

## INTRA-OFFICE CORRESPONDENCE

**Date:** May 10, 2005  
**To:** Richard Dineen, AIA-Planning Director  
**From:** Catalina Lehner, AICP, Development Review Staff Planner  
**Through:** Bob Paulsen, AICP-Development Review Division Manager  
**Subject:** Air Quality Impact Analyses (AQIAs) and Ordinance O-13

I have prepared this memo to provide you an overview of issues regarding Air Quality Impact Analyses (AQIAs) and Ordinance O-13 prior to your meeting with EHD. The purpose is to inform you regarding the compelling technical and practical reasons why City Ordinance O-13 (Enactment 12-1990), which contains City requirements for air quality studies, should be repealed as soon as is practicable. O-13, a part of the City Zoning Code since 1990, provides for consideration of air quality criteria in land use decisions by requiring that an air quality impact assessment (AQIA) study be performed for a development project if that project meets a specific threshold (see §14-16-3-14). An AQIA, which addresses carbon monoxide (CO) pollution only, is tied to land use because it is based upon the number of vehicle trips generated by a given proposed development.

The repeal of O-13 is a logical and necessary step toward acknowledging the dramatic improvement of CO levels in Albuquerque-Bernalillo County and educating staff, decision makers and the public about that success. Factual evidence can serve to clarify confusion surrounding the supposed need for AQIAs and corresponding lack of understanding about air pollution control strategies, as well as demonstrate why O-13 clearly no longer serves the purpose for which it was originally enacted. Having this outdated ordinance, which has a history of being inconsistently applied, remain part of the Zoning Code will only serve to further confuse the development community, staff, neighborhoods and the general public.

Please refer to the table below, as well as the explanations by number (and attached appendices) in the subsequent text.

Why should O-13 be repealed?
1. Monitored local CO levels measure less than half the Federal air quality standard for CO.
2. Local historical trend shows declining CO levels over the last 10 years.
3. The last local violation of the 8-hour CO standard occurred in December 1991.
4. EPA's new MOBILE6 model consistently yields much lower CO projections than the former MOBILE5a model.
5. Albuquerque-Bernalillo County has a Federally-approved Limited Maintenance Plan (LMP) for CO.
6. Per EPA, when a pollutant level is 85% or less of a standard, population growth will not cause an exceedance of the standard.
7. Every City in the US <sup>1</sup> has attained the Federal CO standard—even Los Angeles, CA.
8. No other jurisdiction in the US ties air pollution control to the land development process this way.
9. Control of other pollutants (i.e.-ozone) is not integrally tied to land use the same way CO is.
10. Development requirement has become unnecessary and does not benefit the public.

<sup>1</sup> See written discussion of the special case of Calexico, CA.

## 1. Monitored local CO levels measure less than half the Federal air quality standard for CO

The National Ambient Air Quality Standards (NAAQS) ("the standards") specify a value of 9 parts per million (ppm) for CO measured using an 8-hour average (8-hour CO) and 35 ppm for CO measured using a 1-hour average (1-hour CO). Design values, related to an area's classification for a given pollutant, are used to report CO levels.

Per EPA guidance<sup>1</sup>, 8-hour design values for CO are calculated by looking at the 8-hour values at a monitoring site for the most recent 2 years of data and then choosing the highest of the second highs- which becomes the site's design value. Then take the highest of the site design values, and that becomes the area's design value.

The Limited Maintenance Plan for Carbon Monoxide (July 2004), which EPA recently approved (refer to #6), contains local CO design values based on 2002 and 2003 data.

\*The 8-hour design value of 3.9 ppm is 43.3% of the 8-hour standard of 9 ppm.

\*The 1-hour design value of 9.6 ppm is 27.4% of the 1-hour standard of 35 ppm.

Now that a complete data set is available for 2004, design values can be recalculated based on 2003 and 2004 data.

Design Values by Site and Standard, Design Value for Area

Site ID	Site Location	High Year (03 or 04) 8-hour & 1-hour	8-hour Standard (highest of 2 <sup>nd</sup> highs)	1-hour Standard (highest of 2 <sup>nd</sup> highs)
2ZE	2421 Mesilla Ave. NE	2003	3.5	4.5
2ZM	4700A San Mateo NE	2003	2.1	3.6
2ZU	2200 San Pedro NE	2003=2004, 2003	3.5	4.9
2ZN	6000 Anderson Ave. SE	2003	2.5	4.3
2ZV	201 Prosperity Ave. SE	2003	2.4	3.6
2ZL	10155 Coors Rd. NW	2004, 2003	2.1	9.6
	Design Value for Area:	(highest of design values):	3.5	9.6

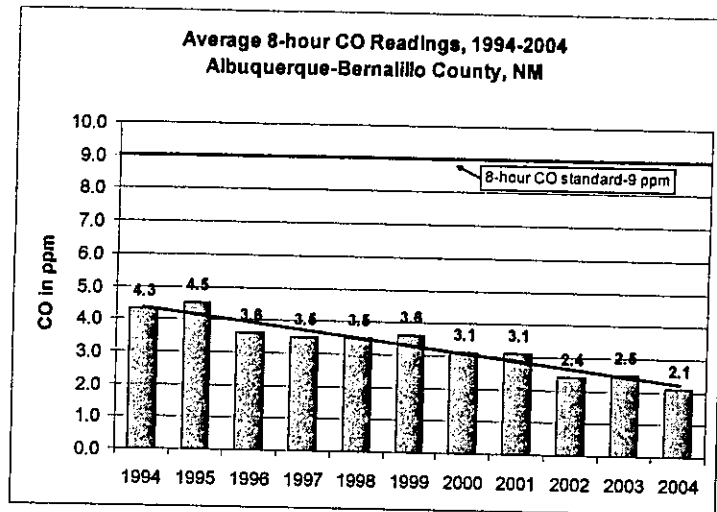
\*The updated 8-hour design value of 3.5 ppm (was 3.9%) is now 38.9% (was 43.3%) of the 8-hour standard of 9 ppm.

\*The updated (though same) 1-hour design value of 9.6 ppm continues to be 27.4% of the 1-hour standard of 35 ppm.

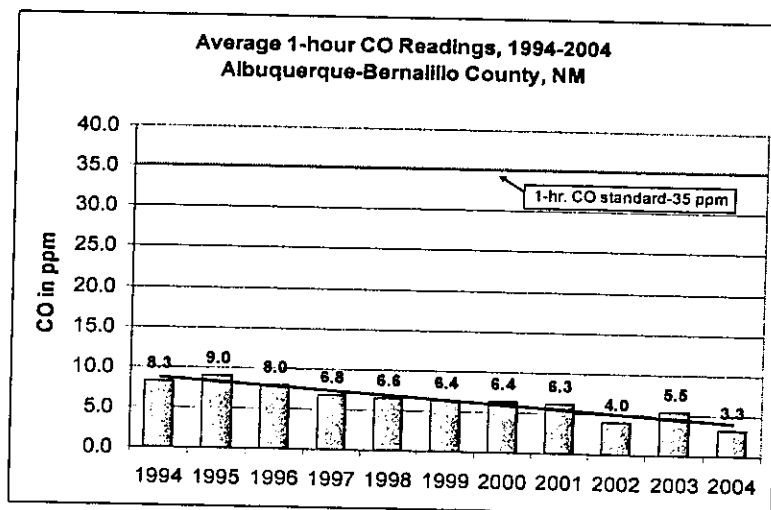
<sup>1</sup> US EPA, Office of Air Quality Planning & Standards (OAQPS), memo "Ozone and Carbon Monoxide Design Value Calculations" from William J. Laxton, June 1990.

**2. Local historical trend shows declining CO levels over the last 10 years.**

For both the 8-hour standard and the 1-hour standard, a trend in carbon monoxide (CO) levels becomes apparent upon examining monitored CO data over a ten-year time span (1994-2004). The graphs below show average monitored CO values by year, in parts per million (ppm), for the 8-hour CO standard of 9 ppm and the 1-hour CO standard of 35 ppm, respectively. Data from the four monitors that operated continuously between 1994 and 2004 are used. The figures are derived by taking the second highest readings from each of these monitors and averaging them by year for each standard.



Monitored 8-hour and 1-hour CO levels have both declined significantly in the last ten years. The highest average 8-hour CO reading occurred in 1995 and the lowest average 8-hour CO reading occurred in 2004. The same is true for the 1-hour standard. In both cases, the overall trend is clearly downward despite a few insignificant increases. As CO levels continue to fall, the gap between monitored 8-hour and 1-hour CO levels and their respective standards continues to widen.



Historical data (1994-2004) demonstrate that monitored CO levels are far from approaching either of the CO standards of 9 ppm (8-hour) and 35 ppm (1-hour). Despite some insignificant rises within each data set, the CO trend for both the 8-hour and the 1-hour standard is clearly downward.

### **3. The last local violation of the 8-hour CO standard occurred in December 1991.**

(excerpted and condensed from the Limited Maintenance Plan for CO)

The National Ambient Air Quality Standards (NAAQS) for CO<sup>2</sup> are 9 parts per million (ppm) for an 8-hour average concentration and 35 ppm for a 1-hour average concentration. Both are not to be exceeded more than once a year. CO levels in Bernalillo County exceeded both the NAAQS for CO during the late seventies and early eighties. Bernalillo County was subsequently classified as a "low-moderate" nonattainment area (FR Vol. 56, January 6, 1992)<sup>3</sup>.

During the eighties, monitored CO levels began to decline steadily. **The last violation of the 8-hour NAAQS for CO occurred in December 1991.** By the end of 1993, two complete years had transpired without a violation—a prerequisite to achieving attainment status. The 1993 Emissions Inventory (EI) and a CO Maintenance Plan were submitted to the Environmental Protection Agency (EPA) in May 1995 to request redesignation to attainment status.

The Carbon Monoxide Redesignation Request and Maintenance Plan for Albuquerque/ Bernalillo County, New Mexico explains how Bernalillo County intended to meet the goal of achieving and maintaining compliance with the National Ambient Air Quality Standards (NAAQS) for CO. Also referred to as the "first half of the Maintenance Plan", this document consists of the existing control program elements, a contingency plan, and a maintenance demonstration. After a public hearing held on April 13, 1995, the Albuquerque/Bernalillo County Air Quality Control Board (AQCB) approved the plan.

Bernalillo County is currently classified as an attainment area for both the 1-hour and the 8-hour NAAQS for CO. A proposed rule to redesignate Albuquerque/Bernalillo County to attainment was published in the Federal Register (FR) on February 16, 1996 (FR Vol. 61, No. 33). Through publication of a final rule in the Federal Register on June 13, 1996 (FR Vol. 61, No. 115), Bernalillo County was redesignated from a low-moderate nonattainment area to attainment status under a maintenance plan.

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#### **4. EPA's new MOBILE6 model consistently yields much lower CO projections than the former MOBILE5a model.**

A. MOBILE6: On January 29, 2002, EPA announced the official release of the MOBILE6 model (Federal Register Vol. 67, No. 19). MOBILE6, used to calculate emission factors for mobile sources of pollution, is an updated version of the MOBILE5a model and is based on improved understanding of vehicle emission processes. EPA required areas with motor vehicle emission budgets (MVEBs) to update their MVEBs. MVEBs are used in the development of the Metropolitan Transportation Plan (MTP) produced by MRCOG and in analyses for the conformity of the transportation plan to the CO budgets ("transportation conformity").

I recalculated Albuquerque-Bernalillo County's MVEBs using the new MOBILE6 model and wrote the Update of the Carbon Monoxide Budgets Using MOBILE6 (February 12, 2003). This document, which contains the methodology and results, was approved via Federal Register notice on October 9, 2003 (FR Vol. 68, No. 196). MVEBs were recalculated for 1996, 1999, 2002, 2005 and 2006. For all years, MOBILE6 produces more CO than MOBILE 5a. Therefore, the updated MVEBs are *higher* than the previous MVEBs, which means that theoretically more CO from motor vehicles would be allowed in the airshed without exceeding the National Ambient Air Quality Standards (NAAQS). The CO baseline (the total amount of CO that can exist in the airshed without causing an exceedance of the standards) rose correspondingly with the use of MOBILE6. More "room" is available in the updated MVEBs to accommodate more CO produced by motor vehicles.

Note: On June 13, 2006 the MVEBs will no longer exist and there will be no "ceiling" on CO pollution. (see #6 of this memo)

B. Air Quality Impact Assessments (AQIAs): MOBILE6 is used in the preparation of air quality impact analyses (AQIAs). In several recent AQIAs, MOBILE6 has yielded much lower CO projections than studies using the older MOBILE5a model. This includes studies for some of the busiest intersections in the City, such as Uptown and Coors Boulevard. Not a single recent study using MOBILE6 has predicted exceedances of the Federal CO standards.

## **5. Albuquerque-Bernalillo County has a Federally-approved Limited Maintenance Plan (LMP) for CO.**

The Limited Maintenance Plan (LMP) for Carbon Monoxide (CO)-Albuquerque-Bernalillo County, New Mexico was approved via publication of a final rule in the Federal Register on April 14, 2005 (FR Vol. 70, No. 71). The Albuquerque-Bernalillo County Air Quality Control Board (AQCB) adopted the LMP at a public hearing on June 9, 2004.

A. Background: Bernalillo County is classified as an attainment area for both the 1-hour and the 8-hour NAAQS for CO. Through publication of a final rule in the Federal Register on June 13, 1996 (FR Vol. 61, No. 115), Bernalillo County was redesignated from nonattainment to attainment status under a maintenance plan. Eight years after EPA approval of a maintenance plan, an area must revise it to address the second ten-year planning period. For Albuquerque/Bernalillo County, the updated maintenance demonstration must show that the NAAQS for CO will be maintained through the year 2016—which is the end of the twenty-year period that the plan must cover per section 175A (b) of the Clean Air Act (CAA).

B. The Limited Maintenance Plan (LMP): To qualify for the LMP option, an area must have a design value that is equal or less than 85% of the National Ambient Air Quality Standards (NAAQS) for the pollutant in question. Albuquerque/Bernalillo County has opted to submit a LMP rather than a full maintenance plan because, for several years now, design values for both the 8-hour and the 1-hour carbon monoxide (CO) standards have been much less than 85% of the NAAQS (see #1 of this memo). In its LMP, Albuquerque/Bernalillo County has demonstrated that design values for the area are nowhere near 85% of the NAAQS for CO.

The LMP maintenance demonstration is not the same as the maintenance demonstration for the first planning period (1996-2006). Unlike the first half of the maintenance plan, the Albuquerque/Bernalillo County LMP does not contain emission budgets. Projections through 2016 are not necessary, as they would have been under a full maintenance plan. The LMP does not contain emission budgets, so it is not possible to compare emissions from specific plans or projects to an upper emissions limit. For the maintenance period of the LMP (2006-2016), emissions are not capped. EPA has determined that it is unreasonable to expect that so much growth will occur in an area during the maintenance period as to cause a violation of the NAAQS. For the 2006-2016 maintenance period covered in the Albuquerque/Bernalillo County LMP, there are no emission budgets and no conformity requirements.

Albuquerque/Bernalillo County has demonstrated maintenance of the NAAQS for CO by showing that the design values for the area are less than 85% of both the 8-hour and the 1-hour CO standards. In addition, monitored CO levels declined significantly in Albuquerque/Bernalillo County during the past ten years (1994-2004). Albuquerque/Bernalillo County has maintained compliance with the CO standards since its redesignation to attainment status in 1996 (FR Vol. 61, No. 115). Overall, less CO is being emitted and air quality has improved with respect to CO concentrations. *It is extremely unlikely that growth in Albuquerque/Bernalillo County will be so great as to cause a violation of the NAAQS for CO. Therefore, CO levels in Albuquerque/Bernalillo County are expected to remain well below 85% of the NAAQS for CO during the second planning period (2006-2016) of the twenty-year maintenance plan.*

The carbon monoxide problem is clearly a thing of the past—today O-13 is no longer needed.

**6. Per EPA, when a pollutant level is 85% or less of a standard, population growth will not cause an exceedance of that standard.**

(see also #5 of this memo)

A. Context: The EPA Office of Air Quality Planning & Standards (OAQPS) issued a guidance memo entitled "Limited Maintenance Plan Option for Nonclassifiable Ozone Nonattainment Areas" (November 16, 1994). The memo sets forth guidance on maintenance plan requirements and presents the then-new option of pursuing a limited maintenance plan instead of a full maintenance plan for redesignation purposes. To qualify for a limited maintenance plan option, an area's design values for a given pollutant (typically ozone, but can be CO) must be at or below 85% of the National Ambient Air Quality Standard (NAAQS) for that pollutant.

Knowing that the second half (2006-2016) of Albuquerque-Bernalillo County's maintenance plan would need to be prepared, the Air Quality Division Planning Section consulted air quality planning staff at EPA Region 6 (in Dallas). EPA presented the LMP option and provided the abovementioned memo. With the concurrence of the AQ Division Manager and EHD Director, Albuquerque-Bernalillo County pursued the limited maintenance option for the second half of its CO maintenance plan. The Limited Maintenance Plan (LMP) for Carbon Monoxide (CO)-Albuquerque-Bernalillo County, New Mexico was approved via publication of a final rule in the Federal Register on April 14, 2005 (FR Vol. 70, No. 71).

B. EPA's position: When an area has qualified for the LMP option due to having monitored pollutant levels at or below 85% of the standard in question, EPA believes that it is unreasonable to expect that such tremendous growth will occur in an area during the maintenance period as to cause a violation of that standard.

*Therefore, it is extremely unlikely that growth in Albuquerque/Bernalillo County will be so great as to cause a violation of the NAAQS for CO. CO levels in Albuquerque/Bernalillo County are expected to remain well below 85% of the NAAQS for CO during the second planning period (2006-2016) of the twenty-year maintenance plan. Therefore, a violation of the CO standard is not foreseeable through 2016. The replacement of older vehicles, improved vehicle technology and the implementation of low sulfur fuels make this possibility even more remote, as does the fact that the 2025 Metropolitan Transportation Plan (MTP) projections to 2025 show no concerns relative to CO.*

## **7. Every City in the US has attained the Federal CO standard—even Los Angeles, CA.**

(from research project Air Quality Requirements for Land Use Projects-Other Jurisdictions)

A. The Case of California: Urbanized Los Angeles County and the City of Calexico are the only areas in the United States that are not currently designated as attainment for the federal CO standard. Urbanized Los Angeles County, however, is now coming into attainment and, by the end of 2004, intends to submit a request for redesignation to attainment status. Even Calexico (on the Mexican border) experienced no violations of the federal standard during the 2003-2004 winter season. Only urbanized Los Angeles County and Calexico continue to violate the State of California's more stringent 8-hour CO standard—although CO levels are declining and starting to approach the state standard (9 ppm for the 8-hour and 20 ppm for the 1-hour). Therefore, all areas of California now attain the federal CO standard—including the Los Angeles County urbanized area and the City of Calexico.

The exceedances in Calexico have all occurred at the same monitor, which is about a half mile from the border crossing where CO levels are elevated. In contrast, CO levels at the monitor in the City of El Centro, some 15 miles to the north, are quite low. Because it is an international area with unique circumstances, the EPA has designated Calexico as “unclassifiable” (not nonattainment) for CO and believes that the high CO levels are a transport issue. Additional studies need to be conducted to determine the extent to which the high CO levels are attributable to transport from Mexico. Calexico will remain unclassified.

B. National Evidence: A study in the Journal of the Air and Waste Management Association entitled “A re-evaluation of Carbon Monoxide: Past Trends, Future Concentrations, and Implications for Conformity ‘Hot Spot’ Policies” (September 2002) concluded that future violations of the CO standard will be unlikely in California. Therefore: since California had the last CO violations in the *entire US* and future violations are unlikely, and Albuquerque-Bernalillo County has not exceeded the Federal CO standard since 1991, the possibility of a local violation of the Federal CO standards becomes even more remote.

It is logical to conclude that the CO problem is a thing of the past.

Additional information from the Federal Register and EPA websites further supports the lack of a CO problem:

\*Anchorage, AK: recently redesignated to attainment for CO (FR Vol. 69, No. 120, June 23, 2004).

\*Fairbanks, AK: recently redesignated to attainment for CO (FR Vol. 69, No. 143, July 27, 2004).

\*Las Vegas, NV: In January 2003, EPA proposed to approve SIP revisions to provide for attainment of the CO standard in the Clark County Nonattainment Area.

\*Los Angeles South Coast Air Basin, CA: Los Angeles is just coming into attainment for CO and will submit a redesignation probably by the end of the year. Note: The Carbon Monoxide Maintenance SIP for the other ten areas in California that have had CO problems passed at a California Air Resources Board (CARB) hearing held July 22 and 23, 2004.

\*Phoenix, AZ: On September 9, 2003, EPA finalized its finding of attainment for the Phoenix area.

\*Central Puget Sound area (Spokane), WA: EPA proposed to approve the second 10-year maintenance plans for CO (and ozone) (FR Vol. 69, No. 105, June 1, 2004).

\*Provo, UT: redesignated to attainment of the CO standard on September 20, 2002 (FR Vol. 67, No. 183).

\*El Paso, TX: redesignated to attainment of the CO standard on July 2, 2003 (FR Vol. 68, No. 127).

\*Missoula, MT: eligible for redesignation to attainment of the standard based on two years of data showing no violations.

\*Reno, NV (Washoe County): the Lake Tahoe Basin, which includes Washoe County, was redesignated to attainment of the CO standard on July 2, 2003 (FR Vol. 68, No. 240).

\*Fort Collins, CO: redesignated to attainment of the CO standard on December 15, 2003 (FR Vol. 68, No. 140).



**8. No other jurisdiction in the US ties air pollution control to the land development process this way.**

(from research project Air Quality Requirements for Land Use Projects-Other Jurisdictions)

A. Introduction: As mentioned, nationally carbon monoxide (CO) has become much less of a problem now than it was in the past and is considered a great air pollution control success story. Reasons #1 through #6 of this report support this conclusion on a local level. Reason #7 presented evidence on jurisdictions that have come into compliance with the Federal CO standards on a national level. Therefore, the remaining question is whether or not other jurisdictions have a requirement that air quality studies be conducted for certain land use actions and whether or not such a requirement is effective in reducing air pollution.

B. Research: Since the CO problem is largely a thing of the past, research was conducted to see if any jurisdiction in the US requires that air quality studies of ozone be conducted for certain land use actions. *Keep in mind, however, that ozone is not tied to land use the same way that CO is. Ozone is a different pollutant, with different sources, and forms differently. Therefore, ozone control strategies will differ from CO control strategies.*

I investigated the air quality regulatory structure of 15 jurisdictions and checked the municipal codes of major cities within these jurisdictions. Sometimes municipal codes contain chapters of health and sanitation, which is where air pollution requirements typically reside. I searched the various municipal codes for the terms "air" and "study", both terms together and "traffic". I also reviewed land use development forms and submittal requirements for development projects.

Riverside County, CA	Maricopa County ESD/AQD Phoenix, AZ area	Texas Commission on Environmental Quality (TCEQ) El Paso, TX
Sacramento Metro Air District, CA	Clark County Dept. of Air Quality Management Las Vegas, NV area	Texas Commission on Environmental Quality (TCEQ) Houston-Galveston-Brazoria, TX
San Joaquin Valley Air Pollution Control District, CA	Washoe County District Health Dept., AQMD Reno, NV area	Texas Commission on Environmental Quality (TCEQ) San Antonio, TX EAC region
South Coast Air Quality Management District (SCAQMD), CA	Texas Commission on Environmental Quality (TCEQ) Beaumont-Port Arthur, TX	Denver Metro Area (Denver-Boulder-Greeley-Ft. Collins-Loveland), CO
Southeast Desert Modified Air Quality Management Area (SDMAQMA), CA	Texas Commission on Environmental Quality (TCEQ) Dallas, Ft. Worth, TX	State of New Mexico Environment Department (NMED) Sunland Park, NM

I did not find any local area in the jurisdictions mentioned above that has a requirement for an air quality study to be conducted for certain projects as part of the local land development process. Only Fort Collins, Colorado mentions air quality in its land use code. The Code states that all projects must conform to air quality regulations, but does not contain a requirement for air quality studies as part of the local land development process.

Based on detailed research of 15 western jurisdictions classified as nonattainment, near nonattainment or maintenance for the Federal ozone standard, no area/jurisdiction reviewed here, or any city reviewed within these areas/jurisdictions, has a requirement that an air quality study (with air quality modeling) be conducted as part of the local land development process to assess the potential air quality impacts of a proposed development project.

## 9. Control of other pollutants (i.e.-ozone) is not integrally tied to land use the way CO is.

A. Introduction: In order to understand how to control a given pollutant, it is critical to know how the pollutant is formed and its source. Local air pollution control agencies (typically state or county government, or metropolitan planning agencies (MPOs) work with their regional EPA offices to develop control strategies which are typically incorporated into local air quality regulations. In Albuquerque-Bernalillo County, for example, fugitive dust from construction sites and unpaved roads became a concern. Therefore, the Air Quality Division (AQD) worked with EPA Region 6 and local stakeholders to revise and strengthen 20.11.20 NMAC, Fugitive Dust Control, to control particulate matter—PM<sub>10</sub><sup>1</sup>.

B. Carbon Monoxide (CO): CO, a colorless, odorless gas formed when carbon in fuel is not burned completely, is a component of motor vehicle exhaust. Higher levels of CO generally occur in areas with heavy traffic congestion, typically during colder months when inversions are more common. EPA estimates that, in cities, 85 to 95% of all CO emissions may come from motor vehicle exhaust. (Source: <http://www.epa.gov/air/urbanair/co/index.html>). Therefore, many CO control strategies focus on cleaning up motor vehicle exhaust and reducing motor vehicle emissions. At the national level, the greatest reductions have been in emissions from cars (nearly 60 percent) since 1970. (Source: <http://www.epa.gov/air/urbanair/co/effrt1.html>).

C. Land Use Linkages: CO is linked to land use because most CO is from motor vehicles, and motor vehicles are associated with new developments. CO concentrations increase, for example, when many vehicles are idling at intersections, when intersections don't move vehicles efficiently and when more vehicle trips are added to the roadway system. Development proposals generate a certain amount of trips depending upon the land use category—i.e. retail, residential, etc. (see the Institute of Transportation Engineers (ITE) Trip Generation Manual).

O-13 requires that developers of proposed projects which generate many vehicle trips (specific thresholds are in the Zoning Code) to obtain an air quality impact analysis (AQIA) study for the project. The AQIA, which is based upon model runs of MOBILE and CAL3QHC, predicts CO concentrations near roadway intersections for build and no-build scenarios and compares those concentrations to the Federal standards to see if any exceedances have occurred as a result of the proposed development project. In theory and if warranted, the consultant would recommend mitigation measures (which rarely happened) and such measures would become conditions of project approval. Thus, in theory, the increased CO concentrations caused by the project would be mitigated.

Development patterns that locate jobs, housing and recreation in closer proximity can reduce vehicle miles traveled (VMT) and motor vehicle emissions. Such development patterns may improve air quality by promoting alternatives to vehicular travel, such as transit, walking or biking. Keep in mind, however, that O-13 merely requires studies and has never addressed land use patterns.

*Due to reasons #1 through #7 of this memo, there is no longer a need to control CO emissions through the land use development process. Even if there was, O-13 does not contain land use policies (such as encouraging mixed-use zones and higher density) that could begin to address motor vehicle emissions through land use. Nor is O-13 the best place for such policies—the Comprehensive Plan is a better place.*

D. Ozone (O<sub>3</sub>): Unlike CO, ozone is not usually emitted directly into the air. Ground level ozone is created by a complex chemical reaction between the two ozone precursors—oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of sunlight, and typically, heat. (Recall that CO is mostly a winter time pollutant). Also, ozone is a transport pollutant that often travels many miles from its source.

<sup>1</sup> PM 10 has a diameter of 10 micrometers or less.

O<sub>3</sub> control strategies focus on NO<sub>x</sub> and VOC. Industrial emissions, motor vehicle exhaust, gasoline vapors, chemical solvents and natural sources emit NO<sub>x</sub> and VOC, that help to form ozone. Ozone is not directly emitted through tailpipes. Though hydrocarbons (VOCs) are emitted, control of O<sub>3</sub> is not linked to land development the same way CO is. O<sub>3</sub> is a different "animal" altogether that requires specific control strategies. For example, the air quality plan of the South Coast Air Quality Management District (SCAQMD), which contains Los Angeles and is in severe O<sub>3</sub> nonattainment, sets forth measures to reduce VOC emissions by tighter control of stationary source emissions (NO<sub>x</sub>) and various chemicals (VOCs). Note that control of O<sub>3</sub> requires a thorough understanding of atmospheric chemistry, since upsetting the NO<sub>x</sub>/VOC balance can actually, in some cases, contribute to ozone increases. Technical experts, such as those at AQD, are best suited to develop O<sub>3</sub> control strategies as they become needed. Though preventative strategies can be pursued, it takes a violation of the federal O<sub>3</sub> standards to require a local O<sub>3</sub> attainment plan that would be federally-enforceable.

*Attempting to re-vamp O-13 by substituting O<sub>3</sub> for CO would be scientifically illogical and misguided. Not only is O-13 an inappropriate place for O<sub>3</sub> control strategies, NO<sub>x</sub> and VOC would not be controlled by requiring AQLAs of proposed development projects. O<sub>3</sub> control strategies are not linked to land use the same way control strategies for motor vehicle CO are, and O<sub>3</sub> modeling is a whole different ballgame than relatively-simple modeling for CO concentrations (or "hot-spots") at intersections.*

**10. This development requirement has become unnecessary and does not benefit the public.**

In sum, the O-13 requirement that developers have air quality impact analysis (AQIAs) studies performed for proposed projects that meet certain thresholds no longer serves the purpose for which it was originally intended. O-13 was passed by City Council on April 2, 1990, having been before the EPC at a hearing on August 3, 1989. This was over 15 years ago, when local CO levels were reading much higher. Recall that the last violation of the federal CO standard was December 1991. High CO levels justified the passage of O-13 (despite its other problems) at that time as a way to attempt to mitigate CO.

15 years later, the context has completely turned around. Consistently low CO levels do not serve to justify O-13 since there is no CO problem to mitigate. Because 8-hour CO levels are reading 38.9% of the standard and 1-hour CO levels are reading 27.4% of the standard, the last CO violation occurred 14 years ago, the Limited Maintenance Plan (LMP) contains no emissions cap, and even much larger, polluted cities such as Los Angeles have come into compliance, O-13 has clearly become unnecessary.

Not only is O-13 technically unnecessary and outdated, its remaining on the books merely serves to confuse the public without benefiting them. For example, I have noticed that neighborhood representatives continue to mistakenly believe that there is a CO problem and therefore have made incorrect, generalized statements (in writing) about air quality that decision-makers tend to believe. Without access to the facts about CO and air quality improvements over the last decade and a half, the public and decision makers cannot act in an informed fashion.

Nor does O-13 serve to protect the public from the health effects of air pollution. For that, the US has the federal National Ambient Air Quality Standards (NAAQS) that jurisdictions adopt at the local level. Adherence to these standards ensures that air pollution remains at acceptable levels. The federal standards are not dependent in any way upon O-13, so if O-13 ceased to exist it would not matter and the public would still be protected, as it has been, ever since the standards were established.