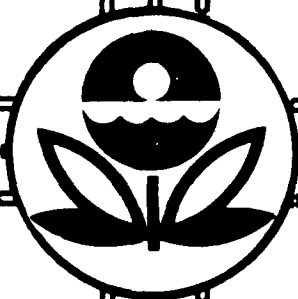


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GUIDELINE SERIES

OAQPS NO. 3.0-002

POLICIES FOR THE INCLUSION OF
CARBON MONOXIDE AND OXIDANT
CONTROLS IN STATE IMPLEMENTATION PLANS
(TCP POLICY PAPER)



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards

Research Triangle Park, North Carolina

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

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OFFICE OF
AIR AND WASTE MANAGEMENT

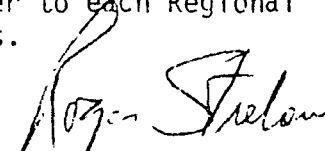
SUBJECT: TCP Policy Paper

MEMO TO: Regional Administrators, Regions I-X

I'm transmitting to you a guidance document entitled "Policies for the Inclusion of Carbon Monoxide and Oxidant Controls in State Implementation Plans (TCP Policy Paper)" prepared by my Office of Transportation and Land Use Policy. This paper was prepared at the request of the members of the Air Program Review Group. A draft of the paper was presented to this Group at their Chicago meeting. Comments were also solicited from Air Programs personnel in every Regional Office. This final paper attempts to accommodate many of the Regional comments.

Additional issue papers and guidance documents are also being prepared in response to the activities of the Air Program Review Group. These include the New Source Review Guidelines, Non-attainment Issue Paper, NOx Cookbook, Ox Cookbook, Suggested Priorities: Decisions On Need for SIP Revisions, and EPA Policy on Oxidant Reduction.

I'm also sending a copy of the enclosed paper to each Regional Division Director for Air and Hazardous Materials.


Roger Strelow

Assistant Administrator
for Air and Waste Management

cc: John Quarles
Peter Cashman
Stanley Legro
Al Alm
Robert Zener
Hugh Miller
Doyle Borchers

POLICIES FOR THE INCLUSION OF
CARBON MONOXIDE AND OXIDANT
CONTROLS IN STATE IMPLEMENTATION PLANS
(TCP POLICY PAPER)

BY

Office of Transportation and Land Use Policy
Office of Air and Waste Management
Environmental Protection Agency

January 9, 1976

Policies for the Inclusion of Carbon Monoxide and Oxidant Controls In SIP's

Introduction

The purpose of this paper is to provide general policy guidance on developing and implementing oxidant and carbon monoxide control strategies in state implementation plans once the need for a plan revision has been made.^{1/} Guidance is provided for selecting "reasonably available" measures in categories of areas differentiated by both the current stage of SIP development and the severity of pollution problem.^{2/}

Due to the controversy and uncertainties associated with "VMT measures" in the past and in response to inquiries from several Regional Offices, OTLUP has emphasized reasonably available transportation measures in this policy paper. The discussion below is not intended to state the latest policy on stationary source control measures. OAQPS is currently developing and updating such guidance.^{3/-9/} However, transportation measures are discussed along with other source controls in this paper because local agencies will necessarily be considering the total mix of reasonably available measures in determining SIP revisions. Therefore, both OAQPS and OTLUP guidance should be used in developing the most effective overall plan.

OTLUP will periodically revise this guidance. The first major revision will occur upon completion of the Clean Air Act amendments. Because the amended Act should resolve the problem of non-attainment by May 31, 1977, this paper does not address the deadline issue. It is expected, however, that the new Act will contain provisions for extending the attainment deadlines in certain specified situations

Relationship to Other Agency Guidance

This memorandum is consistent with the latest Regional Guidance on SIP revisions:

Between now and July 1976, we are committed to reviewing all SIP's and determining the need for revisions either to attain the air quality standards or for maintenance.8/

By July 1976 Governors should be notified of the need for SIP oxidant and CO revisions, the schedule for submittal of revisions should be specified, and reasonably available measures should be identified. The process for identifying needed SIP revisions in non-attainment areas is the same for areas with an existing CO/Ox SIP as with areas without such a plan. The actual promulgation of additional measures by either the State or EPA will not occur until after July 1976. Generally, the schedule will require States to submit by July 1977 reasonably available measures needed to meet the NAAQS. If necessary, States will be allowed until July 1978 to submit certain specific measures that characteristically require longer development and implementation times. This special category of reasonably available measures generally includes land use and transportation controls that often require longer lead times to obtain enabling legislation and funding.

3.

Therefore, during the next seven months Regions should concentrate first on validating and documenting the data base which demonstrates the need for CO/Ox SIP revisions. The emission inventory should be consistent with the latest reactivity classification.^{9/} Where pervasive oxidant problems exist, States may elect to work jointly in developing uniform control strategies over a broad multi-station region. Where resources permit the Regions are also encouraged to develop draft strategies jointly with the local transportation agencies responsible for planning and implementation.

Recent Circuit Court Decisions and the Clean Air Act Amendments

Three recent Circuit Court decisions have caused uncertainties about EPA's legal authority to require states to administer and enforce transportation measures to reduce pollution.^{10/} EPA has formally requested the Justice Department to appeal the 4th, 9th and D.C. Circuit decisions to the Supreme Court. Assuming that the Justice Department does appeal the decisions and the Supreme Court agrees to hear the case, it is possible that a decision could be made during

this term (ending early summer). However, it could easily be the next term (beginning October 1976) before a decision is reached.

The Committees of the Congress are currently considering several amendments to the Clean Air Act and are proceeding with an awareness of the recent Circuit Court decisions. Partly as a result of the decisions, the present Senate staff version contains funding provisions and utilizes funding sanctions to insure implementation of transportation measures. The current Act's method of requiring the EPA to promulgate transportation measures for local communities where the State has failed to do so is not likely to be retained in the Clean Air Act Amendments. Rather, decisions will be left to the local communities with, hopefully, financial incentives/disincentives to spur action.

The amendment process has been going slower than originally anticipated. The Subcommittees on both the House and Senate side have finished their deliberations and the amendments are now before the full committees. But, completed Congressional action will not take place this year and it may well be Spring 1976 before any law is enacted. The possible amendments, however, should not alter the data gathering activities or analyses that are required between now and July 1976.

Reasonably Available Measures

Table 1 presents the list of reasonably available categories of measures. The measures are loosely ranked in descending order according to their emission reduction potential and relative feasibility. The emission reduction potential varies among areas dependent on available technology and the relative contribution of stationary and mobile sources. Feasibility is generally defined in terms of cost-effectiveness and ease of implementation (i.e., political, administrative, and technological viability). The feasibility will also vary among areas -- particularly regarding the Transportation Measures. It is important to note that DOT is now requiring Metropolitan Planning Organizations (MPO's) to develop and implement an annual Transportation Systems Management (TSM) Plan which should contain the Transportation Measures listed in Table 1. Every strategy in Table 1 is considered reasonably available and should be included in SIP revisions where necessary for attainment. However, the most cost-effective mix of measures must be locally determined.

Table 1Reasonably Available Measures

<u>Source Control Measures</u>	<u>Transportation Measures</u>
1. Inspection/Maintenance	1. Transit Improvements
2. Vapor Controls for Organic Solvents	2. Employer Incentives
3. Petroleum Refinery, Chemical Plant and Other Industry Controls	3. Parking Management/Restrictions
4. Vapor Controls for Gasoline Marketing	4. Traffic Management/Restraint
5. HDV Retrofits ^{7/}	

Respective Roles of Headquarters and the Regions in CO/0x SIP Revisions

SIP revisions that depart from guidance presented below will be considered "Special Action" revisions, thus requiring headquarters review. In the future as experience is gained, the guidance will become more specific as to the scale and rate of implementation. Headquarters will attempt to work closely with the RO's in the process of monitoring progress in non-attainment areas and reviewing the mix of strategies being implemented.

The Importance of Coordinated Transportation Strategies

The maximum emission reductions from transportation measures will result from coordinated measures designed to discourage low occupancy auto use and to encourage transit and carpool use. However, transit and carpool incentives by themselves are insufficient for achieving significant emission reductions:

". . . programs that do not incorporate parking restrictions surcharges, or other disincentives . . . are unlikely to achieve emission reductions greater than 5 to 10 percent . . . [However] evidence derived from empirically-based studies of traveller response to changes in transportation options indicates that programs that combine transit improvements, carpool incentives, and parking restrictions or charges can reduce automobile emissions by as much as 30 percent."^{12/}

The Agency should not only emphasize bus lanes but should also encourage and give emission reduction credit to all transit improvements (e.g.,

7.

fleet expansions, frequency of service increases and new routes) when revisions are formally made after July 1976. EPA can most effectively press for transit improvements through the Federal Regional Councils, the Federal Intermodal Planning Groups, Regional UMTA and FHWA Offices, and the Metropolitan Planning Organizations (MPO's). Headquarters will continue to strive for an expanded EPA role in 109(j) highway consistency reviews, and consistency reviews for transit plans and programs through interagency agreements and new legislation.

The need to coordinate these related measures necessarily complicates implementation and requires careful staging of strategies over a long time frame. Recently promulgated joint FHWA/UMTA program requirements call for TSM Plans which approximate EPA's needs and insure that MPO's will be considering similar measures.^{13/} The expected role of the EPA RO will be to influence the on-going DOT planning process.

The following section summarizes EPA's current policies for inclusion of transportation control measures in SIP's. The policies are grouped according to the stage of plan development. A second section describes policies and priorities for individual measures included in the transportation control portions of SIP's.

I. POLICIES FOR INCLUSION OF TRANSPORTATION MEASURES IN SIP'S .
BASED ON STAGE OF PLAN DEVELOPMENT

A. Policies for changing existing transportation and stationary source measures included in SIP Oxidant and Carbon Monoxide Control Strategies

- There should be no revisions to the existing transportation and stationary source measures in SIP's with two exceptions:
1. Where one or more specific measures are found on the basis of valid technical analysis not to reduce pollutant emissions. An example of such a situation might be a measure which was designed to improve traffic flow but which was found upon further analysis to increase traffic volumes, cause congestion and increase emissions. In these cases the EPA first encourages states to develop substitute measures. If the states do not, the EPA then promulgates reasonably available substitute measures.
 2. Where states develop measures that are equal or better in effectiveness, in terms of reducing emissions, than are the reasonably available measures EPA promulgated. Substitute measures proposed by states should not delay standards attainment. If standards cannot be attained by using the reasonably available source control measures (e.g., inspection/maintenance or vapor recovery) promulgated by the EPA, new state measures may supplement, but not replace, the promulgated measures.

- Gasoline rationing and catalytic retrofits for light-duty vehicles are not considered reasonably available measures and are to be implemented only if the Clean Air Act is not amended.

B. Policies for transportation measures being revised pursuant to court orders or for new transportation measures now being developed for addition to SIP's

- The process used in the revision of the Boston CO/Ox SIP should serve as a prototype.
- First, EPA urges states to adopt all reasonably available transportation control measures and works with state and local governments in the development of measures.
- Then, if the states do not adopt the transportation measures, EPA promulgates.
- If standards cannot be attained with reasonably available measures, gasoline rationing or LDV catalytic retrofits should not be promulgated. Non-catalytic LDV retrofits can be adopted by a state.

C. Policies for adding additional transportation measures to SIP's that have such measures but are inadequate to attain standards by Clean Air Act deadlines

- Prior to July 1976 the need for SIP revisions should be determined, the schedule for submittal of revisions should be specified, and reasonably available measures should be identified.
- The State must submit the required measures by either July 1977 or July 1978 as described above.
- The process for identifying needed SIP revisions in non-attainment areas is the same for areas with an existing CO/Ox SIP as with areas without such a plan.

- The EPA and the States should continue to develop and implement reasonably available transportation measures contained in the existing CO/Ox SIP in these areas.
- Measures for reducing vehicle miles of travel should be developed, where possible, through metropolitan transportation planning processes established by State and local governments.
- Regulations to control hydrocarbon emissions from solvent usage, gasoline marketing, ship and barge loading (where appropriate), petroleum refineries, chemical plants, etc. should be added to SIP's for attainment of oxidant standards.

D. Policies for areas where transportation measures are included in SIP's and where standards will be attained by Clean Air Act deadlines

- Some areas to which transportation measures apply are not designated air quality maintenance areas. SIP revisions may be needed for standards maintenance. Needed SIP revisions should be determined through analyses by the EPA and States and through other air quality assessments such as the annual review of consistency determinations done pursuant to section 109(j), Title 23, U.S.C.; environmental impact statements done pursuant to the National Environmental Policy Act, etc.

E. Policies for areas with standards violations but no transportation measures in SIP's

- The priorities of SIP revisions should be determined.^{8/}
- Areas where transportation measures are needed in SIP's should be determined and reasonably available measures should be identified. Steps for determination of areas include:
 1. Identification of potential areas based on air quality measurements.
 2. Validation of air quality data.
 3. Validation of the adequacy of emissions inventories.
 4. Preliminary estimations of the extent of emissions reductions needed from transportation measures.
 5. Public information programs describing air quality problems and the sources of the problems.
- Prior to July 1976 the EPA regional administrators should send letters to governors indicating any necessary SIP revisions.

II. POLICIES AND PRIORITIES FOR REASONABLY AVAILABLE CARBON MONOXIDE AND OXIDANT CONTROL MEASURES

A. Inspection and maintenance programs (CO and Ox Plans)

- Where this measure is in SIP's, it is implemented as expeditiously as practicable.
- Where new transportation measures are added to SIP's or where existing transportation portions of a SIP are revised pursuant to a court order, inspection and maintenance programs should be included in EPA promulgations if the standards cannot be attained by the deadline or maintained thereafter without the use of I/M.
- EPA encourages States to include inspection and maintenance programs in state-adopted revisions to SIP's when transportation measures are necessary. If States cannot demonstrate standards attainment, EPA should promulgate inspection and maintenance as a supplement to State measures.
- The area to which inspection and maintenance requirements are applicable should be commensurate with the air quality problem area. As a practical matter, however, implementation of I/M in the most severely polluted urban areas should receive top priority. Eventually, statewide or regionwide I/M may be necessary to alleviate either extensive Ox problems or a multitude of CO hotspots.

B. Vapor recovery from gasoline marketing (Ox plans)

- Existing Stage I vapor recovery requirements in SIP's are implemented as expeditiously as practicable.
- Existing Stage II vapor recovery requirements in SIP's are implemented when pending regulation is promulgated.
- Where new transportation measures are added to SIP's or where existing transportation provisions of an SIP are revised pursuant to a court order, Stage I vapor recovery should be included in the EPA promulgation. Where necessary, Stage II is also promulgated.
- EPA encourages States to include vapor recovery regulations in State-adopted revisions to SIP's when transportation measures are necessary. If States cannot demonstrate standards attainment, EPA should promulgate vapor recovery requirements.

C. Organic solvent control (Ox plans)

EPA policy must continue to be the reduction of non-methane organic emissions to the extent required to achieve the NAAQS for oxidant. In the future the highest priority should be placed on implementing model regulations for hydrocarbon sources which are currently being developed by OAQPS. Solvent substitution, reformulation, and process changes are to be applied only as interim measures.9/

D. Medium and heavy duty vehicle retrofits (CO and O_x plans)

-- Where emission reductions from a medium and heavy duty retrofit program are comparable to emission reductions from other reasonable measures, retrofit requirements should be included in any SIP where standards are not attained by Clean Air Act deadlines.

E. Ship and barge controls (O_x plans)

--- Where emission reductions from ship and barge vapor controls are comparable to emission reductions from other reasonably available measures, ship and barge control requirements should be included in any SIP where standards are not attained by Clean Air Act deadlines.

F. Transit improvements (exclusive bus lanes, park-and-ride facilities, CBD shoppers service) (CO and O_x plans)

-- Existing SIP requirements for bus lanes that are determined infeasible on the basis of a valid transportation engineering analysis should be replaced, preferably by a lane or lanes developed through established State and local transportation planning processes or on other transit improvements. If States do not adopt substitute regulations, EPA should promulgate a requirement for a study to identify feasible bus lanes. Based on study results, EPA should promulgate bus lanes requirements.

G. Employer incentive regulations (including carpools and vanpools) (CO and O_x plans)

- Employer incentive regulations developed for Boston may serve as a prototype. These regulations include mandatory measures based on locally determined goals for reducing vehicle miles of travel. An alternative approach is to require each employer to reduce vehicle miles of travel by a specified percent or to achieve a specified average occupancy rate for commuter vehicles arriving at the facility.
- Employer incentive regulations now in SIP's should be revised if the regulations are not working, i.e., employers are not submitting acceptable plans or regional office resources are not sufficient to review plans. In the latter case, regional offices should consider the mandatory measures approach which is less labor-intensive.

H. Parking management restrictions (CO and O_x plans)

- The EPA still believes that parking restrictions when coupled with transit and carpool incentives are an effective and necessary means for standards attainment and maintenance. However, regulations are suspended pending further Congressional guidance. Draft amendments to the Clean Air Act contain explicit requirements relating to parking restrictions.

- Regional offices may accept or reject State or locally submitted parking management plans. The development of a State, region, or city run parking management process should be encouraged.
- Regional offices cannot administer on-street parking limitations, but can approve State or local requirements as SIP revisions.
- Two SIP's (Washington and Massachusetts) contain requirements limiting growth in the supply of parking. Regional offices should encourage this approach where local areas are willing to undertake administration and implementation of the program.

I: Traffic management/restraints (CO and Ox plans)

- The EPA encourages traffic flow improvement measures only when combined with assurances that such measures will not ultimately increase emissions. Generally, this means that the flow improvements must be coupled with some restraint on traffic growth.
- Conversely, the EPA encourages the creation of vehicle free zones or the use of restraints such as tolls or road user charges when accompanied by assurances that the measures will not create localized areas of vehicle congestion and standards violations.

J. Light-duty vehicle-retrofits (CO and Ox plans)

- Catalytic retrofits are not a reasonably available strategy.
- EPA accepts State or locally generated LDV non-catalytic retrofit regulations.

K. Gasoline rationing

- Gasoline rationing is not a reasonably available measure.

REFERENCES (Final completion dates of draft guidelines and policy statements are subject to change)

- 1/ In the past Transportation Control Plan (TCP) was a generic term that was loosely defined to include all measures for controlling the auto-related pollutants -- even HC stationary source measures. Because "TCP" was inaccurate, confusing and misleading, the term is being replaced by Carbon Monoxide and Oxidant SIP (CO/Ox SIP).
- 2/ Section 110(e)(1)(B) of the Clean Air Act requires the use of all "reasonably available" measures in an SIP.
- 3/ OAQPS 1.2-011, "Guidelines For Determining The Need For Plan Revisions To The Control Strategy Of The Approved SIP," November 12, 1975.
- 4/ NOx Cookbook (Draft scheduled to be sent to Regional Offices by January 31, 1976).
- 5/ Ox Cookbook (Draft Scheduled to be sent to Regional Offices by February 1976)
- 6/ Model Regulations For Select Hydrocarbon Sources (Draft due early 1976)
- 7/ EPA Policy On Oxidant Reduction (Draft November 19, 1975)
- 8/ OAWM "Suggested Priorities: Decisions On Need For SIP Revisions" (Draft, November 10, 1975).
- 9/ OAQPS Guidelines On Organic Reactivity (Draft) October 15, 1975.
- 10/ The 9th (August 1975), 4th (September 1975) and D.C. (October 1975)
- 11/ LDV catalytic retrofits are not reasonably available. LDV non-catalytic retrofits may be adopted by the State.
- 12/ Transportation Controls to Reduce Automobile Use and Improve Air Quality in Cities, Joel Horowitz and Steven Kuhrtz, Environmental Protection Agency, November 1974.
- 13/ September 17, 1975 Federal Register: DOT Transportation Improvement Program Regulation.