

AIR QUALITY ANALYSIS

**Clarksville Urbanized Area Metropolitan Planning
Organization**

**Conformity Determination for the 2008-2011
Transportation Improvement Program**

**PREPARED BY:
CLARKSVILLE MPO**

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EXECUTIVE SUMMARY

This Clarksville Urbanized Area Metropolitan Planning Organization (MPO) Transportation Improvement Program (TIP) includes an air quality conformity demonstration for the new 2008-2011 TIP. The date of the conformity determination for the Clarksville MPO was approved July 28, 2005 and as amended November 29, 2006. Section 1.0 explains the need for the analysis and the criteria for conformity. The 2008-2011 TIP is a direct subset of the Clarksville Urbanized Area MPO 2030 Long Range Transportation Plan (LRTP) and thus the previous regional emissions analysis done for the plan is valid for this conformity determination. Through this document, the Clarksville Urbanized Area MPO is making the demonstration that the 2008-2011 TIP is in conformance with the Kentucky and Tennessee State Implementation Plans (SIPs).

In coordination with the adoption of the new 2008-2011 TIP, the Clarksville Urbanized Area MPO is adopting 2030 LRTP for compliance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFTEA-LU). This amendment to the plan does not change transportation plan activities (as reflected in the original LRTP adoption which has a valid conformity determination) and thus does not trigger conformity requirements for the LRTP.

On November 21, 2005, Montgomery County was redesignated as Attainment with a Maintenance for 8-hour ozone standard. On February 24, 2006 Christian County was redesignated as Attainment with a Maintenance for 8-hour ozone standard. The date of the latest conformity determination for the Clarksville MPO is November 29, 2006. The projects in the FY2008-2011 TIP are a subset of the most recently approved conforming 2030 LRTP which was adopted on July 28, 2005. The projects listed in the FY2008-2011 TIP are consistent with the conforming 2030 LRTP.

1.0 INTRODUCTION

The purpose of this report is to provide the air quality conformity demonstration for the Clarksville Urbanized Area MPO 2008-2011 TIP. See attached for the 2008-2011 TIP. Federal requirements dictate that adoption of a new TIP (i.e., that includes nonexempt projects) only be approved in association with a valid transportation air quality conformity determination. There are five new projects added to the TIP and the inclusion of the Cole Road Project and the Force Protection Barrier Wall Project that were amended in 2006 into the LRTP and the FY2006-2008 TIP. Each of these projects, as listed below, has an exempt project status; and therefore, the air quality conformity determination approved in July 28, 2005 and as amended November 29, 2006 is valid. The interagency consultation (IAC) agree that the planning assumptions remained the same and concurred with the exempt status.

Tip #12 Intersection Improvements – 4 sites listed:

Site 1- Wilma Rudolph Boulevard / Dunbar Cave Road

- Utilize the existing shoulder on the north and south legs of the intersection to accommodate a channelized northbound left-turn lane and an additional southbound left-turn lane. It is not anticipated that pavement widening will be required to accommodate the additional lanes.
- Remove a portion of interior island on the westbound approach to accommodate

the dual left-turn lanes and an exclusive through lane and the dual left-turn movement from the southbound approach. The through and left-turn lanes should be shifted to the north to accommodate the additional receiving lane.

- Widen the eastbound approach along the north side of Wilma Rudolph Blvd. to include an additional approach lane (3 lanes total). The eastbound approach is therefore anticipated to have an exclusive left, through, and a right-turn lane. It is anticipated that additional right-of-way will be required to accommodate the additional lane.
- Upgrade to a new 8-phase traffic signal controller and cabinet and remove the split-phasing.
- Install a new video vehicle detection system.
- Remove the existing pavement markings and install new pavement markings on each approach to the intersection. The new markings along Dunbar Cave Road should include the necessary pavement markings to accommodate an exclusive left, through, and right-turn lane and the additional eastbound departure lane. The new markings along Wilma Rudolph Boulevard should include the necessary pavement markings to accommodate the channelized northbound left-turn lane and the additional southbound left-turn lane. All markings should be retro reflectorized and meet MUTCD standards.

Site 2 - Madison Street / State Route 76

- Remove portions of the interior islands on the northbound and southbound approaches as well as portions of the median along the southbound approach to allow for exclusive left-turn lanes on each approach.
- Widen the north side of Madison Street just west of the intersection to allow for free-flow southbound right-turns. It is not anticipated that this widening will require additional right-of-way. However, a construction easement may be required.
- Install a new 8-phase traffic signal controller and cabinet and remove the split-phasing.
- Install a new video vehicle detection system.
- Remove the existing pavement markings and install new pavement markings along each approach. The new markings should include the necessary pavement markings to allow for the additional left-turn lane along each approach. All markings should be retroreflectorized and meet MUTCD standards.

Site 3 - Madison Street / Richview Road

- Widen the west side of Richview Road on the southbound approach to accommodate the addition of an exclusive right-turn lane. It is not anticipated that this widening will require additional right-of-way. However, a construction easement may be required.
- Install a new video vehicle detection system.
- Remove the existing pavement markings and install new pavement markings along the southbound approach to the intersection. The new markings should include the necessary pavement markings to allow for the additional southbound right-turn lane and dual left-turn lanes. All markings should be retroreflectorized and meet MUTCD standards.

Site 4 - US 41A By-Pass / State Route 48 and 13

Remove portions of the interior islands on all approaches to accommodate exclusive left-turn lanes for the northbound, southbound, and eastbound approaches.

Installation of decorative roadway lighting and associated electrical wiring at

the intersection including pullboxes, conduit, jack and bore, and lighting control center modifications.

Widen the west leg of the intersection along the north side of SR 48/13 to accommodate free-flow southbound right-turn movements. The widening is expected to require right-of-way acquisition and installation of guardrail. Install a new 8-phase traffic signal controller and cabinet and remove the split-phasing.

Install a new video vehicle detection system.

Remove the existing pavement markings and install new pavement markings along each approach to the intersection. The new markings should include the necessary pavement markings to accommodate the existing and proposed laneage modifications. All markings should be retro reflectorized and meet MUTCD standards.

Tip # 16 – Fort Campbell Variable Message Board

ITS message boards and cameras to increase efficiency for the Fort Campbell traffic. The portion from 41-A from Tiny Town Road (SR 236) to the state line will be funded with HPP monies and the match will come from TDOT. The portion from the state line to I-24 in Kentucky will be funded by the Kentucky Discretionary fund. The placement of message boards and cameras is still under review.

Tip # 14 – Cole Road

This project is a new four lane roadway at Gate 7 entering into the military installation. The project was amended into the TIP in 2006 and still applicable for the air quality conformity determination approved on July 28, 2005.

Tip # 7 and Tip #8 – Force Protection Barrier Wall

Tip #7 is the Tennessee portion of the Force Protection Barrier Wall along 41-A, Ft. Campbell Blvd. The wall will be from 2,000' south of Jack Miller Blvd to the state line. Tip #8 is the Kentucky portion of the Force Protection Barrier Wall along 41-A, Ft. Campbell Blvd. The wall will be from the state line to 3,600' south of Cole Road. The wall is being installed for noise abatement and security for the Ft. Campbell Military Installation.

1.1 TRANSPORTATION AIR QUALITY CONFORMITY

Transportation conformity is a mechanism to ensure that federal funding and approval are given to those transportation activities that are consistent with the air quality goals of the SIPs (i.e., in this case, for Kentucky and Tennessee). Pursuant to provisions of the CAAA of 1990, the U.S. Environmental Protection Agency (US EPA) designated a two county area in the Clarksville area as a basic non-attainment area for ozone under the eight-hour ozone standard in April 2004 (effective June 15, 2004). The Clarksville ozone non-attainment area included Christian County, Kentucky and Montgomery County, Tennessee. The Clarksville MPO consists of portions of Montgomery and Christian Counties. The Clarksville MPO's Transportation Plan and Transportation Improvement Program address the MPO area only. The areas outside of the Clarksville MPO's planning boundary but within the non-attainment area boundary are considered "donut" areas. The emissions related to transportation activities in the "donut" area must be included in the overall regional emissions analysis for the Clarksville MPO's planning documents in order for a conformity determination to be approved by the U.S. Department of Transportation.

1.2 MOTOR VEHICLE EMISSION BUDGETS

Since being designated for the 8-hour ozone standard, the Clarksville-Hopkinsville area attained the 8-hour ozone standard and the states of Kentucky and Tennessee petitioned the USEPA to change the area's status to attainment. With this petition, the two states provided the required maintenance plan to show continued compliance with the 8-hour ozone standard. The Clarksville-Hopkinsville area is now considered attainment (with a maintenance plan) for the 8-hour ozone standard. The maintenance plans include motor vehicle emissions budgets (MVEBs) for the purpose of implementing transportation conformity requirements for the 8-hour ozone standard.

As mentioned above, MVEBs have been established in the State Implementation Plans (SIPs) for both the Kentucky and Tennessee portions of

the Clarksville-Hopkinsville area as a part of each area's 8-hour Ozone Maintenance Plan. These MVEBs are established at the state level with separate MVEBs for Montgomery County, Tennessee and Christian County, Kentucky. On September 22, 2005 USEPA published direct final rulemaking which found adequate and approved the 2016 MVEBs for Montgomery County, Tennessee (70 FR 55559). These MVEBs, which became effective on November 21, 2005, are 9.05 tons per day (TPD) for oxide with nitrogen (NOX), and 3.00 TPD for volatile organic compounds (VOC) for the year 2016. Similarly, on January 25, 2006 USEPA published final rulemaking which found adequate and approved the 2004 and 2016 MVEBs for Christian County, Kentucky (71 FR 4047). These MVEBs which became effective on January 25, 2006 are 9.53 TPD of NOX and 3.83 TPD of VOC for 2004, and 3.83 TPD of NOX and 2.08 TPD of VOC for 2016. See Appendix A for a copy of both Federal Register notices. More discussion on the use of these MVEBs to demonstrate conformity for this area is provided in section 2.3 of this document.

2.0 DEMONSTRATION OF TRANSPORTATION CONFORMITY REQUIREMENTS

The Transportation Conformity Rule requires that any action to adopt, amend or update a transportation plan or TIP that involves nonexempt projects only be approved if it is demonstrated that transportation conformity requirements are met. The amendment to the Clarksville Urbanized Area MPO's 2030 LRTP does not involve action for nonexempt projects so therefore it is not a trigger for conformity. However, the adoption of the new 2008-2011 TIP does involve nonexempt projects and so therefore it is necessary for conformity to be determined for this TIP prior to approval. The general requirements for conformity for a TIP are as follows:

- Interagency consultation;
- Fiscal constraint certification;
- Certification that the TIP is a direct subset of the conforming LRTP and therefore can rely on the regional emissions analysis for the LRTP;
- Certification that all SIP-approved transportation control measures (TCMs) are being implemented in a timely fashion and will not be hindered by the adoption of the TIP; and
- Public involvement was accomplished for the TIP and the associated conformity determination.

2.1 INTERAGENCY CONSULTATION

A multi-party, interagency coordination conference call including representatives from the Clarksville MPO, the Federal Highway Administration

(FHWA), US EPA, Tennessee Department of Transportation (TDOT), and the Kentucky Transportation Cabinet (KYTC) was held October 16, 2007. The call was focused on giving parties the opportunity to discuss the issues surrounding the development of the conformity demonstration for the 2008-2011 TIP, and the Clarksville MPO's activities related to adopting a SAFETEA-LU compliant plan. The following issues and concerns were addressed as a result of the IAC call.

- a. Clarification in both the Air Quality and the TIP concerning the approved conformity determination date of July 28, 2005 and the as amended November 29, 2006 date.
- b. Discussion of the adoption of the PPP and the updating of the SAFETEA-LU compliant TIP 08-11 and LRTP and the Prospectus.
- c. Requested that a list of the five new projects be added to the introduction of the Air Quality Conformity Determination and also the inclusion of the Cole Road TIP Project that was amended in '06.
- d. The IAC agreed that all planning assumptions remained the same and concurred with the exempt status of the five new projects.
- e. The Operation and Maintenance cost has been added to the new tip.
- f. The Table 4 – Funding Amounts for Kentucky was completed.

2.2 FISCAL CONSTRAINT

The TIP is required to include a financial plan that demonstrates how the program of projects can be implemented. TDOT, the KYTC, and local jurisdictions and agencies with projects in the TIP have indicated that they have the financial resources to provide the necessary matching funds to complete their projects. In addition, these agencies have determined that funding is available for the maintenance of all existing transportation systems.

The projects included in this TIP have been funded in accordance with current and proposed revenue sources. Annual federal allocations and adopted state and local budgets substantiates that anticipated funding will be available to implement the projects in the TIP. The programmed expenditures are within the balance of expected fund allocations in the TIP and therefore demonstrate fiscal constraint.

2.3 RELIANCE ON PREVIOUS REGIONAL EMISSION ANALYSIS

Previously and in accordance with the July 1, 2004, Transportation Conformity Rule Revisions, entitled "Transportation Conformity Rule Amendments for the New 8-hour Ozone and PM2.5 National Ambient Air Quality Standards and Miscellaneous Revisions for Existing Areas; Transportation Conformity Rule

Amendments Response to Court Decision and Additional Rule Changes” (69 FR 40004), transportation conformity was demonstrated for the Clarksville Urbanized Area MPO’s 2030 LRTP. See appendix C for the U.S. DOT approval letter.

For the most part, the MVEBs identified in section 1.2 of this document were used to show compliance with the regional emission analysis requirement for

Pollutant	2004 MVEBs Tons/Day	2010 Tons/Day	2016 MVEBs Tons/Day	2016 Tons/Day	2020 Tons/Day	2030 Tons/Day
VOC	3.83	2.68	2.08	2.08	1.92	1.9
NOx	9.53	6.59	3.83	3.83	2.94	2.08

conformity. It should be noted that, also in accordance to the July 1, 2004 Transportation Conformity Rule, the 2002 baseline emissions test is being used to demonstrate conformity for the first analysis year (i.e., 2010) in the Tennessee portion, because there is no applicable MVEB for this analysis year. A summary of results for the regional emission analysis for the 2030 conforming the LRTP and is shown below in Table 1 for Montgomery County and in Table 2 for Christian County.

Pollutant	2002 baseline Tons/Day	2010 Tons/Day	2016 MVEBs Tons/Day	2016 Tons/Day	2020 Tons/Day	2030 Tons/Day
VOC	5.992	3.677	3.00	2.818	2.489	2.464
NOx	13.787	8.535	9.05	4.879	3.626	2.577

Table 1. Summary of On-Road Mobile Source Emissions for Montgomery County by Year in Tons per Day.

Table 2. Summary of On-Road Mobile Source Emissions for Christian County by Year in Tons per Day.

Table 1 and Table 2 demonstrates 2016, 2020, and 2030 emissions estimates for VOC and NOx are below the budget values (or applicable test) for Montgomery County and Christian County. Consequently, it was shown through the regional analysis for the LRTP that the LRTP complies with the Clean Air Act Amendments of 1990, the Transportation Conformity Regulation

(i.e., 40 Code of Federal Regulations Part 93), the Statewide and Metropolitan Planning Regulation, and other applicable federal and state requirements. In addition, the regional emissions analysis was prepared consistent with EPA's guidance document entitled "Companion Guidance for the July 1, 2004, Final Transportation Conformity Rule: Conformity Implementation in Multi-jurisdictional Non-attainment and Maintenance Areas for Existing and New Air Quality Standards." The 2030 LRTP conformity determination was developed with full consideration of the latest planning assumptions requirement. This conformity determination for the 2008-2011 TIP will rely on the previous regional emissions analysis for the 2030 LRTP since this TIP is a direct subset of the 2030 LRTP.

2.4 TRANSPORTATION CONTROL MEASURES (TCMS)

There are no SIP-approved transportation control measures in the Kentucky or Tennessee SIPs so adoption of this TIP will not interfere with implementation of any TCMS.

2.5 PUBLIC PARTICIPATION

Amendment 3 to the Clarksville MPO's *2005-2030 Long Range Transportation Plan* and the 2008-2011 Transportation Improvement Program were developed with significant attention to public involvement. Please refer to the Public Participation Plan (PPP). The public review to adopt the PPP began July 11, 2007 and ended after forty-five (45) days on August 25, 2007.

3.0 CONCLUSION

This documentation demonstrates that the 2008-2011 is in conformance with the Kentucky and Tennessee SIPs. The findings which support this conclusion are as follows:

- The Clarksville MPO finds no factors in the 2008-2011 TIP or LRTP that would cause or contribute to a new violation or exacerbate an existing violation in the years before the first analysis year for any portion of the maintenance area.
- The Clarksville MPO finds that no goals, directives, recommendations or projects identified in the 2008-2011 TIP or LRTP contradicts in a negative manner any specific requirements or commitments of the applicable state implementation plans.
- The applicable implementation plans do not contain any TCMS; therefore, nothing in the 2008-2011 TIP or LRTP can interfere with their timely implementation.

- The ozone precursors, VOC and NO_x emissions in the Tennessee portion of the Clarksville-Hopkinsville area do not exceed the 2002 baseline emissions for 2010, and the budget test for 2016, 2020 and 2030; and therefore is in conformance with the Tennessee SIP.
- The ozone precursors, VOC and NO_x emissions in the Kentucky portion of the Clarksville-Hopkinsville area do not exceed the budget test for 2010, 2016, 2020 and 2030 and therefore is in conformance with the Kentucky SIP.
- There was adequate opportunity for interagency consultation and public comment for the 2008-2011 TIP and associated conformity determination.
- The 2008-2011 TIP is fiscally constrained.

KENTUCKY-OZONE (8-HOUR STANDARD)

Designated area	Designation ^a		Category/Classification	
	Date ¹	Type	Date ¹	Type
Clarksville-Hopkinsville, TN-KY Area: Christian County	10/24/05	Attainment.		

^a Includes Indian Country located in each county or area, except as otherwise specified.
¹ This date is June 15, 2004, unless otherwise noted.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[R04-OAR-2005-TN-0007-200527(a) FRL-7973-5]

Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Tennessee; Redesignation of the Montgomery County, Tennessee Portion of the Clarksville-Hopkinsville 8-Hour Ozone Nonattainment Area to Attainment

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: On August 10, 2005, the State of Tennessee, through the Tennessee Department of Environment and Conservation (TDEC), Air Pollution Control Division, submitted a final request: To redesignate the Montgomery County, Tennessee portion of the Clarksville-Hopkinsville 8-hour ozone nonattainment area to attainment for the 8-hour ozone National Ambient Air Quality Standard (NAAQS), and to approve a Tennessee State Implementation Plan (SIP) revision containing a 12-year maintenance plan for Montgomery County, Tennessee. The interstate Clarksville-Hopkinsville 8-hour ozone nonattainment area is comprised of two counties (i.e., Christian County, Kentucky and Montgomery County, Tennessee). EPA is approving the 8-hour ozone redesignation request for the Montgomery County, Tennessee portion of the Clarksville-Hopkinsville 8-hour ozone nonattainment area. Additionally, EPA is approving the 8-hour ozone maintenance plan for Montgomery County, Tennessee. This approval is based on EPA's determination that the

State of Tennessee has demonstrated that Montgomery County, Tennessee has met the criteria for redesignation to attainment specified in the Clean Air Act (CAA), including the determination that the entire Clarksville-Hopkinsville 8-hour ozone nonattainment area has attained the 8-hour ozone standard. On March 21, 2005, the Commonwealth of Kentucky submitted a redesignation request and maintenance plan for the Christian County, Kentucky portion of this area for EPA parallel processing. In this action, EPA is also providing information on the status of its transportation conformity adequacy determination for the new motor vehicle emissions budgets (MVEBs) for the year 2016 that are contained in the 12-year 8-hour ozone maintenance plan for Montgomery County, Tennessee. EPA is approving such MVEBs.

DATES: This rule is effective on November 21, 2005, without further notice, unless EPA receives adverse written comments by October 24, 2005. If EPA receives such comments, it will publish a timely withdrawal of the direct final rule in the *Federal Register* and inform the public that the rule will not take effect.

ADDRESSES: Submit your comments, identified by Regional Material in EDocket (RME) ID No. R04-OAR-2005-TN-0007, by one of the following methods:

1. Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.

2. Agency Web site: <http://docket.epa.gov/rmepub/RME>. EPA's electronic public docket and comment system is EPA's preferred method for receiving comments. Once in the system, select "quick search," then key in the appropriate RME Docket identification number. Follow the on-line instructions for submitting comments.

3. E-mail: hoffman.annemarie@epa.gov or wood.amanetta@epa.gov.

4. Fax: (404) 562-9019.
5. Mail: "R04-OAR-2005-TN-0007," Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, Georgia 30303-8960.

6. Hand Delivery or Courier. Deliver your comments to: Anne Marie Hoffman or Amanetta Wood, Regulatory Development Section, Air Planning Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW., Atlanta, Georgia 30303-8960. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 to 4:30, excluding Federal holidays.

Instructions: Direct your comments to RME ID No. R04-OAR-2005-TN-0007. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://docket.epa.gov/rmepub/>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through RME, regulations.gov, or e-mail. The EPA RME Web site and the regulations.gov Web site are "anonymous access" systems, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through RME or regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in