

# *Revised Carbon Monoxide Maintenance Plan for the Longmont Attainment/ Maintenance Area*

Revisions to the Maintenance Plan adopted by:

*The Colorado Air Quality Control Commission, December 18, 2003*

*The Longmont City Council, September 9, 2003*

Redesignation Request and Maintenance Plan originally adopted by:

*The Colorado Air Quality Control Commission, December 18, 1997*

Original Redesignation Request and Maintenance Plan approved by:

*The U.S. Environmental Protection Agency, September 24, 1999*



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## **1. Background**

The Environmental Protection Agency (EPA) approved a carbon monoxide (CO) redesignation request and maintenance plan for the Longmont area on September 24, 1999 (64 FR 51694), which became effective on November 23, 1999. The Longmont redesignation request and maintenance plan, which was adopted by the Colorado Air Quality Control Commission (AQCC) on December 18, 1996, established an attainment year of 1993, provided for the continuation of the enhanced inspection and maintenance program and the oxygenated gasoline program in the Longmont area, established a carbon monoxide emission budget of 27 tons per day for mobile sources (to be utilized in transportation conformity determinations), and established a contingency plan in the event a violation of the carbon monoxide National Ambient Air Quality Standards (NAAQS) was measured. The 27 tons per day emission budget was not approved by EPA due to a calculation error, and EPA established a default budget of 16.76 tons per day when the maintenance plan was approved in the Federal Register.

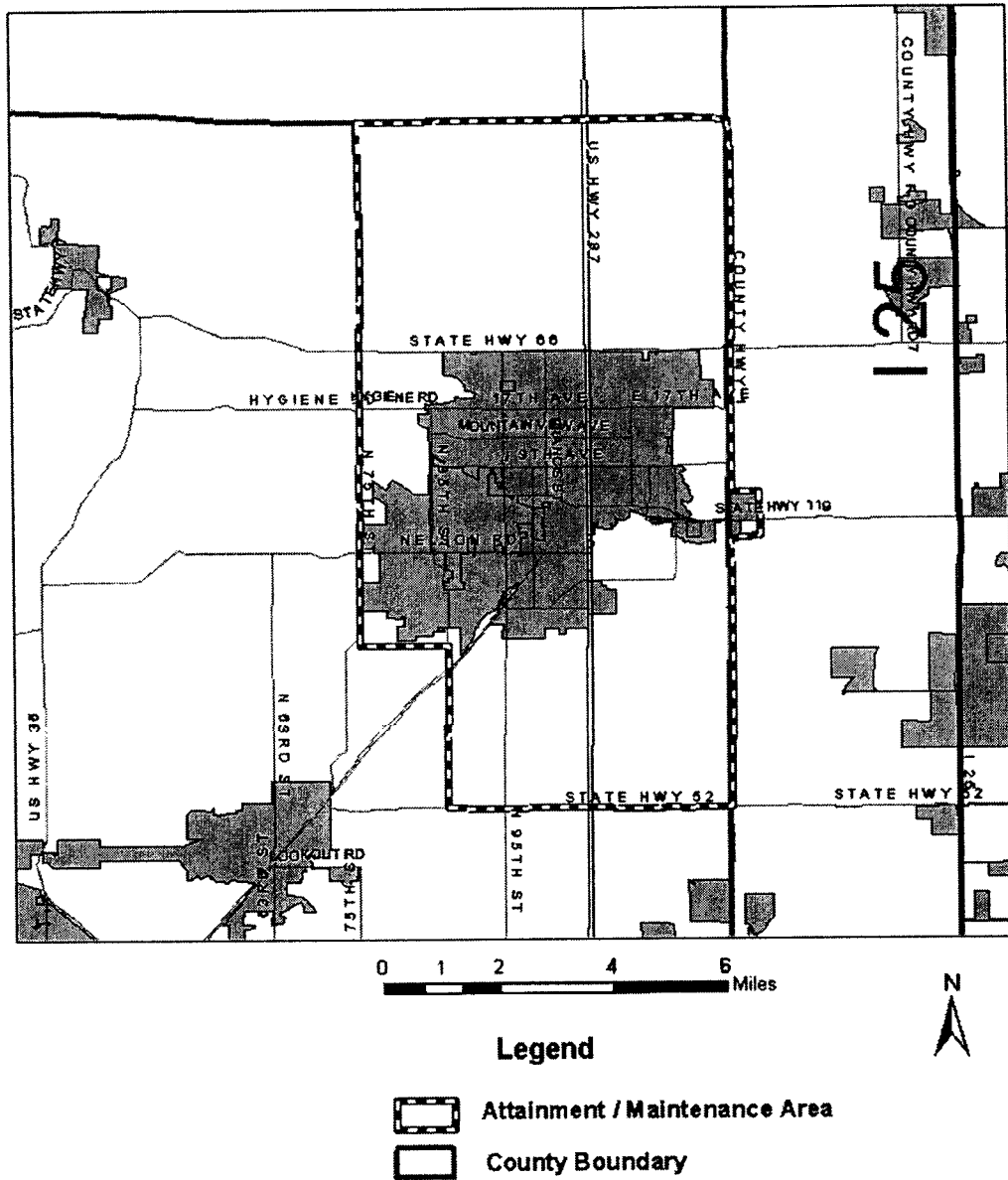
This revision to the maintenance plan updates the emissions inventories using the latest EPA-approved tools (including the MOBILE6.2 on-road mobile sources emissions model) and revises the CO emission budget from 16.76 to 41 tons per day for the years 2010 through 2014 and for 2015 and beyond. The control measures are not being revised with this amended maintenance plan.

## **2. Emission Inventories and Maintenance Demonstration**

The area shown in Figure 1 below represents the boundaries of the Longmont attainment maintenance area and the modeling domain used to determine the emission inventories. The emission inventories for the 1993 attainment year, the 2005, 2006 and 2010 interim years, and the 2015 maintenance year are presented in Table 1. Each inventory accounts for the emission control programs effective during that period. As shown, emissions for all future years are less than emissions for the 1993 attainment year. Therefore, maintenance of the CO NAAQS is demonstrated.

The inventories provide emissions estimates for a weekday during the winter CO season (November through February). The modeling domain consists of the Longmont attainment/maintenance area, which encompasses the City of Longmont and surrounding communities. The inventories were developed using EPA-approved emissions modeling methods, including the MOBILE6.2 emissions model and the latest transportation and demographic data from the Denver Regional Council of Governments (DRCOG). The technical support document for this maintenance plan contains detailed information on model assumptions and parameters for each source category corresponding to each inventory year. The technical support document for this maintenance plan describes in detail the assumptions and methodologies used for all modeling work.

**Figure 1. Longmont Carbon Monoxide Attainment/Maintenance Area**



Map created by the APCD Technical Services Program,  
Colorado Department of Public Health and Environment

**Table 1.**

**1993-2015 Longmont Attainment/Maintenance Area  
Carbon Monoxide Emission Inventories (tons/day)**

<b>Source Category</b>	<b>1993</b>	<b>2005</b>	<b>2006</b>	<b>2010</b>	<b>2015</b>
Aircraft	0.50	0.53	0.54	0.55	0.56
Residential Heating	0.11	0.14	0.14	0.15	0.16
Commercial Heating	0.04	0.04	0.05	0.05	0.05
Commercial Non-road	2.50	3.64	3.73	4.11	4.58
Construction Non-road	0.63	0.58	0.58	0.56	0.54
Industrial Non-road	1.53	1.50	1.50	1.49	1.48
Commercial Lawn & Garden	1.17	1.36	1.38	1.45	1.53
Residential Lawn & Garden	0.21	0.24	0.24	0.25	0.26
Agricultural Non-road	0.00	0.00	0.00	0.00	0.00
Wood Burning	2.54	1.74	1.67	1.40	1.07
Railroad Non-road	0.01	0.01	0.01	0.01	0.01
Railroad Locomotives	0.03	0.05	0.05	0.05	0.06
Point Sources	0.18	0.12	0.12	0.09	0.07
<b>Subtotal</b>	<b>9.45</b>	<b>9.95</b>	<b>10.01</b>	<b>10.16</b>	<b>10.37</b>
On-Road Mobile	43.26	33.97	35.32	28.01	25.99
<b>TOTAL</b>	<b>52.71</b>	<b>43.92</b>	<b>45.33</b>	<b>38.17</b>	<b>36.36</b>

Note: Results are reported with two decimal place precision to provide representation of smaller source categories. This level of precision is not intended to suggest a level of accuracy.

**3. Enforceable Control Measures for the Maintenance Period**

- AQCC Regulation No. 11, Inspection/Maintenance
- AQCC Regulation No. 13, Oxygenated Gasoline
- Federal Motor Vehicle Emissions Control tailpipe standards and regulations, including those for small engines and non-road mobile sources. Credit is taken for these federal requirements, but they are part of a federally administered program and not a state commitment of the Colorado SIP.
- AQCC Regulation No. 3, Air Contaminant Emission Notice
- AQCC Regulation No. 4, Wood Stove Standards

- AQCC Regulation Number 6, Standards of Performance for New Stationary Sources
- AQCC Common Provisions Rule

The Common Provisions and Regulation No. 6 delineate industrial source control programs. The Common Provisions, and Parts A and B of Regulation No. 3, are already included in the approved Colorado SIP. Regulation No. 6 and Part C of Regulation No. 3 implement the federal standards of performance for new stationary sources and the federal operating permit program. The revised Longmont maintenance plan makes no changes to these regulations.

#### 4. **Transportation Conformity and Mobile Source Carbon Monoxide Emission Budgets**

The transportation conformity provisions of Section 176(c)(2)(A) of the CAA require regional transportation plans and programs to show that emissions expected from implementation of plans and programs are consistent with estimates of emissions from motor vehicles and necessary emissions reductions contained in the applicable state implementation plan. The establishment of mobile source emission budgets in this maintenance plan assures that transportation plans and their resulting emissions will conform with the emission projections and the demonstration of long-term maintenance of the CO NAAQS documented in this maintenance plan.

The Longmont attainment/maintenance area mobile source emission budgets are **41 tons/day for 2010 through 2014 and 41 tons/day for 2015 and beyond**. These budgets were derived by taking the difference between the base year (1993) total emissions and the 2010 and 2015 total emissions, then subtracting one ton. This difference is the “safety margin”, and the safety margin is added to the 2010 and 2015 mobile sources emissions to determine the budget.

2010-2014:     $52.71 - 38.17 = 14.54$  tons  
                    $14.54 - 1 = 13.54$  tons (safety margin)  
                    $13.54 + 28.01 = 41.55$  or **41 tons/day emission budget**

2015 and         $52.71 - 36.36 = 16.35$  tons  
 beyond:         $16.35 - 1 = 15.35$  tons (safety margin)  
                    $15.35 + 25.99 = 41.34$  or **41 tons/day emission budget**

Typically, emission budgets are the level of mobile source emissions in future years. For Longmont, the budget could have been 25.99 tons per year for 2015 and beyond. The City of Longmont and DRCOG have elected to add the margin of safety to the budget in order to maximize the flexibility for determining conformity in future years.

## **5. Monitoring Network / Verification of Continued Attainment**

The APCD will continue to operate an appropriate air quality monitoring network in accordance with 40 CFR Part 58 to verify the continued attainment of the CO NAAQS. If measured mobile source parameters (e.g., vehicle miles traveled, congestion, fleet mix, etc.) change significantly over time, the APCD will perform the appropriate studies to determine whether additional and/or re-sited monitors are necessary. Annual review of the NAMS/SLAMS air quality surveillance system will be conducted in accordance with 40 CFR 58.20(d) to determine whether additional and/or re-sited monitors are necessary. Annual review of the NAMS/SLAMS air quality surveillance system will be conducted in accordance with 40 CFR 58.20(d) to determine whether the system continues to meet the monitoring objectives presented in Appendix D of 40 CFR Part 58.

## **6. Contingency Plan**

Section 175A(d) of the CAA requires that the maintenance plan contain contingency provisions to assure that the State will promptly correct any violation of the CO NAAQS which occurs in the Longmont attainment/maintenance area. The contingency plan must ensure that the contingency measures are adopted expeditiously once the need is triggered. The primary elements of the contingency plan involve the tracking and triggering mechanisms to determine when contingency measures are needed and a process for implementing appropriate control measures.

### **A. Tracking**

The tracking plan for the Longmont area consists of continuous carbon monoxide monitoring and analysis of CO concentrations by the APCD. The APCD will notify the EPA, the AQCC, DRCOG and the City of Longmont of any exceedance of the CO standard within 30 days of occurrence. The ongoing regional transportation planning process carried out by DRCOG in coordination with the Colorado Department of Transportation (CDOT), the APCD, the AQCC, and the EPA, will serve as another means of tracking mobile source CO emissions into the future. Since revisions to the regions' transportation improvement programs are prepared every two years, which must go through a transportation conformity determination, a process is in place to periodically review the vehicle miles traveled (VMT) and mobile source emissions of CO presented in this maintenance plan.

## **B. Triggering and Response**

Triggering of the contingency plan does not automatically require a revision of the SIP, nor is the area necessarily redesignated once again to nonattainment. Instead, the State will normally have an appropriate time-frame to correct a violation by implementing one or more adopted contingency measures. In the event that violations continue to occur after contingency measures have been implemented, additional contingency measures will be implemented until the violations are corrected.

An exceedance of the CO NAAQS (any value over 9.5 ppm) may trigger a voluntary, local process by DRCOG, the City of Longmont and APCD to identify and evaluate potential contingency measures. However, the only federally enforceable trigger for mandatory implementation of contingency measures shall be a violation of the CO NAAQS. Specifically, this would be a second value of 9.5 ppm or higher at the same monitor during any calendar year.

The State will move forward with mandatory implementation of contingency measures under the SIP if a violation of the CO NAAQS occurs. No more than 60 days after being notified by the APCD that a violation occurred, the City of Longmont and DRCOG, in conjunction with the APCD and the AQCC, will initiate a subcommittee process to begin evaluating potential contingency measures. The subcommittee will present recommendations within 120 days of notification, and the recommended contingency measures will be presented to the AQCC within 180 days of notification.

The AQCC will then hold a public hearing to consider the recommended contingency measures, along with any other contingency measures the AQCC believes may be appropriate to effectively address the violation. The necessary contingency measures will be adopted and implemented within one year after a violation occurs.

## **C. List of Potential Contingency Measures**

The City of Longmont, DRCOG and the APCD may choose one or more of the following measures to recommend to the AQCC for consideration. The measures are designed to bring the area quickly back into compliance with the CO NAAQS.

- An enhanced vehicle inspection and maintenance program as described in AQCC Regulation No. 11 prior to the modifications adopted by the AQCC on January 10, 2000.
- A 3.1% oxygenated gasoline program from November 8 through February 7, with 2.0% oxygen content required from November 1 through November 7.
- Nonattainment New Source Review permitting requirements.

In addition to these potential contingency measures, the State may evaluate other potential strategies in order to address any future violations in the most appropriate and effective manner possible.

#### **7. Subsequent Maintenance Plan Revisions**

It is required that a maintenance plan revision be submitted to EPA eight years after the original redesignation request/maintenance plan is approved. The purpose of this revision is to provide for maintenance of the NAAQS for an additional ten years following the first ten-year period. The State of Colorado commits to submit a revised maintenance plan eight years after redesignation to attainment (year 2007), as required by the CAA and EPA.