs and for Non-MPO Donut Areas of Lincoln County, Iredell County, Gaston County, and Union County

Introduction

The Clean Air Act requires the United States Environmental Protection Agency (USEPA) to set limits on how much of a particular pollutant can be in the air anywhere in the United States. National Ambient Air Quality Standards (NAAQS) are the pollutant limits set by the USEPA; they define the allowable concentration of pollution in the air for six different pollutants – Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter, Ozone, and Sulfur Dioxide.

The Clean Air Act specifies how areas within the country are designated as either "attainment" or "nonattainment" of an air quality standard, and provides USEPA the authority to define the boundaries of nonattainment areas. For areas designated as nonattainment for one or more NAAQS, the Clean Air Act defines a specific timetable to attain the standard and requires that nonattainment areas demonstrate reasonable and steady progress in reducing air pollution emissions until such time that an area can demonstrate attainment. Each state must develop and submit a State Implementation Plan (SIP) that addresses each pollutant for which it fails to meet the NAAQS. Individual state air quality agencies are responsible for defining the overall regional plan to reduce air pollution emissions to levels that will enable attainment and maintenance of the NAAQS. This strategy is articulated through the SIP.

In North Carolina, the agency responsible for SIP development is the North Carolina Department of Environment and Natural Resources, Division of Air Quality (NC DENR/DAQ). The delineation and implementation of strategies to control emissions from on-road mobile sources is a significant element of the state plan to improve air quality, thereby creating a direct link between transportation and air quality planning activities within a nonattainment area. The process of ensuring that a region's transportation planning activities contribute to attainment of the NAAQS, or "conform" to the purposes of the SIP, is referred to as transportation conformity. In order to receive federal transportation funds within the nonattainment area, the area must demonstrate through a federally mandated conformity process that the transportation investments, strategies and programs, taken as a whole, contribute to the air quality goals defined in the state air quality plan.

In order to ensure the conformity requirements are met, Section 176 (c) of the Clean Air Act authorizes the USEPA Administrator to "promulgate criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs,

and projects." This is accomplished through the Transportation Conformity Rule, developed by the USEPA to outline all federal requirements associated with transportation conformity. The Transportation Conformity Rule in conjunction with the Metropolitan Planning Regulations direct transportation plan and program development as well as the conformity process.

The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 in concurrence with all conformity requirements as detailed in 40 CFR Parts 51 and 93 (the Transportation Conformity Rule) and 23 CFR Part 450 (the Metropolitan Planning Regulations as established in SAFETEA-LU). This report demonstrates that the financially constrained long-range transportation plan and the transportation improvement program (TIP) eliminates or reduces future violation of the National Ambient Air Quality Standards (NAAQS) in the following jurisdictions:

The Cabarrus-Rowan Metropolitan Planning Organization (CRMPO);
The Gaston Urban Area Metropolitan Planning Organization (GUAMPO);
The Mecklenburg-Union Metropolitan Planning Organization (MUMPO); and
The donut portions of Gaston, Lincoln, Iredell, and Union Counties henceforth referred to as the non-MPO area.

The conformity determination accomplishes the intent of the North Carolina State Implementation Plan (SIP) and is based on a regional emissions analysis that uses the transportation networks approved by each of the above-named Metropolitan Planning Organizations (MPOs) for the 2035 LRTPs, VMT and Speed input data developed by NCDOT, and emissions factors developed in cooperation with the North Carolina Department of Environment and Natural Resources (DENR). For the purpose of this document, the above-named MPOs and rural areas combine to form a region henceforth known as "Metrolina." The complete Metrolina nonattainment region also includes the Rock Hill, Fort Mill Area Transportation Study (RFATS) a MPO comprising the urbanized (eastern) half of York County, SC. EPA guidance allows NC and SC to work independently. The entire Metrolina nonattainment region, including the MPO and non-MPO regions, is shown as a map on Figure 1.

All Federally funded projects and regionally significant projects regardless of funding source, in areas designated by the United States Environmental Protection Agency (USEPA) as air quality nonattainment or maintenance areas must come from a conforming long-range transportation plan and transportation improvement program (TIP). The Metrolina region is required by 23 CFR 134 and 40 CFR 51 and 93 to make a conformity determination on any newly adopted or amended fiscally constrained long-range transportation plan and TIP. In addition, the United States Department of Transportation (USDOT), specifically, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), must make a conformity determination on the three MPO Plans in the Metrolina region and the related TIPs in all nonattainment and maintenance areas.

In order to assist the Metrolina region in making a conformity determination on the adopted 2035 fiscally constrained long-range transportation plans, the following agencies shared leading roles composing substantial portions of this document pertaining to specific areas:

Agency	*Responsible Counties*
CRMPO	Cabarrus, Rowan
GUAMPO	Gaston
MUMPO	Mecklenburg, Union
NCDOT	Lincoln, and non-MPO portions of Iredell, Union, Gaston

These analyses are consistent with the set of amendments to 40 CFR Part 93, published in the January 24, 2008 Federal Register, *Transportation Conformity Rule Amendments to Implement Provisions Contained in the 2005 Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU)*. Based on the regional emissions budget tests and interim tests documented in this report, the following Transportation Plans conform to the purpose of the North Carolina SIP:

Cabarrus-Rowan 2035 LRTP
Gaston Urban Area MPO 2035 LRTP
Mecklenburg Union MPO 2035 LRTP
For the Non-MPO areas, projects from 2009-2015 STIP (a surrogate plan for those areas)

Additionally, the following FY 2009-2015 TIP amendments for the Mecklenburg Union MPO conform to the purpose of the North Carolina SIP:

R-2123CE: I-485 (Charlotte Eastern Outer Loop)/I-85, Mecklenburg County. Revise Interchange, Accelerate right of way, FFY 12 to FFY 10 and construction, FFY 15 to FFY 10 using the Design-Build process

R-2248E: I-485 (Charlotte Western Outer Loop) East of NC 115 (Old Statesville Road) to I-85 North, Mecklenburg County. Freeway on new location. Accelerate construction, FFY 11 to FFY 10 using the Design-Build process.

The NCDOT FY 2009-2015 State TIP amendment NCBOT approval and the MPO resolutions for the FY 2009-2015 TIP amendments are provided in Appendix L.

This report documents the regional emissions budget test for the proposed 8-hour ozone SIP MVEBs, interagency consultation process, public involvement process, and

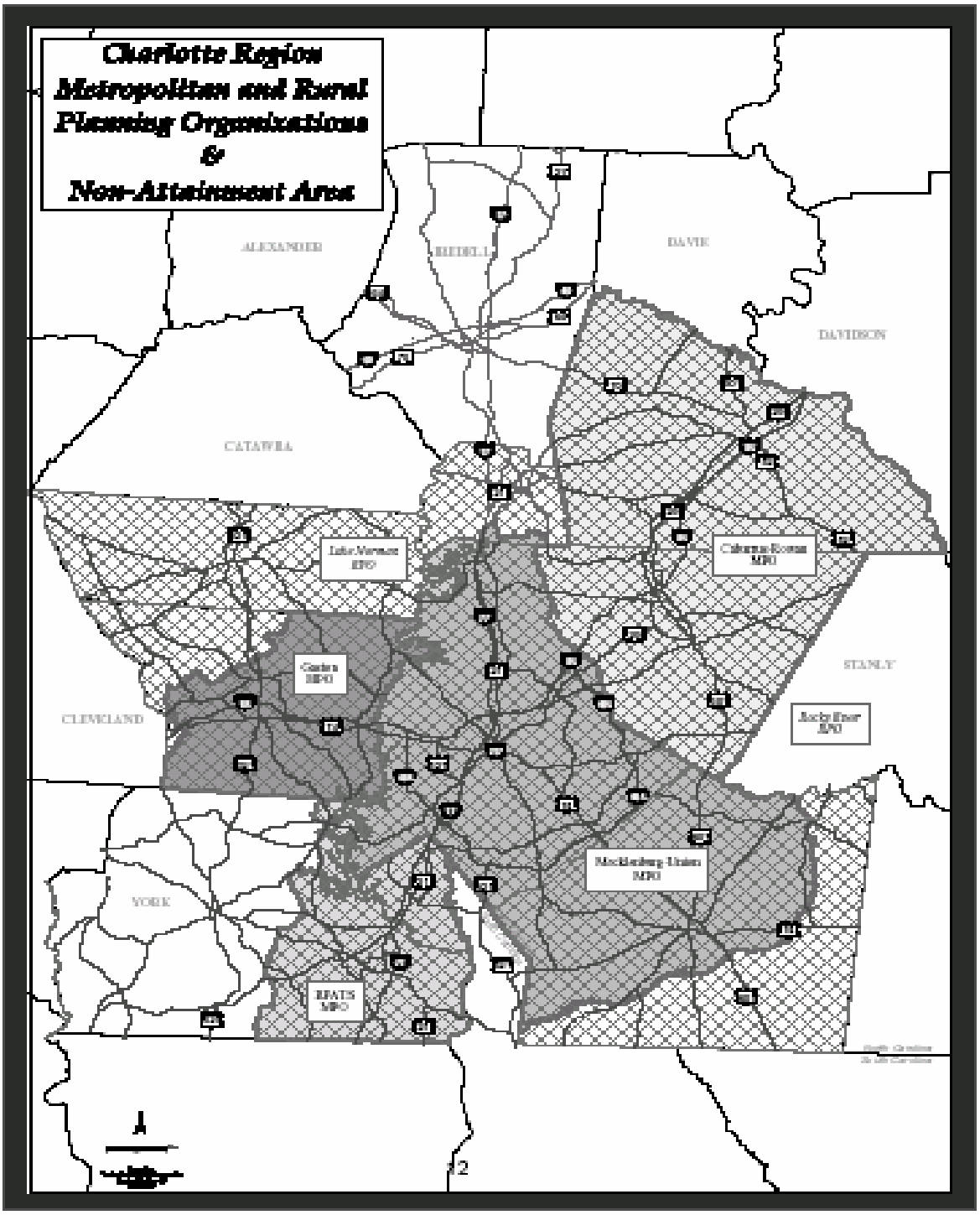
analysis methodology used to demonstrate transportation conformity for each MPO and thus for the Metrolina region.

40 CFR Part 93 requires that a conforming transportation plan satisfy five conditions:

- The transportation plan must be consistent with the motor vehicle emissions budget(s) in an area where the applicable implementation plan or implementation plan submission contains a budget (*40 CFR Part 93.118*).

- The transportation plan, TIP, or FHWA/FTA project not from a conforming

Figure 1 MPO and Non-MPO Areas Comprising the Non-Attainment Area



plan must provide for the timely implementation of TCMs from the applicable implementation plan (*40 CFR Part 93.113b*).

- The MPO must make the conformity determination according to the consultation procedures of *40 CFR Part 93.105* and the implementation plan revision required by *40 CFR Part 93.390* (*40 CFR Part 416*).

- The conformity determination must be based on the latest emissions estimation model available (*40 CFR Part 93.111*).

- The conformity determination must be based on the latest planning assumptions (*40 CFR Part 93.110*).

This report shows that each applicable MPO's 2035 Transportation Plan meets each condition. Each condition is discussed in the following sections of this report.

Air Quality Planning

Mecklenburg County was originally declared nonattainment for carbon monoxide (CO) on March 3, 1978. Mecklenburg County was redesignated as a maintenance area for CO on September 18, 1995 based on monitoring continuous attainment from 1990 to 1995. The USEPA direct final rule from the Federal Register for CO is found in Appendix A.

On April 15, 2004 EPA designated new "nonattainment" areas throughout the country that exceeded the new health-based standards for 8-hour ozone. Ozone, the primary component of smog is a compound formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_x) mix together in the atmosphere with sunlight. The counties of Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Union, and York, SC were grouped together as a single nonattainment area. The Iredell County non-attainment area only includes the townships of Coddle Creek and Davidson. The 8-hour ozone standard as it applies to conformity replaced the 1-hour ozone standard on June 15, 2005.

The Federal Register notices containing the SIP MVEBs for each designated pollutant for the Metrolina Area is provided in Appendix B (to be added in final).

Motor Vehicle Emission Budgets

DENR prepared emission budgets as part of the Reasonable Further Progress State Implementation Plan (RFP SIP), which was submitted to US EPA on November 30, 2009. Each of the 7 North Carolina counties is proposed to have a motor vehicle emission budget under the 8-hour ozone standard for both NOx and VOC. Motor Vehicle Emission Budgets were established for 2008. The Federal Register notice established the NOx and VOC budgets for the non-attainment portion of the region and

they are below:

Table 10 NOx and VOC Budgets for the Metrolina Counties

Motor Vehicle Emissions Budget Summary (kilograms/day)		
Year	**NO_x**	**VOC**
	SIP Budget	**SIP Budget**
Gaston	7647	5132
Cabarrus	7324	6941
Rowan	7193	6149
Lincoln	2948	2726
Iredell*	5637	3601
Union	5660	6299
Mecklenburg	34526	26368

*Iredell County MVEB for nonattainment area only

Under the emission test scenario, Mecklenburg County is maintenance for the Carbon Monoxide (CO) standard. A MVEB was established for 2015 and emission targets based on this MVEB are indicated below.

Table 11 CO Budget for Mecklenburg County

Mecklenburg County CO SIP Summary (tons/day)[1]	
County	**Pollutant**
	CO
Mecklenburg	470.18

[1]To obtain kilograms per day, multiply tons per day by 907.18.

***The MVEB for 2015 will be used for the 2025 and 2035 comparison since 2015 is the last year that a MVEB is provided for CO*

***The MVEB for 2005 will be used for the 2015, 2025 and 2035 comparison since 2005 is the last year that a MVEB is provided for NOx and VOC*

Long-Range Transportation Plans

The *2035* Transportation Plans were developed between 2006 and 2009. Federal law *40 CFR part 93.104(b)(3)* requires a conformity determination of transportation plans no less frequently than every four years. As required in *40 CFR 93.106*, the horizon years for the transportation plans are no more than ten years apart.

The CRMPO area includes all of Cabarrus and Rowan Counties. Both counties are part of the 8-hour moderate nonattainment area for ozone.

The GUAMPO area includes the eastern two-thirds of Gaston County, the urbanized region. Gaston County is also part of the 8-hour moderate nonattainment area for ozone.

The MUMPO area includes all of Mecklenburg County and a portion of Union County that is within the Charlotte Urbanized Area. Mecklenburg County is a maintenance area for CO. Mecklenburg and Union Counties are part of the 8-hour moderate nonattainment area for ozone.

Consultation

The 2035 Transportation Plans are consistent with consultation requirements discussed in *40 CFR 93.105.*

Consultation on the development of this conformity determination was accomplished through interagency consultation meetings held on April 14, 2009; May 12, 2009; June 16, 2009; July 14, 2009; August 11, 2009; September 8, 2009; October 13, 2009; November 10, 2009; December 8, 2009, and January 12, 2010. As part of the interagency consultation process, the start of the conformity analysis work was defined as beginning on October 19, 2009. That date was defined through interagency consultation and included in the conformity process schedule provided in Appendix C.

Financial Constraint Assumptions

The LRTPs are fiscally constrained as discussed in *40 CFR 93.108*. Projects included in this analysis reflect up to date revenue forecasts. The Cabarrus-Rowan MPO, the Gaston Urban Area MPO, and the Mecklenburg-Union MPO LRTPs are fiscally constrained to the year 2035. All projects included in the 2009-2015 TIPs are fiscally constrained, and funding sources have been identified for construction and operation. The estimates of available funds are based on historic funding availability and include federal, state, private, and local funding sources. Additional detail on fiscal constraint is included in each MPO LRTP. It is assumed that the projects listed for each horizon year will be completed and providing service by the end of the indicated calendar year (December 31). These transportation networks are described in the respective 2035 LRTPs.

Latest Planning Assumptions

The *2035 Long Range Transportation Plans* were developed with the latest local and regional planning assumptions as discussed in *40 CFR 93.110.* The MPOs provided housing, employment, and population projections, and a set of highway and transit projects consistent across jurisdictional boundaries was developed through regional coordination. This collection of socioeconomic data, highway and transit networks and

travel forecast tools, representing the latest planning assumptions, was finalized through the adoption of the draft Long Range Transportation Plans by the Gaston Urban Area MPO, Mecklenburg-Union MPO, and Cabarrus-Rowan MPO in March 2010.

Land use and demographic data were collected by regional planning agency staff. A regional methodology included updating residential and employment data to a 2005 base year, and agreeing to a growth forecast for the year 2035. Forecasts by traffic analysis zone and county were prepared, submitted for public review, and adopted for use in developing travel demand and air quality forecasts by each MPO. Residential data included population, households, and group quarters and was based on Census 2000 data from Summary File 1. Housing and population data were updated to 2005 using building permits from local jurisdictions and applying household size and occupancy rates to the new dwelling units. Residential data was reviewed by local planning department staff.

Employment data was collected from several economic sources such as Employment Security Commission, Chambers of Commerce, Dunn and Bradstreet, InfoUSA, etc. Large employers were spot-checked for work location and number of employees. Employment and population data at the zonal level was evaluated through thematic mapping and review by local planning department staff.

The planning assumptions and travel forecasts used to develop the 2035 LRTPs were also used in this conformity analysis. The Metrolina travel demand model was applied for an area that includes all of Mecklenburg County, Union County, Cabarrus County, Rowan County, Lincoln County, Gaston County, Stanly County, York County (SC), and portions of Iredell County, Cleveland County, and Lancaster County (SC), which covers an area larger than the non-attainment area. The Metrolina TransCAD Model uses the basic four-step process (trip generation, trip distribution, mode choice, and assignment). All four steps of the process are discussed in greater detail in later sections of this report. The Metrolina Model was calibrated to 2005 conditions. This conformity determination is based on the projections of travel within these counties.

In the non-MPO areas of Gaston, Iredell, Lincoln, and Union, land use and socioeconomic data were collected and projected by means of a cooperative process involving planning partners across the region. As part of this process, the Lake Norman RPO and Rocky River RPO collected base year land use and socioeconomic data for the non-MPO portions of the region and worked cooperatively with the Land Use Subcommittee of the Metrolina Model Oversight Committee to maintain and develop projections for the years 2015, 2025, and 2035.

There are no court orders or special agreements that apply to conformity (*40 CFR 93.109)*.

Future Year Roadway Projects

Roadway improvements used for conformity modeling were developed in the 2035 LRTP process in each MPO. Outside of the MPO boundaries, TIP projects from the 2009-2015 TIP served as the future year roadway projects. For the 2035 LRTPs, lists of needed projects were developed based on modeled congestion and identified local needs. Improvements were coded into the TDM and analyzed. Intermediate analyses for the years 2015, and 2025 were performed to assist in prioritizing the 2035 roadway needs. The final 2010, 2015, 2025 and 2035 networks are fiscally constrained. Projects were added from MPO priority lists until estimated project costs equaled the expected funding available. The base network (2002) and the four future networks (2010, 2015, 2025, and 2035) used for the conformity determination are the same as the networks used for the 2035 LRTPs. Throughout the process to develop the roadway networks, the MPOs and NCDOT identified any initial inconsistencies in project timing and characteristics (e.g. cross-section) for those projects crossing jurisdictional boundaries and reached consensus on consistent solutions.

The following criteria are used to identify major existing and future regional roadway systems that may produce significant impacts to air quality emissions with respect to the Metrolina region.

Figure 2: Regional Significance

Regional Significance Criteria

1. The facility serves regional transportation needs (i.e. facilities that provide access to and from the region or that provide access to major destinations in the region);
2. The facility is functionally classified higher than a minor arterial (minor arterials may be regionally significant if their main purpose is to provide access to major facilities in the region);
3. The facility is a fixed guideway transit facility; and
4. The facility is included in the travel model for the region (In many cases collector streets are modeled that are not regionally significant).

To be regionally significant a facility should meet one or more of the criteria in this checklist. 40 CFR Part 93.101

Appendix D includes lists of the future year roadway projects in the Metrolina region as indicated below, including indications of which projects are regionally significant and which projects are exempt.

Area	Roadway Project List Appendix D
Gaston Urban Area MPO	2035 LRTP (Appendix D1) 2009-2015 TIP (Appendix D2)
Mecklenburg-Union MPO	2035 LRTP (Appendix D3) 2009-2015 TIP (Appendix D4)
Cabarrus-Rowan MPO	2035 LRTP (Appendix D5) 2009-2015 TIP (Appendix D6)
Non-MPO (donut portion of Gaston, Iredell, Lincoln, and Union Counties)	2009-2015 TIP (Appendix D7)

Transit Networks

As with the roadway projects, each MPO developed transit projects for its LRTP. The base year network was modeled from existing routes and fares for the transit systems in 2002. Future year networks were based on fiscally-constrained projected new or expanded services from regional transit plans, local bus system short range plans, corridor transit plans and other projected bus service expansion estimates, where available. As with the roadway networks, the MPOs and NCDOT identified and rectified any initial inconsistencies in project characteristics or implementation years where transit projects crossed jurisdictional boundaries.

The base year network was modeled based on routes and fares existing in 2005. This network was enhanced to include transit improvements as outlined in each of the MPOs *2035 LRTPs.*

Area	Transit Project List Appendix D
Gaston Urban Area MPO	2035 LRTP (Appendix D1) 2009-2015 TIP (Appendix D2)
Mecklenburg-Union MPO	2035 LRTP (Appendix D3) 2009-2015 TIP (Appendix D4)
Cabarrus-Rowan MPO	2035 LRTP (Appendix D5) 2009-2015 TIP (Appendix D6)
Non-MPO (donut portion of Gaston, Iredell, Lincoln, and Union Counties)	2009-2015 TIP (Appendix D7)

Congestion Mitigation/Air Quality (CMAQ) Projects

The NC Department of Transportation has established an allocation and review process for CMAQ projects. Each MPO or RPO in a non-attainment or maintenance area receives an allocation of CMAQ funds based on population and air quality status. In addition, a statewide pool of CMAQ funds is allocated to projects serving more than one non-attainment area on a competitive basis. MPO and RPO project priorities and project applications for statewide funding. This conformity report includes a listing of funded CMAQ projects in the Metrolina Area in Appendix E.

Trip Generation

A new trip generation model was developed and includes 8 household based trip purposes and 3 commercial trip purposes. Trips into and out of the region are parsed into work, non-work, and 3 commercial trip purposes, and through trips are disaggregated into 4 classes. This model is based on a 2002 household survey of 3,333 households, supplemented by a 2003 workplace survey of 185 establishments and a 2002 external / internal / through trip study. Trip purposes are:

HBW	Home-Based Work	4 income groups
HBS	Home-Based Shopping	4 income groups
HBO	Home-Based Other	4 income groups
HBU	Home-Based University	
SCH	Home-Based School	
JTW	Non-Home- Based: Journey to Work	
ATW	Non-Home-Based: At Work	
NWK	Non-Home-Based: Not Work related	
COM	Commercial Vehicles (cars and light truck)	
MTK	Medium Trucks	
HTK	Heavy Trucks	
EIW / IEW	External-Internal and Internal-External Work trips	
EIN / IEN	External-Internal and Internal-External Non-work trips	
EIC / IEC	External-Internal and Internal-External Commercial trips	
EIM / IEM	External-Internal and Internal-External Medium Trucks	
EIH / IEH	External-Internal and Internal-External Heavy Trucks	
EEA	External-External (thru) Auto trips	
EEC	External-External (thru) Commercial trips	
EEM	External-External (thru) Medium Trucks	
EEH	External-External (thru) Heavy Trucks	

All home based and non-home based trips are generated as person trips to facilitate mode choice. Commercial and truck trips are generated as vehicle trips. The rates are consistent with trip rates from other U.S. urban areas.

Trip Distribution

A gravity model was used to develop trip tables for 2002, 2005, 2010, 2015, 2025, and 2035. The model builds zone to zone trip tables (by purpose) using a weighted sum of travel time and distance between zones. The Metrolina model includes travel time on transit in addition to time over the highway network. Home-based work trips, non-home based journey to work trips, and external/internal work trips are distributed using peak loaded speeds on the highway network and the peak transit system. All other trip purposes (HBShop, HBOther, School, NHB (other than journey to work), and Commercial) are distributed over a free speed, off-peak highway network and off-peak transit system. Average trip travel times are calibrated against trips from the 2002 Home survey. Future year trips are distributed over respective future year financially-constrained highway and transit networks.

The Metrolina model employs a speed feedback loop. Speeds from a loaded highway assignment are used to redistribute peak trips (HBW, JTW, work based IE/EI). Mode choice and assignment are repeated with the new speeds, and there are three feedback iterations.

Mode Choice and Transit Assignment

A nested LOGIT model was developed in 2002 in cooperation with the Federal Transit Administration to estimate Transportation System User Benefits (TSUB) for the proposed South Corridor Light Rail transit project. The TSUB model has been updated and extended for use in the Metrolina model. This approach creates a predictive model that is responsive to changes in quality of service variables such as travel time and cost. The different 'nests' of the model reflect a traveler's choice between local bus, express bus, rail, single occupancy vehicles, and multiple occupancy vehicles.

Highway Assignment and Vehicle Miles Traveled

Once the total number of trips has been determined, and the mode by which the trip is made has been chosen, the trips are assigned to the network. Four separate time-of-day assignments are performed. The networks for the peak periods represent three hours of capacity during the AM or PM peak periods. The midday assignment is based on a six-hour capacity and the night assignment on a 12-hour capacity. The assignment technique is user-equilibrium with up to 20 iterations. Carpool trips are assigned over networks including HOV lanes. Drive alone trips are excluded from the HOV lanes.

The model includes a feedback loop where speeds from the morning peak assignment are applied in the trip distribution model for peak-based trip purposes (home-based

work, journey to work, and external / internal work trips). The distribution, mode choice, and highway assignment steps are repeated three times.

Method of Reporting VMT and Speed

The Metrolina travel model has the capability to provide output by peak period in addition to daily output. Since the Model can model peak period volumes and speeds, these must be used in the air quality analysis. The vehicle kilometers of travel (VKT), is converted to vehicle miles of travel (VMT). Vehicle miles traveled (VMT) used in the conformity determination are from the last iteration of the model. Each link in the roadway network carries a functional classification. The VMT for each functional class is multiplied by an emissions factor. The North Carolina DENR provides the emissions factors based on MOBILE6.2 output.

The MOBILE6.2 model requires as an input the weighted speeds by functional classification. This information can be derived directly from the model link data output. This first requires the separation of the model link data into functional classification. The congested link speed in mph can then be determined by converting the link distance to miles and dividing by travel time. The congested speed is then weighted by the ratio of the link VMT to the system VMT for each of the functional classifications. This input is then used for MOBILE6.2.

Congested and uncongested speeds are calculated using the model output. The congested speeds are sent to DENR to determine actual emissions factors. The VMT and speed data is found in Appendix F.

Regional Emissions Budget Tests

In areas with an USEPA approved motor vehicle emissions budgets, it satisfies the emissions test requirement of 40 CFR Part 93.118. For pollutants that have an emissions budget, the estimated emissions from the transportation plan must be less than or equal to the emissions budget values. All parts of the Metrolina Ozone Non-Attainment Area have emissions budgets and are covered by the Metrolina Travel Model. Each part was analyzed for each pollutant (NOx, VOC, and CO) in each comparison year. Emissions factors were provided by DENR.

Emissions Model

MOBILE6.2 was used to develop the emissions factors. Motor vehicle emissions controls included in the Mobile model are a decentralized inspection and maintenance program (as discussed in the North Carolina SIP), the national low emitting vehicle (NLEV), and the heavy-duty diesel (HDDV) control program (final guidance dated January 30, 1998). Also, area specific information is used for such items as vehicle age distribution and vehicle type distribution.

Sub-area Emission Budgets or Baseline Emissions

Each county or, in the case of Iredell County, county portion, have NOx and VOC motor vehicle emission budgets under the proposed Reasonable Further Progress SIP. Mecklenburg County is also maintenance under the CO standard and has an emission budget.

Development of Emissions Factors (ozone 8 hour and CO)

A critical element of any emissions analysis or estimate is the development and utilization of the emissions factors applied to the travel estimates. In order to assure that the emissions factors used in the conformity analysis were compatible with those used in the development of the North Carolina SIP, NCDENR provides emission factors and model inputs for each maintenance area in North Carolina. The MOBILE6.2 emissions factor model was used to develop the emissions factors for ozone for the Metrolina counties and for CO for MUMPO. NCDENR's emission factor summary spreadsheet is shown in Appendix G.

NCDENR provides motor vehicle emission factors by federal functional classification. The percentage of motor vehicles subject to the inspection and maintenance program is estimated from accident data. The scope of North Carolina's motor vehicle inspection and maintenance program is expanded from nine counties to forty-eight counties in 2007. The I&M program phase in is shown in Table 4-1 below. For the five county area, the proportion of I&M and non-I&M is based on VMT in the respective counties. For 2007, VMT is interpolated between 2005 and 2010.

Table 12 Percent of Vehicle Subject to I&M in Metrolina Region

2002	VMT	pct donut	pct I&M
Gaston			0.79
Mecklenburg			0.85
Cabarrus	5,320,348	29%	0.79
Iredell (pt)	2,199,349	12%	0.09
Lincoln	2,179,728	12%	0.18
Rowan	4,828,004	26%	0.16
Union	3,984,854	22%	0.84
5 County	18,512,283		

2005	pct I&M
Gaston	0.91
Mecklenburg	0.90

2007 & later	VMT (2007)	pct donut	pct I&M
Gaston			0.91
Mecklenburg			0.90
Cabarrus	6,164,417	29%	0.94
Iredell (pt)	2,622,404	12%	0.86
Lincoln	2,415,767	11%	0.97
Rowan	5,400,614	26%	0.93
Union	4,437,178	21%	0.89
5 County	21,040,380		

Emissions Analysis Source

Vehicle Miles of Travel (VMT) and speeds for the emissions analysis were derived from the Metrolina model.

Emissions Comparison Years (ozone)

For *areas with budgets under the 8-hour standard* (Mecklenburg, Union, Gaston, Cabarrus, Rowan, Lincoln, and the two townships in Iredell) emissions must be analyzed for years where there is a 8-hour emission budget, the attainment year (if applicable), the horizon year and intermediate years such that intervals do not exceed 10 years. The following years were analyzed to meet the requirements: 2010 (model run & intermediate year), 2015 (model run & intermediate year), 2025 (model run & intermediate year), and 2035 (model run & LRTP horizon year).

Analysis years where there is a budget and no LRTP model runs, do not require additional runs; interpolation was used to derive data for any non-matching year. Also, in accordance with 40 CFR 93.118, the 2008 budgets were used for 2015, 2025, and 2035.

Table 13 Transportation Conformity Analysis Matrix (2035 LRTPs)

County	Area model status	Area emissions budget status	Emissions analysis source	Emission comparison years			
				2010[2]	2015	2025	2035 Horizon
Cabarrus	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3
Rowan	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3
Gaston	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3
Mecklenburg	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	CO O3	CO O3	CO O3
Union	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3
Lincoln	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3
Iredell (part)	Modeled all	8 hr 03 Effective 3.8.10	TDM[3]	O3	O3	O3	O3

[2] O3 attainment date for the Metrolina Region will need to be an MRM modeled year.

[3] The base year of the MRM is 2005

Additional table notes and explanations:

County:

- Ozone: The Metrolina ozone non-attainment area consists of 6 whole counties (Mecklenburg, Union, Cabarrus, Rowan, Gaston, and Lincoln) plus one partial county (Iredell). The ozone non-attainment area includes four donut areas (Union, Gaston, Lincoln and Iredell-partial) represented by the NCDOT in cooperation with the Lake Norman Rural Planning

Organization (RPO) and the Rocky River RPO.

- CO: The Metrolina CO maintenance area consists of one whole county (Mecklenburg)

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

Emission comparison years (CO)

Mecklenburg County has a CO maintenance SIP. This Maintenance Plan update provides a 2015 budget for Mecklenburg County which is applicable from 2015 onwards. Mecklenburg County is entirely within the modeled area and has emissions budgets under the SIP; the Metrolina Model was used as the analysis tool. Listed below is specific CO budget and comparison year information:

- SIP Budget Years: 2015 (Mecklenburg County)
- Comparison Years for CO SIP – 2015, 2025, 2035 (Mecklenburg County)

Emissions Model

MOBILE6.2 was used to develop the emissions factors. Motor vehicle emission controls considered in the MOBILE6.2 model include the following:

Strategy	**Methodology/Approach**
I/M Program (per NC SIP)	*Accounted for in MOBILE6.2 model*
Tier 2 vehicle's Emission Standards	*Accounted for in MOBILE6.2 model*
Low Sulfur Gasoline and Diesel fuels	*Accounted for in MOBILE6.2 model*
Heavy Duty Vehicle Rules 2004 and 2007	*Accounted for in MOBILE6.2 model*
Low RVP Gasoline	*Accounted for in MOBILE6.2 model*
On board vapor recovery	*Accounted for in MOBILE6.2 model*

Also, area specific information is used for such items as vehicle age distribution and vehicle type distribution rather than national default values, as documented below.

Transportation Control Measures (TCM)

There are no TCMs approved in the State Implementation Plan (SIP) that are applicable to the Metrolina nonattainment area and are required to meet the requirements of 93.113.

Estimation of Vehicle Starts

A component of the emissions rates for each functional class is an estimate of the start-based emissions. This rate is based on an assumed number of starts per vehicle and is added to running emissions to produce a single rate to apply to vehicle miles traveled.

Mobile 6 defaults are 7.28 starts for passenger cars and 8.06 starts for light duty trucks. However, the use of default rates isn't the best practice for heavily urbanized areas with an updated Travel Demand Model. Area-specific rates were calculated by dividing the total number of trips from the travel demand model by the total number of registered vehicles. Appendix H contains additional information. This methodology has been previously endorsed by USEPA and used in prior conformity analysis in Metrolina.

Emission Comparison Tests by Location and Pollutant

The United States Environmental Protection Agency (USEPA) originally declared Mecklenburg County nonattainment for carbon monoxide (CO) on March 3, 1978. Following the Clean Air Act Amendments of 1990, the USEPA designated Mecklenburg County as "not-classified" for CO. Mecklenburg County was re-designated as a maintenance area for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. The USEPA designated the entire Metrolina area as a "moderate" non-attainment area for eight-hour ozone with an effective date of June 15, 2004.

The non-attainment/maintenance designations cover the following geographic areas:

- Cabarrus County
- Mecklenburg County
- Union County
- Gaston County
- Lincoln
- Rowan
- Iredell (Coddle Creek and Davidson Townships)

Four organizations are responsible for conformity determinations; each must make a conformity determination for its respective area in order for all of the areas to be designated in conformity:

- the Cabarrus-Rowan MPO (CR MPO) within its portion of the metropolitan area boundary in Cabarrus and Rowan counties;
- the Gaston Urban Area MPO (GUAMPO) within the metropolitan area boundary of Gaston County;
- the Mecklenburg-Union MPO (HPMPO) within its metropolitan area boundary in Mecklenburg and Union Counties;
- the NCDOT in the donut areas that is comprised of those county portions of

Iredell, Gaston, Union, and Lincoln that remain outside of any MPO metropolitan area boundary.

Table 14 summarizes the emissions test used and decision-making responsibility for conformity findings in each County.

Table 14 Emissions Test and Responsibility for Conformity Findings

Location	Pollutant(s)	Emissions Test	Conformity Finding Responsibility
Gaston County	O3	Budget	Gaston Urban Area MPO, NCDOT
Cabarrus County	O3	Budget	Cabarrus-Rowan MPO
Rowan County	O3	Budget	Cabarrus-Rowan MPO
Mecklenburg County	O3, CO	Budget	Mecklenburg-Union MPO
Union County	O3	Budget	Mecklenburg-Union MPO, NCDOT
Iredell (Coddle Creek and Davidson Townships)	O3	Budget	NC DOT
Lincoln County	O3	Budget	NC DOT

The results of the emission comparisons are summarized by County in Tables 15 through 21. Detailed emissions analysis results by county are contained in Appendix I.

Table 15 Gaston County Emissions Comparison Summary

Gaston County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	6002	7647	3824	5132
2015	3259	7647	2888	5132
2025	1793	7647	2195	5132
2035	1863	7647	2581	5132

.

Table 16 Cabarrus County Emissions Comparison Summary

Cabarrus County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	6295	7324	5501	6941
2015	4088	7324	4351	6941
2025	2141	7324	2705	6941
2035	2026	7324	3148	6941

Table 17 Rowan County Emissions Comparison Summary

Rowan County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	6205	7193	4878	6149
2015	3784	7193	3634	6149
2025	1928	7193	2149	6149
2035	1683	7193	2451	6149

Table 18 Lincoln County Emissions Comparison Summary

Lincoln County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	2550	2948	2208	2726
2015	1685	2948	1730	2726
2025	879	2948	1076	2726
2035	800	2948	1292	2726

Table 19 Iredell County Emissions Comparison Summary

Iredell County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	4667	5637	2923	3601
2015	2699	5637	2299	3601
2025	1294	5637	1510	3601
2035	1157	5637	1971	3601

Table 20 Union County Emissions Comparison Summary

Union County Emissions Comparison Summary (kilograms/day)				
Year	NO_x		VOC	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010	5058	5660	5227	6299
2015	3727	5660	4300	6299
2025	2207	5660	2884	6299
2035	2123	5660	3487	6299

Table 21 Mecklenburg County Emissions Comparison Summary

Mecklenburg County Emissions Comparison Summary						
Year	CO (tons/day)[1]		NO_x (kilograms/day)		VOC (kilograms/day)	
	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget	LRTP Emissions	SIP Budget
2010			27581	34526	20421	26368
2015	350.8	470.18	15138	34526	15231	26368
2025	336.4	470.18	8395	34526	11004	26368
2035	368.8	470.18	8503	34526	12415	26368

[1]To obtain kilograms per day, multiply tons per day by 907.18

Public Involvement and Interagency Consultation

The 2035 Transportation Plans are consistent with consultation requirements discussed in *40 CFR 93.105.* Interagency consultation was a cooperative effort on the part of the Cabarrus-Rowan MPO, the Gaston Urban Area MPO, the Mecklenburg-Union MPO, the Rocky River RPO, the Lake Norman RPO, the North Carolina Department of Transportation, the North Carolina Division of Air Quality, the Environmental Protection Agency, the Federal Transit Administration, and the Federal Highway Administration. The process was administered by the Federal Highway Administration and the North Carolina Department of Transportation on behalf of the partners and was organized according to the sections in the document entitled *Metrolina Area Transportation Conformity:*

Pre-Analysis Consensus Plan, a document agreed to at the initial interagency consultation meeting on April 22, 2008 and updated periodically. Subsequent interagency consultation meetings were held on April 14, 2009; May 12, 2009; June 16, 2009; July 14, 2009; August 11, 2009; September 8, 2009; October 13, 2009; November 10, 2009; December 8, 2009; and January 12, 2010. A copy of the latest version of the Consensus Plan, together with summaries of the interagency consultation meetings are included in Appendix C.

Public review of this report was handled in accordance with each MPO's public participation policy for the LRTPs. Copies of all public participation policies are included in Appendix J. Comments from the public participation process will be incorporated into the final Conformity Analysis and Determination Report. Those comments will be included in Appendix K of the final report

Conclusion

Based on the analysis and consultation discussed above the following transportation plans and TIPs conform to the purpose of the North Carolina State Implementation Plan. In every horizon year for every pollutant in each geographic area, the emissions expected from the implementation of the long-range plans and TIPs are less than the emissions budgets established in the SIP.

Table 22 Summary of Conformity Requirements

Criteria (√ indicates the criterion is met)	**Cabarrus-Rowan MPO LRTP & MTIP***	**Gaston MPO LRTP & MTIP***	**Mecklenburg-Union MPO LRTP & MTIP***	**Rural County Portion of Iredell, Lincoln, Gaston, and Mecklenburg & State TIP**
Less Than Emissions Budget(s)	√	√	√	√
TCM Implementation	N/A	N/A	N/A	N/A
Interagency Consultation	√	√	√	√
Latest Emissions Model	√	√	√	√
Latest Planning Assumptions	√	√	√	√
Fiscal Constraint	√	√	√	√

**The 2009-15 MTIPs are direct subsets of the 2035 LRTPs*

Specific conformity findings for each of these areas are listed below:

Cabarrus Rowan MPO Ozone Conformity Finding for the 2035 Long Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement process described in this report, the Cabarrus Rowan MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan (SIP). The emissions expected from the implementation of the Cabarrus Rowan MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are in conformity with the 8-hour

ozone standard.

Gaston MPO Ozone Conformity Finding for the 2035 Long Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement process described in this report, the Gaston MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan (SIP). The emissions expected from the implementation of the Gaston MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are in conformity with the 8-hour ozone standard.

Mecklenburg Union MPO Ozone and Carbon Monoxide Conformity Finding for the 2035 Long Range Transportation Plan and 2009-2015 Transportation Improvement Program

Based on the analysis and consultation and involvement process described in this report, the Mecklenburg Union MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan (SIP). The emissions expected from the implementation of the Mecklenburg Union MPO 2035 Long-Range Transportation Plan and 2009-2015 Transportation Improvement Program are in conformity with the 8-hour ozone and CO standard.

NCDOT Donut Area Conformity Finding for Projects from the 2009-2015 State Transportation Improvement Program

Based on the analysis and consultation and involvement process described in this report, the projects from the 2009-2015 State Transportation Improvement Program for the donut areas of counties in the Metrolina area that are outside of the MPO boundaries are found to conform to the purpose of the North Carolina State Implementation Plan (SIP). The emissions expected from the implementation of the projects from the 2009-2015 State Transportation Improvement Program are in conformity with the 8-hour ozone standard (where applicable).

In the final Air Quality Conformity Analysis and Determination Report, please refer to resolutions of conformity finding, approval, and/or endorsement by the Metropolitan Planning Organizations of the Metrolina region in Appendix L.

The End

Appendix 8

Conformity Determination Report

2007–2013 Transportation Improvement Program

- **Burlington Graham Metropolitan Planning Organization**
- **Greensboro Metropolitan Planning Organization**
- **High Point Metropolitan Planning Organization**
- **Winston Salem Forsyth Metropolitan Planning Organization**
- **North Carolina Department of Transportation**
  (for the portions of the Triad Ozone Non-Attainment Areas in Davidson and Davie Counties outside of MPO boundaries)

Date: January XX, 2007

This report was coordinated by the Piedmont Authority for Regional Transportation for the North Carolina Department of Transportation, the Burlington Graham Metropolitan Planning Organization, the Greensboro Metropolitan Planning Organization, the High Point Metropolitan Planning Organization and the Winston Salem Forsyth Metropolitan Planning Organization, in cooperation with the Piedmont Triad and the Northwest Piedmont Rural Planning Organization.

Appendix 8

1.0 Introduction

The purpose of this report is to document compliance with the provisions of the Clean Air Act Amendments of 1990 (CAAA) and the Transportation Equity Act for the 21st Century (TEA-21). The conformity determination for the 2007–2013 Transportation Improvement Program (TIP) is based on a regional emissions analysis that utilized the transportation networks in adopted and conforming 2030 Long Range Transportation Plans (LRTPs) and the emissions factors developed by the North Carolina Department of Environment and Natural Resources (NCDENR). All regionally significant federally funded projects in areas designated by the United States Environmental Protection Agency (USEPA) as air quality nonattainment or maintenance areas must come from a conforming LRTP and TIP.

MPOs and the NCDOT are required by 23 CFR 134 and 40 CFR Parts 51 and 93 to make a conformity determination on any newly adopted or amended fiscally-constrained LRTPs and TIPs. Appendix A contains relevant portions of 40 CFR part 93. The intent of this report is to document the conformity determinations for the 2007–2013 TIPs for the Burlington-Graham MPO, the Greensboro MPO, the High Point MPO, the Winston Salem Forsyth MPO and the rural portions of the Triad Ozone Non-Attainment Area that are the responsibility of the North Carolina Department of Transportation (NCDOT). In addition, the United States Department of Transportation (USDOT), specifically, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), must make a conformity determination on the LRTPs and TIPs in all non-attainment and maintenance areas. The Triad Area is non-attainment for 1-hour ozone (Guilford, Davidson, Forsyth and Davie), CO (Forsyth) and PM 2.5 (Guilford and Davidson).

Conformity Determinations for the 2030 LRTPs in the Triad Ozone Non-Attainment Area were approved as follows:

- Burlington-Graham MPO: April 12, 2005
- Greensboro MPO: August 25, 2004
- High Point MPO: August 24, 2004
- Winston Salem Forsyth MPO: July 21, 2005
- The NCDOT (for the rural portion of Davidson County in the Triad Ozone Non-Attainment Area): September 2, 2004
- The NCDOT (for the rural portion of Davie County in the Triad Ozone Non-Attainment Area): September 14, 2005

Conformity Determination for the 2030 LRTP in the Triad CO Non-Attainment Area was approved as follows:

- Winston Salem Forsyth MPO: July 21, 2005

Conformity Determinations for the 2030 LRTP in the Triad PM 2.5 Non-Attainment Area were approved as follows:

- Burlington-Graham MPO: January 17, 2006
- Greensboro MPO: January 25, 2006
- High Point MPO: January 24, 2006
- Winston Salem Forsyth MPO: January 19, 2006
- The NCDOT (for the rural portions of Davidson County in the Triad Ozone Non-Attainment Area): January 31, 2006

By these actions, the MPOs and NCDOT demonstrated that the 2030 LRTPs are consistent with Section 176(c) of the Clean Air Act, the State Implementation Plan, the Transportation Equity Act for the 21st Century, and 40 CFR Parts 51 and 93. These conformity demonstrations were documented by the MPOs and NCDOT in the report entitled *Conformity Analysis and Determination Report.* That report included the regional emissions test comparison prepared for the 2030 LRTPs demonstrating that emissions in each of the analysis years of the LRTP (2010, 2014, 2020 and 2030) are less than or equal to, the motor vehicle emissions budget established by the State Implementation Plan (SIP) (or base year emissions, in areas where no SIP is approved or found adequate by EPA) in accordance with 40 CFR Part 93 and approved by USEPA for the corresponding year.

USDOT made its conformity determination on the 2030 LRTPs listed above on the following dates:

Triad Ozone Non-Attainment Area:
- Burlington-Graham MPO: October 1, 2004
- Greensboro MPO: October 1, 2004
- High Point MPO: October 1, 2004
- Winston Salem Forsyth MPO: October 1, 2005
- The rural portion of Davidson County in the Triad Ozone Non-Attainment Area: October 1, 2004

Conformity Determination for the 2030 LRTP in the Triad CO Non-Attainment Area was approved as follows:
Winston Salem Forsyth MPO: October 1, 2005

Triad PM 2.5 Non-Attainment Area:
- Burlington-Graham MPO: April 5, 2006
- Greensboro MPO: April 5, 2006
- High Point MPO: April 5, 2006
- Winston Salem Forsyth MPO: April 5, 2006
- The rural portion of Davidson County in the Triad PM2.5 Non-Attainment Area: April 5, 2006

A copy of the letters approving the conformity determinations is included in Appendix B.

The TIP for Fiscal Years 2007-2013 developed by the Burlington Graham MPO and adopted by the TAC on xxxx xx, 2007 is a direct subset of the conforming 2030 LRTP documented in this report.

The TIP for Fiscal Years 2007-2013 developed by the Greensboro MPO and adopted by the TAC on xxxx xx, 2007 is a direct subset of the conforming 2030 LRTP documented in this report.

The TIP for Fiscal Years 2007-2013 developed by the High Point MPO and adopted by the TAC on xxxx xx, 2007 is a direct subset of the conforming 2030 LRTP documented in this report.

The TIP for Fiscal Years 2007-2013 developed by the Winston Salem Forsyth MPO and adopted by the TAC on xxxx xx, 2007 is a direct subset of the conforming 2030 LRTP documented in this report.

The rural (donut area) county projects from the STIP for Fiscal Years 2007-2013 developed by the NCDOT and adopted by the Board of Transportation on xxxx xx, 2007, are consistent with the rural

(donut area) projects from the 2006-2012 STIP (for the donut area counties of Davidson and Davie) that were modeled and found to conform by the USDOT on October 1, 2004 (Guilford and Davidson Counties for the 1-hour ozone standard), on October 1, 2005 (Forsyth and Davie County for the 1-hour ozone and CO standard) and on April 5, 2006 (Davidson and Guilford County for the PM 2.5 standard).

2.0 Relationship of the LRTP and TIP

In accordance with 40 CFR Parts 51 and 93, no further regional emissions analysis is required for the Transportation Improvement Program if the TIP is a direct subset of the LRTP and if the following conditions are met:

- The TIP is consistent with the conforming LRTP such that the regional emissions analysis performed on the LRTP applies to the TIP;
- The TIP contains all projects which must be started in the TIP's timeframe to implement the highway and transit system envisioned by the LRTP in each of its horizon years;
- All federally funded TIP projects which are regionally significant are part of the specific highway or transit system envisioned in the LRTP horizon years; and
- The design concept and scope of each regionally significant project identified in the TIP is not significantly different from that described in the LRTP.
- The number of travel lanes of each regionally significant project identified in the TIP is not significantly different from that described in the LRTP.

This report documents that the TIP for Fiscal Years 2007 -2013 is a direct subset of the 2030 LRTPs for the Burlington Graham MPO, the Greensboro MPO, the High Point MPO, the Winston Salem Forsyth MPO and the rural portions of the Triad Ozone Non-Attainment Area that are the responsibility of the NCDOT. The 2030 LRTP for each of these areas are fiscally constrained and are consistent with 23 CFR Part 450 Subpart C. This conformity determination is based on the most recent estimates of the emissions and the most recent planning assumptions (including population, employment, travel and congestion estimates available) as determined by the appropriate MPOs and NCDOT. It has been demonstrated in the Conformity Determination Report that the LRTP conforms to the provisions of the Clean Air Act Amendments of 1990 and the Safe Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users - 2005 (SAFETEA-LU) approved by the USDOT on August 10, 2005. Also, this LRTP conforms to the purpose of the SIP in accordance with 40 CFR Part 93. As a direct subset of the LRTP, no further regional emissions analysis (emissions budget comparison) is required for this TIP.

The Burlington Graham MPO Transportation Advisory Committee (TAC), as the decision making body of the Burlington Graham MPO, finds that the FY 2007-2013 TIP is a direct subset of the 2030 LRTP for the Burlington Graham MPO, meets these conditions, and thus conforms to the purpose of the SIP (or base year emissions, in areas where no SIP is approved or found adequate by EPA) in accordance with 40 CFR Part 93.

The Greensboro MPO Transportation Advisory Committee (TAC), as the decision making body of the Greensboro MPO, finds that the FY 2007-2013 TIP is a direct subset of the 2030 LRTP for the Greensboro MPO, meets these conditions, and thus conforms to the purpose of the SIP (or base year emissions, in areas where no SIP is approved or found adequate by EPA) in accordance with 40 CFR Part 93.

The High Point MPO Transportation Advisory Committee (TAC), as the decision making body of the High Point MPO, finds that the FY 2007-2013 TIP is a direct subset of the 2030 LRTP for the High Point MPO, meets these conditions, and thus conforms to the purpose of the SIP (or base year emissions, in areas where no SIP is approved or found adequate by EPA) in accordance with 40 CFR Part 93.

The Winston Salem Forsyth MPO Transportation Advisory Committee (TAC), as the decision making body of the Winston Salem Forsyth MPO, finds that the FY 2007-2013 TIP is a direct subset of the 2030 LRTP for the Winston Salem Forsyth MPO, meets these conditions, and thus conforms to the purpose of the SIP (or base year emissions, in areas where no SIP is approved or found adequate by EPA) in accordance with 40 CFR Part 93.

The NCDOT, as the decision making body for STIP projects within the Triad Ozone Non-Attainment Area that are outside of MPO boundaries, finds that rural (donut area) county projects from the FY 2007 -2013 STIP are consistent with the rural (donut area) projects from the FY 2006 -2012 STIP (for the donut area counties of Davidson and Davie) that were modeled and found to conform by the USDOT on October 1, 2004 (Guilford and Davidson Counties for the 1-hour ozone standard), on October 1, 2005 (Forsyth and Davie County for the 1-hour ozone and CO standard) and on April 5, 2006 (Davidson and Guilford County for the PM 2.5 standard).

Copies of the 2007-2013 TIPs (2007- 2013 STIPs for donut areas) are attached to this report (Appendix C).

3.0 Latest Planning Assumptions

The planning assumptions used to develop the Conformity Determination Report are the latest planning assumptions approved by the respective MPOs and NCDOT. Estimates of future population and employment are less than five years old. The vehicle age distribution and fleet mix distributions used as input to the emission model were based on the current data from North Carolina Division of Motor Vehicles. This data is also less than five years old.

4.0 Interagency Consultation

The 2007-2013 TIP has undergone interagency consultation as required in the North Carolina Administrative Code Title 15A Subpart 2D 2002-2003 inclusive. An interagency consultation meeting involving the MPOs, NCDOT, NCDENR, FHWA and USEPA- Region 4 was held on October 31, 2006. A summary of issues raised and responses, along with any written agency comments, are provided in Appendix D.

5.0 Public Involvement

The 2007 -2013 TIP was reviewed by the public in accordance with the Public Involvement Policies of the Burlington Graham MPO, the Greensboro MPO, the High Point MPO, the Winston Salem Forsyth MPO and the NCDOT. This report was also made available for public review by the Northwest Piedmont and Piedmont Triad Rural Planning Organization (RPO). Copies of citizen comments and agency responses to them are attached to this report in Appendix E. The newspaper advertisements for public review and comment period are attached to this report in Appendix G.

6.0 Findings of Conformity

6.1 The Burlington Graham MPO TAC, as the decision making body of the Burlington Graham MPO, finds that the FY 2007 -2013 TIP is a direct subset of the 2030 LRTP for the Burlington Graham MPO Area. The TIP meets the conditions described earlier in this document and thus conforms to the intent of the Clean Air Act and the requirements of 40 CFR §93.

6.2 The Greensboro MPO TAC, as the decision making body of the Greensboro MPO, finds that the FY 2007 -2013 TIP is a direct subset of the 2030 LRTP for the Greensboro MPO Area. The TIP meets the conditions described earlier in this document and thus conforms to the intent of the Clean Air Act and the requirements of 40 CFR §93.

6.3 The High Point MPO TAC, as the decision making body of the High Point MPO, finds that the FY 2007 -2013 TIP is a direct subset of the 2030 LRTP for the High Point MPO Area. The TIP meets the conditions described earlier in this document and thus conforms to the intent of the Clean Air Act and the requirements of 40 CFR §93.

6.4 The Winston Salem Forsyth MPO TAC, as the decision making body of the Winston Salem Forsyth MPO, finds that the FY 2007 -2013 TIP is a direct subset of the 2030 LRTP for the Winston Salem Forsyth MPO Area. The TIP meets the conditions described earlier in this document and thus conforms to the intent of the Clean Air Act and the requirements of 40 CFR §93.

6.5 The NCDOT, as the decision making body for STIP projects within the Triad Ozone Non-Attainment Area that are outside of MPO boundaries, finds that rural (donut area) county projects from the FY 2007 -2013 STIP are consistent with the rural (donut area) projects from the FY 2006-2012 STIP (for the donut area counties of Davidson and Davie) that were modeled and found to conform by the USDOT on October 1, 2004 (Guilford and Davidson Counties for the 1-hour ozone standard), on October 1, 2005 (Forsyth and Davie County for the 1-hour ozone and CO standard) and on April 5, 2006 (Davidson and Guilford County for the PM 2.5 standard) in accordance with 40 CFR Part 93.

Copies of adopting and endorsing resolutions and conformity findings for 2007 -2013 TIP (2007-2013 STIP for donut areas) are attached in Appendix F.

Appendix A: Air Quality Regulations

40 CFR 93.122(g)

(g) *Reliance on previous regional emissions analysis.*

(1)Conformity determinations for a new transportation plan and/or TIP may be demonstrated to satisfy the requirements of §§93.118 (“Motor vehicle emissions budget”) or 93.119 (“Interim emissions in areas without motor vehicle emissions budgets”) without new regional emissions analysis if the previous regional emissions analysis also applies to the new plan and/or TIP. This requires a demonstration that:

(i) The new plan and/or TIP contain all projects which must be started in the plan and TIP’s timeframes in order to achieve the highway and transit system envisioned by the transportation plan;

(ii) All plan and TIP projects which are regionally significant are included in the transportation plan with design concept and scope adequate to determine their contribution to the transportation plan’s and/or TIP’s regional emissions at the time of the previous conformity determination;

(iii) The design concept and scope of each regionally significant project in the new plan and/or TIP are not significantly different from that described in the previous transportation plan; and

(iv) The previous regional emissions analysis is consistent with the requirements of §§93.118 (including that conformity to all currently applicable budgets is demonstrated) and/or 93.119, as applicable.

(2) A project which is not from a conforming transportation plan and a conforming TIP may be demonstrated to satisfy the requirements of §93.118 or §93.119 without additional regional emissions analysis if allocating funds to the project will not delay the implementation of projects in the transportation plan or TIP which are necessary to achieve the highway and transit system envisioned by the transportation plan, the previous regional emissions analysis is still consistent with the requirements of §93.118 (including that conformity to all currently applicable budgets is demonstrated) and/or §93.119, as applicable, and if the project is either:

(i) Not regionally significant; or

(ii) Included in the conforming transportation plan (even if it is not specifically included in the latest conforming TIP) with design concept and scope adequate to determine its contribution to the transportation plan’s regional emissions at the time of the transportation plan’s conformity determination, and the design concept and scope of the project is not significantly different from that described in the transportation plan.

(3) A conformity determination that relies on paragraph (g) of this section does not satisfy the frequency requirements of §93.104(b) or (c).

Appendix B: Federal Conformity Finding on Long Range Transportation Plans

The accompanying pages include the conformity finding on the 2030 LRTPs from FHWA. For digital versions of this document, the following pdf file contains the conformity letter:

INSERT USDOT CONFORMITY DETERMINATION LETTER

Appendix C: 2007-2013 Transportation Improvement Program

The accompanying pages include TIPs (STIPs for donut areas), by MPOs and RPO donut area counties. For digital versions of this document, the following pdf files contain the documents:

C1 2007-2013 Burlington Graham MPO TIP
C2 2007-2013 Greensboro MPO TIP
C3 2007-2013 High Point MPO TIP
C4 2007-2013 Winston Salem Forsyth MPO TIP
C5 2007-2013 Davidson County STIP Projects
C6 2007-2013 Davie County STIP Projects

INSERT THE TIP/STIPs LISTED ABOVE

Appendix 8

Appendix D: Interagency Consultation Meeting Minutes

INSERT THE 10/31/06 IC MEETING MINUTES

Appendix E: Comments and Responses from Public Involvement Process

INSERT AGENCY AND PUBLIC COMMENTS AND RESPONSES

Appendix F: TIP Adoption and Conformity Resolutions

Appendix F includes TIP adoption/endorsement and conformity finding resolutions for applicable MPOs (adoption), RPOs (endorsement) and the NCDOT (conformity findings for rural counties).

For digital versions of this document, the following pdf files contain these actions:

F1 Burlington Graham MPO 2007-2013 TIP adoption
F2 Burlington Graham MPO 2007-2013 TIP conformity finding
F3 Greensboro MPO 2007-2013 TIP adoption
F4 Greensboro MPO 2007-2013 TIP conformity finding
F5 High Point MPO 2007-2013 TIP adoption
F6 High Point MPO 2007-2013 TIP conformity finding
F7 Winston Salem Forsyth MPO 2007-2013 TIP adoption
F8 Winston Salem Forsyth MPO 2007-2013 TIP conformity finding
F9 NCDOT Davidson County (rural portion) 2007-2013 TIP conformity finding
F10 NCDOT Davie County (partial county rural portion) 2007-2013 TIP conformity finding

INSERT THE TIP ADOPTIONS AND CONFORMITY FINDINGS LISTED ABOVE

Appendix G: Newspaper Advertisements for Public Review and Comment Period

INSERT NEWSPAPER ADVERTISEMENTS FOR PUBLIC REVIEW AND COMMENT PERIOD

TRANSPORTATION CONFORMITY STATUS/SCHEDULE

Appendix 9

May-10

Non-Attainment/Maintenance Areas & Counties	8-Hour Ozone Conformity Determination Due (LRTP)	CO Conformity Determination Due (LRTP)	PM2.5 Conformity Determination Due (LRTP)	2011-2017 TIP Conformity Determination Due
METROLINA	**5/3/2014**	**5/3/2014**		**10/1/2011****
CABARRUS-CR MPO	5/3/2014	N/A	N/A	10/1/2011
GASTON-GASTON MPO	5/3/2014	N/A	N/A	10/1/2011
GASTON-*donut*	****5/3/2014	N/A	N/A	10/1/2011
IREDELL (P)-*donut*	****5/3/2014	N/A	N/A	10/1/2011
LINCOLN-*donut*	****5/3/2014	N/A	N/A	10/1/2011
MECKLENBURG-MUMPO	5/3/2014	5/3/2014	N/A	10/1/2011
ROWAN-CR MPO	5/3/2014	N/A	N/A	10/1/2011
UNION-MUMPO	5/3/2014	N/A	N/A	10/1/2011
UNION-*donut*	****5/3/2014	N/A	N/A	10/1/2011
MOUNTAIN	**Isolated Rural Areas (IRA)**			
SWAIN (P)	***	N/A	N/A	***
HAYWOOD (P)	***	N/A	N/A	***
TRIAD		**3/6/2013**	**3/6/2013**	**10/1/2011****
DAVIDSON-HP MPO	N/A	N/A	3/6/2013	10/1/2011
DAVIDSON-WSF MPO	N/A	N/A	3/6/2013	10/1/2011
DAVIDSON-*donut*	N/A	N/A	****3/6/2013	10/1/2011
FORSYTH-WSF MPO	N/A	3/6/2013	N/A	10/1/2011
FORSYTH-HP MPO	N/A	3/6/2013	N/A	10/1/2011
GUILFORD-Gboro MPO	N/A	N/A	3/6/2013	10/1/2011
GUILFORD-B/G MPO	N/A	N/A	3/6/2013	10/1/2011
GUILFORD-HP MPO	N/A	N/A	3/6/2013	10/1/2011

TRANSPORTATION CONFORMITY STATUS/SCHEDULE

Appendix 9

May-10

Non-Attainment/Maintenance Areas & Counties	8-Hour Ozone Conformity Determination Due (LRTP)	CO Conformity Determination Due (LRTP)	PM2.5 Conformity Determination Due (LRTP)	2011-2017 TIP Conformity Determination Due
TRIANGLE	6/15/2013	6/15/2013		10/1/2011**
CHATHAM (P)-DCHC MPO	6/15/2013	N/A	N/A	10/1/2011
CHATHAM (P)-*donut*	****6/15/2013	N/A	N/A	10/1/2011
DURHAM-DCHC MPO	6/15/2013	6/15/2013	N/A	10/1/2011
FRANKLIN-CAMPO	6/15/2013	N/A	N/A	10/1/2011
FRANKLIN-*donut*	****6/15/2013	N/A	N/A	10/1/2011
GRANVILLE-CAMPO	6/15/2013	N/A	N/A	10/1/2011
GRANVILLE-*donut*	****6/15/2013	N/A	N/A	10/1/2011
JOHNSTON-CAMPO	6/15/2013	N/A	N/A	10/1/2011
JOHNSTON-*donut*	****6/15/2013	N/A	N/A	10/1/2011
ORANGE-DCHC MPO	6/15/2013	N/A	N/A	10/1/2011
ORANGE - B/G MPO	6/15/2013	N/A	N/A	10/1/2011
ORANGE-*donut*	****6/15/2013	N/A	N/A	10/1/2011
PERSON-*donut*	****6/15/2013	N/A	N/A	10/1/2011
WAKE-CAMPO	6/15/2013	6/15/2013	N/A	10/1/2011
GREATER HICKORY/UNIFOUR			4/5/2014	10/1/2011**
CATAWBA-MPO	N/A	N/A	4/5/2014	10/1/2011
CATAWBA-*donut*	N/A	N/A	****4/5/2014	10/1/2011
ROCKY MOUNT	6/15/2013			10/1/2011**
EDGECOMBE-RM MPO	6/15/2013	N/A	N/A	10/1/2011
EDGECOMBE-*donut*	****6/15/2013	N/A	N/A	10/1/2011
NASH-RM MPO	6/15/2013	N/A	N/A	10/1/2011
NASH-*donut*	****6/15/2013	N/A	N/A	10/1/2011

**The current TIP conformity determination is valid until 10/1/12 per 40 CFR 51 and 93. NCDOT plans to have new STIP/TIPs in place by 10/1/11 which will require a conformity detrmination (sooner than the federal frequency requirement of 4 years).

*** This is an isolated rural area-AQ conformity is required only if there are regionally significant (rs) or rs federally funded projects in the area.

****The projects in the TIP is the LRTP for donut areas, not within an MPO's Metropolitan Area Boundary (MAB)

N/A=Not Applicable

TIP=Transportation Improvement Program

LRTP= Long Range Transportation Plan

IRA = Isolated Rural Area

(P) = Part of County was Designated